

**INSTITUTE FOR SOCIAL RESEARCH  
UNIVERSITY OF NEW MEXICO**

**WORKING PAPER NO. 22**

**PRISON POPULATION PROJECTIONS  
FOR NEW MEXICO, 1997-2002**

**March 1997**

Prepared for the  
New Mexico Criminal and Juvenile Justice Coordinating Council

**NOTE:**

This Working Paper provides research information for the  
New Mexico Criminal and Juvenile Justice Coordinating Council.  
It is **NOT** a statement of the Council's views or opinions.

## **INSTITUTE FOR SOCIAL RESEARCH**

Research Team for this Working Paper:

Statistical Processing, Writing:  
Raymond V. Liedka, Ph.D., Senior Researcher

Editorial Revision:  
Christopher Birkbeck, Ph.D., CJJCC Research Director

Preparation and Production:  
Nora Wilson, CJJCC Administrative Coordinator  
Stella Anagnostakos, Research Associate

We gratefully acknowledge the assistance of staff at the  
New Mexico Department of Corrections,  
especially Robert Segó,  
in providing prison population data, answering queries,  
and reviewing a preliminary draft of this Working Paper.

We are also grateful to  
Haden Bowling, Second Judicial District Attorney's Office  
Joyce Bustos and Shirley Rice, Administrative Office of the New  
Mexico District Attorneys' Association,  
and Suzanne Valerio of the Taos District Attorney's Office,  
for providing data and answering queries on criminal case processing.

# CONTENTS

	Page
<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1. THE IMPORTANCE OF PRISON POPULATION PROJECTIONS .....</b>	<b>2</b>
<b>2. TRENDS IN MALE AND FEMALE INMATE POPULATIONS, 1982-1996 .....</b>	<b>3</b>
<b>3. ABOUT THE POPULATION PROJECTION TECHNIQUES .....</b>	<b>5</b>
<b>4. BASELINE PROJECTIONS, 1997-2002 .....</b>	<b>6</b>
<b>5. THE IMPACT OF REDUCED GOOD TIME FOR VIOLENT OFFENDERS .....</b>	<b>10</b>
<b>6. THE IMPACT OF DIVERSION FROM PRISON .....</b>	<b>13</b>
<b>APPENDIX 1: PRISON POPULATION PROJECTION MODELS (AND THEIR USE IN OTHER STATES) .....</b>	<b>19</b>
<b>APPENDIX 2: TIME-SERIES ANALYSIS .....</b>	<b>23</b>
<b>APPENDIX 3: PROCEDURES FOR ADJUSTING BASELINE PROJECTIONS TO INCORPORATE A MODIFIED GOOD TIME POLICY .....</b>	<b>29</b>
<b>APPENDIX 4: PROCEDURES FOR ADJUSTING BASELINE ESTIMATES TO INCORPORATE A DIVERSION PROGRAM.....</b>	<b>31</b>
<b>APPENDIX 5: DEFINITION OF VIOLENT OFFENSES .....</b>	<b>32</b>
<b>APPENDIX 6: OFFENSES IDENTIFIED AS “PRESUMPTIVE NONPRISON” OR “PRESUMPTIVE FINE” BY CJCC’S SENTENCING SUBCOMMITTEE .....</b>	<b>33</b>

<b>FIGURE 1: NEW MEXICO MALE INMATE POPULATION TIME-SERIES, 1982-1996 .....</b>	<b>3</b>
<b>FIGURE 2: NEW MEXICO FEMALE INMATE POPULATION TIME-SERIES, 1982-1996 .....</b>	<b>4</b>
<b>FIGURE 3: NEW MEXICO MALE INMATE POPULATION TIME-SERIES WITH PROJECTION TO 2002: ARIMA MODEL .....</b>	<b>7</b>
<b>FIGURE 4: NEW MEXICO MALE INMATE POPULATION TIME-SERIES WITH PROJECTION TO 2002: SMOOTHING MODEL .....</b>	<b>9</b>
<b>TABLE 1: MALE INMATE BASELINE PROJECTIONS .....</b>	<b>6</b>
<b>TABLE 2: FEMALE INMATE BASELINE PROJECTIONS .....</b>	<b>8</b>
<b>TABLE 3: MALE INMATE PROJECTIONS - VIOLENT OFFENDERS SERVE 85% OF SENTENCED CONFINEMENT .....</b>	<b>11</b>
<b>TABLE 4: FEMALE INMATE PROJECTIONS - VIOLENT OFFENDERS SERVE 85% OF SENTENCED CONFINEMENT .....</b>	<b>12</b>
<b>TABLE 5: MALE INMATE BASELINE PROJECTIONS ADJUSTED FOR DIVERSION .....</b>	<b>15</b>
<b>TABLE 6: FEMALE INMATE BASELINE PROJECTIONS ADJUSTED FOR DIVERSION .....</b>	<b>16</b>
<b>TABLE 7: MALE INMATE PROJECTIONS - VIOLENT OFFENDERS SERVE 85% OF SENTENCED CONFINEMENT, DIVERSION IN PLACE .....</b>	<b>17</b>
<b>TABLE 8: FEMALE INMATE PROJECTIONS - VIOLENT OFFENDERS SERVE 85% OF SENTENCED CONFINEMENT, DIVERSION IN PLACE .....</b>	<b>18</b>

## EXECUTIVE SUMMARY

- Baseline prison population projections produced by ISR and DOC for fiscal years 1997 through 2002 are quite similar.
- For male inmates, there was a clear steady growth trend in population, from 1,528 in July 1982 to 4,314 in November 1996, with a possible acceleration in the growth trend at the end of the period.
- For female inmates, there was a clear growth trend in population, from 72 in July 1982 to 374 in November 1996, with a marked increase in the number of inmates between 1994 and 1996.
- If current patterns of crime, prosecution and sentencing do not change, projections indicate that the male inmate population will rise to a level between 5,706 and 6,511 by the end of FY 2002. For the preferred projection method there is a 95% confidence that the actual number of male inmates will fall between 5,243 and 6,475.
- If current patterns of crime, prosecution and sentencing do not change, projections indicate that the female inmate population will rise to a level between 514 and 812 by the end of FY 2002. For the preferred projection method there is a 95% confidence that the actual number of female inmates will fall between 457 and 1089. Projections for the female inmate population are less reliable than projections made for the male inmate population.
- A modified good time policy, requiring violent offenders to serve 85% of their sentenced confinement, would further increase the male inmate population by between 5.9% and 8.9% by the end of FY 2002.
- A modified good time policy would further increase the female inmate population by between 3.4% and 7.5% by the end of FY 2002. However, if women sentenced to prison for violent offenses continue to account for only about 15% of all female admissions, the increase in female inmate population will be at the lower end of this range.
- A program to divert selected nonviolent offenders from prison would result in between 856 and 892 fewer male inmates by the end of FY 2002. For the preferred projection method, growth of the male inmate population between the end of FY 96 and the end of FY 2002 would be cut in half, from 39.15% to 18.05%.
- A diversion program would result in between 320 and 433 fewer female inmates by the end of FY 2002. For the preferred projection method, growth of the female inmate population between the end of FY 1996 and the end of FY 2002 would actually decline, from a growth of 120.96% to a decline of 2.86%.
- Combining a modified good time program and a diversion program would save between 477 and 570 male beds and between 301 and 400 female beds by the end of FY 2002.
- Population projections incorporating a modified good time policy prepared by ISR are somewhat lower than similar projections prepared by DOC.

# 1. THE IMPORTANCE OF PRISON POPULATION PROJECTIONS

A planned prison system requires early accommodation to potential future growth in the inmate population. Through the use of forecasting, planners attempt to predict the future size of the inmate population in order to inform decisions concerning the possible construction of new prison facilities. In corrections, such forecasts are usually called “prison population projections.”

Prison population projections are particularly relevant to current debates in New Mexico. During early 1997, the New Mexico Legislature is considering several alternative plans for the future capacity and management of the state’s prison system. Apart from the need to accommodate adequately the current inmate population, and the debate about whether any new prison facilities should be managed publicly or privately, there is concern that the inmate population will increase even further in the future, leading to the need for additional prison facilities. In August 1996, the New Mexico Department of Corrections (DOC) prepared a report outlining a plan for prison construction and management to the end of Fiscal Year (FY) 2000, which was subsequently revised in October 1996. According to DOC’s projections, the combined male and female inmate population is likely to grow from approximately 4,600 (August 1996) to 6,055 by the end of FY 2000 and 7,147 by the end of FY 2002. If these projections are an accurate prediction of future trends, New Mexico’s inmate population will increase by 55% in seven years.

Given the size of the predicted increase and its implications for the need for additional prison capacity, the Criminal and Juvenile Justice Coordinating Council (CJJCC) instructed the Institute for Social Research (ISR) to prepare prison population projections using a different method, and incorporating possible changes in sentencing policy that were not considered by DOC. The ISR’s prison population projections for New Mexico, 1997-2002, are presented in this Working Paper. The main differences between DOC and ISR projection methods can be summarized as follows:

## DOC PROJECTIONS

- Male inmate population projections based on IMPACT simulation software that compares admissions and releases.
- Female inmate population projections based on average growth rate last two years with adjustment for expected diversion beds.
- Examine change in good time policy for violent offenders only.

## ISR PROJECTIONS

- Both male and female inmate population projections based on stochastic process (ARIMA) and smoothing models that use inmate population trends.
- Examine change in good time policy for violent offenders, and change in sentencing policy to divert offenders from prison.

Prison population projections involve a relatively complex and technical methodology. Technical information is provided in the Appendices to this Working Paper. The main body of the text provides a largely non-technical description of the projections.

## 2. TRENDS IN MALE AND FEMALE INMATE POPULATION, 1982-1996

The projection techniques reported in this Working Paper use historical trends in prison population to make forecasts about future trends. Thus, it is important to examine the historical data before proceeding to the projections. The historical data, or “time-series,” are the monthly totals of prison population between July 1982 and November 1996.

Figures 1 and 2 show the trends in male and female prison populations, respectively. Here, the actual population totals for each month are accompanied by a line drawn through the data points. The line represents the growth trend that reflects the rising prison population over the fourteen-year period. The actual monthly population totals fluctuate around the trend line: sometimes they are above it, sometimes they are below it. Thus, the prison population displays an overall growth trend along with fluctuations around that trend.

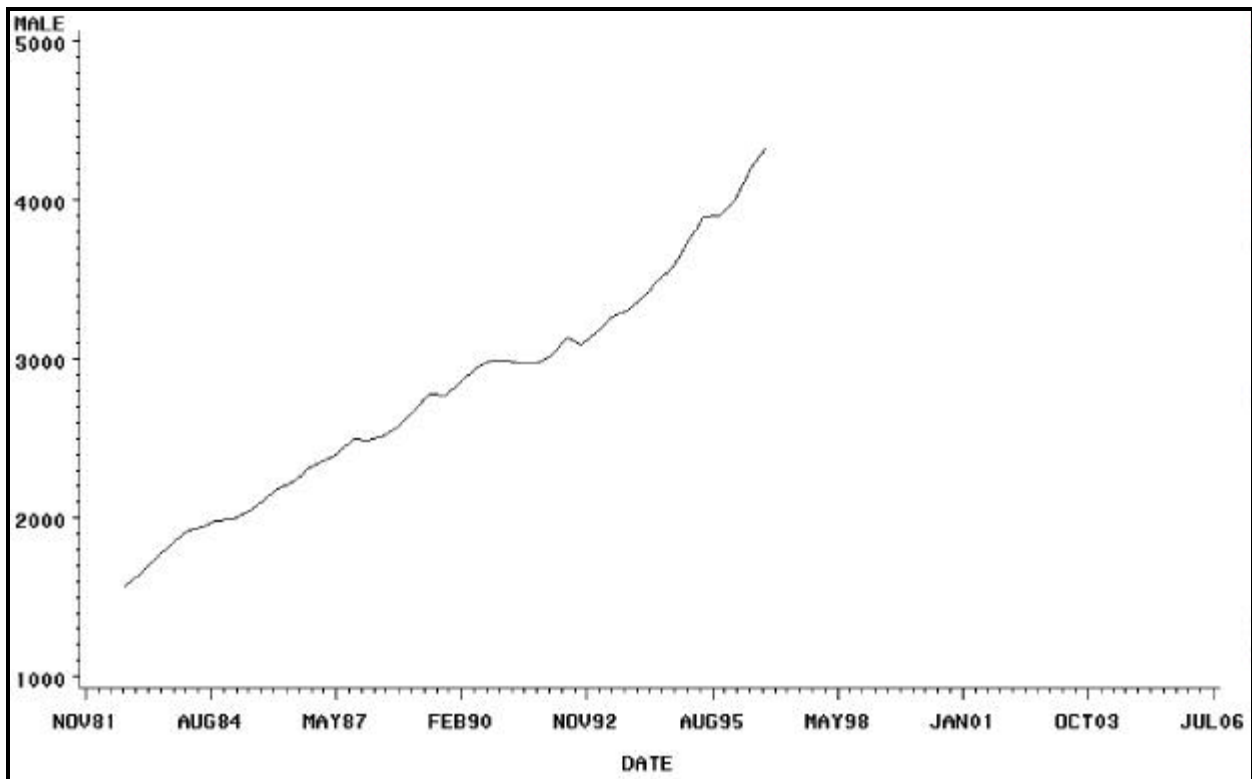
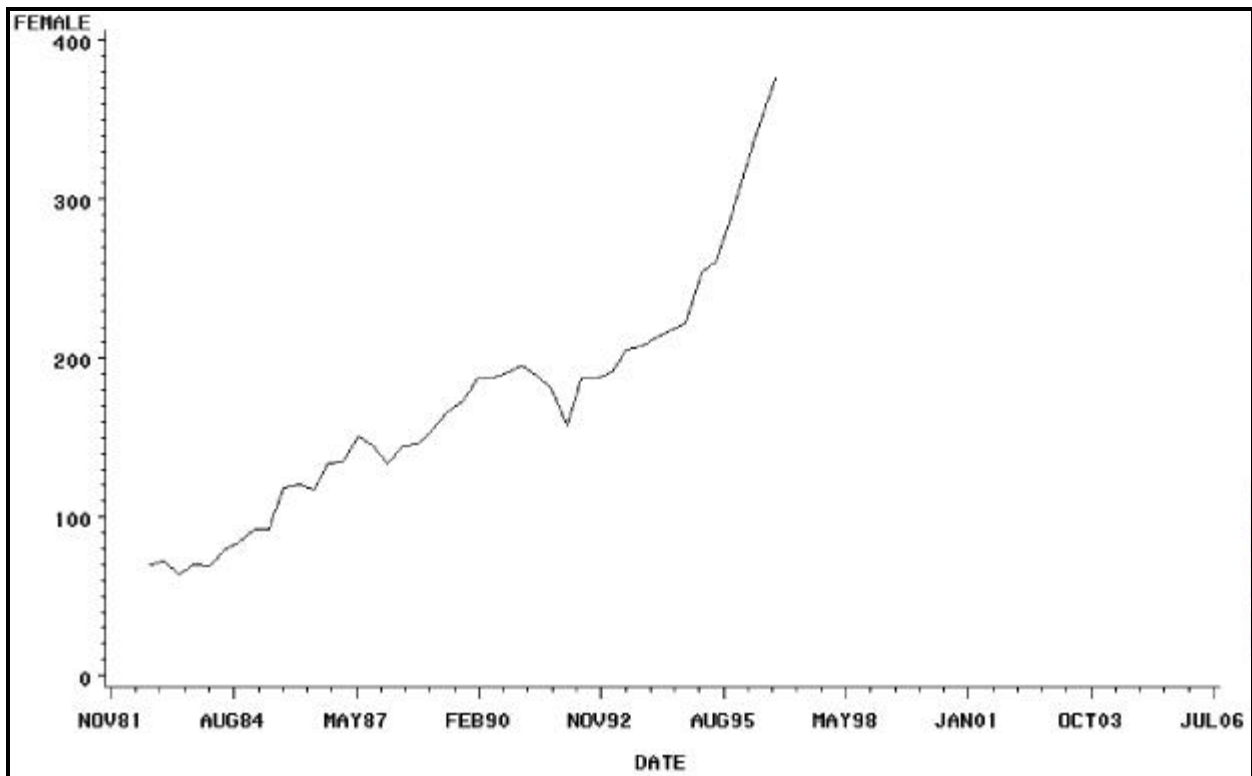


Figure 1. New Mexico Male Inmate Population Time-Series, 1982-1996.

Figure 1 shows that for **males**:

- **There was a clear steady growth trend in inmate population between 1982 and 1996.**
- **There were visible fluctuations around the trend.**
- **There was a possible acceleration in the growth trend at the end of the period.**
- **The overall growth in male inmate population was from 1,528 inmates in July 1982 to 4,314 inmates in November 1996.**



**Figure 2.** New Mexico Female Inmate Population Time-Series, 1982-1996.

Figure 2 shows that for **females**:

- **There was a clear growth trend in inmate population between 1982 and 1996, similar to the male inmate population.**
- **In contrast to the male inmate population, the number of female inmates increased drastically between 1994 and 1996.**
- **The overall growth in female inmate population was from 72 inmates in July 1982 to 374 inmates in November 1996.**



### 3. ABOUT THE POPULATION PROJECTION TECHNIQUES

Two different population projection techniques are used in this report: Smoothing Models and ARIMA Models:

**Smoothing Models:** use a weighted sum of monthly prison population totals to eliminate, or “smooth” out, the fluctuations in the historical data and leave only a trend line. The smoothed trend line is then projected outward to provide a forecast of future monthly population totals. Thus, the smoothing models focus on the historical **trend** in the prison population, while eliminating the **fluctuations**.

**ARIMA Models:** use both the **trend** and the **fluctuations** in the historical prison population data. ARIMA models seek out patterns in the fluctuations around the trend, and use any pattern found to produce better forecasts than the smoothing approaches usually do.

Despite the relatively complex and sophisticated statistical methods underlying these two projection techniques, their results should be treated with caution, as should the results of any prison population projection technique:

- **Projections have a margin of error about the forecast value.** For some projections this margin of error can be calculated, for others it can not.
- **The margin of error increases as projections move further into the future.** Thus, projections for the next two years will tend to be more accurate than projections for the next seven years. For this reason, projections of any kind usually involve the next five years and almost never extend to the next ten years.
- **The margin of error increases when the assumptions on which the projections are based are not fully valid.** The assumptions underlying each projection presented in this Working Paper will be specified in the corresponding section, and should be carefully examined.
- **Projections for the female inmate population are highly prone to error.**
  - The low absolute numbers of the female inmate population cause the random fluctuations to be extremely large in relation to the trend, creating a high margin of error.
  - The considerable increase in the female inmate population during the last two fiscal years may indicate a change in patterns of female offending, or in the sentencing of female offenders. The ARIMA models assume that neither patterns of offending nor patterns of sentencing have changed during the time-series (July 1982 to November 1996). If such changes have occurred, the ARIMA models will only partially reflect them. Smoothing model forecasts for the female inmate population are probably more accurate, because they weight the most recent time periods more heavily.

#### 4. BASELINE PROJECTIONS, 1997-2002

Baseline forecasts project the prison population under the present conditions. Thus, baseline forecasts are calculated on the assumption that **there will be no change during the forecast period in:**

- **the types of crimes committed**
- **the clearance rate for crimes committed**
- **the conviction rate for prosecuted cases**
- **the type and length of sentences given by judges**

Table 1 presents the baseline projections for the male inmate population. The first column shows the year, the second column the actual male inmate population, and the third column the inmate population projections prepared by DOC in 1996. The next five columns present the time-series forecasts for two kinds of ARIMA models and three kinds of smoothing models. The difference between the two ARIMA models involves the transformation used to stabilize the variance. The differences between the smoothing models involve the manner in which they weight past values of the male prison population.

**Table 1. Male Inmate Baseline Projections**

MALES							
YEAR	ACTUAL	DOC	ARIMA1	ARIMA2	Smooth1	Smooth2	Smooth3
1993	3267	3273	3270	3281	3257	3274	3259
1994	3499	3436	3511	3519	3497	3519	3498
1995	3890	3929	3897	3909	3905	3929	3905
1996	4199	4174	4174	4166	4194	4217	4197
1997	----	4470	4480	4508	4518	4467	4484
1998	----	4751	4743	4842	4832	4714	4777
1999	----	5028	5008	5214	5146	4962	5069
2000	----	5313	5279	5615	5459	5210	5361
2001	----	5611	5557	6046	5773	5458	5653
2002	----	5925	5843	6511	6087	5706	5945
Mean Absolute Percentage Error			0.67%	0.66%	0.65%	0.77%	0.69%
Root Mean Square Error			23.02	23.42	22.53	25.75	24.07

Note: DOC's Baseline Male Projections from "New Mexico Corrections Plan Fiscal Year 2000", August 1996, p. 16 and p. 17.

One way of assessing the predictive value of these projection techniques is to examine how well they estimate the actual levels of the male inmate population during the historical data period. Table 1 shows the predicted values for FY's 93 through 96, and each of the five models are quite close; all five models actually average less than 1% error in the predictions for the entire 1982-1996 time period. Thus, these projection techniques do a very good job of modeling the past history of male prison populations. The most preferred projection model is the ARIMA1 model, highlighted in red; the second most preferred is the SMOOTH1 model, highlighted in blue. These two models match the historical data best, as seen in the lower values for two measures of fit, the mean absolute percentage error (MAPE) and the root mean square error (RMSE). These measures of fit are further discussed in the Appendix 2.

In terms of projections for future years, Table 1 indicates that, **if current patterns of crime, prosecution and sentencing do not change:**

- **the male inmate population will rise to a level somewhere between 5,706 and 6,511 by the end of FY 2002.** Note that, while each projection technique in Table 1 produces a different estimate, they should not necessarily be interpreted as conflicting forecasts. The differences are not great and merely highlight the margin of error inherent in projection techniques. However, we should remember that ARIMA models tend to produce a more accurate forecast than smoothing models for time-series trends of the type shown by the male inmate population.
- **the ARIMA and smoothing model projections produce estimates similar to those prepared by DOC in 1996.**

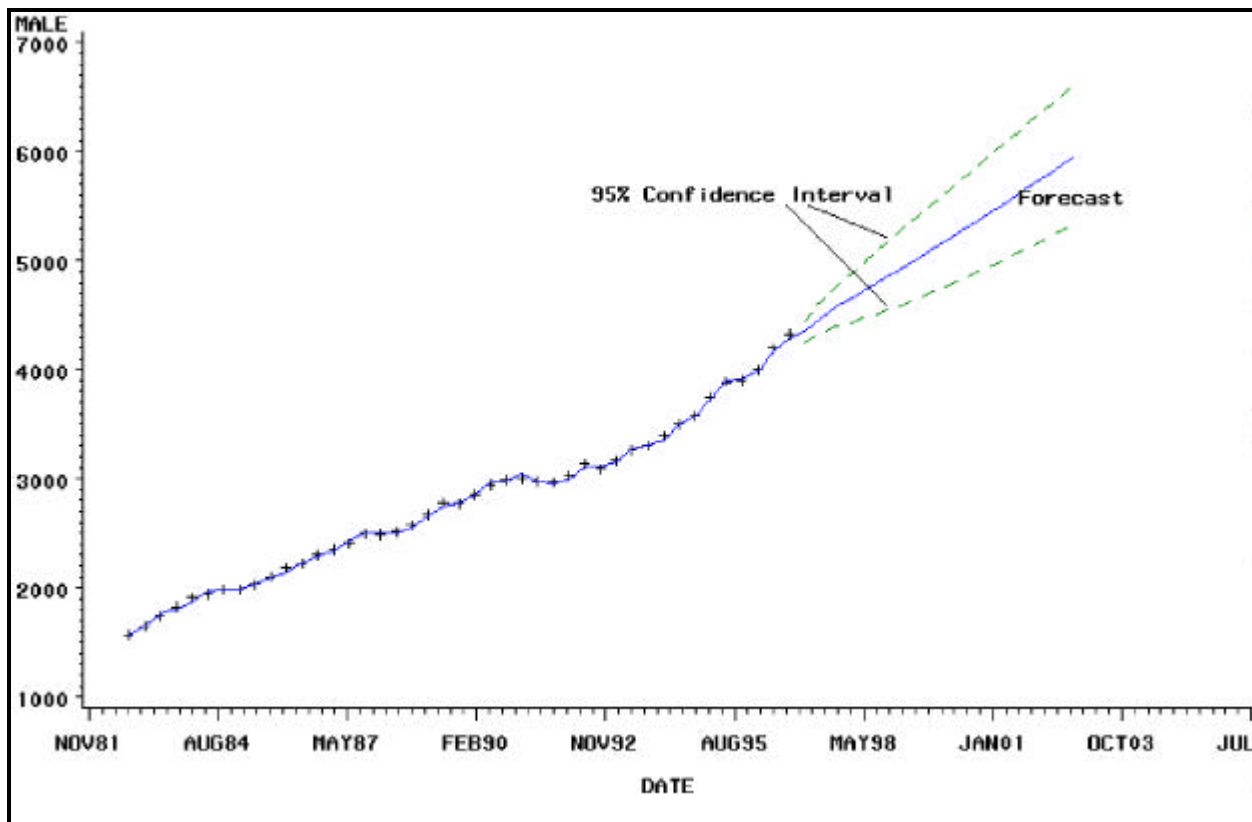


Figure 3. New Mexico Male Inmate Population Time-Series with Projection to FY 2002.

The ARIMA and smoothing procedures also allow an estimate of the margin of error for the projections (which, as stated previously, increases with each forecast year). Figure 3 shows the original time-series data, the predicted values of the preferred ARIMA1 forecast and the estimated margin of error for the male inmate population projection. As shown in Figure 3,

- **the ARIMA forecast predicts a male inmate population of 5,843 by the end of FY 2002. There is a 95% confidence that the actual number of male inmates will fall between 5,243 and 6,475.**

Table 2 presents the baseline projections for the female inmate population. Here, the smoothing models perform better than the ARIMA forecasts, as determined by the Mean Absolute Percent Error and Root Mean Square Error. The first smoothing model, Smooth1, is the most preferred forecast and is highlighted in red. The ARIMA1 forecast is the second most preferred forecast and is highlighted in blue. Just as estimates of past numbers of female inmates are subject to a greater margin of error, so are projections of the future female inmate population.

**Table 2. Female Inmate Baseline Projections**

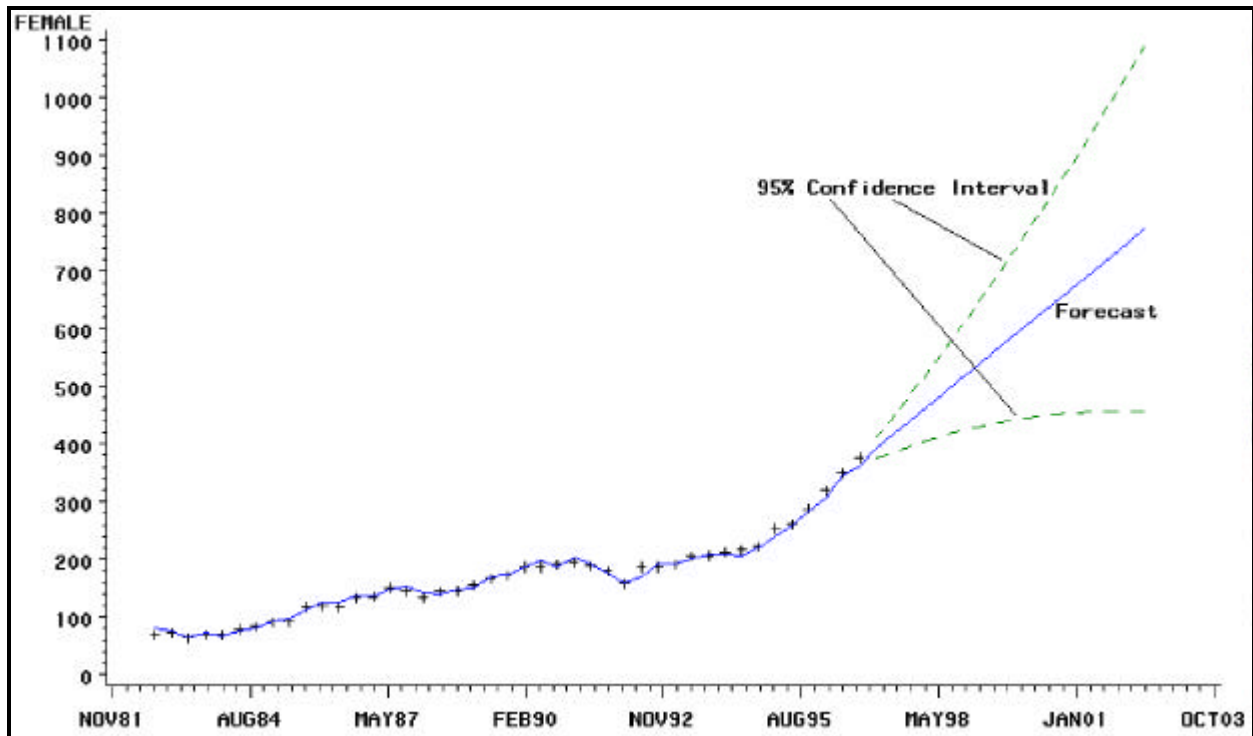
FEMALES							
YEAR	ACTUAL	DOC	ARIMA1	ARIMA2	Smooth1	Smooth2	Smooth3
1993	205	---	204	205	201	200	202
1994	217	---	205	203	205	205	205
1995	261	---	257	260	258	260	259
1996	350	---	340	341	344	347	345
1997	---	423	391	385	417	421	414
1998	---	496	422	399	488	499	481
1999	---	569	453	420	559	577	549
2000	---	642	486	450	630	656	616
2001	---	715	520	481	701	734	683
2002	---	788	555	514	773	812	751
Mean Percentage Error			2.97%	2.89%	2.86%	2.96%	3.04%
Root Mean Square Error			5.72	5.62	5.63	5.78	5.72

Note: DOC's Baseline Female Projections from "New Mexico Corrections Plan Fiscal Year 2000", August 1996, p. 16.

Table 2 shows that **if current patterns of crime, prosecution and sentencing do not change:**

- **the female inmate population will rise to a level between 514 and 812 by the end of FY 2002. This means that the female inmate population will double in the next six years.** The type of time-series trend shown by the female inmate population, with a significant increase in recent years, indicates that the smoothing model projections are more accurate than the ARIMA projection.
- **the smoothing model projections produce estimates similar to those prepared by DOC in 1996.**

Figure 4 shows the original time-series data, the predicted values of the Smooth1 forecast and the estimated margin of error for the female inmate projection.



**Figure 4.** New Mexico Female Inmate Population Time-Series with Projections to FY 2002.

As shown in Figure 4:

- **the ARIMA forecast predicts a female inmate population of 773 by the end of FY 2002. There is a 95% confidence that the actual number of female inmates will fall between 457 and 1089.**

## 5. THE IMPACT OF REDUCED GOOD TIME FOR VIOLENT OFFENDERS

The New Mexico Legislature is currently considering a modification to the state's good time policy for inmates, which would restrict violent offenders to a maximum reduction of 15% of their sentenced confinement through good time awards. If this change is implemented, violent offenders will serve somewhat longer prison terms than they do now, thus increasing the inmate population. Thus, it is important to estimate the projected size of the inmate population if the state's good time policy is modified in this way.

Specific forecasts of the size of the violent offender inmate population cannot be prepared because there are no historical data on the monthly total of violent offenders in prison between July 1982 and November 1996. Therefore, estimated adjustments to the baseline data must be determined and the baseline projections updated accordingly. Adjusting the baseline projection requires three pieces of data:

- An estimate of the number of new admissions and probation violators for the period 1997-2002
- An estimate of the number of new admissions and probation violators sentenced to prison for violent offenses for the period 1997-2002
- An estimate of the length of sentenced confinement for admissions of these violent offenders.

The first component was estimated from the historical data contained in DOC's Weekly Management reports. The second and third components were estimated by examining the number of violent offenders sentenced to prison and the length of their prison sentences for a one year period, as indicated by an examination of District Attorneys' records from throughout the state. Information for Bernalillo County was derived from an analysis of 5,781 cases (involving 9,596 charges) that were closed between July 1, 1994 and June 30, 1995. Information for the rest of the state was derived from an analysis of 13,098 cases (involving 24,177 charges) that were closed between January 1, 1995 and December 31, 1995.

Adjustments to the baseline data involve the following assumptions regarding the forecast period:

- **the ratio of admissions to the fiscal year population is constant**
- **the ratio of violent to nonviolent offenders is constant**
- **judges do not change sentencing patterns in response to the change in good time policy**
- **the good time policy is modified by the Legislature during the 1997 session, but only takes effect in FY 98**
- **violent offenders currently serve 50% of their sentenced confinement.** In fact, recent research for the CJJCC, reported in Working Paper 16, indicates that on average, offenders serve 67.6% of their sentenced confinement. Thus, this assumption will lead to an overestimation, both of the increased length of stay for violent offenders and of the resulting increase in the size of the inmate population.

Given the greater accuracy for projections, the best ARIMA and smoothing models are used here. The projections for male and female inmate populations are presented in Tables 3 and 4, respectively. The second column in each table shows the DOC baseline projection, and the third column shows the DOC projection adjusted for the impact of a modified good time policy. The fourth and fifth columns show the ARIMA baseline and modified projections, respectively. The sixth and seventh columns show the smoothing model baseline and modified projections, respectively.

**Table 3. Male Inmate Projections - Violent Offenders Serve 85% Of Sentenced Confinement**

MALES						
FISCAL YEAR	DOC Baseline	DOC 85%	ARIMA Baseline	ARIMA 85%	SMOOTH Baseline	SMOOTH 85%
1997	4470	4470	4480	4480	4518	4518
1998	4751	4751	4743	4743	4832	4832
1999	5028	5028	5008	5008	5146	5146
2000	5313	5480	5279	5391	5459	5553
2001	5611	5915	5557	5782	5773	6027
2002	5925	6455	5843	6216	6087	6445

*Note:* DOC's Baseline Male Projections from "New Mexico Corrections Plan Fiscal Year 2000", August 1996, p. 16. DOC's Modified Good Time Projections, p. 18 (using Corrections Department definition of violent offender).

For male inmates, the projected population at the end of FY 2002 under the ARIMA baseline model is 5,843. With a modified good time policy for violent offenders, the ARIMA model projects a total male inmate population of 6,216. Thus the ARIMA-based projection suggests that a modification of the good time policy to require violent offenders to serve 85% of their sentenced confinement would lead to an additional increase in prison population of about 373 male inmates. The smoothing model-based projection suggests that a modification of the good time policy would lead to an additional increase in the prison population of about 358 male inmates from the baseline of 6087 to a total of 6445.

The DOC projected male inmate population by the end of FY 2002, with a modified good time policy, is 6,455 - a value quite similar to both the ARIMA and the smoothing model projections. The ARIMA projection estimates an increment of 373 inmates, which is an increase

of 6.4% over the baseline projection. The smoothing model estimates an increment of 358 inmates, or an increase of 5.9% over the baseline projection. The DOC projection estimates an increment of 530 inmates, which is an increase of 8.9% over the baseline projection. Taking into account all three results, it would be safe to conclude that:

- **a modified good time policy would increase the male inmate population by between 6% and 9% by the end of FY 2002.**

**Table 4. Female Inmate Projections - Violent Offenders Serve 85% of Sentenced Confinement**

FEMALES						
FISCAL YEAR	DOC Baseline	DOC 85%	ARIMA Baseline	ARIMA 85%	SMOOTH Baseline	SMOOTH 85%
1997	423	423	391	391	417	417
1998	496	496	422	422	488	488
1999	569	569	453	453	559	559
2000	642	646	486	494	630	635
2001	715	740	520	546	701	730
2002	788	847	555	574	773	806

*Note:* DOC's Baseline Female Projections from "New Mexico Corrections Plan Fiscal Year 2000", August 1996, p. 16. DOC's Modified Good Time Projections, p. 18 (using Corrections Department definition of violent offender).

For female inmates, the projected impact of a modified good time policy is smaller for both the ARIMA and smoothing model projections than in the DOC projection. The ARIMA projection estimates a female inmate population of 574 by the end of FY 2002, versus the baseline total of 555. This represents an increase of less than 3.4%. The smoothing model estimates a female inmate population of 806 by the end of FY 2002, versus the baseline total of 773. This represents an increase of about 4.3%. By contrast, the DOC projection estimates an increase of 59 female inmates, from the baseline forecast of 788 to the modified forecast of 847, an increase of 7.5%. What might explain the difference between the projected impact for female inmates under the DOC, smoothing model, and ARIMA forecasts?

- **The difficulty (already noted) in developing solid baseline projections for the female inmate population will make forecasts adjusted for the modified good time policy highly varied.**



- The adjusted projections depend on assumptions about the number of female violent offenders and the lengths of their sentences. For the ARIMA projection, the proportion of violent female offenders is assumed constant. In the District Attorneys' data (cited previously), only 14.85% of females sentenced to prison have been convicted of violent offenses, compared to 30.81% of males. One would therefore expect a much greater impact of the modified good time policy on the size of the male inmate population, which is precisely what the ARIMA forecasts show: there is an increase of about 6% in the male baseline population, compared to a 4% increase for females. The DOC projections are not accompanied by a statement of their underlying assumptions, but the latter are presumably different from those used in the ARIMA projections, also contributing to the differences.

Thus, taking into account both the ARIMA and DOC projections, it would be safe to conclude that:

- **a modified good time policy would increase the female inmate population by between 3.5% and 7.5% by the end of FY 2002. However, if women sentenced to prison for violent offenses continue to account for only about 15% of all female admissions, the increase in the female inmate population will be at the lower end of the range.**

## **6. THE IMPACT OF DIVERSION FROM PRISON**

The CJJCC is currently developing proposals for the diversion of selected nonviolent offenders from prison to alternative sanctions, such as jail, drug court programs, intensive supervision or regular probation. For example, offenders convicted on charges of larceny and drug possession might respond as favorably to a regime of probation-with-drug-treatment as they would to a twelve or 18 month term in prison. If these proposals are implemented, they could lead to a reduction in the number of new admissions to prison, which could significantly slow the rate of growth of the prison population. Thus, it is important to develop preliminary projections of the future trend in prison population under a modified sentencing policy that would divert some types of offender from prison.

Specific forecasts of the reduction in size of the inmate population due to diversion cannot be prepared because there are no historical data on the monthly totals of "divertible" offenders in prison between July 1982 and November 1996. Therefore, estimated adjustments to the baseline data must be determined and the baseline projections updated accordingly. Adjusting the baseline projection for diversion requires three pieces of information:

- A definition of divertible offenses. The following projections are based on the CJJCC Sentencing Subcommittee’s preliminary identification of offenses in the New Mexico Criminal Statutes that it proposes to consider as “presumptive nonprison” or “presumptive fine” offenses under a revised sentencing policy (see Appendix 6). Note that the preliminary identification of offenses does not take into account prior history, and will thus tend to overestimate the impact of a diversion program.
- An estimate of the number of divertible offenders for the period 1997-2002. This is derived from the (previously cited) District Attorneys’ data by identifying offenses that match the preliminary list of divertible offenses.
- An estimate of the length of sentenced confinement for divertible offenders. This information is also derived from the District Attorneys’ data.

Adjustments to the baseline data involve the following assumptions regarding the forecast period:

- **the ratio of admissions to the fiscal year population is constant**
- **the ratio of divertible to non-divertible offenses is constant**
- **judges adopt the sentencing policy on diversion and hold other sentencing patterns unchanged**
- **the sentencing policy on diversion is approved by the Legislature during the 1997 session, but only takes effect in FY 98**

Once again, both ARIMA and smoothing models are used here. The projections for male and female inmate populations are presented in Tables 5 and 6, respectively. The third and fourth columns show the ARIMA baseline and modified projections, respectively. The fifth and sixth columns show the smoothing model baseline and modified projections, respectively. For comparison, the second column in each table shows the DOC baseline projection. DOC has not developed any projections that incorporate a new sentencing policy designed to divert selected offenders from prison.

For male inmates, the projected population at the end of FY 2002 under the ARIMA baseline model is 5,843. With a sentencing policy incorporating diversion, the ARIMA model projects a total male inmate population of 4,957. Thus, the ARIMA-based projection suggests that:

- **a diversion program would result in 856 fewer male inmates by the end of FY 2002.**

This represents a decrease of 14.65% from the baseline projection. As a result, the baseline projected growth of the male inmate population of 39.15% between the end of FY 96 and the end of FY 2002, would be reduced to a growth of only 18.05% over the same period - a reduction by more than half.

Under the smoothing model baseline, the projected male inmate population at the end of FY 2002 is 6,087. With a sentencing policy incorporating diversion, the smoothing model projects a total male inmate population of 5,195. Thus, the smoothing model-based projection suggests that:

- **a diversion program would result in 892 fewer male inmates by the end of FY 2002.**

**Table 5. Male Inmate Baseline Projections Adjusted for Diversion**

MALES					
FISCAL YEAR	DOC Baseline (no diversion)	ARIMA Baseline (no diversion)	ARIMA Baseline (with diversion)	SMOOTH Baseline (no diversion)	SMOOTH Baseline (with diversion)
1997	4470	4480	4480	4518	4518
1998	4751	4743	4522	4832	4607
1999	5028	5008	4554	5146	4682
2000	5313	5279	4629	5459	4789
2001	5611	5557	4795	5773	4962
2002	5925	5843	4957	6087	5195

*Note:* DOC's Baseline Male Projections from "New Mexico Corrections Plan Fiscal Year 2000", August 1996, p. 16. Diversion adjustment based on preliminary classification of criminal statutes as "Presumptive Prison", "No Presumption", and "Presumptive Non-Prison".

This also represents a decrease of 14.65% from the baseline projection. As a result, the baseline projected growth of the male inmate population of 44.96% under the smoothing model between the end of FY 96 and the end of FY 2002, would be reduced to a growth of only 23.72% over the same period - a reduction by nearly half.

The potential for saving over 800 beds and reducing growth of the male inmate population by about half is compelling evidence for the benefits of a diversion program. However, interpret this reduction with some caution, as the definition of "divertible" is preliminary and does not take into account prior criminal histories. Yet even a more cautious savings of 500 beds is attractive.

For female inmates, the projected impact of a diversion program is much greater than it is for male inmates. The smoothing model baseline projection forecasts a female inmate population of 773 by the end of FY 2002. The size of the female inmate population under a diversion program is projected at 340. Thus, the smoothing model-based projection suggests that:

- **a diversion program would result in 433 fewer female inmates by the end of FY 2002.**

This represents a decrease of 56% from the baseline projection. More importantly, the baseline projected growth of 120.86% in the female inmate population between the end of FY 1996 and the end of FY 2002 would change to a remarkable reduction of 2.86% over the FY 1996 population.

**Table 6. Female Inmate Baseline Projections Adjusted for Diversion**

FEMALES					
FISCAL YEAR	DOC Baseline (no diversion)	ARIMA Baseline (no diversion)	ARIMA Baseline (with diversion)	SMOOTH (no diversion)	SMOOTH (with diversion)
1997	423	391	391	417	417
1998	496	422	344	488	386
1999	569	453	271	559	341
2000	642	486	237	630	313
2001	715	520	235	701	322
2002	788	555	235	773	340

*Note:* DOC’s Baseline Female Projections from “New Mexico Corrections Plan Fiscal Year 2000”, August 1996, p. 16. Diversion adjustment based on preliminary classification of criminal statutes as “Presumptive Prison”, “No Presumption”, and “Presumptive Non-Prison”.

The ARIMA model baseline projection forecasts a female inmate population of 555 by the end of FY 2002. The size of the female inmate population under a diversion program is projected at 235. Thus, the smoothing model-based projection suggests that:

- **a diversion program would result in 320 fewer female inmates by the end of FY 2002.**

This represents a decrease of about 58% from the baseline projection. More importantly, the baseline projected growth of 58.57% in the female inmate population between the end of FY 1996 and the end of FY 2002 would change to a very remarkable reduction of 32.86% over the FY 1996 population. Under both projection methods, a diversion program would seem to actually lead to a decline in the female inmate population, not just a reduction in the rate of growth. The potential to save from 320 to 433 beds again provides compelling evidence of the impact of a diversion program.

**How do the projections change when both a new good time policy and a diversion program are included in the models?**

Tables 7 and 8 show both the ARIMA-based and smoothing model-based projections for male and female inmates, respectively. Even incorporating the change in good time policy, the forecasts still show a reduction in the population growth rate. Thus:

- **between 477 and 570 male beds would be saved by the end of FY 2002, representing a drop in the male inmate population growth rate from 48-54% to 28-31% between the end of FY 1996 and the end of FY 2002.**
- **between 300 and 400 female beds would be saved by the end of FY 2002, representing a drop in the female inmate population growth rate from 57-64% to 7% (or even an absolute decline) between the end of FY 1996 and the end of FY 2002.**

**Table 7. Male Inmate Projections - Violent Offenders Serve 85% Of Sentenced Confinement, Diversion In Place**

MALES					
FISCAL YEAR	DOC 85% (no diversion)	ARIMA 85% (no diversion)	ARIMA 85% (with diversion)	SMOOTH 85% (no diversion)	SMOOTH 85% (with diversion)
1997	4470	4480	4480	4518	4518
1998	4751	4743	4522	4832	4607
1999	5028	5008	4554	5146	4682
2000	5480	5391	4737	5553	4891
2001	5915	5782	5022	6127	5218
2002	6455	6216	5366	6445	5517

*Note:* DOC’s Modified Good Time Projections from “New Mexico Corrections Plan Fiscal Year 2000”, August 1996, p. 18. (using Corrections Department definition of violent offender). Diversion adjustment based on preliminary classification of criminal statutes as “Presumptive Prison”, “No Presumption”, and “Presumptive Non-Prison”.

**Table 8. Female Inmate Projections - Violent Offenders Serve 85% Of Sentenced Confinement, Diversion In Place**

<b>FEMALES</b>					
<b>FISCAL YEAR</b>	<b>DOC 85% (no diversion)</b>	<b>ARIMA 85% (no diversion)</b>	<b>ARIMA 85% (with diversion)</b>	<b>SMOOTH 85% (no diversion)</b>	<b>SMOOTH 85% (with diversion)</b>
1997	423	391	391	417	417
1998	496	422	334	488	386
1999	569	453	271	559	341
2000	646	494	245	635	318
2001	740	546	260	730	349
2002	847	574	254	806	373

*Note:* DOC's Modified Good Time Projections from "New Mexico Corrections Plan Fiscal Year 2000", August 1996, p. 18 (using Corrections Department definition of violent offender).

**The differential effect of diversion on male and female inmate population growth**

Perhaps the most striking aspect of the projections is the difference in the impact of a diversion program on the male and female prison populations: diversion has several times the impact on the female population as it does on the male population. The reason for this difference is that women are much more likely to have been sentenced to prison for divertible offenses than have men. As estimated from the District Attorneys' data, 31.6% of women were sentenced to prison for divertible offenses (mainly drug offenses) compared to only 13.8% of male offenders sentenced to prison. Coupled with the fact that two-thirds of the yearly female inmate total are new admissions compared to only one-third for male inmates, a diversion program would expectedly have a larger impact on the female inmate population.

## **APPENDIX 1: PRISON POPULATION PROJECTION MODELS (AND THEIR USE IN OTHER STATES)**

There are two broad categories of projection models used by various criminal justice agencies throughout the United States. The first models historical data in a statistical analysis and then uses the results of the analysis to make projections. The second approach uses some form of simulation model incorporating Monte Carlo or probabilistic elements, generally based in the theory of Markov chains or Queuing Theory. Each of these two broad types can be further distinguished.

### **Statistical Analysis Methods**

The most simple kind of statistical analysis is the time-trend analysis, involving a regression of prison population on time. This assumes a straight line relationship between the passage of time and population growth. It is a generally weak approach due to its simplicity of form and relationship, and projections are simply extensions of the straight line estimated with the regression model. Only a few states use this method: Alaska, Delaware, Idaho, Missouri, South Carolina, South Dakota, and Wyoming.<sup>1</sup>

A more sophisticated variant of the simple time-trend analysis is to use a multivariate time-trend analysis. In this approach, the use of time as a predictor of population is augmented by additional factors presumed to have impact on prison population size. Examples of such factors would be state population and the age, gender, and ethnic composition. Other possible factors could be state police budget or size of the force, or economic indicators such as the unemployment rate. By using these additional variables, improved projections can be generated, although the method still relies on the assumption of a straight line relationship between time and the prison population. The advantage over the simple time-trend comes when educated guesses or projections of the additional factors are input to the multivariate linear model. Several states use this method: New Jersey, New York, and Washington.

A step up from regression based methods are smoothing approaches. In smoothing approaches, the fluctuations in an historical time series around an overall trend are smoothed by using a weighted average of observed values of the time series. The advantage to this method is that it need not impose a straight line relationship between time and prison population. Additionally, more recent values of the time series are deemed more important, and the various weights are correspondingly largest for the most recent time periods. The dominant approach in this methodology is the exponential smoothing model, in which the weights decline exponentially from recent to older values. No states could be identified that currently use smoothing models.

The most sophisticated statistical analyses make use of econometric models that have been developed to forecast economic time series. The dominant approach in this subclass of statistical analysis is the time-series analysis introduced by George E. P. Box and Gwilym M. Jenkins.<sup>2</sup>

Their approach is known as the Box-Jenkins methodology, or ARIMA modeling. The name ARIMA signifies “Auto Regressive Integrated Moving Average” models. In this approach, a single time series is broken down into three components: trend, seasonality and fluctuations around the trend. The data values in the time series of interest are not independent, and therefore the relationship between consecutive observations is of major interest in developing the prediction model. The ARIMA model has better forecasting properties precisely because it does model all three aspects of the time series.<sup>3</sup> Several states use ARIMA models: Colorado, Iowa, South Dakota, and Wisconsin.

## **Simulation Methods**

In essence, simulation methods for making projections attempt to model the entire criminal justice process. These models can vary in completeness, from modeling only a state’s corrections department, to a very complete model that incorporates police operations, the courts, and probation and parole. The main advantage of simulation methods is the ability to model “What if?” scenarios involving changes in criminal justice policy.

The hallmark of the simulation method is that the criminal justice system is viewed as a set of discrete states. Then, a model is developed which incorporates the probability of a transition from one state to another. For example, one possible transition is from sentencing to prison. Sentencing is one state, prison another, and there is a theoretical (and empirical) probability of a transition from sentencing to prison which corresponds to the event that a guilty defendant is sentenced to prison. An obvious alternative transition is from sentencing to probation, corresponding to the event that a guilty defendant is sentenced to probation. In a more complete model, one transition might be from arrest to arraignment, another from arraignment to prosecution, and so on. Each of these events is premised on the probability of the transition being completed. Not all arrestees are arraigned, and not all those arraigned are prosecuted.

By modeling the various transitions in the criminal justice system, one can simulate a stream of arrestees into the criminal justice system and, using estimated probabilities for the various transitions, they can be tracked through the system. These simulated individuals can then be summed to provide an estimate of how many offenders go to prison. By manipulating the transition probabilities, the important what if scenarios of new policy options can be examined, and their potential impact on the prison population ascertained.

There are several varieties of simulation methods that differ largely on how the transition probabilities are incorporated. In Markov models, there is a simple numerical probability for all transitions which is assumed constant over time. Slivka and Cannavale’s work from 1973 provides an early example of the application of Markov modeling to the criminal justice process.<sup>4</sup>

A second type of simulation model is premised on Queuing Theory, which develops mathematical relations incorporating the size of the prison population, input rates (admissions to the prison system), output rates (releases), and time. Typically, the input and output rates are



assumed to follow some standard distribution (the most frequently used has been the Poisson distribution). The mathematical relations are typically drawn in terms of differential equations which can then be solved to produce an equation or set of equations for projections.<sup>5</sup> Additional rates can be incorporated, such as the recidivism rate. However, all the models are constructed at the aggregate level and simulations based on these models are rather simple and limited to determining the sensitivity of prison populations to broad changes in criminal demographics.

The third type of simulation model was recently proposed by Arnold Barnett, who constructed a model that bridges the Markov and Queuing models.<sup>6</sup> It is essentially a Queuing model at the level of the individual, or perhaps it could be described as a Markov model where the transition probabilities are based on Queuing theory. Barnett's model focuses on the individual criminal career and the probabilities of being arrested and going to prison, and the probability distribution of sentence lengths. The relations between various states are largely formed as mathematical expressions very much influenced by the Queuing theory approach, rather than the simple numerical transition probabilities of the Markov model. The advantage of Barnett's model over the Queuing models is that policy changes can be more readily incorporated because the model is formed at the individual level.

Two simulation-type models that are marketed to the corrections agencies for specifically projecting prison populations have emerged over the past decade or so. The first is the IMPACT model developed by the Criminal Justice Statistics Association, Inc. The second is the PROPHET model developed by the National Council on Crime and Delinquency. The IMPACT model is similar to the Queuing theory approach, whereas the PROPHET model is closer to the projection model developed by Barnett. Both are reasonably suitable methods for making prison population projections, but the PROPHET is preferred because it is more powerful and can better accommodate the kind of "What if?" speculation regarding potential policy changes.

There are several states that use the IMPACT model: District of Columbia, Montana, Nebraska, New Mexico, Vermont, and Wyoming. Still more states are using the PROPHET model: Hawaii, Indiana, Kansas, Kentucky, Nevada, Oklahoma, Rhode Island, Tennessee, and Virginia. Additional states use an unspecified simulation approach: Arkansas, California, Colorado, Illinois, Massachusetts, Michigan, Minnesota, North Carolina, Ohio, Pennsylvania, South Dakota, and the Federal Bureau of Prisons.

## Notes

- (1) Information on projection methods used by other states comes from the *Corrections Compendium*, April 1996. Note that several states (e.g., South Dakota) use more than one method and may appear more than once. Thanks go to Robert Sego of the New Mexico Department of Corrections for alerting us to this source.
- (2) Box, G.E.P., and G.M. Jenkins, *Time Series Analysis, Forecasting and Control*, Holden-Day Inc., San Francisco, 1970.

- (3) A comparison of ARIMA models to simple time-trend and exponential smoothing approaches for projecting prison population is reported by Bin-Shan Lin, Doris Layton MacKenzie, and Thomas R. Gullledge, Jr. in "Using ARIMA Models to Predict Prison Populations," *Journal of Quantitative Criminology*, Vol. 2, No. 3, 1986.
- (4) See Ronald T. Slivka and Frank Cannavale, Jr., "An Analytical Model of the Passage of Defendants through a Court System," *Journal of Research in Crime and Delinquency*, July, 1973. Slivka and Cannavale consider six states (arrest, preliminary arraignment, preliminary hearing, indictment, arraignment, and trial) and seven transitions (some of the transition probabilities are set to zero to indicate impossible transitions, such as from indictment to arrest, and so forth).
- (5) Two such Queuing models are: Stephan Stollmack, "Predicting Inmate Populations from Arrest, Court Disposition, and Recidivism Rates," *Journal of Research in Crime and Delinquency*, July, 1973; and Marvin Yablon, "The Application of Queuing Models to Strategies for Reducing Prison Population Size," *Journal of Criminal Justice*, Vol. 16, pp. 183-196, 1988.
- (6) Arnold Barnett, "Prison Populations: A Projection Model," *Operations Research*, Vol. 35, No. 1, January-February 1987.

## APPENDIX 2: TIME-SERIES ANALYSIS

### Time-Series Models

Two types of time-series models were used to prepare the projections in this Working Paper: ARIMA models and Smoothing models.

The ARIMA stochastic process model is a simple input-output model. Inputs are transformed into outputs by a process that is in a "black box" and unknown to the analyst. The ARIMA statistical model describes the relationship between inputs and outputs and forms the basis for making forecasts. In the case of a univariate time series of the sort studied here (the single variable is prison population), the inputs are past values of the time series, and the outputs are forecasted values.

The ARIMA modeling process requires a time series that is stationary. A stationary time series is one in which the mean and variance of the series is constant over time. Hence, the trend has been removed from the time series and the fluctuations around the series are of roughly similar magnitude. Once the time series has been made stationary (often by a transformation of the time series, such as taking the natural logarithm of the values), then the statistical model can be determined and estimated. Two types of models are moving average (MA) and autoregressive (AR). In a moving average process, the forecasted value is a weighted average of prior fluctuations. In an autoregressive process, the forecasted value is a function of prior values.

The common notation for a univariate time series is  $Y_t = \mu + \epsilon_t$ , where  $Y_t$  is the value of the time series in time period  $t$ ,  $\mu$  is the linear trend component, and  $\epsilon_t$  is the random fluctuation around the trend component. For a moving average model, the forecasted value is a sum of the trend component and a weighted average of one or more prior random fluctuation values:

$$Y_t = \mu + \theta_0 \epsilon_t + \theta_1 \epsilon_{t-1} + \theta_2 \epsilon_{t-2} + \theta_3 \epsilon_{t-3} + \dots$$

where some of the weights may be equal to zero. For the autoregressive model:

$$Y_t = \mu + \phi_1 Y_{t-1} + \phi_2 Y_{t-2} + \phi_3 Y_{t-3} + \dots$$

where there is usually a relationship between all the weights on the prior values. An example is the first-order autoregressive process, where  $\phi_j = \phi_1^j$ , for  $j > 1$ . This would make the equation:  $Y = \mu + \phi_1 Y_{t-1} + \phi_1^2 Y_{t-2} + \phi_1^3 Y_{t-3} \dots$ . Combining the two forms allows for more complex models.

The smoothing models estimated for comparison to the ARIMA model are the double-exponential, the Winters' model, and the linear Holt model. Essentially, a smoothing model makes a forecast for a time series by using a weighted average of prior values of the time series. The difference between the three types of smoothing models is in how prior values of the time series are weighted.

Start with the simplest smoothing model, the simple exponential smoother. For the exponential smoother, the smoothed value in time period  $t$  is determined from summing past values of the time series and weighting each past value by  $\alpha(1-\alpha)^k$ , where  $\alpha$  is the smoothing constant and  $k$  is the lag on the particular past time period (the number of periods between the current time period  $t$  and the past time period  $t-k$ ). For example, in getting a smoothed estimate for the weight for the time period  $t$ , the equation specifying the sum can be written as:

$$S_t = \alpha Y_t + \alpha(1-\alpha)Y_{t-1} + \alpha(1-\alpha)^2Y_{t-2} + \alpha(1-\alpha)^3Y_{t-3} + \dots$$

where  $S_t$  is the smoothed estimate for time period  $t$ . Note that the actual value of the time series for time period  $t$  is included as one of the weighted elements, albeit as the most heavily weighted one. The weights gets exponentially smaller, hence the name of the model.

The double exponential smoother involves a two-step process. First, the simple exponential smoothing model is fit to the time series, generating a set of smoothed estimates,  $S_t$ . The second step is to apply the exponential smoothing process once again, but to the already smoothed values. The value of the double exponential smoothing model is to account for an overall trend. Obviously, more complex time series marked by variation in the time trend can be modeled with triple smoothing, quadruple smoothing, and so on. In practice, however, rarely is more than a triple smoother used.

The Winters smoothing model is a three parameter smoothing model. The smoothing parameter of the simple exponential smoother is the basic parameter. However, a trend smoothing parameter and a seasonal factor are added. This allows the model to take into account cyclical variation, such as a times series model for retail sales where the time series shows a yearly peak in the last months of the year. The Winters model would use exponential smoothing to capture the time series behavior over time, but would fit better than an exponential smoother because it would include the seasonal factor. For example, this model would fare better in forecasting the Christmas holiday shopping season that culminates in inflated retail sales in November and December.

Finally, the linear Holt smoothing model includes only two smoothing parameters. The first parameter is the same kind of simple exponential smoothing parameter. The second is a trend smoothing parameter. No seasonal parameter is included in this model.

### **Making Forecasts and Testing Fit**

Forecasts from the time series models described above are generated by a “look-ahead” process. If we have historical data up to  $Y_t$ , then we can use the final form of the estimated model equation to determine  $Y_{t+1}$ . Then, using the historical data and the estimate value for  $Y_{t+1}$  we can determine a forecast for  $Y_{t+2}$ , and so on. In addition, for the time series models described above, margins of forecast error around the forecasts can be determined.

Generating forecasts is only as useful as the quality of the forecasts. One way to assess the quality of a forecasting model is to see how it performs on real data. This procedure is known as testing the Goodness of Fit, which measures how closely the predicted or forecasted values match, or fit, the actual values. But the problem remains that we do not already know the future, so we cannot compare actual forecasts of the future with actual future values. There is, however, a solution.

To test the fit of the time series model, one generates “backward” forecasts of the historical time series. This involves using the same one step process as the “look ahead” forecasts just described. But here, the “look behind” method is used. Thus, “predicted” values for the historical time series can be generated and then compared to the actual values. Many criteria exist for assessing how closely the “back-forecasted” values match the actual historical series, including r-square, the mean square error, and the mean absolute error. There are two utilized in this report: the mean absolute percent error and the root mean square error.

Mean absolute percent error is calculated as follows. First, the forecast error for each time period  $t$  is determined:

$$\text{Percent Error}_t = \frac{\text{Actual}_t - \text{Forecast}_t}{\text{Actual}_t}$$

Next, the absolute value of the Percent Error is determined for all the time periods. These values are then summed and divided by the total number of time periods ( $T$ ) less the number of parameters estimated ( $p$ ),

$$\text{MAPE} = \frac{\sum_{t=1}^T |\text{Percent Error}_t|}{T-p}$$

to produce the Mean Absolute Percent Error. This is interpretable as the average percentage the predicted value for a time period is off from the actual historical value.

An alternative measure of fit considers the absolute errors, rather than the relative or percent errors. The raw forecast errors are calculated for each time period, then squared, and divided by the total number of time periods ( $T$ ) less the number of parameters estimated ( $p$ ). Finally, the square root of this quotient is taken to produce:

$$\text{RMSE} = \sqrt{\frac{\sum_{t=1}^T (\text{Actual}_t - \text{Forecast}_t)^2}{T - p}}$$

This is the Root Mean Squared Error, and can be interpreted as the average error for the T time periods. The smaller the value of either the Mean Absolute Percent Error or the Root Mean Squared Error, the better the time-series model.

### **Baseline Models for the Male and Female Inmate Population**

The first step in fitting ARIMA models is to make the time-series stationary. Stationarity requires that the mean and variance of the time-series is constant over time. The most standard approach to ensure stationarity in the mean is to take the first difference of the time-series  $\Delta Y = Y_t - Y_{t-1}$ . To ensure stationarity in the variance, it is typical to transform the time-series to be analyzed by the natural logarithm or square-root function.

Statistical tests for constant mean and variance were employed on: (1) the raw male inmate population time-series; (2) the first differenced raw male inmate population time-series; (3) the natural log of the male inmate population time-series; (4) the first difference of the natural log of the male inmate time-series; (5) the square-root of the male inmate population time-series; and (6) the first difference of the square-root male inmate time-series. The only two time-series that passed the tests were the first differenced natural logarithm and first differenced square-root transforms of the raw male inmate population.

The standard autocorrelation function (ACF) and partial autocorrelation function (PACF) of the two time-series were examined to determine the autoregressive (AR) or moving-average (MA) nature of the time-series. For the square-root transformed data, a model including MA parameters for lags 7, 11, and 12 was indicated and subsequently estimated (ARIMA1 in Table 1). For the natural log transformed data, a 12th order moving average model was indicated and subsequently estimated (ARIMA2 in Table 1).

The three smoothing models estimated were the Winter's model (Smooth1 in Table 1), double-exponential smoothing model (Smooth2 in Table 1), and the linear Holt model (Smooth3 in Table 1).

The best fitting model according to the MAPE is the Winter's smoothing model (MAPE=0.65%), followed by the two ARIMA models. The best model according to the RMSE is again the Winter's smoothing model (RMSE=22.53), followed by the first differenced, square-root ARIMA model with MA parameters at lags 7, 11, and 12 (RMSE=23.02). Given that ARIMA models, in general, produce better forecasts, the ARIMA1 model is the most preferred

forecast model for the male inmate population time-series. The second most preferred forecast model is the Winter's smoothing model. These two models will be used for the analysis of reduced good time and prison diversion programs.

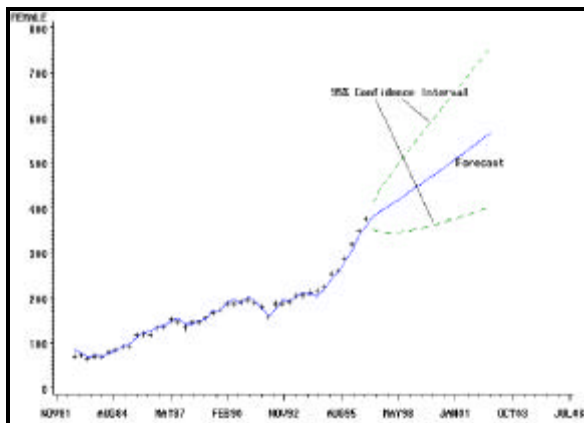
Turning to the female inmate population time-series, the same battery of statistical tests for stationarity were applied to the same six time-series that were utilized for the male analysis, along with a seventh: the second difference of the square-root transformed raw female inmate population time-series. The only two time-series that passed all the tests were the first- and second-differenced square-root transformed female inmate population.

For these two series, the autocorrelation function (ACF) and partial autocorrelation function (PACF) were examined to determine the autoregressive (AR) or moving-average (MA) nature of the time-series. For the first differenced square-root transformed data, no AR or MA structure was indicated and thus just a simple trend parameter model was estimated (ARIMA1 in Table 2). For the second differenced square-root transformed data, a slight indication of an MA parameter for lag 27 indicated and subsequently estimated (ARIMA2 in Table 2). This second ARIMA model, however, was unstable and should be viewed with caution.

The three smoothing models estimated were the linear Holt model (Smooth1 in Table 2), double-exponential smoothing model (Smooth2 in Table 2), and the Winter's model (Smooth3 in Table 2).

The best fitting model according to the MAPE is the linear Holt smoothing model (MAPE=2.86%), followed by the two ARIMA models. The best model according to the RMSE is again--neglecting the unstable ARIMA2 model--the linear Holt smoothing model (RMSE=5.63), followed by the first differenced, square-root ARIMA model (RMSE=5.72).

The female inmate population time-series is the most troublesome series to model with ARIMA methods. There clearly seems to be a violation of the ARIMA assumptions in that a quick glance at the female inmate time-series in Figure 2 indicates a "structural change" in the time-series around 1994 when growth accelerated greatly.



The inability of the ARIMA time series can be readily seen by the accompanying plot of forecasted values. The inability of the ARIMA time series can be readily seen by the accompanying plot of forecasted values.

Note how the forecasted values seem to "tail off" and neglect the upswing in female inmate population growth. This is a clear drawback of using the ARIMA model with these data.

However, the smoothing model approaches all should perform better than the ARIMA models since they explicitly weight recent years more heavily, thus being able to extend a recent change in the growth trend into the forecasts derived from the model.

For these reasons, the most preferred model for the female inmate population time-series is the linear Holt smoothing model (Smooth1 in Table 2), with the ARIMA model (ARIMA1 in Table 2) being second most preferred. These two models will be used for the analysis of reduced good time and prison diversion programs.



### **APPENDIX 3: PROCEDURES FOR ADJUSTING BASELINE PROJECTIONS TO INCORPORATE A MODIFIED GOOD TIME POLICY**

In order to produce adjustments to the baseline projections to incorporate a modified good time policy, an estimate of the number of violent admissions during the projection period is needed. This estimate is accomplished in several steps.

STEP 1: Estimate admissions by assuming that the ratio of new admissions and probation violators to the inmate population at the end of the fiscal year is constant over time. From the January 10, 1997 Weekly Management Report of the New Mexico Corrections Department, the number of new admissions and probation violators is taken for calendar year 1996. The inmate population is taken for the end of the fiscal year 1997 (June 1996). The ratios are thus:

Male New Admissions	$1412/4172 = .338447$
Male Probation Violators	$385/4172 = .092282$
Female New Admissions	$230/338 = .680473$
Female Probation Violators	$1/338 = .002959$

To get estimated admissions for the forecast years, the baseline forecasts are multiplied by these ratios giving an estimate of the number of new admissions and probation violators during the forecast period.

STEP 2: Estimate the number of violent offenders among the new admissions and probation violators by assuming that the ratio of violent to non-violent offenders is constant over time. From the District Attorney's data, this ratio can be estimated for the four types of admissions (male and female, new and probation violators). The estimates of the proportion of violent offenders from the DA data are:

Violent male new admissions	= .308366 of all new male admissions
Violent female new admissions	= .148515 of all new female admissions

To estimate the number of new violent offenders sentenced to prison, multiply the estimated number of new admissions from Step 1 by the male or female proportion as just given. Unfortunately, there is not enough detailed information available in the DA data on the violent nature of probation violators. While many of the probation violators are returned to prison for technical violations, the proportion for new admissions is assumed to hold for probation violators as well. The number of violent probation violators is estimated by multiplying the estimated number of probation violators by the above proportion violent.

STEP 3: Estimate the length of sentence by taking a random pick from the empirical sentence distribution found in the DA data. Then, under the 50% good time policy, the length of stay of that inmate would be half the randomly selected sentence. Call the release year under this program RELEASE1. Under the 15% good time policy, the length of stay would be 0.85 times the length of the randomly selected sentence. Call the release year under this revised good time program RELEASE2. The difference in the two release dates, RELEASE2-RELEASE1, gives an estimate of how much longer the violent offender would stay in prison under the 15% good time policy. Since the 50% good time policy now in effect is incorporated into the baseline projections, the difference in the two release dates would be an adjustment to the baseline. Following this procedure for the number of estimated violent new admissions and probation violators gives the overall adjustment to be added to the baseline projections.

NOTE: There is no method for the inclusion of parole violators in the projection adjustment for a revised good time policy. No information on parole violators is available in the DA data, since parole violators are under the jurisdiction of Adult Probation and Parole within the Corrections Department. However, the exclusion of parole violators will have minimal impact on the accuracy of projections. Since the longest parole term is two years, a parole violator returning to prison will have already served out some portion of parole term. Because of the short time to be served by a parole violator, extending the term via the revised good time policy will not adversely impact the projections.

## **APPENDIX 4: PROCEDURES FOR ADJUSTING BASELINE ESTIMATES TO INCORPORATE A DIVERSION PROGRAM**

In order to produce adjustments to the baseline projections to incorporate a prison diversion program, an estimate of the number of divertible admissions during the projection period is needed. This estimate is accomplished in several steps.

STEP 1: Estimate admissions by assuming that the ratio of new admissions and probation violators to the inmate population at the end of the fiscal year is constant over time. From the January 10, 1997 Weekly Management Report of the New Mexico Corrections Department, the number of new admissions and probation violators is taken for calendar year 1996. The inmate population is taken for the end of the fiscal year 1997 (June 1996). The ratios are thus:

Male New Admissions	$1412/4172 = .338447$
Male Probation Violators	$385/4172 = .092282$
Female New Admissions	$230/338 = .680473$
Female Probation Violators	$1/338 = .002959$

To get estimated admissions for the forecast years, the baseline forecasts are multiplied by these ratios giving an estimate of the number of new admissions and probation violators during the forecast period.

STEP 2: Estimate the number of divertible offenders among the new admissions and probation violators by assuming that the ratio of divertible to non-divertible offenders is constant over time. From the District Attorney's data, and using the preliminary definition of presumptive non-prison offenses as identified by the Sentencing Subcommittee, this ratio can be estimated for the four types of admissions (male and female, new and probation violators). The estimates of the proportion of divertible offenders from the DA data are:

Male new admissions = .138253 of all new male admissions
Female new admissions = .316239 of all new female admissions
Male probation violators = .000 of all male probation violators
Female probation violators = .000 of all female probation violators

To estimate the number of divertible offenders that would otherwise be sentenced to prison, multiply the estimated number of new admissions from Step 1 by the male or female proportion as just given.

STEP 3: Estimate the length of sentence by taking a random pick from the empirical sentence distribution found in the DA data. Then, under a diversion program, the identified divertible offender would not actually be in prison for the duration of the randomly selected sentence. Following this procedure for the number of estimated divertible offenders gives the overall adjustment to be subtracted from the baseline projections.

## APPENDIX 5: DEFINITION OF VIOLENT OFFENSES

The definition of violent offenses has been arrived at by trying to match federal definitions with the actual codes used in practice in statewide databases. Any such derived definition is subject to some dispute, but does serve a practical purpose. The included offenses are:

1. Homicide
  - Child Abuse (Death)
  - Homicide by Vehicle
  - Homicide by Vehicle (Reckless)
  - Homicide by Vehicle (DWI)
  - Murder (First Degree)
  - Murder (Second Degree)
2. Sexual Assault
  - Attempt or Conspiracy to Commit Criminal Sexual Contact
  - Criminal Sexual Penetration (First Degree)
  - Criminal Sexual Penetration (Second Degree)
  - Criminal Sexual Penetration (Third Degree)
  - Criminal Sexual Penetration (Fourth Degree)
  - Attempt or Conspiracy to Commit Criminal Sexual Penetration
3. Kidnapping
  - Kidnapping (Great Bodily Harm)
  - Kidnapping (No Great Bodily Harm)
  - Kidnapping (First Degree)
  - Kidnapping (Second Degree)
4. Armed Robbery
  - Armed Robbery
  - Attempted/Conspiracy to Commit Armed Robbery
5. Manslaughter
  - Homicide (Attempt or Conspiracy)
  - Voluntary Manslaughter
  - Involuntary Manslaughter
  - Involuntary Manslaughter (Negligent Act)
  - Involuntary Manslaughter (Unlawful Act)
6. Child Abuse
  - Child Abuse
  - Child Abuse (Conspiracy)
  - Child Abuse (Solicitation)
  - Child Abuse (Second Offense)
  - Child Abuse (Great Bodily Harm)
  - Child Abuse (No Death or Great Bodily Harm)
  - Abandonment of a Child
  - Abandonment of a Dependent
  - Criminal Sexual Contact (Third Degree/Minor w/Deadly Weapon)
  - Criminal Sexual Contact (Third Degree/Minor w/Personal Injury)
7. Robbery
  - Robbery
  - Attempted/Conspiracy to Commit Robbery
  - Solicitation to Commit Robbery
8. Assault & Battery
  - Assault with Intent of a Violent Felony on an Officer
  - Assault with Intent to Commit Violent Felony
  - Aggravated Assault Upon a Peace Officer
  - Aggravated Assault
  - Attempt/Conspiracy Aggravated Assault
  - Solicitation of Aggravated Assault with a Deadly Weapon
  - Assault Upon a Peace Officer
  - Assaulting a Busdriver or Passenger
  - Assault (Attempted Battery)
  - Assault (Unlawful Acts, Threats, or Conduct)
  - Assault Upon a School Employee (Attempted Battery)
  - Assault Upon a School Employee (Threat or Menacing Conduct)
  - Aggravated Battery Upon a Peace Officer
  - Aggravated Battery
  - Battery Upon a Peace Officer
  - Attempt/Conspiracy Aggravated Battery
  - Battery Upon a School Employee
  - Battery Upon a Household Member
  - Battery
  - Attempt or Conspiracy to Commit Aggravated Battery or Aggravated Assault
9. Other Violent Offenses
  - Aggravated Arson
  - Great Bodily Injury by Vehicle (DWI)
  - False Imprisonment
  - Great Bodily Injury by Vehicle
  - Great Bodily Injury by Vehicle Misdemeanor
  - Injury to Pregnant Woman by Vehicle
  - Resisting an Officer
  - Voluntary Manslaughter (Attempt)
  - Voluntary Manslaughter (Conspiracy)
  - Voluntary Manslaughter (Solicitation)

## **APPENDIX 6: OFFENSES IDENTIFIED AS “PRESUMPTIVE NONPRISON” OR “PRESUMPTIVE FINE” BY CJCC’S SENTENCING SUBCOMMITTEE**

**This is a very preliminary list of offenses identified as “presumptive nonprison” or “presumptive fine”. The Sentencing Subcommittee has NOT completed identifying offenses.** Undoubtedly, one can find several offenses that would not likely remain in a final list. Note that the list does not take into account prior criminal history in making an assessment of presumptive nonprison. Note also that there are two offense coding schemes used in the District Attorney data-one from District 2 and another from the New Mexico District Attorney's Association Administrative Office (rest of the state District Offices).

### **District 2 data -- codes based on internal classification**

Criminal Sexual Contact (4th Degree)	Fraud (over \$250) (Over \$100 if before 6/87)
Attempt or Conspiracy to commit CSP or CSC	Embezzlement (Over \$250) (Over \$100 if before 6/87)
Arson (Over \$100)	Larceny (Over \$250) (Over \$100 if before 6/87)
False Imprisonment	Receiving Stolen Property (Over \$250) (Over \$100 if before 6/87)
Bribery of a Witness	Shoplifting (Over \$250) (Over \$100 if before 6/87)
Tampering with Evidence	Dealing in Credit Cards of Another
Auto Burglary	Criminal Damage to Property (Over \$1000)
Attempt or Conspiracy - Burglary and Breaking & Entering	Possession of Burglary Tools
Custodial Interference	Possession of Controlled Substance (Felony-Narc or Non-Narc Drug)
Possession of Controlled Substance With Intent to Distribute (3rd Degree)	Possession of Marijuana (8 oz. or More)
Possession of Controlled Substance With Intent to Distribute (4th Degree)	Fraud by Worthless Check (Issuing Worthless Checks)
Acquiring Controlled Substance by Misrepresentation	Falsely Obtaining Accommodations (3rd Degree)
Contributing to the Delinquency of a Minor	Falsely Obtaining Accommodations (4th Degree)
Possession of a Firearm or Destructive Device by a Felon	Negligent Arson
Harboring a Felon	Possession of Drug Paraphernalia (Spec. Misd.)
Attempt or Conspiracy - Trafficking/Distribution/Possession	Criminal Solicitation
Unlawful Carrying of a Firearm in Liquor Establishments	Promoting Prostitution
Fraud (Over \$2500)	Failure to Disclose Facts to Obtain Public Assistance
Embezzlement (Over \$2500)	Miscellaneous Other Crime (Misdemeanor)
Larceny (Over \$2500)	Fraudulent Use of a Credit Card
Receiving Stolen Property (Over \$2500)	Attempt or Conspiracy - Miscellaneous Crimes, Felony
Shoplifting (Over \$2500)	
Forgery	

### **Rest of State Districts -- codes based on criminal code classification**

Voter Registration Offenses	Unlawful Possession of Absentee Ballot
Unlawful Opening of Ballot Box	Unlawful Possession of Absentee Ballot - Conspiracy
Unlawful Opening of Ballot Box - Solicitation	False Voting
Unlawful Opening of Voting Machine	False Voting - Conspiracy
Unlawful Opening of Voting Machine - Solicitation	False Voting - Solicitation
Unlawful Possession of Keys to a Voting Machine	Falsifying Election Documents
Unlawful Possession of Keys to a Voting Machine - Conspiracy	Falsifying Election Documents - Conspiracy
Unlawful Possession of Keys to a Voting Machine - Solicitation	Falsifying Election Documents - Solicitation
	False Swearing
	False Swearing - Conspiracy

False Swearing - Solicitation  
 Offering a Bribe (Elections)  
 Offering a Bribe (Elections) - Conspiracy  
 Offering a Bribe (Elections) - Solicitation  
 Accepting a Bribe (Elections)  
 Accepting a Bribe (Elections) - Conspiracy  
 Accepting a Bribe (Elections) - Solicitation  
 Coercion of Employees  
 Coercion of Employees - Conspiracy  
 Coercion of Employees - Solicitation  
 Intimidation (Elections)  
 Intimidation (Elections) - Conspiracy  
 Intimidation (Elections) - Solicitation  
 Conspiracy to Violate Election Code  
 Attempts to Evade or Defeat Tax  
 Attempts to Evade or Defeat Tax - Conspiracy  
 Attempts to Evade or Defeat Tax - Solicitation  
 False Statement and Fraud  
 False Statement and Fraud - Conspiracy  
 False Statement and Fraud - Solicitation  
 Interference with Administration of Tax Law  
 Interference with Administration of Tax Law - Conspiracy  
 Interference with Administration of Tax Law - Solicitation  
 Setting Fires on State Lands  
 Setting Fires on State Lands - Conspiracy  
 Setting Fires on State Lands - Solicitation  
 Damaging a Fence or Gate on State Land  
 Damaging a Fence or Gate on State Land - Conspiracy  
 Damaging a Fence or Gate on State Land - Solicitation  
 Concealing a Right to Die Document - Attempt  
 Forging a Right to Die Document - Attempt  
 Concealing a Right to Die Document - Conspiracy  
 Forging a Right to Die Document - Conspiracy  
 Concealing a Right to Die Document - Solicitation  
 Forging a Right to Die Document - Solicitation  
 Unlawful Disposition of an Unclaimed Body  
 Unlawful Disposition of an Unclaimed Body - Conspiracy  
 Unlawful Disposition of an Unclaimed Body - Solicitation  
 Dangerous Drugs, Conditions for Sale  
 Dangerous Drugs, Conditions for Sale - Conspiracy  
 Dangerous Drugs, Conditions for Sale - Solicitation  
 Involuntary Manslaughter (Negligent Act)  
 Involuntary Manslaughter (Unlawful Act)  
 Involuntary Manslaughter (Unlawful Act) - Conspiracy  
 Involuntary Manslaughter (Unlawful Act) - Solicitation  
 Assisting Suicide - Conspiracy  
 Assisting Suicide - Solicitation  
 Injury to Pregnant Woman - Attempt  
 Injury to Pregnant Woman - Conspiracy  
 Injury to Pregnant Woman - Solicitation  
 Aggravated Assault Upon a School Employee (Deadly  
 Weapon)- Att.  
 Battery Upon a School Employee  
 Battery Upon a School Employee - Conspiracy  
 Battery Upon a School Employee - Solicitation  
 Aggravated Battery Upon a School Employee  
 Aggravated Battery Upon a School Employee (GBI) -  
 Conspiracy  
 Aggravated Battery Upon a School Employee - Conspiracy  
 Aggravated Battery Upon a School Employee (GBI) -  
 Solicitation  
 Aggravated Battery Upon a School Employee (Deadly  
 Weapon) - Solic  
 Assisting in a Battery Upon a School Employee  
 Stalking (3rd Offense)  
 Criminal Use of Ransom - Attempt  
 Criminal Use of Ransom - Conspiracy  
 Criminal Use of Ransom - Solicitation  
 False Imprisonment  
 False Imprisonment - Conspiracy  
 False Imprisonment - Solicitation  
 Custodial Interference (Right to Custody)  
 Custodial Interference (Right to Custody) - Conspiracy  
 Custodial Interference (Right to Custody) - Solicitation  
 Custodial Interference (No Right to Custody)  
 Custodial Interference (No Right to Custody) - Conspiracy  
 Custodial Interference (No Right to Custody) - Solicitation  
 Abuse of a Child - Attempt  
 Abuse of a Child - Conspiracy  
 Abuse of a Child - Solicitation  
 Abandonment of Dependent  
 Abandonment of Dependent - Conspiracy  
 Abandonment of Dependent - Solicitation  
 Contributing to the Delinquency of a Minor  
 Contributing to the Delinquency of a Minor - Conspiracy  
 Contributing to the Delinquency of a Minor - Solicitation  
 Sexual Exploitation of Children - Conspiracy  
 Sexual Exploitation of Children - Solicitation  
 Unlawful Carrying of a Deadly Weapon on School Premises  
 Unlawful Carrying of a Deadly Weapon on School Premises -  
 Conspir  
 Unlawful Carrying of a Deadly Weapon on School Premises -  
 Solicit  
 Unlawful Carrying Firearm in Liquor Establishment  
 Unlawful Carrying Firearm in Liquor Establishment -  
 Conspiracy  
 Unlawful Carrying Firearm in Liquor Establishment -  
 Solicitation  
 Dangerous Use of Explosives - Attempt  
 Dangerous Use of Explosives - Conspiracy  
 Dangerous Use of Explosives - Solicitation  
 Unlawful Transportation of Explosives on Common Carrier  
 Unlawful Transportation of Explosives on Common Carrier -  
 Consp.  
 Assaulting Bus Driver or Passenger - Conspiracy  
 Assaulting Bus Driver or Passenger - Solicitation  
 Possession of Firearm or Destructive Device by a Felon -  
 Conspir.  
 Possession of Firearm or Destructive Device by a Felon -  
 Solicit.  
 Possession of Explosives  
 Possession of Explosives - Conspiracy  
 Possession of Explosives - Solicitation  
 Possession of Explosive Device or Incendiary Device  
 Possession of Explosive Device or Incendiary Device -

Conspiracy  
 Possession of Explosive Device or Incendiary Device - Solicit.  
 Giving, Sending or Placing a Hoax Bomb  
 Giving, Sending or Placing a Hoax Bomb - Conspiracy  
 Giving, Sending or Placing a Hoax Bomb - Solicitation  
 False Report of a Fire or Explosion (Death)  
 False Report of a Fire or Explosion (GBI)  
 Promoting Prostitution (Maintaining House of Prostitution)  
 Promoting Prostitution (Maintaining House of Prostitution) -  
 Con.  
 Promoting Prostitution (Maintaining House of Prostitution) -  
 Sol.  
 Promoting Prostitution (Renting House of Prostitution)  
 Promoting Prostitution (Renting House of Prostitution) -  
 Conspir.  
 Promoting Prostitution (Renting House of Prostitution) -  
 Solicit.  
 Promoting Prostitution (Procuring for House of Prost.)  
 Promoting Prostitution (Procuring for House of Prost.) -  
 Conspir.  
 Promoting Prostitution (Procuring for House of Prost.) -  
 Solicit.  
 Promoting Prostitution (Inducing)  
 Promoting Prostitution (Inducing) - Conspiracy  
 Promoting Prostitution (Inducing) - Solicitation  
 Promoting Prostitution (Soliciting Patrons)  
 Promoting Prostitution (Soliciting Patrons) - Conspiracy  
 Promoting Prostitution (Soliciting Patrons) - Solicitation  
 Promoting Prostitution (Procuring)  
 Promoting Prostitution (Procuring) - Conspiracy  
 Promoting Prostitution (Procuring) - Solicitation  
 Accepting the Earnings of a Prostitute  
 Accepting the Earnings of a Prostitute - Conspiracy  
 Accepting the Earnings of a Prostitute - Solicitation  
 Criminal Sexual Penetration 3rd Degree - Attempt  
 Criminal Sexual Penetration 3rd Degree - Conspiracy  
 Criminal Sexual Penetration 3rd Degree - Solicitation  
 Criminal Sexual Penetration 4th Degree - Conspiracy  
 Criminal Sexual Penetration 4th Degree - Solicitation  
 Criminal Sexual Contact 4th Degree (Aided by Another) -  
 Conspir.  
 Criminal Sexual Contact 4th Degree (Deadly Weapon) -  
 Conspiracy  
 Criminal Sexual Contact 4th Degree (Personal Injury) -  
 Conspiracy  
 Criminal Sexual Contact 4th Degree (Aided by Another) -  
 Solicit.  
 Criminal Sexual Contact 4th Degree (Deadly Weapon) -  
 Solicitation  
 Criminal Sexual Contact 4th Degree (Personal Injury) -  
 Solicit.  
 Criminal Sexual Contact/Minor 3rd Degree (Aided by  
 Another)  
 Criminal Sexual Contact/Minor 4th Degree  
 Criminal Sexual Contact/Minor 4th Degree - Conspiracy  
 Criminal Sexual Contact/Minor 4th Degree - Solicitation  
 Bigamy  
 Bigamy - Conspiracy

Bigamy - Solicitation  
 Incest - Attempt  
 Incest - Conspiracy  
 Incest - Solicitation  
 Disturbing a Marked Burial Ground  
 Breaking and Entering - Conspiracy  
 Breaking and Entering - Solicitation  
 Criminal Damage to Property (Over \$1000)  
 Criminal Damage to Property (Over \$1000) - Conspiracy  
 Criminal Damage to Property (Over \$1000) - Solicitation  
 Unauthorized Graffiti (Over \$1,000)  
 Unauthorized Graffiti (Over \$1,000) - Conspiracy  
 Unauthorized Graffiti (Over \$1,000) - Solicitation  
 Damaging Insured Property  
 Damaging Insured Property - Conspiracy  
 Damaging Insured Property - Solicitation  
 Desecration of a Church (Over \$1000)  
 Desecration of a Church (Over \$1000) - Conspiracy  
 Desecration of a Church (Over \$1000) - Solicitation  
 Larceny (Firearm)  
 Larceny (Livestock)  
 Larceny (Over \$250)  
 Larceny (Over \$2500)  
 Larceny (Over \$20,000) - Attempt  
 Larceny (Over \$2500) - Attempt  
 Larceny (Firearm) - Conspiracy  
 Larceny (Livestock) - Conspiracy  
 Larceny (Over \$20,000) - Conspiracy  
 Larceny (Over \$250) - Conspiracy  
 Larceny (Over \$2500) - Conspiracy  
 Larceny Over \$100 & Less Than \$2500 - Conspiracy  
 Larceny (Firearm) - Solicitation  
 Larceny (Livestock) - Solicitation  
 Larceny (Over \$20,000) - Solicitation  
 Larceny (Over \$250) - Solicitation  
 Larceny (Over \$2500) - Solicitation  
 Larceny Over \$100 & Less Than \$2500  
 Burglary (Dwelling House) - Attempt  
 Burglary (Dwelling House) - Conspiracy  
 Burglary (Dwelling House) - Solicitation  
 Burglary (Automobile)  
 Burglary (Commercial)  
 Burglary (Automobile) - Conspiracy  
 Burglary (Commercial) - Conspiracy  
 Burglary (Automobile) - Solicitation  
 Burglary (Commercial) - Solicitation  
 Possession of Burglary Tools  
 Possession of Burglary Tools - Conspiracy  
 Possession of Burglary Tools - Solicitation  
 Fraud (Firearm)  
 Fraud (Over \$250)  
 Fraud (Over \$2500)  
 Fraud (Over \$20,000) - Attempt  
 Fraud (Over \$2500) - Attempt  
 Fraud (Firearm) - Conspiracy  
 Fraud (Over \$20,000) - Conspiracy  
 Fraud (Over \$250) - Conspiracy  
 Fraud (Over \$2500) - Conspiracy

Fraud Over \$100 & Less Than \$2500 - Conspiracy  
 Fraud (Firearm) - Solicitation  
 Fraud (Over \$20,000) - Solicitation  
 Fraud (Over \$250) - Solicitation  
 Fraud (Over \$2500) - Solicitation  
 Fraud Over \$100 & Less Than \$2500 - Solicitation  
 Fraud Over \$100 & Less Than \$2500  
 Unlawful Dealing in Federal Food Coupons (Over \$250)  
 Unlawful Dealing in Federal Food Coupons (Over \$2500)  
 Unlawful Dealing in WIC Checks (Over \$250)  
 Unlawful Dealing in WIC Checks (Over \$2500)  
 Unlawful Dealing in Federal Food Coupons (Over \$20,000) - Attempt  
 Unlawful Dealing in Federal Food Coupons (Over \$2500) - Attempt  
 Unlawful Dealing in WIC Checks (Over \$20,000) - Attempt  
 Unlawful Dealing in Federal Food Coupons (Over \$20,000) - Conspir  
 Unlawful Dealing in Federal Food Coupons (Over \$250) - Conspiracy  
 Unlawful Dealing in Federal Food Coupons (Over \$2500) - Conspir  
 Unlawful Dealing in WIC Checks (Over \$20,000) - Conspiracy  
 Unlawful Dealing in WIC Checks (Over \$250) - Conspiracy  
 Unlawful Dealing in WIC Checks (Over \$2500) - Conspiracy  
 Unlawful Dealing in Federal Food Coupons (Over \$20,000) - Solicit  
 Unlawful Dealing in Federal Food Coupons (Over \$250) - Solicit  
 Unlawful Dealing in Federal Food Coupons (Over \$2500) - Solicit  
 Unlawful Dealing in WIC Checks (Over \$20,000) - Solicitation  
 Unlawful Dealing in WIC Checks (Over \$250) - Solicitation  
 Unlawful Dealing in WIC Checks (Over \$2500) - Solicitation  
 Embezzlement (Over \$250)  
 Embezzlement (Over \$2500)  
 Embezzlement (Over \$20,000) - Attempt  
 Embezzlement (Over \$2500) - Attempt  
 Embezzlement (Over \$20,000) - Conspiracy  
 Embezzlement (Over \$250) - Conspiracy  
 Embezzlement (Over \$2500) - Conspiracy  
 Embezzlement Over \$100 & Less Than \$2500 - Conspiracy  
 Embezzlement (Over \$20,000) - Solicitation  
 Embezzlement (Over \$250) - Solicitation  
 Embezzlement (Over \$2500) - Solicitation  
 Embezzlement Over \$100 & Less Than \$2500 - Solicitation  
 Embezzlement Over \$100 & Less Than \$2500  
 Extortion - Attempt  
 Extortion - Conspiracy  
 Extortion - Solicitation  
 Forgery (Making or Altering)  
 Forgery (Making or Altering) - Attempt  
 Forgery (Making or Altering) - Conspiracy  
 Forgery (Making or Altering) - Solicitation  
 Forgery (Issuing or Transferring)  
 Forgery (Issuing or Transferring) - Attempt

Forgery (Issuing or Transferring) - Conspiracy  
 Forgery (Issuing or Transferring) - Solicitation  
 Receiving Stolen Property (Dispose)(Firearm)  
 Receiving Stolen Property (Dispose)(Over \$250)  
 Receiving Stolen Property (Dispose)(Over \$2500)  
 Receiving Stolen Property (Receive)(Firearm)  
 Receiving Stolen Property (Receive)(Over \$250)  
 Receiving Stolen Property (Receive)(Over \$2500)  
 Receiving Stolen Property (Retain)(Firearm)  
 Receiving Stolen Property (Retain)(Over \$250)  
 Receiving Stolen Property (Dispose)(Over \$20,000) - Attempt  
 Receiving Stolen Property (Dispose)(Over \$2500) - Attempt  
 Receiving Stolen Property (Receive)(Over \$20,000) - Attempt  
 Receiving Stolen Property (Receive)(Over \$2500) - Attempt  
 Receiving Stolen Property (Retain)(Over \$20,000) - Attempt  
 Receiving Stolen Property (Retain)(Over \$2500) - Attempt  
 Receiving Stolen Property (Dispose)(Firearm) - Conspiracy  
 Receiving Stolen Property (Dispose)(Over \$20,000) - Conspiracy  
 Receiving Stolen Property (Dispose)(Over \$250) - Conspiracy  
 Receiving Stolen Property (Dispose)(Over \$2500) - Conspiracy  
 Receiving Stolen Property (Receive)(Firearm) - Conspiracy  
 Receiving Stolen Property (Receive)(Over \$20,000) - Conspiracy  
 Receiving Stolen Property (Receive)(Over \$250) - Conspiracy  
 Receiving Stolen Property (Receive)(Over \$2500) - Conspiracy  
 Receiving Stolen Property (Retain)(Firearm) - Conspiracy  
 Receiving Stolen Property (Retain)(Over \$20,000) - Conspiracy  
 Receiving Stolen Property (Retain)(Over \$250) - Conspiracy  
 Receiving Stolen Property (Retain)(Over \$2500) - Conspiracy  
 Receiving Stolen Property (Dispose)(Firearm) - Solicitation  
 Receiving Stolen Property (Dispose)(Over \$20,000) - Solicitation  
 Receiving Stolen Property (Dispose)(Over \$250) - Solicitation  
 Receiving Stolen Property (Dispose)(Over \$2500) - Solicitation  
 Receiving Stolen Property (Receive)(Firearm) - Solicitation  
 Receiving Stolen Property (Receive)(Over \$20,000) - Solicitation  
 Receiving Stolen Property (Receive)(Over \$2500) - Solicitation  
 Receiving Stolen Property (Retain)(Firearm) - Solicitation  
 Receiving Stolen Property (Retain)(Over \$20,000) - Solicitation  
 Receiving Stolen Property (Retain)(Over \$250) - Solicitation  
 Receiving Stolen Property (Retain)(Over \$2500) - Solicitation  
 Receiving Stolen Property: \$100 to \$2500 - Conspiracy



Receiving Stolen Property: \$100 to \$2500 - Solicitation  
 Receiving Stolen Property: \$100 to \$2500  
 Falsely Obtaining Services (Over \$250)  
 Falsely Obtaining Services (Over \$2500)  
 Falsely Obtaining Services (Over \$20,000) - Attempt  
 Falsely Obtaining Services (Over \$2500) - Attempt  
 Falsely Obtaining Services (Over \$20,000) - Conspiracy  
 Falsely Obtaining Services (Over \$250) - Conspiracy  
 Falsely Obtaining Services (Over \$2500) - Conspiracy  
 Falsely Obtaining Services: \$100 to \$2500 - Conspiracy  
 Falsely Obtaining Services (Over \$20,000) - Solicitation  
 Falsely Obtaining Services (Over \$250) - Solicitation  
 Falsely Obtaining Services (Over \$2500) - Solicitation  
 Falsely Obtaining Services: \$100 to \$2500 - Solicitation  
 Falsely Obtaining Services: \$100 to \$2500  
 Disposing of Encumbered Property (Over \$250)  
 Disposing of Encumbered Property (Over \$2500)  
 Disposing of Encumbered Property (Over \$20,000) - Attempt  
 Disposing of Encumbered Property (Over \$2500) - Attempt  
 Disposing of Encumbered Property (Over \$20,000) -  
 Conspiracy  
 Disposing of Encumbered Property (Over \$250) - Conspiracy  
 Disposing of Encumbered Property (Over \$2500) -  
 Conspiracy  
 Disposing of Encumbered Property: \$100 to \$2500  
 Conspiracy  
 Disposing of Encumbered Property (Over \$20,000) -  
 Solicitation  
 Disposing of Encumbered Property (Over \$250) - Solicitation  
 Disposing of Encumbered Property (Over \$2500) -  
 Solicitation  
 Disposing of Encumbered Property: \$100 to \$2500 -  
 Solicitation  
 Disposing of Encumbered Property: \$100 to \$2500  
 Shoplifting (Over \$250)  
 Shoplifting (Over \$2500)  
 Shoplifting (Over \$20,000) - Attempt  
 Shoplifting (Over \$2500) - Attempt  
 Shoplifting (Over \$20,000) - Conspiracy  
 Shoplifting (Over \$250) - Conspiracy  
 Shoplifting (Over \$2500) - Conspiracy  
 Shoplifting \$100 to \$2500 - Conspiracy  
 Shoplifting (Over \$20,000) - Solicitation  
 Shoplifting (Over \$250) - Solicitation  
 Shoplifting (Over \$2500) - Solicitation  
 Shoplifting \$100 to \$2500 - Solicitation  
 Shoplifting \$100 to \$2500  
 Theft of a Credit Card  
 Theft of a Credit Card - Conspiracy  
 Theft of a Credit Card - Solicitation  
 Fraudulent Receipt of a Credit Card  
 Fraudulent Transfer of a Credit Card  
 Fraudulent Receipt of a Credit Card - Conspiracy  
 Fraudulent Transfer of a Credit Card - Conspiracy  
 Fraudulent Receipt of a Credit Card - Solicitation  
 Fraudulent Transfer of a Credit Card - Solicitation  
 Dealing in Credit Cards of Another  
 Dealing in Credit Cards of Another - Attempt

Dealing in Credit Cards of Another - Conspiracy  
 Dealing in Credit Cards of Another - Solicitation  
 Forgery of a Credit Card  
 Forgery of a Credit Card - Conspiracy  
 Forgery of a Credit Card - Solicitation  
 Fraudulent Signing of Credit Cards or Sales Slips  
 Fraudulent Signing of Credit Cards or Sales Slips -  
 Conspiracy  
 Fraudulent Signing of Credit Cards or Sales Slips -  
 Solicitation  
 Fraudulent Use of Credit Card (Invalid/Revoked)  
 Fraudulent Use of Credit Card (Invalid/Revoked) -  
 Conspiracy  
 Fraudulent Use of Credit Card (Invalid/Revoked) -  
 Solicitation  
 Fraudulent Use of Credit Card (Without Consent)  
 Fraudulent Use of Credit Card (Without Consent) -  
 Conspiracy  
 Fraudulent Use of Credit Card (Without Consent) -  
 Solicitation  
 Fraudulent Use of Credit Card (Invalid/Revoked)(Over \$300)  
 Fraudulent Use of Credit Card (Without Consent)(Over  
 \$300)  
 Fraudulent Use of Credit Card (Invalid/Revoked)(Over \$300)  
 - Att.  
 Fraudulent Use of Credit Card (Without Consent)(Over  
 \$300) - Att.  
 Fraudulent Use of Credit Card (Invalid/Revoked)(Over \$300)  
 - Con.  
 Fraudulent Use of Credit Card (Without Consent)(Over  
 \$300) - Con.  
 Fraudulent Use of Credit Card (Invalid/Revoked)(Over \$300)  
 - Sol.  
 Fraudulent Use of Credit Card (Without Consent)(Over  
 \$300) - Sol.  
 Fraudulent Acts by Merchants  
 Fraudulent Acts by Merchants (Over \$300)  
 Fraudulent Acts by Merchants (Over \$300) - Attempt  
 Fraudulent Acts by Merchants (Over \$300) - Conspiracy  
 Fraudulent Acts by Merchants - Conspiracy  
 Fraudulent Acts by Merchants (Over \$300) - Solicitation  
 Fraudulent Acts by Merchants - Solicitation  
 Possession of Four or More Incomplete Credit Cards  
 Possession of Four or More Incomplete Credit Cards -  
 Conspiracy  
 Possession of Four or More Incomplete Credit Cards -  
 Solicitation  
 Fraudulent Possession of Credit Card Machinery  
 Fraudulent Possession of Credit Card Machinery - Conspiracy  
 Fraudulent Possession of Credit Card Machinery - Solicitation  
 Unlawful Receipt of Property (Over \$100)  
 Unlawful Receipt of Property (Over \$100) - Conspiracy  
 Unlawful Receipt of Property (Over \$100) - Solicitation  
 Unlawful Receipt of Property (Over \$300)  
 Unlawful Receipt of Property (Over \$300) - Attempt  
 Unlawful Receipt of Property (Over \$300) - Conspiracy  
 Unlawful Receipt of Property (Over \$300) - Solicitation  
 Obtaining Fraudulently Acquired Transportation Ticket

Obtaining Fraudulently Acquired Transportation Ticket - Conspir.	Commercial Gambling (Profits of Gambling Place) - Conspiracy
Obtaining Fraudulently Acquired Transportation Ticket - Solicit.	Commercial Gambling (Profits of Gambling Place) - Solicitation
Fraudulent Acts to Obtain Rented Property (Over \$100)	Commercial Gambling (Handling Bets)
Fraudulent Acts to Obtain Rented Property (Vehicle)	Commercial Gambling (Handling Bets) - Conspiracy
Fraudulent Acts to Retain Rented Property (Over \$100)	Commercial Gambling (Handling Bets) - Solicitation
Fraudulent Acts to Retain Rented Property (Vehicle)	Commercial Gambling (Possessing Betting Facilities)
Fraudulent Acts to Obtain Rented Property (Over \$100) - Conspir.	Commercial Gambling (Possessing Betting Facilities) - Conspiracy
Fraudulent Acts to Obtain Rented Property (Vehicle) - Conspiracy	Commercial Gambling (Possessing Betting Facilities) - Solicit.
Fraudulent Acts to Retain Rented Property (Over \$100) - Conspir.	Bribery of Participant in a Contest
Fraudulent Acts to Retain Rented Property (Vehicle) - Conspiracy	Bribery of Participant in a Contest - Conspiracy
Fraudulent Acts to Obtain Rented Property (Over \$100) - Solicit.	Bribery of Participant in a Contest - Solicitation
Fraudulent Acts to Obtain Rented Property (Vehicle) - Solicitation	Unlawfully Accepting Profits from Gambling
Fraudulent Acts to Retain Rented Property (Over \$100) - Solicit.	Unlawfully Accepting Profits from Gambling - Conspiracy
Fraudulent Acts to Retain Rented Property (Vehicle) - Solicit.	Unlawfully Accepting Profits from Gambling - Solicitation
Fraudulent Refusal to Return Leased Property (Over \$100)	Violation of Emergency Restrictions
Fraudulent Refusal to Return Leased Property (Vehicle)	Violation of Emergency Restrictions - Conspiracy
Fraudulent Refusal to Return Leased Property (Over \$100) - Consp.	Violation of Emergency Restrictions - Solicitation
Fraudulent Refusal to Return Leased Property (Vehicle) - Conspir.	Dueling
Fraudulent Refusal to Return Leased Property (Over \$100) - Solic.	Dueling - Conspiracy
Fraudulent Refusal to Return Leased Property (Vehicle) - Solicit.	Dueling - Solicitation
Arson (Over \$100)	Use of Telephone to Harass (2nd Offense) - Conspiracy
Arson (Over \$100) - Conspiracy	Use of Telephone to Harass (2nd Offense) - Solicitation
Arson (Over \$100) - Solicitation	Making a Bomb Scare
Arson (Over \$1000)	Making a Bomb Scare - Conspiracy
Arson (Over \$1000) - Attempt	Making a Bomb Scare - Solicitation
Arson (Over \$1000) - Conspiracy	Harboring or Aiding a Felon
Arson (Over \$1000) - Solicitation	Harboring or Aiding a Felon - Conspiracy
Arson (Negligent)	Harboring or Aiding a Felon - Solicitation
Arson (Negligent) - Conspiracy	Tampering with Evidence
Arson (Negligent) - Solicitation	Tampering with Evidence - Conspiracy
Unlawful Branding	Tampering with Evidence - Solicitation
Unlawful Branding - Conspiracy	Escape from Jail - Conspiracy
Unlawful Branding - Solicitation	Escape from Jail - Solicitation
Transporting Stolen Livestock	Escape from the Custody of a Peace Officer - Conspiracy
Transporting Stolen Livestock - Conspiracy	Escape from the Custody of a Peace Officer - Solicitation
Transporting Stolen Livestock - Solicitation	Aggravated Escape from Custody of Children, Youth & Families Dept
Dog Fighting	Furnishing Drugs or Liquor to a Prisoner - Conspiracy
Dog Fighting - Conspiracy	Furnishing Drugs or Liquor to a Prisoner - Solicitation
Dog Fighting - Solicitation	Bringing Contraband into a Prison - Attempt
Unlawful Tripping of an Equine (Maiming/Crippling/Death)	Bringing Contraband into a Prison - Conspiracy
Unlawful Tripping of an Equine (Maiming/Crippling/Death) - Con.	Bringing Contraband into a Prison - Solicitation
Unlawful Tripping of an Equine (Maiming/Crippling/Death) - Sol.	Bringing Contraband into a Jail - Conspiracy
Commercial Gambling (Profits of Gambling Place)	Bringing Contraband into a Jail - Solicitation
	Battery Upon a Peace Officer
	Battery Upon a Peace Officer - Conspiracy
	Battery Upon a Peace Officer - Solicitation
	Aggravated Battery upon Peace Officer - Conspiracy
	Aggravated Battery upon Peace Officer - Solicitation
	Aggravated Battery Upon Peace Officer (GBI) - Attempt
	Aggravated Battery Upon Peace Officer (GBI) - Conspiracy
	Aggravated Battery Upon Peace Officer (Deadly Weapon) - Solicit.
	Aggravated Battery Upon Peace Officer (GBI) - Solicitation

Assisting in Assault on Peace Officer  
 Assisting in Assault on Peace Officer - Conspiracy  
 Assisting in Assault on Peace Officer - Solicitation  
 Paying/Receiving Money for Service Not Rendered  
 Paying/Receiving Money for Service Not Rendered - Conspiracy  
 Paying/Receiving Money for Service Not Rendered - Solicitation  
 Making or Permitting False Public Voucher  
 Making or Permitting False Public Voucher - Conspiracy  
 Making or Permitting False Public Voucher - Solicitation  
 Unlawful Interest in a Public Contract (Over \$50)  
 Unlawful Interest in a Public Contract (Over \$50) - Conspiracy  
 Unlawful Interest in a Public Contract (Over \$50) - Solicitation  
 Bribery of Public Officer or Employee  
 Bribery of Public Officer or Employee - Attempt  
 Bribery of Public Officer or Employee - Conspiracy  
 Bribery of Public Officer or Employee - Solicitation  
 Demanding/Receiving Bribe by Public Officer  
 Demanding/Receiving Bribe by Public Officer - Attempt  
 Demanding/Receiving Bribe by Public Officer - Conspiracy  
 Demanding/Receiving Bribe by Public Officer - Solicitation  
 Bribery of a Witness (Offers Bribe - Testimony)  
 Bribery of a Witness (Offers Bribe - Testimony) - Conspiracy  
 Bribery of a Witness (Offers Bribe - Testimony) - Solicitation  
 Bribery of a Witness (Threats - Testimony)  
 Bribery of a Witness (Threats - Testimony) - Conspiracy  
 Bribery of a Witness (Threats - Testimony) - Solicitation  
 Bribery of a Witness (Threats or Bribes - Reporting)  
 Bribery of a Witness (Threats or Bribes - Reporting) - Conspiracy  
 Bribery of a Witness (Threats or Bribes - Reporting) - Solicitation  
 Bribery of a Witness (Retaliation - Property Damage)  
 Bribery of a Witness (Retaliation - Bodily Injury) - Conspiracy  
 Bribery of a Witness (Retaliation - Property Dam.) - Conspiracy  
 Bribery of a Witness (Retaliation - Bodily Injury) - Solicitation  
 Bribery of a Witness (Retaliation - Property Dam.) - Solicitation  
 Acceptance of a Bribe by a Witness  
 Acceptance of a Bribe by a Witness - Conspiracy  
 Acceptance of a Bribe by a Witness - Solicitation  
 Perjury  
 Perjury - Conspiracy  
 Perjury - Solicitation  
 Tampering with Public Records  
 Tampering with Public Records - Conspiracy  
 Tampering with Public Records - Solicitation  
 Aggravated Assault (Deadly Weapon) - Solicitation  
 Illegal Possession of Mercury  
 Illegal Possession of Mercury - Conspiracy  
 Illegal Possession of Mercury - Solicitation  
 Trafficking Controlled Substances (Possess w/ Intent) - Att

Trafficking Controlled Substances (Possess w/ Intent) - Con  
 Trafficking Controlled Substances (Possess w/ Intent) - Sol  
 Distribution of Marijuana to a Minor - Conspiracy  
 Distribution of Marijuana to a Minor - Solicitation  
 Possession of Marijuana with Intent to Distribute (2nd Offense)  
 Possession of Marijuana with Intent to Distribute (2nd) - Attempt  
 Possession of Marijuana with Intent to Distribute (2nd) - Consp.  
 Possession of Marijuana with Intent to Distribute (2nd) - Solicit  
 Possession of Marijuana (over 100#) w/Intent to Dist. - Attempt  
 Distribution of Marijuana Over 100# - Conspiracy  
 Possession of Marijuana (over 100#) w/Intent to Dist. - Conspir.  
 Distribution of Marijuana Over 100# - Solicitation  
 Possession of Marijuana (over 100#)w/Intent to Dist(2nd)-Attempt  
 Distribution of Marijuana Over 100# (2nd Offense) - Conspiracy  
 Possession of Marijuana (over 100#)w/Intent to Dist(2nd)-Consp.  
 Distribution of Marijuana Over 100# (2nd Offense) - Solicitation  
 Possession of Marijuana (over 100#)w/Intent to Dist(2nd)-Solicit.  
 Distribution of Marijuana - Conspiracy  
 Distribution of Marijuana - Solicitation  
 Distribution of Marijuana (2nd Offense)  
 Distribution of Marijuana (2nd Offense) - Conspiracy  
 Distribution of Marijuana (2nd Offense) - Solicitation  
 Distribution of Contr/Sub (Non-Narcotic Sch. I-IV) - Conspiracy  
 Distribution of Contr/Sub (Non-Narcotic Sch. I-IV) - Solicitation  
 Possession of Count. Amphetamines w/Intent to Distribute - Consp  
 Possession of Count. Amphetamines w/Intent to Distribute - Solicit  
 Distribution of Counterfeit Contr/Sub (Sched. I-IV) - Conspiracy  
 Distribution of Counterfeit Contr/Sub (Sched. I-IV) - Solicit.  
 Possession of Marijuana (Eight Ounces or More)  
 Possession of Marijuana (Eight Ounces or More) - Conspiracy  
 Possession of Marijuana (Eight Ounces or More) - Solicitation  
 Possession of a Controlled Substance (Felony)  
 Possession of a Controlled Substance (Felony) - Conspiracy  
 Possession of a Controlled Substance (Felony) - Solicitation  
 Violation of Administrative Provision of Contr/Sub Act  
 Violation of Administrative Provision of Contr/Sub Act - Conspir  
 Violation of Administrative Provision of Contr/Sub Act - Solicit

Controlled Substances-Prohibited Acts(Fraud; Prescription Forgery)  
 Controlled Substances - Prohibited Acts - Conspiracy  
 Controlled Substances - Prohibited Acts - Solicitation  
 Unlawful Distribution of Contr/Sub by Registrant  
 Unlawful Distribution of Contr/Sub by Registrant - Conspiracy  
 Unlawful Distribution of Contr/Sub by Registrant - Solicitation  
 Unlawful Use of Contr/Sub Registration No.  
 Unlawful Use of Contr/Sub Registration No. - Conspiracy  
 Unlawful Use of Contr/Sub Registration No. - Solicitation  
 Fraudulently Obtaining a Contr/Substance  
 Fraudulently Obtaining a Contr/Substance - Conspiracy  
 Fraudulently Obtaining a Contr/Substance - Solicitation  
 Furnishing False Info on Contr/Sub Required Doc  
 Furnishing False Info on Contr/Sub Required Doc - Cons  
 Furnishing False Info on Contr/Sub Required Doc - Solicitation  
 Unlawful Use of Drug Company Trademark  
 Unlawful Use of Drug Company Trademark - Conspiracy  
 Unlawful Use of Drug Company Trademark - Solicitation  
 Delivering Drug Paraphernalia to a Minor - Conspiracy  
 Delivering Drug Paraphernalia to a Minor - Solicitation  
 Distribution of Anabolic Steroids  
 Possession of Anabolic Steroids with Intent to Distribute  
 Distribution of Anabolic Steroids - Conspiracy  
 Possession of Anabolic Steroids with Intent to Distribute - Con.  
 Distribution of Anabolic Steroids - Solicitation  
 Possession of Anabolic Steroids with Intent to Distribute - Sol.  
 Distribution of Anabolic Steroids (By Adult to a Minor) - Conspir  
 Distribution of Anabolic Steroids (By Adult to a Minor) - Solicit  
 Distribution of Imitation Controlled Substance  
 Manufacturing an Imitation Controlled Substance  
 Distribution of Imitation Controlled Substance - Conspiracy  
 Manufacturing an Imitation Controlled Substance - Conspiracy  
 Distribution of Imitation Controlled Substance - Solicitation  
 Manufacturing an Imitation Controlled Substance - Solicitation  
 Distribution of Imitation Controlled Substance to Minor - Conspir  
 Distribution of Imitation Controlled Substance to Minor - Solicit  
 Procuring Telecommunication Serv. w/o Paying (Over \$100)  
 Procuring Telecommunication Serv. w/o Paying (Over \$250)  
 Procuring Telecommunication Serv. w/o Paying (Over \$2500)  
 Procuring Telecommunication Serv. w/o Paying (Over \$2500) - Att  
 Procuring Telecommunication Serv. w/o Paying (Over \$250) - Att.  
 Procuring Telecommunication Serv. w/o Paying (Over \$250) - Con

Procuring Telecommunication Serv. w/o Paying (Over \$2500) - Con  
 Procuring Telecommunication Serv. w/o Paying (Over \$250) - Sol  
 Procuring Telecommunication Serv. w/o Paying (Over \$2500) - Sol  
 Poss/Transfer Device to Defraud Tel Co (2nd Offense)  
 Poss/Transfer Device to Defraud Tel Co (2nd Offense) - Conspiracy  
 Poss/Transfer Device to Defraud Tel Co (2nd Offense) - Solicit.  
 Issuing a Worthless Check (\$25 or More)  
 Issuing a Worthless Check (\$25 or More) - Conspiracy  
 Issuing a Worthless Check (\$25 or More) - Solicitation  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$250)  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$250) - Cons  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$250) - Solic  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$2500)  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$2500) - Att.  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$2500) - Cons  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$2500) - Solic  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$20,000) - Att  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$20,000) - Con  
 Failure to Disclose Facts to Obtain Pub Asst (Over \$20,000) - Sol  
 Unlawful Use of Food Stamp ID Card (Over \$250)  
 Unlawful Use of Medical ID Card (Over \$250)  
 Unlawful Use of Food Stamp ID Card (Over \$250) - Conspiracy  
 Unlawful Use of Medical ID Card (Over \$250) - Conspiracy  
 Unlawful Use of Food Stamp ID Card (Over \$250) - Solicitation  
 Unlawful Use of Medical ID Card (Over \$250) - Solicitation  
 Unlawful Use of Food Stamp ID Card (Over \$2500)  
 Unlawful Use of Medical ID Card (Over \$2500)  
 Unlawful Use of Food Stamp ID Card (Over \$2500) - Attempt  
 Unlawful Use of Medical ID Card (Over \$2500) - Attempt  
 Unlawful Use of Food Stamp ID Card (Over \$2500) - Conspiracy  
 Unlawful Use of Medical ID Card (Over \$2500) - Conspiracy  
 Unlawful Use of Food Stamp ID Card (Over \$2500) - Solicitation  
 Unlawful Use of Medical ID Card (Over \$2500) - Solicitation  
 Unlawful Use of Food Stamp ID Card (Over \$20,000) - Attempt  
 Unlawful Use of Medical ID Card (Over \$20,000) - Attempt  
 Unlawful Use of Food Stamp ID Card (Over \$20,000) - Conspiracy  
 Unlawful Use of Medical ID Card (Over \$20,000) - Conspiracy

Unlawful Use of Food Stamp ID Card (Over \$20,000) - Solicitation	Unauthorized Computer Access (Over \$20,000) - Conspiracy
Unlawful Use of Medical ID Card (Over \$20,000) - Solicitation	Unauthorized Computer Access (Over \$20,000) - Solicitation
Misappropriating Public Assistance (Over \$250)	Computer Abuse (Over \$250)
Misappropriating Public Assistance (Over \$250) - Conspiracy	Computer Abuse (Over \$250) - Conspiracy
Misappropriating Public Assistance (Over \$250) - Solicitation	Computer Abuse (Over \$250) - Solicitation
Misappropriating Public Assistance (Over \$2500)	Computer Abuse (Over \$2500)
Misappropriating Public Assistance (Over \$2500) - Attempt	Computer Abuse (Over \$2500) - Attempt
Misappropriating Public Assistance (Over \$2500) - Conspiracy	Computer Abuse (Over \$2500) - Solicitation
Misappropriating Public Assistance (Over \$2500) - Solicitation	Computer Abuse (Over \$20,000) - Conspiracy
Misappropriating Public Assistance (Over \$20,000) - Attempt	Computer Abuse (Over \$20,000) - Solicitation
Misappropriating Public Assistance (Over \$20,000) - Conspiracy	Computer Abuse (Introducing False Data) - Conspiracy
Misappropriating Public Assistance (Over \$20,000) - Solicitation	Computer Abuse (Introducing False Data) - Solicitation
Misappropriating Public Assistance (ID Card)	Unauthorized Computer Use (Over \$100)
Misappropriating Public Assistance (ID Card) - Conspiracy	Unauthorized Computer Use (Over \$250)
Misappropriating Public Assistance (ID Card) - Solicitation	Unauthorized Computer Use (Over \$250) - Conspiracy
False Claim for Reimbursement	Unauthorized Computer Use (Over \$250) - Solicitation
False Claim for Reimbursement - Conspiracy	Unauthorized Computer Use (Over \$2500)
False Claim for Reimbursement - Solicitation	Unauthorized Computer Use (Over \$2500) - Attempt
Failure to Reimburse DHS (Over \$250)	Unauthorized Computer Use (Over \$2500) - Conspiracy
Failure to Reimburse DHS (Over \$250) - Conspiracy	Unauthorized Computer Use (Over \$2500) - Solicitation
Failure to Reimburse DHS (Over \$250) - Solicitation	Unauthorized Computer Use (Over \$20,000) - Conspiracy
Failure to Reimburse DHS (Over \$2500)	Unauthorized Computer Use (Over \$20,000) - Solicitation
Failure to Reimburse DHS (Over \$2500) - Attempt	Abuse of a Resident (Physical or Great Psychological Harm)
Failure to Reimburse DHS (Over \$2500) - Conspiracy	Neglect of a Resident (Physical or Great Psychological Harm)
Failure to Reimburse DHS (Over \$2500) - Solicitation	Exploitation of a Resident (Over \$250)
Failure to Reimburse DHS (Over \$2500) - Attempt	Exploitation of a Resident (Over \$250) - Conspiracy
Failure to Reimburse DHS (Over \$2500) - Conspiracy	Exploitation of a Resident (Over \$250) - Solicitation
Failure to Reimburse DHS (Over \$2500) - Solicitation	Exploitation of a Resident (Over \$2500)
Failure to Reimburse DHS (Over \$20,000) - Attempt	Exploitation of a Resident (Over \$2500) - Attempt
Failure to Reimburse DHS (Over \$20,000) - Conspiracy	Exploitation of a Resident (Over \$2500) - Conspiracy
Failure to Reimburse DHS (Over \$20,000) - Solicitation	Exploitation of a Resident (Over \$2500) - Solicitation
Soliciting or Receiving Illegal Kickback	Exploitation of a Resident (Over \$20,000) - Attempt
Soliciting or Receiving Illegal Kickback - Conspiracy	Exploitation of a Resident (Over \$20,000) - Conspiracy
Soliciting or Receiving Illegal Kickback - Solicitation	Exploitation of a Resident (Over \$20,000) - Solicitation
Offering or Paying Illegal Kickback	Fraudulent Telemarketing (Over \$250)
Offering or Paying Illegal Kickback - Conspiracy	Fraudulent Telemarketing (Over \$250) - Conspiracy
Offering or Paying Illegal Kickback - Solicitation	Fraudulent Telemarketing (Over \$250) - Solicitation
Making Extortionate Extensions of Credit	Fraudulent Telemarketing (Over \$2,500)
Making Extortionate Extensions of Credit - Attempt	Fraudulent Telemarketing (Over \$2,500) - Attempt
Making Extortionate Extensions of Credit - Conspiracy	Fraudulent Telemarketing (Over \$2,500) - Conspiracy
Making Extortionate Extensions of Credit - Solicitation	Fraudulent Telemarketing (Over \$2,500) - Solicitation
Financing Extortionate Extensions of Credit	Fraudulent Telemarketing (Over \$20,000) - Attempt
Financing Extortionate Extensions of Credit - Attempt	Fraudulent Telemarketing (Over \$20,000) - Conspiracy
Financing Extortionate Extensions of Credit - Conspiracy	Fraudulent Telemarketing (Over \$20,000) - Solicitation
Financing Extortionate Extensions of Credit - Solicitation	Failure to Appear on a Felony Charge
Collection of Extensions of Credit by Extortion - Attempt	Failure to Appear on a Felony Charge - Conspiracy
Collection of Extensions of Credit by Extortion - Conspiracy	Failure to Appear on a Felony Charge - Solicitation
Collection of Extensions of Credit by Extortion-Solicitation	Out of State Fugitive
Unauthorized Computer Access (Over \$250)	Improper Disposition of District Court Money
Unauthorized Computer Access (Over \$250) - Conspiracy	Improper Disposition of District Court Money - Conspiracy
Unauthorized Computer Access (Over \$250) - Solicitation	Improper Disposition of District Court Money - Solicitation
Unauthorized Computer Access (Over \$2500)	Secret Rebates - Motion Pictures
Unauthorized Computer Access (Over \$2500) - Attempt	Secret Rebates - Motion Pictures - Conspiracy
Unauthorized Computer Access (Over \$2500) - Conspiracy	Secret Rebates - Motion Pictures - Solicitation
Unauthorized Computer Access (Over \$2500) - Solicitation	Unlawful Pyramid Promotional Scheme
	Unlawful Pyramid Promotional Scheme - Conspiracy
	Unlawful Pyramid Promotional Scheme - Solicitation
	Violation of Banking Act/Fraud

Violation of Banking Act/Fraud - Conspiracy  
Violation of Banking Act/Fraud - Solicitation  
Slander of Financial Institution  
Slander of Financial Institution - Conspiracy  
Slander of Financial Institution - Solicitation  
Suppression of Evidence/Financial Institution - Solicitation  
Disclosure of Confidential Information  
Disclosure of Confidential Information - Conspiracy  
Disclosure of Confidential Information - Solicitation  
Sale of Unregistered Securities  
Sale of Unregistered Securities - Conspiracy  
Sale of Unregistered Securities - Solicitation  
Securities Fraud  
Securities Fraud - Conspiracy  
Securities Fraud - Solicitation  
Unlawful Use of an ATM Card  
Unlawful Use of an ATM Card - Conspiracy  
Unlawful Use of an ATM Card - Solicitation  
Unlicensed Transaction of Mortgage Loan Business  
Prohibited Mortgage Loan Charges  
Prohibited Withholding or Escrowing of Loan Proceeds  
False Statement  
False Insurance Claims & Applications  
False Insurance Claims & Applications - Conspiracy  
False Insurance Claims & Applications - Solicitation  
Influencing Horse Races - Conspiracy  
Influencing Horse Races - Solicitation  
Unlawful Sale of Alcoholic Beverage  
Unlawful Sale of Alcoholic Beverage - Conspiracy  
Unlawful Sale of Alcoholic Beverage - Solicitation  
Unlawful Interference with Flight of Aircrafts  
Unlawful Taking of a Motor Vehicle - Conspiracy  
Unlawful Taking of a Motor Vehicle - Solicitation  
Receiving/Transferring a Stolen Vehicle (Possession) -  
Conspiracy  
Receiving/Transferring a Stolen Vehicle - Conspiracy  
Receiving/Transferring a Stolen Vehicle (Possession) -  
Solicitation  
Receiving/Transferring a Stolen Vehicle - Solicitation  
Altering or Changing Engine or Other Numbers  
Altering or Changing Engine or Other Numbers - Conspiracy  
Altering or Changing Engine or Other Numbers - Solicitation  
Alteration or Forgery of a Driver's License  
Alteration or Forgery of a Driver's License - Conspiracy  
Alteration or Forgery of a Driver's License - Solicitation  
Making a False Affidavit (Perjury)  
Making a False Affidavit (Perjury) - Conspiracy  
Making a False Affidavit (Perjury) - Solicitation  
Leaving the Scene of an Accident (Great Bodily Harm or  
Death)  
Leaving the Scene of an Accident (Death or GBI)  
False Evidence of Title or Registration (Alter)  
False Evidence of Title or Registration (Alter) - Conspiracy  
False Evidence of Title or Registration (Alter) - Solicitation  
False Evidence of Title or Registration (Forge)  
False Evidence of Title or Registration (Forge) - Conspiracy  
False Evidence of Title or Registration (Forge) - Solicitation  
False Evidence of Title or Registration (Falsify)

False Evidence of Title or Registration (Falsify) - Conspiracy  
False Evidence of Title or Registration (Falsify) - Solicitation  
False Evidence of Title or Registration (Hold or Use)  
False Evidence of Title or Registration (Hold or Use) -  
Conspir.  
False Evidence of Title or Registration (Hold or Use) - Solicit.  
DWI 4th or Subsequent (after 1/1/94)