The Community Capacity Development Office Weed and Seed Indicator Project: Considerations for Implementing an Enhanced Performance Measure System

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Introduction

OVERVIEW AND PROJECT GENESIS

In 2003, the Community Capacity Development Office (CCDO, formerly known as the Executive Office for Weed and Seed), the Justice Research and Statistics Association (JRSA), and the Urban Institute (UI) initiated a review of the CCDO approach to performance measurement. That performance measurement system was based on a single indicator: year-to-year changes in homicide counts. The key consideration was to determine if enhancements could be made that would move beyond the simple calculation of year-to-year changes in homicides without unduly increasing the reporting burden for the sites. This review, then, provided an opportunity to think broadly about how best to measure crime control strategies that would account for variation in both crime prevalence and population affected, an interest that goes beyond CCDO to any agency or policymaker seeking to understand the effect of crime control programs.

In 2003, UI began developing an enhanced performance measure that would be less volatile than the number of homicides. In this report, we describe the current performance measurement and performance management system in place within the executive branch. Then, we describe our examination of alternative performance measures for the Weed and Seed program. We conclude that crime rate, rather than counts of homicides alone, would better serve the need of the CCDO to set performance targets for both individual sites and the Weed and Seed program as a whole. In the final sections, we recommend changes to the existing Weed and Seed performance measurement system as well as an approach to integrating the revised system we propose into the management of the individual sites and of the entire Weed and Seed program.

COMMUNITY CAPACITY DEVELOPMENT OFFICE AND PERFORMANCE INDICATORS

Performance Measures in the Federal Government

As part of the budgeting process for fiscal year (FY) 2004, the Office of Management and Budget (OMB) issued the following statement:

Federal programs should receive taxpayer dollars only when they prove they achieve results…Good government—a government responsible to the people whose dollars it takes to fund its operations—must have as its core purpose the achievement of results…In a results-oriented government, the burden of proof rests on each federal program and its advocates to prove that the program is getting results…

This budget [FY 2004] makes an unprecedented effort to assess the effectiveness of specific federal programs. It introduces a new rating tool [Program Assessment Rating Tool, or PART] to hold agencies accountable for accomplishing results. Programs are rated from Effective to Ineffective, and the ratings and specific findings produced will be used to make decisions regarding budgets and policy. The tool assumes that a program that cannot demonstrate positive results is no more entitled to funding, let alone an increase, than a program that is clearly failing…
Taken seriously, rigorous performance assessment will boost the quality of federal programs, and taxpayers will see more of the results they were promised. What works is what matters, and achievement should determine which programs survive, and which do not. The public must finally be able to hold managers and policymakers accountable for results, and improve the performance of federal programs in the way that Presidents and Congresses have sought for decades. Whether resources shift over time from deficient to good programs will be the test the PART itself must pass.1

Even without consideration of the government’s desire to assess individual agency performance, a performance measurement indicator system (PMIS) is simply good practice. Compared with a scientifically sound evaluation, a PMIS is a more cost-effective way of monitoring activities and expected outcomes. A PMIS can also help isolate approaches and outcomes that appear worthy of further exploration through hypothesis testing (e.g., a program that focuses on quality-of-life crimes showed a decline in drug arrests over time) and can help guide the formulation of a research approach (e.g., the program was in a small rather than a large jurisdiction). Finally, a PMIS can aid in program management: communities can monitor the PMIS in other jurisdictions to identify best practices, and managers can use changes in measures over time to determine whether the programmatic approaches have had the intended effects. If they have not, then some changes are likely in order.

**Local Program Management**

Developing the measures is only one component of performance management. Developing performance measures forces program managers to conceptualize the specific inputs and activities that they believe are necessary to accomplish the desired outcomes (performance measures). Further, the specific contextual factors that may influence program performance must also be understood and addressed. Then, over time, the measures should be used as criteria to determine whether a specific approach has met its stated goals. If the goals have not been met, program managers can then review whether the necessary activities were conducted and whether the appropriate inputs were available. This review can help specify where programmatic changes might be necessary.

For example, suppose that a specific crime reduction program had as its performance goal the reduction of robberies. It set as its target a 10 percent reduction in robberies for each of three consecutive years. Period 1 served as a baseline, during which there were 150 robberies. During period 2 there were 120 robberies (a 20 percent reduction from period 1), but during period 3 there were 160 robberies (a 33 percent increase from period 2). In a performance management system, program staff managers would examine the degree to which their targets were met. For period 2 the targets were met, but for period 3 they were not. Managers would then examine whether the program’s activities had been adequately conducted (e.g., perhaps there had been a staffing shortage) or whether there were changes in inputs (e.g., perhaps overall funding had been cut). If nothing had changed in either the programmatic inputs or activities, perhaps there

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had been contextual changes (e.g., an adaptive change in the behavior of heroin traffickers).\textsuperscript{2}

Performance management incorporates performance measures as guides for ongoing program administration.

\textbf{National Program Management}

At the national level (e.g., within the Community Capacity Development Office at the Office of Justice Programs), incorporating performance measures into program management entails different managerial decisions. Primarily, it can be used by CCDO to assess individual sites’ performance as one criterion for continued funding. It can also be used to monitor the relationship between various programmatic activities and outcomes, allowing for a preliminary understanding of promising program practices. These promising practices, then, are the most likely candidates for evaluation.

\textbf{Establishing the Counterfactual}

Nonetheless, even with full incorporation of performance measures into program management (either at the site or the national level), the degree to which observed changes can be directly attributed to the specific programmatic intervention will not be known if performance measures are collected only from the Weed and Seed sites themselves during the period of program activity. Without establishing some type of comparison, either to the site itself between the pre– and post–Weed and Seed periods or to some other comparison area, the degree to which the outcome (i.e., performance measure) occurred elsewhere without programmatic intervention will remain unmeasured.

The only way that causal claims can be made is through the computation and use of reliable counterfactuals.\textsuperscript{3} This would involve not only setting a specific performance measure or target for upcoming years, but also developing a methodology to examine the degree to which a change in the measure for a given site is different from comparison areas or different from expectations based on observations from past years. Designs for a reporting approach could use either of the following comparisons:

- A comparison of the change for a given measure in the Weed and Seed site with that of a similar, nearby jurisdiction
- A comparison of trends in the Weed and Seed site from before program implementation to site trends after program implementation (using as many years of data as feasible) to determine if the trend shifts in the expected direction after Weed and Seed implementation

While these kinds of analyses go beyond the scope of the typical OMB or Government Performance and Results Act of 1993 (GPRA) reporting, they should be considered in some set of sites to establish the degree to which the performance goals, as developed by a given federal agency (here, the CCDO), continue to be logically linked to programmatic efforts and are attainable. A performance management system can be used to determine which sites to choose.

\textsuperscript{2} If there were no discernable changes in any of the factors that might be expected to affect the measures, then an examination of the measures themselves is in order. Perhaps the expectation that a reduction will be achieved each year is inappropriate; one could conceive of a measure that would show an initial decrease and then stability. The issues of how best to measure change and set performance targets over time are not easy for any program and require serious consideration.

\textsuperscript{3} The term “counterfactual” is used to represent the expected value of the outcome in the absence of the intervention.
For example, those sites that meet their targets over time might be the best candidates for a full evaluation.

**The CCDO Performance Measure—Crime Rate**

**PERFORMANCE MEASUREMENT INDICATORS PROJECT (PMIP) CONTEXT**

In FY 2005, the Weed and Seed program received an annual appropriation of approximately $60 million. Jurisdictions seeking Weed and Seed funding compete annually by submitting applications for review by the CCDO. Successful sites each receive the same base award of federal funds. The amount—ranging from $175,000 to $225,000 per annum with possible renewal for up to four years—is modest compared with most federal programs that provide direct support to state and local agencies. The award can be supplemented to a modest degree through special emphasis programs that the CCDO operates. Not all sites receive supplementary funds, and those that do rarely get more than an additional $50,000. In 2005, 340 sites had federal funding.\(^4\)

Sites have two primary mandates. The first mandate is to reduce and control crime, with a particular emphasis on violent and drug crime (i.e., “weeding” activities). The second is to implement social programs that will make the Weed and Seed area more resistant to crime (i.e., “seeding” activities). Sites are instructed to devote approximately equal parts of their federal funding to weeding and seeding activities. Sites are also required to develop ways of sustaining the initiatives they have launched after their federal support ends.

Sites are required to report annually on their performance toward these goals, and it is the responsibility of the CCDO to use this information to manage the overall Weed and Seed program. Continuation of federal support to each site is contingent upon satisfactory progress, which the CCDO determines. Further, the CCDO has its own performance reporting requirements to the OMB and the Justice Department. The CCDO must demonstrate to OMB and the Justice Department the progress of the entire Weed and Seed strategy toward its national goals.

It is therefore necessary to establish an approach to performance measurement that, ideally, will allow sites to report accurately on their individual situation and will also give the CCDO a way to manage the sites through aggregating site-specific information to produce a national portrait. These objectives need to be met on both the enforcement and social program aspects of the Weed and Seed program, but because the activities between the components differ too greatly, no single performance measurement system will be suitable for both components. In this report, we focus on the crime reduction and control mandate, not the social program mandate.

There are two conceptual elements to a performance measurement system: the statement of a measurable outcome and change in this measure over time. Performance measurement

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\(^4\) This is the number of active sites listed on the web site of the Weed and Seed Data Center (http://www.weedandseeddatacenter.org/map.aspx) on October 6, 2005.
entails the \textit{a priori} setting of a numeric goal and the specification of a measurement period during which change in the goal would be measured. Note that the period can be any length—one month, one year, three years, and so on. A site would be judged as a success or failure based upon the achievement of the measure from period 1 to period 2.

In criminal justice, the most common performance measure for documenting changes in crime is unadjusted counts of incidents. For example, if, in a given site, reported incidents of robberies were 50 in period 1 and 40 in period 2, assuming the two periods are the same length and the counts are derived from the same geographic area, the unadjusted count approach indicates that there has been a decline of 10 incidents. If the goal for the site had been a period-to-period decline of five incidents, it was met. If the goal had been a decline of 20 incidents, it was not met. More problematic, of course, would be the situation in which reported robberies were higher in period 2 than in period 1, or in which there is no stated goal. Presumably, however, consistent failure to meet a goal would be considered poor performance and might result in termination of federal funding.

In the past, the Community Capacity Development Office used changes in counts of homicides to assess the performance of Weed and Seed sites. As a performance measure, using change in homicides has two primary benefits. First, homicide is the most validly reported type of crime. Relative to other types of crime, few homicides go undetected or unreported for long. Second, homicide is uniformly recorded. However, for CCDO, this measure has several pitfalls.

First, many crime control initiatives are likely to have only a modest or indirect effect on homicide. Although CCDO’s focus is on reducing violent crime, drug abuse, and gang activities, sites frequently begin with such issues as quality-of-life crimes (e.g., vagrancy, loitering, aggressive panhandling) that have little direct relationship to homicide. A superior performance measure would allow for a larger set of crimes to be examined. In addition, the typically low incidence of homicides, even in urban environments, means that it is not uncommon to observe zero homicides in a community in a given period. Although it is desirable for a community to have zero homicides, it makes homicide a problematic performance measure because the number of homicides cannot drop below zero. A more useful performance measure would be sufficiently common that it would rarely reach its truncation point.

These drawbacks to the use of homicide counts provided the impetus for UI, in conjunction with CCDO and JRSA, to develop an improved performance measure, one that would account for differences between sites in population and crime prevalence. For example, given that Weed and Seed sites all receive similar funding levels yet vary widely in population, it would be beneficial if the performance measure differentiated between sites that have a few thousand residents and those that have tens of thousands. Additionally, if a site with a lower prevalence of crime achieves a reduction of 10 crimes between periods, its accomplishments are more dramatic than when a larger site with a higher prevalence of crime achieves the same reduction of 10 crimes.

\footnote{The population range across sites is remarkable. In October 2005, the JRSA web site (http://www.weedandseeddatacenter.org/) listed 52 sites with fewer than 5,000 residents, 70 sites with more than 20,000 residents. Eleven sites have more than 50,000 residents. Regardless of size, each site has a similar federal support level from Weed and Seed.}
REQUIREMENTS OF THE ENHANCED PERFORMANCE INDICATOR SYSTEM

An ideal performance measurement system would mimic a full-scale outcome evaluation and capture all the activities, outputs, and outcomes of the Weed and Seed strategy. In addition, it would account for the counterfactual (i.e., what changes would have been observed in the outcomes if the Weed and Seed strategy had not been in operation in that site). However, such a comprehensive approach is not practical, except perhaps in a very limited number of sites, because of issues surrounding study design and implementation. A practical reporting approach should be easy to operate and update and should be able to be maintained independently by Weed and Seed sites. To be practical, the performance indicator should be all of the following:

**Easy to understand.** The performance indicator should be easily grasped and should not require complicated, burdensome computation.

**Valid and credible.** The performance indicator must be reliable and worthy of confidence. Otherwise, the measure cannot be used to assess operations objectively.

**Inexpensive.** Weed and Seed sites rely on limited funds for programming and are unable to support elaborate and expensive analyses for site evaluation. A performance indicator needs to be effective while not imposing a high cost on the local sites.

**Easy to update.** Once the performance indicator is in place, sites should be able to input current information with ease, thereby allowing for ongoing progress reports. Sites would then be able to more readily identify where programs were effective and also where resources should be diverted.

**Standardized across all sites.** The performance indicator should allow a Weed and Seed site to measure its own performance while supporting national assessments of the Weed and Seed program as a whole. Consequently, cross-site standardization is essential.

ALTERNATIVE PERFORMANCE MEASURES CONSIDERED BY THE URBAN INSTITUTE

After observing that the current measure of homicide counts—or any measure based on simple counts—would not account for population, UI has, to date, developed and examined three measures: a weighted crime count approach, a social benefit index, and simple crime rate. All of these approaches account for variation in crime prevalence and population over time.

UI initially developed an approach wherein crime rates for specific types of offenses (e.g., homicide, robbery, assault) in each site were weighted to reflect the prevalence of crime in the site, whether the type of offense is a CCDO focus area, whether the type of offense was a focus area for the site, and the contribution of the site to the collective residential population of all the sites. This *weighted approach* had two failings. First, it was multilayered and complex, which rendered it difficult to understand. Second, the population weight was restricted to those sites included in the performance measurement system.⁶

The second measure UI developed, the *social benefit index*, began with the inverse of the crime rate (i.e., the number of persons per crime in a given period), called the absorption rate.

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⁶ It is possible that not all Weed and Seed sites could be included in whatever system is implemented. For example, program managers may decide to only include those sites that have been officially recognized or those sites that have been operational for at least two years.
The social benefit index was the difference between absorption rates in period 1 and absorption rates in period 2 (i.e., the number of persons per crime in period 2 minus the number of persons per crime in period 1).\footnote{What is referred to here as the absorption rate has been referred to elsewhere as the “safety index” (Gyimah-Brempong, Kwabena 1989. “Production of Public Safety: Are Socioeconomic Characteristics of Local Communities Important Factors?” *Journal of Applied Econometrics* 4(1): 57-71.).}

We proposed the social benefit index because we saw two shortcomings with using changes in the crime rate. First, reductions in crime rates in larger sites protected more people than the same reductions in sites with smaller populations. That is, more people avoided probable victimization in the former than in the latter from a similar drop in crime rates. Second, it was easier to reduce crime in sites where initial prevalence was high than when it was low. The social benefit index accounted for both the number of people affected and the size of the crime problem. Nonetheless, because many people found the explanation of the social benefit index difficult to grasp, we decided that this measure is not appropriate for policy use.

We come, then, to the crime rate. This measure accounts for variations in the two essential components—the number of crimes and the population being served—combining them in an easily understood manner. It has the advantage of being easy to calculate, and it is standardized so that it can be used to compute metrics to compare sites or to assess the performance of the Weed and Seed program as a whole.

**ELEMENTS OF THE URBAN INSTITUTE PERFORMANCE INDICATOR SYSTEM**

This section summarizes our thinking about what an ideal performance measurement system for the Weed and Seed program might look like. When we began our work, we were interested in grouping offense types conceptually (e.g., violence, property, disorder). However, because the sites will be relying on reports of crime data from local police departments, UI’s recommendations include adjusting the GPRA reporting form to incorporate Part I offenses of the Uniform Crime Reports (UCR) system. Since many police departments already report counts of Part I offenses to the Federal Bureau of Investigation (FBI), it would be possible to build an enhanced performance measurement system for Weed and Seed based on the UCR offense categories without significantly increasing the reporting burden on the sites (see “Recommendation,” below for details about the changes we propose).

**Disaggregated Crime Types**

The ideal performance measure should be based on counts of overall crime, which must be developed from consistently defined categories and subcategories. For this discussion, the categories for this work were structured as shown in table 1:\footnote{When we began the performance measure work, we were not only developing crime categories for the PMIP, but for other evaluation projects as well. This gave rise to the categories presented here. However, these specific crime categories would impose significant new data collection burdens on the sites, and we believe that use of UCR Part I offense categories would not.}

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent</td>
<td>Murder, rape, robbery, aggravated assault, simple assault</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Property</th>
<th>Burglary, theft, car theft, arson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disorder</td>
<td>Includes disorderly conduct, public intoxication, prostitution, others</td>
</tr>
<tr>
<td>Drug</td>
<td>Includes distribution, possession, and use</td>
</tr>
<tr>
<td>Weapons</td>
<td>Includes illegal possession and use</td>
</tr>
</tbody>
</table>

The performance measure calculation could be computed for any subset of these categories (or subcategories) or for overall crime (i.e., all categories combined). The indicator presented here, crime rate, is calculated from counts of crimes and an estimate of site population.

**Change Over Time**

The next concept in developing the performance measure is the change from time 1 (T\(_1\)) to time 2 (T\(_2\)) in the counts for each of the categories (or subcategories) of crime. These change calculations form the building blocks of the performance indicator. The periods can be user-defined, although the duration of each period must be the same across sites. In other words, the measure is less sensitive to the actual start or end date of the intervals over which the change is measured than it is to the duration of the interval itself.

**Site Population**

The third concept in the calculation of the performance measure is the site population at the beginning of the measurement period (T\(_1\));\(^9\) this initial value will be used for subsequent periods (T\(_2\), T\(_3\)). Using a single population estimate for relatively small measurement periods (in this example, for a three-year period) is appropriate because the purpose of dividing the crime counts by population to produce a rate is to have a standardized measure (i.e., crimes per person) suitable for aggregation across sites. Since population estimates are error-prone, especially those projected from the decennial U.S. Census estimates, using a time series of population estimates as the denominator to compute site-level crime rates is likely to increase the amount of error in the calculations. We believe, therefore, that the population should be used as a standardization factor to compute a crime rate for performance measurement. It needs to be only approximately correct, and its imprecision should be acknowledged. Any variability found in the rate over time would then be confined to the directly observed counts of crime in the numerator.

**Site-Specific Crime Rate**

The crime rate measures the approximate risk of victimization an average individual faces.\(^{10}\) Crime rate is computed as the number of reported crimes divided by the number of persons residing in the jurisdiction in question. Crime rates could be computed from individual crime types, such as the seven UCR Part I offense categories included in UI’s recommended performance measurement system (see “Recommendation,” below). In addition, by summing

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\(^9\) Although some sites are counties, many are not necessarily contiguous with political boundaries but rather reflect neighborhood boundaries.

\(^{10}\) The crime rate approximates this risk because it does not adjust for (1) multiple victimizations of individual persons, (2) the victimization of nonresidents within the boundaries of a site, or (3) the victimization residents of a site may experience in other jurisdictions.
offenses across categories, it is possible to compute an aggregated crime rate (e.g., a Part I crime rate or a Part I violent crime rate).

**Calculation of a National Score**

The crime rate can also be computed across various jurisdictions to produce an overall national-level performance indicator for the program as a whole. This indicator, unlike the disaggregated crime rate reductions, is not a simple summation of all the individual jurisdiction crime rate reductions. Rather, it is a weighted sum of all the jurisdiction-specific crime rate reductions where the weights are proportional to the population of a specific jurisdiction.

Because reductions in the individual site-specific crime rates and the national-level crime rate are measured on the same scale (e.g., number of crimes reduced per 1,000 residents), they may be compared directly or displayed on the same figure. This ability provides a convenient means of displaying various features of performance. For example, it is easy to identify sites that performed the best or worst in a given year.

**Demonstration of Measuring Program Performance for 16 Pilot Sites**

Throughout 2003 and 2004, UI corresponded with more than 50 Weed and Seed sites to generate interest in the Performance Measurement Indicators Project and to identify sites willing to participate. More than 30 jurisdictions initially agreed, and UI has received data from 19 jurisdictions to date. Within those jurisdictions, UI designated 16 as pilot sites because these sites supplied all the necessary underlying data. Data from 16 pilot sites have been analyzed for this report, and detailed figures comparing sites and presenting trends are provided below. Table 2 displays the participating sites.

**Table 2. Weed and Seed Sites Involved in the PMIP**

<table>
<thead>
<tr>
<th>Site city</th>
<th>State</th>
<th>UI received data</th>
<th>Multiple sites</th>
<th>PMIP pilot site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltimore</td>
<td>MD</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battle Creek</td>
<td>MI</td>
<td></td>
<td></td>
<td></td>
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<td>Boston</td>
<td>MA</td>
<td></td>
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<td>NJ</td>
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<td>X</td>
<td></td>
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<td>Dallas</td>
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<td>X</td>
<td></td>
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<tr>
<td>Delray Beach</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Evansville</td>
<td>IN</td>
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<td></td>
<td></td>
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<td>Flint</td>
<td>MI</td>
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<td>NV</td>
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<td>Site city</td>
<td>State</td>
<td>UI received data</td>
<td>Multiple sites</td>
<td>PMIP pilot site</td>
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<td>Maine</td>
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<td>Miami</td>
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<td>Mobile</td>
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<tr>
<td>Nassau County</td>
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<td>New York</td>
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UI = Urban Institute; PMIP = Performance Measurement Indicators Project

Note: An ‘X’ in the ‘Multiple sites’ column indicates that there were multiple Weed and Seed target areas within the jurisdiction.

The first task was to examine the differences in site performance that accrued dependent on the type of measure used (i.e., homicide counts as compared with crime rates). For the pilot sites noted above, we calculated changes from 1999 to 2000, from 2000 to 2001, and then from 2001 to 2002 in both the number of homicides and the overall and individual category crime rates.

We assigned each of the 16 sites one ordinal ranking for each of the performance measures being compared. For each performance measure, we assigned lower-ranking values to sites with the greatest observed decreases in the measure. That is, the site with the greatest reduction in the measure was ranked first; the site with the least reduction (or largest increase as was often the case) was ranked sixteenth. Lower-ranking values correspond to greater salutary changes in the performance measure. We further subdivided the ranking values into quartiles, grouping the top four performing sites into the first quartile, the next four best sites into the second quartile, and so on, to further simplify the comparison of the performance measures.
Figure 1 compares the site rankings that result from using violent crime rates to those using homicide counts. The sites are numbered to avoid identifying the jurisdictions.

The site rankings for relative change from 2001 to 2002 vary rather dramatically between the rank that results from changes in simple homicide counts and the rank that results from changes in the violent crime rate. For the sixteen sites for which changes in both homicide counts and the violent crime rate were calculated, two sites were in the top quartile on both measures. Five sites stayed in the same quartile, four sites were ranked higher on change in violent crime than on change in homicide counts, and seven sites were ranked lower on change in violent crime rates than on change in homicide counts.

<table>
<thead>
<tr>
<th>Site number</th>
<th>Change in homicides</th>
<th>Change in violent crime rate (per 1,000)</th>
<th>Rank: Change in homicides</th>
<th>Rank: Change in violent crime rate</th>
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<th>Quartile: Change in violent crime rate</th>
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Although not directly included in the OMB PART reporting schema (which simply requires the specification of a single overall target for crime reduction going forward), a comparative examination of individual sites both to each other and to the overall national average will enable CCDO managers to develop a more complete understanding of the effects of the Weed and Seed program. Figure 2 provides an example with the changes in the rates of violent crimes between 2001 and 2002. This graph suggests the following information:

- More than half of the sites reduced their rates of violent crime.
- Although no sites reduced crime rates by more than 10 crimes per 1,000 residents, three sites experienced an increase of more than 10 crimes per 1,000 residents.

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11 To provide a crime rate for a type of crime most similar to homicide, we restrict this example to the violent crime rate and homicide counts.
Most sites saw violent crime rates fall, but the collective population of all sites experienced an increase in violent crime rates. This increase was driven largely by a few sites and was not a general pattern of increasing violence.

Being able to understand the distribution surrounding a single number (required by the PART form) will enable CCDO to provide valuable contextual discussion for each year’s examination of the degree to which a target was (or was not) met. Similar graphs can be created and analyzed for various other forms of disaggregated or aggregated crime categories.

**Figure 2. Performance of Individual Sites Compared with Overall Program Performance: Changes in Violent Crime Rate, 2001-2002**

Note: The brown shaded area (above the horizontal axis) and green shaded area (below the horizontal axis) represent, respectively, the magnitude of the increase or decrease in violent crime rate in each site from 2001 to 2002.

**CONCEPTUAL INTEGRATION WITH ANNUAL PERFORMANCE PLANNING**

This report presents an indicator—changes in the crime rate over time—that has been designed to become part of the CCDO’s annual performance plans and progress reports. Because this measure incorporates a variety of crime types and can be either aggregated or disaggregated as desired, it meets the site need for a measure that is broader and more linked to site activities.
than homicide. Because it uses site population in its calculus, it accounts for the variation in site size. It also permits cross-site comparisons as well as the ability to aggregate to the national level. We have recommended that CCDO begin using the crime rate as part of its set of formal performance measures. We now discuss what new data would need to be collected and the issues that will need to be addressed for CCDO to use crime rate for performance measurement.

**Recommendation**

At present, Weed and Seed sites ask the local police departments to report the number of homicides that occurred within the site boundaries during each calendar year of the grant. The sites, in turn, report this annual homicide count to CCDO using GPRA reporting forms provided by JRSA. In short, the sites report only one performance measurement number per year to the CCDO. This keeps the reporting burden for the Weed and Seed program agreeably low, but it also restricts the ability of the CCDO to assess the relative performance of the sites.

UI recommends that the Weed and Seed sites be required to report monthly counts of several categories of serious offenses, using the same definitions and reporting forms used by the approximately 17,000 police agencies participating in the FBI’s UCR crime reporting program. Since the police departments are already categorizing, counting, and reporting crimes for the FBI, the CCDO can significantly increase the quantity and richness of the performance measurement data available from the Weed and Seed sites without significantly increasing the reporting burden imposed on the sites.

To realize the cross-site comparability of the performance measures that the CCDO desires, police departments in the sites must categorize and report similar criminal incidents in similar fashion. The challenge is to develop a set of offense categories and operational definitions that can be uniformly applied in jurisdictions nationwide. Fortunately, the UCR system has already accomplished this formidable task. Most police departments in the United States are familiar with the UCR offense categories and definitions, and approximately 17,000 departments already routinely categorize and report incidents to the FBI’s UCR system. For those police departments that are not familiar with the UCR, the definitions and guidelines for reporting complex cases (e.g., those involving multiple types of offenses or multiple law enforcement agencies) are readily accessible.12

UI recommends that the CCDO revise question 3 of Section C of its GPRA reporting form. Currently, that question requires Weed and Seed sites to report the number of homicides that occurred during the three preceding calendar years within the boundaries of the Weed and Seed site and within the surrounding jurisdiction.13 UI recommends that sites be required to report the number of actual (i.e., not unfounded) Part I offenses (i.e., criminal homicides, forcible rapes, robberies, aggravated assaults, burglaries, larceny-thefts, and motor vehicle thefts)

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13 Some sites may find it difficult to identify boundaries of a surrounding jurisdiction for reporting. The GPRA reporting form currently in use requires reports of crime data from a surrounding jurisdiction, however, and we believe that this information would be useful for the performance measurement system UI recommends. For example, crime data from surrounding jurisdictions could be compared with the crime data from the site to examine whether crime trends within the site diverged—after the start of Weed and Seed activities—from what would have been expected.
during each month of the three preceding calendar years.\textsuperscript{14} The sites would report counts of each of these seven types of offenses for each of two geographic areas: the Weed and Seed site itself and the surrounding jurisdiction as a whole. The instructions for the revised question 3 should state that all of the offense counts should be developed in accordance with UCR guidelines and, wherever possible, should be taken from column 4 of the UCR Return A reporting forms submitted by the police agencies in the area.

\textbf{Rationale}

If this recommendation were adopted, in each annual reporting cycle, CCDO would receive up to 36 offense counts for each of seven types of offense in each of two geographic areas. The first report from each Weed and Seed site would include at least 24 months of data from before the grant was awarded. Furthermore, since the current GPRA reporting form already asks for population estimates for each site, the monthly offense counts could be easily converted to a crime rate to compare changes across sites or to assess the collective performance of the Weed and Seed sites in satisfaction of PART requirements.

The additional performance measurement data that UI recommends would yield significant gains in the capability of CCDO to monitor the performance of the Weed and Seed sites.

- Many Weed and Seed sites experience periods of quiescence in their suppression and prevention activities, and levels of crime may rise and fall in response. Based on annual homicide counts alone, a pattern of ebb and flow in activity that is paralleled in the crime patterns could be misinterpreted as a failed program model. With monthly counts of more common crimes available, CCDO and the site coordinator could correctly identify the service delivery problem rather than blaming the design of the prevention or suppression activities.
- Some Weed and Seed sites begin their activities midway through a calendar year. Having monthly, rather than annual, offense data would permit CCDO to more precisely mark the beginning of activities in the trend lines.
- Weed and Seed sites sometimes select a mix a program activities that may be expected to have a beneficial effect on the reduction of offenses other than homicide. Collecting performance data on a wider variety of offenses would permit CCDO to set targets that are more closely matched to each site’s activities.
- With the cooperation of the FBI, the CCDO could validate the offense counts it receives on the GPRA form against the UCR data from the jurisdictions.

Data received on offenses that occurred prior to the beginning of activities could be used to establish the baseline level of crime in the site. This baseline would be useful for setting targets and establishing the counterfactual. For example, the baseline data could be transformed using a common smoothing technique (e.g., moving averages or exponential smoothing) to predict what crime levels might be expected in the first 6–12 months of the grant period if no weeding or seeding activities occurred. Those predicted crime levels would represent the counterfactual. A target crime level could be set at some level below the predicted level.

\textsuperscript{14} Although arson is a UCR Part I offense, we have excluded it from our recommendation. Few Weed and Seed sites focus their prevention or suppression efforts on arson.
Site-Level Implementation Issues

If UI’s recommendation were proposed for adoption, most of the site-level implementation issues would focus on the reporting burden and the implications of the revised PMIP for decisions about the renewal of funding.

RESTRICTING OFFENSE REPORTING TO THE SITE BOUNDARIES

Many large, urban police departments already use Geographic Information Systems (GIS) software to map their incidents. A growing number of medium-sized police departments are also finding GIS software to be a useful tool. Smaller police departments may find that officers can easily identify the relevant incidents by manually reviewing the incident locations. The problem of how to limit offense reporting to the site boundaries is an issue in the current GPRA reporting form as well. If UI’s recommendation were adopted the issue would become more formidable since a jurisdiction with a dozen homicides a month is likely to have a few hundred thefts, several dozen burglaries, and so on. CCDO should not mandate the approach sites should use to restrict their reporting to incidents within their boundaries. CCDO may be able to offer recommendations or referrals to sites in need of a solution to this problem, however.

MULTIPLE OR OVERLAPPING POLICE JURISDICTIONS

For Weed and Seed sites that span jurisdictional boundaries, the site coordinator should collect offense counts from each police department that polices part of the site. The coordinator would then aggregate these counts to prepare the GPRA reporting form. The UCR reporting system has guidelines for ensuring that police departments with overlapping jurisdictions do not report the same incident. The site coordinator would be responsible for ensuring that the police departments operating within the site boundaries followed those guidelines to avoid double counting. This potential for double counting is a concern on the current GPRA reporting form as well. UI’s recommendation to expand offense reporting to include more common types of offenses (e.g., larceny) makes the potential for double counting a larger issue.

REPORTING INCIDENTS INVOLVING MULTIPLE OFFENSE TYPES

The UCR reporting system developed a hierarchy rule for use in multiple-offense incidents. Under the rule, each incident is recorded only once regardless of the number of offenses involved, and the offense type recorded is that of the most serious offense committed during the course of the incident.

REPORTING INCIDENTS INVOLVING MULTIPLE VICTIMS

Some criminal incidents involve more than one victim. The UCR system has a long-standing rule about how many offenses should be counted in multiple-victim incidents. The rule is based on a distinction between crimes against persons and crimes against property:

In the UCR Program, the offenses of criminal homicide, forcible rape, and aggravated assault are crimes against the person. For these crimes, one offense is counted for each victim. Robbery, burglary, larceny-theft, motor vehicle theft, and arson are crimes against

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16 For more information on the hierarchy rule, see FBI. Uniform Crime Reporting Handbook, 10.
property. For these crimes, one offense is counted for each distinct operation or attempt, except in the case of motor vehicle theft for which one offense is counted for each stolen vehicle and one offense for each attempt to steal a motor vehicle.17

Weed and Seed sites should observe this rule when preparing their offense counts.

**ESTABLISHING THE STARTING DATE FOR SETTING PERFORMANCE TARGETS**

Some Weed and Seed sites receive funding in one month but are granted “Official Recognition” (OR) status one or more months later. The question is whether the performance targets should be established relative to the months prior to the receipt of funding or relative to the months prior to when the site reached OR status. Weeding and seeding activities cannot be expected to reduce crime until after they actually begin, of course, and this would seem to suggest setting the targets based on the date sites achieve OR status. On the other hand, CCDO may wish to create an incentive for sites to minimize the length of the start-up period between the receipt of funding and the beginning of program activities. Setting targets relative to funding dates would create such an incentive.

If UI’s recommendation to collect monthly offense counts were adopted, the issue of the reference date for the performance targets would be less acute. Using monthly, rather than annual, performance measurement data makes it possible to set the reference date closer to the actual date on which the site began its activities.

**SETTING PERFORMANCE TARGETS FOR SITES FOCUSED ON LESS SERIOUS OFFENSES**

The UCR Part I offenses included in UI’s recommendation include many of the most serious types of offenses. Some Weed and Seed sites focus their attention on less serious offenses, especially quality-of-life crimes (e.g., vagrancy, loitering, aggressive panhandling). In UI’s assessment, including direct measures of these less serious types of offenses in a performance measurement system would be problematic for two reasons. First, for the less serious Part II offenses the UCR program collects counts of arrests rather than incidents. Second, arrest counts are problematic performance indicators because changes in police manpower or arrest practices may influence them, even in the absence of changes in the underlying crime rate.

The UCR program collects arrest counts on both Part I and Part II offenses, but incident (or offense) counts are requested only for Part I crimes. There are many more Part II incidents than Part I incidents in a given jurisdiction, so reporting counts of Part II incidents would be a significantly more burdensome task than reporting counts of Part I incidents alone. In addition, many less serious Part II offenses are not reported to police. For many types of crime, the common understanding is that the validity of an offense count is inversely proportional to the seriousness of the offense as perceived by the public.

Arrest counts are problematic performance indicators because it is difficult to draw inferences about site performance from changes in arrests over time. An increase in arrests may indicate an increase in the vigor of suppression activity or a weakening of prevention activities or community capacity. Conversely, a decrease in arrests may indicate an increase in the site’s resistance to crime or a decline in the effectiveness of suppression activities.

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17 Ibid., 41.
For these reasons, including Part II offenses in the performance measurement system would mean either substantially increasing the reporting burden imposed on Weed and Seed sites or incorporating the less interpretable arrest data into the performance measurement system. At this time, UI’s view is that only the Part I offense counts should be collected for use in performance measurement. Sites that focus on reducing less serious types of offenses may object that the goals of their sites will not be addressed by examination of Part I offenses alone. However, the theory of change that underlies a focus on quality-of-life offenses holds that the prevalence of less serious offending establishes conditions favorable for more serious offending, including Part I crimes. In this sense, the Part I offenses are defensible indirect measures of the performance of all Weed and Seed sites, including those sites that have chosen to focus on quality-of-life offenses.

INTEGRATION INTO SITE-LEVEL MANAGEMENT

CCDO should require Weed and Seed sites to set performance targets in each application for funding. The process of setting targets is likely to be an iterative one. Some sites would propose targets that are unrealistic or too modest, and CCDO would suggest revisions based on its experience with other sites. At the conclusion of each year, site-level managers would review their crime rate reduction targets to determine if the targets had been met. If the targets were not met, the managers would review the programmatic activities and inputs to determine what might need to be addressed to achieve the targets. If the managers were unable to identify an internal programmatic explanation for the lack of achievement, they would examine contextual factors that might account for the failure to meet the targets. In their application for continued funding, managers of sites that fell short of their targets would explain what remedial action they would take to meet their targets in the following year. Reviewers at CCDO would consider site performance, targets, and (for sites that did not meet their targets) remedial action plans in making funding decisions.

National-Level Implementation Issues

There are three levels in which performance measurement should be integrated into national program management. The first is in the annual site-funding process conducted by CCDO, the second is overall programmatic monitoring, and the third is the PART reporting from CCDO to OMB for the national budgeting process. Each of these is discussed in turn.

INTEGRATION INTO ONGOING SITE-LEVEL FUNDING

To receive continued funding, or to apply for new funding, each site applies to CCDO annually. The program narrative section of the application requires that sites provide information on their current levels of drug and violent crime and specify their strategy for both weeding and seeding activities. Each strategy section specifies goals, activities, and outcome measures.

The application process, then, provides an opportunity for sites to develop program logic models linking proposed weeding and seeding activities to performance measures and targets. CCDO program managers could assess the internal validity of the applications, that is, the extent to which the specified activities are likely to have the expected effects on the desired outcomes. For example, an application with face validity would be one where an increase in bike patrols by police (the activity) is expected to yield a 5 percent reduction in the robbery rate in a city park.
(the performance measurement target). CCDO could use its experience to advise sites about setting appropriate targets. This level of review should become part of the review process for both initial and continuation funding.

**COMPUTATION OF NATIONAL SCORES**

To quantify the crime situation of a particular site in manner that permits comparison with other sites, we have suggested computing a crime rate. For a site \( k \) at time \( t \) the crime rate, \( CR_{kt} \), may be expressed as:

\[
CR_{kt} = \frac{C_{kt}}{P_{kt}}
\]

(1)

where \( C_{kt} \) is a count of crimes in site \( k \) at time \( t \) and \( P_{kt} \) is the residential population of site \( k \) at time \( t \). Equation 1 will yield the number of crimes per resident. The result may be multiplied by a constant (e.g., 1,000) to rescale the values as desired as we did in our examples. If a measure of within-site change is desired, the following formula will yield the change in the crime rate from time \( t_0 \) to time \( t_1 \):

\[
\Delta CR_k = \frac{C_{kt_1} - C_{kt_0}}{P_{kt_0}}
\]

(2)

which, like equation 1, could be multiplied by a constant to rescale the result. Equation 2 may be applied to each of a number of sites to compute standardized estimates of the magnitude and direction of crime change, which would be useful for comparing crime changes between sites. Note that in the interest of simplicity, equation 2 utilizes a single population estimate at time \( t_0 \), implicitly assuming that the population change between \( t_0 \) and \( t_1 \) is trivial. This assumption is more plausible the shorter the interval between \( t_0 \) and \( t_1 \).

A somewhat different approach is required to create a performance indicator for the Weed and Seed program a whole, which reflects the contributions of all the sites. A number of measures could reasonably be used, but the one we prefer reflects the mean percentage change in the crime rate from time \( t_0 \) to \( t_1 \) (\( \mu_{PCR} \)), which is equal to the mean of \( \Delta CR_k / CR_{kt0} \) across \( k \) sites. The formula may be simplified through transformation as follows:

\[
\mu_{PCR} = \frac{\sum_{k=1}^{k} \left[ \left( \frac{C_{kt_1} - C_{kt_0}}{P_{kt_0}} \right) \left( \frac{P_{kt_0}}{C_{kt_0}} \right) \left( \frac{1}{k} \right) \right]}{\sum_{k=1}^{k} \left[ \left( \frac{C_{kt_0}}{P_{kt_0}} \right) \left( \frac{1}{k} \right) \right]}
\]

(3)

Equation 3 weights the contribution of each site equally regardless of population. As a performance measure, \( \mu_{PCR} \) reflects the crime change experienced in the typical site. In many
cases, this will be an acceptable program-level performance measure. Since it is standardized as a percentage change, it may be used to make comparisons between groups of sites (e.g., by computing $\mu_{PCR}$ for sites in the west and comparing with $\mu_{PCR}$ for sites in the east) or between all sites over time (e.g., by comparing $\mu_{PCR}$ for sites active in 2003 with $\mu_{PCR}$ for sites active in 2004).

For some purposes, however, it may be desirable to compute a program-level performance measure that takes into account some of the important differences between sites. In that case, a weighted mean percentage change in crime rate ($w\mu_{PCR}$) could be computed. For example, the following formula would compute $w\mu_{PCR}$ so that each site contributed to the mean in proportion to its residential population:

$$w\mu_{PCR} = \frac{\sum_{k=1}^{k} \left( \frac{C_{kt} - C_{kt0}}{C_{kt0}} \right) p_{kt}}{\sum_{k=1}^{k} p_{kt}}$$  

The resulting value of $w\mu_{PCR}$ would reflect the crime change experienced by a typical resident of a Weed and Seed site. This measure might, therefore, be more reflective than $\mu_{PCR}$ of changes in public safety across all Weed and Seed sites between times $t_0$ and $t_1$.

**INTEGRATION INTO NATIONAL PROGRAM MANAGEMENT**

UI recommends that, in addition to reviewing each site’s performance data as part of the funding process, CCDO program managers should also review annual graphs of all sites’ performance relative to the performance of the program as a whole (e.g., by using the mean percentage change in crime rate [$\mu_{PCR}$] as a program-level performance measure. This information would allow CCDO to determine whether the majority of sites are outperforming the program as a whole. If so, then CCDO program managers should feel relatively confident that the overall programmatic approach is performing as desired. However, if a majority of sites were underperforming the program as a whole, then it would behoove CCDO managers to reconsider various aspects of the program’s approach. Perhaps certain approaches should not be left to site discretion or sites should receive additional technical assistance.

**INTEGRATION INTO PART REPORTING**

As stated in PART training performed by OMB staff, PART provides a framework for targeting and designing program improvements by linking program actions to intended outcomes. PART also identifies program strengths and weaknesses by highlighting both successful and unsuccessful links between activities and outcomes. The reporting logic OMB outlines parallels the programmatic logic model that is in place for the individual sites when developing their funding request, where the performance measures are connected to the goals and activities of the specific program.

For PART reporting, CCDO should consider two additional issues:

1. What is the best approach to set specific PART targets?
2. What is a realistic target over a longer period of time (e.g., 5 years)?
The setting of programmatic targets should not be done in isolation and without regard to extant crime trends. Weed and Seed program managers at CCDO should examine national trend lines from UCR data in developing their PART targets. For example, if the rate of property crime has been increasing rapidly over each of the past several years, the Weed and Seed program would be unlikely to realize a 20 percent reduction for the next budget year. Without an understanding of the context within which an expected outcome is to occur, unrealistic PART targets may be set, and the program will not be able to meet them.

The second issue—the degree to which reductions in crime rate can be achieved year after year—also must be considered. Crimes will always occur, regardless of the degree to which programmatic interventions are put into place. Is it realistic to expect CCDO to demonstrate a continued percentage decrease change over time, or is there a natural bottom? CCDO managers need to consider whether it is appropriate to set targets that are percentage reductions year after year. A more realistic approach might be to develop asymptotic targets that represent a stabilization of the crime rate at a low level relative to the recent past. These targets could then be linked to programmatic activities as appropriate.

**ESTABLISHING THE COUNTERFACTUAL: TARGETED RESEARCH STUDIES**

The only way that causal claims can be made is through the computation and use of reliable counterfactuals. This can only be addressed by widening the information-gathering design. Using the reduction in crime rates, then, complete reporting would involve not only setting a specific performance target for upcoming years but also developing a methodology to permit the examination of the degree to which the reduction in crime rate in a site is different from comparison areas or different from that which was expected in the site itself based on the experience of past years. Designs for a reporting approach could use the changes in crime rate for either of the following comparisons:

- A cross-sectional comparison of the changes in crime rates in the Weed and Seed site to changes in the surrounding jurisdiction;
- A longitudinal comparison of changes in crime rate in the Weed and Seed site (using as many years of data as feasible), using interrupted time series to determine if the trend after Weed and Seed implementation diverges from what would have been expected given historical trends.

While these kinds of analyses go beyond the scope of the typical OMB or GPRA reporting, they should be considered in some set of sites to establish the degree to which the performance goals, as developed by a given federal agency (e.g., CCDO), make conceptual sense and are attainable.

Once the performance measurement system is instituted into the site-level GPRA reporting system, examination of these reports can help to identify those specific Weed and Seed sites that may merit closer analysis or even formal evaluation. For example, CCDO could highlight those sites with an unexpected decrease in a specific type of crime and examine the specific programmatic activities that had been put into place for that year. At that point, further analysis might compare the site’s crime reduction to crime trends in the larger jurisdiction or place the initiation of program activities and the crime reduction in the context of a longer trend within the site. This would help to determine if the performance outcome found in a given site were likely linked to the programmatic activities. While this type of exploration requires additional funds, it is only through such analysis that the value of performance measures—that of
being able to determine which among a host of intervention options is truly worth replicating—can be realized.

**Summary of Recommendations**

The CCDO has a functional performance measurement system that permits it to monitor the hundreds of Weed and Seed sites and comply with OMB PART requirements. In this report, we have made several recommendations about how this performance measurement system could be improved and expanded without imposing significant new burdens on the Weed and Seed sites. UI recommends that CCDO do the following:

- Require sites to report counts of each of seven types of UCR Part I incidents, not just homicides as the GPRA form currently requires. These incident counts can be taken directly from the UCR Return A forms completed monthly by thousands of police agencies.
- Advise sites to observe the rules of the UCR system for categorizing offenses, identifying the most serious of several offenses in a single incident, counting incidents, and resolving overlapping police jurisdictions.
- Require sites to report monthly incident counts for the two years preceding their awards and for each year of Weed and Seed funding.
- Require sites to report counts of incidents and estimates of the residential population for both the Weed and Seed site and the surrounding jurisdiction, just as the current GPRA form requires. Having these population estimates would permit CCDO to compute crime rates from the Part I incident counts to compute performance measures for the entire Weed and Seed program that would be suitable for PART reporting.
- Require site managers to set performance targets in each annual application for Weed and Seed funding.
- Require site managers to review their performance vis-à-vis their targets at the end of each funding year and report to CCDO on what, if any, adjustments they propose to make in their application for continued Weed and Seed funding.
- Incorporate a review of the targets, performance measures, and proposed adjustments from each site into the process of making funding decisions.
- Consider whether the mean percentage change in crime rate (\(\mu_{(PCR)}\)) is a suitable program-level performance measure.
- Incorporate review of longer-term national crime trends into the development of OMB PART targets.
- Consider whether Weed and Seed PART targets should become asymptotic as crime rates hover near historic lows rather than continuing to be a set percentage of the previous year’s level.
- Mine the richer performance measurement data the adoption of these recommendations would yield to identify Weed and Seed sites that are consistently strong performers that may merit formal evaluation.
By collecting monthly counts of Part I incidents and holding sites accountable for meeting their performance targets (or making reasonable adjustments), CCDO can improve the performance of its sites and the performance of the Weed and Seed program as a whole in the PART system.