Review of the Metropolitan Police Service Gangs Violence Matrix – Second Annual Review

October 2022

MOPAC Evidence and Insight

MAYOR OF LONDON

OFFICE FOR POLICING AND CRIME

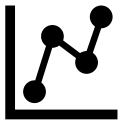
A Review of the MPS Gangs Violence Matrix – Second Annual Review

Executive summary

About the Gangs Violence Matrix Second Annual Review

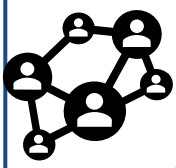
The Metropolitan Police Service (MPS) Gangs Violence Matrix (GVM) is a tool used to identify and risk-assess the most harmful gang members in a Borough. The Mayor of London, Sadiq Khan, made a commitment in his 2016 manifesto and his Police and Crime Plan 2017-21 to conduct a review of the GVM. This review was published in December 2018 and was the largest and most comprehensive exploration ever conducted into the Matrix. One of the recommendations was the need to systematically capture key elements of the Matrix process and report annually on outputs in terms of the Matrix population. MOPAC's Evidence & Insight team produced the first 'one-year update' document published in 2021. This report present findings from the second annual review. The analysis in this paper uses Matrix data and crime data up to December 2021.

Key Findings: Violence in London and Londoners perceptions



- Police recorded crime data shows that violent crime increased over 2021 and has exceeded pre-coronavirus pandemic levels (largely driven by an increase in violence without injury). Gang-flagged violence accounts for a relatively small proportion of overall levels of violent crime in London, but it represents a significant percentage of the most serious offences (e.g., 81% of all shootings).
- Results from MOPAC's Public Attitude Survey (PAS) show 59% of adult Londoners felt gangs were a problem in their local area during 2021. Less than half of adult Londoners believed the Metropolitan Police Service tackles gang crime effectively (47%, n=2,040).
- Londoners living in the most deprived areas of the capital were far more likely to feel gangs were a problem in their local area (70%) than those living in the least deprived areas (43%).
- Around one in five Londoners said they had previously heard about the Matrix (19%). While 67% felt confident the Matrix was used fairly, large inequalities by ethnicity emerged. Black (49%) and Mixed (54%) Ethnic Backgrounds were least likely to feel confident the tool was used fairly – compared with 73% of White Londoners.
- A quarter of young people surveyed within MOPAC's Youth Survey 2021-22 (11,874 responses aged 11-16) believed 'people joining gangs' was a big problem in their local area (25%), with higher concerns seen here amongst those from a Black Ethnic Background (32%, compared with 21% of White).
- One in ten young Londoners said they knew someone who was in a gang (10%). Exposure to gangs increased with age and Black (15%) and Mixed (14%) Ethnic Backgrounds were more likely to say they knew someone in a gang than those from White (10%) or Asian (6%) ethnic backgrounds.

Key Findings: GVM Population



- The 2021 GVM population has halved (-49% decrease) from the peak in August 2017. The December 2021 population of 1,933 represents the smallest GVM population to date. However, within this are a small number of boroughs that have seen increases in their Matrix population over recent years.
- Despite the reduction in the Matrix population the proportion of individuals with Green RAG status has remained unchanged, with almost two thirds of the population being Green harm banded (65%).

- There has been a gradual shift in the age profile of the GVM with the proportion of those under 18 and under 25 decreasing (i.e., a 6 pp. reduction in the number of under-18s on the GVM since 2018).
- Historically, compared to the estimated population of London, the GVM has been comprised disproportionately of Black African-Caribbean males. When examining the most recent two years, the proportion of the Matrix that were Black African-Caribbean has not changed (accounting for 80% of the cohort).
- Although there have been some changes in the ethnicity of those added to the Matrix (slightly less disproportionate), this has not been enough to make any noticeable impact on overall population. The proportion of new additions that were Black African Caribbean has reduced from 83% in 2019 to 73% in 2021.

Key Findings: Disproportionality

- There remains an over representation of young Black males on the overall GVM population as compared to both police recorded offending and victimisation cohorts.
- Generally, disproportionality lessens when looking at more serious violent offending, with the cohort for personal robbery being closest to the cohort on the Matrix that are from Black and/or other Minority Ethnic communities, but this does not explain away all the disproportionality.

- Looking at 'Threat to Life' data, across both suspects and victims approximately 74% were Black males. This aligns more closely to the proportion of the Matrix that is Black (80%) – so may be a useful addition exploring disproportionality. However, the small number of Threat to Life data and the over emphasis on certain boroughs make firm conclusions difficult.
- Modelling indicates the strongest variables predicting inclusion onto the Matrix focus on the offending history of the individual – be it robbery, group offending, repeat offending and higher harm offending as measured by the Cambridge Harm Index. Age and Sex are also key. Ethnicity is also a significant variable but has a lesser role.
- This disproportionality of the Matrix cohort (as compared to the local population) is most stark in the more affluent boroughs.

Conclusion

The report completes the second annual review of the MPS Gangs Violence Matrix – focussing upon the population of 2021. As a whole, there is a clear decrease in the overall numbers on the Matrix and these individuals are less likely to be young. Demographically there has been little change, the majority on the tool remain male and Black African-Caribbean - although there are signs that new Matrix additions are less disproportionate and more in line with the violent offending cohort.

Understanding the drivers of this disproportionality is a difficult and complicated task and the paper seeks to advance our understanding by looking at new data such as 'threats to life', Social Economic factors as well as statistical modelling to determine the main individual factors predicting inclusion onto the Matrix. This analysis demonstrates disproportionality (as compared to the local population) is most stark in affluent boroughs and that offending history is the strongest predictor for inclusion (along with Sex and age), but ethnicity cannot be ruled out.

Review of the Metropolitan Police Service Gangs Violence Matrix – Second Annual Review

Introduction

The Metropolitan Police Service (MPS) Gangs Violence Matrix (GVM) was developed in the aftermath of the 2011 London riots and is a tool used to identify and risk-assess the most harmful gang members in a Borough. From inception, the GVM has been controversial and a number of in-depth reviews have been conducted focusing on issues such as disproportionality and data protection. These include the ICO Penalty Enforcement Action (October 2017 to November 2018), Amnesty review (mid 2017 to May 2018) and the Mayoral review which took place Autumn 2017 to December 2018).

The Mayor of London, Sadiq Khan, made a commitment to Londoners in his 2016 manifesto and his Police and Crime Plan 2017-21 to conduct a review of the GVM. This review was published in December 2018 and was the largest and most comprehensive exploration ever conducted into the Matrix – exploring themes of impact, partnership views and disproportionality. The Review set out nine recommendations to be completed by the 31st December 2019. Established within these recommendations was the need to systematically capture key elements of the Matrix process and report annually on outputs in terms of the Matrix population. Further to the recommendation above, MOPAC's Evidence & Insight team produced the first 'one-year update' document examining data up to October 2019. Delayed due to COVID-19, this report was published in Feb 2021.

This report present findings from the second annual review. The analysis in this paper uses Matrix data and crime data up to December 2021. The report first examines recent trends in violence, followed by detailed analysis of the Matrix population and a comparison with the wider London gang and violent offending profiles. This report also includes a more detailed analysis of the levels of disproportionally observed on the Matrix and an exploration of the key predictors for inclusion on the GVM.

The analysis does not intend to replicate the original comprehensive analysis exploring impact and process presented in the landmark Mayoral Review of the Matrix. The focus of this paper is to explore the population on the Matrix, with an emphasis on how the Matrix population has changed - if at all - in terms of size, demographics (disproportionalities) and harm in the period since the Mayoral Review was conducted.

The Backdrop of Violence in London

Patterns of crime over the last two years have been substantially affected by the coronavirus (COVID-19) pandemic and government restrictions. Since restrictions were lifted following the third national lockdown in early 2021, police recorded crime data shows that violent crime has increased and has exceeded pre-coronavirus pandemic levels (with violence against the person offences recording an increase of +5% as compared to the pre-coronavirus year ending 2019). The increase in violence against the person is largely driven by an increase in violence without injury (+12% as compared to 2019), whereas weapon-enabled crime has shown a consistent reduction over the last three years (with knife enabled crime 32% lower). Despite an increase over 2021, violence with injury is still below pre-coronavirus levels (-7% as compared to 2019).

For a deeper exploration of the most recent MPS violence statistics – see **Table 1** below. Positively, there would appear to be signs that this violence had begun to stabilise in London, even prior to COVID-19 restrictions. Yet, since the loosening of restrictions certain crimes, particularly Youth Homicide and Violence have increased, whereas weapon enabled violence continues to decrease.

Table 1: Metropolitan Police Service recorded crime statistics comparing 2019, 2020 and 2021[1]

		2019	2020	2021	% change 2019 v 2021	% change 2020 v 2021
Violence Against Person	Violence Against the Person	222,114	220,607	233,965	5.3%	6.1%
	Violence with Injury	77,491	69,308	71,802	-7.3%	3.6%
	Homicide	152	131	133	-12.5%	1.5%
	Youth Homicide	32	27	33	3.1%	22.2%
	Serious Youth Violence	8,568	6,431	5,630	-34.3%	-12.5%
	Non Domestic Abuse VWI	53,743	45,433	49,074	-8.7%	8.0%
	Violence without Injury	144,471	151,168	162,030	12.2%	7.2%
Weapons	Possession of Weapons	7,359	6,851	5,737	-22.0%	-16.3%
	Knife Crime Offences	15,599	11,852	10,623	-31.9%	-10.4%
	Knife Crime With Injury	3,987	3,202	3,185	-20.1%	-0.5%
	Knife Crime Injury Victims under 25 (non DA)	1,661	1,208	1,207	-27.3%	-0.1%
	Knife Crime with Injury Pers Robb Offs	553	452	367	-33.6%	-18.8%
	Knife Possession	5,278	4,892	4,200	-20.4%	-14.1%
	Gun Crime Offences	2,101	1,719	1,358	-35.4%	-21.0%
	Gun Crime Lethal Discharge	270	307	211	-21.9%	-31.3%
	Gun Crime Personal Robbery	479	328	254	-47.0%	-22.6%

In addition to recorded crime in London, it is important to understand what proportion of certain offences are believed to be related to gangs. Caution should be taken when assessing gang related activity through police indices, as there is potentially an underrepresentation of the true prevalence in this area given the nature of gang definitions, quality of data recording

[1] Please note that crime data was extracted July 2022. Police recorded crime is liable to change due to a number of factors; for example, transfer to another force or reclassification.

and flagging and so on. None the less, examining the MPS data indicates that Gang-flagged violence represents a significant percentage of the most serious and harmful offending and victimisation as the table below illustrates. The proportion of incidences of 'gang involvement' across Homicide and Firearms offences would appear to have increased over the last three years, whereas the proportion of gang related knife injuries has reduced. See **Table 2**.

Table 1: The proportions of violence associated with gangs (MPS)[2]

Crime Type		2019	2020	2021
Homicide	All Homicides	151	132	133
	Gang Related	24%	19%	25%
	Homicide (Non-DA & Non-CT)	135	109	107
	Gang Related	27%	23%	31%
Firearms	Lethal Barreled Discharges	270	307	214
	Gang Related	45%	59%	61%
	Lethal Barreled Discharges - Victim Shot	98	135	95
	Gang Related	56%	77%	81%
Knives	Knife Injury under 25 (Non-DA)	1,631	1,197	1,192
	Gang Related	18%	15%	15%

Londoners perceptions of gangs

During 2021 the MOPAC's Public Attitude Survey (PAS) interviewed a representative sample of 12,800 adult (16+) Londoners across a wide range of crime and justice issues. **59%** of adult Londoners felt gangs were a problem in their local area during 2021. Relatively few differences were seen here by Ethnicity: Londoners from Mixed Ethnic Backgrounds were most likely to feel gangs are a problem in their local area - at **64%** - but concerns remained relatively consistent across other ethnic groups, including those from White (**57%**), Black (**60%**) and Asian (**61%**) Backgrounds.

Similarly, few differences were seen by age: although Londoners aged 65+ were least likely to feel gangs were a problem in their local area (**44%**), results for other age groups all stood at around **60%** (16 to 24: 59%, 25 to 34: 60%, 35 to 64: 62%). However, Londoners living in the most deprived areas of the capital were far more likely to feel gangs were a problem in their local area (70%) than those living in the least deprived areas (**43%**)[3].

In turn, less than half of adult Londoners interviewed by the PAS between April and December 2021 believed the Metropolitan Police Service tackles gang crime effectively (**47%**). Around one in five Londoners said they had previously heard about the Metropolitan Police Gangs Violence Matrix (**19%**), while **67%** felt confident the Matrix was used fairly. Particularly large

[2] DA (Domestic Abuse), CT (Counter-Terrorism).
[3] Areas grouped in quartiles based on the Index of Multiple Deprivation (IMD) 2019.

inequalities by ethnicity emerged here, with those from Black (**49%**) and Mixed (**54%**) Ethnic Backgrounds least likely to feel confident the tool was used fairly – compared with **73%** of White Londoners.

The MOPAC Youth Survey[4] 2021-22 gathered the views of 11,874 young Londoners aged 11 to 16. A quarter of young people surveyed believed 'people joining gangs' was a big problem in their local area (**25%**), with higher concerns seen here amongst those from a Black Ethnic Background (**32%**, compared with **21%** of White). **12%** of young people believed 'people joining gangs' was a big problem in their school.

One in ten young Londoners aged 11 to 16 said they knew someone who was in a gang (**10%**). Exposure to gangs increased with age: while **6%** of those aged 11 years old said they knew someone in a gang, this reached **17%** by age 16. Young people from Black (**15%**) and Mixed (**14%**) Ethnic Backgrounds were also more likely to say they knew someone in a gang than those from White (**10%**) or Asian (**6%**) Backgrounds. In total, **1%** of young people aged 11 to 16 said they had personally ever been part of a gang themselves – although demographic differences seen here were far smaller.

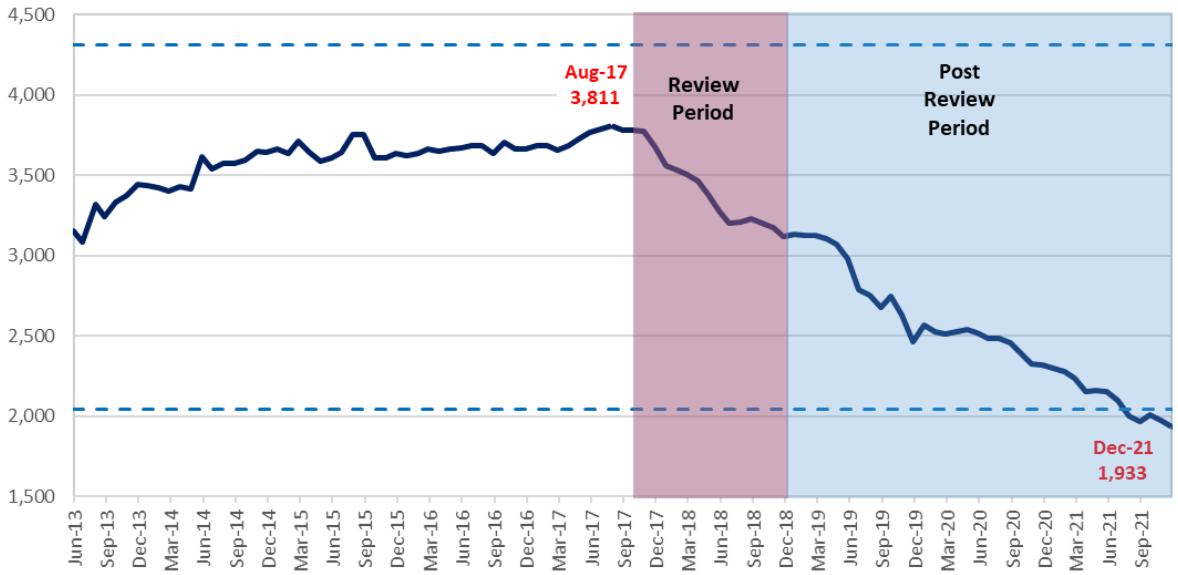
Population Change - A reducing Matrix population

The overall population of the Gang Violence Matrix continues to decrease and has done so since November 2017. This decline corresponds to a number of reviews into the matrix; these include the ICO Penalty Enforcement Action (October 2017 to November 2018), Amnesty review (mid 2017 to May 2018) and the Mayoral review which took place Autumn 2017 to December 2018).

As can be seen from
Graph *1*, the latest December 2021 population of **1,933** represents the smallest ever Gang Violence Matrix population. The GVM population has almost halved **(-49%** decrease) from the peak in August 2017. The move outside the dotted lines indicates a significant decrease in population compared to historical levels.

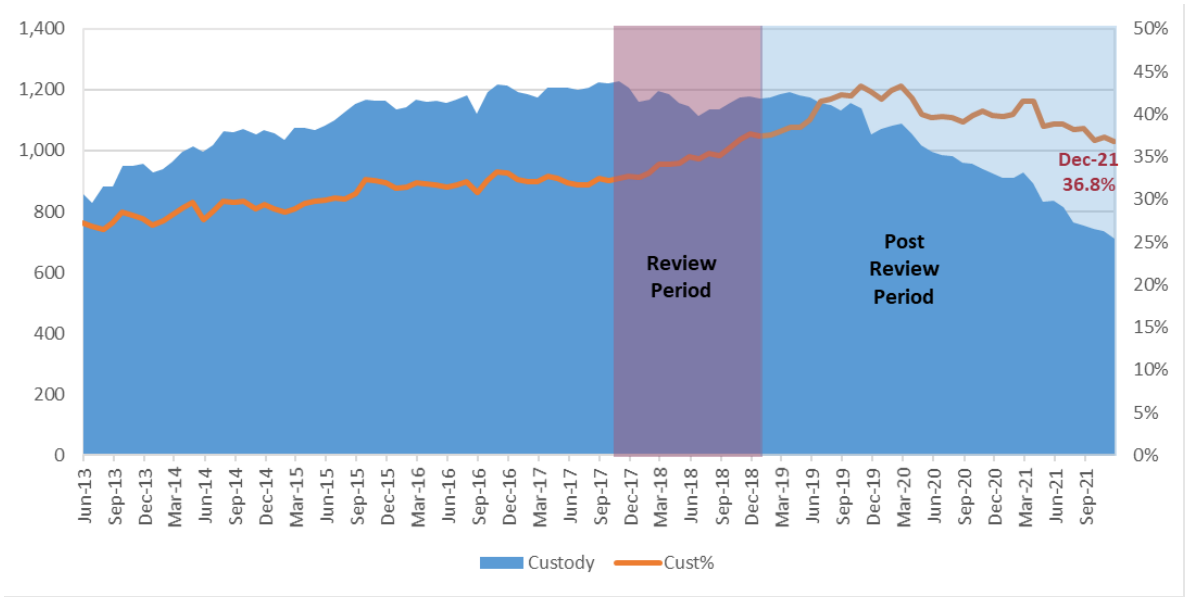
[4] The Youth Survey fieldwork took place from November 2021 to January 2022.

Graph 1: Matrix overall population over time



Initially the proportion of Matrix individuals **in custody** steadily increased over time (see **Graph 2**); with the rate accelerating between October 2018 and March 2020. Yet, during the post review period there has been a small but steady decrease. As of December 2021, **36.8%** of Matrix individuals were in custody; this is less than the peak of **43.3%** recorded in November 2019 and March 2020.

Graph 2: Proportion of Matrix individuals in custody



Local variation remains evident in Matrix population change

As we have seen, the size of the overall Matrix population has been reducing – however, we still see considerable variation across London Boroughs. Looking at long term change, comparing average borough Matrix population in 2021 to 2013, **27** out of 32 boroughs decreased their Matrix population with **5** showing a significant increase (increase > +**40%**). Of these, Islington recorded the largest notable increase, with an increase of **163%** in their Matrix population since 2013, increasing from **70.4** to **184.9** average population. As **Table 3** shows, the shorter-term view shows a similar picture, with **27** out of 32 boroughs experiencing a reduction in average population size between 2020 and 2021.

Since 2017 the average Matrix population per borough has decreased to less than 100, falling from an average of **114.2** in 2017 to only **63.1** in 2021. Currently, only 7 boroughs have Matrix populations above 100, with all but one experiencing a reduction in population compared to the previous year. The boroughs with average Matrix populations of over 100 are **Lambeth** (-19%, n=188.4), **Islington** (-19%, n=184.9), **Waltham Forest** (-7%, n=143.6), **Camden** (-12%, n=139.9), **Newham** (+2%, n=115.1), **Westminster** (-8%, n=109.4) and **Brent** (-18%, n=104.3).

Table 3: Average monthly Matrix population, change and violent crime statistics

	Average Monthly Matrix Population											Key Offence Type (Jan 2021 - Dec 2021)						
Borough	2013	2014	2015	2016	2017	2018	2019	2020	2021	Short Term Change (20 to 21)	Long Term Change (13 to 21)	Total Notifiable Offences	Robbery	Violence with Injury	Youth Violence	Gun Crime	Knife Crime	Knife Crime with Injury
Lambeth	226.3	236.0	253.8	231.5	315.0	291.6	244.1	232.0	188.4	-18.8%	-16.7%	32,110	1,223	3,271	579	93	547	163
Islington	70.4	96.4	175.8	157.0	153.4	139.8	171.4	228.6	184.9	-19.1%	162.5%	24,814	991	2,059	413	34	380	82
Waltham Forest	237.4	301.8	223.0	213.6	213.5	204.8	156.3	153.5	143.6	-6.5%	-39.5%	22,395	730	1,988	420	34	377	109
Camden	150.3	87.6	74.5	81.2	84.3	77.3	122.3	158.7	139.9	-11.9%	-6.9%	28,096	1,056	1,985	357	35	325	97
Newham	198.0	183.5	195.3	202.6	213.7	191.3	132.0	112.7	115.1	2.2%	-41.8%	34,081	1,161	3,098	620	78	514	157
Westminster	189.8	213.4	240.5	242.3	248.3	261.3	199.6	119.0	109.4	-8.0%	-42.4%	50,962	2,223	3,491	530	60	598	143
Brent	323.6	455.0	286.3	283.3	254.6	212.5	172.3	127.5	104.3	-18.2%	-67.8%	28,097	746	2,847	432	77	348	123
Tower Hamlets	115.6	164.9	152.8	138.8	125.0	119.1	96.7	97.9	94.9	-3.1%	-17.9%	33,184	1,021	2,864	548	35	528	205
Haringey	169.4	201.2	195.3	182.3	153.7	123.6	97.2	89.6	85.0	-5.1%	-49.8%	29,129	1,221	2,542	483	76	562	120
Barnet	110.3	120.0	106.3	137.9	190.7	155.1	122.8	97.0	84.0	-13.4%	-23.9%	27,063	612	2,197	458	38	263	77
Hackney	140.0	136.1	145.3	137.8	108.6	116.0	116.4	97.8	79.4	-18.8%	-43.3%	30,896	1,377	2,598	450	64	491	133
Croydon	133.0	95.7	96.2	108.2	109.0	79.9	67.5	63.5	76.4	20.4%	-42.5%	33,089	830	3,555	765	57	513	163
Southwark	176.8	181.4	193.8	181.3	168.3	114.9	94.1	92.1	66.9	-27.4%	-62.2%	31,797	1,131	2,849	536	44	457	154
Enfield	221.5	265.2	277.3	297.6	252.6	157.0	110.8	74.6	66.7	-10.6%	-69.9%	29,052	890	2,651	697	60	563	135
Ealing	97.2	83.1	83.3	72.3	85.8	83.2	74.7	67.3	55.6	-17.5%	-42.8%	29,204	634	2,776	463	44	402	147
Barking and Dagenham	72.9	73.5	101.7	115.0	123.8	101.2	77.8	63.9	54.0	-15.5%	-25.9%	19,862	574	2,022	500	51	328	91
Greenwich	123.3	125.7	138.2	153.9	164.7	137.7	97.8	75.1	53.3	-29.0%	-56.8%	26,710	550	2,791	556	47	360	133
Lewisham	90.3	61.7	124.0	116.0	123.3	90.2	60.3	44.8	48.1	7.4%	-46.7%	26,790	669	2,522	493	37	372	141
Harrow	75.5	78.1	64.3	64.9	69.3	72.4	59.1	54.0	43.3	-19.8%	-42.7%	15,626	319	1,343	274	43	168	60
Kensington and Chelsea	59.6	52.3	51.7	52.8	46.2	43.5	37.8	39.9	38.6	-3.4%	-35.3%	18,308	475	1,328	186	51	194	52
Hammersmith and Fulham	50.6	31.8	43.5	48.0	56.7	72.8	60.7	44.4	37.4	-15.7%	-26.0%	20,495	435	1,684	281	20	209	59
Wandsworth	153.3	117.5	94.4	100.9	109.0	110.1	86.9	61.4	33.7	-45.1%	-78.0%	25,494	604	2,455	442	40	321	92
Bexley	13.0	14.8	15.9	14.5	15.4	24.2	23.4	23.8	20.9	-12.2%	60.4%	14,949	187	1,690	415	26	163	48
Merton	37.2	54.3	55.8	56.5	58.0	39.9	33.1	25.4	20.3	-20.2%	-45.4%	12,876	317	1,224	316	25	170	42
Bromley	13.4	15.6	27.2	44.9	39.5	30.9	27.8	21.4	19.1	-10.6%	42.7%	22,415	381	1,978	488	28	181	58
Hillingdon	4.0	21.7	59.0	73.5	49.1	20.8	20.8	18.5	18.3	-1.2%	357.1%	23,335	412	2,241	440	27	216	76
Redbridge	25.3	27.1	37.8	38.0	43.7	49.1	46.3	33.3	12.3	-63.1%	-51.3%	24,046	638	2,211	464	37	317	84
Sutton	4.2	5.0	5.1	2.8	2.8	3.3	6.0	9.3	11.4	23.6%	174.3%	12,857	227	1,344	306	17	164	54
Hounslow	34.1	92.5	105.1	80.7	29.6	7.3	5.0	5.9	8.0	35.2%	-76.5%	23,518	383	2,324	474	28	238	71
Havering	14.8	20.3	23.5	39.1	42.9	31.9	20.0	6.7	4.7	-29.3%	-68.0%	17,088	341	1,807	481	30	169	55
Kingston upon Thames	4.5	3.4	4.2	3.3	1.1	1.0	1.1	2.0	1.9	-7.1%	-58.7%	11,826	157	1,161	270	7	91	39
Richmond upon Thames	3.0	4.0	5.1	7.5	2.4	2.0	2.0	1.8	1.0	-42.9%	-66.7%	11,025	194	878	238	15	93	22
Average	104.3	113.1	114.2	115.0	114.2	98.9	82.6	73.2	63.1	-13.8%	-39.5%	24,724.7	709.7	2,242.9	449.2	42.4	331.9	99.5

Table 3 above illustrates the substantial fluctuation between years, with some boroughs experiencing significant population changes at various points in the intervening years. When

we consider these changes within the context of the overall violence across boroughs, we can see that the distribution of the Matrix population generally reflects the distribution of weapon enabled violence and violence with injury. That is to say generally speaking, areas with higher violence tend to have increased matrix numbers.

Population Demographics

A change in demographics of those on the Matrix

A number of findings emerged from the original Matrix review in terms of population change and demographics – such as the almost exclusively male population, the over representation of young Black males when compared to other databases or cohorts, the substantial proportion that had remained on the Matrix for a number of years, as well as the number of individuals with a long term 'green' harm banding or 'zero' harm score. **Table 4** **Error! Not a valid bookmark self-reference.** presents the demographics of the Matrix *over time*, compared with the latest additions in 2019, 2020 and 2021. This enables us to begin to explore whether the demographics of the group are changing.

Table 4: Matrix demographics over time

		GVM Snapshot Comparison									Real %
		2013	2014	2015	2016	2017	2018	2019	2020	2021	Change
Total Population		3,331	3,594	3,612	3,704	3,783	3,230	2,746	2,399	2,012	-16.1%
	Live	71.5%	70.2%	67.7%	67.8%	67.8%	64.8%	57.9%	60.1%	63.0%	2.9%
	Custody	28.5%	29.8%	32.3%	32.2%	32.2%	35.2%	42.1%	39.9%	37.0%	-2.9%
Gender	% Male	99.1%	98.9%	99.3%	99.3%	99.3%	99.4%	99.6%	99.7%	99.9%	
Ethnicity	% White	13.1%	13.6%	13.8%	13.6%	13.2%	11.7%	10.9%	12.7%	12.2%	
	% BAME	86.9%	86.4%	86.2%	86.4%	86.8%	88.3%	89.0%	87.3%	87.8%	
	% Black African-Caribbean	*78%*	*76%*	*77%*	*77%*	*78%*	*80%*	*81%*	*80%*	*80%*	
Age	Average	20.8	21.5	21.5	21.9	22.2	22.3	22.8	23.1	23.3	
	Live	20.5	21.2	21.2	21.7	22.0	22.0	22.4	22.8	23.1	
	Custody	21.4	22.0	22.1	22.4	22.6	22.9	23.3	23.6	23.7	
	% U18	18.8%	14.7%	15.8%	14.2%	13.8%	13.8%	9.2%	6.9%	7.7%	0.7%
	% U25	85.7%	81.5%	80.0%	76.4%	73.1%	72.4%	67.2%	65.5%	63.2%	-2.3%
RAG Status	Red	6.5%	4.9%	4.7%	5.4%	4.9%	4.3%	4.7%	5.0%	5.6%	
	Amber	40.0%	33.3%	34.5%	33.5%	31.2%	31.1%	30.0%	29.0%	29.0%	
	Green	53.5%	61.8%	60.8%	61.1%	63.8%	64.7%	65.3%	65.9%	65.4%	
	% of GVM Green U18	7.1%	5.8%	5.9%	5.1%	4.7%	5.2%	3.2%	2.6%	2.4%	-0.2%
	% of GVM Green 18-24	36.8%	41.5%	39.1%	38.4%	37.7%	37.3%	35.8%	36.1%	33.7%	-2.4%
Live	Red	4.2%	3.0%	3.3%	4.7%	3.5%	3.2%	3.3%	4.9%	5.6%	
	Amber	38.7%	31.9%	33.4%	32.6%	31.1%	31.1%	30.5%	30.0%	30.9%	
	Green	57.0%	65.0%	63.3%	62.7%	65.4%	65.7%	66.2%	65.0%	63.5%	
	% of Live GVM Green U18	9.0%	7.8%	8.2%	6.6%	6.3%	7.4%	5.3%	4.1%	3.5%	-0.5%
	% of Live GVM Green 18-24	39.2%	43.0%	40.3%	38.3%	37.1%	37.4%	36.8%	36.3%	31.9%	-4.4%
Custody	Red	12.2%	9.2%	7.7%	6.9%	7.9%	6.3%	6.6%	5.2%	5.5%	
	Amber	43.0%	36.6%	36.7%	35.3%	31.6%	31.0%	29.2%	27.5%	25.8%	
	Green	44.8%	54.2%	55.6%	57.8%	60.5%	62.8%	64.2%	67.3%	68.7%	
	% of Custody GVM Green U18	2.1%	0.93%	0.9%	1.93%	1.3%	1.23%	0.3%	0.42%	0.40%	0.0%
	% of Custody GVM Green 18-24	30.8%	37.8%	36.7%	38.5%	39.1%	37.1%	34.5%	35.8%	37.0%	1.1%

Comparison Snapshots all from October of given year apart from 2018 which relates to September snapshot presented in original review.

As can be seen, in terms of gender, the proportion that is male has not changed in the two most recent years – the matrix cohort is, and has always been, made up almost exclusively of males (**99.6%** in 2019; **99.7%** in 2020; **99.9%** in 2021).

In terms of age of the cohort, the proportion and count of **Under-18** individuals has *decreased* subsequent to the original review - from **14%** in 2018 (n=445) to **8%** in 2021 (n=154) – which at an individual level is a **65%** reduction in this cohort. In 2020 **Under-18s** accounted for **7%** of the cohort, the lowest recorded to date. A similar picture emerges when looking at the proportion of the Matrix that is under 25 (a reduction from **72%** in 2018, to **63%** in 2021). Over time, the age of individuals on the matrix has slowly increased. The average age of individuals on the matrix is now over **23 years old** as compared to under 21 years old in 2013.

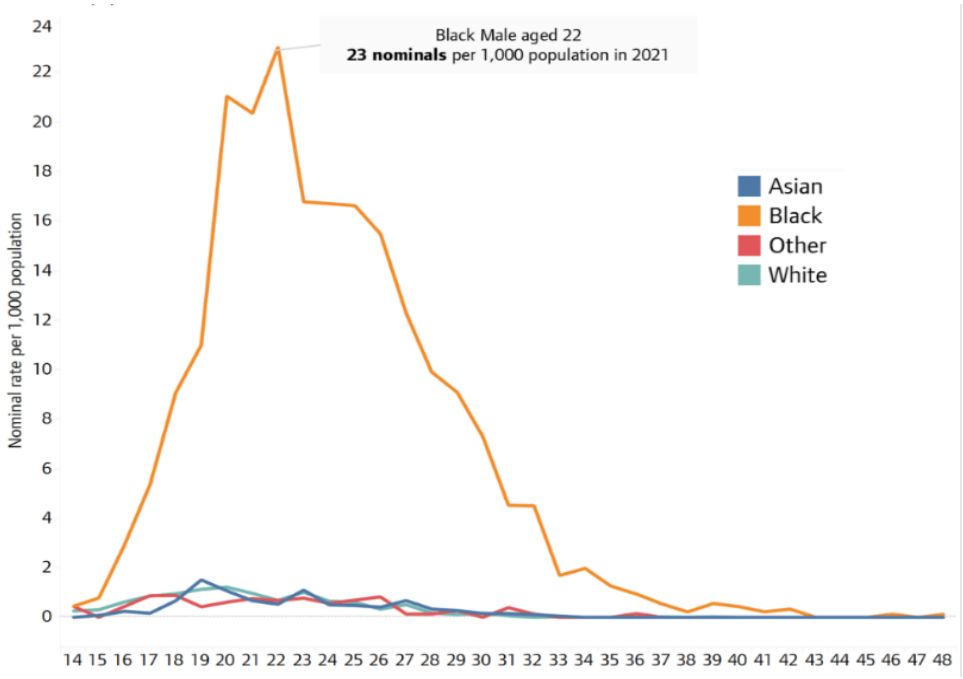
The original Review of the Matrix identified a substantial number of individuals on the Matrix with a 'Green' harm banding and a 'zero-harm' score, and in turn recommended a 'thorough reappraisal' of these individuals. As a result, beginning in March 2019 the MPS undertook the review of all individuals on the Matrix with a 'Green' harm banding, with a focus on 'live' individuals (i.e., not in custody). There were ***773 (of which 121 were Under 18)*** fewer individuals on the Matrix with Green RAG status in 2021 compared to 2018 - a **37%** decrease. Yet despite the reduction in the Matrix population the **proportion** of individuals with Green RAG status has remained unchanged, with almost two thirds of the population being Green harm banded (65%).

The proportion of Live Green RAG status remained stable (**+0.7pp**), while the Custody Green RAG status increased (**+5.9pp**) between 2018 and 2021. Over the longer term we've seen the proportion of individuals with Green RAG status in custody gradually increase. In 2013 only **44.8%** of individuals in custody had Green RAG status, yet this has increased to **68.7%** in 2021.

Historically, the Matrix has been comprised disproportionately of Black African-Caribbean males. When examining the two most previous years, the proportion of the Matrix that are from Black and/or other Minority Ethnic communities has remained unchanged; **88%** in September 2018 and **88%** in October 2021. Similarly, the proportion of Black African Caribbean individuals has remained unchanged; **80%** in September 2018 and **80%** in October 2021.

Analysis of how the ethnicity of the Matrix population is distributed by age shows that there is a peak between the ages of 20 and 25 (see **Graph 3** below).

Graph 3: Gangs Violence Matrix population rate per 1,000 population across ethnicities



Matrix Churn – who has been removed since the original review?

One clear area of interest is a richer exploration of the churn that has been observed. As previously outlined, there has been a marked reduction in the overall size of the Matrix cohort. Over twice as many individuals have been removed from the Matrix than added since May 2018. This section explores the additions and removals to the Matrix.

Additions to the Matrix

There have been **1,096** ***additions*** to the Matrix after May 2018. See **Table 5** below for an overview of those new additions as well as how this compares with those added to Matrix in previous years. As an overview, we can see:

- Generally, the proportion that are male has remained stable; although this has reduced to **96%** in the last 2 years. It remains that almost all new additions are male.
- There are some changes in terms of ethnicity. The proportion of new additions that were white has fluctuated between 2018 and 2021, from a low of **10.9%** (n=24) in 2019 to a peak of **27%** in 2020 (n=110). In 2021 the proportion of additions that were white returned back to levels recorded in 2017.The proportion of new additions that were from Black and/or other Minority Ethnic communities has reduced from **89%** in 2019 to **77%** in 2021, as well as Black African Caribbean from **83%** in 2019 to **73%** in 2021.
- The proportion of Under 18s has significantly reduced, with **40%** of new additions during 2021 being this age, as compared to **56%** in 2018. The average age of additions to the matrix of the last few years has remained unchanged.

- There were variations across boroughs on the number of additions to the Matrix. Between June 2019 and December 2021, the number of *additions* to the matrix have decreased. However, **58%** of *additions* to the matrix in the 12 months between June 2019 and May 2020 were from Islington and Camden. *Additions* to the matrix in these two boroughs decreased by **83%** in the following 12 months and is now similar to other boroughs across London.

Table 5: Additions to the Matrix

Additions to Matrix	Base 2012	Year One Jun 13-May 14	Year Two Jun 14-May 15	Year Three Jun 15-May 16	Year Four Jun 16-May 17	Year Five Jun 17-May 18	Year Six Jun 18-May 19	Year Seven Jun 19-May 20	Year Eight Jun 20-May 21	Year Nine Jun 21-Dec 21
Male	99%	98%	99%	98%	98%	99%	99%	100%	96%	96%
White	**13.5%**	**15.2%**	**17.6%**	**20.2%**	**13.0%**	**17.7%**	**10.9%**	**26.7%**	**12.2%**	**17.3%**
BAME	**86.5%**	**84.8%**	**82.4%**	**79.8%**	**87.0%**	**82.3%**	**89.4%**	**72.1%**	**80.4%**	**77.4%**
Black African Caribbean	*75.9%*	*75.2%*	*67.3%*	*69.0%*	*78.9%*	*74.6%*	*82.8%*	*61.2%*	*72.3%*	*73.2%*
U18	**25.7%**	**31.9%**	**40.7%**	**48.6%**	**52.3%**	**55.6%**	**42.4%**	**29.1%**	**35.1%**	**39.9%**
U25	85.8%	86.2%	84.9%	90.2%	91.5%	93.8%	94.0%	85.0%	87.8%	88.1%
Average Age	**20.4**	**20.2**	**19.7**	**18.8**	**18.4**	**18.0**	**19.4**	**20.2**	**20.0**	**20.0**
TOTAL ADDITIONS*		**896**	**1,070**	**803**	**673**	**611**	**221**	**411**	**296**	**168**

**Year Nine data is Jun-21 to Dec-21 inclusive.*

Removals from the Matrix

A total of **2,416** removals from the matrix have occurred since May 2018. See **Table 6** for an overview as how this compares to previous years and removals. Overall, findings indicate:

- The overall proportion of under 18s and under 25s removed has decreased over time. In 2021, **6.0%** of individuals removed from the matrix were under 18 compared to **12.7%** in 2018. In comparison **53.4%** of individuals removed from the matrix in 2021 were under 25 compared to **66.3%** in 2018. This has resulted in the average age of individuals removed from the matrix increasing, though only marginally.
- The proportion of those removed by ethnicity has remained relatively stable over time – for the BAME population this figure has remained around the **81-86%** mark. Within this, the proportion of Black African Caribbean removals has fluctuated, increasing to **78%** in 2021 compared to **67%** in 2017.
- Again, there is wide variation between boroughs in terms of numbers removed.

Table 6: Removals from the Matrix

Removals from Matrix	Base 2012	Year One Jun 13-May 14	Year Two Jun 14-May 15	Year Three Jun 15-May 16	Year Four Jun 16-May 17	Year Five Jun 17-May 18	Year Six Jun 18-May 19	Year Seven Jun 19-May 20	Year Eight Jun 20-May 21	Year Nine Jun 21-Dec 21
White	**13.8%**	**18.4%**	**19.2%**	**16.7%**	**17.5%**	**15.0%**	**13.0%**	**14.6%**	**14.8%**	**14.8%**
BAME	**86.2%**	**81.6%**	**80.8%**	**83.3%**	**82.5%**	**85.0%**	**86.2%**	**85.3%**	**85.2%**	**84.4%**
Black African Caribbean	*70.8%*	*70.9%*	*65.6%*	*74.9%*	*67.3%*	*75.8%*	*79.3%*	*76.3%*	*76.3%*	*78.1%*
U18	**21.4%**	**16.1%**	**11.5%**	**11.3%**	**13.5%**	**12.7%**	**9.8%**	**7.2%**	**4.4%**	**6.0%**
U25	77.7%	82.0%	73.5%	74.2%	69.9%	66.3%	64.3%	57.5%	59.4%	53.4%
Average Age	**21.6**	**21.5**	**22.4**	**22.6**	**22.6**	**23.0**	**23.2**	**23.8**	**23.8**	**24.5**
TOTAL REMOVALS*		**750**	**1,064**	**697**	**631**	**1,006**	**600**	**843**	**608**	**365**

**Year Nine data is Jun-21 to Dec-21 inclusive.*

Disproportionality

The Mayoral review highlighted the heavy disproportionality on the Matrix – specifically in terms of Black African Caribbean males relative to their offending and victimisation. One of the new analytic directions within the present review was an exploration in more detail towards the levels of disproportionally observed on the Matrix. This analysis explores borough-level disproportionality as well an exploration of the key predictors for inclusion on the GVM.

London-level disproportionality

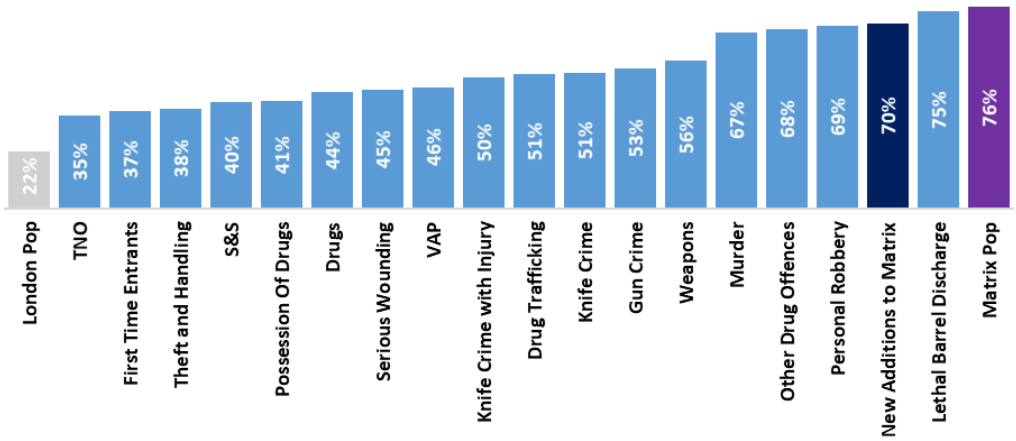
This analysis takes the Black under-25 cohort (as the most likely group to be included on the Matrix) and explores the proportion of individuals charged with various violent and group-related offence types; and compares these to the proportion of Black individuals on the Matrix.

As shown in **Graph 4** below - at a London wide level, the percentage of Black, African-Caribbean individuals on the Matrix exceeds that of the general population. Black individuals aged under 25 account for **22%** of the London under 25 population while accounting for **76%** of the under-25 matrix population in 2021.

There remains an over representation of young Black males on the overall matrix population as compared to offending cohorts, including those most associated with serious gang - or group-related violence. Generally, disproportionality lessens when comparing with violent offending such as lethal barrel discharge, robbery and murder - but the representation of young Black males on the Matrix is still higher.

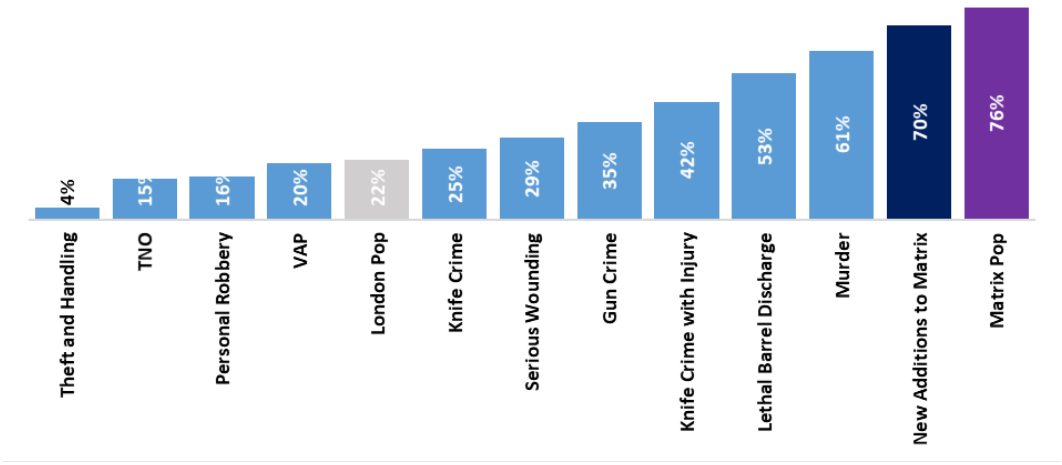
The proportion of new additions to the Matrix that are from Black and/or other Minority Ethnic communities has reduced between 2019 and 2021. Disproportionality lessens when we compare the ethnicity of new additions (**70%** of new additions aged under 25 were Black individuals) to violent offending cohorts such as lethal barrel discharge (75%), robbery (69%), and murder (67%).

Graph 4: Offenders – proportion of Black individuals by offence type (under 25 cohort only)



The same is true when looking at victimisation in that the percentage of Black, African-Caribbean males on the Matrix exceeds the proportion that were victims for violent crime.

Graph 5: Victims – proportion of Black individuals by offence type (under 25 cohort only)



Threats to Life which were linked to gangs

The data above shows that there is an over representation of young Black males on the overall matrix population as compared to offending and victimisations cohorts. A new aspect of this report was to explore the gang related 'threats to life' data provided by the MPS which includes those incidents that are most associated with serious gang- or group-related violence to explore any association with Matrix population and disproportionality. A Threat to Life (TTL) is where there is intelligence that indicates a person may be subject to a threat to take their life or a threat to cause them serious harm. This is regardless of whether they are aware or unaware of the threat and as a result of deliberate intentions or criminal acts of another.

In 2021 only **27% (n=78)** of threats to life incidents involved a victim or suspect with known gang links. Lambeth alone accounted for 17 (22% of total) of these incidents with the closest boroughs being Brent and Islington with 7. Due to the small sample size of Threats to Life data it is not possible to make direct comparisons to other general offending at a borough level. Of all gangs linked threats to life 32% (n=25) involved a firearm, with a further 10% (n=8) involving a knife or bladed weapon. Motives for threats to life were varied, however 28% (n=22) of gang linked threats were driven by retribution for an assault or murder, while 33% (n=26) were driven by ongoing gang rivalries. Only 5% (n=4) of threats to life related to drug supply.

All known victims of threats to life were male, **74% (n=58)** of which were Black, **16% (n=12)** white, **6% (n=5)** Asian and **4% (n=3)** from other ethnicities. Overall, 68% (n=53) of victims were under the age of 25, of which just under half (48%) were Black. The oldest victim was 38 years old with the youngest being 15 years old.

Similarly, the majority of suspects were male and Black; with Black males accounting for **74% (n=58)** of suspects compared to **20% (n=16)** being White males. **44% (n=34)** of all suspects were Black males under the age of 25. Overall, 59% (n=46) of suspects were under the age of 25. The youngest suspect was 13 years old, with the oldest being 49 years old. White males aged under 25 only accounted for 11% of all suspects.

Looking at Threats to life, across both suspects and victims approximately 74% were black males. This aligns more closely to the proportion of the Matrix that is Black – so may be a useful addition when exploring disproportionality. However, the small numbers of Threat to Life data and the over emphasis on certain boroughs make firm conclusion over the Threats to Life data difficult.

Exploring Matrix borough-level disproportionality[5]

Tables 7 and 8 below takes the BAME and Black under-25 populations by borough, the proportion of individuals charged with various violent and group-related offence types; and compares these to the proportion of Black/BAME individuals on the Matrix. Reading across the tables, the figures highlighted in **dark grey** relate to the proportions furthest from the Matrix demographic for each borough, those highlighted in **yellow** have the highest BAME/ Black cohort for each borough.

For BAME individuals (**Table 7**), there is much variation between boroughs and across crime types. The proportion of BAME individuals charged rarely reflects that of the Matrix. Generally, disproportionality lessens when looking at more serious violent offending towards the right-hand side of the table, with the cohort for **personal robbery** being closest to the BAME cohort on the Matrix (80% of all people proceeded against for personal robbery aged under 25 are from Black and/or other Minority Ethnic communities, as compared to 84% of the Matrix cohort). However, measurement at this aggregated level of ethnicity masks key differences.

[5] It should be noted that although individuals are placed on the matrix for the borough that they reside on this is not necessarily the same as the borough the gang that they are a member of is based or is criminally active. This will likely impact on the small volume boroughs such as Richmond, Kingston and Havering.

Table 7: For selected offence types, proportion of people proceeded against who are BAME (aged under 25 cohort)[6]

Borough	Total U25 Matrix Population Dec 21	U25 Population (% BAME)	Wider Offending			Violent Offending			Violence - Weapons				Stop and Search	Matrix BAME
			TNO	Possession Of Drugs	Drug Trafficking	Violence Against the Person	Serious Wounding	Personal Property	Offensive Weapon	Knife Crime	Knife Crime with Injury	Gun Crime		
Islington	138	45%	54%	59%	76%	66%	55%	93%	65%	31%	48%	20%	63%	57%
Camden	96	46%	54%	56%	68%	58%	57%	70%	68%	74%	60%		59%	73%
Lambeth	96	56%	66%	73%	72%	80%	81%	75%	85%	86%	89%	78%	76%	94%
Waltham Forest	65	62%	56%	70%	79%	64%	68%	68%	75%	68%	75%	50%	71%	79%
Newham	63	80%	60%	74%	88%	74%	69%	76%	81%	74%	83%	50%	74%	91%
Croydon	60	66%	63%	69%	73%	71%	70%	69%	73%	67%	67%	67%	67%	89%
Barnet	58	46%	52%	64%	59%	48%	61%	93%	41%	82%	82%	60%	60%	75%
Hackney	57	53%	60%	69%	88%	71%	66%	89%	82%	75%	74%	17%	76%	90%
Tower Hamlets	57	69%	70%	82%	92%	72%	77%	72%	84%	81%	78%	100%	85%	83%
Haringey	53	47%	50%	61%	62%	58%	42%	71%	74%	56%	43%	56%	62%	98%
Westminster	49	55%	54%	70%	73%	63%	63%	83%	71%	72%	75%	50%	68%	76%
Barking and Dagenham	45	64%	39%	57%	70%	55%	66%	67%	61%	60%	71%	29%	57%	86%
Ealing	43	63%	61%	75%	74%	73%	70%	75%	79%	76%	64%	100%	78%	92%
Enfield	41	54%	51%	47%	60%	48%	40%	74%	54%	65%	62%	73%	45%	86%
Brent	38	72%	63%	78%	88%	68%	54%	92%	82%	64%	63%	82%	77%	90%
Greenwich	36	51%	45%	57%	64%	48%	49%	65%	56%	48%	43%	100%	56%	93%
Lewisham	32	62%	58%	71%	85%	76%	77%	82%	84%	86%	87%	100%	69%	97%
Southwark	31	58%	52%	67%	65%	66%	71%	76%	75%	74%	86%	100%	66%	98%
Harrow	26	72%	57%	76%	82%	68%	74%	91%	68%	73%	100%	100%	66%	88%
Kensington and Chelsea	23	42%	52%	65%	61%	61%	54%	78%	71%	31%	29%	100%	66%	85%
Hammersmith and Fulham	15	45%	52%	71%	79%	70%	68%	61%	66%	70%	86%	100%	67%	94%
Hillingdon	15	59%	51%	60%	65%	56%	67%	79%	54%	31%	95%	100%	61%	83%
Bexley	14	31%	27%	25%	21%	31%	20%	33%	46%	32%	33%	0%	25%	95%
Wandsworth	14	42%	56%	76%	65%	64%	68%	100%	76%	62%	53%	17%	66%	88%
Bromley	13	31%	33%	40%	50%	36%	18%	85%	44%	68%	67%	100%	30%	100%
Sutton	9	37%	28%	36%	44%	38%	38%	85%	53%	56%	83%	0%	31%	90%
Merton	8	46%	44%	55%	63%	49%	53%	79%	61%	56%	38%	0%	59%	100%
Hounslow	7	60%	44%	64%	69%	48%	52%	63%	50%	31%	42%		63%	100%
Redbridge	7	78%	64%	77%	79%	76%	58%	56%	83%	51%	71%		72%	85%
Havering	4	27%	37%	35%	32%	40%	28%	54%	60%	31%	0%	25%	35%	80%
Kingston upon Thames	1	41%	33%	43%	58%	38%	33%	80%	52%	0%	0%		44%	100%
Richmond upon Thames	1	22%	29%	34%	29%	42%	60%	63%	56%	89%	100%		36%	100%
Overall	**1,215**	55%	53%	65%	73%	62%	60%	80%	71%	67%	66%	61%	64%	84%

A higher level of disproportionality is apparent when we examine only Black individuals (**Table 8**). All boroughs have Black Matrix populations at least **two times greater** than the overall U25 population. Overall, the MPS has a Black Matrix population **3.5 times greater** than its overall U25 population, and this disproportionality can be seen across all crime types. The boroughs with the largest disparity as compared to its overall Black U25 population are Richmond, Kingston, and Hounslow (although it should also be noted these boroughs have small Matrix populations).

The figures highlighted in yellow in **Table 8** below are the offending cohorts (aged under 25) with the highest proportion of Black individuals charged with various violent and group-related offence types on each borough. The boroughs with the highest disparity between the Matrix population and the offender cohorts for violent offending are **Hounslow** (56 percentage points difference between the proportion of its U25 Matrix cohort that is Black, and the drug trafficking cohort in this borough) and **Bexley** (52 percentage points difference from the offensive weapon cohort in this borough).

As above, the cohort for **personal robbery** (69% of all people proceeded against aged under 25 are Black individuals) was the closest to the Black under-25 cohort on the Matrix (76%),

[6] Crime types cover calendar year 2021; London Population is taken from GLA 2021 population projections; Matrix population looks at all unique individuals on the matrix in 2021 with last month on the matrix during 2021 used to determine exact profile information.

but the representation of young Black males on the Matrix is still higher. The boroughs with no disparity between their Matrix population and the robbery cohort in their borough include Islington, Barnet, Westminster, Wandsworth, Tower Hamlets, and Sutton. However, 25 of the 32 boroughs still have a higher proportion of young Black males forming their Matrix cohort as compared to the robbery cohort. The boroughs with the highest disparity between the Matrix and the offender cohorts for robbery are **Richmond** (63 percentage point difference) and **Bexley** (62 percentage point difference).

Table 8: For selected offence types, proportion of people proceeded against who are Black (aged under 25 cohort)[7]

			Wider Offending			Violent Offending			Violence - Weapons					
Borough	Total U25 Matrix Population Dec 21	U25 Population (% Black)	TNO	Possession Of Drugs	Drug Trafficking	Violence Against the Person	Serious Wounding	Personal Property	Offensive Weapon	Knife Crime	Knife Crime with Injury	Gun Crime	Stop and Search	Matrix Black
Islington	138	22%	44%	43%	51%	54%	48%	91%	59%	65%	48%	20%	49%	52%
Camden	96	13%	32%	36%	49%	43%	49%	63%	58%	53%	40%		39%	63%
Lambeth	96	39%	59%	66%	66%	74%	74%	75%	84%	83%	89%	78%	68%	94%
Waltham Forest	65	24%	36%	39%	65%	49%	52%	52%	59%	56%	64%	50%	39%	70%
Newham	63	23%	33%	36%	56%	50%	56%	50%	57%	57%	65%	50%	36%	81%
Croydon	60	38%	49%	51%	55%	64%	63%	66%	63%	66%	67%	67%	47%	86%
Barnet	58	14%	33%	36%	39%	32%	37%	86%	24%	60%	18%	40%	35%	63%
Hackney	57	28%	49%	53%	65%	62%	62%	87%	76%	67%	67%	17%	57%	90%
Tower Hamlets	57	11%	23%	21%	20%	27%	33%	46%	29%	27%	27%	0%	19%	38%
Haringey	53	25%	45%	49%	53%	50%	33%	69%	67%	41%	26%	56%	52%	98%
Westminster	49	12%	31%	36%	37%	37%	34%	59%	45%	55%	42%	25%	33%	37%
Barking and Dagenham	45	34%	24%	33%	45%	46%	47%	61%	51%	38%	36%	29%	34%	82%
Ealing	43	18%	28%	41%	45%	44%	44%	56%	48%	51%	52%	100%	43%	78%
Enfield	41	29%	41%	38%	55%	41%	29%	71%	48%	58%	54%	73%	33%	86%
Brent	38	25%	40%	50%	72%	50%	30%	73%	60%	48%	47%	82%	47%	88%
Greenwich	36	32%	37%	48%	59%	44%	47%	55%	50%	48%	43%	100%	45%	91%
Lewisham	32	41%	54%	62%	82%	72%	77%	78%	81%	86%	87%	100%	62%	97%
Southwark	31	36%	46%	57%	60%	57%	57%	73%	65%	65%	76%	100%	56%	98%
Harrow	26	15%	27%	34%	48%	34%	37%	79%	22%	50%	71%	0%	30%	85%
Kensington and Chelsea	23	12%	31%	40%	34%	36%	31%	33%	53%	35%	14%	50%	36%	85%
Hammersmith and Fulham	15	20%	36%	54%	55%	45%	29%	58%	58%	45%	50%	0%	50%	90%
Hillingdon	15	16%	28%	30%	43%	38%	47%	45%	30%	37%	45%	67%	35%	83%
Bexley	14	19%	20%	23%	14%	28%	13%	33%	43%	24%	33%	0%	20%	95%
Wandsworth	14	20%	44%	63%	59%	57%	68%	96%	67%	62%	53%	17%	52%	88%
Bromley	13	18%	26%	29%	46%	28%	14%	81%	42%	68%	67%	100%	25%	100%
Sutton	9	12%	21%	24%	40%	32%	31%	85%	47%	50%	67%	0%	19%	80%
Merton	8	15%	26%	37%	53%	33%	47%	75%	34%	38%	0%	0%	40%	100%
Hounslow	7	13%	22%	28%	44%	33%	41%	42%	38%	29%	32%		33%	100%
Redbridge	7	12%	23%	36%	40%	39%	31%	22%	49%	31%	57%		27%	81%
Havering	4	14%	26%	25%	30%	32%	25%	49%	51%	27%	0%	25%	24%	60%
Kingston upon Thames	1	6%	21%	19%	42%	22%	25%	70%	21%	0%	0%		21%	100%
Richmond upon Thames	1	5%	17%	17%	16%	31%	60%	38%	50%	67%	71%		20%	100%
Overall	**1,215**	22%	35%	41%	51%	46%	45%	69%	56%	51%	50%	53%	40%	76%

Key predictors for Gangs Matrix Inclusion

One of the new analytical directions within the review was to explore the drivers of disproportionality and seek to advance our understanding compared to the first annual report. Regression analysis[8] was used to explore whether certain characteristics are able to predict which variables had the strongest association with being on the Gangs Violence

[7] Crime types cover calendar year 2021; London Population is taken from GLA 2021 population projections; Matrix population looks at all unique individuals on the matrix in 2021 with last month on the matrix during 2021 used to determine exact profile information.

[8] Regression is a technique to that seeks to estimate the relationship between an outcome variable and a series of other variables and can be used to make prediction or forecasts.

Matrix[9]. There was a total of 24 variables applied to this model, with 14 proving significant factors. Overall, just under a third (30%) of the variation in being placed on the Matrix was explained by this model which is a reasonable proportion.[10]

As shown in **Table 9** below, the regression model identified having been a **robbery suspect** (x4.8 times more likely) and **offending in groups** (x4.2 times more likely) were the strongest predictors of GVM inclusion followed by those **aged 21-24** (x 3.9 times more likely), **male** (x3.8 times more likely) and a **higher harm score** (x3.7 times more likely). Other criteria that increase the likelihood of inclusion are **repeat offenders**, **18-20 age group**, **murder suspect** and **Black ethnicity**. Asian ethnicity, victims of serious violence and robbery were the factors that made inclusion *less likely.*

Table 9: Factors associated with Matrix inclusion

Factor	Likelihood of inclusion
Previous robbery suspect	x4.8 more likely
Offends in groups	x4.2 more likely
Aged 21-24	x3.9 more likely
Male	x3.8 more likely
Harm index score[11] above the mean	x3.7 more likely
Repeat offenders (2+ offences)	x3.0 more likely
Aged 18-20	x2.9 more likely
Previous murder suspect	x2.3 more likely
Repeat offenders (5+ offences)	x1.9 more likely
Black ethnicity	x1.9 more likely
Asian ethnicity	x2.1 less likely
Victim of Most Serious Violence	x5.7 less likely
Victim of robbery	x8.3 less likely

Considered from a disproportionality perspective, age and sex very much appear key predictors, and to a lesser degree Black ethnicity. However, by far the strongest variables predicting inclusion focus on aspects of the offending history of the individual – be it robbery, group offending, repeat offending and higher harm offending as measured by the Cambridge Harm Index.

[9] The regression analysis covers data between January 2019 and February 2021.
[10] Overall, the model has a Nagelkerke R square of 0.30.
[11] Harm index score refers to the Cambridge harm index (CHI) where each offence was matched to a score on the CHI that relates to the severity of the crime – an average harm score was given to each individual within the cohort. Above average offending was measured as 1 standard deviation or more above the mean.

The role of Vulnerable Locations

As seen above, descriptive analysis shows that young Black males are disproportionately likely to be perpetrators and victims of serious violence. However, the percentage of Black males on the matrix exceeds that of the general population, as well as those crimes most associated with serious gang or group related violence. The next section of this analysis explores some of the more structural reasons behind this disproportionality by examining the impact of social economic factors.

The 2018 Review found a disproportional representation of Matrix individuals living in vulnerable locations. It found that Matrix individuals were 10.6 times more likely to live in the top 10% of vulnerable wards than the bottom 10%, and 3.5 times more Matrix individuals reside in the top 50% of vulnerable wards than the least vulnerable.

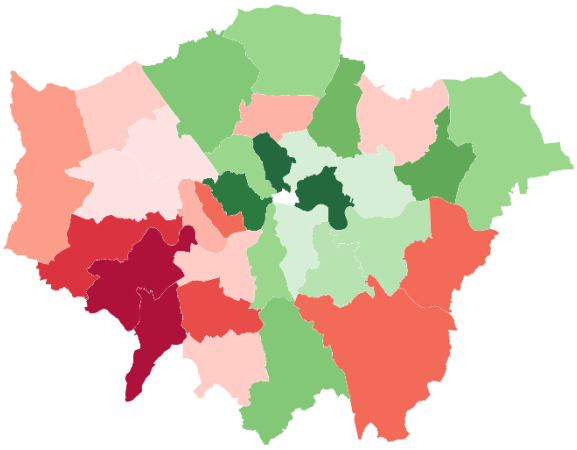
When we examine levels of ***disproportionality*** within the Matrix population across the London boroughs and socio-economic measures, we can see in **Table 10** below that there are that there is a negative correlation between these measures - in that, the areas with the highest disproportionality of the matrix population (as compared to the *population* in that borough) had lower socio-economic scores for measures of vulnerability (such as lower crime rates, lower levels of free school meals eligibility, lower levels of child deprivation, lower average income). This indicates that the disproportionality of the Matrix cohort (as compared to the local population) is most stark in the more affluent boroughs.

Table 10: Correlation matrix between % Gangs Violence Matrix Black U25 and socio-economic measures

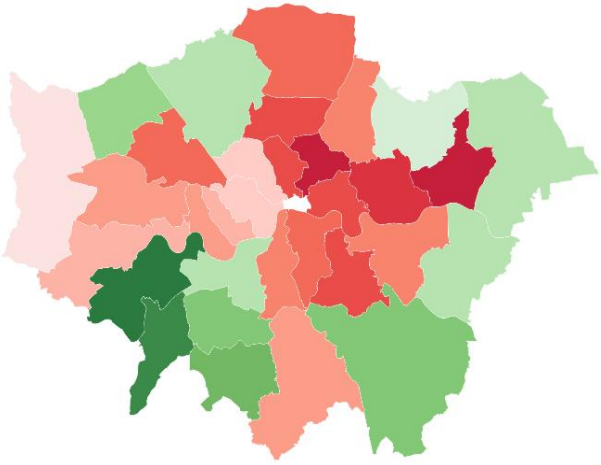
Indicator	Disproportionality: matrix vs population	Disproportionality: matrix vs robbery cohort	Disproportionality: matrix vs most similar offender cohort	Crime - Average score	Robbery PPAs % Black u25s	Gun crime PPAs % Black u25s	Offensive Weapon PPAs % Black u25s	IMD - Average score	Income - Average score	Employment - Average score	Employment rate	Total Cultural Sites	Free School Meals Eligible	% with no Qualifications (16-64)	Own Outright	Rented from Local Authority or Housing Ass
Disproportionality: matrix vs population	1.00	0.69	0.66	-0.47	-0.13	-0.15	-0.20	-0.54	-0.62	-0.62	0.19	-0.54	-0.62	-0.46	0.41	-0.53
Disproportionality: matrix vs robbery cohort	0.69	1.00	0.82	-0.09	-0.72	0.03	-0.03	-0.19	-0.28	-0.27	-0.11	-0.49	-0.44	-0.12	0.27	-0.25
Disproportionality: matrix vs most similar offender cohort	0.66	0.82	1.00	-0.16	-0.55	-0.31	-0.11	-0.18	-0.27	-0.27	-0.04	-0.46	-0.37	-0.17	0.27	-0.21
Crime - Average score	-0.47	-0.09	-0.16	1.00	-0.01	0.35	0.62	0.90	0.87	0.85	-0.30	0.30	0.66	0.31	-0.75	0.70
Robbery PPAs % Black u25s	-0.13	-0.72	-0.55	-0.01	1.00	0.17	0.21	0.10	0.13	0.14	0.36	0.17	0.18	-0.15	-0.27	0.02
Gun crime PPAs % Black u25s	-0.15	0.03	-0.31	0.35	0.17	1.00	0.38	0.36	0.30	0.38	-0.11	-0.05	0.05	0.14	-0.24	0.09
Offensive Weapon PPAs % Black u25s	-0.20	-0.03	-0.11	0.62	0.21	0.38	1.00	0.55	0.48	0.55	0.04	0.29	0.45	0.01	-0.55	0.38
IMD - Average score	-0.54	-0.19	-0.18	0.90	0.10	0.36	0.55	1.00	0.98	0.95	-0.36	0.27	0.66	0.42	-0.78	0.74
Income - Average score	-0.62	-0.28	-0.27	0.87	0.13	0.30	0.48	0.98	1.00	0.96	-0.32	0.34	0.70	0.44	-0.77	0.75
Employment - Average score	-0.62	-0.27	-0.27	0.85	0.14	0.38	0.55	0.95	0.96	1.00	-0.30	0.33	0.66	0.48	-0.68	0.76
Employment rate	0.19	-0.11	-0.04	-0.30	0.36	-0.11	0.04	-0.36	-0.32	-0.30	1.00	-0.19	-0.24	-0.26	0.12	-0.43
Total Cultural Sites	-0.54	-0.49	-0.46	0.30	0.17	-0.05	0.29	0.27	0.34	0.33	-0.19	1.00	0.73	0.06	-0.46	0.62
Free School Meals Eligible	-0.62	-0.44	-0.37	0.66	0.18	0.05	0.45	0.66	0.70	0.66	-0.24	0.73	1.00	0.10	-0.79	0.81
% with no Qualifications (16-64)	-0.46	-0.12	-0.17	0.31	-0.15	0.14	0.01	0.42	0.44	0.48	-0.26	0.06	0.10	1.00	-0.10	0.32
Own Outright	0.41	0.27	0.27	-0.75	-0.27	-0.24	-0.55	-0.78	-0.77	-0.68	0.12	-0.46	-0.79	-0.10	1.00	-0.73
Rented from Local Authority or Housing Ass	-0.53	-0.25	-0.21	0.70	0.02	0.09	0.38	0.74	0.75	0.76	-0.43	0.62	0.81	0.32	-0.73	1.00

This is also reflected in the maps below. The boroughs with the largest disparity as compared its overall Black U25 population are Richmond, Kingston, and Hounslow (although it should also be noted these boroughs have very small Matrix populations). The boroughs with the lowest levels of deprivation are also Richmond and Kingston. The boroughs with the smallest disparity as compared to its overall Black U25 population are Tower Hamlets, Islington and Westminster.

Disparity on the matrix (2019 - 2021 average) as compared to local population



Levels of Deprivation compared to rest of England



When we compare disproportionality of the matrix population as compared to the *offending cohorts* in each borough, there is no correlation with socio-economic measures. The only link is found with the proportion of robbery offenders that Black aged under 25 in that borough – in that those boroughs with the highest disparity between the Matrix population and the offender cohorts for violent offending (such as Hounslow and Bexley) have a smaller proportion of robbery offenders that are Black individuals aged under 25.

Summary

The report completes the second annual review of the MPS Gangs Violence Matrix – focussing upon the population of 2021. As a whole, there is a clear decrease in terms of overall numbers on the Matrix and these selected individuals are less likely to be young than previously found. Demographically there has been little change - the majority on the tool remain male and Black African-Caribbean - although there are signs that new Matrix additions are slightly less disproportionate and more in line with the violent offending cohort for lethal barrel discharge, personal robbery, and murder. However, given the overall reduction in volume this slight change in new additions was not enough to change the overall finding around disproportionality.

Understanding the drivers of this disproportionality is a difficult and complicated task and the paper sought to advance our understanding by looking at new data such as 'threats to life',

social economic factors as well as statistical modelling to determine the main factors predicting inclusion onto the Matrix. The analysis demonstrates disproportionality (as compared to the local population) is most stark in more affluent boroughs and that variables relating to offending history (especially robbery) are the strongest predictors for inclusion, but the influence of ethnicity cannot at this time be ruled out.