

Refreshing the Community Development Block Grant Program Formula: A Modern Allocation to Community Need

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Abstract

This article builds on the critique presented by Miller and Richardson (2023) of the Community Development Block Grant (CDBG) program formula, which has remained unchanged since 1977 despite its reliance on outdated metrics, such as pre-1940 housing and growth lag. The formula's inefficiency in targeting communities needing development funds has been well documented, yet political hurdles and zero-sum funding allocation have stalled modernization efforts. In addressing such criticisms, this article explores alternative formulas, proposing a "replacement formula" that emphasizes poverty and dated infrastructure with adjustments for fiscal capacity alongside a more conservative "repair formula" that modifies the existing dual formula structure to address its most critical flaws. This article also proposes a phased implementation of a new formula that may resolve the political challenges of reform, offering a path toward a more equitable and effective distribution of CDBG funds.

Introduction

The Community Development Block Grant (CDBG) program has been a cornerstone of urban revitalization and support for low- and moderate-income communities for the past 50 years. For all but the first 3 years of CDBG, the funds have been distributed according to the same formula. That formula relies on outdated variables, including pre-1940 housing and growth lag since 1960. Since the formula's inception in 1977, several authors have conducted in-depth examinations of the inconsistencies of the CDBG formula in targeting communities with the most community development need. Most recently, Miller and Richardson (2023) published a congressionally mandated report that expanded the decades of criticisms into a modern context, showing that the formula continues to decline in its ability to target need.

Funding formulas are a zero-sum game: giving one jurisdiction more money means less is available to give to another. Despite decades of criticism, the politics of a zero-sum game have prevented the formula from modernizing. This article is an extension of the report by Miller and Richardson (2023) to explore alternative formulas that could modernize the current formula. The author of this article, Greg Miller, did this analysis while working for the U.S. Department of Housing and Urban Development (HUD), but the views in this article are not reflective of the views of HUD. This article will presume some knowledge of the initial report, including how the current CDBG formula works. Reading the initial report is highly recommended before reading this article.

Flaws in the Current Formula

The current formula creates funding discrepancies that can, at times, be extreme:

A couple of examples illustrate the problem with the current formula. Although San Sebastian Municipio, Puerto Rico, receives \$32 per impoverished person, with a 50-percent poverty rate and median household income of \$15,995, Haverford, Pennsylvania, receives \$461 per impoverished person, with a 3-percent poverty rate and median household income of \$114,554. Pre-1940 housing and growth lag drives Haverford's high allocation, yet Haverford does not have high community needs. Similarly, Arlington, Massachusetts, receives \$448 per impoverished person, with a poverty rate of 5 percent and a median household income of \$125,000. Meanwhile, Hattiesburg, Mississippi, receives \$37 per impoverished person, with a poverty rate of 28 percent and a median household income of \$36,000. Pre-1940 housing drives Arlington's allocation, with a lower allocation coming from growth lag.

—Miller and Richardson (2023)

Miller and Richardson also outlined eight primary issues with the CDBG formula.

1. College Town Overallocation (the poverty factor includes college students, equating to college towns being overallocated).
2. Formula A Inequity (the population factor evens the distribution of funds between high-need and low-need formula A grantees).
3. Formula B Inequity (grantees may receive very different allocations due to the pre-1940 housing variable).
4. Formula B Overallocation (grantees disproportionately overrepresent the share of need among formula B factors, receiving more allocation than their needs should imply).
5. Nonentitlement Underallocation (although funds are split such that nonentitlement areas receive 30 percent of the allocation, nonentitlement areas represent greater than 30 percent of the share of most formula variables, which results in less funding going to nonentitlement areas than their needs imply).

6. Systematic Reweighting of Factors (the formula reassigns weights of the factors in two ways. First, the formula uses metropolitan area denominators for the calculation of the distributions, and second, the nature of the dual formula results in factors being either more or less favored than their weights imply).
7. Timeframe Lag (the pre-1940 housing factor and the growth lag factor, which measures lag since 1960, will not capture communities that are either relatively new and have high need or have recently increased in need).
8. Underweighting Poverty (the current formula, in aggregate, results in just greater than 30 percent of funds distributed according to poverty, which results in great discrepancies in allocations per impoverished person).

CDBG is intended to benefit primarily low- and moderate-income families, and allocating funds to jurisdictions proportional to community development need is important to achieve that objective. Poverty is the variable most correlated with community need indexes. CDBG may not be considered a poverty-alleviating program, but poverty is so interwoven with community need that it should drive most of the allocation of funds.

Meanwhile, the inclusion of growth lag is problematic and creates a large number of grantees. Although the other variables in the CDBG formula are scaled relative to all other jurisdictions, growth lag consists only of jurisdictions experiencing growth lag—a shortfall in population that an entitlement area has experienced as defined by its actual population growth since 1960 compared with the average population growth of all metropolitan cities since 1960. More than 60 percent of all jurisdictions record a zero on the growth lag variable. Therefore, jurisdictions that record a value for growth lag, even a low value, account for relatively high total growth lag.

The idea behind a growth lag is to capture areas in economic decline, yet growth lag captures just as many, if not more, high-income, low-need communities. For instance, Haverford, Pennsylvania, and Arlington, Massachusetts—mentioned earlier—are wealthy suburbs that have growth lag because they choose not to expand. When the growth lag factor captures high-need communities, it results in overallocation. As a result, Detroit—for example—receives 64 percent of its allocation under the growth lag factor; therefore, any formula without growth lag calculations results in significant decreases for Detroit, even if the formula calculates funds for Detroit at the highest per capita levels (foreshadowing the formula alternatives presented here).

Need exists only to the extent that people have that need. Growth lag reflects the opposite. As with Detroit, the fewer people the city has, the more money it gets. Moreover, community development need exists to the extent that people are in need and the community lacks the capital and infrastructure to meet that need. The inclusion of growth lag in the current formula is an attempt to identify the latter (the communities with less economic activity), resulting in lagging infrastructure.

Formulas with the pre-1940 housing variable built in also over-target wealthy suburbs because wealthy communities preserve old housing for aesthetic purposes, whereas lower-income communities are more likely to bulldoze such properties or leave them vacant. San Francisco receives a large majority of its allocation because of the pre-1940 housing (as well as from growth

lag) factor, and although San Francisco certainly had people in need, it has a median family income of more than \$167,861.¹ San Francisco is an urban core that has operated in many ways like a wealthy suburb.

Detroit's and San Francisco's allocations are emblematic of the reason the CDBG formula has not changed. Both jurisdictions have needs, but because the current formula's anomalies disproportionately assign large allocations to each city, similarly needy places do not receive their fair share of funds. For the low-income jurisdictions with low allocations, under an updated formula, Detroit and San Francisco would receive reduced funding. Hattiesburg, Mississippi; Puerto Rico; and Memphis, Tennessee, are among the low-income jurisdictions that would benefit from increased allocations.

The author of this article does not argue that CDBG is a legacy program that should protect jurisdictions from relative decreases in funding. Instead, the author asserts that CDBG is a chassis that should be modernized as programs get built on top of it, with a vision of a larger role of CDBG in the future. If this assertion is true, then modernizing the formula should be part of that vision. The transition to a more modernized formula does not have to be sudden; a new formula can be phased in when more funding is allocated.

Formula Alternatives

Miller and Richardson (2023) illustrated that the current formula results in wide variability in funding according to community development need, and they outlined numerous issues with the current formula that result in the imperfect targeting of jurisdictions in need. The initial report criticized the formula with and without the community needs index, and both avenues of criticism corroborated each other. The evidence presented in the report led to a series of considerations for a future formula to allocate CDBG funds. Those considerations were to create a single formula, place a larger weight on poverty, target aging housing in poor and declining communities, and remove the growth lag and population variables.

The development of a new formula followed three guiding principles. First, the new formula should target funds according to community development need. This criterion should be dually focused on vertical equity so that high-need grantees would receive allocations proportional to their need and horizontal equity so that similarly needy grantees receive similar allocations. Second, the formula should be simple. The complexity of the current formula introduced a host of unanticipated flaws in targeting need. A simplified formula will make allocations more transparent and create a greater sense of fairness. Finally, the formula should be durable over time so that it can be consistently updated (as with the current formula).

Miller and Richardson (2023) constructed a community needs index to assign a community needs score to every CDBG jurisdiction; the index is referenced in this article to explain the impacts of using a new formula. The community needs index is a tool to assess the targeting of formulas; however, it should not be used to construct a new formula. The index is formed from factor analysis, which relies on subjective interpretation and weighting factors while not capturing all

¹ U.S. Census Bureau American Community 1-Year Estimates for 2022: <https://www.census.gov/programs-surveys/saipe.html>.

the variances explained in the data. Therefore, the community needs index should not be treated as the gold standard. Instead, a new formula should stem from a solid theoretical grounding and be tested against the community needs index. This approach contrasts with performing a regression analysis to find the few variables that make the “best possible” formula according to the community needs index.

With these goals in mind, the author proposes a new formula, one that starts from scratch without remnants of the current formula. This formula is referred to as the “replacement” formula, and it results in large decreases in funding for currently overtargeted jurisdictions according to the community needs index.

Richardson’s (2005) goal of minimizing the redistribution of funds so that no jurisdictions lose large amounts of funding was not considered when devising the most optimal formula. Given that CDBG issues funds annually, short-term considerations of jurisdictions that lose money should not change the formula that may be correct on premise. The leaders of many jurisdictions, upon the use of a replacement formula, may be disappointed to receive lower allocations; hence, this article offers a “repair” formula that maintains the dual-formula structure of the current method while correcting some of the problems previously noted.

The formulas for the repair and replacement options are templates based on the findings by Miller and Richardson. No perfect solution exists, but the formulas provided in this article can provide a glimpse into how policymakers should create a modern formula.

This article strongly recommends the replacement formula more than the repair formula. To prevent an acute change in allocation for jurisdictions that will be issued a decrease in funding under a new formula, legislators can use a phased approach to implementation. A replacement formula could be weighted with the current formula for 5 years. For the first year, the current formula could be weighted 80 percent; the next year, 60 percent; then, during the next 3 years, the weight would decrease by 20 percent until the replacement formula is fully adopted. This gradual implementation would prevent the occurrence of a “cliff effect,” the sudden significant decrease in funding from one year to the next. For each jurisdiction, the online appendix (<https://github.com/gregmiller00/cdbg>) lists the fiscal year 2022 allocation under the current formula and the replacement and repair alternatives, as well as the first-year allocation under a 5-year phase-in. The appendix also shows the difference in funding between the proposed formulas and the current formula.

Alternatively, the occurrence of changes by a replacement formula can trigger mechanisms that cause it to become effective only when funding levels increase. A trigger mechanism could ensure that jurisdictions do not see significant decreases in funding, reducing the impact of a formula change. If Congress increases funding allocation for the CDBG program, refusing to change the formula would be a missed opportunity.

A One-Formula Alternative (Replacement Formula)

With the insight established in the initial report on targeting community need, this article proposes a replacement formula based on poverty and pre-1980 housing (vacant or occupied by a

household in poverty) factors, with a fiscal capacity adjustment factor based on the mean income of a place compared with its metropolitan area. The formula would apply to all jurisdictions in the following manner:

$$\left[\frac{POV_i}{SUM(POV)} * 0.7 + \frac{DATED_i}{SUM(DATED)} * 0.3 \right] * f(inc_{ratio}) * total_{alloc}$$

Where—

- (i) is the value for the jurisdiction.
- $SUM()$ is the nationwide sum of the variable.
- POV is the number of impoverished people, excluding those enrolled in college.
- $DATED$ is the number of houses built 40 or more years ago or before the recent decennial census that are either vacant or occupied by households in poverty. At the time of this article, that category correlates to pre-1980 housing. Here, “vacant” excludes categories of vacancy, such as seasonal use and usual residence elsewhere, which may be secondary homes for well-off households. For the census-provided data, vacant means including the following three categories: For Rent, For Sale Only, and Other Vacant.
- $f()$ is a fiscal capacity adjustment factor formula with a minimum at 0.9 and a maximum at 1.1:
$$1.1: \frac{0.2}{1 + e^{-10 * (x-1)}} + 0.9$$
- inc_{ratio} is the ratio of a place’s mean income ratio to the metropolitan area. Nonentitlement areas are set to 1.

This formula places a strong weight on poverty, the same as Congress’ emphasis on serving 70 percent of low- to moderate-income households. Poverty is the most obvious indicator of community need and displays the highest levels of correlation with all other variables of community need. Poverty targets both the number of people and households in need and areas with low fiscal capacity to assist those people.

Poverty alone cannot identify areas struggling with a confluence of poverty and dated infrastructure, representing areas of particular need. Therefore, dated housing is added with a 30-percent weight. This variable is restricted to an area’s vacant pre-1980 housing and pre-1980 housing occupied by households in poverty. Vacant pre-1980 housing indicates potentially rundown areas that likely lack the private investment needed to revitalize aging infrastructure and indicates low demand to occupy those housing units.

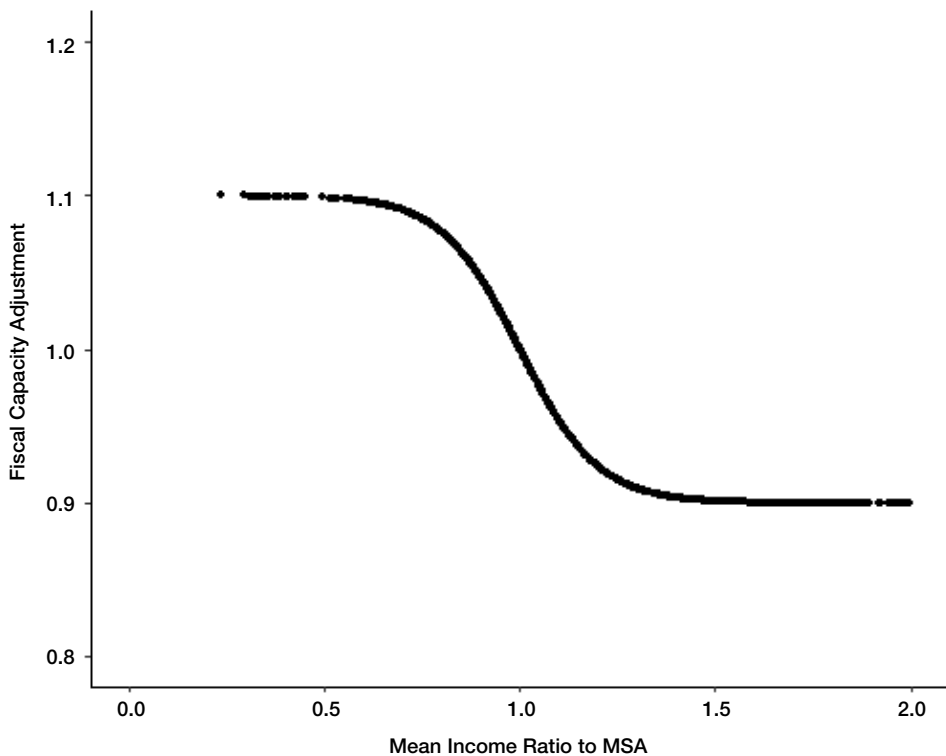
The dated housing variable already captures the intent behind the growth lag factor—perhaps better than growth lag. The intent behind the growth lag factor is to target places that are losing business and economic activity. In these areas, new construction is expected to be low, so the communities will rely more on dated infrastructure. In addition, with a loss in population, the area will likely have increased vacant and dated housing, representing abandoned buildings that

are likely not inhabitable. The pre-1980 housing factor has a correlation of 0.57 with 30-year population change, which indicates a good degree of correlation between the two variables.

The fiscal capacity adjustment rounds out the development of a replacement formula. In trading complexity for simplicity, this adjustment ensures that the formula appropriately targets the neediest jurisdictions in each metropolitan area that have the least capacity to meet their needs, as caused by a lower tax base than neighboring jurisdictions. By calculating a ratio, the adjustment helps capture regional price differences because a jurisdiction with low mean income ratios faces higher costs (as implied by higher median income in their area) and will be particularly needy for their area. Exhibit 1 shows the shape of the function applied to the median income ratios, which ensures that the adjustment is not too strong. Due to the fiscal capacity adjustment, the formula must be pro rata reduced or increased after running the allocation.

Exhibit 1

Fiscal Capacity Adjustment



MSA = metropolitan statistical area.

Source: Office of Policy Development and Research calculations of American Community Survey data

The initial report suggested that growth lag and overcrowding could remain if legislators deem it necessary, but this article ultimately suggests removing both. Growth lag is excluded because the dated housing factor captures the intent behind a growth lag factor better than growth lag. First, because many jurisdictions record a growth lag of zero, even if a jurisdiction has a small amount of

growth lag, it will receive a relatively large allocation from the factor due to a small denominator. Second, growth lag also captures suburban areas with growth lag due to policies intended to reduce population growth and development.

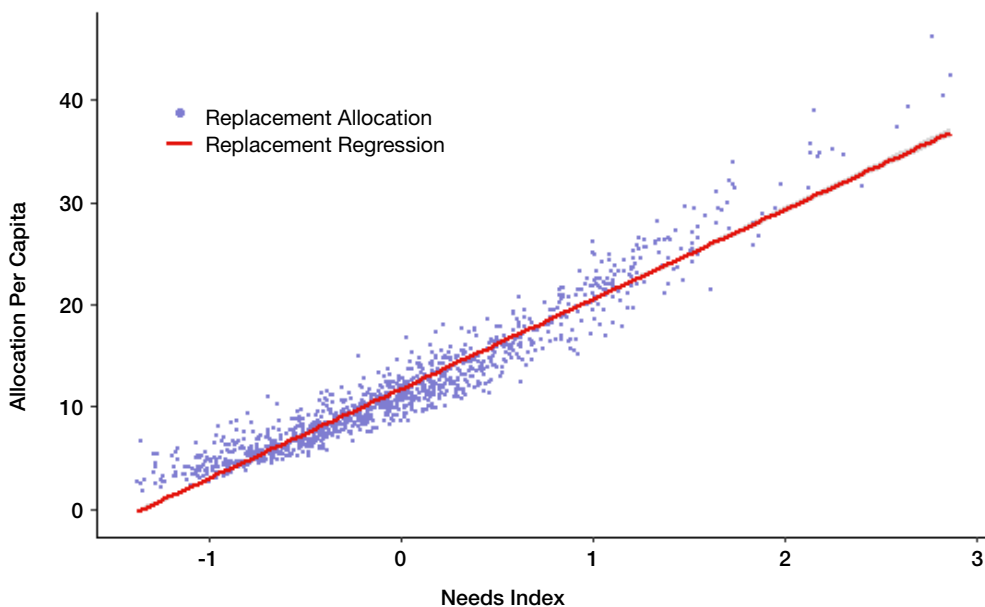
Overcrowding is also excluded from the analysis. The factor was initially included to target the slums of the 1970s, which explains its 25-percent weight in formula A. Although 8.2 percent of houses were overcrowded in 1970, 3.4 percent were overcrowded in 2020, making it an issue unique to a smaller number of communities. At the same time, areas with overcrowding—high-demand and high-cost areas—likely have a higher fiscal capacity to meet those needs due to larger tax bases. Overcrowding also occurs in impoverished places surrounding high-cost communities, where large immigrant populations reside. The fiscal capacity adjustment will ensure targeting these places, from which workers commute into metropolitan cores for work, because the place will have a much lower mean income than the high-cost metropolitan areas. Therefore, overcrowding is not included in this formula.

Targeting to Need

The replacement formula performs well on the community needs index. Exhibits 2 and 3 show the formula’s performance using the nominal per capita needs and needs index ranking. The proposed formula displays a good degree of vertical and horizontal equity. The solid line in these figures is not the model allocation. Instead, the exhibits show the regression of the proposed formula against the needs index to illustrate the general trend of the proposed formula.

Exhibit 2

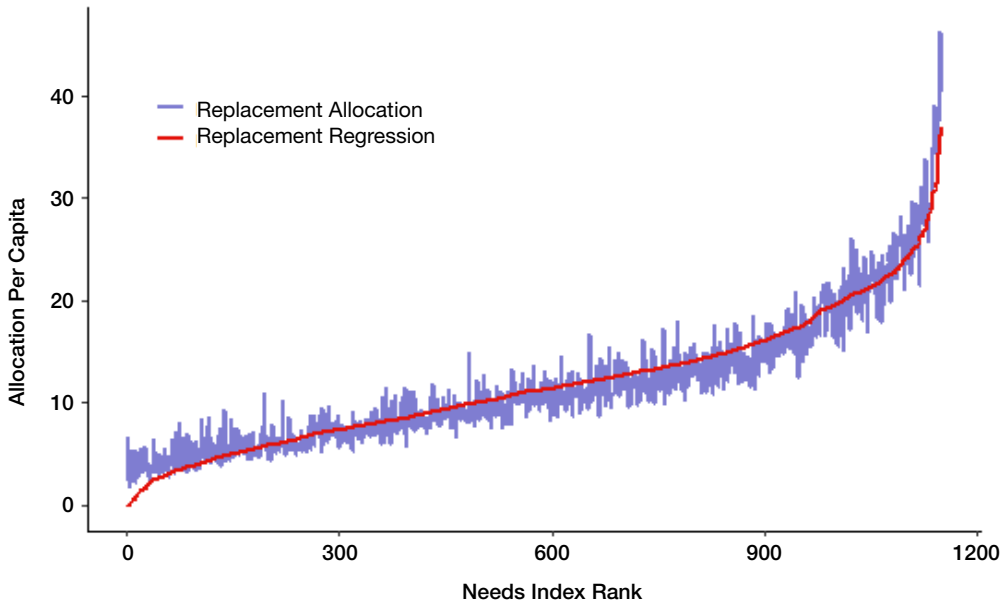
Replacement Formula Performance on the Needs Index



Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation and the needs index

Exhibit 3

Replacement Formula Performance on Needs Index Rank



Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation and the needs index

The regression—represented by the solid line in exhibits 2 and 3—demonstrates the replacement formula’s improvements on horizontal and vertical equity. Exhibit 4 shows the regression results, unweighted and weighted. Horizontal equity is represented by less variation in allocation from similarly-needed jurisdictions (R-squared value) while vertical equity is represented by more funding for high-need jurisdictions (slope). The formula displays much better horizontal equity than the current formula, with R-squared values of 0.94 unweighted and 0.93 weighted. The proposed formula also displays vertical equity, with slopes of 8.85 and 8.47, respectively. As the initial report mentioned, vertical equity would be 8.27 or less, assuming the community needs index is correct, because that slope assumes that the least needy community has zero need. However, the community needs index likely understates the needs of very high-need communities. Factor 3, which targets areas of income inequality and high college education rates, results in places with widespread need across the entire community receiving low scores on factor 3. A slightly higher vertical slope may be justified in the creation of a new formula.

Exhibit 4

Regression of the Replacement Formula on the Needs Index

	Unweighted	Weighted
Coefficient	8.85097	8.47296
R-squared	0.94050	0.92670

Source: Office of Policy Development and Research calculation of the Community Development Block Grant alternative formula allocation and the needs index

Winners and Losers

A new formula will always shift funds, and assuming no increase in CDBG funding, formulas become a zero-sum game, with winners and losers—jurisdictions that gain funds and those that lose funds, respectively. This proposed replacement formula is the same. In fact, with the analysis in Miller and Richardson (2023) indicating that some jurisdictions receive either significant underallocation or overallocation, quite a few big winners and big losers exist. Exhibit 5 breaks down the count and percentage of winners and losers based on bracket categories. With no change to the amount appropriated, 24 percent of jurisdictions gain more than 30 percent of their current funding, and 22 percent lose more than 30 percent of their funding. Slightly less than one-fifth of CDBG places stay within 10 percent of their current allocation.

Exhibit 5

Winners and Losers of the One Formula Proposal

Winners and Losers	Count	Percent (%)
Gained 30% or more	304	24
Gained 10–20%	173	13
Gained 5–10%	55	4
Gained 0–5%	52	4
Lost 0–5%	67	5
Lost 5–10%	71	6
Lost 10–30%	282	22
Lost 30% or more	284	22

Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation

To see how the replacement formula shifts funds by level of need, exhibit 6 shows the shift in funding by decile of need from the current formula to this alternative formula. The first three deciles lose funds, with the least needy jurisdictions dropping 33 percent. The fourth through ninth deciles all gain allocations under this formula.

Exhibit 6

Allocation Per Capita Difference Between Replacement and Current Allocation by Decile of Need

Decile of Community Development Need	Current Formula (\$)	Replacement Formula (\$)	Percent (%) Difference
Low	6.57	4.41	– 33
2	6.95	5.85	– 16
3	7.51	7.20	– 4
4	8.33	8.50	2
5	8.87	9.97	12
6	11.14	11.33	2
7	11.45	12.82	12
8	13.01	14.55	12
9	17.52	18.52	6
High	28.66	26.40	– 8

Source: Office of Policy Development and Research calculation of the Community Development Block Grant alternative formula allocation and the needs index

The neediest jurisdictions are a sensitive topic when it comes to the analysis of the current formula. Due to the strength of the growth lag and pre-1940 housing variables, these jurisdictions are already strongly funded. The model allocation in the initial report, reflecting the allocation difference between the model and current allocation by decile of need, suggests a 14-percent drop for the top decile of needy jurisdictions. In a more modernized allocation, the top decile of need drops 8 percent. Certain extreme examples of high-need jurisdictions receive a decreased allocation under the proposed formula. These examples include a 30-percent decrease for Detroit, Michigan; a 29-percent decrease for Saginaw, Michigan; and a 40-percent decrease for Youngstown, Ohio.

As need increases, so does the variance in allocations under the current formula. Among high-need jurisdictions, similarly needy jurisdictions receive significantly different allocations. To minimize the differences, certain high-need jurisdictions will have to decrease their allocations to increase the allocation of other high-need places. The decrease in funding helps cure the horizontal equity issues among high-need jurisdictions. Some extreme examples include an 84-percent increase for Warren, Michigan; a 55-percent increase for Monroe, Michigan; and a 105-percent increase for Albany, Georgia.

The biggest gainers are, unsurprisingly, jurisdictions in Puerto Rico that have high levels of poverty and are mostly awarded under formula A. Moss Point, Mississippi, is the largest gainer under the proposed formula, receiving 286 percent of its current allocation, and Puerto Rico jurisdictions make up the next four top gainers. Exhibit 7 restricts to populations greater than 200,000 and shows the five largest gainers under the proposed formula. Memphis, Tennessee, nearly doubles its current allocation under the proposed formula.

Exhibit 7

Select Large Gainers (by percent) From the Proposed Formula Among Cities (> 200,000 population, per capita amounts rounded to the nearest dollar)

	Fiscal Year 2022 Per-Capita Allocation (\$)	Replacement Formula Per Capita (\$)	Difference Per Capita (\$)	Change (%)
Memphis, TN	10	19	+ 9	98
Shreveport, LA	10	20	+ 9	94
St. Petersburg, FL	7	13	+ 6	81
Montgomery, AL	8	15	+ 7	75
Wichita, KS	7	13	+ 6	75

Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation

Haverford, Pennsylvania, and Arlington, Massachusetts, are among the top five locations with the largest decreases using the proposed formula—which follows from the initial report—because the cities contain high allocations per person in poverty. Meanwhile, Newton, Massachusetts, has the largest decrease in allocation, receiving only 16 percent of its current allocation. Newton is awarded under formula B, largely due to the pre-1940 housing and growth lag factors, because it is a relatively wealthy suburb with historic buildings. Newton has a median household income of \$164,607, whereas the national median household income is \$70,784. The others among the

biggest losers are all formula B grantees that are relatively wealthy communities. Exhibit 8 shows the largest decreases in allocations for jurisdictions with populations greater than 200,000.

Exhibit 8

Biggest Decreases (by percent) From the Proposed Formula Among Cities (> 200,000 population, per capita amounts rounded to the nearest dollar)

Name	Fiscal Year 2022 Per Capita Allocation (\$)	Replacement Formula Per Capita (\$)	Difference Per Capita (\$)	Percent of Original (%)
San Francisco, CA	21	6	15	29
Pittsburgh, PA	45	16	29	36
St. Louis, MO	59	24	35	40
Fremont, CA	7	3	4	45
Minneapolis, MN	26	13	13	49

Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation

Nonentitlements

This formula does not split funds allocated for entitlement and nonentitlement areas into different preset buckets. By allocating entitlement and nonentitlement areas through the same formula, nonentitlement areas receive 36 percent of the total allocation—almost exactly the share of need that nonentitlement areas contain according to the community needs index. Therefore, nonentitlement areas, on average, gain allocation under the proposed formula.

No Losers Provision

The current formula has resulted in certain jurisdictions winning for decades because they receive significantly greater allocations than their needs imply; because formulas are a zero-sum game, other jurisdictions with needs have been losing. Nevertheless, reducing jurisdiction allocations is a politically fraught situation. This sentiment was the genesis of the dual formula, which, in keeping formula A, could be marketed as a process resulting in “no losers”—although keen observers and mathematicians know that reallocating funds always results in winners and losers.

The only way to ensure no losers and improve the formula is to increase funding. Unfortunately, because some wealthy slow-growth communities perform so well under the current formula, a significant funding increase would be needed to offset their decrease. Under the proposed replacement formula, Congress would need to increase the Community Development Block Grant program allocation by more than six times its current amount to ensure no losers.

Miller and Richardson (2023) showed that the level of CDBG funding has remained relatively stagnant since the program’s inception. Increasing CDBG funding to \$7.1 billion—one-half of the amount CDBG would have been if it had tracked with inflation—would result in significantly fewer losers, and the losers would almost all be wealthy communities. Only 46 jurisdictions, or 3.75 percent, would lose funding, with 12 still losing more than 30 percent. If CDBG funding were to increase to the 1978 inflation equivalent of \$14.2 billion, there would only be four jurisdictions

that lose between 10–30 percent. If CDBG funding were to increase to \$21.2 billion—the amount of funding tracked with inflation and population growth—then no jurisdiction would receive a decreased allocation.

Repair Formula

The current formula has remained unchanged despite 40 years of researchers recommending changes largely because, as previously discussed, formula change always implies losers. Because of significant decreases in funding (also preventing change), this article proposes a replacement formula that offers a “repair” option to make the formula more efficient in targeting community development need while being path-dependent from the current formula.

The repair formula would keep the current formula’s dual format, with two formulas resembling the current equation:

$$\text{Formula A: } \left[0.75 * \frac{Pov_i}{Pov_{nat}} + 0.25 * \frac{Ocrowd_i}{Ocrowd_{nat}} \right] * total_alloc$$

$$\text{Formula B: } \left[0.4 * \frac{Pov_i}{Pov_{nat}} + 0.1 * \left[\frac{Grlag_i}{g(Grlag)_{nat}} \right] * g(medinc_{ratio}) + 0.5 \frac{Dated_i}{Dated_{nat}} \right] * total_alloc$$

In formula A, population is removed as a factor, shifting the weight from population to poverty. Poverty in this formula removes full-time college students.

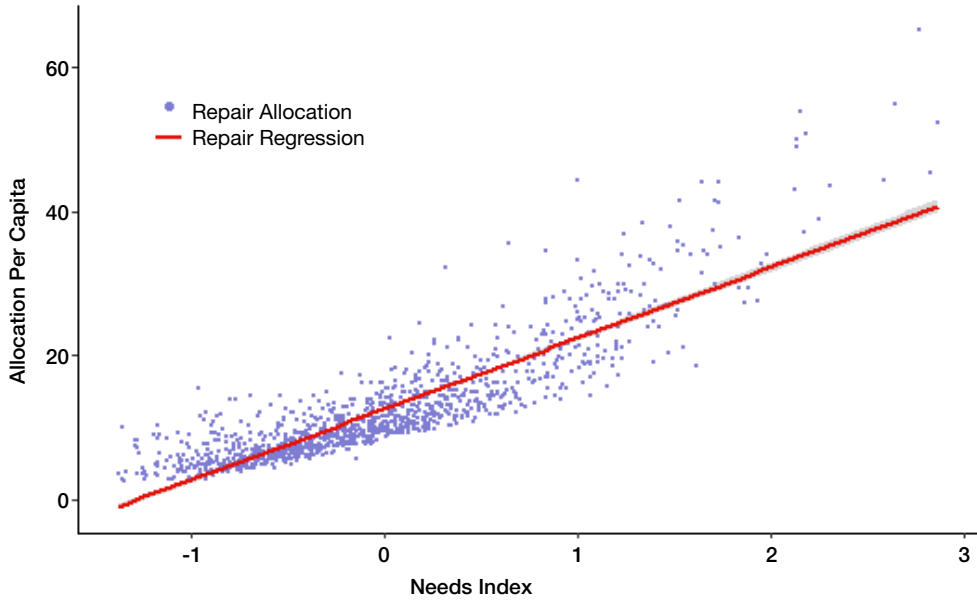
Formula B addresses changes associated with growth lag. The weight on growth lag is reduced by 10 percent and shifted to poverty (excluding college students). Next, growth lag is multiplied by a function that takes the ratio of an area’s median income to the national median income. If an area has less than the national median income, its growth lag factor is 1 (or 100 percent). For areas with higher median income than the national average, growth lag is exponentially decreased such that an area with a 125-percent median income has a 49-percent reduction in its growth lag. The denominator is the sum of growth lag nationally after adjustments for median income ratios. This function removes the effect of the growth lag factor on wealthy suburbs.

As with the replacement formula, dated housing refers to the number of houses built 40 or more years before the recent decennial census that are either vacant or occupied by households in poverty. At the time of this article, that category correlates to pre-1980 housing. Nonentitlements and entitlements will draw from the same bucket of funding. For growth lag, nonentitlement areas will be assigned a zero.

Exhibits 9 and 10 show the repair formula’s performance using the nominal per capita needs and community needs index ranking. As shown, the replacement formula displays a good degree of vertical equity but only modest horizontal equity. The regression line in these exhibits is not the model allocation; it is the regression of the repair formula against the needs index.

Exhibit 9

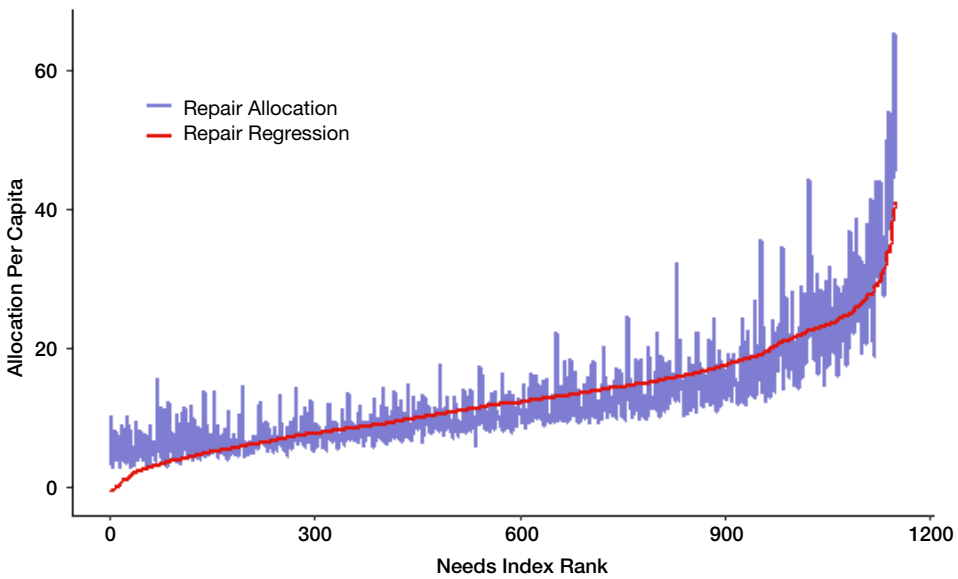
Repair Formula Performance on the Needs Index



Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation and the community needs index

Exhibit 10

Repair Formula Performance on Needs Index Rank



Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation and the needs index

The repair formula displays greater vertical allocation and lower horizontal equity than the replacement formula. Exhibit 11 shows the unweighted and weighted regressions. The formula displays much better horizontal equity than the current formula, with the R-squared values of 0.7777 unweighted and 0.6906 weighted. The repair formula also displays vertical equity, with slopes of 9.76 and 8.92, respectively. As the initial report found, vertical equity would be 8.24 or less if the community needs index is correct because that is the slope assuming that the least needy community has zero need.

Exhibit 11

Regression of the Repair Formula on the Needs Index		
	Unweighted	Weighted
Coefficient	9.7560	8.92479
R-squared	0.7777	0.6906

Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation and the community needs index

Compared with the current formula, the repair formula has greater vertical allocation, outpacing the model allocation, which is likely because the growth lag adjustment results in a very small denominator, such that high-need places with growth lag receive significant allocations. Although high-need jurisdictions perform well, this formula ensures that low-need communities do not receive high amounts of funding. This formula does a better job of ensuring horizontal equity. The retention element of the dual formula partly causes the remaining horizontal equity issues because jurisdictions indicating similar need are allocated under different formulas, with formula B still outperforming formula A.

Exhibit 12 shows the winners and losers by categorical brackets of how much they gained or lost. The repair formula results in significantly fewer big losers than the one-formula proposal, with only 8 percent losing more than 30 percent of their original allocation, compared with 22 percent for the replacement formula.

Exhibit 12

Winners and Losers of the Repair Formula Proposal		
Winners and Losers	Count	Percent (%)
Gained 30% or more	195	16
Gained 10–20%	419	34
Gained 5–10%	99	8
Gained 0–5%	69	6
Lost 0–5%	74	6
Lost 5–10%	69	6
Lost 10–30%	205	17
Lost 30% or more	98	8

Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation and the community needs index

Exhibit 13 breaks down the effect of the repair formula by decile. The lowest-need jurisdictions lose 13 percent of their current allocation, and jurisdictions in the second lowest-need decile

lose, on average, 6 percent. All other need categories gain in allocation, including the neediest, according to this formula.

Exhibit 13

Per Capita Allocation Difference Between Repair and Current Formula by Decile of Need			
Decile of Community Development Need	Current Formula (\$)	Repair Formula (\$)	Percent (%) Difference
Low	6.57	5.71	- 13
2	6.95	6.51	- 6
3	7.51	7.56	1
4	8.33	8.88	7
5	8.87	9.84	11
6	11.14	11.81	6
7	11.45	13.15	15
8	13.01	15.14	16
9	17.52	19.61	12
High	28.66	30.60	7

Source: Office of Policy Development and Research calculation of the Community Development Block Grant formula allocation and the community needs index

Nonentitlements receive just under 29 percent of the total allocation with the repair formula, which is less than the needs that nonentitlements imply and less than the current 30 percent they are allocated. Because nonentitlement areas cannot have growth lag, they are slightly disadvantaged under any formula that attempts to allocate to both areas and includes growth lag. Any politically feasible alternative that attempts to limit big losers would likely have to retain the growth lag factor because it contributes to significant funding levels for a noticeable percentage of jurisdictions. Therefore, policymakers, if adopting a version of a repair formula, should consider retaining the separate buckets of funding for nonentitlement and entitlement areas.

Conclusion

A modern CDBG program requires a modern formula. Despite 4 decades of criticism of the current formula (including from the formula's original author), the CDBG formula remains unchanged. At the same time, CDBG funding levels have also remained steady since the program's inception—and formulas are a zero-sum game when funding is held constant. Nonetheless, policymakers should consider any increase in funding without a formula change a missed opportunity, one that will continue to result in inequitable funding annually.

Miller and Richardson (2023) suggested that Congress could give HUD the same flexibility as it has under its HOME Investment Partnerships Program. Rather than defining the CDBG formula legislatively, Congress could give HUD the needed flexibility to define the formula. Congress may choose to coordinate formula changes based on a collaborative approach between HUD and participating jurisdictions with negotiated rulemaking. This approach was used for the Public Housing Operating Fund and the Indian Housing Block Grant formulas.

This article builds on the insights of Miller and Richardson (2023) and proposes alternative formulas for a modern allocation. The first alternative—the replacement formula—proposes a new formula targeting the statutory objectives of the program. The replacement formula weights poverty at 70 percent and pre-1980 housing (either vacant or occupied by a household in poverty) at 30 percent. The formula then multiplies by a fiscal capacity adjustment to enhance targeting to communities with the least capacity to meet their needs. This formula, tested against the needs index, performs very well in capturing need. The second alternative—the repair formula—fixes obvious problems in the current formula but does not cause as many jurisdictions to have significant decreases in funding. Using either alternative would be more effective than the current, less modernized formula.

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Greg Miller was a program analyst in policy development and research for the U.S. Department of Housing and Urban Development.

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