EVALUATION STUDY PLAN AND STATISTICAL ANALYSIS PLAN

Neighbourhood Fund: Empowering Local Communities to Reduce Youth Violence

Nottingham Trent University and Liverpool John Moores University

Principal investigator: Professor Andy Newton

YOUTH ENDOWMENT FUND

The Neighbourhood Fund

Evaluation Study Plan and Statistical Analysis Plan

Evaluating institution: Nottingham Trent University and Liverpool John Moores University

Principal investigator(s): Andy Newton

Project title	**Neighbourhood Fund : Empowering Local Communities to Reduce Youth Violence**
Developer (Institution)	Aston Villa Foundation (West Midlands) Born in Bradford (Yorkshire and the Humber) Right to Succeed East of England) Young Manchester (North West) Citizens UK (Wales)
Evaluator (Institution)	Nottingham Trent University (Lead) (NTU) Liverpool John Moores University (LJMU)
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Study Design	Quasi-experimental design. Parallel approach: • synthetic weighted controls • individual difference in difference
Evaluation Setting	Community
Target Group	Young people aged 9 to 18 living in five identified hyperlocal high crime intervention areas (target age ranges vary between the five sites)
Primary outcome and data source	Synthetic Weighted control: • Youth violence (police crime flagged by offender and or victim aged under 25) rate per LSOA. • We will also explore changes to all violence as aged under 25 may produce a low power (to be updated in revised protocol) Individual difference in difference • Young person proven offences (National Pupil Database-Police National Computer (NPD-PNC) linked dataset)

Secondary Outcome and Data Source	Individual difference in difference • School attainment during young people's secondary schooling. National Pupil Database Education employment, or training (EET) post sixteen. National Pupil Database
Exploratory Outcomes and Data Source	Individual difference in difference • School attendance during young people's secondary schooling. National Pupil Database • School exclusion Year 10 (National Pupil Database)

Study Plan version history

VERSION	DATE	REASON FOR REVISION
1.5 (latest)	07/08/2026	Protocol updated to reflect implementation learning from Years 1–3 of the evaluation. Revisions include: refinement of formative evaluation questions and associated lines of enquiry (Section 5.1; Table 9); (iii) updates to qualitative data collection, monitoring procedures and sampling to reflect evaluation delivery (Section 5.2); (iv) clarification of the formative analytical approach, triangulation and reporting procedures (Section 5.3); and (v) alignment of interview schedules with the revised formative evaluation questions. No substantive changes have been made to the overall evaluation design, research questions or summative evaluation.
1.4	13/10/2025	Formative Research Questions updated as a results of peer reviewer feedback on Year 2 Report Updated Race Equity Plan Power Calculations revised due to peer review feedback. Added primary analytical strategy for CHB and hierarchy of alternative analytical strategies Included discussion of CCJ and Race Inequality and potential role of NF in addressing this.
1.3	31/07/2025	Added Appendix 5 – power calculations. Added Appendix 6. Impact of Clear Build Hold (CHB). Updated Estimated Numbers of Participants.
1.2	24/09/2024	Updated after peer review comments
1.1	08/11/2023	Updated site populations and estimated number of participants
1.0 [original]	16/10/2023	

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1. Introduction to the Neighbourhood Fund

The Youth Endowment Fund (YEF) was established in March 2019 by children's charity Impetus, with a £200m endowment and ten-year mandate from the Home Office. The YEF offer three types of funding: (i) themed rounds prioritised through a series of focus areas; (ii) place-based approaches; and (iii) targeted projects.

The YEF Neighbourhood Fund (NF) is part of the placed-based approach. This was developed under the premise that: violence is concentrated in specific places; local knowledge and buy-in are pivotal to make effective change; and, only through working with the people and organisations who live and operate in these areas can effective change be realised.

The main learning aim of the Neighbourhood Fund is to:

> '*to understand **if** and **how** empowering people to make decisions about their local neighbourhoods can prevent children from becoming involved in violence*' (YEF, ND).

The key questions the NF seeks to address are:

(i) Which community engagement and partnership approaches help to keep children safe from violence? How do they work?
(ii) How do different conditions and contexts affect change?
(iii) Which hyper-local activities, interventions and approaches are most effective in preventing children and young people from becoming involved in violence?
(iv) How do you measure changes in violence at a neighbourhood level?

The NF aims to invest in and build long-term partnerships in 'small-scale' areas in England and Wales, and it is being piloted in five identified sites in England and Wales (see section 1.21). We also return to discuss definitions of 'small-scale' in section 1.2.1. The guiding idea behind the programme is that: solutions to youth violence are best found in the communities within which 'at-risk' young people live. Therefore, effective violence reduction could be enabled by providing local organisations the funding and freedom to determine how funds are spent locally, based on local data and partner and community insight. The NF is part of YEFs broader approach to tackle local youth violence through place-based approaches, defined as:

> *'Organised effort across a defined geography to prevent children and young people becoming involved in violence in a way that is responsive to local need and context'* (YEF, ND).

1.1. Theoretical and scientific background

The NF was developed under two key premises. Firstly, that crime is concentrated in specific places, and secondly that to address these local challenges it is necessary to build local long-term partnerships with the communities who live in, and the organisations who operate in these high crime areas. The goal is to empower these local partnerships to make decisions about how best to reduce youth violence in their area. The underpinning theories that underpin these approaches are now briefly discussed, given their prominence within the NF approach. It is evident from Section Three of the report that these theories and perspectives have been used by the five sites to identify plausible mechanisms for change when developing their identified interventions, as apparent from inspection of the action plans for delivery (see Section Three).

1.1.1. Place based crime concentrations and situational prevention

The first premise of the NF is that youth violence is concentrated. Indeed, there is an established body of research that demonstrates how crime, and this applies to youth violence, is concentrated in specific locations, places, and times. These clusters and concentrations are frequently referred to as crime hot spots (Eck et al, 2017; Braga et al, 2019a, Smith et al, 2023), although definitions of these are more varied. Weisburd (2015) coined the phrase the law of crime concentration to articulate a consistency identified through multiple studies across small, medium, and large sized cities in different continents. The constant here was that a sizeable proportion of crimes that occur in cities and urban areas is concentrated in a small proportion of that city. A key paper that focussed attention on small-scale places and perhaps coined the use of the term 'crime hot spots', was Sherman's analysis of police calls for service data, that found over 50% of calls to the police came from only 3.5% of residential addresses (Sherman et 1989).

There is a voluminous body of work that examines geographical patterns and manifestations of 'crime events,' which in its simplest terms are the places where crimes are committed. Early origins of this approach were found in France (Quételet, 1984; [1831] Guerry, 1833). This spatial approach grew prominence in the Chicago School (Shaw et al, 1929; Shaw and McKay, 1942; and Park and Burgess (1967 [1925]). At this time researchers began to refine the sophistication of their levels of analysis, from broader geographies across larger urban places, to more localised (small-scale) comparisons within cities. In the 1970s and 1980s, environmental criminological perspectives began to emerge (Bruinsma and Johnson, 2018), and these sought to understand the spatial dimensions of crime and how the context and environment of a place influenced opportunities for crime. Some of the key perspectives here were: the influence of a person's routine activities (Cohen and Felson, 1979); the geometry and patterns of crime created by urban mobility (Brantingham and Brantingham, 1984); and the choices people make in different settings and places (Cornish and Clarke. 1986). Additional explanations for these high 'pockets' of crime include young people's lifestyles (Hägerstrand, 1970) and the connected nature of urban mobility (Newton et al, 2015, 2021). One example here is the notion of crime attractors and generators (Brantingham and Brantingham, 1985). Generators are central hubs where people congregate, whereas attractors tend to be places that function as a magnet for potential offenders. The physical infrastructure of places influence opportunities for crime, for example poor lighting and low visibility (Jeffery, 1971; Newman, 1972, Clarke, 1995; Armitage and Monchuk, 2010). Additional factors that influence crime opportunity include socio-demographic measures such as deprivation, inequality, and poverty (McAra and McVie, S., 2016); and levels of social cohesion and collective efficacy (Sampson et al, 1999; Hipp and Wickes. 2017). Crime opportunities are influenced by levels of capable guardianship (Reynald, 2016), the emphasis here on 'capable'; whether a place seems cared for or neglected (Wilson and Kelling's broken windows, 1982), and how a place is managed (Madensen and Eck, 2013). Indeed, a brief consideration of the literate on crime concentrations demonstrates that there are a range of factors that may influence the opportunities afforded to young people, and the decisions they make in different spatial and social settings, which may or may not result in youth violence.

The growth of this work that explored and sought to explain the spatial concentrations of crime evident resulted in a focus on reducing crime, including youth violence, at a small or highly localised scale. A broad umbrella under which these approaches can be considered is '(*micro) place-based situational crime prevention*.' Examples include hot spot policing (Braga et al, 2019); focussed deterrence (Braga et al, 2019b), CPTED and secure by design approaches (Jeffery, 1971; Newman,

1972, Clarke, 1995; Armitage and Monchuk, 2010), for example CCTV and street lighting. However, as evidenced by the YEF toolkit evidence of the success of these approaches is limited, in part due to a lack of robust evaluations. Indeed, micro situational crime prevention efforts work best when they are specific, linked to a well-defined localised crime setting, and using a problem-solving approach (Hinkle, et al, 2020).

A criticism levelled at these micro-level approaches is that communities are frequently not engaged in their design and implementation. For example, a limitation of hot spot policing is that it may increase community tensions within a local setting, particularly if not consulted with before implementation. Environmental enhancement such as improved physical design may only be effective in the short term, as they are designed made by (predominantly) male urban planners, architects, or other local authority partners, who infrequently use these places (Ceccato and Newton, 2024). These improvements are often frequently conducted with little or no local community consultation. However, in the UK there are examples of shifts in the landscape, linked to the notion of place-making (Ellery et al, 2020). For example, recent work has focussed on engaging women and girls into re-designing of public spaces such as parks, into places that they would want to use and feel safe in (Barker et al, 2023).

This section of the protocol has identified the scientific basis of why crime clusters and concentrates in certain locations and considered some of the micro level approaches to reducing crime in these hot spots. This includes improved environmental design, place management, policing, and minimising a sense of places being uncared for. However, given the premise of the NF and its focus on local people and local communities, there is a second set of place-based literature that examines social approaches to youth violence and crime prevention.

1.1.2. Place based community empowerment and co-production – social and community prevention

The second premise for the YEF NF is that to reduce youth violence, local knowledge and buy-in is pivotal, and it is essential to collaborate with young people who live in, and the organisations that operate in these communities with high levels of youth violence, to make effective change (Open Innovation Team, 2023).

Place based community approaches can be traced back to the Chicago school, and a key concept that emerged from the Chicago school is socio-ecological theory. This strongly influenced the work Bronfenbrenner (1979) who proposed a set of interconnected systems that influence the development of young people. These were: *the micro-system*, individual family, peers, and school are all examples of systems that a young person directly and most frequently connects with; the *mesosystem* are connected groups of families and peers with which the child engages but less directly; the *exosystem* which are broader structures such as social services and local politics which influence a child's development but they do not directly function in; and the *macrosystem*, which is the larger cultural context within which they live. A key emphasis of this approach was the interactions between each of these different systems.

This socio-ecological model has been widely adopted in social and community approaches to crime prevention. The World Health Organisation (WHO) offer a framework for violence prevention centred on the 'public health' approach focused around four levels: individuals; relationships; communities; and societal factors. They recommend violence prevention strategies focus on the complex interplay

between these four factors (Dahlberg et al, 2002). This public health approach is one of the five key findings of YEF recent systematic review of place-based approaches to violence prevention (Baidawi et al, 2023).

There are two further relevant theories to consider under this premise, namely community empowerment and co-creation.

Community empowerment has its roots in social Marxism but is most associated with Rappaport (1981) who suggested that a key challenge for reducing social problems is that they frequently stem from power relations. Community empowerment is identified as a social policy strategy by the World Health Organisation who define this as:

> *more than the involvement, participation or engagement of communities. It implies community ownership and action that explicitly aims at social and political change. Community empowerment is a process of re-negotiating power in order to gain more control. …* [and argue] *community empowerment necessarily addresses the social, cultural, political and economic determinants that underpin health, and seeks to build partnerships with other sectors in finding solutions* (WHO, ND)*.*

A key feature here to consider is the notion of power re-negotiation. If some people are going to be empowered to make decisions, this requires others to either share their power or to relinquish some of this control (Baum, 2008). Community empowerment can be defined as:

> *a systematic effort to enable communities to gain and exercise (more) control in a collaborative process of defining problems, identifying and applying assets, and designing solutions (Reininger et al. 2006).*

Theoretically this power dynamic could be an obstacle to the delivery of the NF. The evidence based for this approach is limited and there is no evidence that either grassroot communities or programme developers will be more effective at selecting the most appropriate interventions for local context. This evaluation does not seek to evaluate this, and indeed a co-produced approach here suggests communities and local statutory partners will have a role to play in developing interventions. Whilst the relationships between, and potential shift in the balance of power of community partners and local statutory bodies might be a theme that emerges from this evaluation, it is not a fundamental research question for this evaluation. One finding for example could be that this is identified as an obstacle to change, which steering groups have needed to overcome.

The process of engaging communities in the design and delivery of youth violence interventions is akin to the process of co-creation, although in the literature this term is frequently interchanged with co-production and co-design. In the social sciences this approach has been embedded through Participatory Action Research (PAR), and in public health there is an established process for Patient and Public Involvement (PPI) groups in clinical trials. Co-creation here is defined as:

> *the creation of value by engaging diverse stakeholders in the process of understanding complex problems, and designing and evaluating contextually relevant solution…* [It is a] *collaborative approach of creative problem solving between diverse stakeholders at all project stages. It emphasises diverse stakeholders at all parts of an initiative process, beginning with determining and defining the problem through to the final stages of a project (Vargas, et al, 2022).*

Co-creation research is part of a broader approach to citizen science or community science, which is growing prominence in the academic and policy discourse. This is evident in the traditional 'hard science' fields such as technology, chemistry, physics, and engineering, but also in social science and policy focussed fields. There are parallels here with community engagement and co-creation research. Citizen science here is defined as:

> *any activity that involves the public in scientific research and thus has the potential to bring together science, policy makers, and society as a whole in an impactful way* (Norwegian University of Science and Technology, ND).

The Baisawi et al (2023) YEF systematic review of place-based approaches to youth violence identified a range of community based social prevention approaches. Examples include community capacity building (education, training, leisure, and recreation for example), public health led approaches that sought to engage 'multiple stakeholders' through 'multi-strategy approaches'; and those seeking to engage in social prevention methods such as primary prevention (whole populations) or secondary prevention (of at-risk groups). One of the most frequently identified type of programme was the 'communities that care' concept. Many of the strategies identified in this systematic review bear a strong resemblance to those proposed in each of the five intervention sites action plans for the NF (Section Three).

The YEF place-based review acknowledged the flexible nature and adaptability of these programmes, which presented a challenge in identifying a typology of existing provision. However, some of the key programmes identified were:

- **Individual/Family level**: family/parenting programmes, youth development programmes, community mobilisation and programmes targeting school-based violence or substance use.
- **Community Level:** building community identity, positivity, and confidence; and increasing community cohesion and mutual support.
- **Systems-level:** improving connectivity between local organisations, creating new partnerships, improving the capacity of organisations and services to support local people, increasing funding targeted at young people or other focus population, and changing the culture of local services (e.g., more holistic, tailored or people-centred ways or working, more community involvement in service development, and more use of evidence and data) (Baisawi et al 2023).

They identified a series of commonalities between these programmes that included:

- a focus on a specific locality.
- they involve several agencies working together.
- an emphasis on community engagement.
- the aim to tackle the cause as well as prevalence of the targeted issue (Baisawi et al 2023).

There were five key learnings from the YEF systematic review that are pertinent to the delivery of the NF programme and subsequent design of the evaluation. These are:

- The local context matters.
- The importance of public health approaches.
- Ensuring clarity of outcomes, activities, and mechanisms of change.
- Make the use of data and evidence central.
- Prioritise rigorous evaluation, learning systems and data infrastructure (Baisawi et al 2023).

1.1.3. Racial inequity and the criminal justice system

Racial disparities in the criminal justice system are reflected in the disproportionate exposure of young people from different ethnic backgrounds to violence, policing, and legal intervention. A survey of over 10,000 children aged 13–17 in England and Wales (YEF, 2024) reveals that children from mixed ethnic backgrounds are significantly more likely to be both victims (25%) and perpetrators (24%) of violence compared to white children (20% for both). Notably, over half (51%) of mixed ethnicity victims believe they were targeted due to discrimination. Black children also report heightened concern about violence, with 74% expressing fear of victimisation and 38% stating they are very concerned. These fears have tangible impacts on daily life: 60% of Black children reported changing their behaviour, such as avoiding certain places or altering routines, compared to 51% of white children.

These disparities are mirrored in interactions with the criminal justice system. Young people from minority ethnic backgrounds are disproportionately more likely to come into contact with the police, including being stopped, searched, or arrested. Furthermore, this often occurs in settings where they are also victims. Half of all children who had contact with police over suspected offences were victims of violence. Among those arrested, 75% were victims and 78% had committed violence. This convergence of victimisation and criminalisation points to a system that prioritises punishment over support.

Despite the severity and recurrence of incidents, only 10% of children who committed violence received any form of help or training to manage their behaviour. This lack of support is particularly concerning given that most incidents of violence are known to adults in authority. Yet, even in cases involving serious or repeated harm, intervention remains rare. The cumulative effect of these disparities is a system that disproportionately fails to protect children from Black, Asian, and Mixed ethnic backgrounds. Structural factors such as school exclusion, persistent absence, and social service involvement further increase the likelihood of police contact and criminal justice involvement. Addressing these inequities requires a systemic shift toward culturally responsive, trauma-informed approaches that recognise and respond to the complex realities faced by racialised young people.

1.2. The Design of the Neighbourhood Fund Programme

The NF programme is split into four key phases over a period of up to seven years. This section discusses each of these four phases and the key partners commissioned for each. It is important to note that the design of the NF has strongly influenced the evaluation design. For example, the bottom-up community design restricts the extent to which the interventions can be randomised.

1.2.1A question of scale

As identified in the literature, place-based approaches to reducing youth violence have had two foci: (i) situational approaches directed at the 'micro' setting, and (ii) social approaches at the 'meso' level targeting communities and neighbourhood. When the NF was established, they commissioned an early piece of national analysis to explore and identify appropriate places to invest. The findings were published in a report '*Building safer neighbourhoods'* (Louette et al, 2021). This examined data on youth violence at the local authority level, as there is limited information available nationally on youth violence in small areas. The report considered multiple geographies (national, police force areas,

upper and lower tier local authorities, ward, and lower super output area (LSOA). For each of these areas there was a review of data sources available on youth violence, and the strengths and limitations of each of these. The report considered five different methodologies for identifying places to invest, considering the strengths and trade-offs across each of the available data sources and the different methodologies. As a result, YEF identified five areas to invest through the NF. The five authorities selected were:

- Bradford.
- Cardiff.
- Manchester.
- Birmingham.
- Norfolk.

It is important to flag that 'small-scale' is not a simple concept to define, especially when considering place-based responses to youth violence. Consider for example the challenge of how to define small scale across the situational and community place-based youth violence prevention approaches, for example hot spot policing, improvements to the physical design of places, or interventions targeted at local communities. A key challenge is to identify an appropriate or even optimal small scale in which to invest.

> *We want to work in areas that have high levels of violence and where violence is concentrated into small local areas. If we chose local authorities that are large but where violence is spread out, it will be harder for our Neighbourhood Fund to invest in small, local areas where there's a real need. There will also be some local authorities where rates of violence don't seem high, but there are a handful of places within those larger areas where there are very high concentrations* (Louette et al, 2021, page 11).

1.2.2. NF organisations and phases

A range of partners were commissioned by YEF to deliver the NF. All have key roles in this programme and are highlighted below:

- the Community Research and Co-design Partner (CRCP).
- the Learning Partner.
- the Evaluation Partner.
- the Lead Co-ordinator Partner.

The four phases of the programme are:

- Feasibility (Year 1, ~ 1-6 months).
- Discovery (Year 1, ~6-12 months).
- Co-design (Year 1-2, ~6-12 months).
- Delivery (Years 2-6, 3-5 years).

One CRCP was commissioned at each of the five sites to conduct relevant activities for phases 1-3, the feasibility, discovery, and co-design phases. The successful CRCPs are named below alongside total budget. This information is published and publicly available (YEF, ND) but highlighted below for completeness.

- Birmingham: Lead partner: BVSC (Birmingham Voluntary Service Council): Funding: £127,801.
- Manchester: Lead partner: Social Finance and Lennina Ofori: Funding: £140,000.
- Bradford: Lead partner: Born in Bradford: Funding: £139,995.
- Cardiff: Lead partner: Citizens UK: Funding: £117,731.
- Norfolk: Lead partner: Right to Succeed: Funding: £139,833.

The five local co-ordinators commissioned for phase 4 (delivery) (YEF, ND) are:

- Birmingham: Lead partner: Aston Villa Foundation: Funding: £1,000,000.
- Manchester: Lead partner: Young Manchester: Funding: £1,000,000.
- Bradford: Lead partner: Born in Bradford: Funding: £1,000,000.
- Cardiff: Lead partner: Citizens UK: Funding: £1,000,000.
- Norfolk: Lead partner: Right to Succeed: Funding: £1,000,000.

The learning partner commissioned was Renaisi and Dartington Service Design Lab. They were onboarded to the project at the start of the feasibility stage. The Learning Partner role was:

> *to provide developmental support to the CRCPs across the five areas, particularly during the feasibility, discovery, and co-design phases, transitioning to a lighter-touch role during delivery. This developmental support will help surface enablers and barriers to change and create opportunities for sharing learning within and across the areas, with the aim of learning what works well and less well in each area and at the fund level* (YEF, ND).

The evaluation partner is a consortium led by Nottingham Trent University (NTU) and Liverpool John Moores University (LJMU). The design of the summative evaluation was developed with support from the Behavioural Insights Team (BIT). The evaluation partners were onboarded at the end of the discovery phase and are responsible for the formative and summative evaluations of the NF, as outlined in this evaluation protocol.

1.2.3. The Feasibility Phase (1-6 months)

YEF commissioned five CRCPs, one for each local authority, who worked alongside YEF and local statutory partners (for example local councils, the police, and Violence Reduction Units (VRUs) where in existence) to identify local places where crime is highly concentrated and where there was likely to be an opportunity for change. The key purpose of this stage was to select appropriate small-scale areas within each of the five Local Authority identified for the NF to invest. This approach included:

- the collection and analysis of data and local consultation to identify small scale areas with high levels of youth violence.
- to determine whether there is local buy-in and support for the programme in the identified areas.
- to ensure the programme aligns with other violence reduction strategies in the area.
- to consider a range of factors to maximise the likelihood of a sustained impact from the NF.

At the conclusion of the feasibility phase, each CRCP recommended a small-scale site to invest in, referred to as 'hyperlocal' places, and these broadly reflect electoral wards. These areas were selected as appropriate sites to evaluate the effectiveness of locally driven approaches to reducing youth violence. The size of the hyper-locations were considered as an appropriate scale to invest in, given the size of the investment and the youth violence problems faced. More details about each site provided in Section Three. The identified hyper-local intervention areas for the NF are:

- Barkerend, an inner-city area of Bradford.

- Grangetown and Butetown, just south of the city of Cardiff.
- Cheetham Hill, north of Manchester city centre.
- Lozells and Newtown, an inner-city area in West Birmingham.
- Nelson, an area close to the town centre and seafront in Great Yarmouth, Norfolk.

Approaches taken by CRCPs varied across sites. In four of the areas CRCPs were able to engage with Violence Reduction Units (VRUs) to support the analysis. Birmingham originally planned to use community researchers trained by the Universities, but due to concerns this might risk antagonising communities, they used a community-led action research model with a community navigator. Manchester partnered with an ethnographer and spent time building relationships on the ground. Born In Bradford engaged in a Citizen Science model to engage with young people and community groups. Cardiff used a relational approach to building trust, training people in community organisations, and building up skills of local people. In Norfolk they used a collective impact approach bringing local people together to understand and address key issues to seek to work towards a common agenda (O'Flynn and Pacot, 2022).

The learning partner supported the CRCPs and YEF by identifying key learning from the feasibility phase. It was clear that there were challenges both in accessing and analysing relevant data across each of the CRCP site. An equally challenging role was to engage with local communities to establish potential levels of buy in for the NF.

> *…data alone has not been enough to determine where projects are most needed, it has been important to connect with other local stakeholders to gain a more well-rounded understanding of each places, needs, assets, infrastructure, and local politics. Connections facilitated by the Single Point of Contact, as well as CRCPs own connections have supported CRCPs to consult more widely (O' Flynn and Pacot, 2022, p23).*

Some of the key learning at this stage, which supported progression to the discovery phase were to: be a neutral partner and not go to communities with an 'agenda'; identify trusted individuals to engage local communities and build relationships; and to focus on understanding context, infrastructure, sustainability and systemic issues in each local context. For example, in Cardiff the CRCP trained forty local people to conduct a community listening exercise. Key challenges included not being able to meet face to face as this occurred during the Covid-19 pandemic, and the length of time needed to build relationships and trust with local communities (O'Flynn and Pacot, 2022).

1.2.4. The Discovery Phase (Year 1, ~6-12 months)

This phase of the NF sought to do the following:

- Collectively explore what the key priorities are for local communities for reducing youth violence and identify and understand the root causes of these.
- To build trust and relationships and to recruit local community members, statutory partners and third sector organisations to form a locally appropriate steering group.

The key tasks of this phase were to:

- build trust with local people and communities affected by youth violence.
- better understand local problems and causes of youth violence.
- identify local strengths, community and other local assets, and opportunities.
- to map local funding, systems, and actors.
- to begin to map out opportunities for change and work towards a high-level Theory of Change (TOC).

In this stage CRCPs developed and built on their earlier activity and relationships developed in Phase One (feasibility phase) but expanded on the findings to capture a more rich and nuanced understanding of youth violence at each site. They used a range of activities that were primarily for: (i) building trust; (ii) power building and sharing, and (iii) community consultation.

The learning partner supported the CRCPs at each site to identify key learning from this phase and help the CRCPs navigate these tasks, building on the Learning Partners' experience of community engagement and systems thinking. The key developments across sites were:

- Mapping community organisations and identifying and building on existing community assets, including recognising young people as assets.
- Beginning to build trust amongst community organisations. A caveat here is 12 months is insufficient time to develop sustained trust levels.
- Building capacity, skills, and knowledge of the community.
- There were some early indicators identified of communities feeling empowered (Renaisi and Dartington Service Design Lab, 2022).

Key learning from this phase was:

- A tension exists between the emergent nature of place-based programmes and the programme's requirement to develop a testable and evaluable co-designed theory.
- There are concerns that making the TOC process too academic could exclude the core group from being able to understand whether the initiative is working in real time.
- There is a difficult balance to be struck between a lead coordinator (delivery phase) who understands the processes of managing and commissioning grants and delivering services, and the research and analytical skills of on the ground monitoring and evaluation (Renaisi and Dartington Service Design Lab, 2022).
- A lack of safe and inclusive spaces for young people across the five sites.
- The discovery phase took longer than anticipated.

1.2.5. The Co-design Phase (6-12 months)

This phase of the NF sought to build on the discovery phase, and the partnerships and trust developed from it. The key requirements for the CRCPs were to:

- Develop a local co-developed TOC with community partners to outline the vision for reducing youth violence and the mechanisms and pathways to achieve this.
- To develop a co-designed local action plan with realistic activities aligned to the theory of change, including a description of costs, roles, objectives. Outcomes and commitments from local partners.

The key components of this were:

- a summary of learnings from the discovery phase including the nature, scale and drivers of violence and the levers for change.
- a set of strategies to deliver change.
- a set of targets for reducing violence.
- a set of principles to guide activity in the delivery phase.

The learning partner supported the CRCPs at each site to identify key learning from this phase and help the CRCPs navigate these tasks. The learning report from this (Renaisi and Dartington Service Design Lab, 2023) identifies the range of approaches used at each site to achieve these tasks. Some of the key learning and reflection they identified from this phase was:

- Timescale: it is challenging to balance delivery deadlines of YEF with efforts to build trusted relationships.
- There was a need for clarity from the funders about what was required in terms of the TOC – some sites had developed a more flexible approach to co-design with communities and then felt it challenging to adapt this to the programme level TOC.
- A change in appointed evaluators was challenging. The originally commissioned evaluators had to withdraw, and the 'new' evaluation team (NTU and LJMU) were not on board from the feasibility phase to ensure relevant baseline data can be captured. This primarily applies to non-statutory data and there are challenges identified in the evaluation protocol for capturing probability samples in the control areas – and given outcomes were developed during the feasibility, discovery, and co-design phase it would also have been difficult to capture baseline data on individual interventions.
- There were difficulties in managing the coordination, expenses and logistics of set-up and transition plans from the CRCP to the lead coordinator. Without a formal set up process for recruiting the lead coordinator, the CRCPs were left to organise and build consensus locally for the process of recruitment.
- Timing was also difficult within the local areas—as they needed to develop the theory of change and action plan at the same time as recruiting and onboarding the local coordinator.
- A key lesson is the significance of building trusted relationships locally—and the risk of those relationships breaking down during transition between phases and gaps between commissioning, setting up and delivering interventions. (Renaisi and Dartington Service Design Lab, 2023)

At the end of this phase each CRCP produced a co-delivery report, a detailed action plan with proposed costs, and a high-level TOC. The TOC was designed to identify the plausible mechanisms and pathways by which their action plan should reduce youth violence in their local context. These were submitted to YEF Grants and Evaluation Committee (GeCo) for sign off and approval before sites could move on to the delivery phase. A review of progress up to the end of the co-design phase is provided below in Table One.

1.2.6. Co-Creation: Embedding the Neighbourhood Fund to Reduce Racial Inequality

One of the potential benefits of community-empowered approaches such at the Neighbourhood Fund is their potential to embed racial and cultural sensitivity throughout the design, implementation, and evaluation phases of an intervention. This commitment is reflected across several critical areas:

- Inclusive design processes that actively involve diverse community voices, ensuring that programmes are shaped by lived experience and local context.
- Culturally responsive implementation that recognises and respects the values, norms, and needs of different ethnic groups, avoiding one-size-fits-all solutions.
- Equitable evaluation frameworks that measure impact not only in terms of outcomes but also in terms of fairness, accessibility, and relevance to racialised communities.

Community Co-Design and Engagement

Each site underwent a co-design phase that prioritised community-led research and consultation. This ensured that interventions were shaped by the lived experiences of residents, including minoritised ethnic groups. Examples include:

- Bradford used a Citizen Science model to engage young people and community groups.
- Cardiff trained 40 residents to conduct a community listening exercise.
- Manchester partnered with an ethnographer to build trust and relationships on the ground.

- Birmingham Used a community-led action research model facilitated by a community navigator
- Norfolk: Adopted a collective impact approach, through facilitated workshops and listening exercises to surface community priorities and build consensus around action planning.

Race Equity in Evaluation Design

The evaluation was designed to ensure alignment with YEF's commitment to racial equity (see Section 6.4). Evaluation questions aim to explicitly address how race and ethnicity shape young people's experiences of violence and service access.

- Prompts are embedded to examine how race equity considerations have influenced programme design, delivery, and stakeholder engagement.
- The evaluation investigates whether interventions are perceived as culturally responsive and inclusive by minoritised ethnic groups.
- Racial disparities in referral pathways, engagement levels, and outcomes are being explored.

Inclusive and Culturally Responsive Interventions

Action plans across sites include culturally sensitive components tailored to local needs:

- Bradford: Gendered safe spaces and mentorship programmes that reflect local cultural dynamics.
- Cardiff: Emotional wellbeing navigators embedded in the community to bridge gaps in mental health services.
- Manchester: Workshops on healthy relationships and risks such as exploitation, with a focus on systemic racism.
- Birmingham: include restorative neighbourhood initiatives and family advocacy pilots co-designed with local families aiming to address systemic barriers in education and justice.
- Norfolk: Developed bespoke safe spaces for young people, with a focus on girls, marginalised groups, and young carers. Literacy interventions and EET support were tailored to the needs of a diverse and transient population including migrant communities.

Understanding Experiences of Minoritised Ethnic Groups

The evaluation includes qualitative interviews and focus groups with young people and community members from diverse ethnic backgrounds. Community-led interpretation workshops are used to validate findings and ensure that the voices of minoritised groups are accurately represented.

- Steering group representation is assessed against local ethnic demographics using Census 2021 data.
- Evaluation materials are reviewed to ensure cultural relevance and sensitivity to local racial dynamics.

Data Analysis and Dissemination

The evaluation team applies an intersectional approach to qualitative and quantitative analysis. Where race/ethnicity data is missing (e.g., in police records), the team explores the extent of potential bias and its implications.

- Dissemination strategies are designed to be inclusive and accessible, avoiding deficit-based narratives and instead highlighting community resilience and agency.

1.2.7. Theories of change

The site level TOCs were developed using a broader programme TOC (Appendix One) produced by YEF, although sites were able to adapt this to meet local needs. The TOCs produced at each site can be considered as high level TOCs, and do not at this stage contain detailed specificity as would be standard for YEF programmes. Some of the key learning from site developing their theories of change during the co-design phase were:

- There were challenges with language – co-designing theories of change with community partners requires careful consideration of language to ensure partners remain engaged and can feed into the process and feel that the produced outputs reflect their priorities.
- There was a recognition that TOCs will evolve considerably, especially during the first phase of the delivery when local working groups (subgroups of the local steering groups) will work through identified strategic themes and engage with community to specify local offerings and activities.
- There were still several unknows, for example, who local delivery partners will be, what activities will be funded through community grants, how many participants will be targeted, when the activities will be carried out, and the support of local communities for the different interventions.
- When CRCPs were not seeking to act as lead co-ordinator they felt it difficult to be overly prescriptive to provide a high level of specificity in the TOC when a new lead co-ordinator was to be transitioned in.
- A key lesson is the significance of building trusted relationships locally—and the risk of those relationships breaking down during transition between phases and gaps between commissioning, setting up and delivering interventions.

As a result of this, it was agreed that the first 6-12 months of delivery would be considered a pilot/developmental phase for the evaluation. During this time additional learning would be captured, along with further community buy in and co-design of activities and interventions. Hence for the purposes of evaluation only, the delivery phase can be considered in two parts, the delivery pilot/development phase, and the full delivery phase.

1.2.8. The Delivery Pilot/Development Evaluation Phase (months 12 -24)

In this phase the community action plans at each site were refined, local arrangements for commissioning identified, and sites prioritised the different strategic themes from their action plan. Steering panels were reviewed and sub action or working groups were formed to conduct key activities and priorities. This was evaluated and published in the Year One Evaluation Report (Quigg, et al., 2024).

Each of the five sites YEF has appointed a lead co-ordinator who will be responsible for leading this work. In three of the sites (Bradford, Cardiff, and Norfolk) there is a continuation of the CRDP into the appointed lead co-ordinator. Here there is a natural continuation of people from Phase 3 (co-design) to Phase 4 (delivery). In two of the sites (Birmingham and Manchester) new lead co-ordinators were appointed, which required an onboarding and transitional approach at the start of the delivery phase.

A detailed discussion of the action plans is provided in Section Three of this report outlining the key interventions proposed at each site.

1.2.9. The Delivery: Full Evaluation Phase (months 24-72)

There was not a unique point in time whereby all sites progressed from a pilot/developmental phase to full delivery. Indeed, the developmental/full delivery typology applies more to the design of the evaluation than the action plans of the sites.

Some of the key challenges for the evaluator and the reasons for this conceptual distinction are:

- In three sites the CRCP has continued into the Lead Coordinator role, and in the other two sites there has been a transition to a new organisation.
- The level of detail and development of the TOC varies between sites, and there is a need for sites to evolve the TOC as they move forwards from planning interventions to delivering them on the ground.
- the length of delivery varies between sites (from 3 to 5 years).
- interventions have been co-designed with communities to meet local needs and priorities - whilst some commonality is evident in the key themes and interventions planned, there is a fair degree of variation in the actual interventions across each site.
- The evaluation team were onboarded at the start of the co-design phase.

This has impacted on the evaluation design. We remind the reader that the purpose of the NF is to empower local communities to make decisions about how to reduce youth violence, based on their differing local contexts and local priorities. This limits the extent to which randomisation can be introduced into the evaluation, which influences the approach to developing an appropriate counterfactual – as this minimises the controls that can be put in place to minimise bias.

1.2.10. The Sustainability Phase (months 48 to 84)

One of the ambitions of the NF impact evaluation is to determine whether any reductions in youth violence identified are sustained beyond the delivery of the YEF funded programme. Therefore, there is scope at sites to consider changes to youth violence post intervention, and the intention was to capture this for a minimum of 12 months. A challenge here is that the programme length for each site varies from 3 to 5 years. Therefore, for sites with a three-year delivery there is potential to evaluate sustained contributions for up to 3 years post programme. However, where sites deliver over the full 5 years this can only be examined for 1 year.

This evaluation protocol will review the post intervention length in a further evaluation protocol update – some sites are applying for additional funding for example to level additional years delivery. There will also be a need to capture summative data on primary and secondary outcomes for the post implementation period which will require data sharing agreements to go beyond the delivery date. We will explore the length of time individual site comparisons can be drawn (1-3 years) in discussion with YEF and partners at sites with a 3-year delivery plan.

Table One: Neighbourhood fund sites, key delivery partners, and programme phase completion

Local authority area	Bradford	Cardiff	Manchester	Birmingham	Norfolk
Hyper local area	Barkerend (Inner city area)	Grangetown and Butetown (South of the city)	Cheetham Hill (North of city)	Lozells and Newtown (Inner-city area in West)	Nelson (Close to the town centre and seafront in Great Yarmouth
CRCP	Born in Bradford	Citizens UK	Social Finance	BVSC research; University of Wolverhampton; University of Birmingham	Right to succeed
Local coordinator	Born in Bradford	Citizens UK	Young Manchester	Aston Villa Community Trust	Right to succeed
Feasibility/ discovery completion date	June 2022	June 2022	January 2022	June 2022	June 2022
Co-design completion date*	March 2023	January 2023	October 2022	January 2023	January 2023

Action Plans were originally anticipated to be complete by December 2022.

2. Overall Evaluation Design

The NF requires a complex multi-phased delivery across five sites, and we advocate a strong framework to support the two required evaluation strands: on-going formative feedback and summative impact. The evaluation protocol therefore sets out a design to include a mixed methods approach to evaluation, including both ongoing formative and summative evaluation.

2.1. Summative Evaluation

The summative evaluation is a quasi-experimental design (QED) that uses a parallel approach of both synthetic weighted controls (SWCs), and difference-in difference approaches (DID). Whilst QEDs can be criticised for potentially being underpowered (further discussion of this is provided in Section Four under sample size, and Appendix 5), the nature of this programme and the emphasis on community empowerment makes randomisation highly problematic. At each site local communities are empowered to make local decisions about what interventions and programmes should be carried out, appropriate to local need and local context, and this has resulted in a range of different approaches and interventions across each of the five sites. This does not enable a sufficient set of constraints to enable a randomised control trial, as it is not possible to isolate appropriate control and action areas, and site selection is not random.

When designing the evaluation protocol, the team reviewed the youth violence outcomes proposed in the YEF outcomes framework (YEF, NDa), alongside a review of the action plans for each of the five sites. We identified the YEF outcome 'breaking the law or offending behaviour' as a primary outcome for this study, and 'school engagement' as a secondary outcome. These outcomes were consistently identified as primary and secondary outcomes across all five sites (see Table Two). These outcomes also correspond to the YEF mission of preventing children and young people from becoming involved in violence, over a long time period (YEF, NDb). A caveat to this approach is to ensure there is a sufficiently large sample to provide some evidence of promise of the NF (i.e., direction and magnitude of the effect). This requires as a minimum data to be captured from at least one of the primary or secondary outcome measures from at least three of the local authorities (treatment and comparison areas).

- The primary outcome for this evaluation is 'breaking the law or offending behaviour.'
  - This is in line with the overarching aim of the NF for the YEF, as the programme is intended to help understand if and how empowering people to make decisions about their local neighbourhoods can prevent children from becoming involved in violence.
- There are two identified secondary outcomes that features heavily across the five sites action plans for delivery.
  - school engagement,' especially related to attainment.
  - employment, education, and training (post 16 EET).
- There are two additional secondary outcomes considered exploratory at this stage.
  - Reasons for non-attendance at school.
  - school exclusion.

2.2. Formative Evaluation

The NF is a multi-phased delivery across five sites over a three-to-five-year period (the agreed length of delivery varies between sites). Therefore, the formative evaluation requires a strong underlying framework to support it. The formative evaluation seeks to explain: how the programmes and interventions across the five sites were implemented and delivered; and to help identify what place-based community empowered approaches work, for whom, and in what contexts. This includes: an examination of how an intervention was implemented; who was involved; if it was delivered in the way it was originally intended or was it necessary to adapt this; community acceptance of the interventions; and the strengths and weaknesses of the delivery. This formative evaluation will use TOC models developed at each site with local communities and learning partners.

The formative evaluation will seek where feasible to incorporate three frameworks into its design – aligning the realist framework (Pawson and Tilley. 1997) and the 5Is approach (Ekblom, ND) into a single framework to capture the complex nature of the delivery and support the formative evaluation. Were feasible it will seek to identify the context, mechanisms, and outputs (CMO) approach of the realist framework, and then further develop and broaden this to include the 5Is framework for crime prevention to support knowledge transfer and co-design (Ekblom, ND). This joint realist and 5Is model was proposed by Newton (2022). Moreover, we will on the EMMIE Framework (Johnson et al, 2015) to support the evaluation synthesis across the formative and summative evaluations. A summary of this model is provided in Appendix Two.

A more detailed discussion of the formative evaluation and a comprehensive set of questions/lines of enquiry is provided in Section Five of the evaluation protocol. The high-level key lines of enquiry originally developed for the process evaluation include:

- How effective was the transition from feasibility/discovery/co-design to delivery (feasibility/piloting period)?
- What approaches are delivery partners taking to deliver the plans and are these effective?
- How well are the different components of the action plan being delivered?
- How effective is implementation in each area?
- To what extent are systems change outcomes being achieved in what context, for whom/where, how, and why?
- What evidence is there of impacts on intended outcomes and what are the mechanisms of this?

The formative evaluation will include focus groups and interviews, site visits, analysis of routine monitoring reporting of outputs and short-term outcomes, and site observations. Participants will be recruited from the lead co-ordinator, the local steering groups and working groups tasked with carrying out the action plans developed at each site, relevant local associated public, private and third sector organisations, those who deliver the range of interventions identified, local community members and young people, and participants of the multiple interventions carried out at each of the sites.

3. The Interventions

Across the five sites the community co-designed action plans have their own context specific and local variations, and therefore it is challenging to provide a detailed description of each within this protocol. Moreover, there is a recognition of the need for flexibility and adaptability over the delivery phase. Reasons for this include:

- sites are continually learning.
- community priorities and acceptance of interventions may change.
- TOC models that have been developed will change and evolve over time.

Therefore, in this evaluation protocol we provide a high-level overview of the key themes and activities proposed at each site for delivery. This material is extracted from unpublished action plans and high-level theories of change submitted by each of the five sites to the YEF board for approval. Materials have been drawn from the unpublished feasibility, discovery and co-design reports produced for each site.

3.1. Lozells and Newtown, an inner-city area in West Birmingham

The key characteristics of the site drawn from the co-design report are:

Lozells and Newtown are neighbouring inner-city wards situated to the northwest of Birmingham city centre. The neighbourhoods experience high levels of violent crime; gangs are a historic and current concern, and poverty, inequality and trauma are widespread…. The complexity of the local area forms the backdrop to the enduring nature of serious youth violence within Lozells and Newtown. The community research and co-design activity have painted a picture in which youth violence is rooted within the interplay of structural and systemic inequality, poverty, policy making and community relations (Harewood et al, 2023).

A more detailed overview of the intervention site is specified in the BSCV 2022 report *(Harewood et al 2023).*

The residential **population** of Lozells and Newton is approximately **28,400** and the estimates of **young people** (aged under 25) is **14,755** (ONS mid 2020 estimates).

The **duration** of the planned programme work is **four years**.

The **Action Plan** for this site focusses on two key strategic themes and seven activities:

- Strategic Theme A - to support a collaborative and responsive system.
- Strategic Theme B - to promote a safe, welcoming and Prospering Neighbourhood.

For **Strategic Theme A**, there are three key activities planned:

1. To develop a system-wide strategic pledge.
2. To work towards establishing Lozells and Newtown as a "Restorative Neighbourhood".
3. To co-design (with families) and pilot approach(es) to family advocacy.

For **Strategic Theme B**, there are three key activities planned:

4. Distribute small grants to support environmental improvement.
5. Distribute a "Community Chest" and "Flexible Response Fund" to support grassroots organisations delivering youth activity and community responses to incidents of serious youth violence.
6. To fund the creation of a Neighbourhood Development Forum.
7. Activities to enhance links between businesses and the community.

The key features identified through this action plan are:

- Actions to expand efforts to deliver restorative practice in the neighbourhood.
- Provision of support to families in their contact with the school system (i.e., SEN support, school attendance, and exclusion).
- Small grants for community led environmental projects.
- ‘Community chest’ and flexible support fund to give local VCFSE organisations a budget to deliver diversionary activities for young people.
- Programme in schools to provide work experience and opportunities to gain experience about entrepreneurship and business management.

3.2. Barkerend, an inner-city area of Bradford

The key characteristics of the site drawn from the co-design report are:

> *Bowling and Barkerend has the second highest rates of knife crime in Bradford and Asian Pakistani under-25s are overrepresented as knife crime offenders across Bradford district (26% offenders compared to 20% of the population)…. Barkerend and the connected BD3 postcode area is a close-knit community with diverse ethnic minority groups (predominantly British Pakistanis). The neighbourhood has the highest level of deprivation and poverty in Bradford…. The area suffers due to patriarchal Biraderi political systems and power dynamics which serve to exclude the voices of certain groups, particularly female-led initiatives and direct voices of young people.* (Born in Bradford, 2023)

A more detailed overview of the intervention site is specified in the Born in Bradford 2023 report. The ward of Bowling and Barkerend has a total residential **population** of approximately **22,830**, of which approximately **6,430** (28%) are **children and young people** aged 0-15 (please note that each site has set their own target age ranges, so varies across the five sites).

The **duration** of the planned programme work is five years.

The **Action Plan** for this site focusses on three key strategic themes:

- Strategic Theme A – Build capacity through partnerships, collaboration, training, and small grant facilitation.
- Strategic Theme B - Engaging vulnerable young people for better mental health.
- Strategic Theme C - Role modelling, mentoring & career pathway support.

For **Strategic Theme A**, there are four key activities planned:

1. Capacity building measures.
2. Training.
3. Young People's Forum.
4. Small Grant Facilitation.

For **Strategic Theme B,** there are three key activities planned:

5. Youth Worker support.
6. Awareness and education on vulnerabilities.
7. Connecting with mental health support.

For **Strategic Theme C,** there are three key activities planned:

8. Promotion of positive role models.
9. Mentorship.
10. Career pathways support.

The key features identified through this action plan are:

- Mentoring.
- Parent workshops on the risks to young people.
- Support for career development, employment, and life skills.
- Provision of 'gendered safe spaces.

3.3. Grangetown and Butetown, just south of the city of Cardiff

The key characteristics of the site drawn from the co-design report are:

> *Butetown is 2nd on the South Wales list of knife crime perpetrators' home addresses…..the majority of knife crime perpetrators in the area committed their first crime as a teenager and had been involved in drug supply or drug use, suggesting that early action with local young people could have a real impact…. the environment of Butetown and Grangetown makes it hard for young people to avoid getting involved in or affected by crime and violence….. Young people mentioned that "the presence of homeless people means there are discarded needles and a general feeling of danger." People also commonly referenced anti-social behaviour on the streets and in the parks. There is easy access to drugs, alcohol, and knives. Students from Cardiff and Vale College said that they don't like walking out of campus alone at night and are reluctant to use the local parks and public spaces due to drug-use taking place there…..there are not enough local activities and facilities to engage and inspire young people, helping to prevent them getting involved in crime and violence. (Citizens UK, 2023)*

A more detailed overview of the intervention site is specified in the Citizens UK 2023 report.

Butetown has a total residential population of approximately **32,920**, of which approximately **6220** are children and young people (under 18).

The **duration** of the planned programme work is **five** years (ending 04/2028).

The **Action Plan** for this site focusses on three four key strategic themes which can be considered as identified enablers for change:

- Strategic Theme/Enabler of change A – Creating safe spaces.
- Strategic Theme/Enabler of change B - Building stronger relationships.
- Strategic Theme/Enabler of change C - Increased wellbeing and resilience .
- Strategic Theme/Enabler of change D - More opportunities for young people.

Across these key themes and enablers of change, there are seven key activity areas planned. These are:

1. Microgrant Scheme: create a microgrant and capacity building scheme for local grassroots organisations who deliver activities which meet overall objectives of action plan.
2. Youth Action Hub: to establish a Butetown and Grangetown Youth Action Zone.
3. Community Organiser: to be rooted in the plan to develop the power of local people and lead local campaigns set out in the action plan and others that may come out in listening.
4. Mental Health Navigator: Emotional wellbeing navigator embedded in the community to be a link between the community and mental health and wellbeing services that already exist.
5. Literacy intervention.
6. Employment Agency: Tiger Bay Employment Partnership.
7. Diversionary Activities: Collaborating with the community safety partnership to establish diversionary activities embedded in grassroots organisations (for example Tiger Bay football and Tiger Bay Boxing).

The key features identified through this action plan are:

- Youth action community hub.
- Small grants programme to fund local projects.
- Community organiser to meet with local people and lead local campaigns (e.g., free bus travel for young people).
- Emotional wellbeing navigator embedded in the community to be a link between the community and mental health and wellbeing services.
- Programme of literacy support for children and their parents.
- Negotiate with businesses to employ local young people and older members of the community.

3.4. Cheetham Hill, north of Manchester city centre

The key characteristics of the site drawn from the co-design report are:

> *Cheetham Hill (often referred to locally as Cheetham), is a ward in North Manchester that has historically faced high levels of violence, and in recent years has been identified as an area with significant organised crime. Gang-related violence in Cheetham was identified as a significant issue in Manchester's 2021 Strategic Threat Assessment. Cheetham was the 4th highest ward in terms of summed harm per capita for under 18s in 2020/21, and the highest for 18-24-year olds. The area sits both on the edge of Manchester, with Salford to the west, and next to the city centre, with Deansgate to the south…. Young people in Cheetham have limited access to youth work….there is limited provision [of youth clubs] in Cheetham Hill itself….. The majority of provision comes through faith-based groups…. Where detached youth work has taken place, it has tended to be over a relatively short period of time (Social Finance, 2023)*

A more detailed overview of the intervention site is specified in the Social Finance 2023 report.

Cheetham has a total residential **population** of approximately **21,474**, of which approximately **7616** are children and young people (under 19).

The **duration** of the planned programme work is **five** years (ending 10/2027).

The **Action Plan** for this site focusses on seven strategic themes which can be considered as programme objectives.

- Strategic Theme/Objective 1 - All young people are safe in Cheetham.
- Strategic Theme/Objective 2 - Girls and young women are protected from gender-based violence.
- Strategic Theme/Objective 3 - Young people who are exploited or vulnerable have routes out of crime and violence.
- Strategic Theme/Objective 4 - Young people have better access to employment, training, and inclusive education.
- Strategic Theme/Objective 5 - Young people from ethnic minority backgrounds are not disadvantaged by systemic racism and inequity.

There are two further objectives – Objective 6 sits above objectives 1-5 and it is envisioned that all objectives 1-5 will feed into this. Objective seven encompasses wider programme management and efforts to support longer term systems change.

- Strategic Theme/Objective 6- Young people are more hopeful for their future.
- Strategic Theme/Objective 7 - The strategy facilitates long-term, sustainable system change in Cheetham Hill.

Across these seven objectives, there are twelve key activities planned. It is important to note here that these activities often cross between the multiple identified objectives.

1. Sporting activities (objectives 1,2, and 5).
2. Non-sporting activities (objectives 1,2 and 5).
3. Detached youth work (objectives 1,2,3 and 5).
4. Conflict interruption and diversion (objectives 1 and 3).

5. Mentoring (objectives 1,3 and 4)
6. Life skills (objectives 1-5)
7. Core support (objectives 1 and 2)
8. Programme management (objective 7)
9. Strategy, systems, and fundraising (objective 7)
10. Capacity, training, and support (objective 7)
11. Community / young people engagement and research (objective 7)
12. Partner Co-ordination (objective 7)

The key features identified through this action plan are:

- Provision of youth activities such as sports and arts.
- Youth outreach work.
- Mentoring.
- Training and advice around life skills and employment/education.
- Workshops on risks to young people (e.g., involvement in drugs trade) and healthy relationships.

3.5. Nelson, an area close to the town centre and seafront in Great Yarmouth, Norfolk

This is commonly referred to locally as Central Great Yarmuth and thus is referred to as this in the CRCP reports. The key characteristics of the site drawn from the co-design report are:

> *Nelson has a relatively large population of children and young people, and there is both a very high incidence of young people living there being involved in violent crime and a large number of violent crimes committed in the community affecting children and young people…. In the English Indices of Multiple Deprivation (2019), the Lower Super Output Areas (LSOAs) that make up Central Great Yarmouth are in the top 10% across almost all indices (Income, Employment, Education, Skills and Training, and Crime)…… Central Great Yarmouth has a larger migrant population than nationally, both in terms of residents born in other countries, and those who have moved to Great Yarmouth from elsewhere in the UK* (Right to Succeed, 2022).

A detailed overview of the intervention site is specified in the Right to Succeed 2023 report.

The **population** of the site is 9608 and the estimates of **young people** is **2,586** (ONS mid 2020 estimates).

The **duration** of the planned programme work is **three years and 6 months**.

The **Action Plan** for this site focusses on three strategic themes

- Strategic Theme A: Youth Offer.
- Strategic Theme B: Education Employment and Training.
- Strategic Theme C: Literacy .

Across these three objectives, there are series of key activities planned.

For **Strategic Theme A**, key activities planned are:

1. To map out existing youth activities and identify appropriate delivery partners.
2. To develop a localised youth panel to engage with children and young people and listen to what they want.
3. To build capacity within existing youth services to develop and support a new youth offer.
4. To develop and deliver a safer spaces project (subject to additional funding).

For **Strategic Theme B**, key activities planned are:

5. Implementing pilot projects.
6. Consistently collecting and sharing data.
7. Establishing a community of practice in post-sixteen transition.

For **Strategic Theme C**, key activities planned are:

8. Using pupil assessments.
9. Implementing evidence-informed interventions and strategies.
10. Building capacity by delivering teacher training.
11. Establishing a community of practice in literacy development.

The key features identified through this action plan are:

- Two bespoke safe spaces for young people with a focus (but not limited to) girls, people from marginalised backgrounds and young carers.
- Improve literacy capabilities of young people in years five to seven, within eight schools via the implementation of targeted interventions / strategies across these schools.
- Support young people at risk of becoming NEET, by designing a programme in up to three secondary schools to access additional required support.

Table Two: Intervention Site Action Plans mapped against YEF outcomes framework

	Birmingham	Bradford	Cardiff	Manchester	Norfolk
YEF Primary Outcomes					
Breaking the law or offending behaviour	X	X	X	X	X
School engagement (see subcategories below)	X	X	X	X	X
Attending school	X				X
School exclusion	X				X
School grades	X		X		X
Victim of crime				X	
Helping others	X				
Meaningful Relationships			X		
YEF Secondary Outcomes					
Opportunities for education, employment, and training	X	X	X	X	X
Community connectedness	X	X	X	X	
Stable provision of health		X			
Happiness	X		X		
Provision of activities that have a positive impact on people		X	X		X
Positive and prosocial identity				X	
Resilience			X		

4. Summative evaluation

This section of the protocol sets out in detail the plans for the summative evaluation of the YEF NF. The key author for this section of the report is Dr Giulia Tagliaferri (Behavioural Insights Team).

4.1. Summative evaluation questions (SEQ)

SEQ 1: What is the impact of being a beneficiary of the NF on the local area youth violence rate?

- **Classification:** Primary outcome
- **Outcome measure:** Quarterly total number of youth violence offences per 1,000 youth population at the Lower Layer Super Output Area (LSOA) level.

SEQ2: What is the impact of the NF on the likelihood that a young person engages in criminal behaviour?

- **Classification:** Primary outcome.
- **Outcome measure:** Any proven offence committed in a year through total area population sampling. This is a binary outcome coded as '1' if the person is convicted of an offence within a year, and '0' otherwise.

SEQ3: What is the impact of the NF on school attainment during young people's secondary schooling?

1. **Outcome measure:** Whether a pupil passes English GCSE with a standard 9-4 pass (e.g., English National Pupil Database variable KS4_GCSE_ENG_94) through total area population sampling.
2. **Classification:** Secondary outcome.

SEQ4: What is the impact of the NF on the probability of being in employment, education, or training after 16?

- **Outcome measure:** Whether a young person is in education, employment, or training (EET) post sixteen.
- This can be retrieved from the national pupil database via the National Client Caseload Information system (NCCIS). It captures whether young people go into further education, training or employment following the compulsory school leaving age. It covers pupils in the year prior to the compulsory school leaving age, and for two years after (ages 15 - 17).
- **Classification:** Secondary outcome

The evaluation will also explore two further summative evaluation exploratory questions (SEEQ). These are classes as exploratory at this stage. Indeed, a concern is that as the number of outcomes examined increases, so does the probability of getting a false positive (i.e., concluding that the programme had an effect when it did not). To correct for this, we propose using the Benjamini-Hochberg step-down procedure within each combination of {level of analysis, classification} for the primary and secondary analyses (see Section 4.4.5). We will revise the protocol once we have further assessed these exploratory questions.

4.1.1. Summative exploratory evaluation questions (SEQ)

SEEQ 1: What is the impact of the NF on (secondary) school attendance?

- **Classification:** Secondary outcome.
- **Outcome:** Attendance across the academic year (%), defined by the proportion of available half day sessions which were attended in the term (NPD variable). For example, if a student has 250 available sessions in a term and attends 225 of them, then this outcome is defined as 225/250 = 0.9. identified through PNC-PNU linkages.

- **We will identify whether this can be examined for sub-**group classifications (e.g. ethnicity) once we have identified the completeness of these fields in the available datasets. This may be through descriptive or inferential statistics.

SEEQ 2: What is the impact of the NF on exclusions for year 10 pupils?

- **Classification:** Secondary outcome.
- **Outcome:** Whether a pupil in Year 10 experiences an exclusion (NPD variable). We recommend focusing on Year 10 as roughly a quarter to a third of all exclusions, both permanent and fixed term, happen in year 10.

To summarise the outcomes (see Table Three):

1. **Primary outcomes** provide headline results and should be used to determine whether the NF is considered effective overall.
2. **Secondary outcomes** are of more peripheral interest or may capture intermediate outcomes/mechanisms of change.
3. **Exploratory outcomes** do not fall within the first two categories - e.g., subgroup analysis. They should not be labelled as key results in reporting.

4.2. Unit of Analysis

A crucial consideration of any impact analysis of area-based programmes is the level of the unit of analysis. In this case, impacts can be measured on aggregate (at the neighbourhood level) or at the individual level (whether individual people residing/being schooled in the neighbourhood have different outcomes).

For the primary analysis (and subgroup analysis) related to breaking the law or offending behaviour, our proposal is to conduct an analysis at the individual level (using a difference-in-difference methodology) and a parallel analysis at the area level (using a weighted synthetic control methodology). This is because evaluating the NF presents several challenges, and the best evidence will be gathered through triangulating multiple analyses, rather than relying on one single estimate.

4.2.1. Area Level Analysis:

In order to perform an area-level analysis which uses youth violence (rather than all violence) as the outcome - which would be optimal given the intervention design - the evaluation will engage (via lead co-ordinators initially and or evaluator existing contacts) to relevant local police forces to negotiate data sharing agreements to access police recorded violence data flagged by those aged under 25 (victim and or offender). We will run the analysis on all violence, and on violence involving those under 25.

4.2.2. Individual-level analysis

For the English sites only (i.e., all sites except the Cardiff site) it is possible to use the National Pupil Database-Police National Computer linked dataset (NPD-PNC) to evaluate the programme. By linking the National Pupil Database with the Police National Computer, the dataset can contain detailed education records, residential addresses and records of each person recorded in the Police National Computer. The potential use of this for evaluating the Neighbourhood Fund is that the evaluation can access the education and criminal justice records of young people who reside within the sites (and for shortlisted areas), before and after the NF grant was made available. The NPD also provides

information on where the young person lives while in education. For example, the IFS already uses the matched NPD-PNC dataset to investigate the effectiveness of interventions targeted at children and families on offending behaviour by children and young people.

The PNC data are available via the ONS' Secure Research Service. Access to these data is restricted and tightly controlled and accessible in the Office for National Statistics 'Safe Setting' called the Secure Research Service. Applications to use the data are strictly vetted by the Department for Education (DfE) and the Ministry of Justice (MOJ) and any researchers must be approved via the ONS' Approved Researcher Scheme. Individual researchers are also vetted by the DfE and MOJ, which among other requirements conducts a criminal record check on all researchers using the NPD data.

The most recent release of this data covers the period: Police National Computer (PNC) Extract: 2000 - May 2025. National Pupil Database (NPD): Children born after 31 August 1985. A Welsh NPD-PNC matched dataset is currently unavailable for Wales. However, latest guidance from ADR UK suggests that work is underway to develop a single policing SAIL databank for 2026, which then enables linkages between police and education datasets.

If it is not possible to access data for individual analysis for the Cardiff site, then a difference-in-difference analysis can be run for the other four sites. If it is not possible to access data for individual analysis for any of the sites, then 'experiencing custody' can be used as an outcome instead of 'engaging in criminal behaviour.' Experiencing custody is a much rarer event, but still relevant for the research question. Custody experiences are recorded within the NPD as an extra dataset. The National Pupil Database provides a history of enrolments, attainment, attendance, and exclusions while in the state-funded school system. Personal information such as special educational needs, eligibility for free school meals (a measure of disadvantage) and area of residence is also included. Monthly activities in the two to three years following compulsory schooling originate from the National Client Caseload Information System (NCCIS), which forms part of the NPD. If either of these approaches is deemed necessary, then the evaluation will update and revise the evaluation protocol accordingly. As a contingency we will seek to access education data from local authorities if the NPC-PNC data in not available as there is uncertainty here as to its future

4.3. Site Level and Programme Level Analysis

For our primary and secondary outcomes, we propose analysing the impact of the NF through pooling (which have data on the outcome of interest). If feasible we will explore the impact on a site-by-site basis depending on power calculations. We expect the impact of each site to vary across different outcomes; therefore, a covariate of site will be included in the analysis to identify any site-specific outcomes. A meta-analyse forest plot will also be included to illustrate effect heterogeneity, as this is expected to be high across action plans.

There are several reasons why it is likely that the control area will be contaminated by programmes with significant investment in the area, including that it is a hotspot for violence, has a VRU in place, and meets the GRIP criteria for hotspot policing. Therefore, this contamination (from YEF or other programmes with significant investment) will be monitored and captured via both the formative evaluation (interviews with partners). We will also inspect the crime rate in the areas that form the donor pool and look for jumps or anomalies which indicate that an intervention is having an effect.

We propose that the impact of the NF should also be estimated for each site individually. These analyses have been classified as exploratory, so as not to reduce power for the existing primary /

secondary outcomes. Given the design is quasi-experimental and there are several potential biases we do not consider this evaluation sufficiently robust to include a meta-analysis.

Conversely, we propose examining outcomes related to school engagement and EET status at the individual level rather than at the aggregate level because appropriate aggregate-level data are not always available. Aggregate-level data from gov.uk covers exclusion outcomes by school. The schools can be linked to the corresponding sites via the school postcode/LSOA reference. However, school populations do not match to site level populations exactly; schools draw pupils from a wider area than the sites, and pupils within the sites may not attend their nearest school. Furthermore, school data on exclusion rates is unsuitable for the application of the synthetic control method (used to analyse aggregate data), since the outcome is rare.

Table Three: Summative Evaluation Design

Design		(i) Weighted synthetic control method	(ii) individual Level Difference in Difference
Unit of analysis		Lower super output area (LSOA)	Young person
Number of Units to be included in analysis (Intervention, Comparison)		Intervention 5 intervention sites = 33 LSOAs (Appendix Three) Comparison: Matched synthetic control averaged against all intervention units. 106 likely LSOA candidates (Appendix Three)	Intervention: Pupil ages 11-16 (2020-2025) residing in intervention LSOA (drawn from 33 LSOAs, Appendix Three) Comparison Pupil ages 11-16 (2020-2025) residing in control areas (drawn from 106 LSOA areas, Appendix Three)
Primary outcome	**Variable**	Youth violence rate	Offences committed
	measure (instrument, scale, source)	Quarterly N youth violence (all violence, and those were offender and or victim aged under 25) per 1,000 population at LSOA level: Local police force recorded crime data (flagged by offender and or victim being aged under 25) Given potential low power we will also explore this for all violence.	N proven offences committed in a year: binary outcome 1/0 (convicted/not convicted): National Pupil Database-Police National Computer linked dataset
Baseline for primary outcome	**variable**	Youth violence rate	Offences committed
	measure (instrument, scale, source)	Quarterly N youth violence (as per primary outcome) 2016-2022 (This seven-year period increases the time-period of data to build the synthetic controls).	As per primary outcome – for a baseline period of three years pre-NF delivery (2020-2022)
Secondary outcome(s)	variable(s)	N/A	School attainment Education, employment, or training (EET) post 16)
	measure(s) (instrument, scale, source)	N/A	National Public Database: (a) Whether a pupil passes English GCSE with a standard 9-4 pass (variable KS4_GCSE_ENG_94) (b) via the National Client Caseload Information system (NCCIS) – whether pupil has gone into EET 15-17
Baseline for secondary outcome	variable	N/A	School attainment Education, employment, or training (EET) post 16)
	measure (instrument, scale, source)		As per primary outcome – for a baseline period of three years pre-NF delivery (2020-2022)

4.4. Participants

The section discussed the participant specification.

4.4.1. For difference in difference analysis

- Time period 3 years of pre-NF data (2020-2022), and 3-5 years of post-NF data.
- The pupil must reside in either (a) an LSOA that contains a site (treatment group) or (b) an LSOA in an area which was shortlisted for NF (comparison group). See Appendix Three for further details on the LSOAs included.
- We recommend using the following cohorts:
    - Post-cohorts: these are the cohorts that will be exposed to the intervention prior to their GCSE exam.
    - Pre-cohorts: we recommend including three cohorts in the control group and using additional pre-intervention cohorts to assess for the parallel trend assumption.
- The pupil must be aged between 11-16 in the year being analysed (2020 - 2025). We believe this is the appropriate age group, as many of the site action plans cited “young people” as their target audience.
- The intervention is planned at five sites across 33 LSOAs and 106 LSOA control neighbourhoods.
- The impact of the NF on the likelihood that a young person (aged 11-16) commits a criminal offence can be estimated by comparing the change in the probability that a young person residing in the NF sites commits a criminal offence before and after the NF grant was made available to the change in this probability for young people residing in the shortlisted LSOAs.

4.4.2. Weighted synthetic control analysis

This will match on crime rate before the NF to construct a weighted average of similar areas that were shortlisted but not funded at each local authority. The ‘synthetic control’ unit will closely track the observable characteristics of areas that were beneficiary of the NF over the pre-intervention period. By comparing beneficiary areas of the NF to the ‘synthetic control’ unit, the analysis will show how the local crime rate would evolve over time if an area was not a beneficiary of the NF. The synthetic control will match on all the information in the shortlisted areas.

Instead of manual selection, the synthetic control approach uses a formal, data-driven approach to construct a comparison group. Specifically, it constructs a weighted combination of potential comparison areas (called the ‘donor pool’), with the weights chosen to maximise similarity between the treated and comparison groups on outcome values and covariates (‘matching’ variables) during the pre-intervention period. This weighted comparison group is the ‘synthetic control.’ Our plan is to construct a synthetic control to match the average values of matching variables across all treatment units, rather than constructing a synthetic control for each. All treated locations are put into one group and can be matched to non-treated areas in other regions.

The synthetic control approach affords several advantages:

(i) The data-driven approach obviates the need for a manual and potentially subjective selection of comparison units.
(ii) Explicitly matching on key relevant variables can potentially increase the similarity of treatment and comparison groups, strengthening the conditional independence assumption.
(iii) The weighting approach can provide a suitable comparison group even when every individual untreated unit fails to match well with the treatment group.

The synthetic control approach is usually applied in contexts with one treated unit, which is compared to multiple untreated units. However, in this case there are multiple treated units (i.e., multiple LSOAs that contain a site), which can improve the construction of the synthetic control due to the increased granularity of the data (Robbins et al, 2017). The synthetic controls will be constructed to match the average values of matching variables across all treatment units, rather than constructing a synthetic control for each. Therefore, all intervention locations are put into one group and can be matched to non-treated (control) areas in other regions.

The evaluation will use a synthetic control approach recently developed for such meso-level data and implemented in the R package 'microsynth'. The evaluation team will construct a synthetic control to match the average values of matching variables across all treatment units (LSOAs containing a site), rather than constructing a synthetic control for each.

The neighbourhoods in which each site implemented their intervention do not exactly match to LSOAs. Different sites defined 'recipient areas' using different geographical constructs (sets of postcodes, electoral wards or LSOAs). Appendix Three maps the recipient areas in each site to LSOAs. This links to 33 target and 106 control areas.

4.4.3. The comparison group

The comparison group is made up of areas which we believe have similar observable and unobservable characteristics (specifically, characteristics which are related to the crime rate) to the treatment group. For the Bradford, Cardiff, and Norfolk sites, we will use the LSOAs in the shortlisted wards. These are reasonable candidates because they were hyper-location candidates, indicating they are similar in unobservable characteristics. For the Birmingham site, while the shortlisted criteria were given, the shortlisted wards were not explicitly specified. Hence, we will take wards that have a similar risk index as Lozells and Newtown, as identified by the West Midlands Violence Reduction Unit. These are Turves Green, Sheldon North, Smith's Wood South, Sparkbrook North, Shard End & Kingfisher, and Kate's Hill. For the Manchester site, the comparison-group LSOAs are taken from wards which reached 'step 3' of the shortlisting process: Harpurhey, Ardwick and Longsight. Other wards considered: Piccadilly; Deansgate; Moss Side; Clayton & Openshaw.

Maps of the intervention and control areas are provided in Figure One and Table Four provides a count of the number of intervention and control LSOAs at each site.

The treatment is at neighbourhood level. For example, in Birmingham, there are four treated neighbours and 19 controls, and all of them will be using for estimating the effects. It is acknowledged that there may be potential spillover by nearby geographies, and mitigations for this are outlined in Table Six.

Figure One: Selected and comparator LSOA wards.

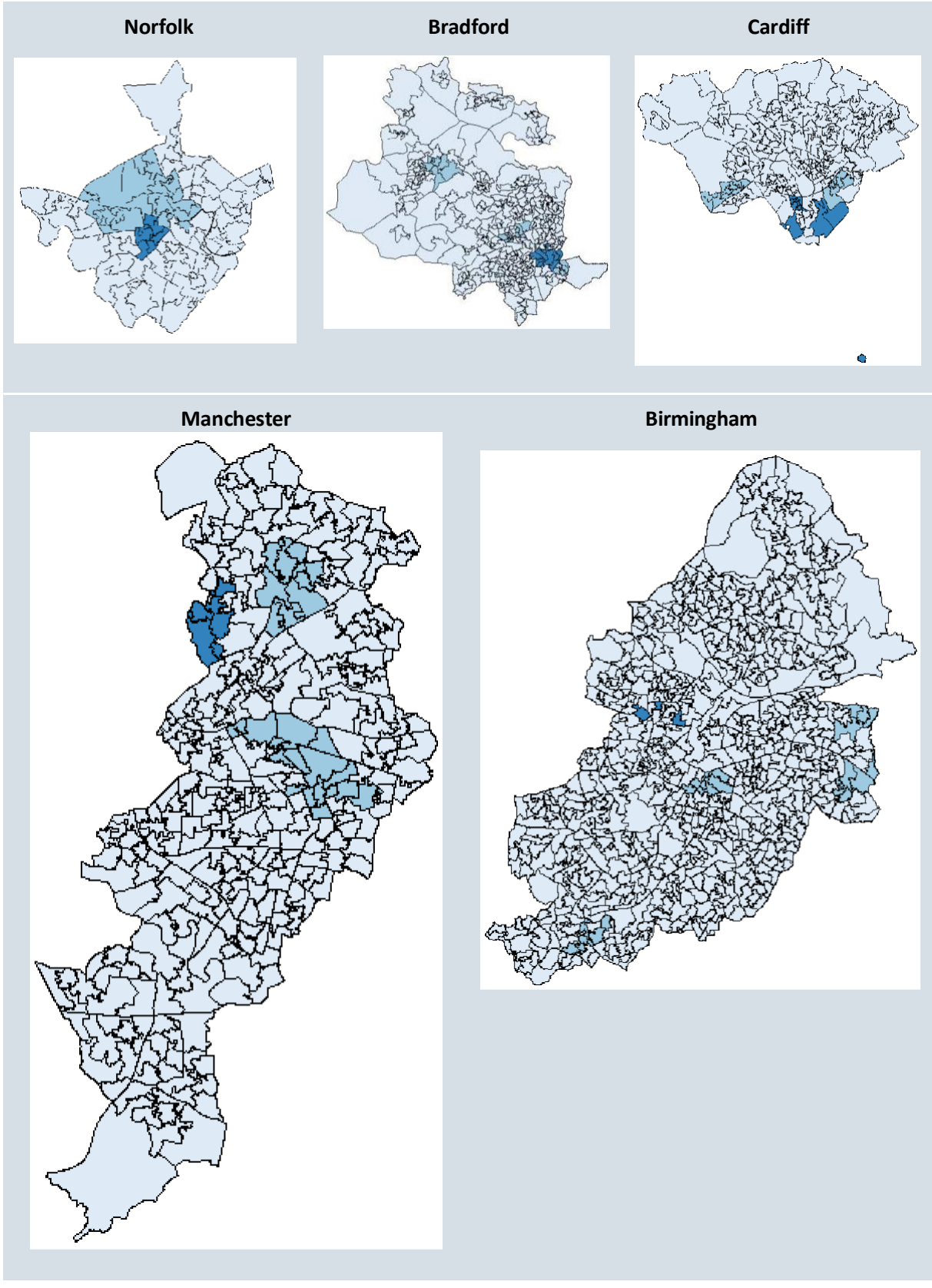


Table Four: Number of sites in treatment LSOAs and shortlisted sites not selected.

Site	Number of treated LSOAs	Number of shortlisted LSOAs
Birmingham	4	19
Bradford	8	21
Cardiff	10	18
Manchester	5	30
Norfolk	6	20

Table Five lists the matching variables that we recommend an evaluator uses to construct the synthetic control for the primary outcome analysis. For matching, including all pre-intervention timepoints for the outcome variable precludes the influence of other covariates that may be relevant. We therefore use here a mixture of quarterly data (for quarters close to the start of the intervention) and a mean across several quarters (for the earlier timepoints in the pre-intervention period) rather than taking the outcome from every quarter.

We propose also matching on the age distribution of the LSOA and the income deprivation domain score (which measures the proportion of the population experiencing deprivation relative to low income) for the LSOA. The appropriateness of the synthetic control matching process will be assessed for each analysis by visually examining the pre-intervention trends in the treated group vs. the synthetic control, and the balance between the treatment group and the synthetic control on (weighted) covariates.

Table Five: List of variables for matching

Variable	Definition	Source
Pre-NF crime rate	Quarterly number of total crimes per 1,000 in each quarter for 2020 Q1 - 2022 Q4 Average quarterly number of total crimes per 1,000 across 2016 Q1 - 2019 Q4	police.uk
% of each age group in (0-19, 20-39, 40-59) - note that the % over 60 is implied by the %'s for the other age groups	(Number of people in age group) / (LSOA population), average across 2010 - 2019	ONS mid-2010 - 2019 population estimates
Income deprivation domain score	Proportion of population experiencing deprivation relative to low income	Indices of Deprivation 2019: income and employment domains combined for England and Wales

4.5. Study period for synthetic control analysis:

We will explore the start of intervention as the beginning of the delivery stage of the programme (i.e., January 2023). However, as sites did not actually implement their action plans until July 2023 at the earliest, and for some commissioned activities were even later than this, we will explore start dates at month 12, month 18 and month 24. We will run tests across each to explore the impact of the programmes.

The following robustness checks should be conducted to assess how sensitive the primary outcome analysis results are to the exact synthetic-control strategy:

- The intervention onset will be set as month 12, month 18 and month 24.
- We will conduct a 'leave-one-out' exercise for the donor pool unit with the biggest weight, meaning this unit is excluded from the donor pool (as suggested in Abadie (2021)).

The proposed pre-intervention period consists of seven years, defined from 2016 Quarter One until 2022 quarter Four inclusive. This will be adjusted when exploring the start of the intervention for months 18 and 24. The full duration of the delivery phase is three to five years (months 12-72), and pooled analysis will focus on the first three years of delivery for the impact analysis. The main impact estimate should be the average treatment effect over these three years.

However, as exploratory analysis (to examine whether the effect of the NF changes over time or by season), the evaluation can look at cumulative treatment effects across the post-intervention period, and to aid in interpretation, time-series graphs will indicate when all interventions are live. It may be possible to consider a heterogeneous effect by years – and to have different effects by follow up and the average treatment effect about all the period (three years). However, given concerns that the analysis may be underpowered we suggest that this may be challenging and add little value to the findings.

4.5.1. Threats to validity of estimates:

Synthetic control gives unbiased estimates of the NF's effect under the three assumptions below as the number of pre-intervention periods tends to infinity:

1. **Assumption 1 - Conditional independence assumption (CIA):** We observe all characteristics which (a) are correlated with whether the area is treated and (b) affect the outcome (in the correctly specified functional form). This assumption is likely to (approximately) hold if:
    a. A large number of pre-intervention periods have outcome data.
    b. There are at least a few donor-pool units whose pre-intervention outcomes closely follow the outcome(s) of the treatment unit(s).
    c. Outcomes within these units are stable over time - This is because the long time series of pre-intervention outcomes (mostly) captures the differences in unobservable time-invariant characteristics between the treatment and units in the synthetic control; these differences would otherwise bias our estimates.
2. **Assumption 2 - No anticipation effects:** On average, individuals in the treated areas do not change their behaviour before the start of the intervention in a way that affects the outcome.
3. **Assumption 3 - No spillovers:** Estimates are also biased if there are spillovers between the treatment and comparison groups.

Table Six below summarises how these assumptions may be violated in this case and proposed mitigation strategies.

Table Six Risks and mitigation strategies - area-level primary analysis

Risk / limitation	Mitigation strategy
Assumption 1: Violation of conditional independence assumption:	We will continuously monitor sites for any similar crime reduction interventions / programmes in the post-intervention period using the formative evaluation, in both treatment and comparison areas. We will scrutinise sites that show jumps or anomalies which indicate that an intervention is having an effect in that area. This will be scrutinised as a potential bias, and we will explore further action which may include removing a site from the pooled analysis. Given the length of the community interventions and that other interventions will be across a larger geography we will explore measures to minimise any biases here. The evaluation will use a substantial number of pre-intervention time periods (48 quarters), which should reduce the risk of noise having a significant impact on the synthetic control matching process (Abadie, 2021). The donor pool should be restricted to units that are similar in relevant characteristics to the treated group. The final donor pool should be inspected to ensure that outcome and covariate values are comparable between treatment and control units. Additionally, early pre-intervention weeks where outcome and/or covariate values show substantial non-overlap between treatment and control units may be excluded.
Assumption 2: No anticipation effects	We believe the no anticipation effects assumption is likely to be satisfied, as individuals are unlikely to commit more / less crime in the area if they expect the site to be set up in the future. We will examine this as part of the formative evaluation.
Assumption 3: No spillovers	The fund is targeted in hyperlocal areas thus spillover to control areas is unlikely. The geographic distance between shortlisted and treated areas, and we believe they are sufficiently apart in most cases. We will use similar measures to the violation of independence to minimise this risk.

Difference-in-difference gives unbiased estimates of the NF's impact under three main assumptions:

4. **Assumption 1 - Parallel trends:** The average difference in outcomes (controlling for observable characteristics) between the treatment and comparison groups in the post-intervention period would be the same as the difference in the pre-intervention period if the intervention had never occurred. In other words, the two groups would follow the same (additive) trend, and estimates are biased if those trends would differ.
5. **Assumption 2 - No anticipation effects:** On average, individuals in the treated areas do not change their behaviour before the start of the intervention in a way that affects the outcome.
6. **Assumption 3 - No spillovers:** Estimates are also biased if there are spillovers between the treatment and comparison groups.

Table Seven below summarises how these assumptions may be violated in this case and proposed mitigation strategies.

Table Seven: Risks and mitigation strategies - individual-level primary analysis

Risk / limitation	Mitigation strategy
Assumption 1 - Parallel trends	You cannot prove the parallel trends assumption because you never observe the counterfactual post-intervention outcomes for the treatment group. However, examining the pre-intervention trends in average outcomes can indicate whether the assumption is likely to (approximately) hold. We will continuously monitor for any similar crime reduction interventions / programmes in the post-intervention period in both treatment and comparison areas. We recommend excluding areas if they are exposed to similar interventions. We can used event study as a robustness check in verification of anticipation events as a falsification/robustness check. We can explore using a PSM-DD approach if the parallel trend assumption is not met. For example, implementing a PSM at neighbourhood or district for treated and untreated by doing the analysis at individual level.
Assumption 2 - No anticipation effects	We believe the no anticipation effects assumption is likely to be satisfied, as individuals are unlikely to commit more / less crime in the area if they expect the site to be set up in the future.
Assumption 3 - No spillovers:	The fund aims to prevent children from becoming involved in violence in the *local neighbourhood.* We believe the intervention is highly localised, and spillover to other neighbourhoods is unlikely. We also examined the geographic distance between shortlisted and treated areas, and we believe they are sufficiently apart in most cases. The Norfolk site is more likely to be affected by spillover due to the proximity between the treated and comparison areas. We will use a similar mitigation to the assumption of parallel trends violation

4.6. Sample Size Calculations

This section of the report provides an overview of the sample size calculations for the summative evaluation and the Minimum Detectable Effect Size (MDES) as highlighted in Table 8.

Table 8: Sample size calculations (500 simulations- see Appendix 4)

	PARAMETER	
Design	(i) Weighted synthetic control method	(ii) individual Level Difference in Difference
Minimum Detectable Effect Size (MDES)	4.41 violence offences per 1,000 population in an LSOA per quarter	0.36pp (Difference in Difference)
Cohens equivalent	Analytical MDES (Cohen's d) =0.05	Cohen's d (0.02)

4.6.1. Estimating weights for the synthetic control

Using the approach outlined in Section 4.4.2, we obtain an MDES of 4.41 cases per 1,000 population in an LSOA per quarter. This represents a 11.5% decrease on the post-2020 mean of 38.47 cases per 1,000 people per quarter.

The *microsynth* implementation constructs a synthetic control by finding weights which satisfy three types of constraints (Robins and Davenport, 2021)

- The sum of the weights should equal the number of units in the treatment group.
- The weighted synthetic control, aggregated across donor units, should match the aggregated treatment group across any time-invariant covariates.
- The weighted synthetic control and treatment groups should match across all pre-intervention time points for the outcome (and any other time-varying covariates).

The implementation first attempts to exactly satisfy all the above constraints. If this is not feasible, microsynth attempts to find weights which exactly satisfy constraints (1) and (2), while minimising the degree to which constraint (3) is not satisfied. It also adds another constraint, which it tries to exactly satisfy: the outcome (and any other time-varying covariates), aggregated across pre-intervention timepoints, should match between weighted synthetic control and treatment groups. If this also is not feasible, it exactly satisfies only constraint (1) above (always feasible) and minimises the degree to which the other constraints are not satisfied. In the current evaluation of the primary outcome, this latter approach is necessary to construct a suitable synthetic control.

The methods used to identify the weights are provided in Appendix 4.

In addition, we have used simulations and power estimates to identify the change required provided in Appendix 5.

Due to the development of the Clear Build Hold strategies nationally, which were not in place during the original design of this protocol, we have added mitigation strategies in Appendix 6.

5. Formative Evaluation

The formative evaluation will be embedded throughout all stages of the project, iteratively supporting programme implementation, and the development and implementation of the summative evaluation. Formative evaluation data will be collected through a mixture of monitoring exercises and qualitative work with participants, practitioners, and other stakeholders. This will facilitate understanding of variation between planned and actual implementation of the intervention and indicate any contextual variations across sites. Findings from the formative evaluation will also inform ongoing refinement of the overarching programme TOC (see Appendix One). We will also collect cost data for the programme in line with current YEF guidance (see Section Six). Research questions are identified in Section 5.1 and key lines of enquiry in Table Nine.

5.1. Formative evaluation questions (FEQ)

Two of the formative evaluation questions (Q2 & Q4) were revised for the Year Two report to better align with a feasibility study approach. The updated questions place greater emphasis on capturing the views of stakeholders and programme recipients, rather than drawing conclusions about effectiveness. The original year one formative evaluation questions are available in the Year 1 report (Quigg, et al., 2024).

FEQ1	How effective was the transition from feasibility/discovery/co-design to delivery? *(Year 1 report)*
FEQ2	What approaches are delivery partners taking to deliver the plans?
FEQ3	How well are the different components of the action plan being delivered?
FEQ4	What are stakeholders and children and young people's views and experiences of the programme?
FEQ5	To what extent are systems change outcomes being achieved and in what context: for whom/where, how, and why?
FEQ6	What evidence is there of emerging or perceived impacts on intended outcomes, and what are the mechanisms of these?

5.2. Formative evaluation approach

This section of the protocol outlines the evaluation approach for the delivery phase of the NF. This is broken down into the developmental/pilot phase of delivery, and the full delivery (see Sections 1.28 and 1.32)

5.2.1. Delivery Phase A: piloting (months 6-12)

Consultations and workshops with lead co-coordinators and key stakeholders

We regularly review programme implementation/routine monitoring data and refine 'a priori' theories of change (on a quarterly basis) and develop participant journey maps (as relevant to programme implementation). Early consultations with the learning partners and sites supported finalising the data collection approach for the formative evaluation (i.e., routine programme monitoring - to reduce the burden on local partners and ensure evaluation activities complement the learning partner and YEF activities).

Routine monitoring and review of programme documentation:

We work with each site to develop relevant routine monitoring processes that inform the formative evaluation at site and programme level. Where relevant, we will support the development of intervention/activity specific routine monitoring processes. Data is collected at three-month intervals and reviewed for quality, with amendments to data collection agreed with delivery partners/YEF. In addition, we review any documentation that describes, and reviews programme implementation produced by the delivery or learning partners, or YEF.

Qualitative engagement:

Interviews will be held with relevant stakeholders at site level to reflect on the feasibility, discovery, and co-design phase, and examine progress to programme implementation/piloting. These initial discussions will focus on the context of the development and early implementation/piloting of site level activities, what delivery looks like (for example, exploring dose and reach), and key facilitators and barriers. We anticipate approximately 22 interviews per site (total 110) during this phase; however, sample sizes will be determined based on data saturation and programme implementation (e.g., spread and extent of partnership/programme delivery). The sample size for delivery phase year one can be found in the published annual report (Quigg et al, 2024).

5.2.2. Delivery Phase B: Full delivery (~months 12 to 72)

The qualitative work will examine the views of participants (stakeholders and various individuals engaging with the funded programme) on the intervention; how the intervention is implemented and how it could be rolled out across other areas should it be shown to be effective. In each delivery site intervention participants, relevant practitioners and wider stakeholders will be interviewed. We will use purposive sampling to ensure diversity. Analysis will be ongoing, and our design allows further interviews to be added if saturation is not achieved. We will collect and analyse monitoring data on a quarterly or other agreed basis. The following methods will be implemented during the feasibility/piloting phase and full delivery phase:

Routine monitoring and review of programme documentation: Continued monitoring of programme implementation using YEF monitoring forms, supplementaryevaluation monitoring data collection and relevant programme documentation. Data will be collected at three-month intervals and reviewed for quality, with amendments to data collection agreed with delivery partners/YEF. In addition, we will review any documentation that describes, and reviews programme implementation produced by the delivery or learning partners, or YEF. Monitoring data will be reviewed alongside qualitative and survey findings to support triangulation of implementation and process evaluation findings.

Qualitative engagement: Interviews will be held with relevant stakeholders at site level to examine processes of programme implementation and impacts (including system level change), and mechanisms of change. This will include lead coordinators, steering group members, delivery partners and wider stakeholdersWe anticipate 10-20 interviews per site per year; however, sample sizes will be determined based on data saturation and programme implementation (e.g., spread and depth of partnerships). Children and young people from each site that are participating in Neighbourhood Fund-funded activities will take part in focus groups to explore their experiences of the programme, perceptions of the local neighbourhoods and perceived outcomes.

Survey: A survey will be implemented with key stakeholders involved in or on the periphery of programme implementation. The survey will examine programme implementation, partnership

functioning, perceived outcomes (including system level change) and mechanisms of change. The survey will include a validated measure of partnership functioning, namely the Partnership Self-Assessment Tool (PSAT), alongside questions exploring intervention delivery, implementation challenges, perceived outcomes and areas for programme development.

5.3. Formative Evaluation: Analysis

The analytical framework will be refined and updated at the key review points throughout the evaluation to reflect emerging findings and evolving implementation priorities. We anticipate that the formative evaluation (qualitative analysis) of the data captured from staff/stakeholder interviews will be subjected to framework analysis. This is a more deductive than inductive approach, and analysis is structured around pre-specified themes so that findings have relevance to applied research questions. Whilst the analysis will be informed by an initial framework based on the evaluation questions and implementation literature, the analytical framework will be reviewed and refined iteratively throughout each phase of analysis to capture emerging themes and implementation learning. Data will be coded under a list of a-priori themes relevant to barriers and facilitators of implementation. Assessment of the likelihood of embedding the intervention in routine practice will be informed by Normalization Process Theory (May and Finch 2009). This model considers factors that affect implementation in four key areas; how people make sense of a new practice (coherence); the willingness of people to sign-up and commit to the new practice (cognitive participation); their ability to take on the work required of the practice (collective action); and activity undertaken to monitor and review the practice (reflexive monitoring).

Qualitative data from children and YP will be analysed using the same overarching analytical approach as stakeholder interviews, with coding and framework development adapted where appropriate to reflect the nature of the data. Analysis will explore YP's experiences of programme participation and how they made sense of it in relation to deterring their engagement in violence and related risk factors, and promoting engagement in positive activities (e.g., support services; community activities).

Survey data, routine monitoring data and programme documentation will be analysed using quantitative and qualitative approaches, with findings integrated alongside qualitative interview and focus group findings. Evidence from all data sources will be triangulated to develop an overall understanding of programme implementation, mechanisms of change, systems-level development and contextual influences. This will support an understanding of the implementation and involvement of the intervention (5Is) and an understanding of the mechanisms of change (realist evaluation) linked to the moderators and mechanisms of the EMMIE model.

Findings from the formative evaluation will be synthesised across all data sources and presented thematically. Individual themes may contribute evidence towards one or more formative evaluation research questions, rather than findings being reported sequentially against each research question.

Table Nine: Overview of formative evaluation research questions and methods

Stage	Key lines of enquiry and research questions addressed	Implementation/ logic model relevance	Data collection methods	Participants per site per year/ data sources (type, number)	Data analysis methods
Feasibility and piloting only	How effective was the transition from feasibility/discovery/co-design to delivery (feasibility/piloting period)? • What approaches did the CRCPs used to develop governance structures and the AP? How appropriate and effective were these? How did this begin to enable change? • What were the processes for transitioning from the CRCP to local coordinator, and how appropriate and effective was this?	Explore the inputs to, and readiness for programme implementation	Interviews Review of programme documentation	Local coordinators (*2); delivery & system wide partners (*10 per site) YEF and Learning Partner reports.	Qualitative: coding of transcripts using deductive and inductive approaches (aligned with central evaluation framework)
Feasibility/ piloting and full delivery	What approaches are delivery partners taking to deliver the plans? • What strategies and practices are used to support effective implementation, and how do these evolve over time? • What are the roles of different stakeholders, are these appropriate and how are they evolving? • What training and ongoing support or technical assistance is available or required? • Do approaches differ between sites - how and why?	Explore the inputs to, and readiness for programme implementation	Interviews Review of programme documentation	Local coordinators (*2); delivery & system wide partners (*10-20) YEF and Learning Partner reports.	Qualitative: coding of transcripts using deductive and inductive approaches (aligned with central evaluation framework) s

Stage	Key lines of enquiry and research questions addressed	Implementation/ logic model relevance	Data collection methods	Participants per site per year/ data sources (type, number)	Data analysis methods

	How well are the different components of the AP being delivered?
	• Are activities being delivered in line with TOC/AP, and are refinements to the TOC/AP needed to accommodate context and population need?
	• How much of the intended intervention has been delivered?
	• How are different components of the intervention progressing, and what factors are influencing implementation?
	• What is the reach and responsiveness of participation by intended recipients?
	• Is the programme sufficiently tailored and sensitive to minority groups?
	• What are the key enablers, barriers and adaptations to implementation?
	  • Do partners have the necessary skills, experience, and attitudes to effectively implementation the AP?
	  • Is the culture, coordination, communicati on, and
		Assess the dimensions of implementation, alignment with programme logic model/AP, and areas for refinement.
		
		Assess the factors implementing implementation.
			Interviews
			
			Review of programme documentation
			
			Routine programme monitoring data (collected through quarterly monitoring reports)
				Local coordinators (*2); delivery & system wide partners (*10-20)
				
				YEF and Learning Partner reports.
				
				Quarterly YEF/evaluation monitoring forms
					Qualitative: coding of transcripts using deductive and inductive approaches (aligned with central evaluation framework)

	leadership sufficient to enable implementation?				

Stage	Key lines of enquiry and research questions addressed	Implementation/ logic model relevance	Data collection methods	Participants per site per year/ data sources (type, number)	Data analysis methods
	• Are the resources and support appropriate to enable delivery? • What is the perceived need for and benefit of the programme amongst implementers, and how does this vary based on demographics? • What learning from initial stages can inform adaption moving forward?				
	How effective is implementation in each area? • What data, information and measures were built into the AP to determine the success of the approach? Where these appropriate or do they require further refinement? • Are early-stage outputs being achieved, in what context, for whom, how and why? • What evidence is there of impacts on intended outcomes? Is there any evidence of unintended consequences?	Assess outputs and explore signs of impacts.	Interviews Review of programme documentation Routine programme monitoring	Local coordinators (*2); delivery & system wide partners (*20-25) programme recipients (*10-15) YEF and Learning Partner reports. Quarterly YEF/evaluation monitoring forms	
Full delivery only	To what extent are systems change outcomes being achieved in what context, for whom/where, how, and why?	Assess whole system change, and explore relationships with	Interviews		Qualitative: coding of transcripts using

Stage	Key lines of enquiry and research questions addressed	Implementation/ logic model relevance	Data collection methods	Participants per site per year/ data sources (type, number)	Data analysis methods
	• To what extent are strong sustainable collaborations being formed between institutions, young people, and the wider community? In what context is this achieved, for whom, how and why? • How have partnership relationships developed over time, and what has enabled or constrained this? • To what extent are there clear routes for young people to build adaptability, confidence, and resilience? In what context is this achieved, for whom, how and why? • To what extent are young people and communities empowered to make positive decisions that affect their lives? In what context is this achieved, for whom, how and why? • How have children and young people influenced the development or delivery of the action plan? • Are policy and practice aligned and informed by young people and communities? In what context is this achieved, for whom, how and why? • Do partners think the	programme delivery and impacts	Review of programme documentation Routine programme monitoring	Local coordinators (*2); delivery & system wide partners (*10-15) programme recipients (*10-15) YEF and Learning Partner reports. Quarterly YEF/evaluation monitoring forms	deductive and inductive approaches (aligned with central evaluation framework)

	programme is sustainable? What are the key facilitators and barriers to this? What does sustainability look like?				

Stage	Key lines of enquiry and research questions addressed	Implementation/ logic model relevance	Data collection methods	Participants per site per year/ data sources (type, number)	Data analysis methods
	What evidence is there of emerging or perceived impact on intended outcomes and what are the mechanisms of this? (a) What are the key aspects of implementation that facilitate or reduce the likelihood of successful outcomes? Do this differ by sites and groups? (b) Is there any evidence of unintended consequences? (c) Is there variability in implementation, mechanisms and perceived outcomes across sites?	To explore mechanisms of impact	Interviews Review of programme documentation Routine programme monitoring		Qualitative: coding of transcripts using deductive and inductive approaches (aligned with central evaluation framework)

6. Ethical Approval, Data Protection and Racial and Cultural Sensitivity

This evaluation will fully comply with the NTU Research Governance policies to ensure the highest ethical and governance standards are maintained. Copies of all policies are available upon request.

6.1. Ethical Processes

This evaluation has received approval from Nottingham Trent University School of Social Sciences Research Ethics Committee, a sub-committee of the NTU Research Ethics Committee. The NTU research ethics policy and procedure (last revised 1st Feb 2019) promote the highest possible standards of ethical practice in the conduct of academic research. It is committed to protecting the rights, dignity, safety, and privacy of research subjects, and to minimise risks to the health and safety or researchers.

This review considers consent forms, participant information sheets and protocols relating to security, confidentiality, anonymisation and retention of data. This includes a review of: risk of physical, emotional or reputational harm to research participants, risk of physical or emotional harm to the researcher; arrangements for recruiting research participants, and for obtaining informed consent, including, for example, copies of participant information sheets and consent forms; arrangements for assuring the security and confidentiality of personal data; arrangements for retention, anonymisation and disposal of personal data; arrangements for debriefing research participants; arrangements for reporting and dealing with any adverse reactions to the project; and ensuring that DBS checks are carried out at the appropriate level where this is required. It will also consider steps taken to mitigate against all risks identified.

The University has a Code of Practice for Research (last revised May 2021) ensures the protection of human participants, and includes policies for personal and professional research integrity, accountability and responsibility, conflicts of interest, leadership responsibilities, research data, research misconduct, ethical requirements, and health and safety, and reporting breaches of the code of practice.

6.2. Ethical Approval and considerations

The evaluators have completed all necessary documents for ethical approval. This includes an ethics application, draft versions of the Participant Information Sheet and Consent Forms for all identified participants (Learning Partner, Lead Co-ordinator. steering group, working groups, associated statutory and non-statutory partners, members of the local community including young people, staff who deliver interventions, and participants of the interventions delivered. This also includes research instruments (interview, observation, survey), as well as consent forms for parents/guardians of those under 18 were necessary.

Summative evaluation data will require applications to the five police force areas in the study and to the secure NPD-PNC linked dataset. This will require data processing agreements between the five police forces and Nottingham Trent University.

6.3. Data Protection

Researchers must comply with NTU's Research Data Management Policy (last revised March 2015). This project has developed a research data management plan that explicitly address data capture,

management, integrity, confidentiality, retention, access, sharing and publication. The data plan complies with relevant legislative frameworks including data protection, intellectual property, ethics, and human rights. This proposal is compliant with GDRP and the Data Protection Act 2018. All staff at NTU are required to complete annual online training and require a mandated assessment pass to ensure GDPR compliance. The evaluation consortium (led by Nottingham Trent University) is committed to protecting the privacy and confidentiality of our study participants. As part of our commitment to data protection, we (the research team) have included a statement that explains how we collect, use, store, and protect personal information in relation to the YEF NF evaluation study. The key components of this are:

6.3.1. Collection of personal information

This study included one form of data collection that could include personal information.

Qualitative interviews - A team of trained researchers will work with the evaluation leads (Newton and Quigg) to collect and analyse data for the formative evaluation and share findings with YEF and sites via evaluation reports and presentations. These staff will be introduced to local coordinators and other key partners at relevant points throughout the evaluation period. Participation in this study will involve the collection/use of personal data by the investigator, for the purposes of setting up interviews and with your permission, recording the interviews. No other use of your personal data will be made.

6.3.2. Use of personal information

Reports will be written so that no-one can work out who took part in the study. Confidentiality may not be guaranteed; for example, due to the limited size of the participant sample, the position of the participant or information included in reports, participants might be indirectly identifiable in transcripts and reports. We will attempt to minimise and manage the potential for indirect identification of participants, although only pseudo-anonymity can be guaranteed, as clearly explained in the informed consent and information sheets.

The researchers agree to keep confidential anything they learn or observe related to illegal activity unless related to the abuse of children or vulnerable adults, money laundering or acts of terrorism. The investigator has a professional obligation to inform relevant agencies if they learn about anything of this nature during any interviews. In certain exceptional circumstances where participants or others may be at significant risk of harm, the investigator may need to report this to an appropriate authority. This will be discussed with participants first where appropriate. Examples of those exceptional circumstances when confidential information may have to be disclosed are:

- The investigator believes the participant are at serious risk of harm, either from themself or others
- The investigator suspects a child may be at risk of harm.
- The participant poses a serious risk of harm to themselves or threatens to abuse others.
- As a statutory requirement e.g. reporting certain infectious diseases
- Under a court order requiring the University to divulge information
- We are passed information relating to an act of terrorism.

6.3.3. Storage and Protection of Personal Information

With permission, interviews will be audio recorded. As soon as possible after the interview, the recording will be transferred to secure storage and deleted from the recording device. The audio

recording will be transcribed by approved transcribers using a secure transfer protocol. No other use will be made of them without participants written permission, and no one outside the project will be allowed access to the original recordings. Interviews conducted on MS Teams will be recorded and transcribed by MS Teams transcription service. Transcriptions will then be checked by the research team and stored safely and securely People who do not need to know who participants are will not be able to see contact details. Data will have a code number instead.

Police data will not contain individual identifiable information but will be coded to LSOA area. NTU have a secure crime lab should it be necessary to access location and time stamped crime data (eastings, northings, date, and time).

6.3.4. Participant rights

Participants concern stakeholders and individuals involved with various projects across the sites. Interview. Participation is voluntary and on an informed consent basis. Participants will have the opportunity to ask questions about the research before deciding whether to take part. Before participation we will ask participants to sign a consent form to indicate if they wish to participate. We will also ask for verbal consent at the start of the interview (and this will be used to indicate consent if written consent is not possible). Participants can stop being part of the study at any time, without giving a reason, and with no repercussions.

6.3.5. Legal basis

Under the UK GDPR, NTU must have a legal justification ("legal basis") for processing data relating to participants. For this research crime data will be captured using data sharing agreements as a Public Task. This is to enable NTU to carry out its role as a research establishment and to evaluate the YEF NF.

6.3.6. Legitimate interest

We are processing the data to address a research question that cannot be answered sufficiently using self-report or other sources of information about youth violence. The data controllers will not have the capacity or interest to process the data themselves, which necessitates the data sharing. The benefits from processing this information relate to advance understanding of the effectiveness of violence prevention activity that could reduce violent harm in society. In the absence of this processing, there is a potential that violence prevention activity would be misdirected or harmful to society.

6.3.7. Data processing

Data on police records will be shared by the five police forces with the research team at regular periods subject to the data sharing agreements to be put in place. The dataset will be used to identify aggregate quarterly counts of youth violence at the intervention and control LSOA areas. This level of aggregation will not enable identification of individuals. The data set will be used to generate descriptive statistics and to analyse the effect of the programme on violence outcomes.

6.4. Racial and Cultural Sensitivity

A race equity advisor, Dr Irene Zempi has recently (May 2023) been appointed to support this project. Dr Zempi has reviewed the evaluation protocol to ensure that the evaluation supports the YEFs commitment to become a racially equitable What Works Centre. To ensure race equity in this evaluation we will seek to embed race equity within our evaluation and to consider the potential for bias at all stages of the evaluation. The evaluation is guided by the ideals of trustworthiness, neutrality, voice, and respect, and all evaluation materials and processes will be prepared and reviewed with these values in mind.

6.4.1. Context

We will review project documents and collate interview data from the feasibility, discovery, and co-design phases of the study to assess whether there is any racial/ethnic bias at the five hyper locations. This will consider the process by which consultation has occurred, limitations of the data used, and how any issues flagged may best be addressed within the developmental and full implementation of the delivery phase. We will review the data used to identify local sites to explore racial bias in the approach taken and decisions taken. To identify bias, we will examine:

- the culture and context identified in the discovery and co-design phases, and the mechanisms by which race equity is identified by local communities as a causal/contextual factor in violence and young people in their hyper-local area.
- how representative local steering group panels are of the ethnic profile of local communities using the socio-demographic (census 2021) profiles of ethnicity in each hyperlocal area.
- the race equity statements provided for each of the delivery plans.

6.4.2. Evaluation Design:

We have worked with our race equity advisor to ensure evaluation questions explicitly address racial and ethnic equity. This includes:

- Embedding questions that explore how race and ethnicity shape young people's experiences of violence and service access in hyper-local contexts.
- Including prompts in the evaluation to examine how race equity considerations have influenced programme design, delivery, and stakeholder engagement.
- Assessing whether interventions are perceived as culturally responsive and inclusive by minoritised ethnic groups.
- Investigating whether racial disparities exist in referral pathways, engagement levels, or outcomes across different ethnic groups.

A key thread of the Year 3 evaluation questions will be to explore race equity in more detail. The research protocol will be updated in late 2025/early 2026 to reflect this explicitly.

Understanding Experiences of Minoritised Ethnic Groups in the NF

To ensure that the lived experiences of minoritised ethnic communities are central to the evaluation:

- We have and will continue to conduct qualitative interviews and focus groups with young people and community members from diverse ethnic backgrounds to understand their perspectives on violence, safety, and service provision.

- We will explore the extent to which the steering groups have co-design data collection tools (e.g., interview guides, surveys) to ensure cultural relevance and sensitivity to local racial dynamics.
- We will include community-led interpretation workshops to validate findings and ensure that the voices of minoritised groups are accurately represented and meaningfully interpreted.
- We will analyse disaggregated data by ethnicity to identify differential impacts and experiences and apply an intersectional lens to explore how race interacts with other factors such as gender, age, and socio-economic status.

Drawing on NTU's recent work on decolonising the curriculum, we have adopted principles that challenge dominant narratives and centre marginalised voices. This includes:

- Framing evaluation questions to interrogate structural inequalities and systemic barriers.
- Ensuring that the evaluation does not reproduce deficit-based narratives about minoritised communities, but instead highlights resilience, agency, and community-led solutions.

The Evaluation Team will support race equity by recruiting racially diverse research teams to take part in the co-design phase.

- All researchers will undertake Equality, Diversity, and Inclusion training as a compulsory module at NTU for staff development. This is to support NTUs commitment to improving racial equality at NTU demonstrated by signing up to the Advance HE Race Equality (REC) Charter in June 2020, and the development of annual Race Equality Action Plans

6.4.3. Programme

- We will ensure that the programme/interventions identified in the developmental phase consider racial equity and seek to target root causes.
- We will put in place questions and explicit strategies in the process evaluation to seek early identification of increased racial bias/conflict in the delivery of the designed programmes and interventions.
- This will be reviewed on a regular basis appropriate to the stage of delivery (every quarter at the start of the delivery phase).

6.4.4. Data analysis:

- The qualitative and quantitative analysis will explore the role inequity and ethnicity plays in the outcomes observed.
- We will ensure the qualitative data analysis considers intersectionality and is cognisant of biases outlined in the evaluation plan.
- We anticipate missing race/ethnicity data to be present in the police crime data – we will explore the extent to which this adds potential bias and review whether we can use this data to inform our analysis.

6.4.5. Dissemination:

- Evaluation reports will be made publicly available for free. We will ensure dissemination is targeted at a range of audiences in a format that is inclusive and diverse and promotes equity in line with our existing NTU dissemination strategy.

7. Cost data reporting and collecting

The evaluation team will integrate a structured data collection approach into the formative evaluation to ensure appropriate information on costs of the programme can be routinely captured. The team will use the quarterly monitoring reports to ensure that cost activity is documented on a regular basis.

Cost for this type of programme are challenging to capture, due to the flexible length of the delivery, the need for community involvement in decisions, and the nature and length of the programme. Cost may arise when services are not available due to unforeseen circumstances. By keeping an open dialogue and having regular interviews with such leads, the evaluation team will be able to report results accordingly.

The processes for cost data collection are:

- We will conduct structured interviews with the lead co-ordinator at each site using the YEF guidance principles as outlined in the YEF Cost Reporting Principles document, in order to construct bottom up costs of the intervention.
- We will repeat similar interviews with the implementation leads for activities delivered at each site, to understand associated costs.
- Costs will include project set up and management, labour/staff costs, building and facilities costs, and materials and equipment costs.
- We do not anticipate any incentive costs at this stage.
- Due to our knowledge of similar community programmes, there may be additional in-kind costs with associated partners such as buildings and facilities and staff time. We will seek to identify this in-kind funding along with any match funding levered by the lead co-ordinators and steering groups.
- Costs will be subdivided into prerequisite costs, set up costs, and recurring costs.

8. Stakeholders and interests

A detailed discussion of the partners engaged in the phases 1-3 (feasibility, discovery, and co-design) of the YEF was offered in Section 1.2. This section flags the key role of these engaged in the delivery that will have the largest bearing on the evaluation.

8.1. Delivery partners

Five lead co-ordinators have been appointed to deliver the action plans identified in the co-design phase. These are stated in Section 1.2.2

8.2. Learning partner

Renaisi and Dartington Service Design Lab are the Learning Partner for the Neighbourhood Fund. The Learning Partner role is to provide developmental support to the CRCPs across the five areas, particularly during the feasibility, discovery, and co-design phases, transitioning to a lighter-touch role during delivery. This developmental support will help surface enablers and barriers to change and create opportunities for sharing learning within and across the areas, with the aim of learning what works well and less well in each area and at the fund level.

8.3. Evaluation partner

The Evaluation Partner will play a significant role during the feasibility, discovery, and co-design phases, working closely with the Learning Partner to ensure the evidence collected is aligned to the needs of the formative and summative evaluation. Before moving into the delivery phase, the Evaluation Partner will make an early assessment about whether local APs are ready to be implemented, drawing on YEFs feasibility and pilot study guidance. Prior to moving into the delivery phase, the Evaluation Partner will become the lead contact for the areas as the evaluation transitions into a formative and summative testing phase. It is the Evaluation Partners role to identify, source and collect all required data to support the evaluation.

The evaluation is led by Dr Andy Newton (Nottingham Trent University), in collaboration with Professor Zara Quigg (Liverpool John Moores University) Key roles for evaluation team members are:

- Andy Newton: Principal investigator, evaluation project management, formative and summative evaluation design, implementation, and reporting.
- Zara Quigg: Formative evaluation design, implementation, and reporting

Evaluation leads will be supported by researchers and experts across the institutions. To ensure the research is held to the highest possible standards and draws from the best available evidence, we will use a flexible internal Advisory Group (AG) and expert panel to complement the YEF external expert panel. This will draw on the expertise of colleagues at NTU/LJMU/BI, and wider evaluation design experts.

9. Risks

Table 11 below identifies key project risks and mitigation strategies.

Table 11: Project Risks

Risk	Mitigation	Likelihood	Impact
Evaluation Constraints due to Programme Design			
Youth violence data - police recorded crime data is subject to under-reporting	Our recommended approach uses what crime data are available and ensures appropriate caveats are made when reporting results. Using both recorded crime and PNC data mitigates the reliance on one data source	Low	Low
The non-random nature of site selection: Whilst it is possible to match sites against comparison areas using observed variables, there are likely to be unobserved factors that drove the site selection	We are using a parallel QED method (synthetic weighted regression and difference in difference approach) to increase robustness of findings. There is an in-depth formative evaluation to supplement the learning and identify potential bias and contamination.	Low	Low
The length of programmes varies across the five sites (3-5 years)	We will explore programme level and site level change across different periods to maximise QED evaluation potential.	Low	Low
Low statistical power: Due to the small numbers of sites being awarded the fund, the statistical power of the quasi-experimental methods suggested is low.	We are using a parallel QED method (synthetic weighted regression and difference in difference approach) to increase robustness of findings. There is an in-depth formative evaluation to supplement the learning and identify potential bias and contamination.	Moderate	Moderate
Contamination and Bias from other Interventions	There is an in-depth formative evaluation to supplement the learning and identify potential bias and contamination. There is potential contamination due to the Clear Hold Build Programme. A detailed discussion of this is provided in Section 12.6 – Appendix 6) including strategies for handling potential bias	Moderate	Moderate
Rare outcomes: Many of the outcomes considered (e.g., exclusions from school, youth violent crime) do not happen frequently	The outcomes have been identified using the standard YEF outcomes framework. The evaluation design is purposely set up to handle rare outcomes.	Low	Low
Programme Level Risks			
Incorrect specification of outputs/ outcomes	Cross-verification between NTU, LJMU, and BI, CRCP Partners, Learning Partner and Advisory Panel. Programme and local level specification. Local TOCs are evolving and refined in early phases of delivery	Low	Moderate

Causal pathways/ mechanisms of change incorrectly specified	Formative evaluation of short to mid-term outcomes. Ongoing evaluation of implementation and involvement	Low	Moderate
Changes to the research team	We can draw from the wider NTU/LJMU/BI governance whereby alternative staff with relevant skills can be used as a contingency. Indeed, there is some inbuilt flexibility with the role of the advisory group and supporting research centres to accommodate this.	Medium (due to length of project)	Moderate
Required data sources are not publicly available	May cause delays in assessing feasibility of data and developing evaluation plan Newton, Thompson and Quigg have '*Approved Researcher*' status with the UK Data Service (UKDS). Build on existing relationships in five local sites. Prioritise this strand once outcomes have been identified and defined.	Medium	Significant
Information & data loss	Our procedures comply with ISO/IEC 17799 for Data Security and the requirements of Hannigan report on Data Handling Procedures (2008), GDPR and the UK data protection Act (2018); NTU also have a secure crime lab and Newton, Thompson, and Quigg have '*Approved Researcher*' status with the UK Data Service (UKDS).	Low	Significant
Delivery within budget and time	The PI and Co-Is have extensive experience of project management. Internally we will use MS Teams to ensure consistent communication. We will agree quarterly meetings with the core research team and 3-6 months meetings with the advisory group. We will ensure regular progress reporting using templates and frequencies agreed with the YEF.	Low	Significant
Data is not quality assured	The NTU research data management plan ensures at the outset that we include plans for storage, transfer, and retrieval of data including appropriate backups during the live phase of the project. It also includes a data archiving policy that will meet with the explicit requirements of the YEF. We will obtain NTU ethical consent consistent with the ESRC Framework for Research Ethics.	Low	Moderate
Data/findings to be shared with YEF	We have extensive experience of working collaboratively with several partners. The co-design phase will include consideration of primary data capture for both formative and summative evaluation. This will ensure synergies and avoid duplication of effort. The Evaluation Plan to be agreed with YEF will explicitly address this issue.	Moderate	Significant

10. Timeline

A timeline for the evaluation is presented below.

	2023			2024				2025				2026				2027				2028			
Evaluation component	**Apr-June**	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**
Evaluation Plan																							
Evaluation Protocol																							
Ethics Approvals																							
Data Sharing Agreements																							
Seek PNC-NPD agreements																							
Site visits and data collection																							
Quarterly review: monitoring data/follow-up workshop/brief report																							
Qualitative data collection																							
Synthesis of findings																							
Draft annual report																							
YEF review of annual report																							
Final annual peer reviewed report																							
Site visits and data collection																							
Quarterly review: monitoring data/follow-up workshop/brief report																							
Qualitative data collection																							
Synthesis of findings																							
Draft annual report																							
YEF review of annual report																							
Final annual peer reviewed report																							
Site visits and data collection																							
Quarterly review: monitoring data/follow-up workshop/brief report																							
Qualitative data collection																							
Synthesis of findings																							
Draft annual report																							
YEF review of annual report																							
Final annual peer reviewed report																							

	2023			2024				2025				2026				2027				2028			
	Apr-June	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**	**Jan-Mar**	**Apr-June**	**July-Sept**	**Oct-Dec**
Site visits and data collection																							
Quarterly review: monitoring data/follow-up workshop/brief report																							
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Qualitative data collection																							
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Final annual peer reviewed report																							
Impact data Collection - sustainability Phase																							
Submit final report templates for approval																							
First draft of evaluation outputs																							
Final peer reviewed reports																							

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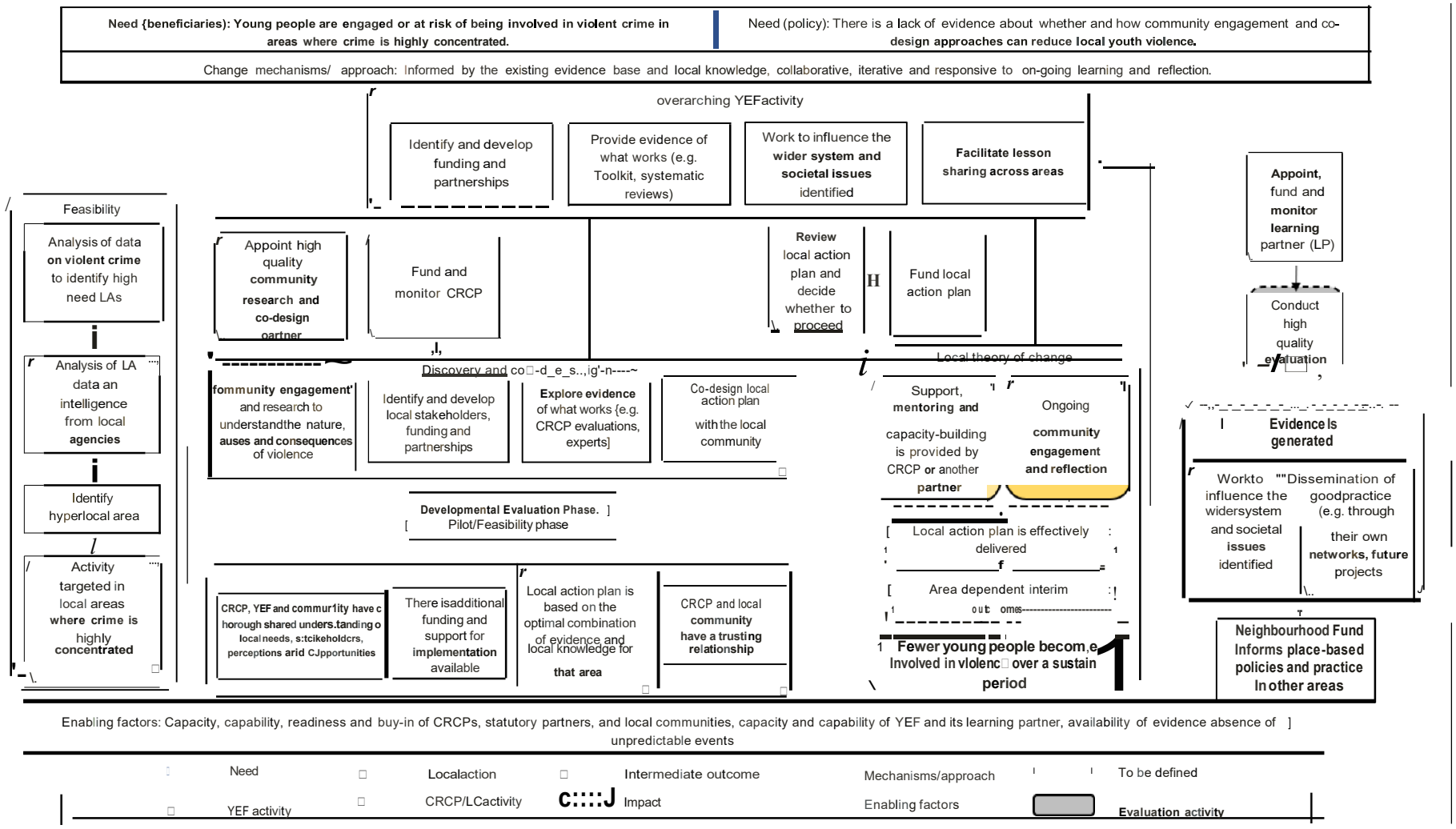
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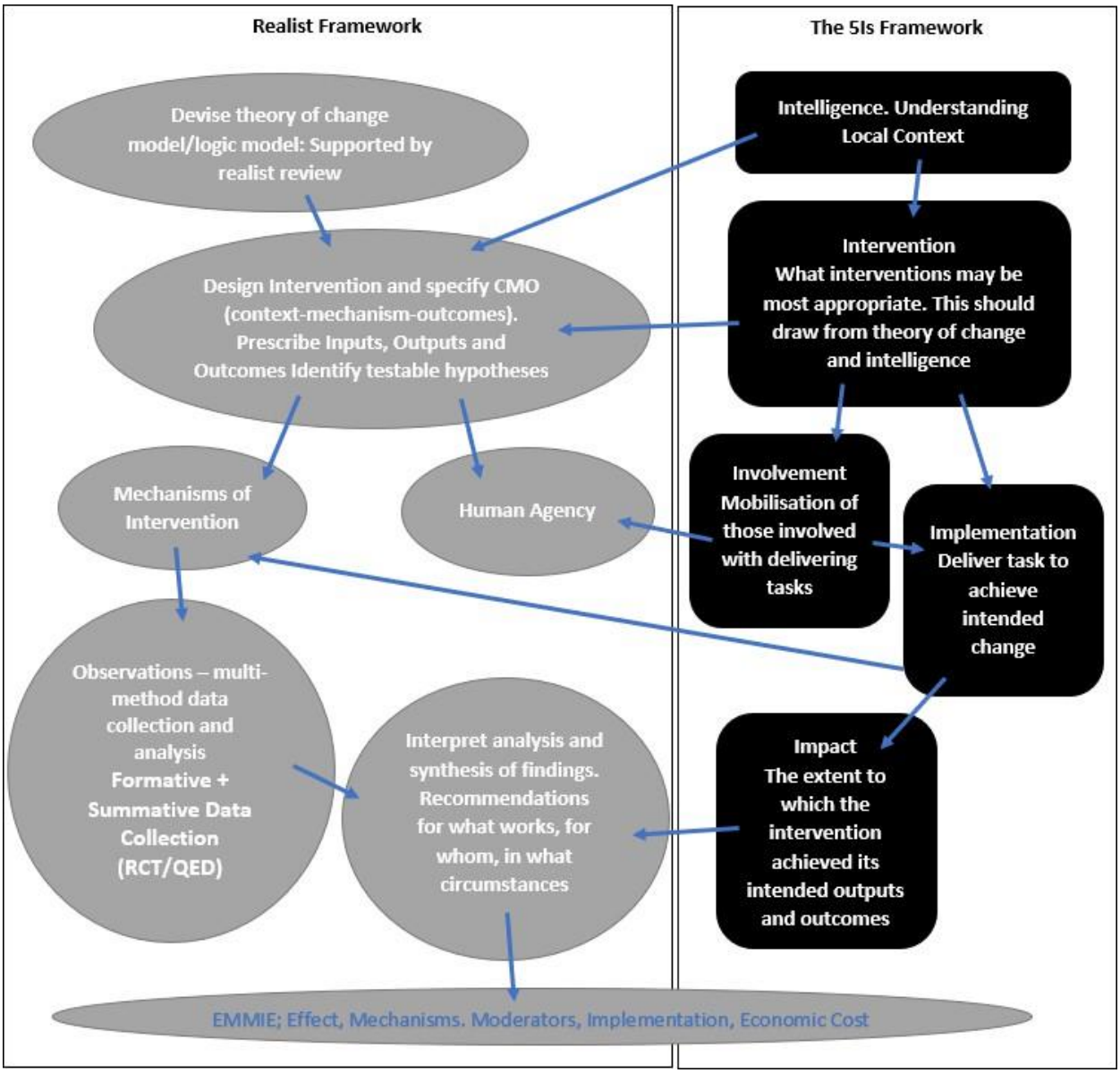
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12. Appendices

12.1. Appendix 1. Programme Level TOC



12.2. Appendix 2. Evaluation Framework



12.3. Appendix 3. Intervention and Control Areas

Intervention Areas

Site	Site description	Statistical geography proposed for an evaluation (2011 census)
Birmingham	'The whole of Lozells and the part of Newtown that borders the south and east of Lozells, from New John Street West north and to the west of New Town Row'	LSOA codes: E01008905, E01008913, E01009358, E01033628
Bradford	Bowling and Barkerend ward and BD3	LSOA codes: E01010608, E01010609, E01010610, E01010611, E01010613, E01010614, E01010730, E01010734
Cardiff	Butetown Ward and Grangetown Ward	LSOA codes: W01001764, W01001765, W01001766, W01001767, W01001768, W01001940, W01001943, W01001944, W01001945, W01001947
Manchester	Cheetham Hill (selected LSOAs)	LSOA codes: E01005145, E01005147, E01033655, E01033674, E01033675
Norfolk	Nelson Ward	LSOA codes: E01026835, E01026836, E01026837, E01026838, E01026839, E01026840

Control Areas:

Site	Shortlisted wards	Statistical geography proposed for an evaluation
Birmingham	Turves Green, Sheldon North, Smith's Wood South, Sparkbrook North, Shard End & Kingfisher, Kate's Hill	LSOA codes: E01009117, E01009210, E01009212, E01009214, E01009215, E01009302, E01009304, E01009306, E01009308, E01009310, E01009314, E01009321, E01009322, E01009323, E01009362, E01009363, E01009364, E01009365, E01009379
Bradford	Holme Wood, Keighley, Girlington, Manningham	LSOA codes: E01010612, E01010676, E01010679, E01010700, E01010701, E01010702, E01010703, E01010704, E01010705, E01010710, E01010803, E01010810, E01010811, E01010813, E01010819, E01010820, E01010821, E01010822, E01010824, E01010840, E01010841
Cardiff	Ely, Splott	LSOA codes: W01001737, W01001738, W01001739, W01001740, W01001741, W01001742, W01001743, W01001744, W01001745, W01001746, W01001869, W01001870, W01001871, W01001872,

		W01001873, W01001874, W01001875, W01001876
Manchester	Harpurhey, Ardwick, Longsight	LSOA codes: E01005061, E01005062, E01005063, E01005065, E01005066, E01005067, E01005140, E01005195, E01005196, E01005198, E01005202, E01005203, E01005205, E01005206, E01005207, E01005209, E01005224, E01005227, E01005232, E01005233, E01005234, E01005235, E01005236, E01005237, E01005238, E01005239, E01033652, E01033657, E01033678, E01033679
Norfolk	Central and Northgate, Mancroft, North Lynn, St Margaret's with St Nicholas, Mile Cross, Wensum - LSOAs in Norwich only	LSOA codes: E01026822, E01026823, E01026824, E01026825, E01026826, E01026827, E01026828, E01026829, E01026830, E01026831, E01026832, E01026833, E01026834, E01026863, E01026864, E01026865, E01026866, E01026867, E01026868, E01026869

Schools with exclusions data matched to sites

Site	Statistical geography (2011 census)	Secondary schools	Primary schools
Birmingham	LSOA codes: E01008905, E01008913, E01009358, E01033628	Bronte Girls' Academy Bradford Forster Academy	Rainbow Primary Leadership Academy Lower Fields Primary Academy Fearnville Primary School
Bradford	LSOA codes: E01010608, E01010609, E01010610, E01010611, E01010613, E01010614, E01010730, E01010734	Holte Secondary School Nishkam High School	Anglesey Primary School Chilwell Croft Academy
Cardiff	LSOA codes: W01001764, W01001765, W01001766, W01001767, W01001768, W01001940, W01001943, W01001944, W01001945, W01001947	Fitzalan High School Cardiff Steiner School	Grangetown, Kitchener, Lansdowne, Mount Stuart, Ninian Park, Severn, Radnor, St Mary the Virgin CIW and St Pauls CIW.
Manchester	LSOA codes: E01005145, E01005147, E01033655, E01033674, E01033675		Cheetwood Primary School St Chad's Roman Catholic Primary School, a Voluntary Academy Unity Community Primary Marlborough Road Academy
Norfolk	LSOA codes: E01026835, E01026836, E01026837, E01026838, E01026839, E01026840	-	Avenue Junior School Recreation Road Infant School

12.4. Appendix 4: Estimating weights for the synthetic control

To find weights for this latter approach, quadratic programming is used to find a solution to the following:

$$\text{Minimise } W \text{ in: } (X^M\top W - T^M)\top(X^M\top W - T^M)$$

$$\text{Subject to: } (X^E)\top W = T^E,$$

$$\text{and } W \geq 0$$

Where:

(i) W is the transposed matrix of weights $(w, \ldots, w_{J_0})\top$, for J_0 untreated units; the latter is a subset of J which is the set of all units (treated and untreated), indexed with j such that the first J_0 are untreated and the final $J - J_0$ are treated

(ii) X is the transposed matrix of variables $(x_1, \ldots, x_{J_0})\top$ defining the three constraints above for J_0 untreated units (i.e. the first weight sum constraint and any matching variables)

(iii) T (not to be confused with $\top$, the transpose operator) is a vector which contains the target totals of the three constraints for the *treatment group* (specifically, it contains the elements of t_x, such that $t_x = \sum_{j=J_0+1}^{J} x_j$)

(iv) X^M is the matrix which contains the matching variables from X that are subject to 'minimisation,' rather than exact matching (i.e. all the matching variables in the current design)

(v) T^M is a vector which contains the target totals of constraints for the *treatment group* from T that are subject to 'minimisation,' rather than exact matching (i.e. all the matching variables in the current design)

(vi) X^E and T^E are analogues of X^M and T^M that correspond to constraints that are to be exactly satisfied (i.e. only the first weight sum constraint in the current design)

Treatment effect estimation

To obtain an estimate of the treatment effect (θ), the cumulative outcome value across all post-intervention time periods and all treated units is calculated, and subtracted from the corresponding value for the synthetic control:

$$\theta = \sum_{t=T_0+1}^{T} \left(\sum_{j=J_0+1}^{J} Y_{tj} - \sum_{j=1}^{J0} w_j Y_{tj}\right)$$

Where:

- T is the set of all time periods, indexed with t, such that the first T_0 are pre-intervention and the final $T - T_0$ are post-intervention
- J is the set of all units (treated and untreated), indexed with j such that the first J_0 are untreated and the final $J - J_0$ are treated
- Y_{tj} is the outcome at time t for unit j
- w_j is the estimated weight for unit j

Statistical inference

Non-parametric permutation testing can be used to conduct statistical inference on the statistic (θ) obtained in the Treatment effect estimation section (above). First, a null distribution of placebo treatment effects is created by repeatedly:

- Selecting randomly (without replacement) and assigning a number of treated or non-treated LSOAs from the total pool of LSOAs to a placebo treatment group (the same size as the actual treated group)
- Constructing a synthetic control using the weight estimation procedure described previously.
- Estimating a placebo treatment effect for each such 'permuted' group

A p-value for the observed treatment effect is obtained by calculating the proportion of placebo treatment effects that exceed the magnitude of the observed treatment effect. For two-sided tests:

$$p = 2min\left\{\frac{\#k : \theta^k < \theta}{K}, \frac{\#k : \theta^k > \theta}{K}\right\}$$

Where θ is the observed treatment effect, and θ^k is the placebo treatment effect for permutation k.

Method for power calculations

We estimated statistical power for the primary outcome. We used data from the pre-intervention period defined previously to construct a synthetic control using matching variables defined previously to generate a distribution of placebo treatment effects in line with the permutation approach described in the statistical inference section above (i.e., this placebo distribution is the same distribution used for statistical inference). We rely on the following approximation to obtain the minimum detectable effect size (MDES),δ in the context of the GLM framework (Armitage et al, 2001)

$$\delta > \Phi(1 - \alpha/2) - \Phi(1 - \beta)$$

Where:

- Φ is the quantile function of the placebo average treatment effect distribution for the four post-intervention quarters?
- α is the significance threshold (e.g. assuming a 5% significance level, $\alpha = 0.05$)
- β is the desired power (e.g. assuming 80% power, $\beta = 0.8$)
- δ is the MDES on the same scale as the coefficient of interest (e.g. treatment effect), which is also the same scale as the placebo distribution.

In other words, the MDES corresponds to the difference between the 97.5th and 20th percentiles of the placebo treatment effect distribution (which corresponds to a 5% significance level and 80% power).

Difference-in-difference specifications

The power calculation can be replicated by following the approach adopted, using the 'rule of 2.8' (DiMaggio, ND) to calculate the MDES. Specifically, we simulate a dataset under the assumptions above

500 times, imposing a 'true' treatment effect of zero. The MDES is calculated as the average of (2.8 * the standard error from the regression we plan to run in the actual analysis) over all 500 simulations.

This difference-in difference methodology proposes logit/logistic regression and assumes that the response is conditionally Bernoulli distributed.

Primary analysis: Breaking the law or offending behaviour (individual-level analysis)

We propose running the following logistic model:

$$y_{it} \sim bernoulli(p_{it});\ logit(p_{it}) = \alpha + \beta_1 treat_i + \beta_2 year_t + \beta_{DiD}(treat_i * post_t) + \gamma X_{it}'$$

Here:

(i) y_{it} is the outcome for pupil i in year t. This is a binary outcome coded as '1' if the person is convicted of an offence in year t, and '0' otherwise.

(ii) $treat_i$ is a binary indicator that equals '1' if pupil i reside in LSOAs that contains a site and '0' otherwise

(iii) $year_t$ is a factor variable representing the year of the observation

(iv) $post_t$ is a binary indicator for period t being after the intervention is implemented (i.e. when t > 2021)

(v) X_{it} is a set of covariates, including pupil *i*'s residence at the local authority level (five categories), sex, ethnicity, FSM status, and age (in years)

β_{DiD} is the coefficient of interest. We propose clustering standard errors at the LSOA level.

Secondary analysis: Attainment

We propose running the following logistic model:

$$y_{it} \sim bernoulli(p_{it});\ logit(p_{it}) = \alpha + \beta_1 treat_i + \beta_2 year_t + \beta_{DiD}(treat_i * post_t) + \gamma X_{it}'$$

Here:

(vi) y_{it} is a binary dummy for whether pupil i passes English GCSE with a standard 9-4 pass in (academic) year t

(vii) $treat_i$ is a binary indicator that equals '1' if pupil i reside in LSOAs that contains a site and '0' otherwise

(viii) $year_t$ is a factor variable representing the year of the observation

(ix) $post_t$ is a binary indicator for period t being after the intervention is implemented (i.e. when t > 2021)

(x) X_{it} is a set of covariates, including pupil *i*'s residence at the local authority level (5 categories), sex, ethnicity, FSM status, and age (in years)

β_{DiD} is the coefficient of interest. We propose clustering standard errors at the LSOA level.

Secondary analysis: Being in EET

We propose running the following logistic model:

$$y_{it} \sim bernoulli(p_{it});\ logit(p_{it}) = \alpha + \beta_1 treat_i + \beta_2 year_t + \beta_{DiD}(treat_i * post_t) + \gamma X_{it}'$$

Here:

(xi) y_{it} is a binary variable indicating whether the latest recorded activity for pupil i in year t is EET:

a. We propose defining being in EET as the following activities (DFE, 2021, p36): Registered at a school / other educational establishment in the area, Educated at home, FTE - school sixth-form, FTE - sixth-form college, FTE - further education, FTE - higher education, Part-time education, Gap year students, FTE - other, Special post-16 institution, FTE - custodial institution (juvenile offender), Apprenticeship, Full-time employment with study (regulated qualification), Employment without training, Employment with training (other), Temporary employment, Part-time employment, Self-employment, Self-employment with study (regulated qualification), Work not for reward combined with study (regulated qualification), ESFA funded work-based learning, Other training, DWP training and support programme, Traineeship, Supported Internship, Reengagement provision.

(xii) $treat_i$ is a binary indicator that equals '1' if pupil i resides in LSOAs that contains a site and '0' otherwise

(xiii) $year_t$ is a factor variable representing the year of the observation

(xiv) $post_t$ is a binary indicator for period t being after the intervention is implemented (i.e. when t >= April 2023 (i.e. the month the NF was awarded))

(xv) X_{it} is a set of covariates, including pupil *i*'s residence at the local authority level (5 categories), sex, ethnicity, FSM status, and age (in years)

β_{DiD} is the coefficient of interest. We propose clustering standard errors at the LSOA level.

Exploratory analysis: Attendance

We propose running the following pooled OLS model:

$$y_{it} = \alpha + \beta_1 treat_i + \beta_2 term_t + \beta_{DiD}(treat_i * post_t) + \gamma X_{it}{}' + \varepsilon_{it}$$

Here:

(xvi) y_{it} is the proportion of available half day sessions which were attended in term *t* for pupil *i*. For example, if pupil *i* has 250 available sessions in term *t* and attends 225 of them, then this outcome is defined as 225/250 = 0.9.

(xvii) $treat_i$ is a binary indicator that equals '1' if pupil i resides in LSOAs that contains a site and '0' otherwise

(xviii) $term_t$ is a factor variable representing the year-term of the observation (e.g., summer term for academic year 2023/24)

(xix) $post_t$ is a binary indicator for period t being after the intervention is implemented

(xx) X_{it} is a set of covariates, including pupil *i*'s residence at the local authority level (5 categories), sex, ethnicity, FSM status, and age (in years)

β_{DiD} is the coefficient of interest. We propose clustering standard errors at the LSOA level.

Exploratory analysis: Exclusions

We propose running the following logistic model:

$$y_{it} \sim bernoulli(p_{it});\ logit(p_{it}) = \alpha + \beta_1 treat_i + \beta_2 year_t + \beta_{DiD}(treat_i * post_t) + \gamma X_{it}{}'$$

Here:

(xxi) y_{it} is a binary variable indicating whether pupil *i* had an exclusion in (academic) year *t*

(xxii) $treat_i$ is a binary indicator that equals '1' if pupil i resides in LSOAs that contains a site and '0' otherwise

(xxiii) $year_t$ is a factor variable representing the year of the observation

(xxiv) $post_t$ is a binary indicator for period t being after the intervention is implemented (i.e. when *t* >= April 2023 (i.e. the month the NF was awarded))

(xxv) X_{it} is a set of covariates, including pupil *i*'s residence at the local authority level (5 categories), sex, ethnicity, FSM status, and age (in years)

Exploratory analysis: Breaking the law or offending behaviour, by site (individual-level analysis)

For each site, we propose running the same model as the primary analysis, except we propose dropping the covariate for residence at local authority level to avoid multicollinearity.

Exploratory analysis: Breaking the law or offending behaviour, by offence group

We propose running the same model as the primary analysis but change the outcome to be a binary indicator for 'being convicted of an offence' from that specific offence group.

12.5. Appendix 5: Power simulations

This section of the protocol summarises the results of a simulation-based power analysis conducted to assess the ability of the synthetic control method to detect varying effect sizes in post-treatment outcomes. The analysis was conducted using the microsynth package in R, with 1000 simulations used to create post treatment periods. This was used to calculate permutation-based power analysis which were run across a range of effect sizes and confidence intervals, calculated for each estimate.

Methods

Crime data was captured for a three-year baseline period from April 2021 to March 2024 for each of the five relevant police forces (Greater Manchester, Norfolk, South Wales, the West Midlands, and West Yorkshire). This three-year period was identified as the most appropriate 'before' period for the five sites for the Neighbourhood Fund. Note for Greater Manchester only this used the period April 2016 to March 2019 as public data is not currently available beyond July 2019. Data will be captured directly from each force for full evaluation. The category 'Violence and sexual offences' was used as this is publicly available – although more specific crime categories will be used in the full analysis (see main body of protocol). Data was aggregated to LSOA, and we used the same LSOAs as identified in Section 12.3 (Appendix 2). The same co-variates were also extracted (see Table 5 in the Protocol). Quarterly periods were used across the three years for the baseline period (1:12).

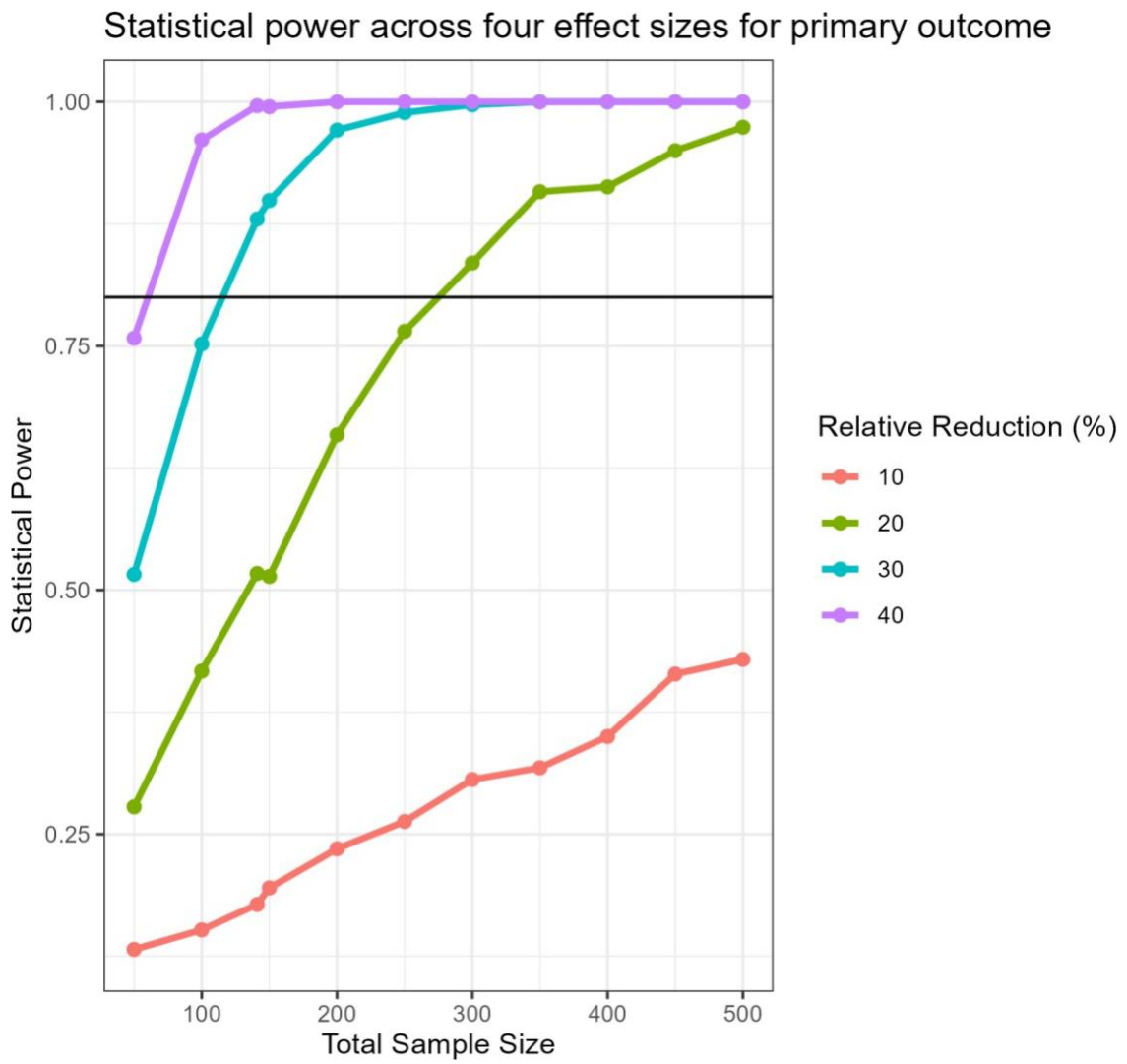
The power analysis was conducted using synthetic post-treatment data generated from baseline observations. This used a Parametric Monte Carlo Using Negative Binomial Regression (NBR) simulation of the baseline data, as this was over-dispersed (Mean =31.35, Variance=621.9), right skewed, and not zero inflated. The AIC for NBR (14,823) was a better fit than Poisson (26,831,). 1000 iterations were run to model the predicted or expected crime count for each LSOA in the intervention period (13:16).

The baseline data and the simulated intervention data were then analysed using the microsynth package in 'R.' A permutation-based power analysis was performed which implements synthetic control methods for evaluating treatment effects of the data. It compares outcomes between treated and control groups using synthetic matching on selected covariates. For each simulation, it calculates the Average Treatment Effect on the Treated (ATT), raw differences in outcomes, and several p-values from different statistical tests. By aggregating these results, researchers can estimate the distribution of treatment effects under the null hypothesis and assess the statistical power of their design—i.e., how likely it is to detect a true effect if one exists. This approach helps determine the minimum detectable effect size and evaluate the robustness of findings before applying the method to real intervention data. To ensure random assignment during simulation, the treatment group areas were also assigned at random, despite knowing which treatment areas will receive the NF intervention. This ensures that power estimates are not biased by any specific configuration of treated units and enables analysis over many possible random samples, essential for generalising power estimates. Using known treated units in every simulation would underestimate the variability in treatment assignment and could lead to overfitting the power estimates to a specific configuration.

Results

The simulations were conducted across varying sample sizes (50 to 500, including 141) and effect sizes (10% to 40%). Each condition was simulated with 1,000 iterations, and power was calculated as the proportion of simulations where the treatment effect was statistically significant ($p < 0.05$). These results are demonstrated in the power curve in below.

Power Curve Plot for the combined five sites.



Minimum Detectable Effect Size (MDES)

The MDES table below shows the smallest effect size (as a percentage reduction in crime count) that achieved at least 80% power for each sample size. These values indicate the sensitivity of the model to detect treatment effects at different sample sizes.

Sample Size	Minimum Detectable Effect Size (%)
100	30.0
141	30.0
150	30.0
200	30.0
250	30.0
300	20.0
350	20.0
400	20.0
450	20.0
500	20.0

The table below summarizes the statistical power achieved for each combination of sample size and effect size.

Sample Size	10% Effect	20% Effect	30% Effect	40% Effect
50	12.5%	27.1%	49.7%	76.0%
100	13.8%	40.5%	80.4%	96.3%
141	17.4%	51.1%	**89.6%**	**99.5%**
150	18.1%	56.4%	90.6%	99.6%
200	23.7%	65.5%	95.2%	99.9%
250	27.1%	76.0%	98.6%	100.0%
300	29.3%	**84.3%**	99.5%	100.0%
350	30.9%	88.2%	99.9%	100.0%
400	37.7%	92.7%	100.0%	100.0%
450	40.3%	95.9%	100.0%	100.0%
500	44.5%	97.0%	100.0%	100.0%

As expected, power increases with both sample size and effect size. When comparing the expected sample size of 141 (treatment and control units identified in Section 12.3 (Appendix 3), power was approximately 17% for a 10% effect, 51% for a 20% effect, 90% for a 30% effect, and 99.5% for a 40% effect.

Summary:

The simulation results demonstrate that the model is well-powered to detect large treatment effects (30–40%) at moderate sample sizes (≥141). Detecting smaller effects (10–20%) requires larger sample sizes (≥300) to achieve acceptable power levels. Therefore, it may be necessary to increase the number of control areas from the user pool to increase the sample size. This will be revisited for the Year 3 evaluation report and the protocol will be updated accordingly.

12.6. Appendix 6: Clear Hold Build National Programme

Clear, Hold, Build (CHB) is a national roll out (from October 2024), although it is pertinent to highlight Bradford was an early pilot site for this (2020). In early 2023 national rollout of CHB was announced.

This is described (Home Office, 2025) as a:

> "*Three phase operational framework designed by the Home Office to reduce serious and organised crime (SOC) threats and crime levels in high-harm local areas and tackle the drivers of crime to prevent this harm returning. It relies on effective neighbourhood policing and partnership working, providing a model to coordinate and connect existing capabilities from across police, statutory and non-statutory agencies as part of a whole-system approach.*
>
> ***Clear** removes the immediate SOC threats through co-ordinated enforcement work by police and partners to target and disrupt organised crime groups (OCGs) and their spheres of influence through arrests and disruption activity*
>
> ***Hold** involves interventions and further disruption activities to consolidate and stabilise the Clear phase, so that remaining OCGs cannot fill the void created*
>
> ***Build** involves delivering a whole-system approach through interventions that tackle the drivers of crime and reduce the risk of SOC re-emerging in the future*"

The research team will conduct further investigations with each local police force and the Home Office specially to establish. Those considered most critical to preserve SCM validity are marked with *

- the size and scope of CHB in the 5 police force areas (West Yorkshire/Greater Manchester/Norfolk/South Wales/West Midlands?*
- the timeframes of the interventions and where have they been carried out*
- the age groups were targeted as part of SOC identification (and specifically if any <25)*
- how many young people (<25) did this impact on/were arrested*
- the inputs/outputs/outcomes of the CHB at each site
- the theory of change (TOC) for CHB in each of the five sites - what are the potential synergies, alignments, conflicts with the NF TOCs.

The key concerns of this are that this is a substantial roll out that may impact on the synthetic control method (SCM).

Synthetic control methods rely on the assumption that the treatment/control units are unaffected by other interventions. Contamination violates this assumption, undermining the validity of the synthetic control approach. This can result in unreliable estimates and reduced credibility of the findings.

- **Potential Bias 1) Treatment Area Contamination**: One or more of the five hyper neighbourhoods are exposed to additional areas-based youth crime interventions other than the Neighbourhood Fund. This may result in **overestimation** of the NF's impact if CHB contributes positively to outcomes and is not accounted for. However, the direction of bias is **ambiguous**, as CHB could also interfere with NF delivery or produce synergistic effects. Further investigation is needed to understand how CHB interacts with NF in these areas. ***Cardiff has been identified as particularly at risk of this.***
- **Potential Bias 2) Control Area Contamination**. In one or more police force areas, the control areas used for synthetic weighting are exposed to other area-based youth crime interventions, including

CHB. This contamination is likely to **dilute or underestimate** the treatment effect, as improvements in control areas reduce the contrast with NF-treated areas, undermining the validity of the synthetic counterfactual.

Strategies for handling potential bias

The strategy below identifies a primary analytical approach and a hierarchy of alternatives.

Primary Analytic Approach

The primary analytic approach combines Synthetic Control Methods (SCM) with Difference-in-Differences (DID), offering a robust framework for estimating the impact of the Neighbourhood Fund (NF) in the presence of potential contamination from other interventions such as CHB. SCM provides a strong counterfactual for treated hyper locations, while DID helps adjust for contamination and time-varying confounders. This hybrid strategy was planned from the outset of the evaluation design, recognising the likelihood of bias over the five-year period and aligning with the simulation framework already in use.

Hierarchy of Alternative Analytic Strategies

The table below offers a hierarchy of alternative approaches. It should also be considered alongside the decision rules found below the table.

Tier	Method	Use Case	Pros	Cons
1	SCM + DID (Primary)	Clean or minimally contaminated data	Strong causal inference; handles time trends	Sensitive to contamination
2	Exclusion of Contaminated Units	Identified CHB overlap in control areas	Preserves SCM assumptions	Reduces donor pool; may affect power
3	Staggered SCM	CHB implemented at separate times	Aligns treatment timing; isolates NF effect	Requires precise CHB timing data
4	Alternative Matching Methods (e.g., CEM, PSM)	Poor SCM fit or high contamination	Improves covariate balance; flexible	Less transparent than SCM; may reduce interpretability
5	Bayesian Hierarchical Models	High contamination or uncertainty	Models spatial/temporal heterogeneity; incorporates prior knowledge	Computationally intensive; requires careful specification
6	Bayesian SCM	Uncertain control validity	Probabilistic counterfactuals; flexible	Complex; less familiar to stakeholders

Decision Rule for Selecting Analytic Strategy

1) Assess contamination risk:

- If minimal contamination in treatment and control areas → use SCM + DID.
- If control contamination is confirmed → exclude contaminated controls or use Bayesian SCM.
- If treatment contamination is confirmed → consider Bayesian hierarchical models or staggered SCM.

2) Evaluate data availability:

- If precise CHB timing and location data are available → staggered SCM is viable.
- If data are incomplete or uncertain → Bayesian approaches preferred.

3 Check power and donor pool size:

- If exclusion reduces donor pool below acceptable threshold → switch to alternative matching methods.

4) Run sensitivity analyses:

- Compare SCM, CEM, and Bayesian estimates.
- Use placebo tests and jackknife diagnostics to assess robustness.

Further consideration of each of these are presented below.

Exclusion of Contaminated Units

Identify and exclude control units that are likely to be contaminated. This can be done through careful examination of the data and the context of the study to identify units that may have been affected by the treatment identified. These will be obtained through further investigations with each local police force and the Home Office alongside data captured during the process evaluation. This could be possible for control units but not for hyper locations themselves. We will establish how many LSOAs would be excluded from the donor pool sites and the impact of this on confidence intervals when capturing crime data from each police force. Given the power calculations in Appendix 5 our SCS at this state (using simulation modelling) is robust.

Using a Staggered SCM

Dependent on the time periods of the CHB, it may be possible to use a staggered approach to identify units with different treatment start and end times, and to align these relative to the treatment, and potentially exclude CHB periods (as per excluding control areas that may be contaminated). This would require CHD to be over a short-defined window. Aligns units by treatment timing – this is already necessary due to different timeframes of the NF) from 1-3 years and with slightly different M1 times).

Multiple Matching Methods and Sensitivity

Exploring alternative matching techniques (as opposed to synthetic controls). For example, Propensity Score Matching (PSM), Coarsened Exact Matching (CEM), Genetic Matching, Mahalanobis Distance Matching, Nearest Neighbour Matching - These filters out poor matches, improves covariate balance, and reduces contamination risk. It is evident from the power calculations that the SCM will be sensitive to the covariates used thus we will explore multiple options here to identify the most robust matched for synthetic weights. For example, one approach would be to run CEM and SC weights separately to compare their estimated impact. The microsynth model includes a range of sensitivity analyses include Jackknife analysis and Placebo Tests which we will use to evaluate the robustness of the results and any hidden biases.

Bayesian Methods

Incorporating Bayesian methods may help account for uncertainty and contamination. Bayesian approaches can provide a probabilistic framework for dealing with contamination and adjusting the

model accordingly. Should there be a considerable risk of bias identified we will explore a range of methods. These include Bayesian hierarchical models which allow treatment effects to vary across areas and time, capturing spatial and temporal heterogeneity in contamination. By nesting effects within locations and including NF and CHB as covariates or interactions, they estimate area-specific impacts while accounting for uncertainty and partial contamination. An alternative may be Bayesian synthetic control methods treat the weights used to construct counterfactuals as random variables, enabling posterior inference on treatment effects. They incorporate prior beliefs and uncertainty about contamination, offering a flexible alternative to traditional SCM when assumptions about clean controls may be violated.

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