Colorado Division of Criminal Justice

Adult Prison and Parole Population Projections

Juvenile Commitment and Parole Population Projections

December 2004

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Preface

The Colorado Division of Criminal Justice (DCJ) pursuant to 24-33.5-503 (m), C.R.S. is mandated to prepare correctional population projections for the Director of Legislative Council and the General Assembly. This report presents the Fall 2004 projections of the Colorado Department of Corrections' (CDOC) incarcerated and parole populations and the commitment and parole populations for the Department of Human Services (DHS), Division of Youth Corrections (DYC). An additional discussion regarding the measurement of the detention population is included.

We are grateful for the invaluable assistance provided by Kristi Rosten at the Colorado Department of Corrections and Edward Wensuc at the Division of Youth Corrections. The DCJ population projections project would not be possible without the hard work and collaborative spirit of these professionals.

Adult Prison Population and Parole Caseload Forecasts

INTRODUCTION

As in the past, data utilized to develop projections were provided by the Department of Corrections (DOC) and the Department of Local Affairs (DOLA). The DCJ prison population projection model has undergone significant revision in the past year. The current method continues to employ these data sources, with the addition of data from community corrections, the Judicial Department, and the Colorado Bureau of Investigation. The presentation of the projections in this report differs from previous reports, due to the use of a new methodology and additional data.

DESCRIPTION OF THE FORECAST MODEL

The projection model used to determine the numbers presented in this report is a system flow model. It is based on identifying the probability of an offender advancing to the next decision point in the criminal justice system. The model starts with the state population and takes into account arrest, filing, conviction, and incarceration probabilities. It also includes revocation probabilities of probationers, community corrections offenders, and parolees, as well as the probability of an offender being released early on parole.

The flow of the Colorado criminal justice system as it relates to the DCJ prison population forecast is presented in Figure 1. Decisions in one part of the system impact other parts of the system. There is a certain probability that individuals in each stage of the flow, represented by the boxes in Figure 1, will move to the next one. This system can be envisioned as a funnel, starting with a large population-based group and ending with a very small group that reaches the final stage of incarceration and sentence completion, including those who recycle through the system via revocation.

Figure 1:
Colorado Adult Felony Criminal Justice System

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                        ┌──────────────────┐
                        │      State       │
                        │   Population     │
                        └──────────────────┘
                                 │
                                 ▼
                        ┌──────────────────┐
                        │  Felony Arrests  │
                        └──────────────────┘
                                 │
                                 ▼
                        ┌──────────────────┐
                        │  Felony Filings  │
                        └──────────────────┘
                                 │
                                 ▼
                        ┌──────────────────┐
                        │      Felony      │
                        │   Convictions    │
                        └──────────────────┘
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Probation / ISP Placements/ Deferrals	Community Corrections Placements	Direct Sentences to Prison
Probation Supervision Population	Community Corrections Population	Total Prison Admits
Probation Revocations	Community Corrections Revocations	Prison Population

- Prison Sentence Completions
- Other Releases (35B, appeals, death, etc)

- Parole Releases
- Parole Revocations

- Transition Community Corrections Placements
- Transition Community Corrections Regressions

PROJECTING NEW PRISON COMMITMENTS

State Population Forecast

The Department of Local Affair's state population projections are the starting point for forecasting future prison populations. Each year the Demographer's Office of the Department of Local Affairs (DOLA) develops population projections for the state. Figure 2 below displays the actual and projected state population growth for years 1990 to 2012. Between 1990 and 2000, the state population grew at the average rate of 2.92 percent annually. However, the growth rate began declining in 2001 and is expected to continue this decline thru 2006. An increase is expected at that time, but not at the rate observed in the 1990's. Between 2002 and 2012, an average growth rate of 1.65 percent per year has been predicted (see Figure 3).

Figure 2:
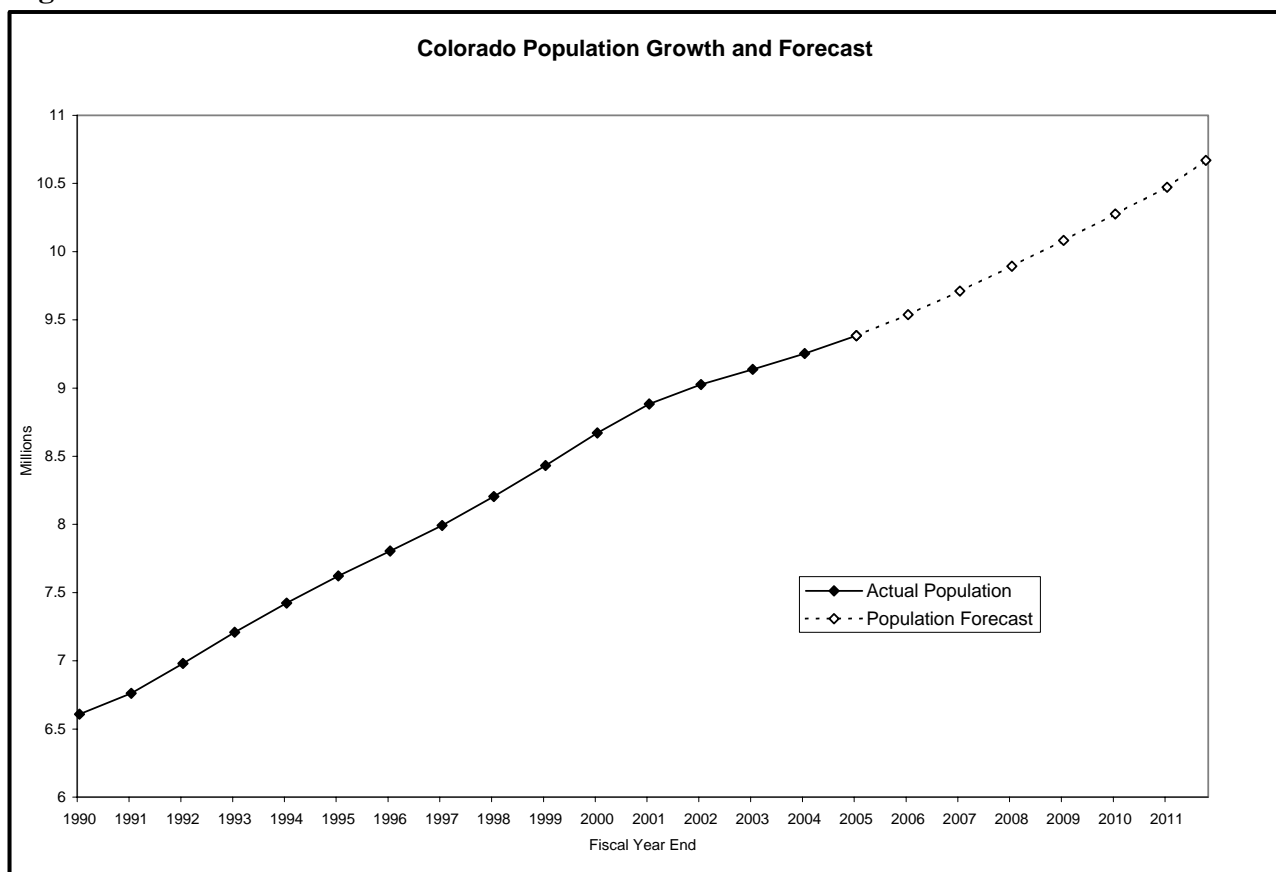
Source: Colorado State Demographer's Office, Department of Labor and Employment.

The Demographer's Office develops population forecasts incorporating the economic forecast prepared by the Center for Business and Economic Forecasting (CBEF).[1] The underlying assumptions for the population forecast are that the level of economic activity creates a labor force demand, and that the population will expand or shrink to accommodate the labor need. The

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[1] CBEF is a private research firm specializing in Colorado economic forecasting. For more information, see http://www.cbef-colorado.com.

demographic forecasting model uses data on the existing population, plus births, deaths and levels of net migrations to create population forecasts by age, gender and region.

Figure 3:
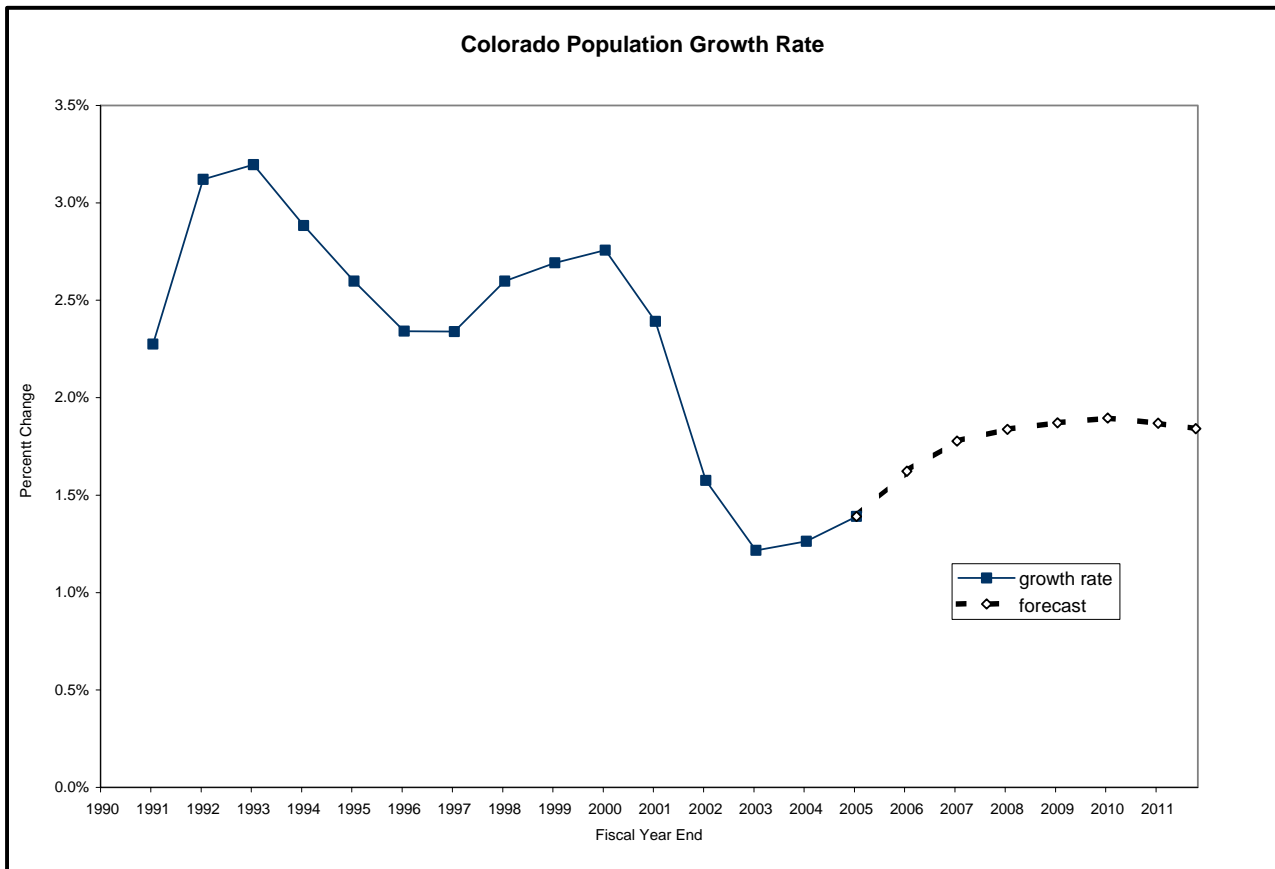
Source: Colorado State Demographer's Office, Department of Labor and Employment.

Figure 3 shows variation in the actual growth rate of the statewide population and the growth rate projected by the Colorado Demographer's Office. As can be seen, the rate of growth increased from 2.27 percent to 3.20 percent between fiscal years (FY) 1991 and 1993, but then the growth rate declined for several years until it began to rise more slowly at the end of the decade. In FY 2001, the growth rate began a decline from about 2.76 percent to 1.22 percent in FY 2003. Though an increase has occurred in the past two years, the Demographer's Office projects significantly slower growth through FY 2012 compared to the growth seen in the 1990's.

By incorporating the Department of Local Affair's population forecasts, the DCJ prison projections include the numerous economic and demographic trends associated with those forecasts. Any weakness associated with the DOLA model will also be reflected in the DCJ prison projection model.

Projecting Populations at System Decision Points
A key component of projecting the prison population is estimating the number of individuals who will receive direct sentences to DOC. The calculation of direct court commitments requires projections of arrests for serious offenses, new felony convictions, and felony probation placements. These aspects of the DCJ projection model are described below.

Projecting Arrest Rates
Arrest data were obtained from the Colorado Criminal Information Center (CCIC) maintained by the Colorado Bureau of Investigation.[2] A basic assumption of the prison population projection model is that certain age groups are more crime-prone than others. A regression analysis was used to define the age group most responsible for felony arrests which are likely to lead to a period of probation supervision or a prison term if the individual is arrested and convicted. This correlation between the population growth of an identified age group and serious offenses was used to project future arrests.

Overall, arrests and arrest rates have declined significantly in the past decade. It is expected that this reduction will eventually have an impact on future prison admissions.

Projecting Case Filings and New Convictions
Information regarding the number of cases filed in district courts each year was obtained from the Colorado Judicial Department's annual statistical reports.[3] As shown in Figure 4, filings increased greatly through 1998, then declined for two years. In 2001, moderate growth was seen which continued through FY 2004.

For the purpose of the forecast model, new felony convictions were defined as the total number of individuals (not cases) who were found guilty by the courts and who were not already under probation or parole supervision at the time of the new conviction. Felony conviction rates were estimated using the number of direct court commitments to prison[4] and the number of felony probation placements.[5]

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[2] Data obtained from the Colorado Crime Information Center and the Colorado Integrated Criminal Justice Information System.
[3] Colorado Judicial Branch Annual Statistical Reports, 1993 through 2004.
[4] Rosten, Kristi. Statistical Report, Fiscal Years 1997-2003, Department of Corrections.
[5] Colorado Judicial Branch Annual Statistical Reports, 1993 through 2004.

Figure 4:
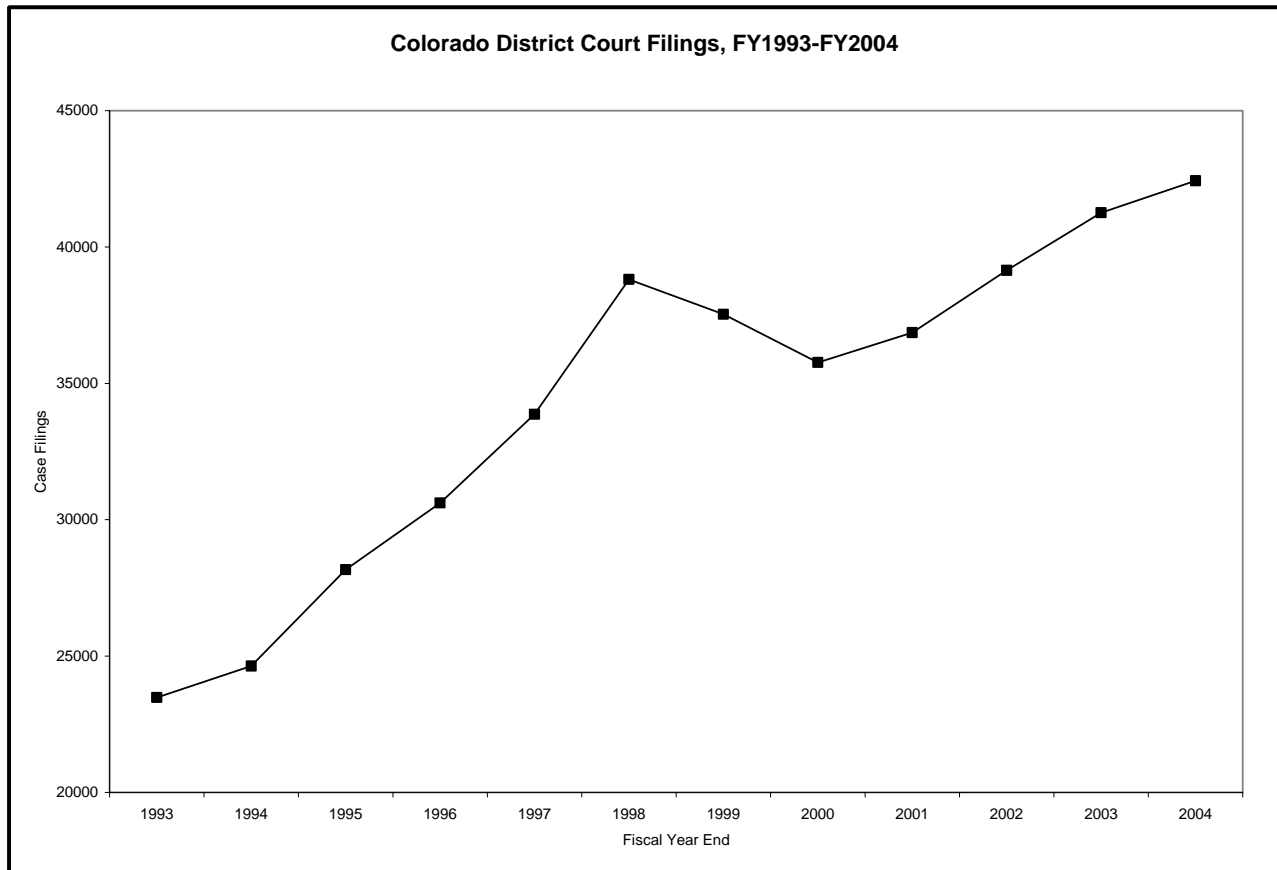
Source: Colorado Judicial Branch Annual Statistical Reports, 1993 through 2004.

Projecting Probation Revocations

This model assumes that direct court commitments are driven by the size of the statewide population and accompanying sentencing legislation and policies, while probation and parole revocations are driven by jurisdictional policy decisions and practices. The total failure rate is one of the assumptions of the projection model.

Failure rate information was estimated using historical annual probation placements and revocations. The resulting failure rate was used to forecast the number of offenders placed on community supervision who may be revoked to prison after a certain amount of time in the community. Individuals revoked from a direct sentence to community corrections were included.[6]

Projecting Parole Revocations

The method used to project parole revocations was the same as that used to project probation revocations. Parole releases are a function of the parole-eligible population in combination with decisions of Parole Board members. Information about the population released to and revoked from parole was incorporated into the model.[7] Offenders revoked from transitional community corrections placements were also included in this part of the model.

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[6] Data from Community Corrections Client Termination Data, provided by the Division of Criminal Justice, Office of Community Corrections.
[7] Data from Department of Corrections, Office of Planning and Analysis, October 22, 2004.

Projecting Total Admissions

Total admissions are projected by combining the projection estimates of direct prison sentences from court, probation revocations to prison, and parole revocations.

PROJECTING RELEASES

Information regarding the number of prisoners remaining from and released during the previous year was obtained from the Department of Corrections, including the number of prisoners incarcerated, crime types, the amount of time served, and the amount of time remaining on their sentence.[8] This information was used to develop survival functions by offense category to apply to the population remaining in prison, also known as the 'stock population,' to estimate when individuals are expected to cycle out of prison. These estimates include the proportion of inmates released to mandatory parole, discretionary parole, and sentence discharges.

PROJECTING PRISON POPULATIONS

In sum, the DCJ forecasting model uses data obtained from multiple decision points in the criminal justice system to project the prison population through 2010. It forecasts admissions into the system and releases out of the system to estimate the numbers presented in this report. This new approach has the capacity to simulate the impact of potential law and policy changes targeting the decision points described earlier.

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[8] Data from Department of Corrections, Office of Planning and Analysis, October 22, 2004.

ASSUMPTIONS AFFECTING THE ACCURACY OF THE DCJ PRISON POPULATION PROJECTIONS

The prison population projection figures are based on several assumptions outlined below.

❑ The Colorado General Assembly will not pass any new legislation that impacts the length of time offenders are sentenced to DOC facilities.

❑ The Colorado General Assembly will not pass any new legislation that impacts the way crimes are defined for offenders sentenced to DOC facilities.

❑ Increased capacity of DOC beds will not reduce the number of offenders placed in community supervision programs.

❑ The General Assembly will not expand community supervision programs in ways that reduce prison commitments.

❑ The data provided by the Department of Corrections accurately describe the number, characteristics, and trends of offenders committed to, released from, and retained in DOC facilities during state fiscal years 1996 through 2004.

❑ Decision makers in the adult criminal justice system will not change the way they use their discretion, except in explicitly stated ways that are accounted for in the model.

❑ The data provided by the Colorado Department of Local Affairs Demographer's Office accurately describes the historical and projected trends for age and gender of Colorado's citizens between the years 1990 and 2010.

❑ Arrest data obtained from Uniform Crime Reports (UCR) are accurate.

❑ Probation placements and revocations are accurately reported in annual reports provided by the Judicial Department.

❑ No catastrophic event such as war or disease will occur during the projection period.

HISTORICAL OVERVIEW

Prisoners in Colorado are subject to many sentencing laws dating back to 1979. Most of these laws affected the size of the prison population, particularly House Bill 1320 passed in 1985. Changes to parole laws in the 1990s have significantly affected the size of the parole population and the associated number of individuals subject to revocation decisions. These laws are outlined below.[9]

❑ In 1979, H.B. 1589 changed sentences from indeterminate to determinate terms and made parole mandatory at one-half (the mid-point) the sentence served.

❑ In 1981, H.B. 1156 required that the courts sentence offenders above the maximum of the presumptive range for "crimes of violence" as well as those crimes committed with aggravating circumstances.

❑ In 1985, H.B. 1320 doubled the maximum penalties of the presumptive ranges for all felony classes and mandated that parole be granted at the discretion of the Parole Board. (As a result of this legislation, the average length of stay projected for new commitments nearly tripled from 20 months in 1980 to 57 months in 1989 and the inmate population more than doubled between 1985 and 1990.)

❑ In 1988, S.B. 148 changed the previous requirement of the courts to sentence above the maximum of the presumptive range to sentencing at least the mid-point of the presumptive range for "crimes of violence" and crimes associated with aggravating circumstances. (An analysis of the DCJ Criminal Justice Database indicated that judges continued to sentence well above the mid-point of the range for these crimes).

❑ In 1989 several class five felonies were lowered to a newly created felony class six with a presumptive penalty range of one to two years.

❑ In 1990, H.B. 1327 doubled the maximum amount of earned time that an offender is allowed to earn while in prison from five to ten days per month. In addition, parolees were allowed "earned time" awards that reduced time spent on parole. This legislation also applied earned time to the sentence discharge date as well as the parole eligibility date. (The effect of this law was that it shortened the length of stay for those offenders who did not parole but rather discharged their sentences from prison).

❑ In 1990, S.B. 117 modified life sentences for first-degree felony convictions to "life without parole." The previous parole eligibility occurred after 40 calendar years were served. A court decision later clarified the effective date of the life without parole sentences to be September 20, 1991.

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[9] Portions of this section were excerpted from: Rosten, Kristi. Statistical Report, Fiscal Year 2002, Department of Corrections, pages 4-11.

❑ In 1993, H.B. 1302 reduced the presumptive ranges for certain felony class three through class six non-violent crimes. This legislation also added a split sentence, mandating a period of parole for all crimes following a prison sentence. This legislation also eliminated earned time awards while on parole. Sentencing for habitual offenders was also changed in 1993. House Bill 1302 revised the sentence for offenders who are convicted of a felony class 1, 2, 3, 4, or 5 and have been twice previously convicted of a felony to a term of three times the maximum of the presumptive range of the felony conviction. Habitual offenders who have been three times previously convicted of any felony will be sentenced to four times the maximum of the presumptive range of the felony conviction.

❑ In 1993, S.B. 9 established the Youthful Offender System (YOS) with 96 beds within the Department of Corrections. The legislation created a new adult sentencing provision for offenders between the ages of 14 and 18 years.

❑ In 1993, the Legislature appropriated a new 300-bed facility in Pueblo. Subsequently, an additional 180 beds were approved.

❑ In 1994, S.B. 196 created a new provision for offenders with a current conviction of any class one or two felony (or any class three felony that is defined as a crime of violence) and who were convicted of these same offenses twice earlier. This "three strikes" legislation requires these offenders be sentenced to a term of life imprisonment with parole eligibility in forty years.

❑ In 1994, the Legislature approved the construction of nearly 1,200 adult prison beds and 300 Youthful Offender System beds. Contract authority for 386 private pre-parole beds was authorized in addition to contracts or construction of minimum-security beds.

❑ In 1995, H.B. 1087 allowed "earned time" for certain non-violent offenders. This legislation was enacted in part as a response to the projected parole population growth as part of H.B. 93-1302. This act was retroactive and resulted in offenders discharging their parole sentences earlier with earned time credits.

❑ In 1996, H.B. 1005 broadened the criminal charges eligible for direct filings of juveniles as adults and possible sentencing to the Youthful Offender System.

❑ In 1996, the Legislature appropriated funding for 480 beds at the Trinidad Correctional Facility and the reconstruction and expansion of two existing facilities.

❑ House Bill 98-1160 applied to offenses occurring on or after July 1, 1998, mandating that every offender must complete a period of parole supervision after incarceration. A summary of the major provisions that apply to mandatory parole follows:

   o Offenders committing class 2, 3, 4 or 5 felonies or second or subsequent class 6 felonies, and who are revoked during the period of their mandatory parole, may serve a period up to the end of the mandatory parole period incarcerated. In such a case, one year of parole supervision must follow.

- o If revoked during the last six months of mandatory parole, intermediate sanctions including community corrections, home detention, community service or restitution programs are permitted, as is a re-incarceration period of up to twelve months.

- o If revoked during the one year of parole supervision, the offender may be re-incarcerated for a period not to exceed one year.

❑ House Bill 98-1156 concerns the lifetime supervision of certain sex offenders. A number of provisions in the bill address sentencing, parole terms, and conditions. Some of these provisions are summarized below:

- o For certain crimes (except those in the following two bullets), a sex offender shall receive an indeterminate term of at least the minimum of the presumptive range specified in 18-1-105, C.R.S. for the level of offense committed and a maximum of the sex offender's natural life.

- o For crimes of violence (defined in 16-11-309, C.R.S.), a sex offender shall receive an indeterminate term of at least the midpoint in the presumptive range for the level of offense committed and a maximum of the sex offender's natural life.

- o For sex offenders eligible for sentencing as a habitual sex offender against children (pursuant to 18-3-412, C.R.S.), the sex offender shall receive an indeterminate term of at least the upper limit of the presumptive range for the level of offense committed and a maximum of the sex offender's natural life.

- o The period of parole for any sex offender convicted of a class 4 felony shall be an indeterminate term of at least 10 years and a maximum of the remainder of the sex offender's natural life.

- o The period of parole for any sex offender convicted of a class 2 or 3 felony shall be an indeterminate term of at least 20 years and a maximum of the sex offender's natural life.

❑ Three bills specifically related to methamphetamine activity were passed during the 2003 legislative session. House Bills 03-1004 and 03-1169 are intended to protect children subjected to exposure to the manufacture of controlled substances by adding the charge of child abuse to existing drug charges. House Bill 03-1317 made it a crime to sell or distribute chemicals or supplies to individuals who wish to use them to manufacture a controlled substance.

❑ Senate Bill 03-252 allows the Parole Board to revoke an individual who was on parole for a nonviolent class 5 or class 6 felony, except in cases of menacing and unlawful sexual behavior, to a community corrections program or to a pre-parole release and revocation center for up to 180 days. This bill also allows CDOC to contract with community corrections programs for the placement of such parolees. Additionally, the bill limits the time a parolee can be revoked to the DOC to 180 days for a technical revocation, provided

that the parolee was serving parole for a nonviolent offense. Finally, this bill repeals parts of Section 17-22.5-403 (9), C.R.S., requiring an additional year of parole if a parolee is revoked to prison for the remainder of the parole period.

❑ Senate Bill 03-318 reduces from a felony 3, 4 and 5 to a class 6 felony for offenders convicted of drug possession crimes involving one gram or less. The legislation is set for review and revocation in 2005.

❑ A number of bills were adopted during the 2004 legislative session dealing with the parole process and the parole board. H.B. 1395 and S.B. 191 impact the operations of the parole board, but are unlikely to influence prison or parole populations. A third bill, H.B. 1189, lengthens the amount time that must be served prior to parole eligibility for certain violent offenders.

❑ H.B. 04-1074 requires the DOC to administer rehabilitation and life management skills programs in the Division of Adult Parole and the Youthful Offender System for inmates prior to and after release from prison.
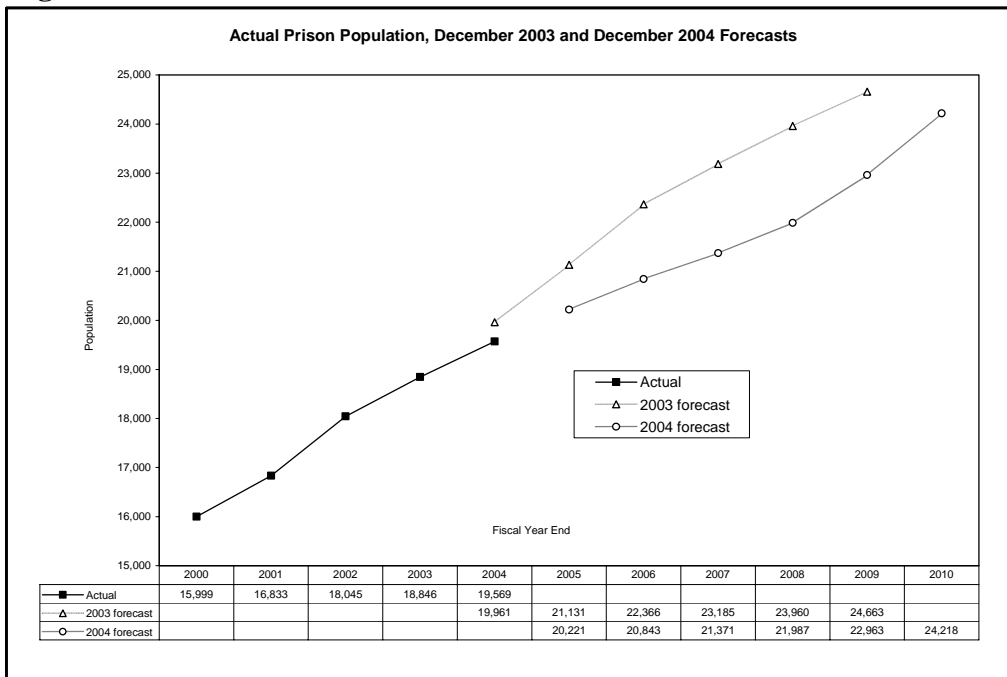
Forecasts: Adult Prison and Parole Populations

PRISON

The Colorado adult prison population is expected to grow 23.76 percent between July 2004 and June 2010, from an actual population of 19,569 to a projected population of 24,218 offenders. This growth rate is lower than the 30.86 percent 6-year growth forecast in the 2003 DCJ population projection.[10] The number of men in prison is expected to increase 20.33 percent between July 2004 and June 2010, from 17,814 to 21,437. This is considerably lower than the 30.06 percent projected last year. The number of women in prison is expected to increase an extraordinary 58.50 percent between July 2004 and June 2010, from 1,755 to 2,781. This growth is much higher than the 39.47 percent projected in 2003. While the overall prison population *growth rate* is expected to decline, and the factors leading to that conclusion impact the female population as well, the proportion of the total prison population represented by females is expected to continue to grow.

Figure 5 compares the historical fiscal year end adult inmate prison population, the 2003 DCJ projections and this year's projections. Figure 6 displays the same comparison for the male prison population only, as does Figure 7 for the female prison population.

Figure 5:

Actual Prison Population, December 2003 and December 2004 Forecasts

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Actual	15,999	16,833	18,045	18,846	19,569						
2003 forecast					19,961	21,131	22,366	23,185	23,960	24,663	
2004 forecast						20,221	20,843	21,371	21,987	22,963	24,218

Source: Historical data obtained from Colorado Department of Corrections Monthly Population and Capacity Reports.

Figure 6:

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[10] Division of Criminal Justice, Adult Prison and Parole Population Projections Juvenile Commitment and Parole Population Projections, December 2004.
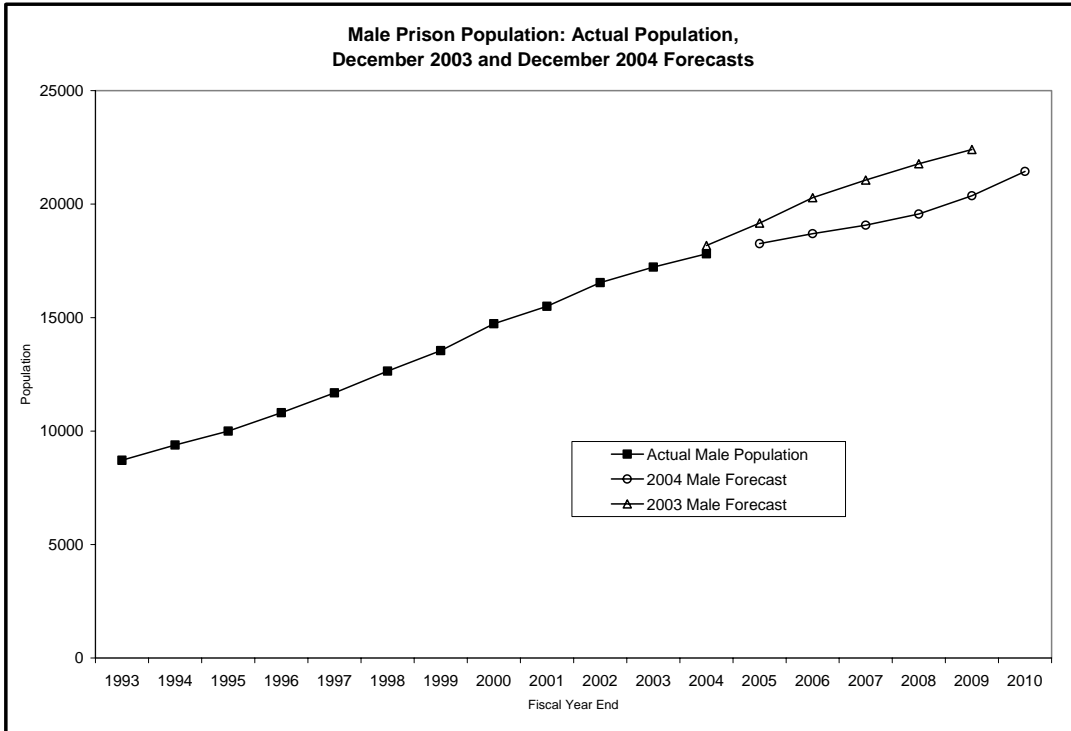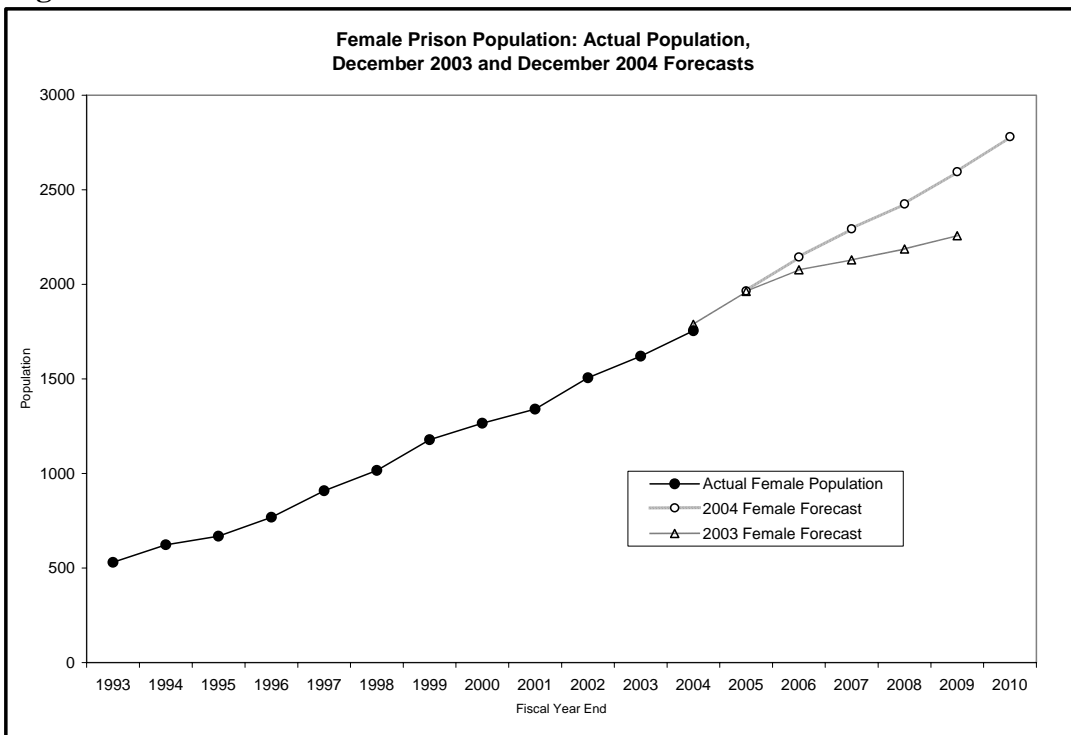
Source: Historical data obtained from Colorado Department of Corrections Monthly Population and Capacity Reports.

Figure 7:

Source: Historical data obtained from Colorado Department of Corrections Monthly Population and Capacity Reports.

The 2003 projection overestimated the actual July 2004 population by 392 inmates. This year's lower projection corrects this. The projected slower growth of the prison population is due to a series of interconnected events:

- After a period of decline between 1997 and 2002, growth in admissions jumped to 11.90 percent. However, admissions slightly declined between fiscal years 2002 and 2003 (.04 percent), followed by moderate growth during FY 2004 at 5.03 percent.[11]

- Releases are increasing at a faster rate than are admissions. Total releases increased 7.55 percent in FY 2004 from 6,977 to 7,504. Discretionary parole releases increased 10.56 percent and mandatory parole releases increased 14.75 percent during the same time period. Sentence discharges increased by 22.37 percent.[12]

- New court commitments declined a total of 4.22 percent during FY 1999 and FY 2000, but increased dramatically during the following two years, by 19.70 percent. However, new court commitments increased by 4.04 percent in FY 2003, and by only 1.14 percent in FY 2004.[13]

- Colorado's prison population grew at an average rate of 7.47 percent between 1997 and 2002. However, this growth has slowed in the past two years, to 4.44 percent between FY 2002 and FY 2003 and 3.84 percent between FY 2003 and FY 2004.[14]

- The prison population growth rate is expected to continue to slow, averaging 3.65 percent per year between FY 2004 and FY 2010. Recent data from the Department of Corrections indicate that the prison population grew only 2.05 percent between June 30 and October 20, 2004, from 19,569 to 19,971.[15]

- The average estimated length of stay in prison has continued to decrease. The estimate for offenders sentenced in FY 2004 is 35.3 months. The estimate for offenders sentenced in FY 2003 was 41.2 months, and the estimate for the prior year was 43.2 months.[16] The following section discusses this finding in more detail.

- The Colorado population growth rate is predicted to remain well below the growth observed throughout the 1990's.

While the increases in the new court commitments and parole returns with a new crime have varied in the past, most of the variation in total admissions is due to fluctuations in the number of parole technical violation returns. The number of parolees returned on a technical violation increased 15.16

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[11] Admission and Release Trends Statistical Bulletins for Fiscal Years 1999-2004, Department of Corrections.
[12] Admission and Release Trends Statistical Bulletins for Fiscal Years 1999-2004, Department of Corrections.
[13] Admission and Release Trends Statistical Bulletins for Fiscal Years 1999-2004, Department of Corrections.
[14] Historical data obtained from Colorado Department of Corrections Monthly Population and Capacity Reports.
[15] Colorado Department of Corrections Adult Inmate Jurisdictional Population, as documented November 3, 2004, for the Office of Planning and Analysis, November 10, 2004.
[16] These numbers reflect an analytical cap of 480 months on length of stay.

percent in FY 2004.[17] In FY 2003, there was a 9.60 percent decline on such returns, while in FY 2002 a 12.50 percent increase was recorded by DOC.[18]

Table 1 displays the historical total and gender-specific growth in the prison population by fiscal year for 1993 through June 2004, and the fiscal year end population forecasts through June 2010.

Table 1: Fall 2004 Adult Prison Population Projections by Gender

Fiscal Year End (FYE)	Total Prison	Male Population	Female Population
1993*	9,242	8,712	530
1994*	10,005	9,382	623
1995*	10,669	10,000	669
1996*	11,577	10,808	769
1997*	12,590	11,681	909
1998*	13,663	12,647	1,016
1999*	14,726	13,547	1,179
2000*	15,999	14,733	1,266
2001*	16,833	15,493	1,340
2002*	18,045	16,539	1,506
2003*	18,846	17,226	1,620
2004*	19,569	17,814	1,755
2005	20,221	18,255	1,966
2006	20,843	18,699	2,144
2007	21,371	19,077	2,294
2008	21,987	19,562	2,425
2009	22,963	20,367	2,596
2010	24,218	21,437	2,781

* Historical Data.
 Note: All projections are rounded to the next whole number.

AVERAGE ESTIMATED LENGTH OF STAY

The average estimated lengths of stay for new commitments, parole violators, males, females and totals by offense category are displayed in Tables 2 through 6. The average time new commitments are expected to actually serve in prison is calculated using information regarding release during the prior year. Any changes in the decision-making process of criminal justice professionals will impact the accuracy of these estimates.

The overall estimated stay of 35.3 months for new commitments in FY 2004 is approximately six months shorter than that estimated for the prior year's admissions. This estimate has consistently declined for the past three years. Note that these numbers are a reflection of time actually served and do not reflect actual sentencing patterns. Additionally, for the purposes of calculating these estimates, the length of stay is capped at 40 years.

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[17] Data provided by the Department of Corrections, 10/16/2004.
[18] Rosten, Kristi. Statistical Reports, Fiscal Years 2002 and 2003, Department of Corrections.

Table 2: Estimated Length of Stay for Male FY 2004 New Commitments

Offense Category	Average Length of Stay (Months)*	Number of Commitments	Percent of all Commitments	Average Length of Stay Effect (Months)
F1	480.00	20	0.36%	1.70
F2 Ext**	233.59	66	1.17%	2.74
F2 Sex***	374.13	5	0.09%	0.33
F2 Drug***	113.82	18	0.32%	0.36
F2 Other****	91.01	5	0.09%	0.08
F3 Ext	101.06	167	2.96%	3.00
F3 Sex	108.55	86	1.53%	1.66
F3 Drug	42.61	296	5.25%	2.24
F3 Other	51.77	123	2.18%	1.13
F4 Ext	47.35	318	5.65%	2.67
F4 Sex	59.18	148	2.63%	1.55
F4 Drug	23.01	584	10.37%	2.39
F4 Other	31.20	820	14.56%	4.54
F5 Ext	14.45	176	3.12%	0.45
F5 Sex	28.87	122	2.17%	0.63
F5 Drug	14.92	181	3.21%	0.48
F5 Other	18.16	806	14.31%	2.60
F6 Ext	11.76	28	0.50%	0.06
F6 Sex	8.86	29	0.51%	0.05
F6 Drug	8.31	67	1.19%	0.10
F6 Other	10.37	418	7.42%	0.77
Total Male New Court Commitments	**37.10**	**4,483**	**79.58%**	**29.52**

*For the purposes of calculating these estimates, length of stay is capped at 40 years.

**The "EXT" category refers to violent offenses defined by statute as "extraordinary risk of harm offenses."

***Convicted sexual offenders typically serve more time, and drug offenders typically serve less time, though some crimes in each of these groups are considered extraordinary risk crimes. Therefore, these two groups are identified separately.

****"Other" includes all crimes except sex, drug, and extraordinary crimes. Examples include theft, burglary, motor vehicle theft, forgery, and fraud.

Table 3: Estimated Length of Stay for Male Parole Violators with a New Crime Returning in FY 2004

Offense Category	Average Length of Stay (Months)*	Number of Commitments	Percent of all Commitments	Average Length of Stay Effect (Months)
F1	-	0	0.00%	0.00
F2 Ext**	480.00	1	0.02%	0.09
F2 Sex***	-	0	0.00%	0.00
F2 Drug***	68.83	1	0.02%	0.01
F2 Other****	-	0	0.00%	0.00
F3 Ext	114.27	8	0.14%	0.16
F3 Sex	-	0	0.00%	0.00
F3 Drug	137.10	12	0.21%	0.29
F3 Other	94.41	10	0.18%	0.17
F4 Ext	50.81	18	0.32%	0.16
F4 Sex	18.00	1	0.02%	0.00
F4 Drug	40.36	37	0.66%	0.27
F4 Other	36.37	47	0.83%	0.30
F5 Ext	12.47	75	1.33%	0.17
F5 Sex	22.43	3	0.05%	0.01
F5 Drug	27.80	28	0.50%	0.14
F5 Other	26.26	54	0.96%	0.25
F6 Ext	9.83	1	0.02%	0.00
F6 Sex	12.25	2	0.04%	0.00
F6 Drug	11.45	42	0.75%	0.09
F6 Other	13.79	72	1.28%	0.18
Total Male Parole Violations with a New Crime	**31.30**	**412**	**7.31%**	**2.29**

*For the purposes of calculating these estimates, length of stay is capped at 40 years.

**The "EXT" category refers to violent offenses defined by statute as "extraordinary risk of harm offenses."

***Convicted sexual offenders typically serve more time, and drug offenders typically serve less time, though some crimes in each of these groups are considered extraordinary risk crimes. Therefore, these two groups are identified separately.

****"Other" includes all crimes except sex, drug, and extraordinary crimes. Examples include theft, burglary, motor vehicle theft, forgery, and fraud.

Table 4: Estimated Length of Stay for Female FY 2004 New Commitments

Offense Category	Average Length of Stay (Months)*	Number of Commitments	Percent of all Commitments	Average Length of Stay Effect (Months)
F1	480.00	1	0.02%	0.09
F2 Ext**	207.48	6	0.11%	0.22
F2 Sex***	-	0	0.00%	0.00
F2 Drug***	52.00	2	0.04%	0.02
F2 Other****	149.20	1	0.02%	0.03
F3 Ext	82.24	18	0.32%	0.26
F3 Sex	93.43	3	0.05%	0.05
F3 Drug	34.25	67	1.19%	0.41
F3 Other	31.29	24	0.43%	0.13
F4 Ext	38.35	30	0.53%	0.20
F4 Sex	19.97	1	0.02%	0.00
F4 Drug	19.20	126	2.24%	0.43
F4 Other	27.04	168	2.98%	0.81
F5 Ext	10.91	21	0.37%	0.04
F5 Sex	36.42	3	0.05%	0.02
F5 Drug	10.87	38	0.67%	0.07
F5 Other	19.55	104	1.85%	0.36
F6 Ext	10.12	2	0.04%	0.00
F6 Sex	9.00	2	0.04%	0.00
F6 Drug	7.88	27	0.48%	0.04
F6 Other	9.25	34	0.60%	0.06
Total Female New Court Commitments	**26.94**	**678**	**12.04%**	**3.24**

*For the purposes of calculating these estimates, length of stay is capped at 40 years.

**The "EXT" category refers to violent offenses defined by statute as "extraordinary risk of harm offenses."

***Convicted sexual offenders typically serve more time, and drug offenders typically serve less time, though some crimes in each of these groups are considered extraordinary risk crimes. Therefore, these two groups are identified separately.

****"Other" includes all crimes except sex, drug, and extraordinary crimes. Examples include theft, burglary, motor vehicle theft, forgery, and fraud.

Table 5: Estimated Length of Stay for Female Parole Violators with a New Crime Returning in FY 2004

Offense Category	Average Length of Stay (Months)*	Number of Commitments	Percent of all Commitments	Average Length of Stay Effect (Months)
F1	-	0	0.00%	0.00
F2 Ext**	-	0	0.00%	0.00
F2 Sex***	-	0	0.00%	0.00
F2 Drug***	-	0	0.00%	0.00
F2 Other****	-	0	0.00%	0.00
F3 Ext	42.20	1	0.02%	0.01
F3 Sex	-	0	0.00%	0.00
F3 Drug	-	0	0.00%	0.00
F3 Other	153.60	1	0.02%	0.03
F4 Ext	12.37	1	0.02%	0.00
F4 Sex	-	0	0.00%	0.00
F4 Drug	30.93	5	0.09%	0.03
F4 Other	17.56	9	0.16%	0.03
F5 Ext	9.68	11	0.20%	0.02
F5 Sex	-	0	0.00%	0.00
F5 Drug	18.15	4	0.07%	0.01
F5 Other	18.74	19	0.34%	0.06
F6 Ext	14.97	1	0.02%	0.00
F6 Sex	-	0	0.00%	0.00
F6 Drug	14.32	6	0.11%	0.02
F6 Other	10.03	2	0.04%	0.00
Total Female Parole Violations with a New Crime	**19.62**	**60**	**1.07%**	**0.21**

*For the purposes of calculating these estimates, length of stay is capped at 40 years.

**The "EXT" category refers to violent offenses defined by statute as "extraordinary risk of harm offenses."

***Convicted sexual offenders typically serve more time, and drug offenders typically serve less time, though some crimes in each of these groups are considered extraordinary risk crimes. Therefore, these two groups are identified separately.

****"Other" includes all crimes except sex, drug, and extraordinary crimes. Examples include theft, burglary, motor vehicle theft, forgery, and fraud.

Table 6: Category Totals, Average Estimated Length of Stay

	Average Length of Stay (Months)*	Number of Commitments	Percent of all Commitments	Average Length of Stay Effect (Months)
Total Males	36.61	4,895	86.90%	31.81
Total Females	26.34	738	13.10%	3.45
Total New Commits	35.76	5,161	91.62%	32.76
Total Parole Violations (New Crime)	29.81	472	8.38%	2.50
Grand Total	**35.26**	**5,633**	**100.00%**	**35.26**

*For the purposes of calculating these estimates, length of stay is capped at 40 years.

DCJ is projecting a significantly reduced length of stay for incoming prisoners during FY 2004. This reduction is the result of several factors, the most important of which is the increasingly reduced sentence length of incoming prisoners (see Figure 8). Further analyses of the data presented in Figure 8 shows average sentence lengths declining for cases where the governing sentence involved the commission of a felony class 2, 4, 5 and 6; sentence lengths for class 3 felonies have remained relatively stable over the past ten years.[19]

Figure 8:
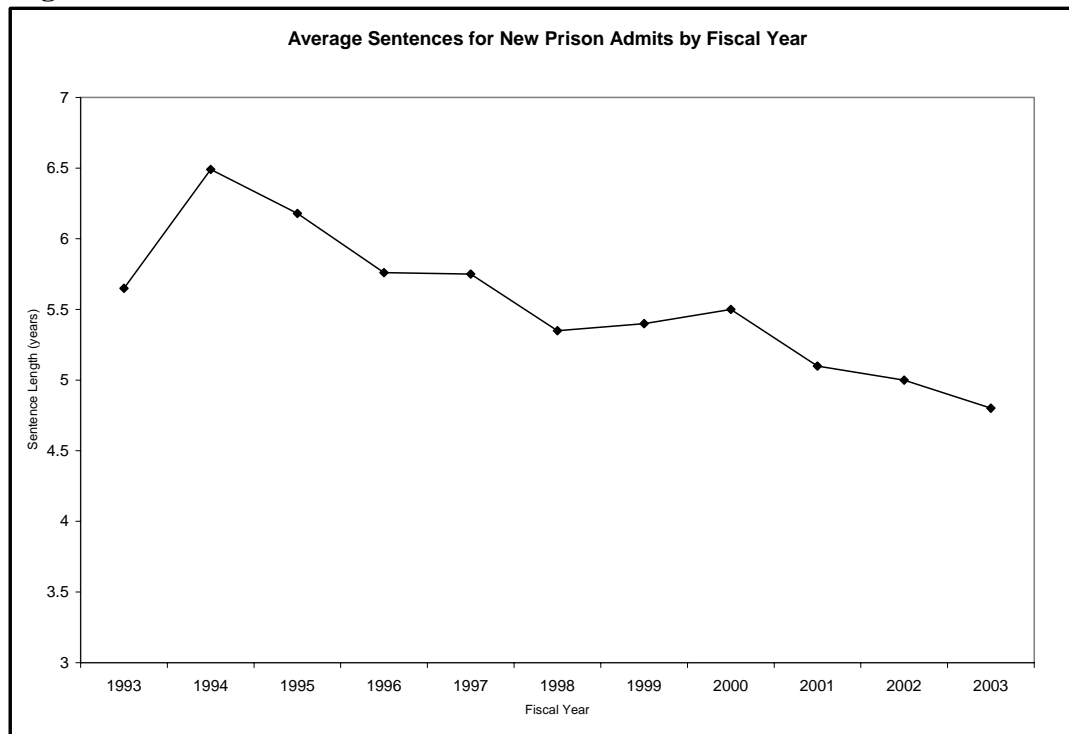
Source: Annual Statistical Reports, FY1998-FY2003, Colorado Department of Corrections.

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[19] Rosten, Kristin. Statistical Reports, FY1998-FY2003, Colorado Department of Corrections.

PAROLE

The estimated average length of stay (ALOS) on parole declined in FY 2004, for the first time in 13 years. Between 1991 and 2003, parole ALOS steadily increased. In the five years prior to 2003, the ALOS went from 13.4 months in FY 1999 to 15.8 months in FY 2003.[20] However, in FY 2004 the average parole period declined slightly to 15.2 months (see Figure 9). Many legislative changes enacted in the past 20 years contributed to the increase in the average parole length of stay, but in 2003 S.B. 252 repealed the requirement of an additional year of parole when a parolee was revoked to prison. It is likely that this reflects the early impact of this piece of legislation and it is expected to continue to contribute to a decline in length of stay on parole.

Figure 9:

Colorado Estimated Parole Length of Stay (Terminations FY1999-FY2004)
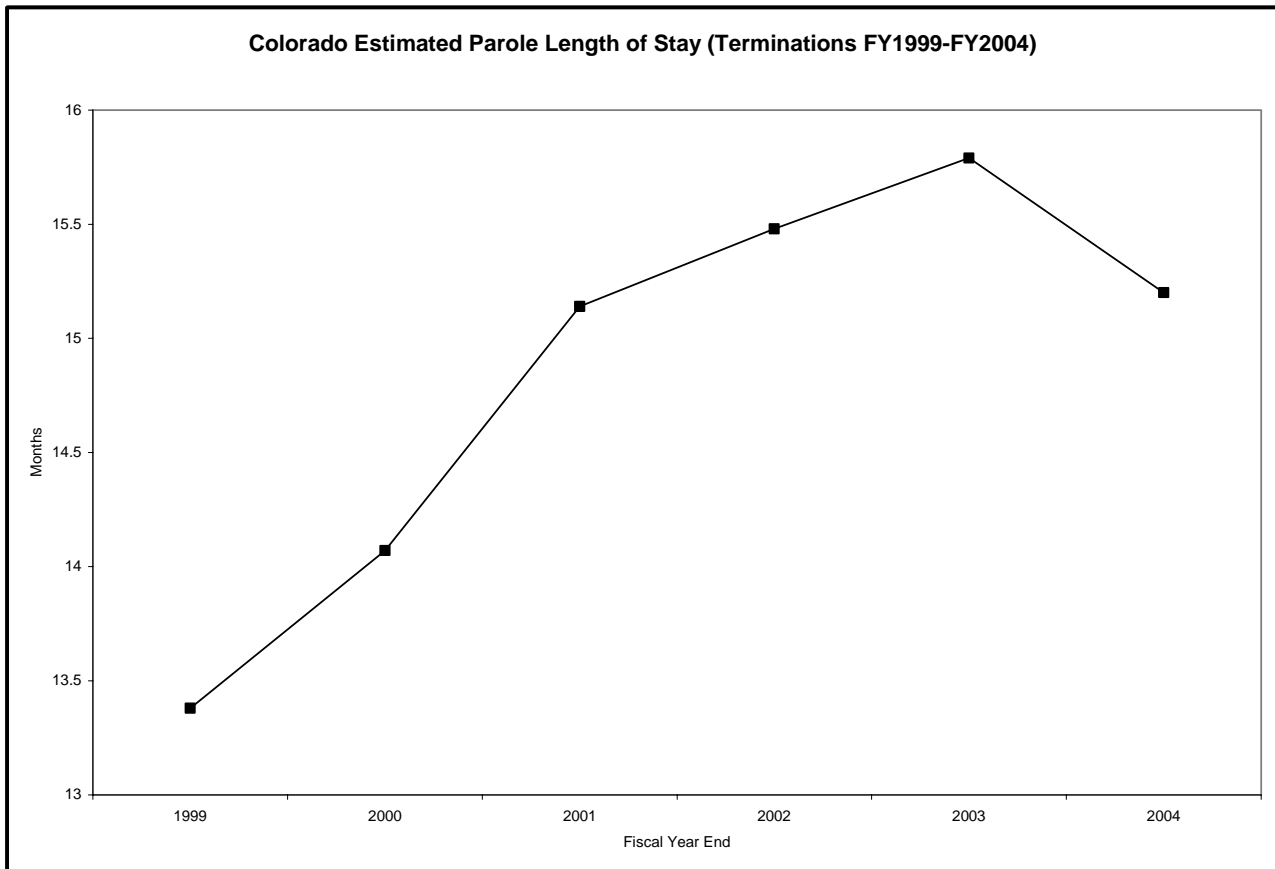
Source: Department of Corrections Office of Planning and Analysis, October 22, 2004.

Table 7 displays the projected domestic parole caseloads at the end of fiscal years 2005 thru 2010. As shown, the total number of offenders on parole is expected to increase 21.40 percent, from 5,244 in July 2004 to 6,366 in July 2010. This increase is significantly lower than the 33.40 percent increase in the domestic parole population estimated last year by DCJ. This decrease reflects the DCJ forecast of the impact of S.B. 03-252, the slowing growth of the prison population, and the decline in the estimated parole length of stay.

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[20] Office of Planning and Analysis, October 29, 2003, Colorado Department of Corrections.

Table 7: Domestic Parole Forecast*

Fiscal Year End (FYE)	Caseload
1997**	2,695
1998**	3,219
1999**	3,722
2000**	3,685
2001**	4,192
2002**	4,037
2003**	4,858
2004**	5,244
2005	5,577
2006	5,678
2007	5,742
2008	6,026
2009	6,062
2010	6,366

*Parolees who are supervised out of state or who have absconded are excluded from this projection.
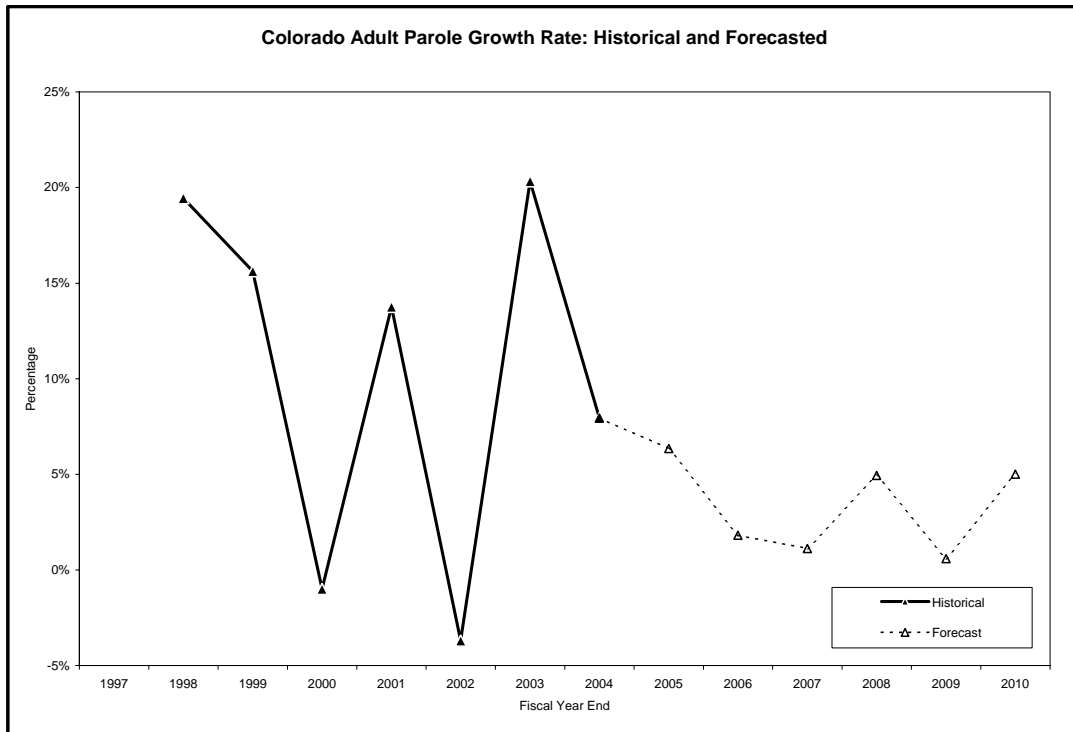** Historical Data.

Figure 10 displays the historical and projected parole caseloads for fiscal years 1997 through 2010, while Figure 11 exhibits the historical and projected annual growth rate in the adult domestic parole caseload. The historical growth rate has significantly varied. A decline of 3.70 percent was observed in FY 2002, followed by an increase of 20.34 percent the following year. The most recent fiscal year saw an increase of 7.95 percent. DCJ is projecting a slower growth rate between 2005 and 2010.

Figure 10:
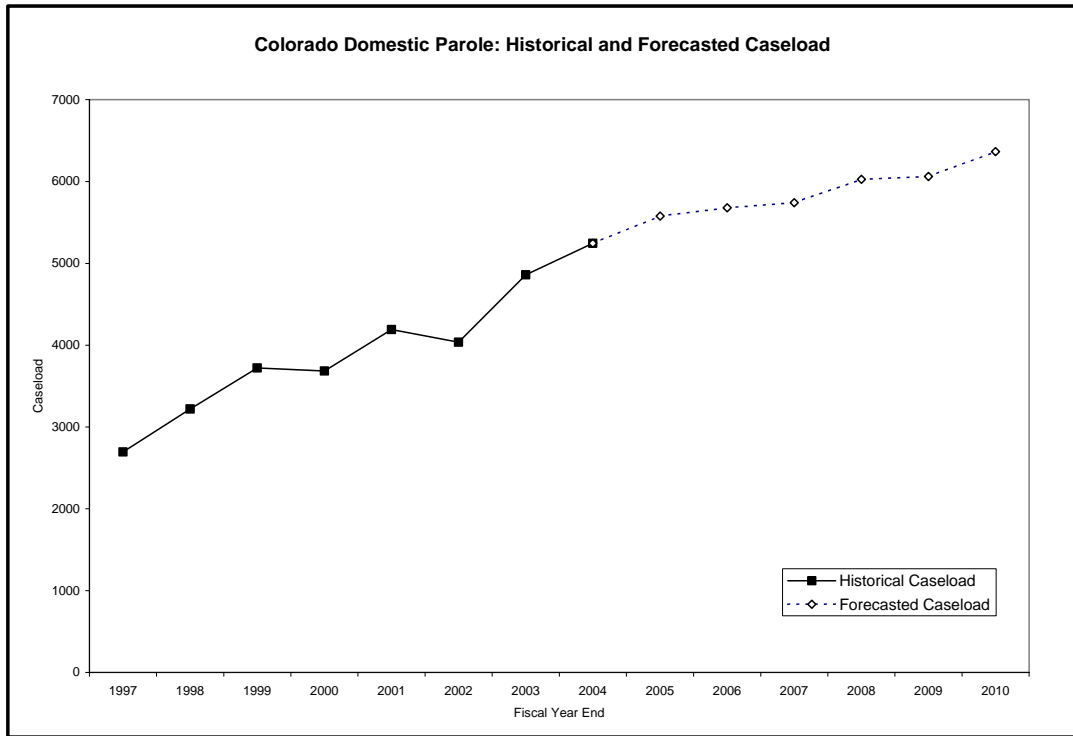
Source: Historical data obtained from Colorado Department of Corrections Monthly Population and Capacity Reports.

Figure 11:

Source: Historical data obtained from Colorado Department of Corrections Monthly Population and Capacity Reports.

DCJ ADULT PRISON FORECAST ACCURACY

Last year, the DCJ projections were in error by 2.00 percent. In the last ten years, the error has averaged 1.80 percent. Legislation and other policy changes, including changes in discretion exercised by decision makers, often impact accuracy rates after the first year. Table 8 below shows a comparison of projected to actual populations over the last 20 years.

Table 8: Colorado Adult Prison Populations, Forecast Compared to Actual, 1984 to 2004

Fiscal Year End (FYE)	Projected Population	Actual Population	Percent Difference
1984	3,445	3,587	-4.0
1985	3,488	3,410	+2.3
1986	3,446	3,517	-2.0
1987	4,603	4,702	-2.1
1988	5,830	5,766	+1.1
1989	6,471	6,763	-4.3
1990	7,789	7,663	+1.6
1991	8,572	8,043	+6.6
1992	8,745	8,774	-0.3
1993	9,382	9,242	+1.5
1994	9,930	10,005	-0.7
1995	11,003	10,669	+3.1
1996	11,171	11,577	-3.5
1997	12,610	12,590	+0.2
1998	13,803	13,663	+1.0
1999	14,746	14,726	+0.1
2000	15,875	15,999	-0.8
2001	16,833	17,222	+2.3
2002	17,569	18,045	-2.6
2003	19,295	18,846	+2.4
2004	19,961	19,569	+2.0

Juvenile Commitment Population and Parole Caseload Forecasts

This section summarizes the juvenile commitment and parole forecasts. Juvenile commitment yearly (YTD) average daily population (ADP) is expected to grow between 3.85 and 4.92 percent annually between July 2005 and June 2011. Monthly ADP is expected to grow between 2.71 and 5.07 percent annually during the same time period. Table 9 summarizes this forecast.

Table 9: Juvenile Commitment Average Daily Population (ADP) Forecast, FYE 2005-FYE 2011

Fiscal Year (FY)	Year to Date (YTD) Average Daily Population (ADP) Forecast	Percent Growth	Fiscal Year End (FYE) Monthly Average Daily Population (ADP) Forecast	Percent Growth
2005	1,446.16	-	1,480.99	-
2006	1,517.35	4.92%	1,556.32	5.09%
2007	1,584.10	4.40%	1,606.55	3.23%
2008	1,653.25	4.37%	1,688.06	5.07%
2009	1,724.29	4.30%	1,764.23	4.51%
2010	1,790.75	3.85%	1,812.02	2.71%
2011	1,859.94	3.86%	1,895.12	4.59%

Juvenile parole yearly average daily caseload (ADC) is expected to grow rapidly by 21.23 percent through fiscal year 2006, then continue to grow at a much slower rate through fiscal year 2011. Fiscal year end (FYE) monthly ADC is expected to follow the same trend through the end of fiscal year 2011. The impact of historical fluctuations on this forecast are described in a later section of this report. Table 10 summarizes this forecast.

Table 10: Juvenile Parole Average Daily Caseload (ADC) Forecast, FYE 2005-FYE 2011

Fiscal Year (FY)	Year to Date (YTD) Average Daily Caseload (ADC) Forecast	Percent Growth	Fiscal Year End (FYE) Monthly Average Daily Caseload (ADC) Forecast	Percent Growth
2005	518.21	-	584.18	-
2006	628.22	21.23%	660.29	13.03%
2007	690.26	9.88%	713.78	8.10%
2008	738.26	6.95%	758.24	6.23%
2009	780.36	5.70%	798.85	5.36%
2010	819.97	5.08%	837.82	4.88%
2011	858.51	4.70%	876.09	4.57%

JUVENILE COMMITMENT FORECASTING METHODOLOGY AND MODEL ASSESSMENT

Commitment average daily population (ADP) monthly forecasts were performed using a Holt-Winters seasonal model.[21] This model accounts for seasonal variation that occurs in a time series that is somewhat stable in its growth but exhibits upturns and downturns on a periodic basis. Figure 12 shows that commitment ADP has grown steadily over the past decade with some fluctuations that could be seasonally related.

Figure 12:
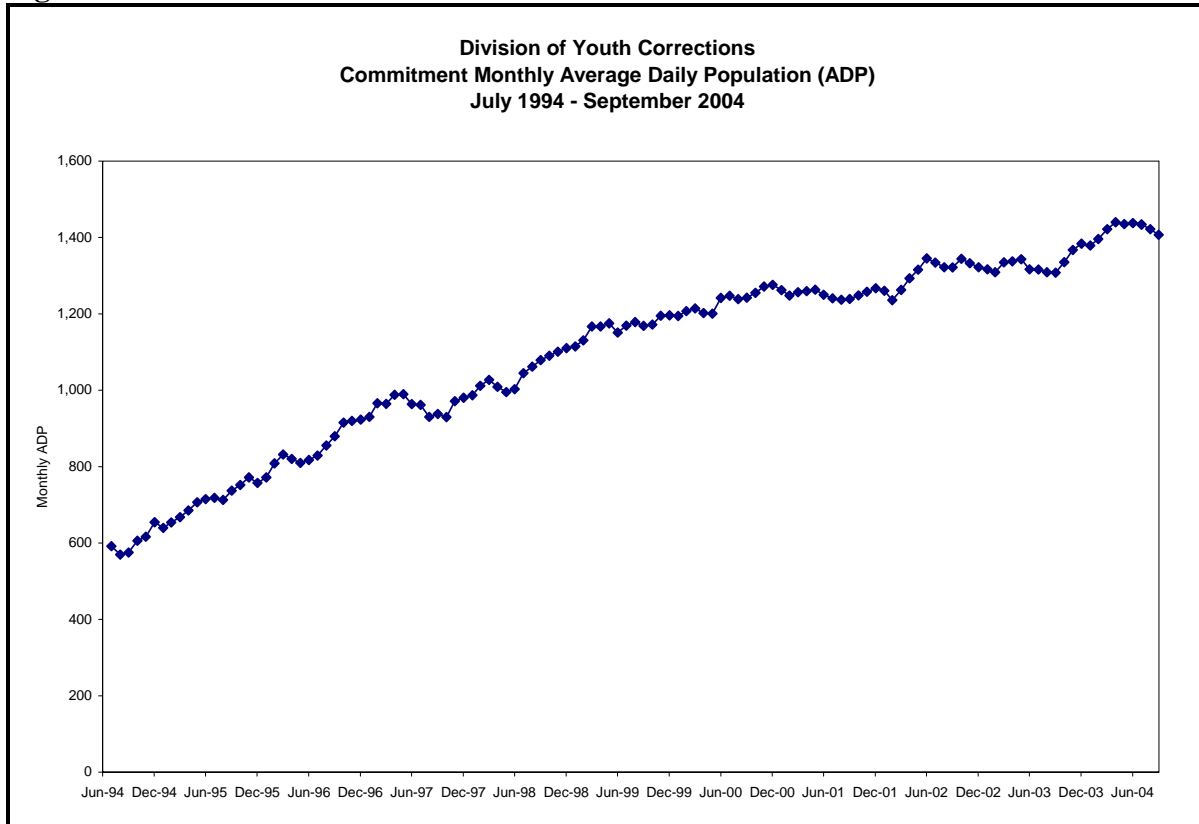
Source: Division of Youth Corrections (DYC) Monthly Average Daily Population (ADP) Reports.

To assess the performance of the Holt-Winters seasonal model, the model was applied to historical monthly ADP from July 1994 to June 2000, and the results compared to actual fiscal year end ADP. This test procedure was done for subsequent years through fiscal year 2003. Table 11 shows these test forecasts, historical ADP, the total difference between these two, and percent difference. As can be seen, the model performed within 3.00 percent of the historical fiscal year end (FYE) ADP in all FYE forecasts from 2000 to 2003, which is a reasonable margin of error for forecasting purposes. For instance, the 2000 test forecast was 1.80 percent greater than actual at FYE 2001, 1.30 percent less than actual in at FYE 2002, 2.24 percent greater than actual at FYE 2003, and 0.60 percent less than actual at FYE 2004.

Table 11: Performance Assessment of Holt-Winters Model using Historical Data

[21] Box, G.E.P. and Jenkins, G.M. (1976), Time Series Analysis: Forecasting and Control, Revised Edition, San Francisco: Holden-Day.

	Fiscal Year End (FYE)			
	2001	**2002**	**2003**	**2004**
Actual	1250.08	1345.30	1316.80	1437.50
FYE 2000 Forecast	1272.53	1327.75	1346.66	1428.82
Actual - Forecast	-22.45	17.55	-29.86	8.68
Percent Difference	-1.80%	1.30%	-2.27%	0.60%
FYE 2001 Forecast	-	1339.25	1355.98	1432.72
Actual - Forecast	-	6.05	-39.18	4.78
Percent Difference	-	0.45%	-2.98%	0.33%
FYE 2002 Forecast	-	-	1331.32	1445.83
Actual - Forecast	-	-	-14.52	-8.33
Percent Difference	-	-	-1.10%	-0.58%
FYE 2003 Forecast	-	-	-	1429.66
Actual - Forecast	-	-	-	7.84
Percent Difference	-	-	-	0.55%

JUVENILE COMMITMENT AVERAGE DAILY POPULATION FORECAST

Juvenile commitment yearly (YTD) average daily population (ADP) is expected to grow between 3.85 and 4.92 percent annually between FYE 2005 and FYE 2011. Fiscal year end monthly ADP is expected to grow between 2.71 and 5.09 percent annually during the same time period. Table 12 summarizes the total juvenile commitment forecast and Table 13 summarizes these forecasts by the Division of Youth Corrections (DYC) management regions. Figure 13 shows the statewide growth forecast relative to historical monthly ADP.

Table 12: DYC Juvenile Commitment Average Daily Population (ADP) Forecast, FYE 2005-FYE 2011

Fiscal Year (FY)	Year to Date (YTD) Average Daily Population (ADP) Forecast	Percent Growth	Fiscal Year End (FYE) Monthly Average Daily Population (ADP) Forecast	Percent Growth
2005	1,446.16	-	1,480.99	-
2006	1,517.35	4.92%	1,556.32	5.09%
2007	1,584.10	4.40%	1,606.55	3.23%
2008	1,653.25	4.37%	1,688.06	5.07%
2009	1,724.29	4.30%	1,764.23	4.51%
2010	1,790.75	3.85%	1,812.02	2.71%
2011	1,859.94	3.86%	1,895.12	4.59%

Table 13: DYC Juvenile Commitment Forecast by Management Region

| Fiscal Year (FY)	Southern Forecast	Percent Growth	Western Forecast	Percent Growth	Central Forecast	Percent Growth	Northeast Forecast	Percent Growth
2005	315.93	-	177.32	-	612.38		340.53	-
2006	328.38	3.94%	186.05	4.92%	647.29	5.70%	355.63	4.43%
2007	341.16	3.89%	194.05	4.30%	676.27	4.48%	372.64	4.78%
2008	353.82	3.71%	202.46	4.33%	705.33	4.30%	391.64	5.10%
2009	365.83	3.39%	211.44	4.43%	736.20	4.38%	410.83	4.90%
2010	376.57	2.94%	220.44	4.26%	765.44	3.97%	428.30	4.25%
2011	400.56	6.37%	227.84	3.36%	794.03	3.73%	437.52	2.15%

Figure 13:
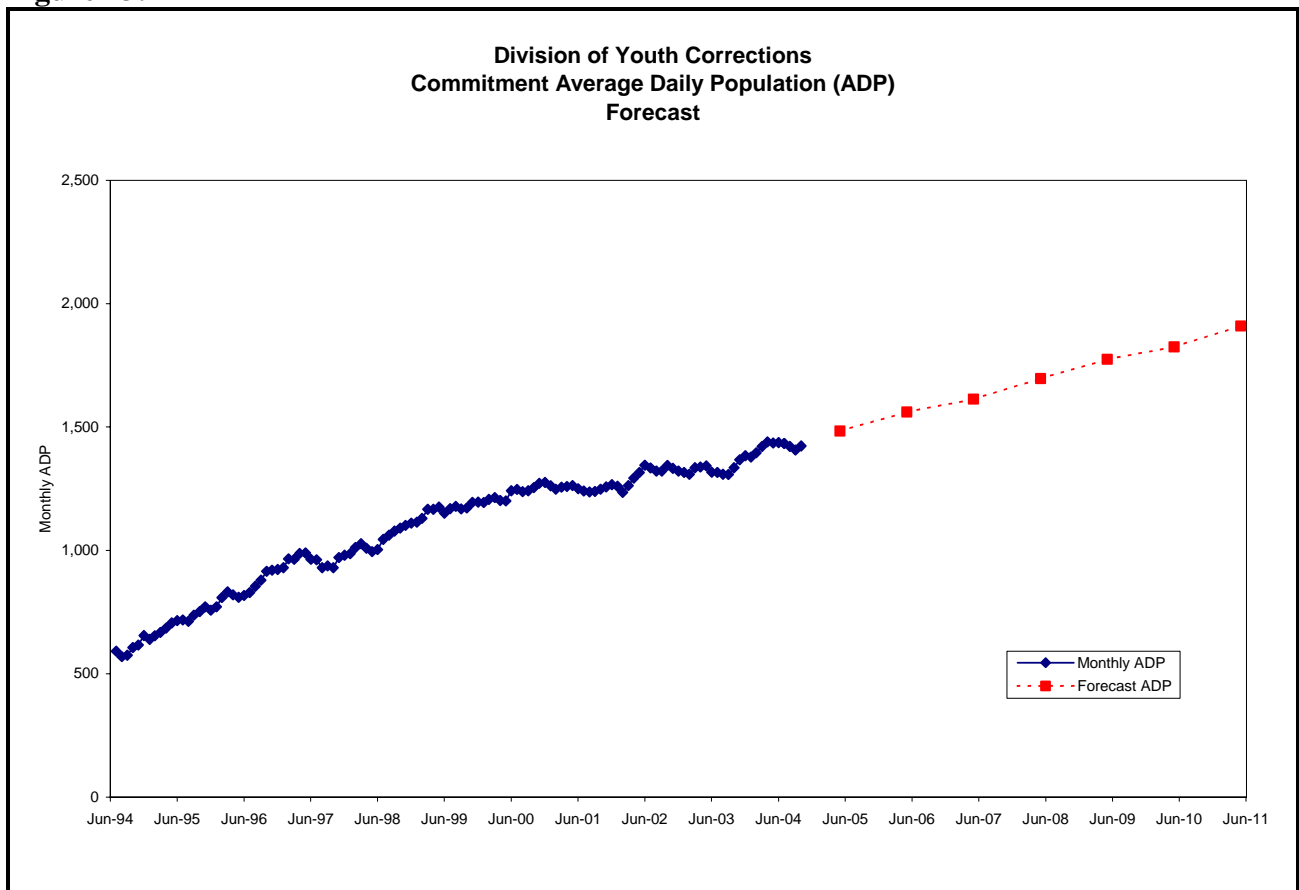
Source: Source: Division of Youth Corrections (DYC) Monthly Average Daily Population (ADP) Reports.

This forecast model has several caveats in that it assumes a stable time series, does not take into account future changes to laws or policies pertaining to DYC juvenile commitments that may lengthen or shorten length of stay, and no severe economic or catastrophic events that might affect the United States or Colorado.

JUVENILE PAROLE FORECASTING METHODOLOGY

In the prior section, commitment ADP appeared as a stable time series in which the Holt-Winters model could be applied for forecasting purposes. Figure 14 shows that parole average daily caseload (ADC) does not have this quality. From June 1994 to June 1997, parole ADC was relatively stable with a slight decline occurring. The 1997 General Assembly then implemented mandatory one-year parole terms and subsequently, ADC grew at a rapid rate from July 1994 to July 2001. At that time, the mandatory parole term was lowered (S.B. 01-77, effective July 1, 2001) to nine months, after which ADC declined rapidly between August 2001 and August 2002, followed by a modest increase from August 2002 to November 2003. The 2003 General Assembly (S.B. 03-284, effective May 1, 2003) further lowered the mandatory parole term to six months, which subsequently had the same effect as the previous reduction. The ADC dropped significantly between November 2003 and May 2004, after which ADC began growing again at a very moderate rate.
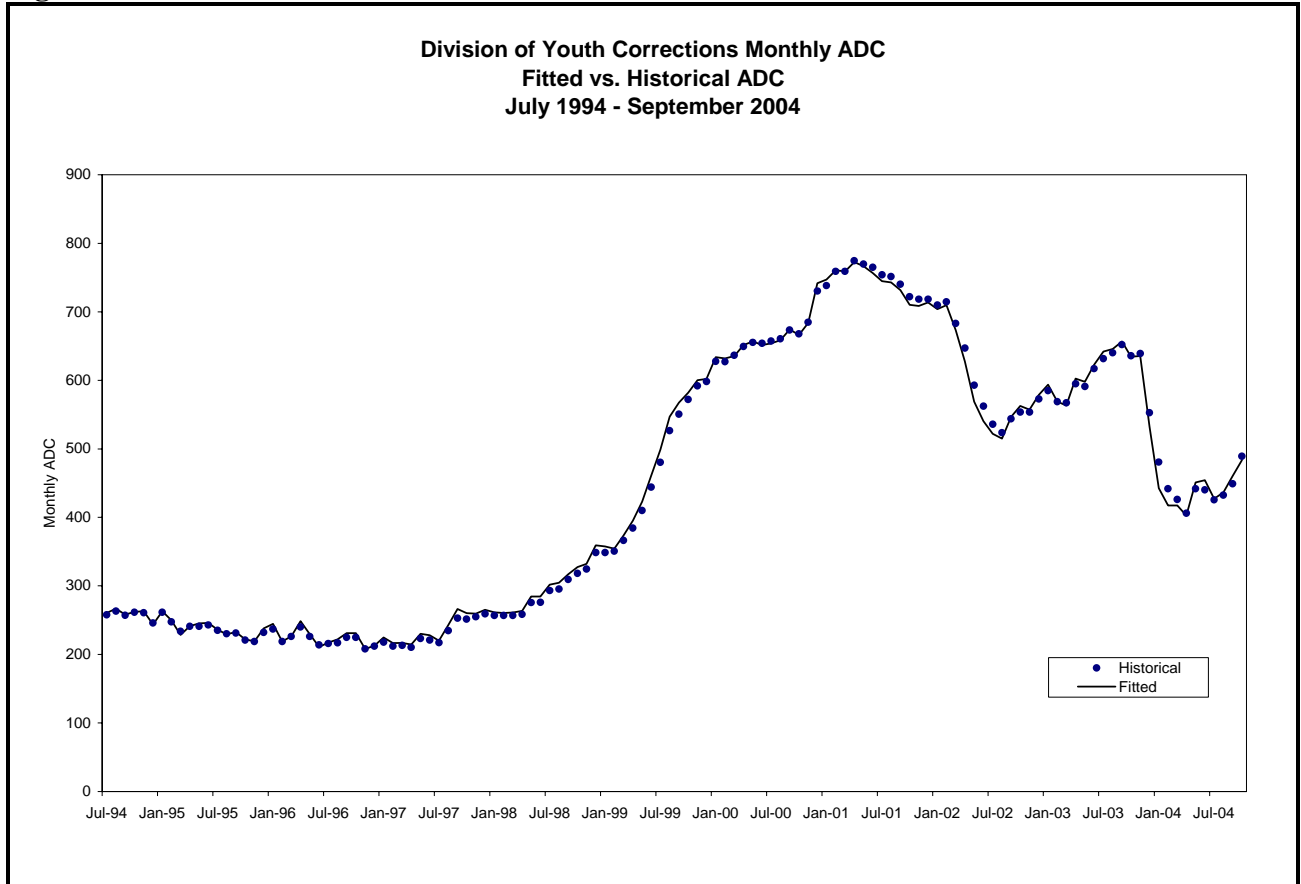
Figure 14:
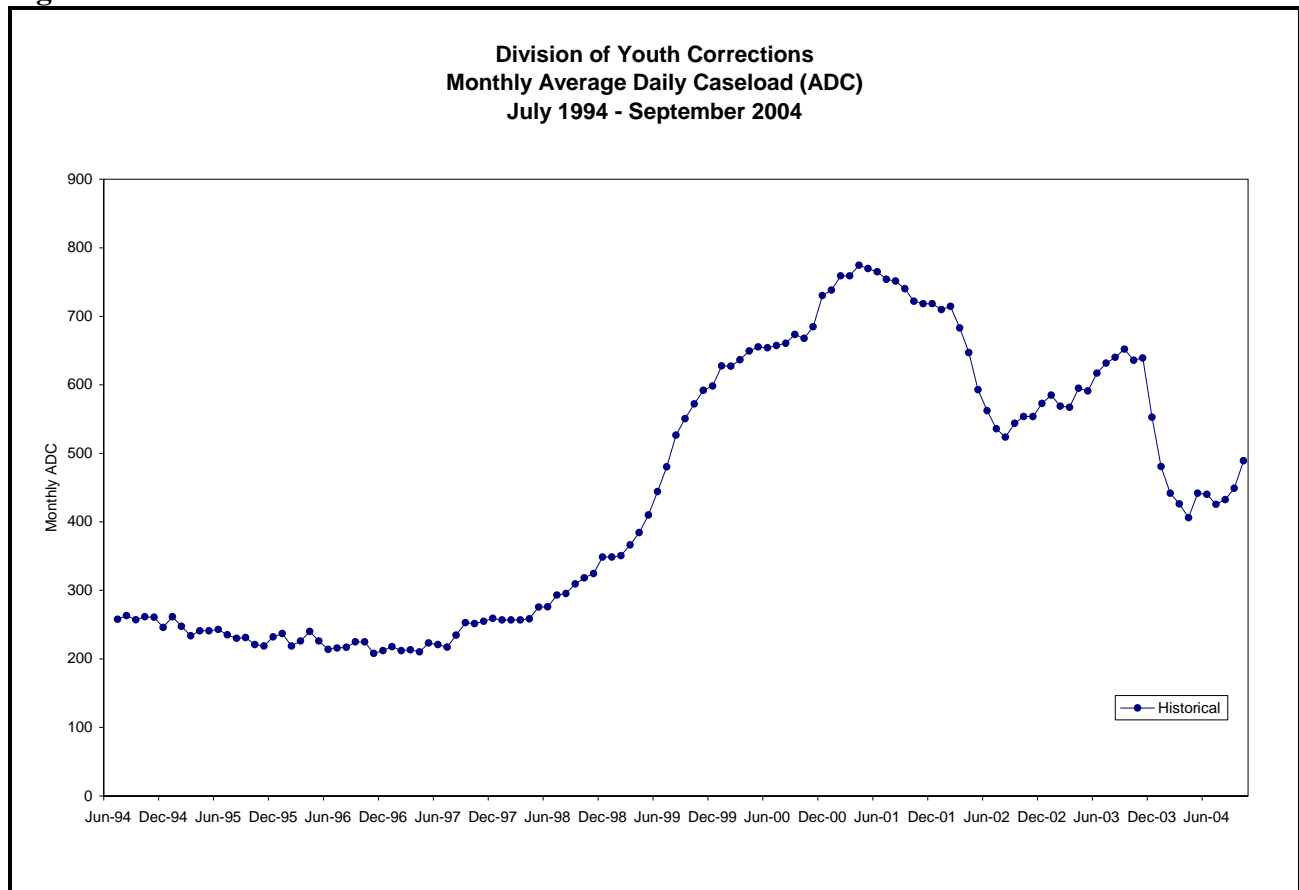
Source: Source: Division of Youth Corrections (DYC) Monthly Average Daily Population (ADP) Reports.

These shifts in policy and law show that this population is very sensitive to such changes, which makes forecasting more difficult. Under these circumstances, the Holt-Winters seasonal model used for commitment ADP is not useful. When time series data are used in regression analysis, often the error term is not independent through time and is serially correlated (future time periods are correlated with prior time periods). If the error term is serially correlated, the efficiency of the model is adversely affected and biased. Several models were explored for modeling monthly

juvenile parole average daily caseload (ADC). A Yule-Walker model[22] that accounts for this serial correlation was found to fit the historical monthly ADC data the best. Figure 15 shows the fitted model and historical ADC. This model, while it fits the data the best, is still very sensitive to shifts in policy and forecasts beyond two years should be viewed with discretion.

Figure 15:

Division of Youth Corrections Monthly ADC
Fitted vs. Historical ADC
July 1994 - September 2004

Source: Source: Division of Youth Corrections (DYC) Monthly Average Daily Population (ADP) Reports.

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[22] Box, G.E.P. and Jenkins, G.M. (1976), Time Series Analysis: Forecasting and Control, Revised Edition, San Francisco: Holden-Day.

JUVENILE PAROLE AVERAGE DAILY CASELOAD FORECAST

Juvenile commitment yearly average daily caseload (ADC) is expected to grow 21.23 percent by FYE 2006, and then grow at a much slower rate through fiscal year 2011. The fiscal year end monthly ADC is expected to follow the same trend through FYE 2011. Table 14 summarizes the total juvenile parole forecast and Table 15 summarizes these forecasts by DYC management region. Figure 16 shows this growth relative to historical monthly ADC.

Table 14: DYC Juvenile Parole Average Daily Caseload (ADC) Forecast, FYE 2005-FYE 2011

Fiscal Year (FY)	Year to Date (YTD) Average Daily Caseload (ADC) Forecast	Percent Growth	Fiscal Year End (FYE) Monthly Average Daily Caseload (ADC) Forecast	Percent Growth
2005	518.21	-	584.18	-
2006	628.22	21.23%	660.29	13.03%
2007	690.26	9.88%	713.78	8.10%
2008	738.26	6.95%	758.24	6.23%
2009	780.36	5.70%	798.85	5.36%
2010	819.97	5.08%	837.82	4.88%
2011	858.51	4.70%	876.09	4.57%

Table 15: DYC Juvenile Parole Average Daily Caseload (ADC) Forecast by DYC Management Region, FYE 2005-FYE 2011

Fiscal Year (FY)	Southern Forecast	Percent Growth	Western Forecast	Percent Growth	Central Forecast	Percent Growth	Northeast Forecast	Percent Growth
2005	117.03	-	56.07	-	197.71	-	147.40	-
2006	164.43	40.50%	82.68	47.46%	229.55	16.11%	151.57	2.83%
2007	194.44	18.26%	102.46	23.93%	244.47	6.50%	148.88	-1.77%
2008	220.75	13.53%	119.21	16.34%	254.97	4.29%	143.33	-3.73%
2009	232.26	5.21%	125.92	5.63%	269.82	5.83%	152.36	6.30%
2010	242.43	4.38%	132.43	5.17%	283.97	5.24%	161.14	5.76%
2011	253.83	4.70%	138.65	4.70%	297.32	4.70%	168.71	4.70%

The caveats of this forecast include high sensitivity to future changes to laws and policies pertaining to juvenile parolees that may lengthen or shorten parole terms and severe economic or catastrophic events that might affect the United States or Colorado. In addition, this model, while it fits the data the best, is still very sensitive to shifts in policy and forecasts beyond two years should be viewed with discretion.

Figure 16:
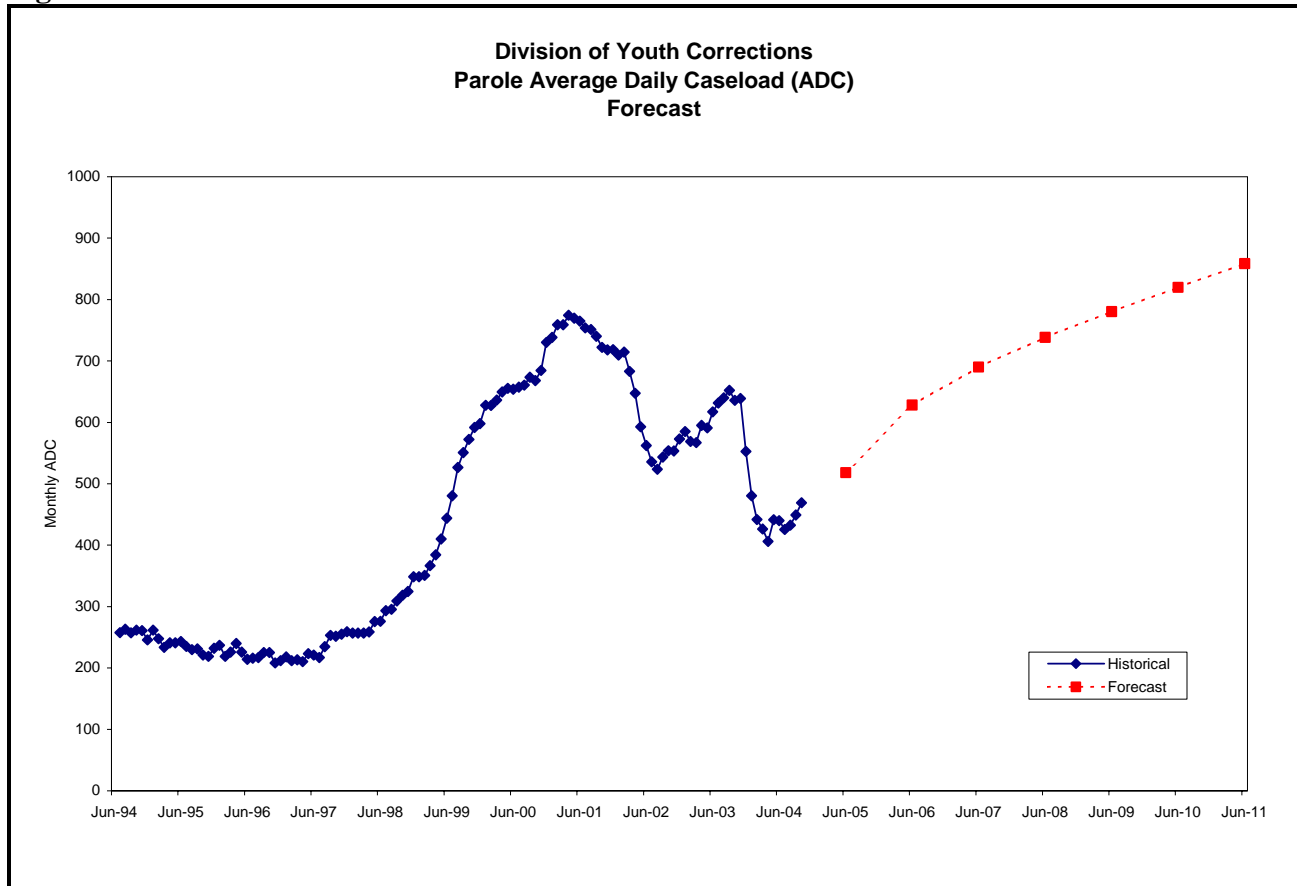
Source: Division of Youth Corrections (DYC) Monthly Average Daily Population (ADP) Reports.

DETENTION CAPITATION: THE NEED TO ANALYZE WORKLOAD INSTEAD OF ADP

In 2003, the General Assembly passed S.B. 03-286, placing a capitation of 479 beds for Division of Youth Corrections (DYC) detention placements. As this measure preempted the value of detention forecasts, the Division of Criminal Justice (DCJ) no longer prepares forecasts for this placement.

However, meetings with DYC in early November 2004 regarding the usefulness of average daily population (ADP) as a measure for the detention population in the presence of capitation prompted a discussion in this report on the appropriateness of using ADP in the presence of capitation.

Monthly detention ADP has run approximately 80 beds less than the capitation limit of 479 beds statewide. Monthly detention ADP at each detention facility has run between 80 to 100 percent of capitation since its implementation. However, these numbers are somewhat misleading in that detention ADP measures the average number of youth within a given time period. This does not reflect the total number of youth served by a given facility and DYC for that given time period. Detention ADP does not accurately reflect the workload of a particular facility because facilities usually serve more than the daily snapshot of bed count and could lead to the assumption that the detention capitation might be too high. These facts also support the conclusion that detention ADP makes it seem like there are 80 vacant beds on a daily basis when it actually reflects judicial district

management of this population. Spreading these supposed 80 vacant beds across Colorado's 22 judicial districts gives an average of 4 vacant detention beds per day per judicial district. These vacancies give the judicial districts a tool for managing the population.

In addition, because of the mathematics behind ADP and capitation, DYC will never be able to reach a detention ADP of 479 beds. This capitation number is a fixed maximum of the snapshot of daily bed count meaning that no snapshot can ever exceed this fixed maximum (conversely, the fixed minimum is zero for this population because the snapshot can never be less than zero). The ADP is an average, which by definition is a statistic utilized to summarize values ranging between a minimum and a maximum and will always fall between this minimum and maximum. Mathematically, the only scenario in which an average will equal the maximum is one in which no variation exists in the data, and the minimum is equal to the maximum. Using this scenario, the only way ADP in the presence of capitation could equal the capitation number is that each day's snapshot of bed count would have to always equal the capitation number or system maximum. Since the daily population snapshot cannot always equal the capitation number due to natural population fluctuations that occur because of weekends, holidays, and local sentencing and law enforcement policies and procedures, ADP can never be equal to the capitation. If the General Assembly were to reduce or increase the capitation to some other number, this modification would not change the fact that detention ADP will always be less than the capitation limit.

To give policymakers, the legislature, and DYC researchers and management a more useful and clearer picture of detention placements in the presence of capitation, the following measures are suggested as a replacement of ADP:

- ❑ Number of detained youth served per day aggregated by facility, region and overall.

- ❑ Number of detained youth per day placed in detention for overnight and longer stays aggregated by facility, region, and overall.

- ❑ Number of detained youth screened by placement aggregated by facility, region, and overall.

- ❑ Percentage and number of detained youth segmented by legal status (i.e., pre-adjudicated vs. sentenced) and length of stay (e.g., percent of youth that are in detention less than one day, percent of youth that are in detention 1-6 days, percent of youth that are in detention 1-2 weeks, etc.) aggregated by facility, region, and overall.

The data to calculate these measures are readily available and should be utilized as soon as possible. In future years, and as long as the capitation remains in effect, DCJ will analyze and report these figures. DCJ researchers are willing to assist DYC in the development of these measures in the coming year.