Home Office

Consultation on reform of police funding arrangements in England and Wales

July 2015

Scope of consultation

Topic of consultation	This consultation seeks your views on reforming the formula used to distribute funding between the 43 geographic police force areas in England and Wales.
Scope of consultation	This consultation applies to Police and Crime Commissioners, police forces and all others with an interest in future police funding.
Geographical scope	England and Wales only.
Impact assessment	Not required (as reform does not require additional funds).

Basic information

To:	We are keen to hear from: • Police and Crime Commissioners and their equivalents for the Metropolitan and City of London forces; • police forces; • local authorities; • members of Parliament and the Lords; and • any interested member of the public.
Duration	8 weeks. The consultation will close at 5pm on 15 September 2015.
Enquiries and how to respond	Information on how to respond can be found on GOV.UK. Responses can be submitted online through the Home Office website, by e-mail to policefundingconsultation@homeoffice.gsi.gov.uk, or by post to: Police Funding Consultation Police Resources Policy Team Crime and Policing Group 6th Floor, Fry Building 2 Marsham Street London SW1P 4DF Please contact the Home Office at the above e-mail address if you require this document in Welsh.
Alternative formats	Please e-mail alternativeformats@homeoffice.gsi.gov.uk if you require information in any other format such as braille, large font or audio.
After the consultation	Responses will be analysed and a 'Response to the Consultation' document will be published. This will explain the Government's final policy intentions. All responses will be treated as public, unless stated otherwise.
Consultation Co-ordinator	If you have a complaint or comment about the Home Office's approach to consultation, you should contact the Home Office Consultation Co-ordinator. Please DO NOT send your response to this consultation to the Co-ordinator. The Co-ordinator works to promote best practice standards set by the Code of Practice, advises policy teams on how to conduct consultations and investigates complaints against the Home Office. They do not process your response to this consultation. The Consultation Co-ordinator can be e-mailed at: HOConsultations@homeoffice.gsi.gov.uk.

FAIR PROCESSING NOTICE

None of the questions in this consultation ask for personal information. Please note that you are under no obligation to provide this information should you not wish to do so.
If you are happy to provide personal information please note that:

- any personal information will be stored on a secure system;

- it will not be shared with third parties;

- your personal information will be kept on record for no more than six months and be used for purposes of this consultation only; and

- you may be contacted by a Home Office official for your feedback on this consultation and to discuss your answers in more detail.

Contents

Ministerial foreword

Since 2010, we have introduced a wide-ranging programme of reform to policing. We have given officers back their professional responsibility by abolishing targets and bureaucratic accountability; ensured the police are accountable to the people they serve through Police and Crime Commissioners who are themselves accountable to communities; established the College of Policing to set professional standards and strengthened the Independent Police Complaints Commission and Her Majesty's Inspector of Constabulary to ensure they are adhered to.

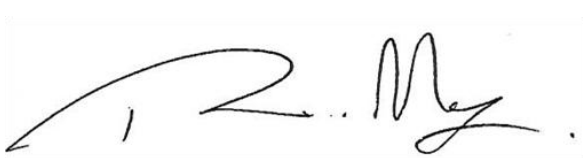
Police reform is working. These changes have helped the police to deliver significant improvements while supporting the country to reduce the budget deficit. Frontline services have been protected, with the proportion of officers on the frontline increasing, and public confidence is rising. Thanks to the important work of officers and staff, crime has reduced by more than a quarter since 2010, according to the Independent Crime Survey for England and Wales.

We must now finish the job of police reform. To achieve this, it is essential that the way the police forces in England and Wales are centrally funded is fair across all 43 forces, transparent to Police and Crime Commissioners and forces, and stable in the long term. Core Government grant funding accounts for 90% of the overall Police Grant Settlement. This totalled £7.8bn in 2015/16.

In this consultation, we propose a new, simplified allocation model which will enable funding to be provided sustainably to, and allocated fairly between, Police and Crime Commissioners in England and Wales. These proposals are based on a fundamental review of the existing arrangements which found that the current model - which is nearly ten years old - is complex and opaque, a view shared by many Chief Constables, Police and Crime Commissioners and Her Majesty's Inspectorate of Constabulary.

We outline the overarching principles of the new approach and invite responses on these principles. We also seek views on a number of key decisions, such as how to manage the transition from the current approach to the new model and whether to simplify further the way in which legacy council tax grants are managed. The Government's ambition is to implement this new model from 2016/17, subject to securing broad support for the approach.

This consultation does not consider the wider policy of reallocations from core police grant, which include the Police Innovation Fund and funding for central policing bodies, nor does it apply to the overall total or allocation of the Counter Terrorism Grant, which this Government has ring-fenced.



The Rt. Hon Theresa May MP

Chapter 1: About this consultation

Introduction and summary

1.1 This consultation sets out proposals to reform the current arrangements for allocating central Government funding to the 43 police force areas in England and Wales (decisions around the overall level of central Government funding to the police are decided through the Spending Review process). The model at the heart of these arrangements, the Police Allocation Formula, is complex, opaque and out of date. Successive Governments have found it necessary to smooth the funding allocations it produces.

1.2 Ensuring a degree of continuity was key to supporting the police in responding to the unprecedented financial challenge they faced in 2010. As a result, the previous Coalition Government opted to 'damp' allocations to Police and Crime Commissioners (PCCs) in such a way that each police force area received the same percentage reduction in central Government funding over the course of the Parliament (see chapter 2 for further detail). This was a simple, transparent and straightforward approach which mirrored that taken by forces, former police authorities and PCCs in developing their medium term financial plans. It provided a level of certainty to the police and enabled them to focus on driving out their share of the savings required to bring down the deficit. However it also pointed to the need to undertake a fundamental review of the formula in the longer term.

1.3 Her Majesty's Inspectorate of Constabulary (HMIC) concluded in their November 2014 'State of Policing' report that police forces are successfully meeting the challenge of balancing their books while protecting the frontline and delivering reductions in crime. They also concluded that the time is right to consider how funding arrangements for the police need to change. The National Advisory Group, made up of representatives from across policing brought together by HMIC in late Autumn 2014, concluded in their recent report 'Reshaping Policing for the Public' that the Home Office should consider introducing more transparent funding arrangements which should emphasise current and future policing priorities and allow greater flexibility for local partnership working.

1.4 The previous Coalition Government committed to a fundamental review of the existing police funding formula in 2012[1]. The key objective of this was to ensure police funding allocations are directed to where they are needed the most so that police force areas have the appropriate funds to fight crime and disorder. The Government has now carried out a comprehensive review of the existing formula and has developed a preferred option for moving forward. In doing so the review considered a range of options and examined funding formulae across other countries and within the UK to learn lessons on how to develop the best funding model.

1.5 In considering options for a new police funding model the Government has identified five guiding principles. The Government's position is that a new model must be: robust, stable, transparent, future proof and incentivise Government objectives (see Chapter 3).

1.6 The Government's preferred option is to replace existing funding arrangements with a significantly simplified model which uses population levels, the underlying characteristics of that population and environmental characteristics to determine force level allocations (see chapters

[1] Written Ministerial Statement, Provisional Police Funding Settlement (December 2012): https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182609/police-funding-announcement.pdf

4 and 6). This change will be supported by appropriate transitional arrangements (see chapter 9). The purpose of this consultation is to seek views on the principles of this proposed new approach and the detailed design of the model. The force level allocations produced by the new model will be shared with PCCs and forces once the model has been finalised. The Government's intention is to implement the new model for the 2016/17 financial year. If, however, responses to the consultation suggest that more refinement is needed than is possible in the time available, existing arrangements will continue until a suitable implementation date can be agreed.

1.7 The remaining chapters in this consultation are set out as follows:

Chapter 2 provides background information on the formulae that have been used to distribute police funding until now.

Chapter 3 provides a summary of how police funding operates in other countries and sets out some guiding principles for the design of a new funding model.

Chapter 4 describes alternative options for future arrangements for distributing police funding and sets out the key conclusions of an internal review of the existing Home Office Police Allocation Formula.

Chapter 5 examines the drivers of crime and police demand, an important consideration for any police funding model.

Chapter 6 describes the Government's proposed simplified model which has been developed following an extensive review of the existing Police Allocation Formula.

Chapter 7 considers the police precept component of council tax and the need for a new funding model to take into account ability to pay.

Chapter 8 considers the treatment of London forces under a new funding model given the very different challenges of policing the capital city.

Chapter 9 sets out the considerations needed for a transitional funding process.

The annexes include a consolidated list of consultation questions, technical information and background information on legacy council tax grants, international models of police funding and domestic funding models.

Chapter 2: Current funding arrangements

Overview

2.1 Police revenue funding comes from two main sources: £8.6bn[2] from central Government and just over £3bn from the police precept component of council tax in 2015/16. The £8.6bn figure covers the totality of central Government funding from the Home Office, the Welsh Government and a small amount from the Department of Communities and Local Government (DCLG). As set out later on in this chapter, in 2013/14 around £3bn of Revenue Support Grant previously paid to the police by DCLG was transferred to the Home Office. A similar transfer of £500m in legacy council tax grants was made in 2014/15. These funding streams are included in the annual Police Grant Report but are currently separate to Police Main Grant.

2.2 The vast majority of central Government funding to the police in England and Wales (£7.8bn) is provided un-ringfenced to PCCs and their London equivalents, with the rest being 'reallocated' to provide ring-fenced funding for counter-terrorism (CT) policing (£564m in 2015/16) and to support national policing priorities. This £7.8bn represents 90% of the overall Police Grant Settlement. While precept accounts for over a quarter of total funding to the police, this proportion varies locally, largely as a result of historical decisions taken by police authorities and PCCs.

2.3 The police also receive a significantly smaller amount of capital funding from the Home Office (£120m in 2015/16). The majority of this funding is distributed as Police Capital Grant which is allocated in line with revenue funding.

The Home Office Police Allocation Formula

2.4 The Police Allocation Formula (PAF) was not designed to estimate the total amount of central Government funding for the police. This is determined by broader decisions around the balance of public sector spending by the Government through the Spending Review process. The formula was designed to determine allocations between the 43 police force areas of England and Wales once the total amount of central Government funding for the police has been finalised.

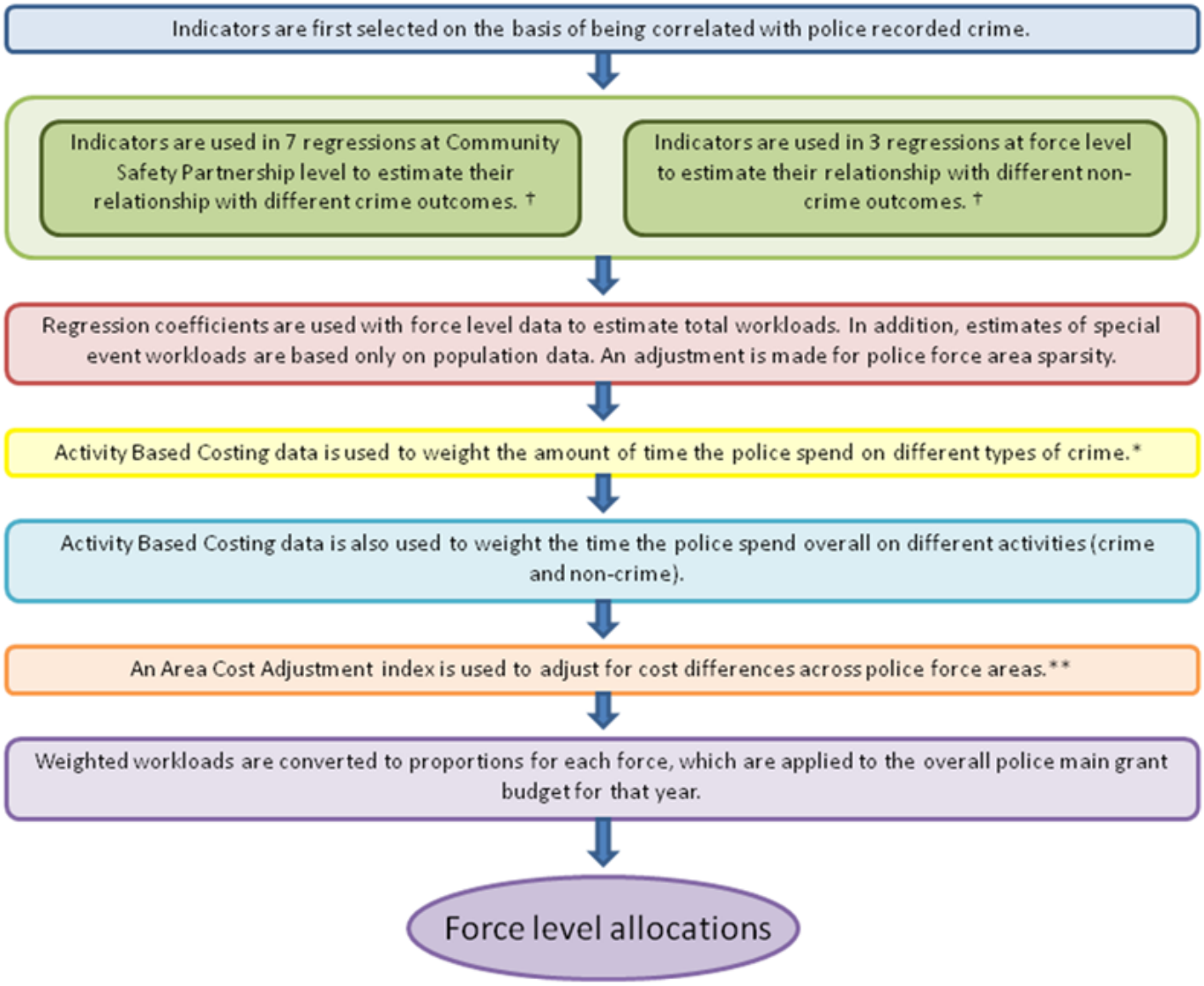
2.5 The PAF aims to distribute this pre-determined level of funding on the basis of relative need. It uses population data and a large range of socio-economic variables to estimate the expected workload of each force across a range of crime and non-crime activities. These estimates are created by 10 complex statistical regression[3] models. The formula relies largely on data from 2003/4 and Census data from 2001.

[2] This represents the entire police funding envelope in 2015/16. This includes all formula funding, Welsh top-up, Legacy Council Tax Grants, Counter Terrorism Police Grant and other specific grants.

[3] Regression is a statistical process for estimating the relationships among variables. Refer to Annex B for a more detailed explanation of the technique.

2.6 The PAF is used to determine force level allocations using the following process:

Figure 1: Process of allocating Police Main Grant using the PAF



† *Refer to Annex B for details of the outcome variables and indicators used in the PAF.*

* *An Activity Based Costing exercise was carried out annually from 2002/03 to 2007/08 over a two-week period when police officers would record what they had been doing for each 15 minute period.*

** *The Area Cost Adjustment, produced by DCLG, takes into account differences in labour costs between areas as well as differences in business rates paid on local authority premises and buildings.*

2.7 This eight step process determines the proportion of Police Main Grant to be allocated to each force area. Annex B provides a technical description of the PAF.

The DCLG Four Block Model

2.8 The Four Block Model (FBM) was the model used by DCLG to allocate around £3bn of Revenue Support Grant (RSG) to the police. This funding related to force areas in England only as the RSG for force areas in Wales is distributed via the Welsh Government.

2.9 In 2013, DCLG replaced the FBM with the business rates retention scheme for local authorities and fire and rescue authorities. Police funding is not included within the business rates retention model and the RSG funding that DCLG used to provide to the police was transferred to the Home Office but paid out separately to Police Main Grant.

2.10 While the FBM was linked to the Home Office PAF, it was considerably more complex and produced allocations that were significantly different to those produced by the PAF. It allocated funding against four key blocks across the full range of Local Government services in England (not just policing): relative needs; relative resource; central allocation and damping. These are summarised below:

Block 1: Relative needs
Needs equalisation was the process by which grant was set so that for the same level of service, the same Band D council tax level could be set everywhere in the country. It therefore took into account both the assessment of spend needed to provide the same level of service and the amount of council tax an authority could raise locally.

In the case of the police, it relied on the estimated workload allocations produced by the Home Office PAF to initially identify the force with the lowest workload per head of population. Workload per head of population above this minimum was then calculated for all force areas.

This block also took into account historical capital debt repayment and interest charges incurred through capital expenditure. This was calculated by identifying the area with the minimum level of debt and interest repayment liability across all the public services funded by the RSG (i.e. not just policing). Capital financing per head of the population above the minimum was then calculated for each authority.

Block 2: Relative resource
This block took into account an authority's ability to raise funds locally through council tax. Similar to the needs equalisation process, it identified the force area with the lowest council tax base per head of the population (i.e. the force with the lowest ability to generate income from precept). All other force areas were then compared to this minimum.

Block 3: Central allocation
Central allocation was the basic amount of RSG which force areas were allocated once needs equalisation and resource equalisation had been taken into account. It was based on the minimum needs per head of population and tax base per head of population and represented the basic funding allowance per head of population for each force area. The amount of funding provided to force areas was considered alongside the needs of all other public services funded by the RSG.

Block 4: Damping
Once the results of the previous three blocks were applied to the RSG, damping was used to reallocate the amounts to ensure that each force area received at least a set percentage change, known as the floor, in funding from the previous year. A proportion of funding from raw force level allocations above the floor was re-distributed to force areas with raw allocations below the floor. The absolute amount taken away or added to force level allocations varied

depending on how far they exceeded or fell short of the floor. This smoothing process ensured a level of stability in funding was maintained across force areas over time.

Spending Review 2010 and Spending Round 2013

2.11 From 2011/12 through to the latest police funding settlement in 2015/16, all force areas have had their allocations of core central Government funding reduced by the same percentage.

2.12 This was a simple, transparent and straightforward approach which mirrored that taken by forces, former police authorities and Police and Crime Commissioners in developing their medium term financial plans. It provided a level of certainty to the police and enabled them to focus on driving out their share of the savings required to bring down the budget deficit. However it also pointed to the need to undertake a fundamental review of the formula in the longer term.

Legacy council tax grants

2.13 Legacy council tax grants comprise Council Tax Freeze Grant from the 2011/12, 2013/14 and 2014/15 schemes, payable to local policing bodies (formerly police authorities) in England who chose to freeze or lower precept in those years and the Local Council Tax Support Grant (LCTS) which was paid to local policing bodies in England from 2013/14 following the localisation of council tax support schemes.

2.14 In 2014/15 these funding streams transferred from DCLG to the Home Office. Since then they have been paid out as part of the annual police funding settlement as un-ringfenced grant funding, separate to Police Main Grant. Council tax in Wales is a matter for the Welsh Government. Welsh PCCs do not receive legacy council tax grants.

2.15 Subject to agreement at the Spending Review, the introduction of a new funding model presents an opportunity to consolidate these legacy council tax grants with Police Main Grant. This would mean that these funds would be distributed using the new model. These grants could be added to the starting baseline for individual local policing bodies in line with the treatment of previous grants that have been consolidated with Police Main Grant (including the Community Safety Fund and the Neighbourhood Policing Fund). This would create a more straightforward and transparent funding process, and reflects the Government's ambition to simplify funding arrangements for Local Government.

2.16 Annex C provides more detail on legacy council tax grants.

Table 1: 2015/16 Police funding allocations

Local Policing Body	HO Core (Police Main Grant + NICC)* £m	Welsh Top-up £m	Welsh Government Grant £m	Ex-DCLG Formula Grant £m		Legacy Council Tax Grants (total from HO) £m		Total Core Government Funding £m
Avon & Somerset	105.6			56.8		14.7		**177.1**
Bedfordshire	40.6			23.5		4.6		**68.7**
Cambridgeshire	48.8			24.5		6.0		**79.3**
Cheshire	61.8			45.0		8.3		**115.1**
City of London	18.5			33.8		0.1		**52.4**
Cleveland	46.4			38.8		7.7		**92.8**
Cumbria	28.9			31.0		4.8		**64.7**
Derbyshire	62.5			37.9		8.7		**109.1**
Devon & Cornwall	103.3			63.5		15.5		**182.3**
Dorset	41.5			17.4		7.3		**66.2**
Durham	43.0			37.2		6.1		**86.2**
Dyfed-Powys	31.4	6.1	12.8	0.0		-		**50.3**
Essex	103.4			56.3		13.1		**172.8**
Gloucestershire	34.6			19.6		5.6		**59.8**
Greater London Authority	1040.1			754.1		119.7		**1913.8**
Greater Manchester	227.9			182.4		24.5		**434.8**
Gwent	43.2		29.7	0.0		-		**72.9**
Hampshire	120.7			63.5		12.9		**197.1**
Hertfordshire	71.8			36.6		9.5		**117.9**
Humberside	67.6			46.8		10.0		**124.5**
Kent	106.9			67.0		13.3		**187.2**
Lancashire	101.1			79.6		12.8		**193.6**
Leicestershire	65.7			39.9		8.9		**114.5**
Lincolnshire	38.6			20.4		6.8		**65.9**
Merseyside	123.2			113.5		15.6		**252.3**
Norfolk	50.5			28.9		9.3		**88.8**
North Wales	45.4	6.5	21.3	0.0		-		**73.2**
North Yorkshire	41.9			27.2		7.9		**77.0**
Northamptonshire	43.4			24.3		6.6		**74.4**
Northumbria	110.8			108.0		8.2		**226.9**
Nottinghamshire	78.4			48.4		9.7		**136.5**
South Wales	89.3		71.2	0.0		-		**160.6**
South Yorkshire	101.2			77.9		10.9		**189.9**
Staffordshire	66.9			40.2		11.3		**118.3**
Suffolk	41.0			23.0		6.8		**70.7**
Surrey	62.5			29.4		9.2		**101.1**
Sussex	98.4			54.2		13.2		**165.8**
Thames Valley	142.0			74.3		15.3		**231.6**
Warwickshire	31.2			17.5		5.2		**53.9**
West Mercia	66.7			43.6		12.0		**122.3**
West Midlands	252.3			181.3		19.0		**452.6**
West Yorkshire	172.5			130.1		16.7		**319.3**
Wiltshire	37.7			20.8		5.2		**63.7**
Total England & Wales	**4309.2**	**12.5**	**135.0**	**2818.3**		**503.2**		**7778.3**

Current total formula funding - £7.3bn

Total core government funding in scope for inclusion in a new simplified formula - £7.8bn

**NICC – The National and International Capital City payment paid to the Greater London Authority on behalf of MOPAC in recognition of the Metropolitan Police's distinct national and international capital city functions. The Common Council, on behalf of the City of London Police were also awarded a NICC payment in 2014/15 (see chapter 8).*

Police Grant Report

2.17 In summary, the Government believes that the current arrangements for distributing police funding are highly complex and opaque. The models used rely on data that is no longer collected and are not fit for purpose.

2.18 The proposed measures outlined in this document will allow the Government to reform the way police funding is distributed and to simplify funding arrangements. The Government will simplify the way that allocations are presented and how the funding methodology is explained in the annual Police Grant Report. Documentation presented to Parliament and placed in the public domain will reflect the new, more transparent funding arrangements.

Consultation question

1. To what extent do you agree or disagree that current funding arrangements for the police in England and Wales need to be reformed?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

2. To what extent do you agree or disagree that as part of the simplification of funding arrangements, legacy council tax grants should be consolidated with Police Main Grant?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

Chapter 3: Principles of a good funding model

International police funding models

3.1 The Home Office has conducted a review of police funding methodologies in other countries. This has included a number of European countries along with the USA, Australia, New Zealand and Canada. Many countries either did not have sufficient available information or could not be compared to England and Wales because they have a completely different policing structure. However, the review showed that a variety of methods are used to distribute budgets. Recently, there has been greater use of a needs estimation approach as it is considered to be the most objective.

3.2 Of all the countries considered, relevant and comparable information was only found in relation to the Netherlands, Sweden, Denmark, Norway and Finland. All of these countries use the needs estimation approach although the specific method differs. Although the formula used in the Netherlands[4] is similar to the current model used in England and Wales, their approach has some distinct differences in the way in which they divide the budget across policing activities prior to undertaking any statistical analyses. The models used in the Scandinavian nations are significantly simpler. Annex D provides more detail on how the police are funded in other countries.

3.3 The funding models currently used by other central Government departments in the UK were also reviewed to determine whether they might be applicable to police funding. Annex E provides more detail on domestic funding models.

3.4 This research has helped the Government understand the relative strengths and weaknesses of different approaches, which in turn has helped to develop a set of guiding principles for a new funding model.

Principles

3.5 Designing a model for allocating funding to 43 police forces is complex given the size, geography and demand profiles of those force areas. Whichever indicators are used to determine need must be comparable across all police force areas. Indicators that are specific or significant to only one or a few forces cannot be used.

3.6 In considering options for a new police funding model the Government has used a set of five guiding principles covering: robustness, stability, transparency, incentives and future proofing. The Government's position is that any new model must be:

***Principle 1: Robust** – the model should be analytically sound, and use objective indicators based on robust data to allocate funding on the basis of relative need.*

3.7 Objective indicators based on demographic, socio-economic and geographical or environmental factors help to measure the relative need that police force areas may have in

[4] The Netherlands changed its policing structure in January 2013 but the current funding mechanism remains the same until a new funding model is introduced in 2016 to reflect this change.

dealing with crime and wider demand. The data for the indicators should ideally be a National Statistic or of similar quality and the methodology underpinning funding allocations should be based on standard statistical techniques.

Principle 2: Stable *– the model should not cause force level funding allocations to change significantly year on year. This is crucial for a smooth transition process.*

3.8 Stable and reliable data is important for any type of funding model as it helps to ensure continuity in allocations on an annual basis, while long term trends are captured. This enables budget holders to plan their expenditure over the short and longer term. Volatile and uncertain data (i.e. which is prone to significant fluctuations) would lead to difficulties in local financial planning and markedly different funding allocations between years, resulting in significant adjustments having to be made to transitional arrangements. The use of volatile data would also reduce confidence in the allocation process.

Principle 3: Transparent – *the model should be clear and easy to understand, and supported by key partners. The process for allocating funding should be supported by appropriate governance and accountability.*

3.9 A model that is too complex makes it harder for partners to understand. It also makes it harder to implement any changes that might be needed over time.

Principle 4: Incentivising Government objectives *– the model should be able to incentivise delivery of Government objectives while also minimising perverse incentives.*

3.10 The main priority of a funding model is to distribute a total funding envelope between 43 police force areas on a relative needs basis. Although it is difficult to include direct incentives without unintentionally promoting perverse incentives (such as misrecording practices), a new needs-based funding model should help to promote key objectives such as improved efficiency.

Principle 5: Future proof *– the model should enable delivery of policing structures that drive efficiency and best respond to current and future demands and challenges.*

3.11 A good funding model should be easily adaptable and set up in a way which would allow funding allocations to be distributed differently to reflect any broader policy changes and allow for any new or additional demands on police time to be factored in. This will help ensure that it is kept up-to-date and continues to be based on the relative needs across forces.

3.12 No model can perfectly distribute funding according to need. Measures of need are challenging and will always partly depend on what data is used. The Government's objective has been to identify the model that best accords with the above principles.

Consultation questions

3. To what extent do you agree or disagree with the principles of a good funding model that the Government has identified?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

4. What other principles for a good funding model, if any, should be considered?

Chapter 4: Options for a future funding model

4.1 The Government has considered a broad range of options for future arrangements for distributing central Government funding between police force areas in England and Wales. It has conducted more detailed analysis on three options:

- continuation of the current practice of using historic allocations to determine future allocations;
- an upgraded version of the existing Police Allocation Formula; and
- a simplified model, based on population size and characteristics and the physical environment of the police force area.

Maintain existing arrangements

4.2 From 2011/12 through to the latest police funding settlement in 2015/16, all force areas have had their allocations of core Government funding (excluding legacy council tax grants) reduced by the same percentage. This funding arrangement is underpinned by historic formula allocations. Continuing with the existing funding methodology would be the simplest approach and provides some level of funding stability.

4.3 Keeping the existing approach would therefore mean using current funding allocations as the basis for calculating future allocations, by applying the same percentage change to each police force area. This means that if a force currently receives 10% of core Government funding, it would continue to receive this percentage in each future year.

4.4 However the current funding distributions are based on the historic Home Office and DCLG formulae which are now out of date and force level funding allocations will have moved further away from relative needs.

4.5 The Government therefore concludes that the existing funding method does not sufficiently accord with the principles of a good funding model in the long term as it cannot fully reflect changes to relative needs over time.

Consultation questions

5. To what extent do you agree or disagree that the existing funding method should not be used to allocate police funding in the future?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

6. If you disagree, please state why. If applicable, please provide evidence and/or details of sources of data which may help support this.

Upgrade of the existing Police Allocation Formula

4.6 It is possible to upgrade the PAF and use it to distribute core Government funding to the police. When it was first implemented in 2006/07, the PAF proved to be a sound model for predicting relative need for reducing and investigating crime. The process of estimating this need is done predominantly via a statistical approach, known as regression, which uses population and socio-economic characteristics of Community Safety Partnership areas. However, much of the data which the regressions rely on dates back to 2001 and the regressions themselves have not been updated since 2006/07. This means that any changes in the relationship between crime and the characteristics of an area may not have been picked up in the interim. Furthermore, the approach used to predict the relative need for the 'non-crime' activity categories are generally not sufficiently robust given the limited data available. Examples of non-crime measures include road traffic incidents and policing of special events.

4.7 Work has been undertaken to upgrade the PAF by using new data to feed into the regressions and improve the approach used to understand non-crime demand. However this analysis has indicated that there are a number of additional problems that are more difficult to resolve. A particular issue is the heavy reliance on Activity Based Costing data to divide resources between crime and non-crime activities and to weight different crime types, which are integral parts of the model. This data has not been updated since 2007/08 and there is currently no suitable alternative data on policing demands. We know that policing has changed significantly and without updated information on how the police spend their time and resource, an upgraded PAF would not be fit for purpose. Even if this could be resolved there are a number of further challenges:

- workload estimates created by complex models such as the PAF are highly sensitive and small changes in data can lead to big changes in funding allocations;
- estimating crime workloads relies on the use of recorded crime data in the statistical models which is not necessarily an independent measure of the demands on policing;
- overall the PAF is complex and difficult to understand. It is also resource intensive to maintain due to the volume of data it draws on; and
- estimating non-crime workloads remains unreliable due to a lack of suitable data.

4.8 The Government has concluded that an upgraded PAF model does not accord with the principles it has identified and is not a suitable method of allocating police funding.

Consultation questions

7. To what extent do you agree or disagree with the Government's conclusion that an upgraded PAF should not be used to allocate police funding?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

8. If you disagree, please state why you think an upgraded PAF should be used. Please provide evidence and/or details of sources of data which may help support this.

A simplified model

4.9 Having identified that the two options described above are not viable, the Government has concluded that the adoption of a simplified model reflects the best option available to allocate funding for the police in the future. The proposed new model is set out in more detail in chapter 6.

Chapter 5: The drivers of crime and police demand

5.1 In line with the Government's wider approach to reducing crime, a new police funding model must be based on an understanding of the drivers of crime and police demand. This will ensure that funding is allocated according to need, using objective indicators, and that the model is sufficiently flexible to respond to changes in this pattern of need over time.

5.2 The Home Office has identified six key drivers of crime:

- **Alcohol:** there is a strong association between alcohol and violent crime and disorder. According to the Crime Survey for England and Wales, 53% of all victims of violent incidents in 2013/14 believed the perpetrator to be under the influence of alcohol, and 70% of violent incidents occurring in the evening or night were alcohol-related. Alcohol-related crime in England and Wales costs an estimated £11bn per year[5].
- **Drugs:** there is strong evidence that heroin and crack cocaine use has been a major driver of acquisitive crime for the last 35 years[6] and we think it currently accounts for some 45% of acquisitive crimes and over a third of fraud committed in England and Wales[7]. Crime related to heroin/crack use is primarily driven by the offender's need to fund their dependence and their immersion in a generally chaotic and criminal lifestyle. But there is also a very strong link between the drugs trade and organised crime, and competition within drug markets has been linked to serious violent crime.
- **Character:** while there is nothing inevitable about criminality, there is growing evidence that an individual's propensity to commit crime – or character – is influenced both positively and negatively by a range of social and environmental influences as they grow up.
- **Opportunity:** for those individuals who have a propensity to commit crime, the more opportunities they have, the more offences they are likely to commit. As a result, we think opportunity is a very important driver of trends in particular types of crime, for example theft. Making crime more difficult – for example, by locking a bike or fitting proper door and window locks at home – reduces those opportunities.
- **Effectiveness of the Criminal Justice System (CJS):** the component parts of the CJS can and do play an important part in cutting crime, from the activities of the police at the front line in prevention and investigating crimes, to the subsequent incarceration and rehabilitation of offenders. The evidence also suggests that how would-be offenders perceive the effectiveness of the system has an important impact - the more likely they

[5] The Government's Alcohol Strategy: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224075/alcohol-strategy.pdf and Department of Health written evidence to Health Select Committee: http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhealth/132/132we02.htm.

[6] Morgan, N. (2014): The heroin epidemic of the 1980s and 1990s and its effect on crime trends-then and now. Home Office Research Report 79; https://www.gov.uk/government/publications/the-heroin-epidemic-of-the-1980s-and-1990s-and-its-effect-on-crime-trends-then-and-now

[7] Mills, H., Skodbo, S. and Blyth, P. (2013): Understanding the organised crime: estimating the scale and the social and economic costs. Home Office Research Report 73; https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/246390/horr73.pdf

think they are to be caught and punished, the less likely they are to commit the crime in the first place.

- **Profit:** wherever money can be made, serious and organised criminals will find ways to exploit systems and people.

5.3 The range of different drivers of crime mean there is no single factor behind the fall in crime nationally, or behind crime trends locally. In addition, drivers of crime best explain how crime trends change over time rather than absolute levels of crime across different geographic areas. As a result, determining the relative resource required in each force area means understanding more about the population of that area and the demand that this creates on local police services.

5.4 Determining the relative needs of forces also means understanding the broader demands on the police. The recent 'College of Policing analysis: Estimating demand on the police service'[8] report highlighted that despite the overall downward trend in crime, there remain significant demands on forces. While these can, in part, be attributed to a changing crime mix that sees complex and more costly to investigate offences forming a greater proportion of overall police workload, there are also growing non-crime demands on forces, often linked to issues of vulnerability, public protection and safeguarding, for example:

- while consistent national data is not available, forces estimate that a significant proportion of calls for service relate to incidents involving people suffering from mental health problems;

- in 2011/12 the police dealt with 280,357 missing persons incidents, approximately 185,035 (66%) of which were classified as medium risk (12% were high risk and 23% were low risk). Estimates of the time associated with 'automatically generated tasks' suggest that approximately 18 hours of police time is needed for a medium risk missing persons investigation. For the 185,035 medium risk incidents in 2011/12, this equates to over 3 million 'investigation hours';

- there are growing demands in relation to the safeguarding of vulnerable children. The College of Policing's case study analysis of one local safeguarding unit showed that the number of children subject of a Child Protection Plan (CPP) increased from 374 to 685 between March 2013 and July 2014, with children becoming subject of CPPs at a higher rate than that at which CPPs were ending; and

- there are increases in other areas of safeguarding work for which the police have a statutory responsibility, in particular those connected with Multi-Agency Public Protection Arrangements ('MAPPA'). The number of MAPPA eligible offenders in England and Wales stood at just over 65,000 in March 2014, having increased by more than one third over the preceding five years. The greatest increase was in category 1 registered sex offenders, the group which the police are responsible for managing.

5.5 This understanding of crime and wider demand sets the context for the Government's proposals outlined in the next chapter.

[8] College of Policing (2015): 'College of Policing analysis: Estimating demand on the police service'; http://www.college.police.uk/News/College-news/Documents/Demand%20Report%2023_1_15_noBleed.pdf.

Chapter 6: A proposed new police funding model

6.1 A police funding model is designed to determine allocations between force areas when total funding for the police has been decided. It needs to draw on information which can help explain why crime and demands on the police are different between force areas so that relative resources required across force areas can be determined. However the data should not be directly generated by police activity or easily influenced by it as this may skew the results. To do this well it needs to be: robust, stable, transparent, future proof and incentivise Government objectives.

6.2 For the new funding model to be analytically robust and relatively stable over time, the indicators supporting the model need to meet several conditions. They need to be objective, quality assured and of a high standard, and ideally a National Statistic. They need to describe the characteristics of an area or the people living within areas, cover all police force areas in England and Wales, and be broken down to a sufficiently low level to enable robust statistical techniques to be applied. It is also useful to have regular updates in data wherever possible otherwise the funding model risks becoming out-of-date. However, the Government believes it is not appropriate to directly base force level allocations on crime statistics as these are influenced by police activity both in terms of the effectiveness of crime reduction strategies and also crime recording practices.

6.3 The Government proposes to introduce a new simplified and transparent funding model based on three broad elements that capture the drivers of crime and demand on a police force:

- population levels;
- the underlying characteristics of a local population; and
- the environmental characteristics of police force areas.

6.4 These should not be interpreted as drivers of individual criminal activity but simply a mechanism to enable resources to be allocated to different areas in the fairest possible way. These factors can be used in the model because they correlate well with patterns of crime over the long term yet can be used independently of crime statistics. In addition to these elements described above, the Government also wishes to seek views on whether factors which are linked to wider drivers of police demand should be included within the funding model.

Population and population characteristics

6.5 The number of people within a force area is clearly a critical factor in determining the resources required to provide effective policing in that area. However population is not the sole determinate of crime levels and police demand. For example, Warwickshire and Cleveland have broadly similar populations but in Warwickshire there are 49 recorded crimes per 1,000 people while in Cleveland there are 75 recorded crimes per 1,000 people[9].

6.6 Overall police funding for a force area is also determined by the amount raised through local taxation, the police precept. The Government also considers it is right that the model reflects

[9] Based on figures from the Office for National Statistics on 'Crime in England and Wales, Year ending March 2015' (http://www.ons.gov.uk/ons/rel/crime-stats/crime-statistics/year-ending-march-2015/stb-crime-march-2015.html) and 'Subnational Population Projections, 2012-based projections' (http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-335242).

forces' ability to raise precept and proposes factoring the tax base – using the number of Band D equivalent properties within a force area – into the model (see chapter 7 for more detail). By inverting the tax base per head of population, more funding is directed to those areas with a relatively lower ability to generate precept income. The Government believes any model of police funding should take account of the differences in Band D equivalent properties between areas. The population and the tax base are core elements of the model.

6.7 A broad range of factors were examined to identify which most closely describe differences between forces in terms of variations in crime. A statistical technique, known as reliability analysis, was then used to trim down this range of factors to a smaller number which explained most of the variation between the larger set (see Annex B for a more detailed description of reliability analysis). Using this process, two socio-economic factors that are closely correlated with the patterns of crime seen between different areas over time were identified. These are: households with no working adult and dependent children; and a 'hard pressed' population indicator. The latter factor is a composite of a broader range of demographic and socio-economic characteristics and is included within the current Police Allocation Formula. The Government feels that these two factors are sufficiently representative of the differences between forces. They are highly correlated with other demographic and socio-economic factors that were considered.

Environmental characteristics

6.8 The environment plays an important role in determining how an area is policed. In general the Government believes that these factors are more relevant to local decisions made by the Police and Crime Commissioner and Chief Constable than the process of allocating funding (the exception to this is the funding for the London forces - see chapter 8).

6.9 However, a strong relationship between the density of bars within a force area and the drivers of crime and demands on the police has been identified. The Government therefore proposes that this single environmental indicator is included in the new police funding model. The Government invites views on whether there are other environmental indicators that should be considered.

6.10 The indicators proposed for use in the simplified model, as well as the full set of indicators originally considered, are provided in Annex B.

Methodology

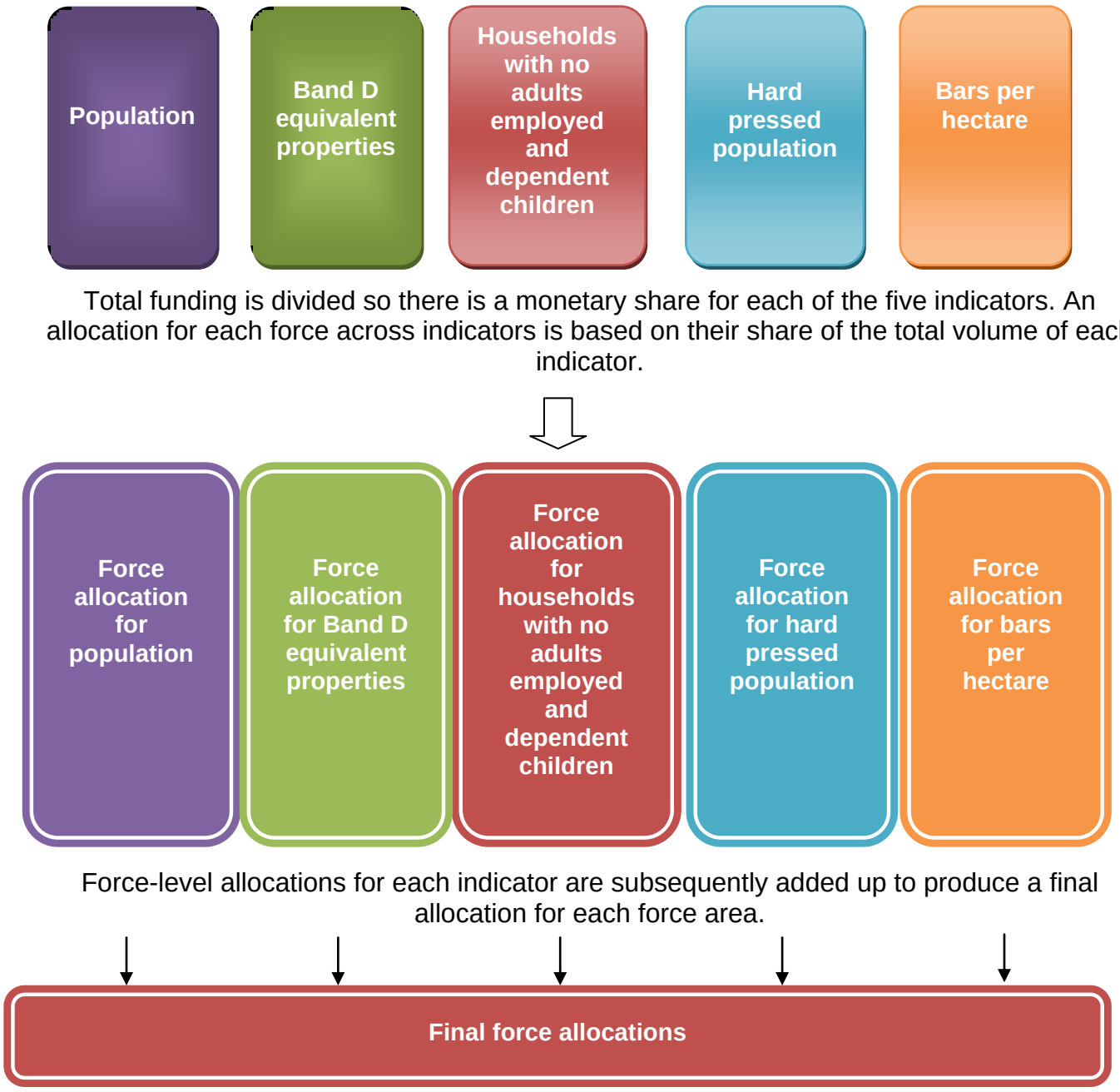
6.11 Having determined the broad elements that make up the model we need to understand how far each of these should determine funding, relative to each other. This means we need to weight the five indicators in the model. To do this, a statistical technique known as Principal Component Analysis (PCA) is used which looks at the relationships (known as linear dependencies) between the different indicators and weights them in terms of their relative importance to each other. This element of PCA is known as 'factor loading'. A more detailed explanation of PCA is provided in Annex B.

6.12 The indicative analysis that has been completed to date suggests that the different factors have the following weights: population, 24%; households with no adults employed and dependent children, 25%; 'hard pressed' population, 25%; Band D equivalent properties, 16% and bar density, 10%. Further work will be completed to refine these weights before the model is introduced.

6.13 Once the indicator weightings have been determined, total funding is then divided based on these weightings so that there is a monetary share for each of the indicators. An allocation

for each force across the five indicators is then based on data which presents their share of the total volume for each indicator. The diagram below illustrates this process:

Figure 2: Process of determining funding allocations under proposed simplified model



6.14 In mathematical terms a simple equation would replace complex arrangements in the previous formula. Total police funding would be allocated to individual force areas as follows:

Force allocation = (S_1 x FS_1) + (S_2 x FS_2) + (S_3 x FS_3) + (S_4 x FS_4) + (S_5 x FS_5)

Where:

S = the share of total funding for each of the five indicators in the simplified model. These are expressed in cash terms.

FS = the percentage share of S for each force area. These are calculated by dividing the volume of the indicator for each force area by the total volume of that indicator.

As an illustration, if total funding = £100m; S_1, S_2 and S_3 = £25m each; S_4 = £15m and S_5 = £10m; and Force A has a 5% share for each of FS_1 to FS_5, the allocation for Force A would be:

(£25m x 5%) + (£25m x 5%) + (£25m x 5%) + (£15m x 5%) + (£10m x 5%) = £5m

More specifically, if a force had 1 million people and the total population was 50 million, their share of population would be 2%. The amount of funding they would receive would be 2% of 24% of the total funding allocated for population using the indicative weighting set out in paragraph 6.12.

6.15 The Government believes that the model and approach will be much easier to improve in the long term than its predecessor. New data can be much more easily tested and included within the model as our understanding of the risk factors, drivers of crime and policing demands develop over time. In this way the underlying approach can be adapted without undermining the stability of the approach.

6.16 It is important that the new model enables PCCs to effectively develop their local policing plans based on a good understanding of the relative level of funding they will receive. Once the revised model is implemented it is the Government's intention to maintain the arrangements that underpin the new model over the course of the parliament unless there are significant and unforeseen changes to the demands on the police. This will allow forces to plan effectively and ensure stability during the transition period.

Updating the data

6.17 The indicator data to support the model is drawn from a variety of sources and the frequency with which it is updated varies. This is set out in the table on the next page.

Table 2: Proposed indicators in the simplified model, sources of data and frequency updated

Indicator	Source	Availability of updated data
Population estimates	• Office for National Statistics for England population estimates • StatsWales for Welsh population estimates	• Annual
Households with no adults employed and dependent children	• Census, Office for National Statistics	• Ten years

Hard Pressed population	• Acorn classifications, CACI Limited	• Annual
Band D equivalent properties	• Department for Communities and Local Government for England figures • StatsWales for Welsh figures	• Annual
Bar density	• Inter-Departmental Business Register, Office for National Statistics • Census, Office for National Statistics	• Annual (for number of bars) • Ten years (for area in hectares)

Indicators of non-crime demand

6.18 The College of Policing report referenced in Chapter 5 indicates that incidents involving people with mental health issues appear to be placing an increasing demand on the police as well as demands associated with protective statutory responsibilities, such as Multi-Agency Public Protection Panels. These sorts of demands on policing have not previously been captured in any funding formula. The Government would like respondents to consider the evidence in the College of Policing report which indicates an increase in police demand as a result of incidents involving people with mental health issues and child protection.

6.19 The Government has identified a number of indicators which may be linked to wider demand on the police. For mental health these might include indicators collected by the Health and Social Care Information Centre on mental health and behavioural disorders. For child protection these could include numbers of children who are subject to a Child Protection Plan, children in need (e.g. referred to social services and who have been assessed to be in need of social care services) or looked after children. The Government invites responses in relation to including these sorts of measures within the police funding model and what indicators might be suitable for inclusion within the new model.

Police Capital Grant

6.20 The police also receive capital funding from the Home Office. The majority of this funding is distributed as Police Capital Grant which is allocated in line with revenue funding. We intend to update the distribution of Police Capital Grant from 2016/17 to reflect the new simplified funding methodology the Government is proposing.

Assessment against the principles

6.21 The Government has assessed the simplified funding model against the five principles it has identified. It has concluded that it sufficiently meets these principles to be used to allocate police funding.

Table 3: Assessment of proposed simplified model against principles

Principles	Assessment
Principle 1: Robust	The proposed new model uses objective indicators to estimate funding allocations with no requirements to use indicators that can be directly affected by policing.
Principle 2: Stable	The proposed new model will produce stable allocations over time as the indicator data does not change significantly from one year to the next while reflecting long term change. The majority of data can be updated regularly. This means that transitions to new target allocations can be implemented and managed more effectively.
Principle 3: Transparent	The proposed new model is transparent as the methodology is far less complex than compared to the existing PAF. It is also easy to maintain and update with new data.
Principle 4: Incentivising Government objectives	The proposed new model has a built-in incentive mechanism in so far as PCCs can make efficiency savings in the knowledge that their funding will continue to be estimated on the basis of objective indicators in the long run.
Principle 5: Future proof	The proposed new model is able to estimate funding allocations at both Community Safety Partnership level as well as police force area level. This allows funding to be distributed more flexibly.

Timing for introduction

6.22 Overall the Government considers this approach to be a fairer and more transparent method of allocating limited resources. It is therefore the Government's intention to introduce this new simplified model in time to determine force level funding allocations for 2016/17. However, if implementation is not achievable within the necessary timescales, the Government intends to continue with existing arrangements until a date of implementation can be determined.

Consultation questions

9. To what extent do you agree or disagree with the methodology behind a simplified model?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

10. To what extent do you agree or disagree with the indicators that the Government is proposing be included in the simplified model?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

11. Are there any other indicators that you think should be included within the model?

12. To what extent do you agree or disagree that specific non-crime demand should be included in the simplified model?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

13. If specific non-crime demand were to be included in the simplified model, what indicators do you think should be considered?

14. To what extent do you agree or disagree that a new funding model should be introduced in time to determine 2016/17 police force level funding allocations?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

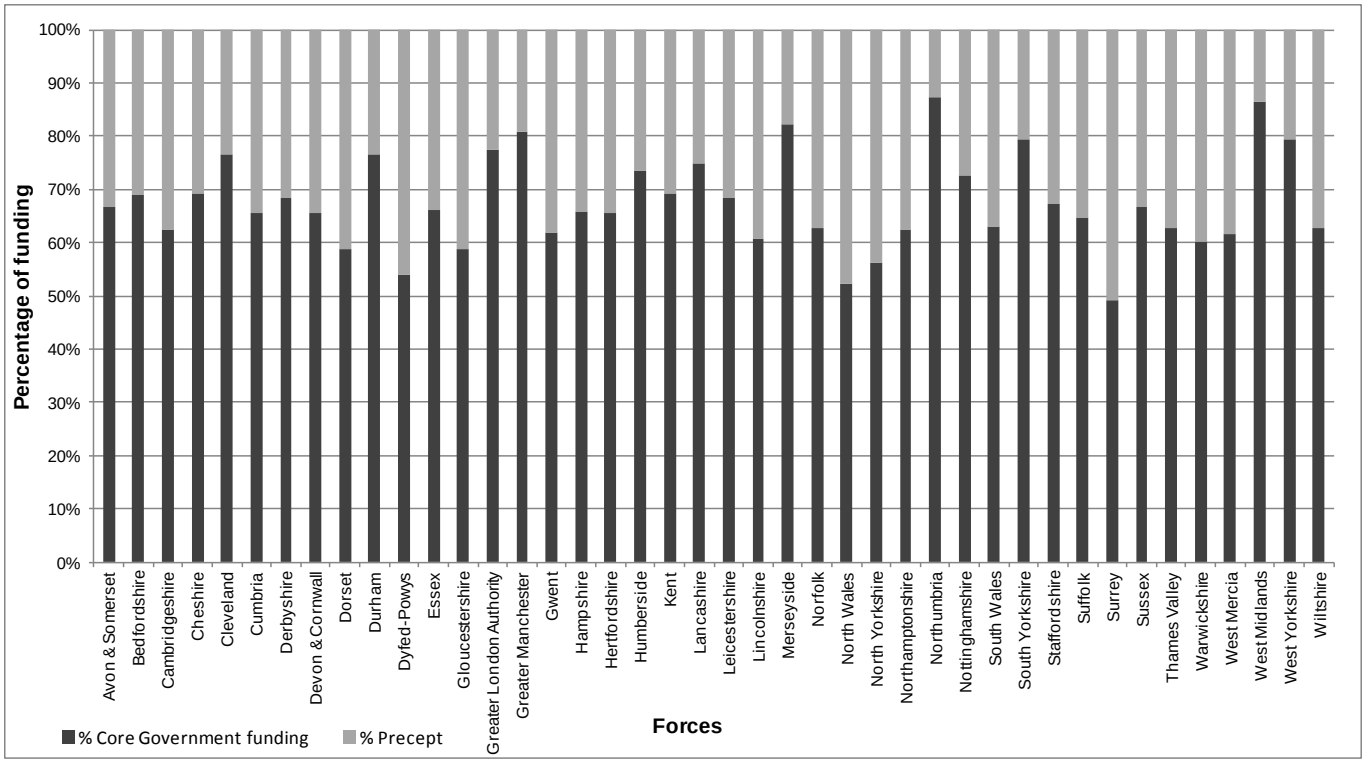
(v) Strongly disagree

15. If you disagree, when do you think a new model should be introduced?

Chapter 7: Income from the police precept component of council tax

7.1 More than a quarter of police funding comes from local taxation, known as the police precept. The proportion of total funding from precept for any one force area varies significantly, ranging from 51 percent of total funding in Surrey to 13 per cent in Northumbria (Figure 3).

Figure 3: Breakdown of total core Government funding to the police and precept in 2015/16



** City of London Police is excluded because the police element of their council tax amount cannot be disaggregated from the non-police element*

Tax base adjustment

7.2 The ability to generate precept income is dictated by the council tax base i.e. the number and make-up of households subject to council tax. The current level of police precept is based on a mix of this ability to generate precept income and on local decisions made over time by PCCs (and before them police authorities) on the actual precept level. In England, more recent decisions on precept levels were made within the framework of the Government's wider policy on council tax referenda.

7.3 When the DCLG Four Block Model was in operation, it used an explicit adjustment to redistribute a proportion of Government funding between police force areas. This was based on the tax base, as measured by the volume of Band D equivalent properties in each force area, to reflect precept differentials. This adjustment involved redistributing the equivalent of 9% of the previous year's total precept income according to the ability of force areas to generate precept income.

7.4 The Government believes it is right that *ability to generate precept income* should be factored into any new police funding model. However, the Government does not believe it is necessary to include an explicit adjustment in the way that the DCLG Four Block Model did. This is because the tax base indicator – volume of Band D equivalent houses- is already included within the model. This ensures proportionately more funding will be directed to areas with a relatively lower ability to generate precept income.

7.5 The Government's starting position is that it would not be appropriate to take into account *differences in actual precept levels* based on local areas making different choices over time, as this is not consistent with local accountability, but we would welcome views on this issue.

Consultation questions

16. To what extent do you agree or disagree that the proposed new funding model adequately captures the differences in the ability to generate precept income?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

17. To what extent do you agree or disagree that it is not appropriate for the proposed new funding model to take into account differences in actual precept levels which have resulted from local decision making?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

Chapter 8: Arrangements for London forces

8.1 Demographic and socio-economic data for London forces (the Metropolitan Police and City of London Police) are very different to that in other police force areas. This means the funding allocations for London forces cannot easily be estimated accurately in any model covering England and Wales.

8.2 This can be seen at a high level by reviewing comparative population and crime levels. Greater Manchester and West Midlands police force areas have 6 per cent and 5 per cent of all crime respectively and 5 per cent each of the total England and Wales population whereas the Metropolitan Police has 20 per cent of all crime but only 15 per cent of the total population. At a lower level, there are 32 local authorities within Greater London and 28 of these are statistical 'outliers'. This means that they are very different to other areas on one or more key socio-economic indicators used in the current PAF. For example, there are 22 local authorities across the country where the number of overcrowded households is very different to the rest of the country. Of the 22, 20 are policed by the Metropolitan Police. Similarly the City of London police force area has a resident population of only around 8,000 but a very high daily working population of around 360,000, based on 2011 Census data.

Current arrangements

8.3 The National and International Capital City (NICC) payment was created in 1997 and paid to the Metropolitan Police to reflect that the old formula did not adequately capture the needs of policing the capital city. The City of London Police were also awarded a NICC payment in 2014/15 after demonstrating similar capital city demands. In 2015/16 both forces were required to bid for NICC funding for the first time. These bids were subject to an assessment by HMIC. In 2015/16 the Greater London Authority (GLA) on behalf of MOPAC received NICC funding of £173.4m. The Common Council, on behalf of the City of London Police, received a payment of £2.8m.

8.4 The purpose of the NICC payment is currently defined as:

> *'A special payment provided in recognition of legislative or other requirements or duties that arise in policing London. Such funding addresses the costs of unique or additional policing activities which are demonstrably greater than those undertaken by other forces, and which arise because of London's status as the capital city of the United Kingdom.'*

8.5 The NICC payment covers a range of activities, for example greater public order demands arising from policing special events and protests around Westminster and the City of London.

New funding model

8.6 Given the very different challenges of policing the capital city, the Government believes that it is necessary to continue to provide NICC funding to the two London forces.

8.7 However, the Government is considering how best to enhance and improve the current process in parallel with introducing a new simplified funding model. The Government has worked with the two London forces to carry out an initial assessment of the current process. This has identified that the current funding arrangements do not appear to fully capture the challenges these forces face. The Government is considering developing an additional needs based assessment which could be incorporated into an enhanced NICC process. It will develop

proposals for this new process as part the wider consideration of the transitional arrangements for introducing the new model (see chapter 9).

Consultation question

18. To what extent do you agree or disagree that the Government should enhance the current NICC process?

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

Chapter 9: Transitional arrangements

9.1 The introduction of any new funding model will result in some significant changes to force level allocations compared to the current year. This is to be expected given that the current model is out of date, the DCLG Four Block model no longer applies, and, as a result of damping, allocations have moved away from relative need. It is important to ensure stability in allocations as the new model is introduced to avoid the proportion of total funding a force receives changing significantly from one year to the next.

9.2 As a result, the Government is clear that some form of transitional arrangements will need to be put in place to gradually move police force areas to their new 'target' funding allocations. These transitional arrangements should be regarded as temporary rather than becoming an ingrained part of the funding system, as happened with the previous transitional mechanisms introduced to support the implementation of the Police Allocation Formula.

9.3 With this in mind, the Government has identified three broad approaches to transitional arrangements: a gradual approach, a required approach and an enabled approach, as set out in the following table:

Table 4: Approaches to transitional arrangements

Option	Approach	Advantages	Disadvantages
1. Gradual	Set a maximum and minimum annual percentage change in funding.	Steady, manageable progress towards new allocations.	Many forces could remain some distance from their target allocation by 2019/20.
2. Required	Set 2019/20 as the deadline for full implementation and work backwards to determine required annual funding changes for each force.	Full implementation by specified date e.g. 2019/20.	This may require significant changes for some forces, the impact of which cannot easily be absorbed.
3. Enabled	Set variable change rates based on consideration of a range of factors potentially including: distance from target allocation, level of precept income, level of reserves and use of HMIC Value for Money profiles.	Could enable implementation by 2019/20 for majority of forces. Scope to reward efficiency.	Complex to operate in practice, in particular the link between financial judgements and variable change rates.

9.4 A **gradual** approach recognises that the Government may need to apply limits to annual changes in funding, in particular for forces whose allocations may reduce under the new model. By way of illustration assume that total funding to three forces (A, B and C) remains the same each year. This is set at a total of £300m. Each force previously received the same level of allocation, £100m each. The model shows that based on relative need Force A should get £120m, Force B should get £95m and Force C should get £85m. The following table set out how this could be achieved over ten years:

Table 5: Worked example of 'gradual' option

	Current funding	New funding	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Force A	100	120	102.5	105.0	107.5	110.0	112.5	114.0	115.5	117.0	118.5	120.0
Force B	100	95	99.0	98.0	97.0	96.0	95.0	95.0	95.0	95.0	95.0	95.0
Force C	100	85	98.5	97.0	95.5	94.0	92.5	91.0	89.5	88.0	86.5	85.0
Total Funding	300	300	300	300	300	300	300	300	300	300	300	300

9.5 In this example the reduction in allocations for Force B is capped at £1m annually and at £1.5m for Force C. This means that Force A's allocation is increased at £2.5m per annum until Year 5, £1.5m thereafter until the target allocations are reached.

9.6 A **required** approach is simpler. Under this approach all forces would move towards their new 'target' allocation within a set number of years e.g. over the next 4 years. This movement could be split evenly over the period or varied annually. Using a similar illustration the following table demonstrates how each force could move towards their new allocation by Year 4, with changes in funding spread evenly across each year. The change could be varied across individual years (e.g. a bigger or smaller movement in the first 2 years) as long as all forces finally reach their target by Year 4. In this simple example no force is dependent on what is set for another force:

Table 6: Worked example of 'required' option

	Current funding	New funding	Year 1	Year 2	Year 3	Year 4
Force A	100	120.00	105.00	110.00	115.00	120.00
Force B	100	95.00	98.75	97.50	96.25	95.00
Force C	100	85.00	96.25	92.50	88.75	85.00
Total Funding	300	300	300	300	300	300

9.7 The Government's preferred transitional approach is an **enabled** approach that takes the individual financial circumstances of forces into consideration. The factors that could be considered include:

- the proportion of funding from precept;
- general reserve levels; and
- a consideration of a benchmarking exercise to reflect individual force efficiency for example on back office functions

9.8 This approach is likely to incentivise value for money and drive efficiency. However it is the most complex option in terms of ensuring that individual force allocations add up to the total available police funding in each financial year where varied rates of change are set. The Government will examine and present the detail of transitional arrangements once the model is finalised. However it invites views on the implementation of this approach, in particular the range of financial factors that should be taken into consideration.

Consultation questions

19. To what extent to you agree or disagree that transitional funding arrangements are necessary to move police forces to their new funding allocations? If you disagree, please state why.

(i) Strongly agree

(ii) Agree

(iii) Neither agree or disagree

(iv) Disagree

(v) Strongly disagree

20. How long should a transitional period last? Please explain your answer.

21. Which of the transitional options should be applied?

(i) Option 1 - Gradual

(ii) Option 2 - Required

(iii) Option 3 – Enabled

(iv) Other – please specify

22. Which of the below factors should be taken into account when designing a process under Option 3?

(i) Total reserve levels (earmarked and unallocated)

(ii) Percentage of total funding from precept

(iii) Total funding per head of population in force area

(iv) HMIC Peel efficiency assessments

(v) All of the above

(vi) None of the above

23. Are there any other factors that should be taken into consideration under Option 3?

Annex A: List of consultation questions

Chapter 2

1. To what extent do you agree or disagree that current funding arrangements for the police in England and Wales need to be reformed?

2. To what extent do you agree or disagree that as part of the simplification of funding arrangements, legacy council tax grants should be consolidated with Police Main Grant?

Chapter 3

3. To what extent do you agree or disagree with the principles of a good funding model that the Government has identified?

4. What other principles for a good funding model, if any, should be considered?

Chapter 4

5. To what extent do you agree or disagree that the existing funding method should not be used to allocate police funding in the future?

6. If you disagree, please state why. If applicable, please provide evidence and/or details of sources of data which may help support this.

7. To what extent do you agree or disagree with the Government's conclusion that an upgraded PAF should not be used to allocate police funding?

8. If you disagree, please state why you think an upgraded PAF should be used. Please provide evidence and/or details of sources of data which may help support this.

Chapter 6

9. To what extent do you agree or disagree with the methodology behind a simplified model?

10. To what extent do you agree or disagree with the indicators that the Government is proposing be included in the simplified model?

11. Are there any other indicators that you think should be included within the model?

12. To what extent do you agree or disagree that specific non-crime demand should be included in the simplified model?

13. If specific non-crime demand were to be included in the simplified model, what indicators do you think should be considered?

14. To what extent do you agree or disagree that a new funding model should be introduced in time to determine 2016/17 police force-level funding allocations?

15. If you disagree, when do you think a new model should be introduced?

Chapter 7

16. To what extent do you agree or disagree that the proposed new funding model adequately captures the differences in the ability to generate precept income?

17. To what extent do you agree or disagree that it is not appropriate for the proposed new funding model to take into account differences in actual precept levels which have resulted from local decision making?

Chapter 8

18. To what extent do you agree or disagree that the Government should enhance the current NICC process?

Chapter 9

19. To what extent do you agree or disagree that transitional funding arrangements are necessary to move police forces to their new funding allocations? If you disagree, please state why.

20. How long should the transitional period last? Please explain your answer.

21. Which of the transitional options should be applied?

(i) Option 1 - Gradual
(ii) Option 2 - Required
(iii) Option 3 – Enabled
(iv) Other – please specify

22. Which of the below factors should be taken into account when designing a process under Option 3?

(i) Total reserve levels (earmarked and unallocated)
(ii) Percentage of total funding from precept
(iii) Total funding per head of population in force area
(iv) HMIC Peel efficiency assessments
(v) All of the above
(vi) None of the above

23. Are there any other factors that should be taken into consideration under Option 3?

Annex B: Technical Information

Technical description of the current Police Allocation Formula

The distribution of funds is based on the relative needs of each police force. This is done by estimating the expected workload of each force across the five main activities undertaken by the police.

Workload estimates for crime and non-crime related activities (except for policing special events and policing sparsely-populated areas categories)

A Weighted Least Squares regression approach (an Ordinary Least Squares regression that is weighted by the 2003 mid-year population estimate to account for any systematic patterns in the residuals) is used to forecast the crime and non-crime related workloads (except the policing special events and policing sparsely-populated areas categories). Table B1 lists the dependent variables (i.e. outcome variables) which differ depending on the activity workload being measured.

Table B1: Outcome variables used in current Police Allocation Formula

Activity categories	Outcome variable	Broken down to:
Reducing/investigating crime	2003/04 recorded crime figures per 1000 population: • Most serious violence against a person and sexual offences • Less serious violence against a person • Robbery • Domestic burglary • Vehicle crime • High cost other crime • Low cost other crime	Community Safety Partnership (CSP) level
Providing public reassurance	2001/02 to 2003/04 combined British Crime Survey measures of fear of crime/feelings of public safety	Police force level
Providing assistance with non-crime incidents	2002/03 Annual Data Requirement data on the number of incidents/calls for service	Police force level
Reducing/providing assistance at road traffic accidents	Number of road traffic accidents	Police force level

Table B2 lists the indicator data (i.e. the independent variables) used in this first stage of building the overall model.

Table B2: Population and socio-economic indicators used in the PAF (broken down to Community Safety Partnership level)

Indicator	Data source
Population estimates	Office for National Statistics
Daytime net-inflow	2001 Census, Office for National Statistics
Population density	2001 Census, Office for National Statistics
Income support, Jobseekers' Allowance and/or pension credit claimants	2004 Department for Work and Pensions
Long-term unemployment-related benefit claimants	2004 Department for Work and Pensions
Young male unemployment-related benefit claimants	2004 Department for Work and Pensions
Single parent households	2001 Census, Office for National Statistics
Residents classified in NS-SEC 6 (semi-routine occupations),7 (routine occupations) or 8 (never worked/long-term unemployed)	2001 Census, Office for National Statistics
Log of population sparsity	2001 Census, Office for National Statistics
Log of overcrowded households	2001 Census, Office for National Statistics
Wealthy achievers population	2004 Acorn classifications (draws on 2001 Census data), CACI Limited
Hard pressed population	2004 Acorn classifications (draws on 2001 Census data), CACI Limited
Terraced housing	2001 Census, Office for National Statistics
Student households	2001 Census, Office for National Statistics
Log of weighted bars per hectare	2003 Inter-Departmental Business Register and 2001 Census, Office for National Statistics

For activities where the outcome variable is broken down at police force level only, indicator data has been aggregated up from CSP level before the regressions were run.

Table B3 presents the regression results for each crime sub-category and non-crime activity.

Table B3: Regression results for each crime sub-category and non-crime activity.

Police activity categories	R^2	Regression results used in the PAF
Crime activity sub-categories		
More serious violence against a person & sexual offences	0.77	0.085 + 1.46 (daytime net inflow per head) + 18.77 (proportion single parent households) + 8.92 (income support claimants) + 0.16 (log of bars per hectare)
Less serious violence against a person	0.71	0.55 + 0.10 (population density) + 0.89 (log of bars per hectare) + 44.73 (proportion of

		residents classified in NS-SEC) + 110.21 (proportion single parent households) + 8.33 (daytime net inflow per head)
Robbery	0.86	0.062 (population density) + 197.60 (proportion long-term unemployed)
Vehicle crime	0.58	7.77 + 2.41 (log of bars per hectare) + 327.68 (proportion of student households) + 14.99 (proportion of hard pressed) + 105.98 (proportion of single parent households)
Domestic burglary	0.54	4.56 + 1.36 (log of bars per hectare) + 595.42 (proportion of young male under 25 unemployed) + 151.32 (proportion of student households)
High cost other crime	0.81	14.75 - 1.07 (log of output area sparsity) + 11.60 (daytime net inflow per head) + 2.72 (log of overcrowding)
Low cost other crime	0.77	66.58 + 70.43 (daytime net inflow per head) - 52.41 (proportion of wealthy achievers) + 442.53 (proportion of student households)
Non-crime activities		
Calls for service/incidents	0.64	40.52 + 2155.31 (income support claimants) + 574.86 (proportion of terraced housing)
Providing public reassurance/fear of crime	0.84	59.30 + 11.06 (log of bars per hectare) + 79.61 (proportion of hard pressed)
Road traffic accidents	0.15	0.56 + 0.49 (output area sparsity)

The results of each regression are based on a mix of indicators. Indicator coefficients are then multiplied by equivalent force level data for each to produce workload estimates for each force. Apart from the Census-based indicators, the indicators used for this second stage have been updated more frequently.

Workload estimates for policing special events

Workload estimates for the policing special events category are calculated by adding the projected population of a force with the daytime net inflow population. Daytime net inflow itself is the difference between the number of persons working but not resident in the force and the number of persons resident in but working outside the force area.

Workload estimates for policing sparsely-populated areas

Producing estimates for the workload related to policing sparsely-populated areas is done by multiplying population by sparsity for forces. More specifically, the sparsity indicator used takes into account 'super sparse' (i.e. Census Output Areas[10] with 0.5 or fewer residents per hectare) and 'sparse' areas (i.e. Census Output Areas with more than 0.5 but less than or equal to 4 residents per hectare).

Weightings

The estimated workloads (coefficients multiplied by force level indicator data) for all activity categories and sub-categories are subsequently weighted to account for the time and cost that

[10] Output Areas were introduced by the Office for National Statistics as the smallest units of output for the 2001 Census. In England and Wales they have a minimum size of 100 residents and 40 households. They are based on Census day postcodes and fit within the boundaries of 2003 statistical wards (and parishes).

police forces spend on each. These weights are derived from Activity Based Costing data. The reducing/investigating crime sub-category workloads are multiplied by the weights in Table B4.

Table B4: Crime activity sub-category weights

Crime activity sub-categories	Three year ABC average (2004/5 - 2006/7)
More serious violence against a person & sexual offences	30.126
Robbery	8.527
Less serious violence against a person	1.466
Vehicle crime	1.189
Domestic burglary	3.952
High cost other crime	8.118
Low cost other crime	1.000

Activity categories more generally are multiplied by the weights in Table B5.

Table B5: High level split between crime and non-crime police activity areas

Split between categories	Percentage split
Crime	59.8%
Calls for service/Incidents	23.4%
Providing Public Reassurance	7.7%
Road Traffic Accidents	5.7%
Special Events	2.9%
Sparsity*	0.5%

*A sparsity factor is used to ensure that the specific needs of forces which cover sparsely-populated areas are considered.

Workload estimates are also multiplied by an Area Cost Adjustment factor to take into account regional variation in labour market conditions.

Table B6: Area Cost Adjustment Factors

Area Cost Adjustment Factor[11]	
Local Policing Body	**Factor**
Avon and Somerset	1.032
Bedfordshire	1.0507
Cambridgeshire	1.0424
Cheshire	1.0137
Common Council of the City of London	1.5203
Essex	1.035
Gloucestershire	1.0223
Greater London Authority	1.177
Greater Manchester	1.0194

[11] All local policing bodies listed have Area Cost Adjustment Factors of greater than 1 which indicates labour (and materials) are more expensive that the national average. Those local policing bodies not included have Area Cost Adjustment Factors of 1 or lower.

Hampshire	1.0461
Hertfordshire	1.0924
Kent	1.0133
Merseyside	1.006
Northamptonshire	1.0131
Nottinghamshire	1.0115
Suffolk	1.0027
Surrey	1.1336
Sussex	1.0128
Thames Valley	1.0971
Warwickshire	1.0245
West Midlands	1.0134
West Yorkshire	1.0031
Wiltshire	1.025

Monetary allocations

Once workloads are estimated and weighted for each force, they are then calculated as a share of total workload for England and Wales. These shares are subsequently applied to the Police Main Grant to produce individual force-level allocations.

Indicators proposed for the simplified policing funding formula

Population estimates

Population estimates for England are provided by the Office for National Statistics. They are based on 2012 annual projections of the sub-national population. These are trend-based projections and project forward the population for each year. Equivalent estimates for Wales are provided by StatsWales and are based on 2011 projections of the population.

Households with no adults employed and dependent children

The number of households where no adults are employed and there are dependent children is taken directly from the Census and updated every ten years. Information is provided for all households in England and Wales as at Census day.

Hard pressed population

Figures for the hard pressed population are based on information from CACI Limited's Acorn classification which is updated annually. Acorn is a segmentation tool that uses demographic and socio-economic data so as to understand the different types of people living in different areas. Specifically, the hard pressed population classification contains the following groups of individuals:

- Low income, larger families, semis
- Low income, older people, small semis
- Low income, routine jobs, terraces and flats
- Low income families, terraced estates
- Families and single parents, semis and terraces

- Large families and single parents, many children
- Single elderly people, council flats
- Single parents and pensioners, council terraces
- Families and single parents, council flats
- Old people, many high-rise flats
- Singles and single parents, high-rise estates
- Multi-ethnic purpose built estates
- Multi-ethnic, crowded flats

Band D equivalent properties

The tax base is defined as the volume of Band D equivalent houses in each local authority which is then aggregated to police force area level. The calculation converts all eligible banded properties in England, from A to I, into Band D equivalents using property valuations based on 1991 estimates. Eligible households take into account a number of exemptions, for example unoccupied dwellings, student halls of residence, and Armed forces accommodation. When these exemptions are applied a Band A house is estimated to be 6/9ths of one Band D house, a Band B house is estimated to be 7/9ths, whereas a Band E house would be equivalent to 11/9ths of one Band D house, and so on. This scale enables one measurement to be used overall for all force areas. Tax base data for England is published by DCLG, whilst equivalent figures for Wales are published by StatsWales. These figures are updated annually.

Bar density

Bar density represents the number of bars per area hectare, drawing on data on:

(a) the number of units that are bars, as defined by the 2007 Standard Industrial Classification 56.3 (Beverage serving activities); this is made up of licensed clubs (including night clubs and social clubs), and public houses and bars. This information is taken from the Inter-Departmental Business Register and updated annually.

divided by

(b) the number of hectares, derived from the Census and updated every ten years.

Table B7: Full set of indicators considered for inclusion in the simplified population based model

Population estimates
Daytime net-inflow
Population density
Income support, Jobseekers' Allowance and/or pension credit claimants
Long-term unemployment-related benefit claimants
Young male unemployment-related benefit claimants
Residents classified in NS-SEC 8 (never worked/long-term unemployed)
Households with no adults employed and dependent children
Single parent households
Hard pressed population
Student Housing
Social rented housing
Overcrowded households (households with occupancy rating of -1 or less)
Individuals with no qualifications
Individuals with level 1 qualifications
Population sparsity
Number of bars/bars per hectare
Length of Principal urban A roads, urban B roads, urban C roads and U roads
Estimates of opiate and/or crack cocaine users
Band D equivalent properties
Crime Survey for England and Wales
Recorded crime figures for England and Wales
Mental Health hospital admissions
Looked after children/children in need/children subject to a child protection plan
Households in receipt of social care support

Statistical techniques

Regression analysis

Regression analysis is a statistical process for estimating the relationships among variables. More specifically, regression analysis helps with understanding how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed. Regression takes a group of variables, thought to be predicting Y, and tries to find a mathematical relationship between them. This relationship is typically in the form of a straight line (linear regression) that best approximates all the individual data points.

The two basic types of regression are linear regression and multiple regressions. Linear regression uses one independent variable to explain and/or predict the dependent variable while multiple regressions use two or more independent variables to predict the dependent variable.

The general form of each type of regression is:

Linear Regression: $Y = a + bX + u$
Multiple Regression: $Y = a + b_1X_1 + b_2X_2 + B_3X_3 + ... + B_tX_t + u$

Where:

Y= the dependent variable to be predicted
X= the variables used to predict Y
a= the intercept (which can be used to estimate Y when the value of all X variables are equal to zero)
b= the coefficient values for each of the independent variables
u= the regression residual (or measurement that cannot be predicted)

In multiple regressions the separate variables are differentiated by using subscripted numbers. In addition, the significance levels given for each independent variable indicates whether that particular independent variable is a significant predictor of the dependent variable, over and above the other independent variables. Once this is determined, a closer examination of the relationship between the dependent and independent variables can be undertaken, i.e. whether the relationship is positive or negative. The direction and scale of the relationship can be determined by looking at the coefficients associated with the independent variables. If the regression coefficient is positive, then there is a positive relationship between the dependent and independent variable. If this value is negative, then there is a negative relationship between the two.

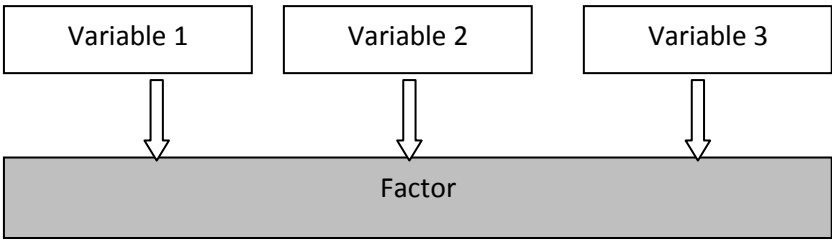
Principal Component Analysis

PCA is a form of factor analysis, a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors. For example, it is possible that variations in four observed variables mainly reflect the variations in two unobserved variables.

The main applications of PCA techniques are: (1) to reduce the number of variables and (2) to detect structure in the relationships between variables, that is to classify variables. Therefore, PCA is applied as a data reduction or structure detection method.

If several indicators are being used, the correlation between each pair of indicators can be arranged in a correlation matrix. The existence of clusters of large correlation coefficients between subsets of variables suggests that those variables could be measuring aspects of the same underlying dimension or feature. These underlying features are known as factors. By reducing a dataset from a group of interrelated variables to a smaller set of factors, a new overarching factor is then able to explain the maximum amount of common variance in a correlation matrix using a smaller set of variables.

Figure B1: Principal Component Analysis



Once PCA is conducted, factor loadings for each indicator are produced – these loadings represent the strength of each variable in defining the contribution each indicator has if it were eventually converted into one overarching indicator or factor. Loadings on indicators can be positive or negative. The larger the absolute value, the stronger the link between that indicator and the overarching factor. So indicators with higher loadings become more important in determining the overarching factor.

For the simplified population based model we only use the factor loadings in PCA to identify weights of importance for each of the indicators used. We do not require the full use of PCA which is to eventually convert several indicators into one overarching factor or a smaller group of factors.

An interesting feature of the factor loadings in the simplified population based model is that they are very similar across all socio-economic indicators (mostly above 0.9 values) and also in relation to when they are correlated with police recorded crime statistics. This means we can use the socio-economic indicators independent of recorded crime statistics in the knowledge that the weights produced would be similar to those if used directly when correlated with recorded crime.

Reliability analysis

Reliability analysis aims to measure internal consistency, i.e. how closely related a set of items are as a group. The most common measure of scale reliability is Cronbach's alpha. It essentially measures the variance within a variable as well as the covariance between a particular variable and any other variable on the scale.

When conducting a reliability analysis using Cronbach’s alpha, the ‘alpha’ score represents the overall reliability of the scale. All indicators included should correlate with this score. Those that don’t are then dropped one by one. If the deletion of a variable increases the alpha score then this means that the removal of this variable improves reliability. This process can be continued until a set of the most closely related indicators are retained. These indicators can then be used in Principal Component Analysis, alongside other indicators, to obtain factor loadings.

We used reliability analysis to guide us on how many of our socio-economic indicators could be used to summarise the whole group of indicators. On many occasions the technique resulted in 2 socio-economic indicators being used with differences between specific indicators marginal.

Annex C: Legacy council tax grants

Since 2014/15, two council tax related funding streams which had previously been paid to the police in England by DCLG have transferred to the Home Office (Council Tax Freeze Grants and Local Council Tax Support Grant) as part of an ongoing process of simplifying police funding arrangements.

Council Tax Freeze Grants (£73m)

This was introduced in 2011/12 as a voluntary scheme that made funding available to local authorities that chose to freeze (or lower) their council tax. It applied separately to each billing and major precepting authority in England, including former police authorities. A Council Tax Freeze Grant has been offered in each of the five years covered by the Spending Review 2010 and Spending Round 2013 periods, but the detail of the scheme has differed between years.

In 2011/12 all of the English police authorities chose to freeze their precept levels and received a freeze grant equivalent to a 2.5% increase on their 2010/11 basic amount of council tax. This freeze grant (£58.8m) was baselined until 2015/16 (i.e. PCCs have received a freeze grant in relation to this scheme every year since 2011/12). The 2012/13 Freeze Grant was provided as a one-off payment (£41.2m) and was therefore not built into baseline funding. PCCs were offered an equivalent 3% increase on their 2011/12 basic amount of council tax. 19 English PCCs froze their precept levels in 2012/13.

The 2013/14 Freeze Grant (£7.3m) was baselined. PCCs who did not increase their precept level in that year have received a grant equivalent to a 1% increase on 2012/13 levels every year since 2013/14. 12 PCCs froze their precept levels in 2013/14. PCCs who froze their precept levels in 2014/15 also received a grant equivalent to a 1% increase on their 2013/14 basic amount (£2.7m). This was baselined, and so was paid out in both 2014/15 and 2015/16. Five PCCs froze their precept levels in 2014/15.

Arrangements in London are slightly different, with legacy Council Tax Freeze Grants relating to the Common Council of the City of London (on behalf of the City of London Police) and the Greater London Authority (on behalf of the Mayor's Office for Policing and Crime) being paid by DCLG as part of wider Start Up Funding Assessment allocations for wider Local Government.

Six PCCs decided to freeze their council tax in 2015/16 and are receiving a grant equivalent to a 1% increase on their Band D council tax levels from the DCLG. This amounts to £4.2m in 2015/16 and it is expected that this funding will be transferred to the Home Office from 2016/17.

Local Council Tax Support Grant (£434.3m)

At the 2010 Spending Review it was announced that from 2013/14 the Government intended to localise council tax benefit and to reduce expenditure on it by 10%. Localisation of council tax benefit means that rather than local authorities applying to the Department of Work and Pensions for a full refund of the council tax benefit provided to certain pre-determined groups (including pensioners and those on low incomes), local authorities now design and pay for their own local schemes. As part of this, PCCs will receive LCTS funding of £434.4m in 2015/16.

Annex D: International police funding models

This review of police funding methods provides information on the way the police are funded in other countries. This has helped the Government to understand the relative strengths and weaknesses of different approaches, which in turn helped to develop a set of guiding principles for developing a new funding model. This review focuses on English language publications from 1995 onwards. Only funding models currently used internationally, where there was sufficient description and explanation of the funding models, were included.

The final list of countries for inclusion was narrowed down based on the extent of their comparability with the policing structure in England and Wales. However, issues around comparability still remain as well as differences in crime recording practices in other countries. Furthermore, a lack of detailed publicly available information on police funding has meant that a limited number of countries were examined in detail.

Based on the inclusion criteria, police funding processes of the Netherlands, Denmark, Finland, Sweden and Norway were assessed. All of these countries use a resource needs estimation approach to allocate police funding. The two main ways of estimating resource needs are through the use of a statistical formula or by calculating the number of 'man years' (i.e. taking into account the number of hours that the police work) required.

Netherlands

As of January 2013, the Netherlands have operated a single national police force divided into 10 regional units. This is a change from the previous organisational structure, which consisted of 25 separate Regional Corps. During a transitional period between 2013 and 2015 the funding mechanism has remained the same as under the previous structure, with work in progress on arrangements for 2016 onwards.

The first step of the allocation process is to divide the staff/management resources and more technical/operational support between four main work strands (i.e. investigation, maintaining law and order, emergency, intake and service). The police budget is then split according to differing proportions across these four work strands.

The allocation of each of these budgets to the regional units is then based on a regression analysis. This looks for a statistical relationship between the measurable aspect of each work strand and various demographic and socio-economic variables in order to estimate workloads.

Denmark

The Danish Police operate a single national police force with a total of 11,000 police officers, divided between 12 districts. Police funding is determined using a statistical model. The model works by calculating an initial allocation based on the number of required police officers for each district. Allocations are then added based on the police resources needed for work on criminal case investigations (67% of total police workload) and response policing (33% of total police workload), as well as some special allocations (e.g. border-related activities). These resource allocations are based on the average activity levels across a rolling period of 3.5 years. The Danish National Police is able to accurately estimate the time spent on each activity area because employees are required to register daily how they spent their work day on the national personnel administration system.

Finland

The Finnish police have a single national police force divided into 24 local departments. A restructuring programme has been underway, part of which involves reducing the 24 local police departments to 11. The new organisational structure has been phased in from 2014. There has been no indication that the method of allocating resources will change as part of this.

The budget for the Finnish police is first calculated in man-years and this is then converted to a share of the total monetary budget. As in Denmark, the Finnish local police departments receive a basic allocation which is largely equal across all the police departments. A formula is then adopted to determine additional allocations for each police department based on the number of citizens, land area, number of emergency calls, number of crimes and number of solved crimes. There are also special allocations for activities that may impact on need for resources but which may not be undertaken by all police departments across Finland (such as financial crime).

Sweden

Sweden operates a single national police force, which is divided into 21 County Police Authorities.

The budget for the Swedish police authorities is allocated according to a simple statistical formula comprising the number of inhabitants and the number of recorded crimes in each area. All County Police Authorities are free to spend their allocations autonomously, provided the minimum national total of 20,000 police officers is maintained. The National Police Board also allocates a small amount of funding on the basis of special assignments, which may involve additional policing pressures, such as combating organised crime.

Norway

Norway has a single national police force, divided into 27 police districts. There are also 7 specialised central agencies to provide support to regional police in a number of areas.

The total police budget is divided between the 27 police districts on the basis of their man-years in relation to the national total. This involves converting all police officer positions to full time equivalents and then adding up the total number of working hours that these occupy to create a measure of man-years for each district. This is summed to form a total of man-years for the country as a whole. For each police district their figure is converted to a percentage of the national total of police man-years. This percentage distribution is applied to the total national police budget so that funding is divided according to the same distribution as the police workforce across the country.

Annex E: Domestic funding models

The funding models currently used by other central Government departments in the UK were reviewed to determine whether there were any aspects of these that may be applicable to a future police funding model. Models reviewed were those used by NHS England for allocations to Clinical Commissioning Groups (CCGs) and Primary Care, Department of Health for public health allocations to Local Authorities, Department for Education for allocations to Local Education Authorities, and the Department for Communities and Local Government for allocations to Local Authorities.

Department of Health

NHS England

Funding allocations for CCGs are calculated using a weighted capitation approach. This takes the size of each CCG's population and weights it according to need associated with age, additional need over and above that related to age, unmet need and health inequalities, unavoidable cost due to location alone, and unavoidable differences in costs associated with providing an emergency ambulance service across the country. Need is calculated separately for general and acute, mental health, maternity and prescribing. Unmet need and health inequalities are addressed using the standardised mortality ratio for those under 75 years of age.

Primary Care funding is allocated to Area Teams for Primary Medical Care (GPs), dentistry and pharmaceutical services. Primary Medical Care funding is based on a formula that uses GP registered populations adjusted for age-sex factors, nursing and residential homes, standard mortality index, Limiting Long-term Illness index, and unavoidable costs. The dentistry services formula uses national average costs by age, sex and IMD of patients' residence for those accessing NHS dental care. Pharmaceutical services funding uses the formula for prescribing from the CCG funding model scaled to the primary medical care population size and aggregated to Area Teams.

Pace of change policy moves CCGs and Area Teams towards their target funding over time. This involves determining target funding based on relative need as set out above, establishing a baseline (previous year's funding), calculating distance from target, and determining pace of change (how far CCGs/Area Teams are moved closer to their target allocation within the year through differential growth). Pace of change policy balances providing stability in funding for all organisations with moving those furthest under target closer towards their target.

Public Health

The Department of Health also uses a weighted capitation approach to distribute funding for Public Health to Local Authorities. The main component of this is the population size and demographic structure of each local authority, with adjustments (per head) for the standardised mortality ratio for those under 75 years of age (SMR<75), age and gender (based on e.g. alcohol consumption and smoking by age –gender group), and unavoidable costs due to location (the Market Forces Factor), as well as an adjustment for the activity and outcomes for drugs misuse services previously funded through the pooled treatment budget. They also implement a pace of change policy. Growth is capped at ten percent, with authorities furthest from target receiving a higher growth rate in order to move them at a quicker pace. There is a minimum growth rate that varies each year (2.8% in 2014/15). This formula was applied in 2013/14 and 2014/15. Allocations for 2015/16 were on a flat cash basis from 2014/15 allocations.

Department for Education

In 2015/16 the Department for Education set minimum funding levels for five pupil characteristics: a basic per pupil amount (age weighted pupil unit), pupils from deprived backgrounds, pupils who have been looked after (e.g. foster care), pupils with low attainment before starting at their school, and pupils who speak English as an additional language. They also set a minimum funding level for two school characteristics: a minimum funding level for each school on top of its per pupil funding (lump sum), and a minimum funding level for small schools that are essential to serving rural areas (sparsity sum). When local education authorities go on to create their own formulae for distributing the funding to schools in their area, the per pupil unit and the deprivation measure are mandatory. They have discretion around which other factors to include. A hybrid Area Cost Adjustment is also used, which takes into account teachers' pay, non-teaching staff pay and non-staff costs.

Department for Communities and Local Government

Local Government is funded through the Business Rates Retention Scheme (BRRS) which was introduced in 2013. In order to set the BRRS up, a funding level for every local authority was calculated for 2013/14. This funding level is based on the combined allocations of four different categories, as follows:

- *Individual authority start-up funding assessment*
  When overall funding for the local Government sector was determined, a start-up funding assessment at local authority level was then allocated in two parts. 2013/14 formula funding calculations from the four block model (described earlier) were initially used to produce the share of relative need, relative resource and central allocation across services; a damping mechanism was then applied to ensure stability. Once this was done, nine specific grants (such as Early Intervention Grant and Council Tax Support Grant) were transferred in according to each area's spending control total profile.

- *Baseline funding level*
  This was split into funding provided through Revenue Support Grant (RSG) and funding provided through the BRRS. These two amounts are determined by applying the Local Share: RSG ratio (in 2013/14, this was 10.1:15.2) to each local authority's individual start-up funding assessment.

- *Individual authority business rates baseline*
  This was calculated by distributing the local share of the Estimated Business Rates Aggregate between all billing authorities on the basis of proportionate shares. Proportionate shares were based on a billing authority's historic business rate collection as a percentage of the total historic business rate yield. These were calculated using the average of business rates collected for 2010/11 and 2011/12 with a number of adjustments.

- *Tariffs and top-ups*
  Should a local authority receive more in business rates than its funding level then Government retains the difference (the "tariff"). This is used entirely to "top up" local authorities who receive less than their funding level.

In later years the baseline funding level is uprated each year in line with the small business rates multiplier. Reductions to RSG are calculated by scaling each factor to its control total for the current year.