

**Federal Marijuana Policy:
A Preliminary Assessment**

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Executive Summary

- In 2004 the U.S. government spent at least \$3.67 billion on policies to reduce marijuana use. This total consisted of
 - \$1.43 billion for prohibition activities such as the arrest and incarceration of marijuana traffickers;
 - \$1.11 billion for education activities to prevent marijuana use, including media campaigns and school-based programs;
 - \$0.37 billion for treatment of marijuana users; and
 - \$0.76 billion for research related to marijuana and marijuana policy.
- Determining whether this spending reduces marijuana use is a complex task, and appropriate evaluations are not available in many cases.
- Several facts about marijuana use, however, raise doubt as to whether federal marijuana spending achieves its stated goal of reducing use:
 - A substantial portion of the U.S. population uses or has used marijuana despite federal policies aimed at preventing or reducing use.
 - Marijuana use rates are little different now than in 1975, despite a substantial escalation in federal marijuana spending over this time period.
 - Perceived availability of marijuana, disapproval of marijuana use, perceptions of marijuana's harmfulness, and attitudes toward legalization of marijuana are only modestly different now than before the enormous escalation in federal marijuana spending over the past three decades.
 - Marijuana use rates in the U.S. are higher than or similar to rates in countries that spend far less on reducing use.

I. Introduction

The U.S. government prohibits the production, sale, and possession of marijuana, and it expends considerable resources enforcing this prohibition. The U.S. government also spends substantial amounts on marijuana media campaigns, school-based marijuana programs, marijuana-testing of government employees, subsidies for marijuana-abuse treatment, and subsidies for research on marijuana and marijuana policy. The billions spent to pursue these policies, with little existing evidence on the effectiveness of this spending, make government policy toward marijuana the subject of ongoing debate.

The official goal of federal marijuana spending is to reduce marijuana use and the auxiliary consequences that allegedly result from this use, such as crime, diminished productivity, poor health, and traffic and industrial accidents.¹ Advocates of marijuana spending believe that current policies achieve these goals. Numerous experts and organizations, however, contend these policies are ineffective at reducing marijuana use and generate costs that exceed any benefits.

This report assesses the two main parameters of federal marijuana policy: cost and effectiveness.

Section II of this report estimates federal government spending on activities such as marijuana prohibition, marijuana media campaigns, school-based marijuana programs, subsidized marijuana-abuse treatment, and subsidies for research on marijuana and marijuana policy. The report concludes that federal marijuana spending was at least \$3.67 billion in 2004. This consisted of \$1.43 billion for enforcing marijuana prohibition, \$1.11 billion for marijuana use prevention, \$0.37 billion for marijuana treatment, and \$0.76 billion for marijuana research and development.

Section III considers several facts about marijuana use in the U.S. and other countries to provide a preliminary assessment of whether marijuana spending reduces marijuana use. The data show that over the past several decades in the U.S., marijuana use, the perceived availability of marijuana, disapproval of marijuana, perceptions of marijuana's harmfulness, and attitudes toward marijuana legalization have all fluctuated to some degree. Nevertheless, current levels of marijuana use and attitudes toward marijuana are only modestly different from 30 years ago despite a significant escalation in federal marijuana spending. Similarly, differences across countries in marijuana spending bear little relation to marijuana use rates.

Section IV concludes. This report does not address the basic assumption of federal policy, which is that marijuana use causes undesirable outcomes such as crime or diminished health and productivity. If this assumption is exaggerated or invalid, however, then reduced marijuana use is not necessarily in society's interest.

This report also ignores the possibility that federal marijuana spending, especially on marijuana prohibition, might itself generate undesirable consequences. For example, forcing marijuana into the black market increases uncertainty about product quality, encourages violent dispute resolution, and inhibits the use of marijuana as medicine. If these unintended consequences are substantial, then federal marijuana spending potentially generates costs in excess of benefits even if it reduces marijuana use.

¹ See <http://www.whitehousedrugpolicy.gov/about/index.html>.

II. Federal Marijuana Spending

The federal government spends billions of dollars enforcing the prohibition on production, transportation, importation, distribution, and possession of marijuana. In addition, the federal government conducts marijuana media campaigns, school-based marijuana programs, and marijuana-testing of government employees; subsidizes marijuana-abuse treatment; and supports research on marijuana and marijuana policies.²

The key difficulty in estimating federal marijuana spending is that many policies target a wide range of drugs, not just marijuana. This report therefore uses the following procedure to estimate federal marijuana spending. First, it presents data on the overall federal budget for drug control. Second, it discusses data that indicate the fraction of various spending categories that can reasonably be attributed to marijuana versus other drugs. Third, it applies these indicators to the overall spending data to estimate federal marijuana spending.

Federal Drug Control Spending by Agency

Table 1 presents data on federal drug control spending for 2004 (ONDCP 2005).³ The last line shows that federal drug control spending was \$11.9 billion in 2004. Since the data cover spending on policies aimed at all drugs, the \$11.9 billion figure is an upper bound on federal marijuana spending.⁴

In Table 1, the bolded lines show drug control spending by each federal agency that conducts substantial anti-drug activities. These are Department of Defense, Department of Education, Department of Health and Human Services, Department of Homeland Security, Department of Justice, Office of National Drug Control Policy, Department of State, and Department of Veterans Affairs.

The remaining detail in Table 1 shows the breakdown of federal drug spending by “function.” Roughly speaking, *Intelligence*, *International*, *Interdiction*, *Investigations*, and *Prosecution* constitute drug prohibition enforcement at home and abroad. This means the arrest, prosecution, and incarceration of domestic drug users and traffickers; enforcement of border controls designed to prevent foreign-produced drugs from entering the country; and attempts to reduce foreign production of drugs by techniques such as aerial spraying. *Prevention* includes anti-drug media campaigns, school-based anti-drug education programs, and drug-testing. The anti-drug television ads introduced during the Super Bowl in recent years and the DARE anti-drug program are examples. *Treatment* consists of subsidies for drug-abuse treatment. *Research & Development* encompasses activities designed to improve the efficacy of drug control policies. *State & Local Assistance* consists mainly of law enforcement activities designed to reduce violent crime and the availability of drugs.⁵

² This report reviews federal marijuana spending because appropriate data on state and local spending are not readily available. For many policy questions, however, the relevant parameter is total government spending. This report therefore indicates the magnitude of state and local spending where possible.

³ All budgetary data in this report refer to fiscal years unless otherwise noted.

⁴ Murphy, Davis, Liston, Thaler and Webb (2000) examine the methods used by ONDCP to estimate this expenditure, concluding that methodological problems render parts of the estimates biased, in some cases by substantial amounts. For example, Murphy et al. find that the anti-drug budgets of the Coast Guard and the Bureau of Prisons are accurate reflections of the resources expended while the Department of Defense probably underestimates its anti-drug budget. Further, Murphy et al. conclude that existing practices probably overestimate spending on demand-side activities. It is not obvious from the Murphy et al. analysis that better accounting would increase or decrease overall spending. Since the agencies in question have not modified their techniques for estimating drug-control spending, this report has no alternative but to utilize the existing, flawed data.

⁵ Appendix A contains the precise definitions of these functions (ONDCP 2003, Attachment D).

Table 1. Federal Drug Control Spending by Agency and Function FY 2004, Final Budget Authority, in millions

Department	Amt. by Function	Agency Subtotal	Dept. Total
Department of Defense			\$953.3
Intelligence	\$125.3		
Interdiction	\$499.9		
Investigations	\$49.5		
Prevention	\$110.8		
Research & Development	\$14.4		
State & Local Assistance	\$146.7		
Treatment	\$6.7		
Department of Education			\$594.4
Prevention	\$594.4		
Department of Health and Human Services			\$3,476.4
<i>National Institute of Drug Abuse</i>		\$987.7	
R&D, Prevention	\$402.7		
R&D, Treatment	\$585.0		
<i>Substance Abuse and Mental Health Services Administration</i>		\$2,488.7	
Prevention	\$572.7		
Treatment	\$1,916.1		
Department of Homeland Security			\$2,417.3
<i>Customs and Border Protection</i>		\$1,070.5	
Intelligence	\$62.1		
Interdiction	\$997.7		
R&D	\$10.7		
<i>Immigration and Customs Enforcement</i>		\$574.4	
Intelligence	\$7.2		
Interdiction	\$199.1		
Investigations	\$367.0		
Prevention	\$1.1		
<i>United States Coast Guard</i>		\$772.5	
Interdiction	\$770.3		
R&D	\$2.2		
Department of Justice			\$2,541.0
<i>Bureau of Prisons</i>		\$47.7	
Treatment	\$47.7		
<i>Drug Enforcement Administration</i>		\$1,703.0	
Intelligence	\$190.1		
International	\$243.7		
Investigations	\$1,248.0		
Prevention	\$8.7		
State & Local Assistance	\$12.6		
<i>Interagency Crime and Drug Enforcement</i>		\$548.5	
Intelligence	\$27.9		
Investigations	\$416.3		
Prosecution	\$104.3		
<i>Office of Justice Programs</i>		\$241.7	
Prevention	\$31.7		
State & Local Assistance	\$171.9		
Treatment	\$38.1		

Office of National Drug Control Policy		\$522.2
<i>Operations</i>		\$27.8
Interdiction	\$3.7	
International	\$3.7	
Investigations	\$2.1	
Prevention	\$6.1	
R&D	\$1.3	
State & Local Assistance	\$5.6	
Treatment	\$5.3	
<i>High Intensity Drug Trafficking Areas</i>		\$225.0
Intelligence	\$49.6	
Interdiction	\$25.9	
Investigations	\$131.6	
Prevention	\$2.8	
Prosecution	\$8.6	
R&D	\$2.1	
Treatment	\$4.3	
<i>Counterdrug Tech. Assessment Center</i>		\$41.8
R&D	\$17.9	
State & Local Assistance	\$23.9	
<i>Other Federal Drug Control Programs</i>		\$227.6
Intelligence	\$3.0	
Prevention	\$213.7	
R&D	\$9.9	
Treatment	\$1.0	
Department of State		\$949.5
<i>Bureau of International Narcotics and Law Enforcement Affairs</i>		\$949.5
Interdiction	\$37.6	
International	\$911.9	
Department of Veterans Affairs		\$411.1
Research & Development	\$9.2	
Treatment	\$401.9	
National Highway Traffic Safety Administration		\$1.2
Prevention	\$0.5	
Research & Development	\$0.7	
U.S. Small Business Administration		\$1.0
Prevention	\$1.0	
Grand Total		\$11,867.4

Source : ONDCP (2004).

Federal Marijuana Spending

The data in Table 1 examine federal drug-control spending aimed at all drugs. The key issue addressed in this report, however, is the fraction of this spending aimed at marijuana. Since many policies simultaneously target a range of illicit drugs, there are no direct budgetary data on federal marijuana spending *per se*. It is possible to provide a reasonable estimate, however, using the information in Table 1 combined with auxiliary information on the size of the marijuana market and the magnitude of federal marijuana activities.

Table 2 presents the first step in this estimation process by displaying the same information as Table 1 but grouped by function rather than by agency. For a given function, it is plausible that the degree to which

policy targets marijuana is similar across agencies.⁶ By combining information on the fraction of each function that corresponds to marijuana policy versus anti-drug policy generally, one can estimate the amount of marijuana spending.

Table 2. Drug Control Spending by Function, FY 2004, in millions

Function Department/Agency	Federal Spending
Intelligence Total	\$465.2
Department of Defense	\$125.3
Customs and Border Protection	\$62.1
Immigration and Customs Enforcement	\$7.2
Drug Enforcement Administration	\$190.1
Interagency Crime and Drug Enforcement	\$27.9
High Intensity Drug Trafficking Areas	\$49.6
Other Federal Drug Control Programs	\$3.0
Interdiction Total	\$2,534.2
Department of Defense	\$499.9
Customs and Border Protection	\$997.7
Immigration and Customs Enforcement	\$199.1
United States Coast Guard	\$770.3
ONDCP: Operations	\$3.7
High Intensity Drug Trafficking Areas	\$25.9
Bureau of International Narcotics and Law Enforcement Affairs	\$37.6
International Total	\$1,159.3
Drug Enforcement Administration	\$243.7
ONDCP: Operations	\$3.7
Bureau of International Narcotics and Law Enforcement Affairs	\$911.9
Investigations Total	\$2,214.5
Department of Defense	\$49.5
Immigration and Customs Enforcement	\$367.0
Drug Enforcement Administration	\$1,248.0
Interagency Crime and Drug Enforcement	\$416.3
ONDCP: Operations	\$2.1
High Intensity Drug Trafficking Areas	\$131.6
Prevention Total	\$1,543.5
Department of Defense	\$110.8
Department of Education	\$594.4
SAMHSA	\$572.7
Immigration and Customs Enforcement	\$1.1
Drug Enforcement Administration	\$8.7
Office of Justice Programs	\$31.7
ONDCP: Operations	\$6.1
High Intensity Drug Trafficking Areas	\$2.8
Other Federal Drug Control Programs	\$213.7
National Highway Traffic Safety Administration	\$0.5
U.S. Small Business Administration	\$1.0
Prosecution Total	\$112.9
Interagency Crime and Drug Enforcement	\$104.3
High Intensity Drug Trafficking Areas	\$8.6

⁶ This assumption is plausible because any agency involved in a given function is likely to allocate its efforts according to the prevalence of particular drugs or drug-related problems.

Research and Development Total	\$1,056.1
Department of Defense	\$14.4
National Institute of Drug Abuse, Prevention	\$402.7
National Institute of Drug Abuse, Treatment	\$585.0
Customs and Border Protection	\$10.7
United States Coast Guard	\$2.2
ONDCP: Operations	\$1.3
High Intensity Drug Trafficking Areas	\$2.1
Counterdrug Technology Assessment Center	\$17.9
Other Federal Drug Control Programs	\$9.9
Department of Veterans Affairs	\$9.2
National Highway Traffic Safety Administration	\$0.7
State and Local Assistance Total	\$360.7
Department of Defense	\$146.7
Drug Enforcement Administration	\$12.6
Office of Justice Programs	\$171.9
ONDCP: Operations	\$5.6
Counterdrug Technology Assessment Center	\$23.9
Treatment Total	\$2,421.1
Department of Defense	\$6.7
SAMHSA	\$1,916.1
Bureau of Prisons	\$47.7
Office of Justice Programs	\$38.1
ONDCP: Operations	\$5.3
High Intensity Drug Trafficking Areas	\$4.3
Other Federal Drug Control Programs	\$1.0
Department of Veterans Affairs	\$401.9
Grand Total	\$11,867.4
<i>Source</i> : ONDCP (2004).	

Table 3 displays several indicators of the marijuana share of drug markets and drug policies. Line 1 shows the percentage of DEA arrests for marijuana versus other drugs; this is a reasonable indicator for allocating *Intelligence, Interdiction, International, Investigations, Prosecutions, and State & Local Assistance* spending between marijuana and other drugs. Line 2 shows the percentage of persons using any illicit drug in the past year who used marijuana; this is a reasonable indicator for allocating *Prevention and Research & Development* spending between marijuana and other drugs. Line 3 shows the percentage of treatment admissions for marijuana; this is a reasonable indicator for allocating *Treatment* spending between marijuana and other drugs.

Table 3. Indicators of Marijuana Relative to Other Drugs

1. Percent of DEA Drug Arrests for MJ, 2003	20.9%
2. Percent of All Illicit Drug Users who have used MJ in the past year, 2003	72.1%
3. Percent of Treatment Admissions, 2002	15.1%
<i>Sources:</i>	
Line 1: SCJS 2003 Online, Table 4.40.	
Line 2: SCJS 2003 Online, Table 3.87.	
Line 3: U.S. Dept. of Health and Human Services (2004, Table 2.1b, p.73).	

None of the indicators in Table 3 is perfect. The share of DEA arrests for marijuana is one measure of the share of federal prohibition activities aimed at marijuana, but other possible measures (seizures, prosecutions, imprisonments) might suggest a different percentage. The share of illicit drug users who consume marijuana as opposed to other drugs is a reasonable indicator of the allocation of prevention efforts, but such efforts might target certain drugs disproportionately to their use rates. And the share of treatment admissions for

marijuana does not take into account the differential expense of different kinds of treatment.

Despite these caveats, the indicators considered here provide a useful baseline for estimating federal marijuana spending. Some of the underlying assumptions bias the final estimates upwards while others bias them downwards. Readers with alternative views of the correct allocations can easily modify the assumptions to produce alternate estimates of spending on anti-marijuana policies. And as discussed below, modest modifications of the estimates do not change the key conclusions of the report.

Table 4 combines the information from Tables 2 and 3 to estimate federal marijuana spending. The first column shows total anti-drug spending by the federal government in each of the nine function categories, based on Table 2. The next column shows one of the three marijuana share indicators from Table 3. The last column gives the product of the first two columns, which is the implied amount of federal marijuana spending based on the assumed marijuana share of that function.

The overall estimate for federal marijuana spending in 2004 is \$3.67 billion. This total consists of \$1.43 billion for marijuana prohibition; \$1.11 billion for marijuana media campaigns, school-based education programs, and drug-testing; \$0.76 billion for marijuana research and development; and \$0.37 billion for marijuana treatment.

There are defensible modifications of the assumptions employed here that would make the estimates in Table 4 somewhat smaller or larger. Any reasonable assumptions would yield estimates in the same ballpark, however, given the framework employed here. There are nevertheless several caveats to keep in mind when interpreting these estimates.

Table 4. Allocation of Drug Control Spending to Marijuana Versus Other Drugs, 2004, in billions

Function	Total Anti-Drug Spending	Marijuana Percentage	Marijuana Spending
Prohibition Total	\$6,846.8	20.9%	\$1,431.0
Intelligence	\$465.2	20.9%	\$97.2
Interdiction	\$2,534.2	20.9%	\$529.6
International	\$1,159.3	20.9%	\$242.3
Investigations	\$2,214.5	20.9%	\$462.8
Prosecution	\$112.9	20.9%	\$23.6
State and Local Assistance	\$360.7	20.9%	\$75.4
Prevention	\$1,543.5	72.1%	\$1,112.9
Research & Development	\$1,056.1	72.1%	\$761.4
Treatment	\$2,421.2	15.1%	\$365.6
Grand Total	\$11,867.4		\$3,670.9

The first caveat is that in 2003 the ONDCP adopted a new reporting procedure that yields substantially lower estimates of federal anti-drug spending. The critical difference is that the new procedure counts only spending that occurs under programs or agencies explicitly devoted to anti-drug activities, rather than also including spending that occurs indirectly as the result of federal anti-drug policies. For example, the new procedure counts the Bureau of Prisons spending on *Treatment* activities but not the costs of incarcerating drug law violators. Likewise, the new procedure includes the salaries of law enforcement personnel employed by an anti-drug task force but not the salaries of federal agents who make arrests on drug charges. Appendix B provides a detailed comparison of the new and old budgets for 2001, one of the years with data available under both methodologies.

Because it is difficult to obtain recent data in the old format, this report uses the new procedure advocated by ONDCP. For virtually all purposes, however, the old procedure is more appropriate and accurate. Moreover, data are available in both formats for a few years, so it is possible to estimate the degree to which the current procedure understates federal marijuana spending. In the last overlapping year, total drug control spending using the old methodology was 1.68 times total drug control spending using the new methodology.⁷ Since most of the difference between the two procedures occurs with respect to prohibition activities, a conservative adjustment is to multiply the \$1.43 billion estimated above by 1.68, which

⁷ ONDCP (2002, p.31 and 34, respectively) gives 2003 spending as \$19.2 billion under the old reporting system and \$11.4 billion under the new system.

implies \$2.40 billion for marijuana prohibition activities and \$4.64 billion for all federal marijuana programs.

The second caveat is that neither the \$3.67 billion figure nor the \$4.64 billion figure includes state and local marijuana spending. Miron (2003b) shows that state and local spending on drug prohibition is roughly 1.4 times federal spending, so omission of state and local spending has a substantial impact on the estimated magnitude of overall drug control spending. Moreover, much state and local spending on drug control would not occur in the absence of federal policies in this area, so evaluations of federal policies should account for state and local spending.

The policy functions for which omission of state and local spending matters most are again those in the prohibition category. Since this report estimates 2004 federal marijuana prohibition spending of \$1.43 billion using the new accounting format and \$2.40 billion using the older format, the results in Miron (2003b) suggest that State and Local spending on marijuana prohibition was roughly \$2.00 billion or \$3.36 billion. This means total marijuana spending was at least \$5.67 billion and possibly as high as \$8.00 billion, depending on the accounting format used. The total amount was higher to the extent state and local governments made expenditures for Treatment, Prevention, or Research and Development.⁸

⁸ Though this section has explained the plausibility of using a higher baseline figure for federal marijuana spending, the remainder of this paper uses the conservative \$3.76 billion figure.

III. The Effect of Federal Marijuana Spending on Marijuana Use

The magnitude of federal marijuana spending, documented in the previous section, is modest in comparison to many government programs but is nevertheless substantial. A natural question, therefore, is whether this spending achieves the government's stated goal of reducing marijuana use. Evidence that federal marijuana spending reduces use does not prove this spending is beneficial; that view assumes reducing marijuana use is a valid goal for public policy and ignores any auxiliary consequences of marijuana policy. But the conclusion that \$3.67 billion in government spending does *not* substantially reduce marijuana use challenges the wisdom of the current federal approach to marijuana.

Determining whether federal policy reduces marijuana use is difficult given available data, so this report does not offer a conclusive assessment.⁹ Instead the report summarizes evidence that provides some insight as to whether, or to what degree, federal marijuana spending achieves its principal goal. While the existing evidence is incomplete, it nevertheless gives little indication that marijuana spending reduces marijuana use.

Table 6. Illicit Drug Use in Lifetime, Past Year, and Past Month among Twelfth Graders: Percentages, 2004

Drug	Lifetime	Past Year	Past Month
Any Illicit Drug	51.1	38.8	23.4
Marijuana and Hash	45.7	34.3	19.9
Cocaine	8.1	5.3	2.3
Crack	3.9	2.3	1.0
Heroin	1.5	0.9	0.5
Hallucinogens	9.7	6.2	1.9
LSD	4.6	2.2	0.7
PCP	1.6	0.7	0.4
Ecstasy	7.5	4.0	1.2
Inhalants	10.9	4.2	1.5
Tobacco	52.8	na	25.0
Alcohol	76.8	70.6	48.0

Source : Monitoring the Future 2004.

contains data from the National Survey on Drug Use and Health (NSDHU), a survey of the civilian, non-institutionalized population aged 12 and over conducted periodically since 1972 and annually since 1991. Table 6 shows data from Monitoring the Future (MTF), a survey of high-school seniors conducted annually since 1975.

The data show that a substantial fraction of the population has used marijuana in the recent past and an even larger fraction has used marijuana at some point in their lifetime. For example, the NSDHU data show that of the population aged 12 and older, 10.6% used marijuana in the past year and 40.6% used marijuana in their lifetime. The MTF data show that 34.3% of high school seniors used marijuana in the past year and 45.7% used marijuana in their lifetime.

⁹ Even the currently available data are potentially problematic. For example, National Research Council (2001) emphasizes that the data on illegal drug markets are often little more than educated guesses and may contain significant biases and inaccuracies.

Table 5. Illicit Drug Use in Lifetime, Past Year, and Past Month among Persons Aged 12 or Older: Percentages, 2003

Drug	Lifetime	Past Year	Past Month
Any Illicit Drug	46.4	14.7	8.2
Marijuana and Hash	40.6	10.6	6.2
Cocaine	14.7	2.5	1.0
Crack	3.3	0.6	0.3
Heroin	1.6	0.1	0.1
Hallucinogens	14.5	1.7	0.4
LSD	10.3	0.2	0.1
PCP	3.0	0.1	0.0
Ecstasy	4.6	0.9	0.2
Inhalants	9.7	0.9	0.2
Tobacco	72.7	35.1	29.8
Alcohol	83.1	65.0	50.1

Source : SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health.

Hard data on marijuana consumption are not available due to marijuana's prohibited status. Survey data, however, provide reasonable information on the frequency of marijuana use. Survey data are potentially biased; in particular, surveys plausibly understate the true frequency of use because some persons lie about or forget past use. As long as the magnitude of this bias is not too severe, however, these data still contain useful information.

Tables 5 and 6 present data for the U. S. from the two main drug use surveys. Table 5

These data do not indicate what marijuana use rates would be in the absence of federal marijuana spending, so they do not indicate to what extent these policies reduce marijuana use. But the fact that substantial portions of the population have used and currently use marijuana, despite existing federal marijuana spending, means these programs are, at best, only partially effective at achieving their stated goal. Given that many people would not use marijuana even if there were no federal marijuana spending (just as many people do not smoke or drink), and given that survey data probably understate true use rates, the implied effectiveness is smaller still.¹⁰

A second fact to consider in evaluating federal marijuana spending is the behavior of marijuana use rates and related variables over time. Figures 1-5 present such data based on the MTF survey of high school seniors.¹¹

Figure 1 shows the percentage of high school seniors who used marijuana in the past year. The data indicate that marijuana use rates have fluctuated substantially over time. Marijuana use increased from 1975 through 1979, declined from 1979 until 1992, increased again from 1992 until the late 1990s, and declined modestly thereafter. Comparing the beginning and end of the sample, however, there is not a marked difference in use rates (40.0% in 1975 versus 34.3% in 2004).

Figure 1. Past Year Marijuana Use Rates Among High School Seniors

Percentage who used in last 12 months

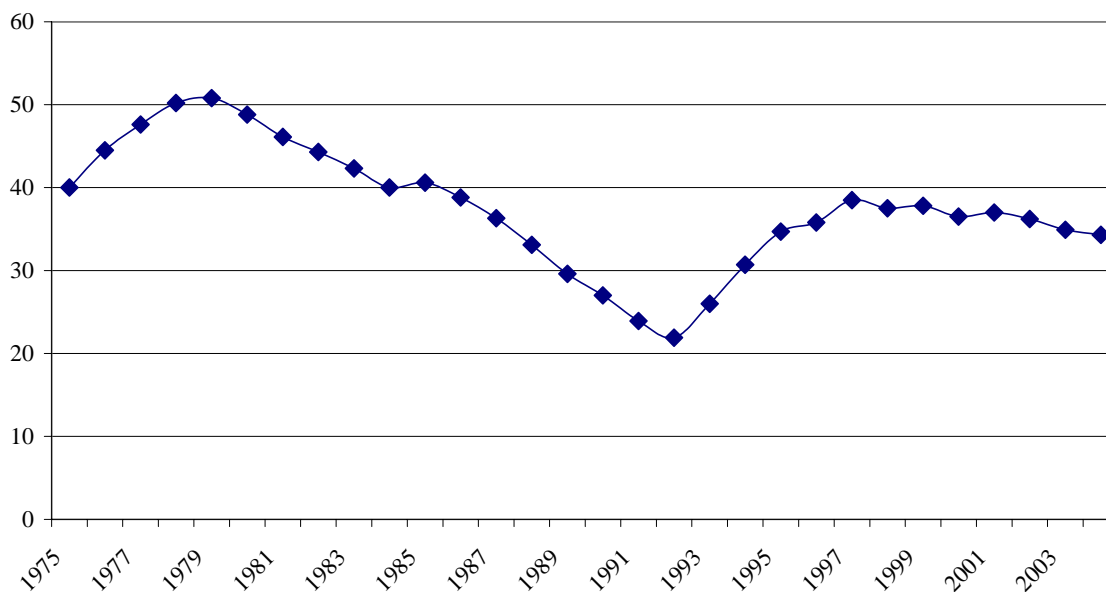


Figure 2 shows the percentage of high school seniors who stated that it is “fairly easy” or “very easy” to get marijuana. These data indicate that the perceived availability of marijuana has been substantial throughout the 1975-2004 period, with the segment believing it is fairly easy or very easy to obtain marijuana always in excess of 82.7%. Moreover, this figure has fluctuated in a narrow range and is similar at the beginning and ending points of the sample (87.8% in 1975 versus 85.8 % in 2004).

¹⁰ There are existing policies that aim to moderate or reduce alcohol and tobacco use, but these are vastly less extensive than the policies aimed at marijuana. In particular, alcohol and tobacco are legal.

¹¹ This report focuses on the MTF data for examining trends in marijuana use for two reasons. First, use rates for youth are of particular policy interest. Second, the MTF data are available annually for a longer period.

Figure 2. Perceived Availability of Marijuana by High School Seniors

Percentage who stated that it is "fairly easy" or "very easy" to get marijuana

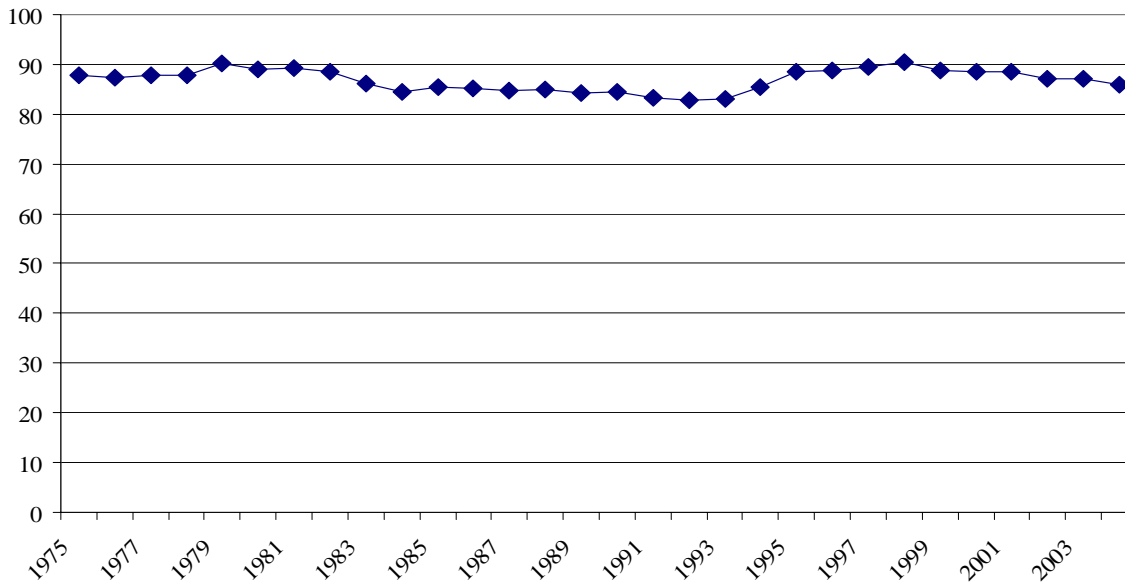


Figure 3 shows the percentages of high school seniors who disapprove of marijuana use. The data shows that disapproval has been substantial throughout the sample period (with more than 70% typically disapproving of regular use) but that the percentage expressing disapproval is only modestly higher at the end of the period than at the beginning (71.9% in 1975 versus 80.7% in 2004 for regular use).

Fig. 3. Disapproval of Marijuana Use by High School Seniors

Do you disapprove of people (who are 18 or older) doing each of the following?

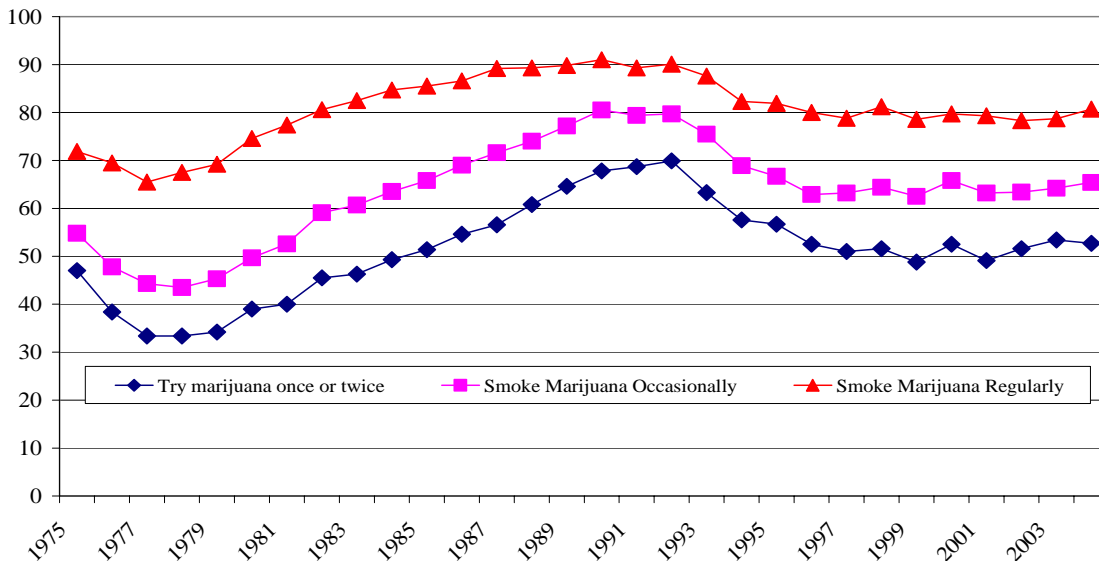
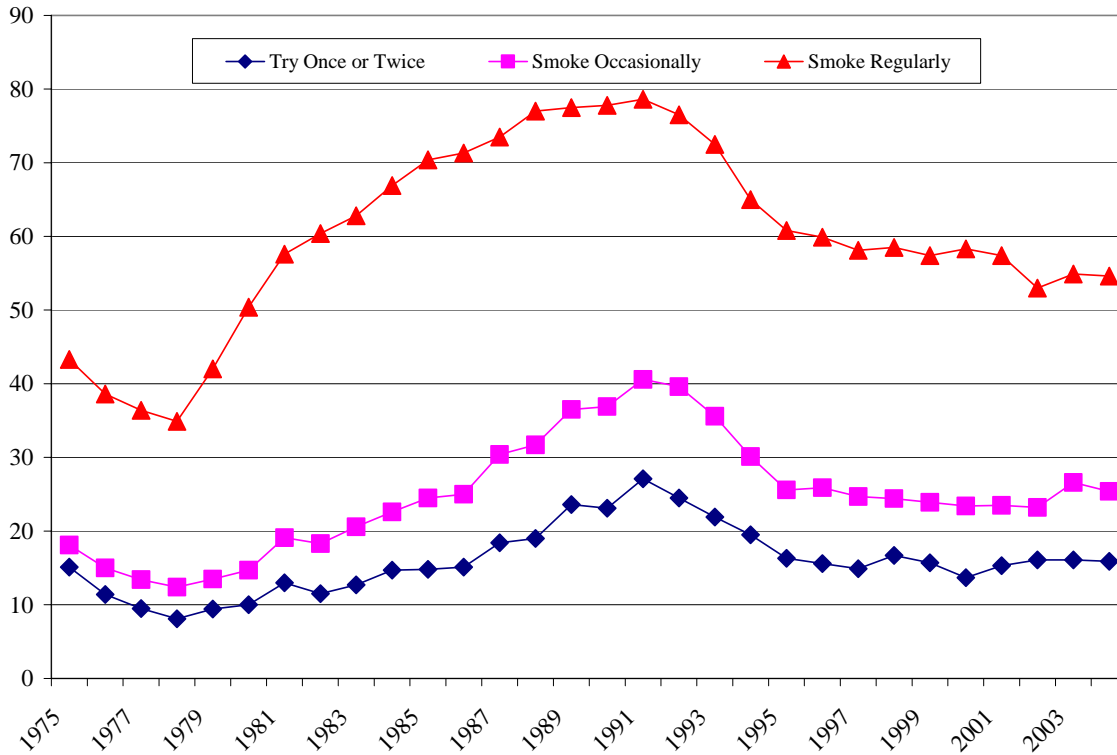


Figure 4 shows the percentage of high school seniors who believe trying marijuana, occasionally using marijuana, or regularly using marijuana is harmful. The data again show substantial fluctuations but little overall increase over the past thirty years.

Figure 4. Perceptions of Harmfulness of Marijuana

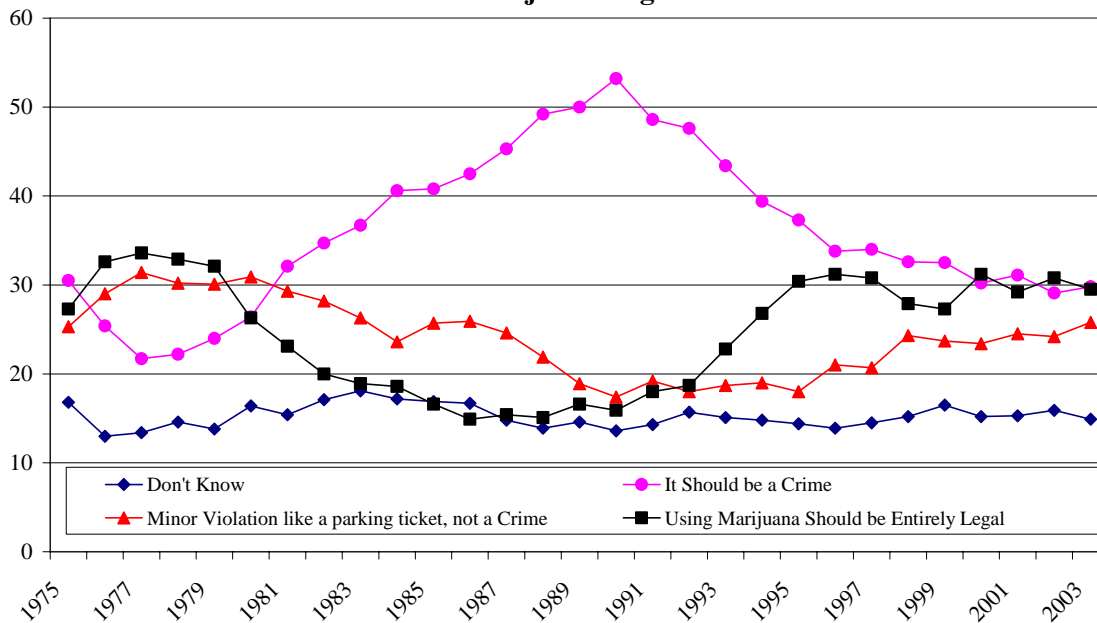
Percentage of high school seniors who believe marijuana is harmful at different levels of use



Finally, Figure 5 shows high school seniors' attitudes toward marijuana legalization. A substantial fraction of those sampled believe marijuana use should be treated as a minor violation or entirely legal (more than 33.3% in every year), and this fraction has fluctuated substantially over the past several decades. The percentage supporting marijuana legalization is *higher* at the end of the sample than at the beginning (55.3% in 2003 versus 52.6% in 1975), despite the increase in federal marijuana expenditure over this period.¹²

¹² Adults have also become more open to legalization. Data from the Gallup Poll indicate that the fraction supporting legalization increased from 12% in 1966 to 34% in 1993 (see *Sourcebook of Criminal Justice Statistics Online*, <http://www.albany.edu/sourebook/pdf/t266.pdf>).

**Figure 5: Attitudes of High School Seniors
Toward Marijuana Legalization**



These facts pose an even greater challenge to the view that policy has reduced marijuana use than the mere fact that current use rates are substantial. Table 7 shows the total amount of federal spending on anti-drug policies for the past three decades (Carnevale and Murphy 1999).¹³ The first column indicates the amounts for “supply-side” spending, meaning that for *Intelligence, Interdiction, International, Investigations, Prosecution, and State and Local Assistance*. The second column indicates the amounts for “demand-side” spending, meaning that for *Prevention, Research and Development, and Treatment*. The third column indicates the sum of the first two. The amounts displayed are for all anti-drug spending, since data on marijuana-specific spending are not available.

The data show that supply-side spending to reduce drug use is more than ten times higher, and demand-side spending more than five times higher, than they were three decades ago. Moreover, cumulative federal, anti-drug spending totals more than \$257 billion over this period (in constant, 2003 dollars). Marijuana use rates did decline during the 1980s along with the increase in marijuana spending. But this decline began in 1979 under the Carter administration, well before the Reagan era “Just Say No” campaign. More importantly, as indicated in Figures 1-5, marijuana use and attitudes are little different now than they were in the mid-1970s despite the enormous escalation in marijuana spending over this period.¹⁴

The absence of any obvious effect of federal marijuana spending on use rates does not prove these policies have no effect; the correlation analysis presented here does not address a number of important methodological issues.¹⁵ But the fact that trends in marijuana use bear no overall relation to federal marijuana spending casts doubt on whether these policies reduce marijuana use. If these policies had a substantial impact, there would likely be some evidence of this in the raw data.

¹³ This report updates Carnevale and Murphy (1999) using data from ONDCP. There are minor discrepancies between the two sources for years that overlap, but these do not significantly affect the overall trends.

¹⁴ Basov, Jacobson, Miron (2001) show that a broad variety of indicators suggests that U.S. enforcement of drug prohibition has increased substantially over the past several decades.

¹⁵ A complete analysis must address a number of issues, such as the possibility of reverse causation, omitted variables, and the like.

Table 7: Drug Control Spending, 1970-1978 and 1981-2002, in millions

Fiscal Year	Supply Side	Demand Side	Total	Fiscal Year	Supply Side	Demand Side	Total
1970	\$251.34	\$279.79	\$526.39	1987	\$5,473.03	\$2,288.66	\$7,761.69
1971	\$372.54	\$404.35	\$776.89	1988	\$5,016.06	\$2,306.61	\$7,322.67
1972	\$721.91	\$1,052.06	\$1,773.97	1989	\$6,802.06	\$3,086.45	\$9,888.52
1973	\$886.85	\$1,931.17	\$2,818.02	1990	\$9,283.06	\$4,455.70	\$13,738.76
1974	\$1,037.57	\$1,903.45	\$2,941.01	1991	\$9,811.98	\$4,991.78	\$14,803.76
1975	\$1,026.02	\$1,528.77	\$2,554.80	1992	\$10,249.18	\$5,370.49	\$15,619.67
1976	\$1,186.78	\$1,170.62	\$2,354.17	1993	\$10,132.10	\$5,365.92	\$15,498.02
1977	\$1,120.40	\$1,117.36	\$2,237.76	1994	\$9,634.55	\$5,493.93	\$15,127.23
1978	\$1,176.81	\$1,061.10	\$2,240.74	1995	\$10,334.91	\$5,664.88	\$15,998.58
1979	NA	NA	NA	1996	\$10,569.74	\$5,208.06	\$15,777.79
1980	NA	NA	NA	1997	\$11,672.82	\$5,705.72	\$17,378.54
1981	\$1,740.81	\$1,360.26	\$3,101.08	1998	\$12,043.76	\$5,086.30	\$17,130.06
1982	\$2,005.89	\$1,271.79	\$3,277.68	1999	\$13,402.95	\$5,503.99	\$18,906.94
1983	\$2,325.86	\$1,363.37	\$3,689.24	2000	\$13,429.01	\$5,609.54	\$19,038.55
1984	\$2,796.30	\$1,388.41	\$4,184.72	2001	\$12,656.62	\$6,144.10	\$18,800.73
1985	\$3,242.23	\$1,462.08	\$4,704.31	2002	\$12,975.84	\$6,275.94	\$19,251.78
1986	\$3,379.49	\$1,457.23	\$4,836.72				

Source : Carnevale and Murphy (1999) and ONDCP (2003).

A third fact that is relevant to evaluating federal marijuana spending is marijuana use rates across countries. Table 8 displays the available information for a sample of developed countries.¹⁶ There is substantial variation in marijuana use rates, in part due to differences in reporting practices or data definitions. This caveat aside, the marijuana use rate in the U.S. is higher than, or roughly similar to, the rates for most of the countries reported in the table. Only two countries (Australia and New Zealand) have use rates noticeably higher than in the United States.

These data also challenge the view that federal marijuana spending deters marijuana use. The U.S. enforces marijuana prohibition to a substantially greater degree than other countries (Miron 2001) but has use rates higher than most of them. The difference between the U.S. and places like the Netherlands or Spain are particularly suggestive. These countries are well known to have lax enforcement of marijuana prohibition, if not de facto legalization, yet their use rates are similar to or lower than marijuana use rates in the U.S. Thus, although there are several countries with lax enforcement and relatively high marijuana use rates (e.g., Australia, New Zealand), there is little correlation overall between marijuana use and level of marijuana spending.¹⁷

As with the time-series evidence for the U.S., this evidence is only suggestive since it does not control for other factors that affect marijuana use. The absence of a correlation nevertheless fails to suggest that marijuana spending reduces marijuana use.

In addition to examining the basic facts about marijuana use and marijuana policies, it is in principle fruitful to conduct detailed scientific evaluations of specific marijuana spending programs or policies. In practice, such evaluations are difficult due to the absence of appropriate data.¹⁸ Further, many of these evaluations apply to drugs other than marijuana, so they are not directly relevant to the discussion here. These caveats aside, existing evaluations of specific anti-drug policies provide little evidence that

¹⁶ The comparison is limited to such countries because this controls partially for other possible determinants of drug use. In addition, the data for these countries are more likely comparable to those for the United States.

¹⁷ This statement refers in particular to spending on marijuana prohibition; data on other components of spending are not readily available. Some countries do spend substantial amounts for activities such as drug abuse treatment, but little of this expenditure targets marijuana use.

¹⁸ See, in particular, National Research Council (1999, 2001).

marijuana spending reduces marijuana use (see Westat (2003) for evaluation of the National Youth Anti-Drug Media Campaign; US GAO (2003) on the school-based anti-drug program DARE; Brown and Kreft (1998) on drug education programs generally; National Research Council (1999) on treatment; and Miron (2004) on prohibition). Thus, these evaluations confirm the conclusions suggested here.

IV. Discussion

This report does not address the basic assumption of federal policy, which is that marijuana use causes undesirable outcomes such as crime or diminished health and productivity. If this assumption is exaggerated or invalid, then reduced marijuana use is not necessarily in society's interest. The report also ignores the possibility that federal marijuana spending, especially on marijuana prohibition, itself generates undesirable consequences. For example, forcing marijuana production into the black market increases uncertainty about product quality, encourages violent dispute resolution, and inhibits the use of marijuana as medicine. If these unintended consequences are substantial, then marijuana spending potentially generates costs in excess of benefits even if it reduces marijuana use.

Despite the limited scope of the report, the results present a challenge to current federal marijuana policy. Annual federal marijuana spending is at least \$3.67 billion, yet little evidence indicates this spending accomplishes the government's stated goal of reducing marijuana use. Given the range of uncertainties involved in deriving these conclusions, they do not by themselves demonstrate that marijuana spending has greater costs than benefits. The results nevertheless place the burden of proof on advocates of this spending to demonstrate benefits in excess of costs.

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Appendix A: Definition of Drug Control Functions

Intelligence: Activities or Programs with a primary focus to provide guarded information for use by national policy makers, strategic planners, or operational/tactical elements, primarily in the areas of national security and law enforcement. Activities include collecting, processing, analyzing, and disseminating information related to drug production and trafficking organizations and their activities (including production, transportation, distribution, and finance/money laundering) and the willingness and ability of foreign governments to carry out effective drug control programs

Interdiction: Activities designed to interrupt the trafficking of illicit drugs into the United States by targeting the transportation link. Specifically, interdiction encompasses intercepting and ultimately disrupting shipments of illegal drugs, their precursors, and the fruits of drug distribution.

International: Activities primarily focused on or conducted in areas outside of the United States, including a wide range of drug control programs to eradicate crops, seize drugs (except air and riverine interdiction seizures), arrest and prosecute major traffickers, destroy processing capabilities, develop and promote alternative crops to replace drug crops, reduce the demand for drugs, investigate money laundering and financial crime activities, and promote the involvement of other nations in efforts to control the supply of and demand for drugs.

Investigations: Federal domestic law enforcement activities engaged in preparing drug cases for the arrest and prosecution of leaders and traffickers of illegal drug organizations, seizing drugs and assets, and ensuring that federal laws and regulations governing the legitimate handling, manufacturing, distribution, etc. of controlled substances are properly followed.

Prevention: Activities focused on discouraging the first-time use of controlled substances and outreach efforts to encourage those who have begun to use illicit drugs to cease their use.

Prosecution: Federal activities related to the conduct of criminal proceedings against drug trafficking and money laundering organizations, with the aim of bringing a civil or criminal judgment against their members, forfeiting their assets, divesting leaders of their power, and, as appropriate, extraditing, deporting, and excluding their members.

Research & Development: Activities intended to improve the capacity, efficiency, or quality of drug control activities.

State & Local Assistance: Federal drug control assistance to help state and local law enforcement entities to reduce drug related violent crime and the availability of illegal drugs.

Treatment: Activities focused on assisting regular users of controlled substances to become drug-free through such means as counseling services, in-patient and out-patient care, and the demonstration and provision of effective treatment modalities, etc.

Source: ONDCP (2003, Attachment D).

Appendix B: Federal Drug Control Spending Under ONDCP's Old and New Methodologies

	<u>2001 Final BA in millions</u>			<u>2001 Final BA in millions</u>	
	Old	New		Old	New
Department of Agriculture	\$26.7		Immigration and Naturalization Service	\$525.0	\$201.7
Agricultural Research Svc.	\$4.8		Interagency Crime and Drug Enforcement	\$325.2	\$325.2
U.S. Forest Service	\$5.8		INTERPOL	\$0.3	
Women, Infants, and Children	\$16.1		U.S. Marshals Service	\$223.8	
Corporation for National and Community Service	\$9.4		Office of Justice Programs	\$1,016.6	\$214.8
D.C. Court Services and Offender Supervision	\$58.6		Tax Division	\$0.4	
Department of Defense	\$1,150.3	\$970.4	Department of Labor	\$78.8	
Counter Drug Operations	\$1,047.1		ONDCP	\$502.1	\$502.1
Plan Columbia	\$103.3		Operations	\$24.7	
Intelligence Community Management Account	\$34.0		High Intensity Drug Trafficking Areas	\$208.3	
Department of Education	\$634.1	\$644.3	Counterdrug Technology Assessment Center	\$36.0	
Department of Health and Human Services	\$3,389.9	\$2,958.6	Special Forfeiture Fund	\$233.1	
Admin. for Children and Families	\$83.0		Small Business Administration	\$3.5	
Centers for Disease Control and Prevention	\$223.6		Department of State	\$289.8	\$279.3
Centers for Medicare and Medicaid Services	\$500.0		International Narcotics Control	\$279.3	
Health Resources & Services Administration	\$45.8		Plan Colombia	\$0.0	
Indian Health Service	\$59.9		Emergencies in the Dipl. and Cons. Service	\$1.7	
National Institutes of Health	\$822.7	\$783.6	Public Diplomacy	\$8.8	
SAMHSA	\$1,655.0	\$2,175.0	Department of Transportation	\$795.8	\$745.4
Department of Housing and Urban Development	\$309.3		U.S. Coast Guard	\$745.4	\$745.4
Department of the Interior	\$39.5		Federal Aviation Administration	\$19.9	
Bureau of Indian Affairs	\$23.2		National Highway Traffic Safety Adminis.	\$30.5	
Bureau of Land Mgmt.	\$5.0		Department of the Treasury	\$1,262.0	
U.S. Fish and Wildlife Svc.	\$1.7		Bureau of Alcohol, Tobacco, and Firearms	\$164.9	
National Park Service	\$9.5		U.S. Customs Service	\$707.7	\$714.7
The Judiciary	\$756.8		Federal Law Enforcement Training Center	\$31.9	
Department of Justice	\$8,074.1		Financial Crimes Enforcing Network	\$10.8	
Assets Forfeiture Fund	\$439.9		Interagency Crime and Drug Enforcement	\$103.2	\$103.2
U.S. Attorneys	\$228.2		Internal Revenue Service	\$51.5	
Bureau of Prisons	\$2,341.5		U.S. Secret Service	\$21.7	
Community Policing	\$374.7		Treasury Forfeiture Fund	\$170.2	
Criminal Division	\$35.1		Department of Veterans Affairs	\$680.9	\$680.9
Drug Enforcement Admin.	\$1,480.4	\$1,480.4	Other Presidential Initiatives		\$3.5
FBI	\$707.5		Total Federal Drug Budget		\$18,095.7
Federal Prisoner Detention	\$375.5				

Source: ONDCP (2002, pp. 29-31, 34).