# GEORGIA DEPARTMENT OF JUVENILE JUSTICE
# POPULATION FORECAST
# REVIEW OF METHODOLOGY

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# INTRODUCTION

The Georgia Department of Juvenile Justice (DJJ) is committed to completing 5 year population forecasts which are updated periodically (scheduled for every 6 months). This paper describes the methods used to develop the 2003-2007 calendar year forecast. Specifically, this paper explains all data elements including the at-risk population, arrests, filings, and DJJ service populations. For each data element, assumptions and calculations were made. This paper will clarify each data element and provide further detail of how the population forecasts were completed.

This forecast represents the first forecast completed by DJJ staff. Staff began this forecast project over a year ago. The Department grappled with significant data issues throughout the process. For example, historical data were compiled from several stand-alone databases. Labor-intensive merges of the databases were completed to gain a quality dataset. After compiling the database, decisions had to be made on how to measure admissions, lengths of stay, and average daily populations. In addition, time constraints limited the amount of analysis that could be completed. As DJJ proceeds, the staff plans to enhance the sophistication of the trend analysis and estimation procedures while conducting additional analysis on subpopulations.

To complete forecasts, DJJ Planning, Research, and Program Evaluation unit relies on an advisory committee which represent crucial departments within DJJ. The knowledge and perspective of Regional Directors, Budget Officers, Secure Facility Directors, and Programming Administrators will be somewhat different. Adequate representation on the advisory committee assures that information needs are met during the design and implementation of the forecast project. The advisory committee provides direction, information, and feedback to the Planning, Research, and Program Evaluation unit throughout the forecasting project. The greatest value of the advisory committee is the collective knowledge of its membership. While more statistically oriented procedures derive their legitimacy from the sophistication of the procedure used, the quality of the deliverables in this project is primarily derived from the knowledge and insight of the advisory committee. Members of the advisory committee for the 2003-2007 forecasts include:

Exhibit 1
Advisory Committee Members

| Member | Department |
|---|---|
| David Clarke | Engineering |
| Mary Esposito | Special Projects |
| Cheryl Dresser | Community Corrections |
| Doug Engle | OTIS |
| Linda Layton | Facilities Division |
| Jeff Minor | Budget |
| Don Nix | Regional Director |
| Steve Herndon | Programs |
| Rob Rosenbloom | Community Corrections |

The Planning, Research, and Program Evaluation unit also relies on local and regional advisory groups to complete the forecast. Members of these groups include Regional Administrators, District Directors, RYDC Directors, YDC Directors, and Case Expeditors. For the current forecast, DJJ staff met with local juvenile justice professionals in Region 1. Juvenile justice professionals were represented from such organizations as the juvenile courts in Bartow and Floyd County, DFCS, NAACP, and the State University of West Georgia. Time constraints prevented DJJ staff from meeting with local juvenile justice professionals from all regions. Future forecasts plan to incorporate local input from juvenile justice professionals from all regions.

# OVERVIEW

The Georgia Department of Juvenile Justice (DJJ) forecast covers secure populations including youth detained in Regional Youth Detention Centers (RYDC) and youth in short term programs and committed youth held in Youth Development Campuses (YDC). Future forecasts will expand to include non-secure populations such as the youth on probation and committed youth in the community. The DJJ service populations are described below.

DJJ serves pre and post-adjudicated youth under its supervision. Pre-adjudicated youth are served in a Regional Youth Detention Centers (RYDC). Post-adjudicated youth are generally served in probation, a short term program (STP), a Youth Development Campus (YDC), or community placement. In some circumstances, adjudicated youth awaiting placement may also spend time in an RYDC. Each of these service areas are described in more detail below:

- ***Detained in Regional Youth Detention Center (RYDC)*** – Youth awaiting trial in juvenile or superior court, or placement elsewhere within the DJJ system are served in secure short term detention centers known as RYDCs. The detention center population is composed primarily of pre-adjudicated youth, although youth may be held in detention centers while awaiting placement after adjudication. DJJ operates 22 Regional Youth Detention Centers (RYDCs).
- ***Probation –*** Probation is the placement into the community of a delinquent or unruly youth under certain conditions and under the control, supervision, and care of a case manager. The juvenile court judge retains jurisdiction over the case for the period stated in the court order, up to a maximum of two years. In 16 counties, independent courts manage all intake and probation services. This report focuses only on counties that DJJ serves, 11 shared and 132 dependent court counties.
- ***Short Term Program (STP)*** – After a petition is filed and a youth has an adjudication hearing, he or she may receive a disposition with a maximum stay of 90 days as an alternative to long-term confinement. The court may order the child to serve that time in the YDC in addition to receiving any other treatment or rehabilitation deemed necessary. After assessment and upon approval by the court, the youth may be referred for treatment in a residential program. Youth may also be held in an RYDC while awaiting transfer to a YDC. Only youth that receive a disposition to an STP and spend time in a secure facility -- either the YDC and/or the RYDC -- are forecasted in this report.
- ***Committed and Placed in Youth Development Campus (YDC) –*** YDCs are long-term secure rehabilitation facilities for youth committed to DJJ custody by juvenile courts. Committed youth may be placed in 1 of 5 YDCs because they are a designated felon or Superior Court youth, or because DJJ

determines that they are a high risk to the community. The court specifies whether the youth is a designated felon or superior court youth, both of which require the youth to stay in the YDC.

- ***Committed and Placed in Community*** – Committed youth may be placed in the community after the CRN assesses the youth's risks and needs or in transition following placement in a YDC. These youth may be placed at home to receive aftercare services or they may be placed in a community residential program such as a group home or a wilderness program.

# FORECAST METHOD

The challenge to the project team developing the current projections is to build forecasts that reflect what policy and practice will be in future years, not what policy and practice have been. While it is obviously impossible to foretell the future, it is important to structure the process to emphasize data that reflects current practice and takes into account changes in policy and practice that have been implemented at the local, district and regional level.

## *Forecast versus Statistical Models*

Traditionally, population projections have relied on statistical models that use data from previous years to predict future needs. Yet, in some regards, the past is an odd place to look if one wants to understand the future. The number of youth who will be sent to detention in 2006, for example, will not be determined by how many youth were sent to detention in 1996. The number of youth sent to detention in 2006 will be determined by a complex interaction between economic trends, juvenile behavior, law enforcement, school, and judicial and juvenile justice policy and practice. Local leaders are in the best position to understand the local juvenile justice environment that will shape future needs.

Therefore, in order to combine historical data and current policy, the Department has chosen a forecast model over a projection model for determining populations in juvenile justice programs. Jeffery Butts and William Adams compare and contrast prediction models versus forecast models in their article on anticipating space needs. The forecast model depends on the recent past to examine its relevance for the future. The forecast model also relies on statistical projections to generate discussions with policymakers, administrators, practitioners, and analysts. Prediction models, however, involve only analysts who then produce statistical projections as needed. The forecasting model used by the Department has the advantage that decision makers can regularly review recent policy and practice to ascertain future populations rather than relying strictly on a statistical model. Also, by reviewing the population forecast every 6 months, DJJ will be able to learn from recent changes and apply them to future forecasts.

## *Use of Transitional Probabilities*

To ensure that it is prepared to address the needs of youthful offenders that are likely to come under its supervision over the next 5 years, the Department requires a robust analytical method for understanding the implications of experience and for converting that understanding into a forecast of future needs. The data projection model chosen for this project is a modification of the model presented by Jeffery Butts and William Allen in "Anticipating Space Needs in Juvenile Detention and Correctional Facilities," published by the Office of Juvenile Justice and Delinquency Prevention in March, 2001[1]. Dr. Claus Tjaden[2], in

[1] Dr. Butts from the Urban Institute also provided an initial on site consultation and review of regional projections. Additional useful information was obtained from his forecasting web site at http://fjsrc.urban.org/space/space.htm.

consultation with DJJ staff modified the model to accommodate the particular circumstances in which DJJ operates. The model combines Departmental knowledge about policy changes and program initiatives with data from past years to forecast secure bed needs for the next 5 years.

One key feature of the methodology is the use of transitional probabilities (TP) to forecast service populations. A transitional probability is the probability that a youth in one population will subsequently become part of a second population that is deeper in the juvenile justice system and hence a population for which DJJ provides secure beds or community placement slots. The Department completed final statewide forecasts using a software program it's technology staff developed which automatically calculates the average daily population as each transitional probability is adjusted (see Exhibit 2). Consider the projection of average daily populations in detention centers as an example. As shown in Exhibit 2 below, there were approximately 857,366 youth between the ages of 10-16 in Georgia in 2001. Of those youth, 37,651 were arrested during 2001. The transitional probability of a youth between the ages of 10-16 in Georgia being arrested was 4.4 percent (37,651/857,366) in 2001. Of those 37,651 youth arrested during the year, there were 21,357 admissions into detention centers. (It is understood that this count includes some duplication as some youth had more than one admission during the year). The chance of a youth that is arrested subsequently being placed in a detention center is 56.7 percent (21,357/37,651). The average daily population for detention can then be estimated by using the following formula: (Admissions x Average Length of Stay) / Number of Days in Year. For 2001 the calculation would be (21,357*17.9)/365=1047[3]. This method is then used to forecast future secure bed use by adjusting the current year transitional probabilities to reflect Departmental expectations regarding the rate of arrest over the next 5 years.

Transitional probabilities need to be adjusted over time to reflect what is known from actual experience. A straight projection based on population growth and the most recent transitional probabilities would not likely provide an accurate estimation of future needs. This is because the transitional probability of an at-risk youth being arrested has not been static in the past and is not expected to be static in the future. To estimate future service population needs, the model includes adjustments to transitional probabilities for each of the forecasted years based on current practice and policy. Members of the advisory committee in addition to statewide DJJ staff provide information on changes in policy and developing initiatives that could result in changes in secure bed utilization in the upcoming year. This estimate of policy impact forms the basis for raising or lowering the transitional probabilities the software uses to calculate forecasted populations. The same process is used to forecast the STP and YDC committed populations. The forecast of these populations

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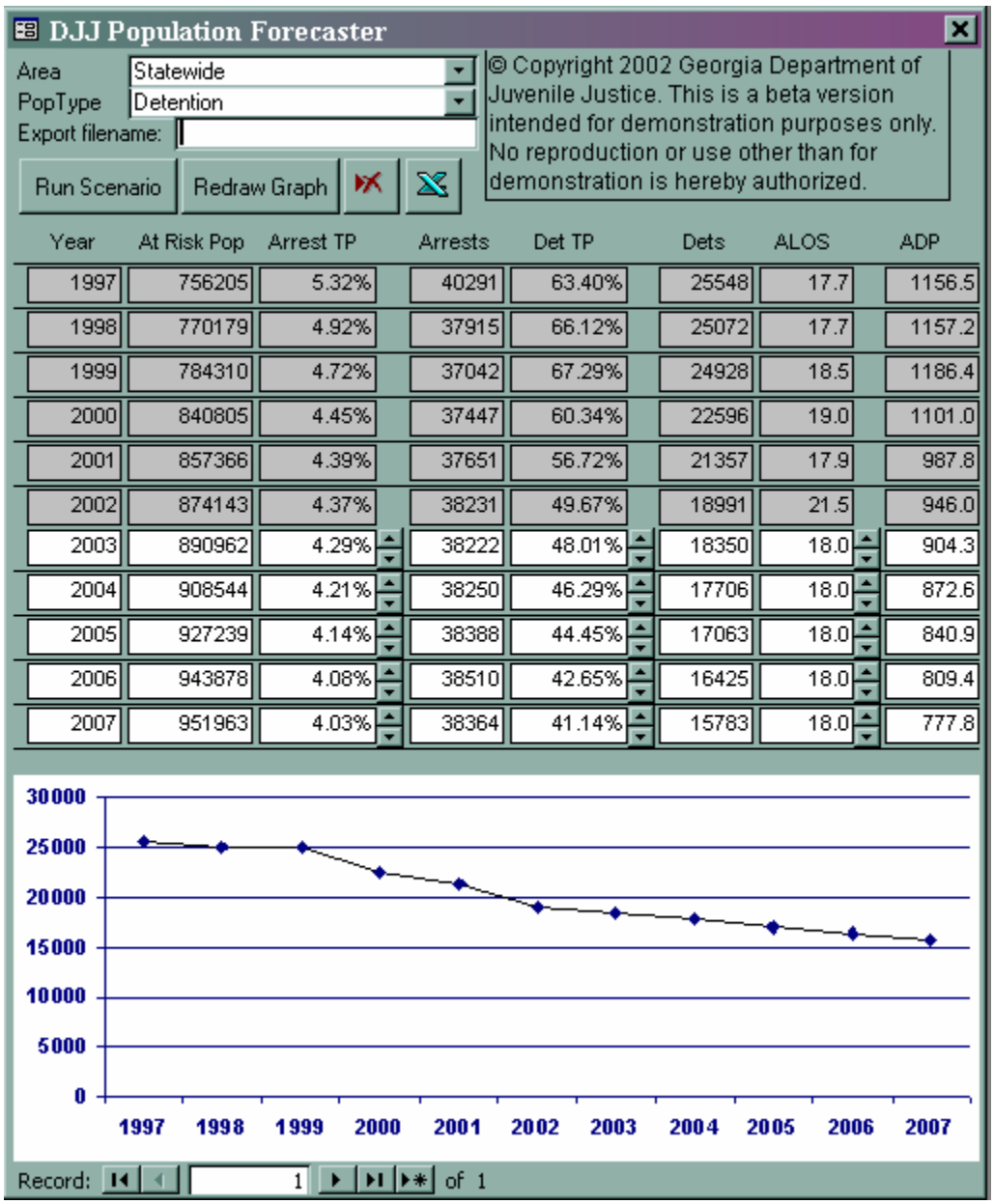
[2] Dr Tjaden with Toucan Research also worked with DJJ to develop the Integrated Assessment and Classification System.

[3] The actual Average Daily Population for 2001 was 988, thus the projection calculation method was within 5.6% of the actual figure. The actual ADP is calculated by dividing the total numbers of days served for the year by the total number of days in that year.

differs slightly from the detention model in that court filings are used instead of arrests. As Exhibit 2 shows, for probation, STPs, and commitments, the at-risk to filing transitional probability is calculated first followed by the filing to court disposition transitional probability. Probations, STPs, and commitments use filings instead of arrests because they are juvenile court dispositions and thus are more contingent upon court filings than arrests.

**Exhibit 2: DJJ Population Forecaster Software showing Detention Forecasts**



### *Steps Completed in the Forecasts*

This forecast model uses a combination of statistical techniques and forecasting techniques which include input from local leaders to forecast future needs within selected service population categories. Below are the steps taken to complete the forecasts.

- DJJ Planning and Evaluation staff compiled all data to complete forecasts.
- All forecasts were completed at the regional level for calendar years 2002-2006 based on historical data from calendar years 1996-2001. The regional forecasts did not use transitional probabilities because the required data were not all available at the time. Each region was forecasted based on regression trends which could be linear, exponential, or some other line depending on the historical trend. The region reports included a forecast line and an upper and lower bound for each population.
- In January 2003, a committee comprising DJJ forecasting staff, Regional Administrators, District Directors, RYDC Directors, YDC Directors, and Case Expeditors met to discuss these region forecasts and the policy issues affecting population forecasts for each region[4]. The meeting gave regional representatives an opportunity to discuss current issues affecting service populations and to critique the forecasts.
- Using input from the regions, the staff identified issues that have statewide as well as regional impacts. Additional analysis was completed on policy issues affecting the forecast.
- The staff contrasted preliminary regional forecasts to newly available data from 2002 and made appropriate adjustments.
- The regional forecasts and bounds were then summed to generate preliminary statewide forecasts. Because statistical projections are developed within a margin of error, forecasts also should not be viewed as an exact prediction of the future. Therefore, this report presents upper and lower bounds for each forecast. The actual average daily populations will likely fall somewhere within the bounds presented.
- The Population Forecaster software was used to complete statewide forecasts. Specifically, the software allowed staff to adjust the forecasts based upon statewide and regional policy issues while incorporating transitional probabilities of key forecasting elements.

[4] Region 1 had the opportunity to obtain input from a cross-section of juvenile justice professionals. Juvenile justice professionals were represented from such organizations as the juvenile courts in Bartow and Floyd County, DFCS, NAACP, and the State University of West Georgia.

## DATA ELEMENTS

The focus of the forecasts is the average daily population (ADP) for each of the DJJ service populations served in secure facilities. (Historical data is presented in the Service Population Forecast for selected populations served in a non-secure setting.) To derive the ADP, assumptions about the admissions and average length of stay (ALOS) were made. Admissions, ALOS, and ADP each have an important effect on future DJJ service populations.

An admission is defined in this study as a single continuous placement or series of placements at facilities of the same type as long as no days elapse between placements. By counting transfers as a single admission in this report, the Department of Juvenile Justice is able to gain a better understanding of how many youth are admitted to each placement and how long they are staying. If each placement were counted as a single admission, then admissions would likely be inflated. For example, youth may be transferred between detention facilities in order to avoid overcrowding. The transfer is counted as part of a single admission since the youth did not leave the facility and commit another offense while out of the facility. If a youth left the detention facility and then returned the next month because of a new offense, then these would be counted as two separate admissions.

The length of stay is critical for estimating the total number of youth in facilities. If the length of stay changes the facility population can change dramatically. The length of stay calculation is an estimate by definition because the current population has not been released so that population's length of stay is unknown. In this forecast, the average length of stay was determined by taking the total of all days in a year that a youth is a part of the particular service population and dividing these days by the number of releases in that year. Depending on how a day is counted (partial day or full day), the average length of stay could be over estimated or under estimated. Release days are calculated by taking the end date of the placement and subtracting the begin date of the placement and adding 1 day. A day is counted as any time spent in the facility.

The average daily population was computed by taking the total number of days served during the year and dividing by the number of days in the year. Rather than counting any time spent in a facility as one day, this forecast calculated a day by counting a youth in a facility if he or she is present at 6 a.m. Guidelines were created for how to count youth without start times or end times in the facilities. If a youth was admitted after 6 a.m., or released before it, then that youth would not be counted toward that days' population. If the placement date did not have a time specified, it was assumed to have occurred after 6 a.m. and therefore was counted on the next days' count. Placements with times after 6 a.m. were also counted on the next days' count. Otherwise, they were counted on the day in which they began. For release dates the inverse of this rule was applied. If the youth had no time associated with his release date, then the release was assumed to

have occurred after 6 a.m. and therefore was counted on that day. If the time of release was after 6 a.m. then the release was counted for that day as well. Only if the time of release was specifically shown prior to 6 a.m. was the youth then last counted on the prior day. Finally, the derived placement date was subtracted from the derived release date, and one day was added for the start date.

The varying methods for calculating days may impact the average length of stay and the average daily population and give conflicting results. Future forecasts will reconcile the two methods for calculating length of stay and ADP within the Department.

## FORECAST ELEMENTS

The forecast elements include at-risk population, arrests, filings, and all DJJ service populations. Below at-risk population, arrests and filings, and pre-adjudicated and post-adjudicated detention are described including the data source and any calculations made.

### *At-risk population*

The first key element in the population forecasts is the at-risk population. The at-risk population includes all youth ages 10 to 16. The forecast is based on the historical and projected at-risk population.

The at-risk population for 1996-1999 is based on Census Bureau estimates. The Census Bureau estimates are completed each year. The estimated population is as of July 1st each year. Existing data series such as births, deaths, Federal tax returns, Medicare enrollment, and immigration are used to update the decennial census base counts. After each Census, the Census Bureau will revise previous year estimates based on the last population count. The 1996-1999 estimates are based on the 1990 census base population count. As revised numbers become available, the population forecast will be updated.

The at-risk population for 2000 came from the 2000 Census, which is the population as of April 1, 2000.

The Governor's Office of Planning and Budget completes county level population projections for 2001 through 2010 using the cohort-component model, the same method used by the Census Bureau. They use the 2000 Census to project the civilian non-institutionalized population by race, age groups, and gender. The non-institutionalized population excludes anyone living in Group Quarters such as a juvenile correctional facility or a military base. The estimated population (1996-1999) and the 2000 population included the institutionalized population. Therefore, in order to compensate for the missing population in the forecasted population, DJJ staff calculated the percent of at-risk youth living in a Group Quarters in 2000 and increased the population by this percent for the projected years.

For example, in 2000, there were 1,890 youth between the ages of 10 to 16 in Appling County. Of those youth, 57 (3 percent) were part of the institutionalized population. Because the forecasted population 2001-2007 did not include the institutionalized population, 3 percent of the population was added to each year. The proportion of institutionalized population was assumed to not change. This calculation made all years consistent including institutionalized as well as non-institutionalized population.

The Governor's office projected the population by gender and white versus other races for 10 to 14 year olds and 15 to 19 year olds. The forecast required the at-risk 10-16 year old population by gender and by all races identified in the 2000 Census.

Therefore, it was necessary to take the proportion of youth who would be 15 and 16 in the forecasted year and added this to the 10-14 year olds. The proportions were calculated based on cohort proportions in the 2000 Census. For example, in 2001, the 15 and 16 year olds would have been 14 and 15 in 2000. Therefore,

the proportion of 14 and 15 year olds in 2000 was used to calculate the 15 and 16 year olds in 2001. For example, if there were 1,000 15 to 19 year olds in 2001 and in 2000 45% were 14 and 15 then it can be assumed that in 2001, 45% will be 15 and 16. Therefore, there will be 450 15 and 16 year olds in 2001. This methodology assumes that the proportion of 15 and 16 year olds in the population in 2000 will not change over the next 10 years due to migration. As Census estimates come available, the projections will be replaced with these estimates.

### *Arrests and Filings*

The Georgia Bureau of Investigation furnished the arrest and crime data. The Uniform Crime Reporting (UCR) program provides crime statistics for the State of Georgia. Because law enforcement agencies provide these crime statistics to the Federal Bureau of Investigation voluntarily, arrest and crime data are missing or are unusually low for some counties for some years. Counties that did not report arrest data in a given year typically reported low numbers of arrests for the adjacent years. When calculating transitional probabilities using arrest data, the at-risk population numbers for those counties were included in the equation. Transitional probabilities from at-risk to arrests for counties missing arrest data will be equal to zero.

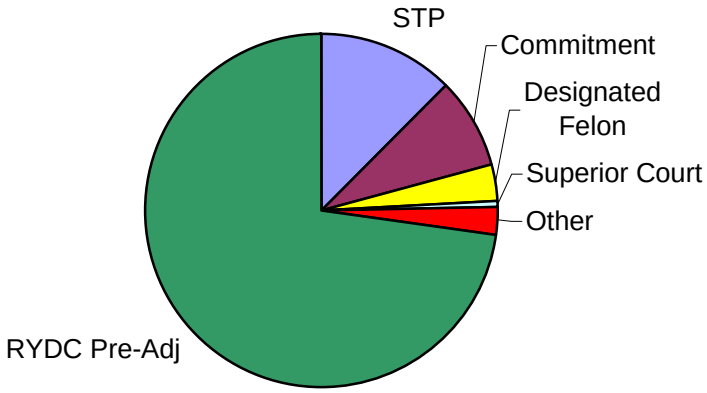
The Administrative Office of the Courts gathers data for court filings. Filings include all complaints or petitions filed with the clerk of the juvenile court. According to statute O.C.G.A. 15-11-37, "a petition alleging delinquency, deprivation, or unruliness of a child shall not be filed unless the court or its designee has determined and endorsed upon the petition that the filing of the petition is in the best interest of the public and the child." This report analyzes the number of delinquent and unruly cases filed. Reporting problems with court filing data are similar to those presented with the arrest data. Juvenile courts voluntarily report filing data. From 1996-1999, most counties reported court filings data. In 2001, almost one third of the counties did not report filing data. Where filing data are not available for certain years, the number of filings was interpolated from previous or subsequent years. For example, an average of data from the closest surrounding years was used to fill in missing county data for a particular year. When only the preceding year's data was available, then this value was carried through the missing year. Finally, for 2001 and 2002, the filings data were interpolated based on the current year's at-risk population and the previous year's transitional probability.

### *Pre-Adjudicated vs. Post-Adjudicated Detention*

Forecasting detention utilization is complicated by the fact that Detention Centers serve both pre-adjudicated and post-adjudicated youth. Detention Centers are designed to provide housing for youth during the period between when they have allegedly committed an offense and when they are adjudicated. In practice, many youth spend time in Detention Centers after their cases are disposed. Committed youth are often housed in Detention Centers while waiting for appropriate placements to be arranged. Youth tried in Superior Court sometimes spend lengthy periods in Detention Centers after trial while their cases are

appealed. Youth awaiting placement in Short Term Programs form the largest portion of post-adjudication use of Detention Centers. During calendar year 2002, for example, 12.4% of all detention days were used by youth who were awaiting placement in Short Term Programs. All post-adjudicated youth, including commitments, designated felons, and superior court youth, and other used 27.2% of all detention days. While the use of detention centers as staging areas for adjudicated youth is common practice, this segment of the detention population has become so large that it could result in understating the need for STP beds and overstating the need for detention beds. To account for this situation, this project has calculated the post-sentencing detention days for youth awaiting Short Term Programs. Because, even under ideal circumstances, it takes approximately ten days after adjudication to process and move a youth from detention to short term programs, up to ten days of this "awaiting STP status" were left under detention. The remainder of these days was transferred to the Short Term Program calculations so that they would more accurately reflect the State's need for Short Term Programs. Exhibit 3 shows all post-adjudication disposition days by category as a proportion of all detention days utilized in the state for 2002.

**Exhibit 3**
**Pre-Adj RYDC & Post-Adjudicated Days Spent in the RYDC 2002**



## GOALS FOR FUTURE FORECASTS

While much work has been completed on the current forecasts, more improvements need to be made. Below is a list of goals for future forests.

- More sophisticated forecasting techniques
- More in depth policy analysis
- Have meetings with local juvenile justice professionals for all regions
- Update of historical data to incorporate any improvements to data
- Forecast non-secure population
- Forecast subpopulations such as gender

# APPENDIX

The statewide population forecasts were derived from region wide projections. Each region was provided with three projection scenarios, an upper bound, forecast line, and lower bound. The region bounds were created based on 1996-2001 historical data because the analysis was completed before 2002 data were available. The 2002 historical data have been included in each table, however. Below are the numbers for each region by DJJ service population for admissions and average daily population and the guidelines for each region.

## *Detention*

The exhibits below shows the initial projections made by region for detention. These projections were based strictly on historical data from 1996-2001. Historical data showing an upper bound and lower bound along with a forecast line were used to provide a guide to regional planners.

### Exhibit 4: Detention Admissions by Region Historical and Forecast Data

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Region 1** | | | | | | | | | | | |
| Historic | 3,119 | 3,263 | 3,113 | 3,061 | 2,727 | 2,658 | 2,322 | | | | |
| Lower Bound | | | | | | | 2,594 | 2,480 | 2,367 | 2,254 | 2,141 |
| Forecast Line | | | | | | | 2,589 | 2,520 | 2,451 | 2,382 | 2,313 |
| Upper Bound | | | | | | | 2,658 | 2,658 | 2,658 | 2,658 | 2,658 |
| **Region 2** | | | | | | | | | | | |
| Historical | 3,357 | 3,550 | 3,192 | 3,128 | 2,887 | 2,886 | 2,433 | | | | |
| Lower Bound | | | | | | | 2,726 | 2,600 | 2,474 | 2,348 | 2,222 |
| Forecast Line | | | | | | | 2,806 | 2,743 | 2,680 | 2,617 | 2,554 |
| Upper Bound | | | | | | | 2,886 | 2,886 | 2,886 | 2,886 | 2,886 |
| **Region 3** | | | | | | | | | | | |
| Historical | 11,673 | 9,784 | 9,797 | 10,541 | 9,062 | 8,652 | 7,783 | | | | |
| Lower Bound | | | | | | | 8,265 | 7,793 | 7,321 | 6,849 | 6,377 |
| Forecast Line | | | | | | | 8,459 | 8,223 | 7,987 | 7,750 | 7,514 |
| Upper Bound | | | | | | | 8,652 | 8,652 | 8,652 | 8,652 | 8,652 |
| **Region 4** | | | | | | | | | | | |
| Historical | 4,107 | 4,075 | 4,134 | 3,609 | 3,241 | 3,238 | 2,732 | | | | |
| Lower Bound | | | | | | | 2,992 | 2,806 | 2,621 | 2,435 | 2,250 |
| Forecast Line | | | | | | | 3,117 | 3,012 | 2,907 | 2,801 | 2,696 |
| Upper Bound | | | | | | | 3,218 | 3,198 | 3,178 | 3,158 | 3,138 |
| **Region 5** | | | | | | | | | | | |
| Historical | 4,430 | 4,569 | 4,589 | 4,150 | 4,023 | 3,666 | 3,356 | | | | |
| Lower Bound | | | | | | | 3,383 | 3,093 | 2,804 | 2,514 | 2,225 |
| Forecast Line | | | | | | | 3,648 | 3,480 | 3,311 | 3,143 | 2,974 |
| Upper Bound | | | | | | | 3,666 | 3,666 | 3,666 | 3,666 | 3,666 |

## Exhibit 5: Detention Average Daily Population by Region Historical and Forecast Data

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Region 1** | | | | | | | | | | | |
| Historical | 143 | 151 | 149 | 140 | 139 | 132 | 132 | | | | |
| Lower Bound | | | | | | 132 | 133 | 127 | 121 | 115 | 110 |
| Forecast | | | | | | 132 | 133 | 129 | 125 | 122 | 119 |
| Upper Bound | | | | | | 132 | 136 | 136 | 136 | 136 | 136 |
| **Region 2** | | | | | | | | | | | |
| Historical | 174 | 166 | 143 | 140 | 132 | 118 | 123 | | | | |
| Lower Bound | | | | | | 118 | 118 | 107 | 98 | 88 | 79 |
| Forecast | | | | | | 118 | 131 | 125 | 120 | 114 | 109 |
| Upper Bound | | | | | | 118 | 144 | 144 | 144 | 144 | 144 |
| **Region 3** | | | | | | | | | | | |
| Historical | 436 | 393 | 435 | 505 | 445 | 405 | 375 | | | | |
| Lower Bound | | | | | | 405 | 394 | 371 | 349 | 326 | 304 |
| Forecast | | | | | | 405 | 403 | 392 | 380 | 369 | 358 |
| Upper Bound | | | | | | 405 | 412 | 412 | 412 | 412 | 412 |
| **Region 4** | | | | | | | | | | | |
| Historical | 230 | 218 | 214 | 176 | 162 | 149 | 141 | | | | |
| Lower Bound | | | | | | 149 | 145 | 122 | 100 | 81 | 63 |
| Forecast | | | | | | 149 | 147 | 139 | 131 | 123 | 116 |
| Upper Bound | | | | | | 149 | 179 | 178 | 176 | 175 | 174 |
| **Region 5** | | | | | | | | | | | |
| Historical | 227 | 223 | 211 | 215 | 205 | 176 | 168 | | | | |
| Lower Bound | | | | | | 176 | 179 | 163 | 148 | 133 | 118 |
| Forecast | | | | | | 176 | 193 | 184 | 175 | 166 | 157 |
| Upper Bound | | | | | | 176 | 194 | 194 | 194 | 194 | 194 |

Forecasted Average Daily Population = (Admissions * Average Length of Stay)/365.25

### *Short Term Program*

The table below shows the initial projections made by region for STP. These projections were based strictly on historical data from 1996-2001. Historical data showing an upper bound and lower bound along with a forecast line were used to provide a guide to regional planners.

Exhibit 6: STP Admissions by Region Historical and Forecast Data

| **Region 1** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1996** | **1997** | **1998** | **1999** | **2000** | **2001** | **2002** | **2003** | **2004** | **2005** | **2006** |
| Historical | 804 | 874 | 812 | 850 | 764 | 731 | 615 | | | | |
| Lower Bound | | | | | | 731 | 698 | 665 | 632 | 599 | 566 |
| Forecast Line | | | | | | 731 | 716 | 702 | 688 | 674 | 661 |
| Upper Bound | | | | | | 731 | 731 | 731 | 731 | 731 | 731 |
| **Region 2** | | | | | | | | | | | |
| Historical | 783 | 922 | 936 | 1013 | 964 | 826 | 683 | | | | |
| Lower Bound | | | | | | 826 | 789 | 752 | 715 | 678 | 641 |
| Forecast Line | | | | | | 826 | 826 | 826 | 826 | 826 | 826 |
| Upper Bound | | | | | | 826 | 949 | 961 | 973 | 985 | 997 |
| **Region 3** | | | | | | | | | | | |
| Historical | 1,332 | 1,496 | 1,568 | 1,464 | 1,349 | 1,370 | 1,068 | | | | |
| Lower Bound | | | | | | 1,370 | 1,261 | 1,190 | 1,119 | 1,048 | 977 |
| Forecast Line | | | | | | 1,370 | 1,370 | 1,370 | 1,370 | 1,370 | 1,370 |
| Upper Bound | | | | | | 1,370 | 1,315 | 1,280 | 1,244 | 1,209 | 1,173 |
| **Region 4** | | | | | | | | | | | |
| Historical | 1,097 | 1,222 | 1,200 | 1,259 | 1,266 | 1,191 | 840 | | | | |
| Lower Bound | | | | | | 1,191 | 1,171 | 1,137 | 1,103 | 1,069 | 1,035 |
| Forecast Line | | | | | | 1,191 | 1,189 | 1,172 | 1,155 | 1,138 | 1,121 |
| Upper Bound | | | | | | 1,191 | 1,207 | 1,207 | 1,207 | 1,207 | 1,207 |
| **Region 5** | | | | | | | | | | | |
| Historical | 903 | 1,138 | 1,277 | 1,191 | 1,152 | 1,036 | 895 | | | | |
| Lower Bound | | | | | | 1,036 | 971 | 894 | 816 | 739 | 661 |
| Forecast Line | | | | | | 1,036 | 1,036 | 1,036 | 1,036 | 1,036 | 1,036 |
| Upper Bound | | | | | | 1,036 | 1,178 | 1,196 | 1,214 | 1,231 | 1,249 |

## Exhibit 8: STP Average Daily Population by Region Historical and Forecast

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Region 1** | | | | | | | | | | | |
| Historical | 199 | 228 | 215 | 201 | 173 | 154 | 125 | | | | |
| Lower Bound | | | | | | 154 | 152 | 140 | 128 | 117 | 107 |
| Forecast Line | | | | | | 154 | 152 | 149 | 146 | 143 | 140 |
| Upper Bound | | | | | | 154 | 173 | 173 | 173 | 173 | 173 |
| **Region 2** | | | | | | | | | | | |
| Historical | 147 | 196 | 218 | 239 | 217 | 183 | 147 | | | | |
| Lower Bound | | | | | | 183 | 180 | 166 | 153 | 141 | 129 |
| Forecast Line | | | | | | 183 | 192 | 192 | 192 | 192 | 192 |
| Upper Bound | | | | | | 183 | 234 | 237 | 240 | 243 | 246 |
| **Region 3** | | | | | | | | | | | |
| Historical | 268 | 329 | 339 | 331 | 297 | 285 | 211 | | | | |
| Lower Bound | | | | | | 285 | 261 | 238 | 216 | 194 | 174 |
| Forecast Line | | | | | | 285 | 293 | 293 | 293 | 293 | 293 |
| Upper Bound | | | | | | 285 | 293 | 287 | 280 | 274 | 267 |
| **Region 4** | | | | | | | | | | | |
| Historical | 275 | 295 | 288 | 280 | 280 | 239 | 174 | | | | |
| Lower Bound | | | | | | 239 | 238 | 222 | 206 | 191 | 176 |
| Forecast Line | | | | | | 239 | 250 | 246 | 243 | 239 | 236 |
| Upper Bound | | | | | | 239 | 274 | 274 | 274 | 274 | 274 |
| **Region 5** | | | | | | | | | | | |
| Historical | 220 | 293 | 321 | 288 | 269 | 231 | 190 | | | | |
| Lower Bound | | | | | | 231 | 225 | 204 | 183 | 163 | 143 |
| Forecast Line | | | | | | 231 | 242 | 240 | 238 | 236 | 234 |
| Upper Bound | | | | | | 231 | 277 | 281 | 285 | 289 | 294 |

Forecasted Average Daily Population = (Admissions * Average Length of Stay)/365.25

### *Youth Development Campus*

The table below shows the initial projections made by region for YDC. These projections were based strictly on historical data from 1996-2001. Historical data showing an upper bound and lower bound along with a forecast line were used to provide a guide to regional planners.

Exhibit 9: YDC Admissions by Region Historical and Forecast Data

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Region 1** | | | | | | | | | | | |
| Historical | 132 | 126 | 134 | 168 | 166 | 163 | 138 | | | | |
| Lower Bound | | | | | | 163 | 161 | 158 | 156 | 153 | 151 |
| Forecast Line | | | | | | 163 | 166 | 170 | 173 | 176 | 180 |
| Upper Bound | | | | | | 163 | 171 | 179 | 187 | 196 | 205 |
| **Region 2** | | | | | | | | | | | |
| Historical | 171 | 169 | 151 | 180 | 200 | 164 | 141 | | | | |
| Lower Bound | | | | | | 164 | 164 | 164 | 164 | 164 | 164 |
| Forecast Line | | | | | | 164 | 175 | 175 | 175 | 175 | 175 |
| Upper Bound | | | | | | 164 | 181 | 184 | 186 | 189 | 191 |
| **Region 3** | | | | | | | | | | | |
| Historical | 261 | 330 | 323 | 378 | 412 | 403 | 381 | | | | |
| Lower Bound | | | | | | 403 | 394 | 385 | 376 | 367 | 358 |
| Forecast Line | | | | | | 403 | 423 | 433 | 443 | 453 | 463 |
| Upper Bound | | | | | | 403 | 452 | 481 | 510 | 539 | 568 |
| **Region 4** | | | | | | | | | | | |
| Historical | 211 | 239 | 295 | 335 | 311 | 257 | 218 | | | | |
| Lower Bound | | | | | | 257 | 249 | 239 | 229 | 219 | 210 |
| Forecast Line | | | | | | 257 | 257 | 257 | 257 | 257 | 257 |
| Upper Bound | | | | | | 257 | 287 | 287 | 287 | 287 | 287 |
| **Region 5** | | | | | | | | | | | |
| Historical | 265 | 308 | 265 | 368 | 352 | 265 | 320 | | | | |
| Lower Bound | | | | | | 265 | 249 | 233 | 217 | 201 | 185 |
| Forecast Line | | | | | | 265 | 265 | 265 | 265 | 265 | 265 |
| Upper Bound | | | | | | 265 | 309 | 307 | 305 | 304 | 302 |

## Exhibit 10: YDC Average Daily Population Historical and Forecast

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Region 1** | | | | | | | | | | | |
| **Historical** | 92 | 113 | 135 | 149 | 151 | 111 | 114 | | | | |
| **Lower Bound** | | | | | | | 113 | 112 | 110 | 108 | 106 |
| **Forecast Line** | | | | | | | 117 | 120 | 122 | 125 | 127 |
| **Upper Bound** | | | | | | | 121 | 126 | 132 | 138 | 145 |
| **Region 2** | | | | | | | | | | | |
| **Historical** | 166 | 163 | 165 | 147 | 179 | 116 | 121 | | | | |
| **Lower Bound** | | | | | | | 138 | 138 | 138 | 138 | 138 |
| **Forecast Line** | | | | | | | 148 | 148 | 148 | 148 | 148 |
| **Upper Bound** | | | | | | | 153 | 155 | 157 | 159 | 161 |
| **Region 3** | | | | | | | | | | | |
| **Historical** | 241 | 237 | 257 | 273 | 309 | 240 | 252 | | | | |
| **Lower Bound** | | | | | | | 259 | 253 | 247 | 241 | 235 |
| **Forecast Line** | | | | | | | 278 | 285 | 291 | 298 | 304 |
| **Upper Bound** | | | | | | | 297 | 316 | 335 | 354 | 373 |
| **Region 4** | | | | | | | | | | | |
| **Historical** | 218 | 201 | 232 | 261 | 282 | 209 | 196 | | | | |
| **Lower Bound** | | | | | | | 217 | 209 | 200 | 192 | 183 |
| **Forecast Line** | | | | | | | 225 | 225 | 225 | 225 | 225 |
| **Upper Bound** | | | | | | | 251 | 251 | 251 | 251 | 251 |
| **Region 5** | | | | | | | | | | | |
| **Historical** | 233 | 246 | 225 | 254 | 275 | 189 | 245 | | | | |
| **Lower Bound** | | | | | | | 180 | 168 | 157 | 145 | 133 |
| **Forecast Line** | | | | | | | 191 | 191 | 191 | 191 | 191 |
| **Upper Bound** | | | | | | | 223 | 221 | 220 | 219 | 218 |

Forecasted Average Daily Population = (Admissions * Average Length of Stay)/365.25