Washington State
Institute for
Public Policy

110 Fifth Avenue Southeast, Suite 214 • PO Box 40999 • Olympia, WA 98504-0999 • (360) 586-2677 • www.wsipp.wa.gov

January 2005

WASHINGTON'S DRUG OFFENDER SENTENCING ALTERNATIVE: AN EVALUATION OF BENEFITS AND COSTS

SUMMARY[1]

In recent years, the Washington legislature has amended some of the state's sentencing laws for drug-involved felony offenders. This report describes an outcome evaluation and benefit-cost analysis of one of those laws: the 1999 amendments to the Drug Offender Sentencing Alternative (DOSA).

What is DOSA? The law specifies that for certain felony offenders, a superior court judge has the option to give a shorter sentence to prison if an offender agrees to participate and complete drug treatment.[2] A judge can apply DOSA to two categories of offenders: drug offenders convicted for a small amount of a controlled substance, and drug-involved property offenders. A judge cannot apply DOSA to offenders convicted of a current or prior sex offense, or any other current or prior violent offense.

Under DOSA, the standard sentence length is split between prison confinement and a term of community custody. If an offender does not complete drug treatment or is administratively terminated from DOSA, the legislation requires that he or she return to prison to serve the remainder of the community custody term.

The legislature directed that the Washington State Institute for Public Policy (Institute) evaluate whether DOSA influenced recidivism rates and whether the benefits of DOSA outweigh the costs. We analyzed the effects of the legislation by comparing a group of offenders who received DOSA sentences with a similar group of offenders sentenced prior to the 1999 implementation date of DOSA. This report contains our findings.

Main Findings. We find that DOSA has different effects for two types of offenders.

- ✓ For drug offenders given a DOSA sentence, we find that DOSA generates between $7.25 and $9.94 in benefits per dollar of cost.
- ✓ For drug-involved property offenders given a DOSA sentence, however, the law does not reduce recidivism and benefits are slightly less than costs. We find that for property offenders, DOSA generates only $0.93 in benefits per dollar of cost.

Thus, as we describe in the report, our overall finding is that DOSA is an effective criminal justice policy for drug offenders but neutral for drug-involved property offenders.

BACKGROUND: HOW DOSA FITS INTO WASHINGTON'S ADULT SENTENCING SYSTEM

Each of the 50 states has developed its own system for sentencing adults convicted of felonies. The main sentencing decisions that must be made include determining which offenders will be incarcerated, and for how long. In more than half the states, judges have wide flexibility in making these decisions, and executive branch agencies (parole boards and correctional agencies) typically have considerable influence over how long offenders remain incarcerated.

In contrast, Washington's legislature has asserted the primary role in determining these decisions for felony offenses. As a result of the Sentencing Reform Act of 1981 (SRA), Washington has a statewide sentencing system that limits judicial discretion for adult felons. Under this system, the Washington legislature enacts a statewide "sentencing grid" that judges must use to sentence convicted offenders. Judges can make case-by-case exceptions to the legislature's grid, but the law presumes that the grid will determine the sentences received for nearly all offenders. County prosecutors also have a central role in Washington's

[1] For information, contact Steve Aos at saos@wsipp.wa.gov. Suggested citation: Aos, S., Phipps, P., Barnoski, R. (2005) *Washington's drug offender sentencing alternative: An evaluation of benefits and costs*, Olympia: Washington State Institute for Public Policy.

[2] RCW 9.94A.660.

sentencing system by determining the charges that are filed in a case.

Since passage of the SRA in 1981, the legislature has periodically returned some discretion to the judicial and executive branches. In 1995, for example, the legislature passed the original DOSA, which increased judicial sentencing discretion for certain types of convicted offenders. Under the 1995 version of the DOSA law, only first-time felony drug offenders were eligible for DOSA.[3]

A subsequent review, conducted in 1997, found that DOSA was underutilized due primarily to the presence of other sentencing alternatives available for first-time felony drug offenders.[4] For example, in fiscal year 1997, only 41 offenders were sentenced to DOSA while 954 were sentenced to another sentencing alternative called the Work Ethic Camp (WEC). WEC involved less confinement time than DOSA and provided no chemical dependency treatment. This underutilization of DOSA prompted legislative action.

In 1999, the Legislature significantly revised the original DOSA. The 1999 amendments extended DOSA eligibility to all felony drug and property offenders under these conditions:

- An offender must have a standard sentencing range greater than one year,
- An offender cannot have current or prior sex or violent offenses,
- Only offenders who commit an offense that involves a small quantity of a controlled substance, as determined by the judge, would be eligible for DOSA,
- An offender cannot have a sentencing enhancement, and
- An offender cannot be the subject of a deportation detainer or order.[5]

Legislative Direction for the Evaluation

In the 1999 legislation, the Legislature also directed the Institute, in consultation with the Sentencing Guidelines Commission (SGC), to evaluate the impact of the 1999 DOSA legislation. Our evaluation addresses the following questions:[6]

- Did the new DOSA legislation change sentencing practices?
- Does DOSA, with its emphasis on drug treatment, reduce criminal recidivism?
- Does DOSA save state resources?

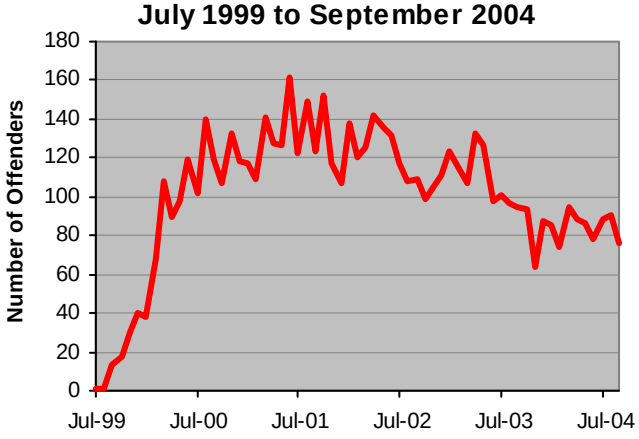
This report highlights our results.[7]

Current Trends in the Use of DOSA

Exhibit 1 plots the monthly number of offenders admitted to prison with a DOSA sentence since the 1999 legislation took effect. The chart clearly shows that DOSA's popularity grew quickly following its July 25, 1999, start date. By mid-2001, about 140 offenders per month were entering prison with a DOSA sentence.

Exhibit 1

Monthly Admissions to Prison for Offenders With a DOSA Sentence: July 1999 to September 2004



Source: Washington Caseload Forecast Council

Starting about mid-2001, however, the number of new monthly DOSA sentences began to recede. By the summer and fall of 2004, about 80 offenders per month were being admitted to prison with a DOSA

[3] First-time felony offenders convicted of a violation under the Uniform Controlled Substance Act (VUCSA; RCW 69.50) were eligible for DOSA.

[4] C. Du and P. Phipps. (1997) *Trading Time for Treatment: Second Year Evaluation of the Drug Offender Sentencing Alternative*. Olympia: Washington State Sentencing Guidelines Commission.

[5] In addition, the 1999 DOSA amendments (E2SHB 1006) made drug offenders ineligible for the Work Ethic Camp.

[6] The specific legislative language authorizing the study is as follows: *The Washington state institute for public policy, in consultation with the sentencing guidelines commission shall evaluate the impact of implementing the drug offender options provided for in RCW 9.94A.120 (6). The commission shall submit a final report to the legislature by December 1, 2004. The report shall describe the changes in sentencing practices related to the use of punishment options for drug offenders and include the impact of sentencing alternatives on state prison populations, the savings in state resources, the effectiveness of drug treatment services, and the impact on recidivism rates.*

[7] Additional information on our evaluation of DOSA can be obtained from our 2003 report: B. Luchansky and P. Phipps. (2003) *Drug Offender Sentencing Alternative (DOSA): Treatment and Supervision.* Olympia: Washington State Institute for Public Policy. available at: <http://www.wsipp.wa.gov/rptfiles/DOSA.pps>

sentence, a significant reduction in the use of this sentencing option.

Why has there been a decrease in the use of DOSA by judges? Based on conversations with practitioners, it appears that beginning in 2001 some judges and prosecutors became concerned that DOSA sentences were not holding offenders sufficiently accountable. Some people noted that the Department of Corrections (DOC) did not consistently revoke an offender's DOSA sentence when the offender failed to comply with sentence conditions.[8] In addition, new drug sentencing legislation passed in the 2002 session[9] resulted in DOSA prison terms that were viewed by some as insufficient. Whatever the reasons, the evidence in Exhibit 1 shows that the number of DOSA sentences declined over the last few years.

USE AND COSTS OF DRUG TREATMENT UNDER DOSA

The 1999 DOSA legislation requires all offenders sentenced under DOSA to receive a comprehensive substance abuse assessment and, within resources available, treatment services. If an offender is chemically dependent, DOC policy puts DOSA offenders as the priority group for treatment.[10] Addiction severity, custody level, risk classification, sentence length, and treatment capacity are factors in determining the type and duration of treatment. DOC initial treatment modes include:

- **Intensive Outpatient**
  - The most common type of treatment.
  - A 5-, 6-, 9-, or 12-week program providing up to 72 hours of treatment.
  - Available in confinement and community.
- **Intensive Inpatient**
  - 30 days in length.
  - Available only in confinement; discontinued in 2000.
- **Long Term Residential**
  - 6-12 months
  - Available only in confinement.
- **Continuing Care/Outpatient Treatment**
  - Weekly sessions for a minimum of 3 months for offenders who have completed one of the initial treatment types.

We found that DOSA offenders received significantly more drug treatment than a comparison group of DOSA-eligible offenders. Exhibit 2 shows, for example, that 79.4 percent of DOSA offenders received some form of drug treatment while 14.1 percent of the comparison group received treatment. Thus, DOSA has been fairly successful in providing some chemical dependency treatment for most of the intended populations.

Exhibit 2
Drug Treatment for Offenders with a DOSA Sentence
(percent receiving treatment)

Type of Drug Treatment	DOSA (n=617)	Non-DOSA Comparison Group (n=476)
Any treatment	79.4%	14.1%
Long-term residential	3.9%	0.4%
Intensive Inpatient	24.3%	2.5%
Intensive Outpatient	55.3%	11.3%
Continuing Care/Outpatient	49.4%	6.5%
In-prison and Continuing Care	46.5%	5.7%

These numbers are based on our analysis of data from the Washington State Department of Corrections. For this comparison, we selected DOSA-eligible offenders who met our follow-up requirements to be included in the recidivism analysis (see technical appendix). Of these offenders, we further selected only those who had a positive Substance Abuse Subtle Screening Inventory (SASSI) score, indicating a high probability of a substance abuse disorder. During our evaluation time frame, DOC first used the SASSI and later used the Texas Christian University Drug Dependence Screen instruments to screen for substance disorders. We believe these two samples provide a fair test of the degree to which DOSA has increased substance abuse treatment.

We estimate that these drug treatment services cost approximately $1,319 per DOSA offender, in fiscal year 2004 dollars. This result is shown in Exhibit 3. We determined these costs by obtaining average treatment cost information from the Department of Corrections and then applying the total number of offenders in our DOSA study sample treated with the different services.

Exhibit 3
Drug Treatment Costs for Offenders With a DOSA Sentence
(Fiscal Year 2004 Dollars per DOSA Offender)

Type of Drug Treatment	Number of DOSA Offenders in Sample Receiving Treatment	Cost Per Offender
Long-term residential	27	$3,105
Intensive inpatient	169	$1,013
Intensive outpatient	368	$950
Continuing care/outpatient	329	$475
Assessment	674	$190
Average cost per DOSA offender		$1,319

The cost numbers are from a personal communication with staff at the Department of Corrections (DOC). The long-term residential cost is an average of two rates ($2,700 and $3,510) reported by DOC. The average cost is the sum of the products of the number of offenders and the cost per offender, divided by the 674 offenders in the total sample.

[8] The Department of Corrections has since implemented a more rigorous revocation process that has resulted in a significant increase in DOSA revocations.
[9] 2SHB 2338, Chapter 290, Laws of 2002.
[10] DOC Policy Directive 670.500, "Chemical Dependency Treatment Services" and DOC Policy Directive 670.655, "Special Drug Offender Sentencing Alternative."

DOES DOSA LOWER RECIDIVISM RATES?

A primary research question for this study is whether DOSA—with its emphasis on drug treatment and by allowing judges more sentencing discretion—reduces recidivism rates.

Evaluation Methodology. The ability to evaluate whether DOSA achieves reductions in recidivism rates depends on identifying an adequate comparison group of offenders. Ideally, DOSA-eligible offenders would be randomly assigned either to DOSA or to a non-DOSA comparison group. With a successfully implemented random assignment, any observed difference in recidivism rates could be attributed to the effect of DOSA. Unfortunately, as is the case in many real world settings, random assignment was not possible for this evaluation.

Absent random assignment, we established a comparison group of offenders by matching actual DOSA participants with similar offenders sentenced prior to DOSA's July 1999 implementation date. That is, the comparison group for this evaluation consists of offenders who would have been eligible for DOSA, had it existed when they were sentenced to prison between July 1, 1997, and June 30, 1999. We then performed multivariate statistical analyses to control for any observed differences in the two groups.

For the comparison group, in addition to having a sentence date between July 1, 1997, and June 30, 1999, we selected offenders who met the following DOSA eligibility requirements set by statute:

- A standard sentencing range greater than one year,
- No current or prior sex or violent offenses,
- No sentencing enhancement (use of deadly weapon or firearm), and
- Offender not subject to a deportation detainer or order.

We were unable to analyze the requirement that the crime involve a small quantity of a controlled substance. Under DOSA, judges make this determination. No data in electronic records are available on the quantity of controlled substances, so we could not analyze this factor. Additionally, because our criminal recidivism data include only Washington State convictions, we removed offenders from our sample who were released to an out-of-state placement.

While this research design is fairly strong, it is not perfect for two reasons. First, the matched DOSA and DOSA-eligible comparison groups are from two different time periods. DOSA offenders are those sentenced during the first two years of DOSA's existence, while the comparison group includes similar offenders sentenced during the two years prior to the start of DOSA. This means there could be other time-dependent factors that distinguish these two periods for which we cannot control in our analysis.

Second, DOSA is an option for judges, it is not mandatory. The actual screening process used by the courts to issue a DOSA sentence is not fully captured in the DOSA selection criteria; that is, not all DOSA-eligible offenders are given this option. Judges, aided by the advice of prosecutors and defense attorneys, decide whether to offer an offender a DOSA sentence. Additionally, the offender must agree to complete drug treatment in exchange for a shorter prison stay. All these elements are selection factors, unobserved to the researcher, that determine whether an offender receives a DOSA sentence.

While the timing and selection attributes of the evaluation design pose possible threats to the validity of this study, we attempt to minimize their influence by performing multivariate analyses using a comprehensive set of observed control variables and a variety of matching approaches.

We cannot control, however, for any remaining unobserved factors that affect program selection. For this reason, when we carry out our benefit-cost analysis, we reduce the estimated effect of the DOSA program on recidivism by 50 percent.[11] That is, since we cannot control for all selection bias, and since the likely direction of that bias would result in an overestimation of the effectiveness of the program,[12] we apply a 50 percent discount

[11] We explain in an earlier report (S. Aos, R. Lieb, J. Mayfield, M. Miller, & A. Pennucci. (2004) *Benefits and costs of prevention and early intervention programs for youth, Technical Appendix*. Olympia: Washington State Institute for Public Policy) our rationale for using a 50 percent reduction. For random assignment studies, we do not discount findings. For non-random assignment studies that have a comparison group and some indication that the groups are equivalent, we discount observed findings by 50 percent. This 50 percent factor has been confirmed in the meta-analytic studies of Mark Lipsey, citied in footnote 12. For studies whose evaluation design is somewhere between these two categories, we apply a 25 percent reduction.

[12] M. W. Lipsey. (2003) "Those confounded moderators in meta-analysis: Good, bad, and ugly." *The Annals of the American Academy of Political and Social Science* 587(1): 69-81.

factor to the program effect when we perform our benefit-cost analysis.[13]

Data Sources. To implement the evaluation of DOSA, we collected data from four Washington State sources:

- Sentencing data for fiscal years 2000 and 2001 were obtained from the Washington State Sentencing Guidelines Commission.
- Offender information was obtained from the Washington State Department of Corrections OBTS database.
- Chemical dependency treatment data were obtained from DOC. These data are included in the Division of Alcohol and Substance Abuse's TARGET database.
- Recidivism data were obtained from the Washington State Institute for Public Policy's criminal justice database.

Recidivism Measures. To measure recidivism, we follow the definition for recidivism established by the 1997 Legislature.[14] Recidivism is measured using conviction rates for subsequent offenses. In Washington, all convictions in juvenile and adult criminal courts are recorded in statewide databases maintained by the state's Administrative Office of the Courts and the Department of Corrections. In this evaluation we report three dichotomous re-conviction rates: total felony reconvictions, non-drug felony recidivism, and drug felony reconvictions.[15] The follow-up "at-risk" period for each offender is 24 months.[16] In calculating rates, we allow an additional 12-month period for an offense to be adjudicated by the courts.

Methods for Defining Comparison Groups

Five samples were created to examine the impact of DOSA on recidivism using separate multivariate logistic regressions. The five approaches we tested are:

1. A multivariate regression analysis with all 6,401 comparison group offenders and 1,014 DOSA offenders.

2. A sample where DOSA and comparison group participants are matched on scores that measure the risk for felony, property, and violent felony re-offending. The result is a sample of 1,014 comparison group participants matched to 1,014 DOSA participants.

3. A sample where DOSA and comparison group participants are matched on 15 variables in the equations predicting felony, property, and violent felony re-offending. These variables are: age, male, African American, currently sentenced for a felony drug offense, currently sentenced for a felony property offense, prior Class C adjudications, prior felony drug adjudications, prior juvenile court felony drug adjudications, prior juvenile court felony adjudications, prior commitment to the Juvenile Rehabilitation Administration (JRA), prior misdemeanor adjudications, prior adult sentence condition violations, was administered the SASSI, number of commitments to DOC, and the SRA Severity Level for the current admission. The result is a sample of 323 comparison group participants matched to 323 DOSA participants.

4. A sample where DOSA and comparison group participants are matched on a single propensity score predicting the likelihood that the offender would be given a DOSA. The result is a sample of 1,006 comparison group participants matched to 1,006 DOSA participants.

5. A sample where DOSA and comparison group participants are matched on 17 variables used to predict the likelihood that the offender would be given a DOSA. These variables are: male, Hispanic, African American, number of commitments to DOC, the SRA Severity Level for the current admission, currently sentenced for a felony offense, currently sentenced for a felony property offense, currently sentenced for a felony drug offense, currently sentenced for a felony escape offense, currently sentenced for a misdemeanor offense, was administered the SASSI, prior juvenile court felony drug adjudications, prior juvenile court felony adjudications, prior commitment to JRA, prior violent felony adjudications, prior felony weapon adjudications, and prior adult sentence condition violations. The result is a sample of 494 comparison group participants matched to 494 DOSA participants.

The final results we present in this report are those for the third of these five samples. We favor the recidivism prediction variable matching approach because it makes the comparison offenders identical to the DOSA participants on the key variables that predict whether they will recidivate. That is, two groups are identical with regard to their likelihood of re-offending and hopefully any difference in recidivism between the groups can be more confidently attributed to the effect of DOSA. We have found in other evaluations that this method reduces the bias between non-randomly assigned program and comparison groups.

[13] We also investigated the possibility of analyzing the unobserved selection factors with an instrumental variables methodology. The 1999 amendments to DOSA took effect July 25, 1999. As indicated on Exhibit 1, however, judges did not immediately begin to use the new DOSA; rather, judges began to use DOSA with increasing frequency during the first and second years following July 25, 1999. This means that a convicted DOSA-eligible offender whose sentencing occurred in the early life of DOSA (i.e., in the first months following July 25, 1999) had a reduced chance of actually receiving a DOSA sentence compared to a similar DOSA-eligible offender whose sentence date occurred later in the post July 25, 1999, period. We investigated whether this delayed-implementation effect would allow us to use the statistically powerful instrumental variables methodology to identify the effect of DOSA on recidivism rates. Unfortunately, we determined that this variable was not an acceptable instrumental variable apparently because the selection processes were not independent of the phase-in of DOSA.

[14] R. Barnoski. (1997) *Standards for improving research effectiveness in adult and juvenile justice.* Olympia: Washington State Institute for Public Policy.

[15] We did not report violent felony recidivism in this study because there were so few offenders reconvicted for a violent offense. Non-drug felony recidivism includes offenders who were reconvicted of either a property or a violent felony, but not a drug offense.

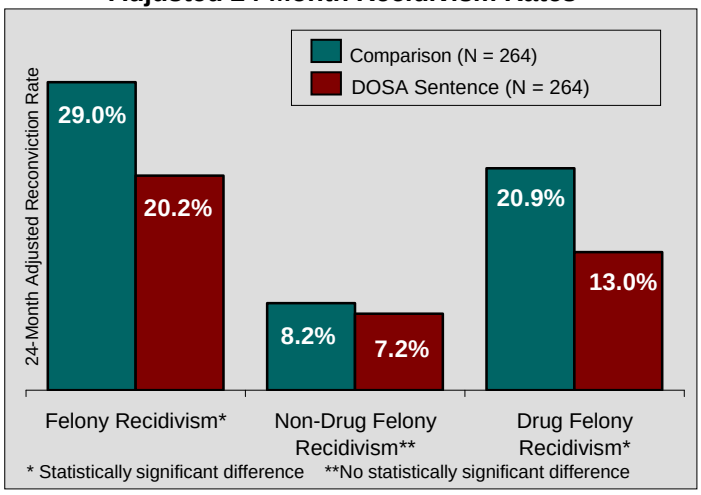
[16] *Ibid.*

RECIDIVISM FINDINGS

Since DOSA is applicable for two different groups of offenders, we analyzed the effects for those offenders sentenced to prison for a drug offense, and those sentenced for a property offense. Both the recidivism and benefit-cost analyses are reported separately for these two DOSA groups.

Recidivism Rates for Drug Offenders Sentenced Under DOSA. Without DOSA, we estimate that 29.0 percent of DOSA-eligible drug offenders will be re-convicted for a new felony within two years of release from prison. For those drug offenders who receive a DOSA sentence, we find that the felony recidivism rate is 20.2 percent, a statistically significant difference.[17] Exhibit 4 shows these results.

Exhibit 4
DOSA Drug Offenders vs. Comparison Group: Mean-Adjusted 24-Month Recidivism Rates



Most of the reduced recidivism effect is attributed to subsequent felony drug offending; Exhibit 4 shows that the estimated felony drug recidivism rate fell from 20.9 percent to 13.0 percent, a statistically significant decrease. The effect of DOSA on non-drug felony recidivism was not statistically significant.

Exhibit 5 shows the regression results for the felony recidivism finding for drug offenders. Separate analyses were made for the non-drug felony and drug felony findings (regression results not shown).

Why was DOSA able to achieve this difference in recidivism rates for drug offenders? There are two basic attributes of Washington's DOSA: judges are allowed more discretion in making sentencing decisions, and offenders who receive a DOSA sentence get more drug treatment. Thus, part or all of the recidivism reduction could be the result of judges (along with prosecutors and defense attorneys) effectively using their increased sentencing discretion to give shorter DOSA prison sentences to lower risk offenders.

Additionally, part or all of the reduction in recidivism rates could be due to the effectiveness of the increased drug treatment received by offenders sentenced to DOSA. That is, if drug treatment is effective, then some, or all, of the estimated drop in felony drug recidivism could be due to the effectiveness of drug treatment.

Unfortunately, our evaluation methodology does not enable us to statistically disentangle these two effects. Based on our experience in this field, however, we suspect that both factors contribute to the estimated recidivism rates we found in this study. In our benefit-cost analysis, we take this uncertainty into account by presenting two cases: one assumes a real reduction in recidivism rates is caused by the increased drug treatment, the other assumes that the difference is the result of judges selecting the lowest risk offenders for this option.

Exhibit 5
Logistic Regression for Felony Recidivism, Drug Offenders

Dependent Variable: Felony Recidivism
Included observations: 528

Variable	Coefficient	OR	Prob.
Intercept	-0.2803	.	0.7594
DosaFlag	-0.4819	0.618	0.0221
SASSI	0.5738	1.775	0.1438
Male	0.5884	1.801	0.0313
Age	-0.0874	0.916	0.0363
AgeDecade	0.0589	1.061	0.2154
Black	0.3964	1.486	0.0805
TgtCommitmentCount	0.1642	1.178	0.2381
TgtSRASeverityLevel	-0.1341	0.874	0.0926
CurrentClassB	-0.7583	0.468	0.0368
PriorJuvenileFelony	-0.4069	0.666	0.1686
PriorFelPerson	-0.6593	0.517	0.1328
PriorFelProperty	-0.8356	0.434	0.0028
PriorMisdProperty	0.443	1.557	0.0015
PriorSentViol	0.4035	1.497	0.0313
Log likelihood	1692.74		

Recidivism Rates for Property Offenders Sentenced Under DOSA. Without DOSA, we estimate that 50.3 percent of DOSA-eligible property offenders will be re-convicted for a new felony within two years of release from prison. For those property offenders who receive a DOSA sentence, we find that the recidivism rate is 59.7 percent. This is not a statistically significant difference; that is, we cannot rule out the possibility that the difference could be zero. Exhibit 6 shows

[17] Recidivism rates reported in this document are mean-adjusted, using multivariate regression results and taking each of the independent variables at the mean values for the entire sample.

these results and those for non-drug felony recidivism and drug felony recidivism, neither of which are statistically significant. Exhibit 7 shows the logistic regression results for felony recidivism for property offenders.

Exhibit 6
DOSA Property Offenders vs. Comparison Group: Mean-Adjusted 24-Month Recidivism Rates

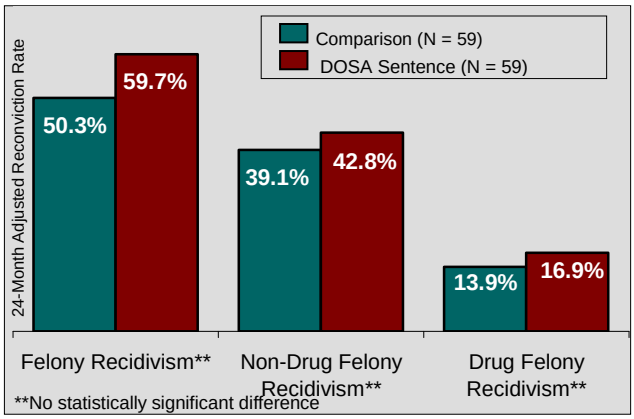


Exhibit 7
Logistic Regression for Felony Recidivism, Property Offenders

Dependent Variable: Felony Recidivism
Included observations: 118

Variable	Coefficient	OR	Prob.
Intercept	5.279	.	0.0068
DosaFlag	0.2733	1.314	0.5021
Age	-0.0697	0.933	0.0415
White	-1.3009	0.272	0.1459
TgtSRASeverityLevel	-1.3861	0.25	0.0033
TgtSRAOffenderScore	-0.2052	0.814	0.1094
CurrentClassB	1.8428	6.314	0.061
PriorJuvenileJra	-0.8694	0.419	0.1124
PriorMisdem	1.6148	5.027	0.0616
PriorMisdPerson	-0.518	0.596	0.0386
PriorSentViol	0.2712	1.312	0.1363
Log likelihood	198.235		

BENEFIT-COST ANALYSIS OF DOSA

The legislative direction for this evaluation requires that "the savings in state resources" be analyzed. To complete this task, we analyzed the benefits and costs of DOSA. We follow the same procedures we have used in other benefit-cost analyses of prevention, juvenile justice, and adult corrections programs and policies.[18] The advantage in using the same approach lies in being able to compare the benefit-cost estimates of one policy, such as DOSA, with those estimates for other criminal justice policies available to Washington government.

For the DOSA benefit-cost analysis, we provide estimates for the following five factors. In Exhibit 8, we display our estimates for each of these factors. We consider three cases and these are shown in the three columns on the Exhibit: two for DOSA drug offenders and one for DOSA property offenders.

1. **Reduced DOC prison costs.** Unlike standard sentences, DOSA sentences are split fifty-fifty between prison and community custody. The first section of Exhibit 8 shows our estimates of how this reduced prison time translates into lower prison costs in the budget of the Department of Corrections. For this item, we estimate taxpayer cost savings of about $14,051 per DOSA drug offender and $12,164 per DOSA property offender.

2. **Increased and Decreased DOC community custody costs.** Compared with standard sentences, we estimate that DOSA drug offenders will serve less time on community custody. For DOSA property offenders, on the other hand, more time will be spent in community custody. In Exhibit 8, we show an estimated savings in community custody costs (shown as a benefit on the Exhibit) of $971 per DOSA drug offender and an increased community custody cost of $1,654 for DOSA property offenders.

3. **Reduced future costs due to recidivism reduction.** We analyze the effect that reduced recidivism has on future criminal justice system costs to taxpayers and on avoided victimization costs to citizens.[19] When crime drops, taxpayers do not spend as much money on the criminal justice system and, because there are fewer crimes, there are fewer crime victimization costs incurred by people in the state. Our benefit-cost analysis calculates the present value of life-cycle avoided costs to both taxpayers and crime victims.

   As discussed in the previous section of this report, we find that DOSA appears to be associated with lower recidivism rates for drug offenders but not for property offenders. As we also note, however, for drug offenders this finding may reflect a real reduction in recidivism rates if drug treatment is successful, or it may

[18] A full description of the Institute's cost-benefit model used to produce this estimate is available at: S. Aos, R. Lieb, J. Mayfield, M. Miller, and A. Pennucci. (2004) *Benefits and costs of prevention and early intervention programs for youth, Technical Appendix*. Olympia: Washington State Institute for Public Policy.

[19] *Ibid.*

simply reflect the judicious use of shorter sentences for individuals who would have otherwise had lower recidivism rates. These different possibilities carry different benefit-cost implications.

In Exhibit 8, the two possibilities are presented for drug offenders in separate columns. The first column assumes that the entire difference in felony recidivism rates (as shown on Exhibit 4) results from effective drug treatment; that is, that there is a real reduction in recidivism. We used the effect size associated with the statistically significant felony conviction finding, discounted by 50 percent to account for the selection bias for which we were unable to control. We estimate that the recidivism reduction generates a total of $5,595 in benefits per drug offender. Of these total benefits, $3,176 accrue to taxpayers in the form of reduced criminal justice system expenditures that will be avoided because crime is lower. There will also be fewer crime victims because DOSA lowers crime; we estimate these benefits to be $2,419 per DOSA drug offender.

The second possibility for DOSA drug offenders assumes that the lower recidivism rates are not due to successful drug treatment but, rather, to judges selecting lower risk offenders for DOSA. In this case, there is no real reduction in recidivism rates. In Exhibit 8, this effect is, therefore, shown as generating zero benefits.

The second column in Exhibit 8 shows the results for property offenders where, because of the non-significant finding on recidivism, there are no benefits estimated for reduced recidivism.

4. **Increased DOC costs for drug treatment.** DOSA requires increased levels of drug treatment for DOSA offenders. As shown on Exhibit 3, we estimate that the average DOSA offender receives an additional $1,319 worth of drug treatment programming compared to the amount of treatment received by similar non-DOSA offenders.

5. **Increased future costs due to lower incarceration rates.** As noted, the effect of DOSA is to lower incarceration rates. In an earlier study on the effect of incarceration rates on crime levels in Washington, we found that lowered incarceration rates leads to higher crime rates.[20] In that study, we also found that this prison-crime relationship varies, depending on whether the incarceration rate applies to violent, property, or drug offenders. Further, because of diminishing returns, the effect of prison on crime depends on the total level of incarceration in the state at any point in time.

   For the benefit-cost analysis of DOSA, we take these factors into account and estimate the present value of the future costs of crime that will be incurred as a result of the lowering of incarceration rates caused by DOSA. We find that for drug offenders, the lowered incarceration rate will result in $942 per offender in increased taxpayer and crime victim costs. For property offenders, the expected future crime costs are much higher, $10,346 per DOSA property offender. The reason for this stems from our estimate that property offenders are responsible for many more property crimes per year than are drug offenders.[21] This significant difference in non-drug crime costs is illustrated by information in Exhibits 4 and 6: the non-drug felony recidivism rate for drug offenders is about 8 percent, while the rate for property offenders is about 40 percent.

SUMMARY OF BENEFIT-COST FINDINGS

The last line of Exhibit 8 presents our overall benefit-cost results. For drug offenders given a DOSA sentence, we find that the law generates more benefits than costs. Our estimate is a range between $7.25 and $9.94 in benefits per dollar of cost. The benefits derive from reduced DOC costs and, to a degree, the avoided costs associated with reduced recidivism rates.

For property offenders given a DOSA sentence, the conclusion is neutral. That is, our estimates indicate for drug-involved property offenders given a DOSA sentence, the law does not reduce recidivism and benefits barely exceed costs. DOSA generates only $0.93 in benefits per dollar of cost. The benefits of net reductions in DOC budgets are roughly offset by the increased costs that can be expected to be incurred because of higher crime.

[20] S. Aos. (2003) *The criminal justice system in Washington state: Incarceration rates, taxpayer costs, crime rates, and prison economics.* Olympia: Washington State Institute for Public Policy.
[21] *Ibid.*

Exhibit 8

Benefit-Cost Analysis of DOSA
For Drug Offenders and Drug-Involved Property Offenders

(all monetary values expressed in 2003 dollars)

	Per Drug Offender		
	With Effective Drug Treatment	Without Effective Drug Treatment	Per Property Offender
DOSA BENEFITS, derived from three factors:			
1. Reduced Department of Corrections prison costs			
Prison length of stay before DOSA (days) [1]	484	484	419
Percent reduction in sentence with DOSA [2]	50%	50%	50%
Prison length of stay after DOSA (days) [3]	242	242	209.5
Prison cost per day [4]	$58.06	$58.06	$58.06
Reduced prison costs [5]	$14,051	$14,051	$12,164
2. Decreased Department of Corrections community custody costs			
Community custody length of stay without DOSA (days) [6]	365	365	costs increase, see below
Community custody length of stay with DOSA (days) [3]	242	242	
Community custody cost per day [6]	$7.89	$7.89	
Reduced community custody costs [7]	$971	$971	
3. Reduced future costs due to recidivism reduction [8]			
Criminal justice system costs avoided	$3,176	$0	$0
Criminal victimization costs avoided	$2,419	$0	$0
Total future costs avoided from recidivism reduction	$5,595	$0	$0
TOTAL DOSA BENEFITS	**$20,617**	**$15,022**	**$12,164**
DOSA COSTS, derived from three factors:			
1. Increased Department of Corrections community custody costs			
Community custody length of stay without DOSA (days) [6]	costs decrease, see above	costs decrease, see above	0
Community custody length of stay with DOSA (days) [3]			209.5
Community custody cost per day [6]			$7.89
Increased community custody costs [7]			$1,654
2. Increased DOSA drug treatment costs [9]	$1,319	$1,319	$1,319
3. Increased costs due to increased crime from lowering incarceration rates [10]			
Average total DOC ADP (drug and property offenders) July 1, 2003 [10]	3,574	3,574	2,376
Average DOC ADP (drug and property offenders) with DOSA, July 1, 2003 [10]	1,058	1,058	402
Percent Reduction in ADP per DOSA offender [2]	-50.0%	-50.0%	-50.0%
Crimes per ADP, 2003 [11]	1.3	1.3	78.8
Average criminal justice system cost of crimes per ADP [11]	$529	$529	$597
Average victim cost of crimes per ADP [11]	$4,368	$4,368	$955
Total crime costs incurred from lowering ADP [12]	$942	$942	$10,346
TOTAL DOSA COSTS	**$2,073**	**$2,073**	**$13,131**
BENEFIT-TO-COST RATIO	**$9.94**	**$7.25**	**$0.93**

Notes

(1) Estimates derived from an Institute analysis of actual prison lengths of stay of drug or property offenders released from prison between July 1, 1998, and June 30, 1999 who would have been eligible for DOSA had it existed at the time.

(2) DOSA reduces the portion of an individual's sentence to prison by one half, with the remainder served in community custody.

(3) Calculated: Prison length of stay without DOSA (days) times the percent reduction in sentence with DOSA. Community custody duration also based on the same percentage reduction.

(4) This cost per day figure is the Institute's estimate of the marginal cost of prison in Washington (details in Aos et al., 2004).

(5) Calculated: the difference in the days with and without DOSA, times the cost per prison day.

(6) Personal communication with the Department of Corrections, the cost represents the weighted average costs of daily community supervision levels for A, B, C, and D offenders, where the weights are based on the distribution of DOSA offenders in each category.

(7) Calculated: the difference in the days with and without DOSA, times the cost per community custody day.

(8) The dollar values are the present value of life-cycle benefits to taxpayers and crime victims from the estimated reduction in crime that the DOSA program produces (see Exhibits 4 and 5, with effect sizes reduced by 50 percent). Benefits are estimated with the Institute's benefit-cost model: S. Aos, R. Lieb, J. Mayfield, M. Miller, and A. Pennucci. (2004) *Benefits and costs of prevention and early intervention programs for youth*. Olympia: Washington State Institute for Public Policy.

(9) See Exhibit 3; Fiscal Year 2004 dollars are considered calendar year 2003 dollars.

(10) See text for explanation of these calculations. Average daily population estimates derived from an Institute analysis of average daily prison population on July 1, 2003 for drug and property offenders, with and without DOSA sentences.

(11) The derivation of the estimates for the crimes per average daily population and the average cost of crimes is described in: S. Aos. (2003) *The criminal justice system in Washington State: Incarceration rates, taxpayer costs, crime rates, and prison economics.* Olympia: Washington State Institute for Public Policy. The econometric results, which were derived from crime equations estimated with county-level panel data 1982 to 2001, were updated through 2003.

(12) Calculated with the estimates in the previous six lines: (average DOC ADP with DOSA divided by total DOC ADP, times the percent reduction in ADP), times the crime per ADP, times the sum of the average criminal justice system costs and crime victim costs.