



Official Response to the Department for Education consultation on

**THE NATIONAL FUNDING FORMULA  
PROPOSED CHANGES TO SPARSITY FUNDING FROM 2022**

**APRIL 2021**

Community Union  
Voice Section

2 St James Court  
Friar Gate  
Derby  
DE1 1BT

[www.VoiceTheUnion.org.uk](http://www.VoiceTheUnion.org.uk)  
[www.Community-tu.org](http://www.Community-tu.org)

## **Introduction**

The government remains committed to its mission to level up the education system so that every child, whatever their background and wherever they live in the country, can benefit from the great education they deserve. We are backing that commitment with the largest cash boost for schools in a decade. Core school funding is increasing by £2.6bn in 2020-21, £4.8bn in 2021-22 and £7.1bn in 2022-23, compared to 2019-20.

Alongside this funding, we know it is vital to ensure resources are directed where they are needed most by maintaining and improving the schools National Funding Formula (NFF). The introduction of the NFF in 2018-19 has already made the funding system fairer, allocating funding based on schools' and pupils' needs and characteristics – not accidents of geography and history. We continue to keep the formula under review, so that it is responsive to schools' financial challenges and evidence of their needs.

One group of schools that evidence suggests and that we have heard are facing particular financial challenges are small, remote schools. We recognise the vital role that such schools play in the rural communities they serve and that without them pupils could face long travel distances to school. We have considered ways to continue to improve how the funding system supports such schools, building on our public commitment to do more to support this group of schools and on increased funding through the NFF's sparsity factor from 2021-22. The purpose of this consultation is to seek views on how we propose to provide additional support to small, remote schools through further changes to the NFF's sparsity factor in 2022-23.

Receiving views on these proposals is particularly important in light of the government's long-term plans to move to a 'hard' NFF, where schools' budgets will be determined on the basis of a single national formula. We recognise that the move to a 'hard' NFF is a significant one, which will need to occur over enough time to ensure that this important change can be introduced smoothly. In the coming months we will launch a consultation on how we propose to move, over time, to a hard NFF. The 'soft' NFF, where local authorities design local funding formulae within certain parameters, will remain in place for 2022-23.

### **Why we are consulting**

We recognise the challenges faced by small schools in rural areas due to limited opportunities to attract more pupils or to achieve efficiencies, and that such schools often play a significant role in the rural communities they serve. This is why the schools NFF allocates additional funding to this group of schools through the 'sparsity factor'. Eligibility for funding through the sparsity factor is determined by a school's size and remoteness.

We made a public commitment to do more to support this group of schools in 2019 and we increased the level of funding through the NFF's sparsity factor in 2021-22. In this consultation, we are seeking views on our proposals to continue to improve how the funding system supports such schools through further changes to the sparsity factor from 2022-23.

### **About this consultation**

This consultation makes a number of proposals:

- To begin measuring sparsity distances by road journeys rather than 'as the crow flies' distances, to better reflect the actual distance between schools, particularly in rural locations.
- To increase the maximum sparsity factor values by £10,000 across all phases in the 2022-23 schools national funding formula (NFF).

The first part of the document sets out:

- Existing support for small and remote schools in the schools NFF.

The subsequent parts of the document set out:

- The overarching aim of further increasing support to small, remote schools in the schools NFF.
- Our specific proposals to achieve this.
- The technical design of the newly proposed sparsity distance measure, by road journeys.

## **Section 1.**

### **Current support for small and small and remote schools in the NFF**

The NFF recognises that small schools have unavoidable fixed costs but do not necessarily have the same opportunities as other schools to grow and increase revenue, which is largely based on pupils and their characteristics. Therefore, the NFF provides a lump sum (£117,800 in 2021-22), which is a minimum amount of funding that every school attracts irrespective of the number of pupils on roll or its pupils' characteristics. This is particularly beneficial for small schools, to guarantee a certain level of income that is not determined by size.

The NFF also recognises additional financial challenges faced by small schools in rural areas, due to such schools' particularly limited opportunities to attract more pupils, or to achieve efficiencies (e.g., shared senior leadership teams) and hold down costs compared to similar sized schools in less remote areas. In addition, such schools often play a significant role in the communities they serve and educate pupils who might otherwise have to travel unreasonably long distances to attend school. Therefore, the NFF allocates additional funding beyond the lump sum to small schools in rural areas through the 'sparsity factor'.

Eligibility for additional funding through the sparsity factor is determined by a school's size and remoteness. A school attracts sparsity funding if:

- Its average year group size is below the appropriate year group threshold. This threshold is 21.4 for primary schools, 69.2 for middle schools, 120 for secondary schools and 62.5 for all-through schools; and
- For all the pupils for whom it is the nearest compatible school<sup>1</sup>, the average distance (currently calculated 'as the crow flies', using straight-line distances) from each pupil's home postcode to their second nearest compatible school<sup>2</sup> (the sparsity distance) is equal to or more than three miles (for secondary schools) or two miles (for all other schools).

Since the introduction of the NFF in 2018-19, the number of schools eligible for sparsity funding ('sparse' schools) has remained broadly the same. In the 2021-22 NFF approximately 1,200 schools are eligible to attract sparsity funding, 90% of which are primary schools. The number of sparse schools can change each year due to: incoming pupil cohorts living in different locations than outgoing pupil cohorts, resulting in changes to schools' sparsity distances; schools opening, closing, or changing location; or where schools' average year group sizes change.

For 2021-22, we have increased the maximum amount that each eligible school can attract through the NFF's sparsity factor from £26,000 to £45,000 for primary schools, and from £67,600 to £70,000 for secondary schools. As a result, the total amount allocated through the sparsity factor is rising to £42m in 2021-22 – an increase of £16m, or 62%, from 2020-21. The average sparse school, across both phases, will attract almost £35,000 through the sparsity factor in 2021-22, a significant increase from £21,000 in 2020-21.

The amount each sparse school attracts through the sparsity factor is determined by its size – the smaller the school (in terms of average group size), the greater its allocation, up to the maximum sparsity factor values in 2021-22 of £45,000 for sparse primary schools and £70,000 for sparse secondary, middle and all-through schools. We calculate a sparsity weighting for each school that is eligible for sparsity funding, which sets the proportion of the maximum sparsity sum for which that school is eligible.

Our decision to increase the level of funding to small, remote schools in 2021-22 was driven by evidence – published data on deficits and school closures indicates that this group of schools are likely to require additional support. Such evidence has been corroborated by what we have heard about the financial challenges of such schools from stakeholders, including the National Association of Head Teachers, the Church of England Education Office and Catholic Education Service, and in response to our consultation on mandatory minimum per pupil funding levels in 2019. Our decision to prioritise a significant increase at primary phase was in recognition that almost 90% of sparse schools are primaries, and that the average sparse primary school receives less revenue funding based on pupil numbers or characteristics than a typical sparse secondary school.

Under the 'soft' NFF, the sparsity factor is currently optional in local authorities' funding formulae. Where the sparsity factor is used, its design can be changed in local formulae by setting different factor values<sup>3</sup> (in the same

way, local authorities can set different values to the NFF for the lump sum) and/or by using a different type of weighting<sup>4</sup>. In addition, a small number of requests have been approved to allow local authorities to provide more for very small sparse secondary schools and/or a different sparsity distance where the 'crow flies' distance significantly misrepresents a school's remoteness.

---

## **Section 2.**

### **Increased support for small, remote schools**

To build on the increased sparsity factor values that will be introduced from 2021-22, we aim to broaden the reach of the sparsity factor to a greater number of small schools serving rural communities from 2022-23. This is to increase the support for schools that are currently not identified as being sparse in the NFF, many of which are marginally below the factor's distance thresholds, but that are likely to face similar financial challenges to those that are.

Of all primary schools that are not sparse in the 2021-22 NFF, 282 that are small (measured against the sparsity factor's size threshold) are between 0 to 0.2 miles below the distance threshold and 324 are between 0.21 and 0.4 miles below. A further 366 primary schools are between 0 and 0.4 miles away but are not currently small. Of all non-sparse secondary schools, 9 small schools are between 0 to 0.3 miles below the threshold and 12 are between 0.31 and 0.6 miles below. A further 130 secondary schools are between 0 and 0.6 miles away but are not currently small.

Therefore, 1,123 primary and secondary schools are no more than two-tenths of a mile below their respective sparsity distance thresholds in the 2021-22 NFF. Of this group, 56%, or 627, are also small, measured against the sparsity factor's average year group size thresholds, and 19% are small enough to have received the maximum sparsity factor value had they been eligible for sparsity funding. In contrast, 786 primary and secondary schools are within two-tenths above the sparsity distance thresholds, 482 of which are also small.

This data highlights that there are a significant number of schools narrowly below the distance thresholds, and more than the number narrowly above them. This demonstrates that many schools are missing out on funding through the sparsity factor despite being likely to face similar challenges to schools that are currently eligible. Our aim, to broaden the reach of the sparsity factor, would see small schools that are currently just below the distance thresholds receive greater levels of support through the NFF.

We intend to achieve this aim by improving the methodology used to identify remote schools. Our proposal is to begin measuring sparsity distances by road journeys rather than 'as the crow flies', which will better reflect the actual distance between schools and help us to identify schools that warrant extra support more accurately (more detail in Section 3). To illustrate the impact of this change, we have measured schools' sparsity distances by the road using the same data as in the 2021-22 NFF. This would have seen approximately 900 more schools become eligible for sparsity funding (see the 'sparsity consultation data tables' spreadsheet for a full list), which means 54% of total small schools would have been eligible – up from 30% under the current distance measure.

Areas that would have seen the greatest increase in the number of sparse schools are largely those with many small schools currently close to the thresholds, and where the new measure will have more of an impact on schools' sparsity distances due to road journeys being significantly longer than 'crow flies' journeys.

**Q1a. Do you support our aim to allocate sparsity funding to a greater number of small schools in rural areas?**

**YES**, No, Unsure.

**Q1b. Do you agree to us targeting additional sparsity funding to roughly 900 more schools nationally than at present?**

Target a greater number, This is about the right number, Target a lower number, **UNSURE**.

*It is right to widen the net to include schools which would otherwise suffer because they fall just outside the conditions to receive sparsity funding, or indeed those schools which yo-yo back and forth due to their cohorts. Whether or not this is the 'right number' seems to be an absurd question since it is irrelevant how many schools meet the criteria as long as the provision is there to support all of those schools that meet the revised formula for the benefit of the pupils, staff and local community.*

### **Section 3.**

#### **The design of the sparsity factor in 2022-23**

To improve how we identify sparse schools in the NFF, we propose measuring sparsity distances by road journeys from 2022-23. The purpose of this is to better reflect actual journeys that pupils would be likely to take to their closest and second closest schools. This will help to identify remote schools more accurately and fairly compared to the 'crow flies' distance measure which can underestimate remoteness, particularly in rural areas where straight-line distances do not typically reflect actual journeys. A detailed explanation of the new distance measure is in Section 4.

While sparsity distances can only be a proxy for remoteness and additional financial challenges, we recognise the need for as accurate and fair a measure as is reasonably possible. This is to ensure that sparsity distances are a good indicator of greater need and that the schools NFF is distributing funding where extra resource is most likely to be needed. This proposal addresses comments made by some respondents in the original consultation on the introduction of the NFF, which called for a more accurate measure to reflect actual travel times.

We propose maintaining the same distance thresholds as in 2021-22: two miles for primary, middle, and all-through schools and three miles for secondaries. Therefore schools with sparsity distances calculated by the road that meet or exceed these thresholds and that are small, according to the sparsity factor's average year group size thresholds, would be eligible for sparsity funding in 2022-23. Given road-based sparsity distances between two points are always greater than straight-line-based sparsity distances, we would see an overall increase in the number of schools eligible for sparsity funding – there are nevertheless a very small number of exceptions to this because of the way the new methodology is calculated. As in previous years, schools that are sparse one year but not the next – due to changes in methodology or changes in schools' and/or pupils' locations, and/or average year group size – would be protected from losses through the funding floor (or 'minimum funding guarantee'). We also propose keeping the definition of a small school the same in 2022-23 as in 2021- 22.

In addition to improving the sparsity distance measure, we propose further increasing the maximum sparsity factor values by £10,000 across all phases in the 2022-23 NFF. When coupled with the lump sum, a £10,000 increase in the sparsity factor values would mean sparse primary and secondary schools could attract up to £172,800 and £197,800 respectively through these two factors, before taking account of funding based on pupils and their characteristics, or any increase to the lump sum in 2022-23. This represents increases of 28% and 13% respectively to the value of the combined lump sum and maximum sparsity factors since the NFF was introduced in 2018-19, and almost exceeds the maximum lump sum that was included in local funding formulae before the introduction of the NFF. From 2023-24, further increases to the sparsity factor values, beyond the additional £10,000 increase in 2022-23, would be considered in the round alongside other factors.

Based on our illustration of the impact of these changes, measuring sparsity distances by the road and increasing the maximum sparsity factor values by £10,000, the total amount allocated through the sparsity factor would have increased by £43m to £85m. This would result in significant amounts of additional funding and support for sparse schools. This is without having an excessive impact on the increases that will be affordable to the values of factors concerning pupils' characteristics – given the additional spend represents a low proportion of the total Schools Block value in 2021- 22. We think this achieves a good balance between better supporting small, remote schools, helping to ensure that pupils in rural areas have access to local provision within reasonable travel distances, while enabling us to continue to allocate the great majority of overall funding based on pupils' characteristics to direct resources to those that evidence suggests require the greatest level of extra support.

We do not propose changing local flexibilities regarding the sparsity factor, outlined in section one, in 2022-23. This is in recognition of the need to transition to a hard NFF smoothly. Furthermore, we do not propose changing local authorities' ability to make disapplication requests regarding sparsity distances in 2022-23. While local authorities would no longer need to submit requests for schools where road distances would have been significantly higher than those measured 'as the crow flies', they will be able to submit evidence to request to change the distance for a school where they believe it should be significantly higher than those that we provide by the road. We are not expecting this to be necessary, but recognise the merit in keeping the option for such requests open while moving to the new measure.

In addition, local authorities will still be able to provide more for very small sparse secondary schools as per the schools revenue funding operational guidance. We are considering how additional sparsity funding for particularly small and/or particularly remote schools, which evidently and objectively warrant greater support beyond maximum sparsity values, could be implemented in the national formula in future years, beyond 2022-23. We welcome any early views on this.

**Q2a. Do you agree with our plan to measure sparsity distances by the road?**

*Strongly agree, **AGREE**, Disagree, Strongly Disagree, Unsure.*

**Q2b. Do you agree with our plan to maintain the same sparsity factor distance thresholds as in 2021-22?**

*Set higher thresholds, **THESE ARE THE RIGHT THRESHOLDS**, Set lower thresholds, Unsure.*

*Based on the information provided in the data sheets, it is clear that no school will lose out and therefore for there to be reasonable checks and balances within the system, and for it to be possible to analyse the success of this change to the sparsity calculation, it seems prudent to maintain the current thresholds pending future studies of the data.*

**Q2c. Do you agree with our proposed increase to the primary and secondary maximum sparsity factor values of £10,000?**

*Allocate a higher amount, This is about the right amount, Allocate a lower amount, **UNSURE**.*

*Is it possible to assess the amount as being 'the right amount' or otherwise?*

*All schools have to manage their finances -some have greater ability to influence their income than others, but until now those rural primary schools, those typically with the lowest levels of funding, have had to rely on sparsity top-up funding. We very much welcome the move by the Department to significantly increase the maximum sparsity factor to £10,000 but we are not in a position to know if this is an adequate sum. We simply cannot say if it will have the necessary impact on a school system which is reeling from systemic underfunding, rising utilities, and increased employer costs, whilst also trying to implement COVID-secure conditions.*

**Q2d. Do you have any further comments regarding the design of the schools NFF sparsity factor from 2022-23?**

## **Section 4**

### **Measuring sparsity distances by the road**

This section describes the methodology that we have used to calculate sparsity distances by road journeys in more detail.

Sparsity distances are currently calculated using straight-line, or 'as the crow flies', distances from pupils' postcodes to schools' postcodes. School and pupil data, including postcodes, is provided to us through regular autumn census returns and Get Information About Schools (GIAS) (Annex B.1) and used to calculate funding allocations (Annex C). As postcodes tend to cover a number of different properties, we use postcode 'centroids' to set the specific points that are measured to and from in our 'as the crow flies' distances. Centroids are the centre of the properties within the postcode area (henceforth, when referring to distances to or from postcodes, we are referring to postcode centroids). We then, for each school, identify the pupils who live nearest to it and for whom it is compatible, and calculate the average distance to their second nearest compatible schools. This is each school's sparsity distance.

We propose calculating sparsity distances by the shortest distance by the road from schools' properties – not the centroid of their postcode, as at present – to pupils' postcodes. Where schools' properties cannot be exactly identified (see paragraph on UPRNs below), we propose reverting to measuring from schools' postcodes to pupils' postcodes, by the shortest road distance. We would continue to use the same school and pupil-level data as at present. This is except for the omission of some pupil-level data necessitated by the new methodology, which would have been included in the existing methodology (explained on page 15). A school's sparsity distance would still be based on the average distance from nearest pupils' postcodes to second nearest compatible schools. The only component we are proposing to change and seeking to improve is the method to calculate distances.

The new method involves us calculating actual distances from two points on the road network that are closest to schools' properties or postcodes and pupils' home postcodes. We consulted with the national mapping agency, Ordnance Survey (OS), about data to enable us to achieve this, and have used one OS dataset on addresses and one on the road network (see Annex B.1 for more information). To identify the points on the road network, we firstly have to identify schools' and pupils' locations on a map. To do this we cross-reference geographic data from the school census and GIAS with the OS address data.

Schools can typically be located using Unique Property Reference Numbers (UPRNs). UPRNs are a unique numeric identifier for every addressable location, which are allocated and overseen by local authorities. Use of UPRNs represents a change to the current process, enabling us to measure distances from a point on the road closest to a school's specific site as opposed to the coordinates of their postcode centroids, which can be more or less further away from the actual school site for different schools. In a minority of cases, UPRNs are inaccurately recorded in GIAS by schools, so we revert to use of postcodes or coordinates to locate schools. The GIAS frequently asked questions webpage includes information on how schools can check their UPRNs and correct them if necessary.

For pupils, we locate the closest building to the coordinates of their home postcode centroids. This is the same point that we measure to at present. Locating the building is a necessary additional step to enable us to determine the correct road to route from. Using pupils' postcode centroids, rather than full addresses and actual properties (as for most schools), enables us to minimise sensitivity of data used. Measuring to pupils' full home addresses would be unlikely to affect a school's sparsity eligibility (as sparsity distances are averages) and sparsity distances are proxies of remoteness, so in this case postcode centroids are sufficient and use of pupils' full home addresses would be unjustified. We have not included pupils' postcodes that contain only Welsh or Scottish addresses in the calculation of sparsity distances by the road, because their closest or second closest school(s) might be in Wales or Scotland which we are unable to calculate a road distance for. And, in few cases, we are unable to locate pupils' postcodes in the mapping database, which is likely to be because they have been taken out of service. Roughly 0.3% of postcodes are omitted for one of these two reasons.

Once we have found schools' and pupils' locations, we use the OS road network data to identify the closest access point to their locations on a road. We then calculate the shortest road distance from the nearest point on a road to schools to the nearest point on a road to pupils, excluding footpaths. We have not factored in 'no-right turns' which would have had high additional complexity for, we think, limited impact – particularly in rural areas where sparse schools are most likely to be. Furthermore, we have treated one-way roads as ones that can be accessed and travelled along from either direction. This avoids treating some schools differently in an arbitrary way by factoring in one-way streets on journeys from schools and pupils' homes but not vice versa (because that is the direction of travel the sparsity distance has been based on). We have also assessed this to have a limited impact on sparsity distances and eligibility and to be suitable given sparsity distances are a proxy of remoteness. The complexity associated with factoring in 'no-right turns' or one-way streets could have resulted in the road distance measure not being ready in time to consult on for the 2022-23 NFF. If you foresee this causing particular issues, we welcome you letting us know of these in response to question 3a which we can consider in the design of the distance measure going forward.

Once we have calculated road distances, we calculate schools' sparsity distances in the same way as now: for each school, we identify pupils for whom it is their closest compatible school (by the road), and calculate the average distance to their second nearest compatible schools (by the road). We compare these distances to the distance thresholds of three miles (for secondary schools) or two miles (for all other schools), to determine whether the school is remote.

For the purpose of this consultation we have calculated new sparsity distances by the road (see the 'sparsity consultation data tables' spreadsheet for a full list) using data collected via the autumn (October) 2019 school census. This is so that new distances, by the road, can be compared with existing distances, 'as the crow flies', which were used for 2021-22 NFF allocations. These distances are illustrative and will not inform funding allocations. Rather road distances would be recalculated for the 2022-23 NFF based on up-to-date school- and pupil- level data in the autumn (October) 2020 school census. It is possible that a school is identified as being eligible for sparsity funding in the illustrative data tables published alongside this consultation, but not in the 2022-23 NFF due to one or a number of reasons why a school's sparsity distance can change year on year outlined on page 7. Nonetheless, this is a good indication of the scale of the changes we are proposing in this consultation and how many and which schools would have been eligible for sparsity funding had we measured distances by the road in the 2021-22 NFF.

We have rigorously quality assured the methodology and outputs published alongside this consultation. Should you however identify a sparsity distance for a school that you would have expected to be significantly different by the road, we welcome you letting us know in response to question 3a.

**Q3a. Do you have any comments on our methodology to calculate sparsity distances by the road?**

*Evidence suggests one group of schools continuing to face particular financial challenges are small, remote schools. These schools play a crucial role in their local communities and therefore the funding system needs to be reformed to better support such schools.*

*Cole and King's (1968) Quantitative Geography defined the ratio of travel distance to straight-line distance as the "detour index" and reported typical values of 1.2 to 1.6 for rural areas in various parts of Britain. Several subsequent studies have confirmed significant improvements in calculations by using road-network distances, therefore, Voice Community concur that it is appropriate to move to calculating sparsity distances by road and understand the benefit this may bring to increased number of schools through this change.*

*We would not wish to see something given and then reduced or taken away again. And so, it will be crucial to the success of this project to insure those schools included, and to protect them from future funding insufficiencies.*

**Q3b. We welcome any additional comments about our proposals and our equalities impact assessment, including any evidence, examples, or data of possible equalities impacts of the proposals.**