Office of the
Secretary of Public Safety and Homeland Security

REPORT ON THE OFFENDER POPULATION FORECASTS (FY2019 TO FY2024)

To The Governor and General Assembly

Commonwealth of Virginia

Richmond, October 15, 2018

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Office of the Secretary of Public Safety and Homeland Security

October 15, 2018

TO: The Honorable Ralph S. Northam
Governor

The Honorable S. Chris Jones
Chairman, House Appropriations Committee

The Honorable Emmett W. Hanger, Jr.
Co-Chairman, Senate Finance Committee

The Honorable Thomas K. Norment, Jr.
Co-Chairman, Senate Finance Committee

The Honorable Robert B. Bell
Chairman, House Courts of Justice Committee

The Honorable Mark D. Obenshain
Chairman, Senate Courts of Justice Committee

Each year, the Secretary of Public Safety and Homeland Security is required to present revised offender population forecasts to the Governor, the Chairmen of the House Appropriations and Senate Finance Committees, and the Chairmen of the House and Senate Courts of Justice Committees.

To revise the forecasts, my office brought together policy makers, administrators, and technical experts from all branches of state government for a series of meetings over the course of the summer and early fall. Using a consensus approach, with input from all those who participated in the process, a forecast for each of the four offender populations was adopted.

The 2018 forecasting process is complete and, as required by the Appropriation Act, this report is respectfully submitted for your consideration. Please contact my office should you have questions regarding any aspect of the offender forecasts.

Sincerely,

Brian J. Moran

Authority

This report has been prepared and submitted to fulfill the requirements of Item 381 of Chapter 2 of the Acts of Assembly of 2018, Special Session I (Appropriation Act). This provision requires the Secretary of Public Safety and Homeland Security to present revised six-year state and local juvenile and state and local responsibility adult offender population forecasts to the Governor, the Chairmen of the House Appropriations and Senate Finance Committees, and the Chairmen of the House and Senate Courts of Justice Committees by October 15 of each year. In addition, the Secretary must ensure that the adult state-responsible population forecast includes an estimate of the number of probation violators in the overall population who may be appropriate for punishment via alternative sanctions. This document contains the Secretary's report for 2018.

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Appendices

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Executive Summary

Forecasts of persons confined in state and local correctional facilities are essential for criminal justice budgeting and planning in Virginia. The forecasts are used to estimate operating expenses and future capital needs and to assess the impact of current and proposed criminal justice policies. The Secretary of Public Safety and Homeland Security oversees the forecasting process and, as required by the Appropriation Act, presents updated forecasts annually to the Governor, the Chairmen of the House Appropriations and Senate Finance Committees, and the Chairmen of the House and Senate Courts of Justice Committees.

To produce the offender forecasts, the Secretary's Office utilizes an approach known as "consensus forecasting." This process brings together policy makers, administrators, and technical experts from all branches of state government. The Technical Advisory Committee is composed of experts in statistical and quantitative methods from several agencies. While individual members of this Committee generate the offender forecasts, the Committee as a whole carefully scrutinizes each forecast according to the highest statistical standards. Selected forecasts are presented to the Secretary's Work Group. The Work Group evaluates the forecasts and provides guidance to the Technical Advisory Committee. The Work Group includes deputy directors and senior managers of criminal justice and budget agencies, as well as staff of the House Appropriations and Senate Finance Committees. Forecasts accepted by the Work Group then are presented to the Secretary's Policy Committee. Led by the Secretary, the Policy Committee reviews the various forecasts, making any adjustments deemed necessary to account for emerging trends or recent policy changes, and selects the official forecast for each offender population. The Policy Committee is made up of lawmakers, agency directors, and other top officials. Representatives of Virginia's prosecutor, police, sheriff, and jail associations are invited to participate. Through the consensus process, a forecast is produced for each of the four major offender populations.

The forecasts, approved in October 2018, were based on the statistical and trend information known at the time that they were produced. A new jail data system, known as LIDS-CORIS, was implemented in June 2013. Challenges encountered after the launch of LIDS-CORIS were addressed by the developer and resulted in a series of revisions to the data used to produce the adult state-responsible and local-responsible forecasts. Improvements in the LIDS-CORIS system and support programming, led to subsequent updates of the data in June 2015 and September 2016. In order to ensure the utmost accuracy of the forecasting data, the Technical Advisory Committee closely examined the time lag needed for LIDS-CORIS data to mature and stabilize. Based on that review, only data through March 2018 were selected to generate the adult state-responsible population forecast and data through April 2018 were used to produce the local-responsible population forecast presented in this report. Another data lag affects the development of the adult state-responsible population forecast. While the backlog of data on new commitments entering the state-responsible population has improved, a one-year lag remains. Thus, the most recent new commitment information available for analysis is data from fiscal year (FY) 2017. These data lags increase the degree of uncertainty surrounding the adult offender forecasts. Moreover, the backlog in drug cases pending analysis by the Department of Forensic Science (DFS) has continued to grow due to the combination of the increasing number of drug

cases that are submitted to DFS and the increase in the average number of days that are required to complete analysis. It is likely that the backlog has delayed criminal drug case processing times and, once the backlog is resolved, there could be a large rise in offenders being convicted and sentenced. This possibility adds to the uncertainty surrounding the adult offender forecasts this year.

Adult State-Responsible Confined Population The largest of the forecasted populations, the state-responsible (SR) confined population includes offenders incarcerated in state prisons, as well as SR offenders housed in local and regional jails around the Commonwealth. After peaking at 39,158 in June 2008, the SR population averaged an annual decline of 327 (0.8%) through June 2012. Much of the decline during that period can be attributed to a decrease in the annual number of SR new court commitments. This shift was consistent with observed changes in arrest patterns, a decline in felony sentencing events in circuit court, and a return to pre-2004 levels in the backlog of drug cases awaiting analysis at the Department of Forensic Science. Between June 2012 and June 2015, the SR population grew by an annual average of 304 (0.8%), reaching 39,171 offenders in October 2014 before declining to 38,761 by the end of June 2015. The population continued to decrease in each of the following two years to 37,762 by the end of June 2017. A decline in the population of roughly 1.3% is expected for FY2018, based on data available at the time of this report. According to the approved forecast, the total SR population is projected to increase by an average of 0.3% annually during the next six years to 37,837 offenders by the end of FY2024 (see table on following page). This forecast is approximately 1,600 inmates lower than the forecast adopted last year. As required by Appropriation language, the forecast has been disaggregated to identify the number of probation violators within the overall population who may be appropriate for alternative sanctions. By the end of FY2024, it is projected that the state-responsible population will include 2,569 technical probation violators (i.e., offenders who violated the rules of probation but have not been convicted of a new crime).[1]

Adult Local-Responsible Jail Population. The local-responsible jail population is defined as the number of persons confined in local and regional jails across the Commonwealth, excluding state and federal inmates and ordinance violators. Following substantial growth in FY2006 and FY2007, the average local-responsible jail population declined each succeeding year through FY2010. In FY2011, the local-responsible jail population began to rise, with growth averaging 1.2% annually through FY2014. This period of growth did not continue, as the local-responsible jail population decreased by 1.3% in FY2015 and then 4.2% in FY2016. The trend reversed again in FY2017, when the population increased 4.3%. Although data for the most recent fiscal year are not yet finalized, the population is expected to grow by 3.4% in FY2018, consistent with the recent uptick in felony arrests for violent offenses and drug crimes. Under the approved forecast, the local-responsible jail population is projected to grow at a slower rate, 0.3% per year, through FY2024 (see table below). This would bring the average local-responsible population to 20,137 in FY2024, compared with a peak of 20,522 (in FY2023) in the forecast submitted to the Governor and General Assembly last year.

Juvenile Direct Care Population. Juvenile offenders committed to the state are held in

[1] The proportion of Technical Probation Violators declines as criminal histories are updated with new conviction information, as such, these Technical Probation Violator Forecasts should be considered maximums and are expected to decline by more than one-third as additional conviction information is received.

facilities operated by the Department of Juvenile Justice (DJJ) or they are placed in re-entry, community placement, or other programs; collectively, these make up DJJ's total direct care population. The number of juveniles in the direct care population has been falling overall since FY2000. Some of the early decline may be attributed to a change in the minimum criteria for a juvenile to be committed to DJJ (from a felony or two Class 1 misdemeanor adjudications to a felony or four Class 1 misdemeanor adjudications) beginning July 1, 2000, as well as subsequent statutory changes discussed later in this report. These policy changes alone cannot explain the persistent downward trend in commitments. At court services units, the point of entry into the juvenile justice system, the total number of juvenile intake cases has continued to decline; between FY2009 and FY2018, juvenile intake cases at court services units declined by 40.8%. In addition, DJJ has implemented procedures that include the use of validated risk assessment instruments in numerous aspects of community and facility operations in order to reserve juvenile correctional beds for those who represent the greatest risk to public safety. In FY2018, the total direct care population averaged 335, a decrease of less than 1% from the previous year. The forecast for the direct care population anticipates a leveling off through FY2020. Beginning in FY2021, this population is expected to begin increasing slightly, in part due to the larger number of juveniles admitted with determinate sentences and thus longer lengths-of-stay. For FY2024, the average population is projected to be 355 juveniles (see table below).

Juvenile Detention Center (JDC) Population. Juveniles held in local or commission-operated juvenile detention centers around the Commonwealth make up the juvenile local-responsible population. The JDC population declined from an average of 1,010 in FY2008 to an average of 727 in FY2013. Lower numbers of intakes at court services units and procedures to reduce detention of low-risk juveniles have contributed to the downward trend. The population increased slightly to 735 in FY2014 due to longer lengths-of-stay but decreased to an average of 622 by FY2018 due to the decline in detainments (admissions). The average JDC population is projected to drop to 545 juveniles by FY2024 (see table below).

Offender Population Forecasts
FY2019 – FY2024

Fiscal Year	Adult State-Responsible Offender Population (June 30)	Technical Probation Violators within the Adult State-Responsible Offender Population (June 30)*	Adult Local-Responsible Jail Population (FY Average)	Juvenile Direct Care Population (FY Average)	Juvenile Detention Center Population (FY Average)
FY2018	37,254 (Projected)	1,894 (Projected)	19,762 (Projected)	335 (Actual)	622 (Actual)
FY2019	37,177	2,234	19,819	334	587
FY2020	37,254	2,394	19,883	327	586
FY2021	37,382	2,452	19,946	341	578
FY2022	37,525	2,491	20,010	351	568
FY2023	37,656	2,528	20,073	354	556
FY2024	37,837	2,569	20,137	355	545

*** The Technical Probation Violator forecast is a subgroup of, and not in addition to, the Adult State-Responsible Offender Forecast.**

Since the proportion of violators identified as technical violators declines as criminal histories are updated with new conviction information, this forecast should be considered a maximum.

Based on previous study, the Department of Corrections has estimated that 53% of technical violators sentenced to a state-responsible term may be suitable for alternative sanctions.

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Virginia's Offender Forecasting Process

Each year, the Secretary of Public Safety and Homeland Security oversees the offender forecasting process. These forecasts are essential for criminal justice budgeting and planning in the Commonwealth. They are used to estimate operating expenses and future capital needs for state prisons, local and regional jails, and juvenile correctional facilities. In addition, the forecasts provide critical information for assessing the impact of current and proposed criminal justice policies. The Secretary's Office utilizes an approach known as "consensus forecasting." First implemented in Virginia in the late 1980s, consensus forecasting is an open, participative approach that brings together policy makers, administrators, and technical experts from many state agencies across all branches of state government. The objective is to ensure that key policy makers and administrators in the criminal justice system have input into the forecast. Moreover, the process is intended to promote general understanding of the forecast and the assumptions that drive it.

The process is structured through committees. The Technical Advisory Committee is composed of experts in statistical and quantitative methods from several agencies. Analysts from particular agencies are tasked with developing offender forecasts. Typically, two forecast models are developed for each of the adult and juvenile populations by two analysts from separate agencies working independently of one another. Confidence in the forecast can be bolstered if different methods used by multiple agencies converge on the same future population levels. While individual members generate the various prisoner forecasts, the Technical Advisory Committee as a whole carefully scrutinizes each forecast according to the highest statistical standards. Select forecasts are recommended by the Technical Advisory Committee for consideration by the Secretary's Work Group. Work Group members include deputy directors and senior managers of criminal justice and budget agencies, as well as staff of the House Appropriations and Senate Finance Committees. Meeting throughout the development of the forecasts, the Work Group provides guidance to the Technical Advisory Committee, discusses detailed aspects of the projections, and directs technical staff to provide additional data needed for decision making. The diverse backgrounds and expertise of Work Group members promote in-depth discussions of numerous issues and trends in Virginia's criminal justice system. After thorough evaluation of each forecast, the Work Group makes recommendations to the Secretary's Policy Committee. Led by the Secretary, the Policy Committee reviews the various forecasts and selects the official forecast for each population. This Committee also considers the effects of emerging trends or recent policy changes, making adjustments to the forecasts as it deems appropriate. The Policy Committee is made up of agency directors, members of the General Assembly, and top-level officials from Virginia's executive, legislative, and judicial branches. Each year, at least one prosecutor, sheriff, police chief, and jail administrator are invited to serve on the Policy Committee to represent their respective associations.

The forecasting process benefits from rigorous quantitative analysis by the Technical Advisory Committee, detailed scrutiny by the Work Group, and high-level review by the Policy Committee. Through the consensus process, a separate forecast is produced for each of the four major correctional populations.

Forecasting Methodologies

Members of the Technical Advisory Committee use two types of methodologies to develop offender forecasts: time series forecasting and computer simulation modeling. Time series forecasting is a set of statistical techniques that apply specifically to the analysis of data points that occur over time. Time series forecasting assumes that there is a pattern in the historical values that can be identified. The goal is to define the pattern, understand the short-term and long-term trends, and pinpoint any seasonal fluctuations. Significant policy changes made in past years can be included in the statistical model and the impacts quantified. Time series models then use the pattern, trend, and seasonal variation identified in the historical data to project future values.

Models developed from the same data can differ based on the statistical parameters included, external factors tested (factors that may be correlated with population changes), how many years of historical data are included in the analysis, etc. To develop time series models, analysts often withhold the most recent data points (e.g., the last 12 months) and try out various models on the remaining data. When a particular model is identified, the model is then used to project values for the period of data withheld from the model development. The projected values are compared to the actual values during the holdout period to assess the model's accuracy. Models can then be compared based on a variety of accuracy statistics so that the model with the best set of statistical properties can be selected.

For example, the Technical Committee compares models based on what are known as "fit statistics," which measure how accurately a model estimates the actual historical population data. Analysts then re-run the selected model using all of the historical data, including data originally withheld during the model development stage. This is done to ensure that the most recent available data are included when generating the actual forecast. Analysts on the Technical Advisory Committee typically follow this process when developing offender forecasts using time series techniques.

Examples of time series forecasting techniques include exponential smoothing and Auto-Regressive Integrated Moving Average (ARIMA) modeling. These methods are used to develop a model where the prediction is a weighted linear sum of recent past observations or lags. For exponential smoothing forecasting methods, prediction is a weighted sum of past observations, but the model explicitly uses an exponentially decreasing weight for past observations. ARIMA models have two distinct components that can be used separately or in combination. The autoregressive (AR) model specifies that the output variable depends linearly on its own previous values. The moving-average (MA) model specifies that the output variable depends linearly on the current and various past values of the errors (residuals) of the previous forecasted time periods. The integrated aspect (I) of the ARIMA model specifies the steps taken to make the time series stationary, a condition necessary to achieve unbiased results in the ARIMA model. The purpose of each of these features is to make the model fit the historical data as well as possible. Depending on the parameters kept in the model, the effect may be that recent values are weighted more heavily in generating a forecast than observations in the distant past, or the observations may be weighted more equally over the entire period of historical data. These differences, and others, impact the forecasts produced from the models.

The Department of Corrections (DOC) and the Department of Juvenile Justice (DJJ) use computer simulation modeling to forecast the adult state-responsible inmate population and the state's juvenile direct care population, respectively. Computer simulation models are designed to mimic the flow of offenders through a system over the forecast horizon. Both DOC and DJJ use Simul8 forecasting software for this purpose. Simul8 is a standard software package made specifically for creating simulation models. It is flexible in that users can structure a simulation model to accurately portray their particular system and it can be easily modified to capture policy changes. Simul8 models can also be adapted to produce forecasts of important subpopulations. To accurately simulate the movement of offenders through a system, data describing the offenders admitted to, confined in, and released from the population are compiled and programmed into the simulation model as inputs. Thus, use of simulation forecasting requires assumptions to be made. These assumptions typically include:

- the number of future commitments/admissions expected,
- the categories (types) of future commitments/admissions,
- the sentence lengths of future commitments/admissions,
- the rate at which future commitments/admissions will earn available sentence credits,
- the length of time individuals in the existing population will serve before release, and
- how confined individuals will be released in the future, if more than one release/exit type is possible (e.g., the number of inmates estimated to die in custody).

Due to the lag in available new commitment data, DOC's computer simulation can also be used to test a variety of new commitment forecast scenarios. By running the model with different new commitment scenarios, the Technical Committee can compare the state-responsible population forecasts generated by the simulation model to the actual known population for recent months. This type of testing is often helpful in assessing the various new commitment projections under consideration.

Members of the Technical Advisory Committee from particular agencies are assigned the task of generating the offender forecasts. Models are developed by at least two analysts from different agencies working independently of one another. Each analyst presents his/her forecast model to the Committee, and Committee members carefully scrutinize each forecast. The forecasts selected by the Technical Advisory Committee are proposed to the Secretary's Liaison Work Group, which then will select the forecasts to recommend to the Secretary's Policy Committee.

Adult State-Responsible Confined Population

The largest of the forecasted populations, the adult state-responsible (SR) confined population includes offenders incarcerated in state prisons, as well as SR offenders housed in local and regional jails around the Commonwealth. For forecasting purposes, state-responsibility begins on the day an offender receives an SR sentence (i.e., a sentence of one year or more for a felony offense). If the offender has multiple court cases, state-responsibility starts on the most recent sentencing date that occurs prior to the offender's classification by the Department of Corrections (DOC).

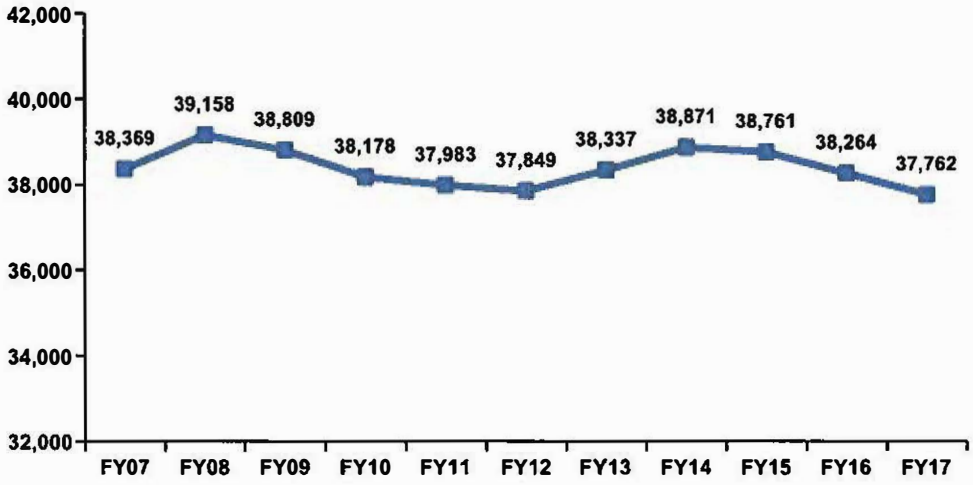
The SR confined population is a combination of the number of SR offenders in DOC facilities as listed in the DOC Facility Population Summary Report for the last day of each month plus the number of SR offenders in local and regional jails reported to the State Compensation Board (SCB). Jail data that is reported to the SCB is complex as offenders in jails can proceed through many statuses such as awaiting trial, awaiting sentencing, serving a local-responsible or local ordinance sentence, or serving a state-responsible sentence. Thus, for individuals held in the jails, it is not just a matter of reporting head count figures, but also determining the legal status of the offender on the last day of the month. This process can be complicated as offenders may have multiple legal actions occurring and court records need to be received and interpreted to enter in the final statuses. Due to the dynamic nature of this jail data, it takes some time for it to stabilize. Based on a review by the Technical Advisory Committee regarding the time lag needed for LIDS-CORIS data to mature and stabilize, only data through March 2018 were used to generate the adult state-responsible confined population forecast presented in this section.

Population Change

After peaking at 39,158 in June 2008, the SR population averaged an annual decline of 327 (0.8%) through June 2012 (Figure 1). Much of the decline between June 2008 and June 2012 can be attributed to a decrease in the annual number of SR New Court Commitments (NCC), which dropped by an average of 372 (3.0%) per year during this time. This shift was consistent with observed changes in arrest patterns, a decline in felony sentencing events in circuit court, and a return to pre-2004 levels in the backlog of drug cases awaiting analysis at the Department of Forensic Science. After June 2012, the SR population increased by annual average of 304 (0.8%) through June 2015. During this same time period, the female SR population grew by an annual average of 159 (5.4%). However, the total population declined by 1%-2% in each of the following two years, reaching 37,762 by the end of June 2017. The female SR population decreased by 156 (4.7%), falling to 3,144 in June 2016 and 3,138 in June 2017.

Population figures for June 2018 are not shown in this section, as data for that time period are not considered mature.

Figure 1
Adult State-Responsible Confined Population (on June 30 of each year)



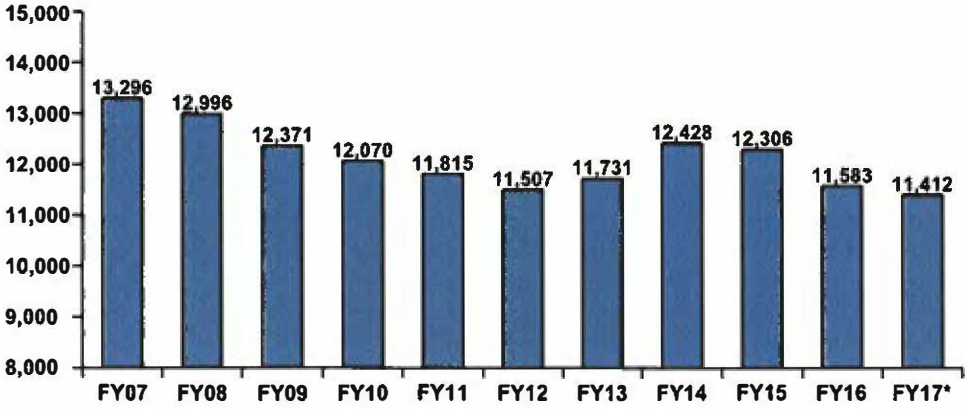
Based on improvements in the LIDS-CORIS data system and associated computer programming, along with corrections and updates entered into the system by jail staff, the Compensation Board has released revised figures for the number of state-responsible confined offenders held in jails. Figures for the state-responsible confined population have been revised accordingly and, therefore, are not comparable to those provided in previous offender forecasting reports. All Compensation Board data were updated through September 5, 2018

Factors Affe

The number of offenders entering the SR confined population each year is a critical factor affecting population growth. After peaking in FY2007, the number of SR NCC fell each year through FY2012 (Figure 2). The drop in commitments during those years is the principal reason for the downward trend in the overall population during that time period. Likewise, the growth in the SR population in FY2013 and FY2014 is due, in large part, to increases in the number of SR NCC, which grew by 1.9% and 5.9% in FY2013 and FY2014, respectively. However, SR NCC declined by an annual average of 2.8% from FY2015 through FY2017.

The Technical Committee encountered a data lag affecting development of the forecast. Data on new commitments entering the state-responsible population have become increasingly backlogged. Thus, the most recent new commitment information available for analysis is data from fiscal year FY2017. These data lags increase the degree of uncertainty surrounding the adult offender forecasts.

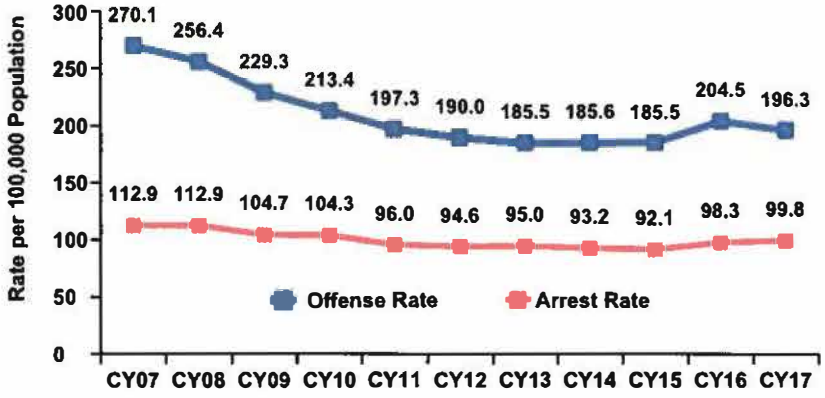
Figure 2
State-Responsible New Court Commitments



*Preliminary data through September 28, 2018

There are numerous factors that may have an impact on the number and types of offenders sentenced to an SR term of incarceration. Both the offense rate and arrest rate (per 100,000 population) for violent index crimes (murder/non-negligent manslaughter, forcible rape, robbery and aggravated assault) declined from CY2007 through CY2013. The offense rate remained stable through CY2015, while the decline in the arrest rate slowed. In contrast, both the offense and arrest rates for violent crimes were higher in CY2016-CY2017 than during the previous four years (Figure 3).

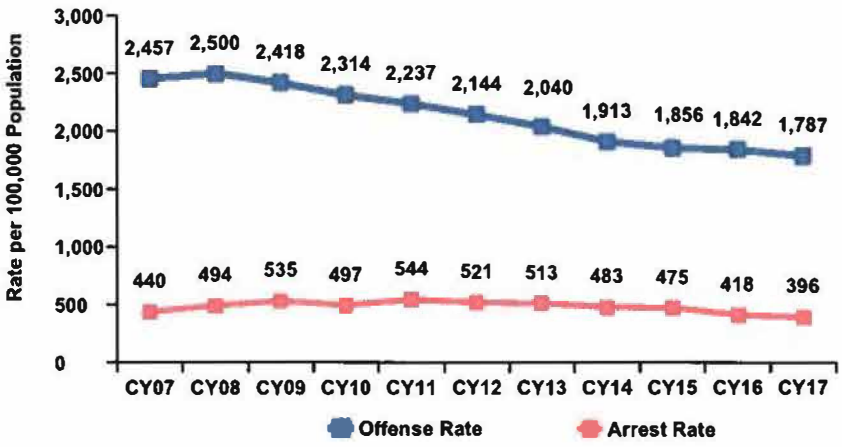
Figure 3
Violent Index Crime Offense Rates & Arrest Rates in Virginia



Violent index crimes are murder/non-negligent manslaughter, forcible rape, robbery and aggravated assault.

The offense rate (per 100,000 population) for property index crimes (burglary, larceny and motor vehicle theft) has declined by more than one quarter (27%) since CY2007 (Figure 4). The arrest rate (per 100,000 population) for property index crimes increased by 22% from CY2007 through CY2009 and declined by 26% from CY2011 through CY2017. Larceny arrests account for the vast majority of arrests for property offenses.

Figure 4
Property Index Crime Offense Rates & Arrest Rates in Virginia

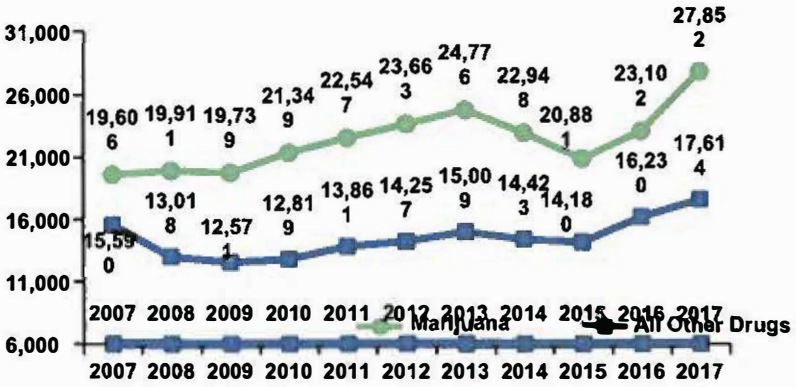


Property index crimes are burglary, larceny, and motor vehicle theft.

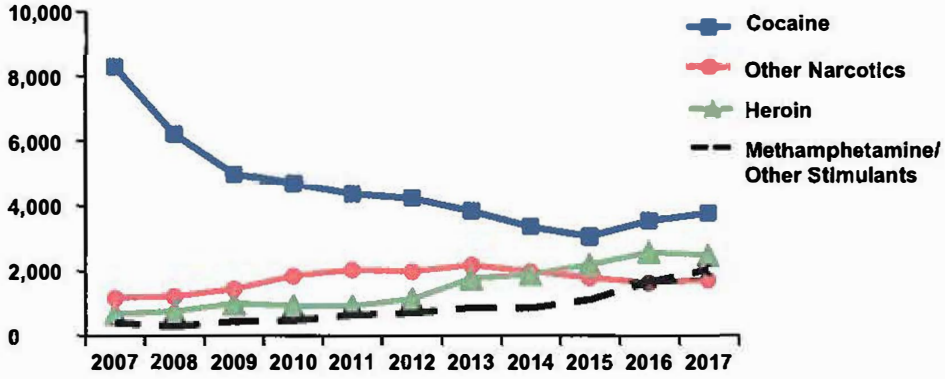
Overall, the number of adults arrested for drug offenses grew from the early 2000s through 2007. In 2008 and 2009, Virginia experienced a decline in the number of drug arrests. These decreases were largely attributable to substantial reductions in persons arrested for cocaine offenses. Federal data suggest reduced availability of cocaine in the United States during that time. Law enforcement efforts (e.g., seizures, crop eradication, and border security) and the drug war in Mexico appear to have impacted the ability of traffickers to deliver drugs to the U.S. During 2010 through 2013, however, the rate of decline in cocaine arrests slowed and the total number of drug arrests rose. Much of the increase during this period was associated with larger numbers of marijuana arrests (Figure 5 upper panel). The vast majority of marijuana arrests are for misdemeanor-level offenses for which an offender could not receive a prison sentence unless also convicted of a felony. In contrast, many of the arrests involving drugs other than marijuana are for felony-level offenses. For example, possession of cocaine, heroin, methamphetamine or other Schedule I or II drug is a Class 5 felony in Virginia. While cocaine arrests continued to fall, arrests for other Schedule I or II drugs increased during 2010-2015 (Figure 5 lower panel). In 2016, there were increases in arrests across all categories except for the other narcotic category. In 2017, there were increases in arrests across all categories except for heroin, which decreased slightly from 2,588 to 2,504.

Figure 5
Number of Adult Arrests for Drug Crimes in Virginia (by Calendar Year)

Total Drug Arrests: Marijuana versus All Other Drugs



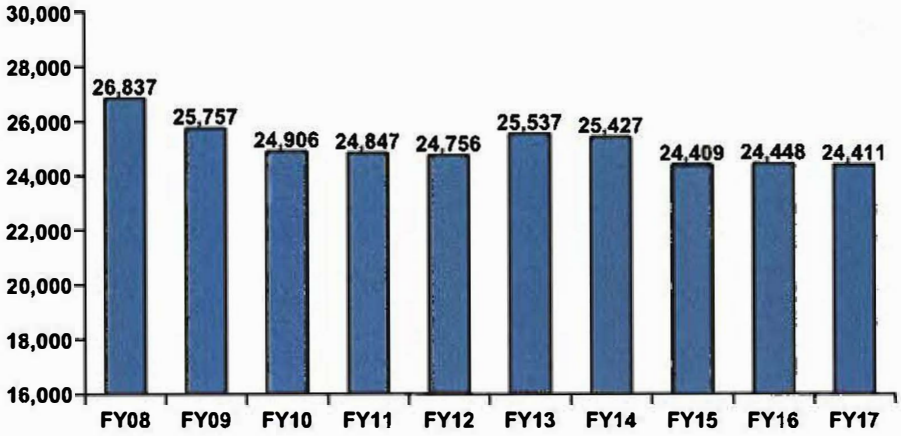
Arrests for Cocaine, Heroin, Other Narcotics & Methamphetamine/Other Stimulants



Other Narcotics include opiates other than heroin, along with morphine and other drugs that dull the senses and may become addictive after prolonged use.

Offenders convicted of felonies are sentenced in Virginia's circuit courts. According to the Virginia Criminal Sentencing Commission, the number of felony sentencing events declined after FY2008, which contributed to the downturn observed in commitments to DOC. After peaking in FY2008, the number of felony sentencing events fell each year through FY2012 (Figure 6). In contrast, felony sentencing events increased by 3.2% in FY2013, which was followed by a 0.4% decrease in FY2014. Felony sentencing events declined in FY2015 and remained relatively flat thereafter, which corresponds to the decreases seen in the number of SR NCC seen in those years.

Figure 6
Felony Sentencing Events in Circuit Court

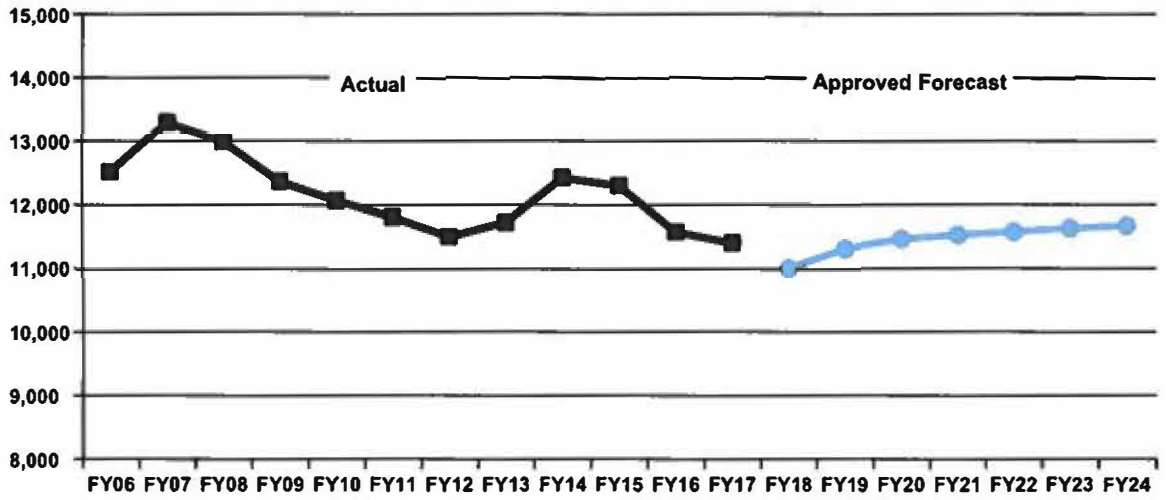


New Commitment Forecast

As noted previously, the number of SR NCC sentenced each year is a critical factor affecting population growth. To aid in the development of the population forecast, analysts first develop a projection of future SR NCC. This forecast is the total of six separate forecasts based on gender and the type of offense for which the offender was sentenced. Generating commitment forecasts by gender and offense type can account for differences in short and long-term trends across categories. New commitment forecasts are developed using statistical time-series forecasting techniques. These are described in the *Forecasting Methodologies* section of this report.

The SR NCC forecast approved by the Secretary's Policy Committee this year anticipates a decrease in commitments in FY2018 (once these data are finalized), to be followed by an increase of less than 1% per year throughout the remainder of the forecast horizon (Figure 7). As a result of the declines seen in the SR NCC, the 2018 SR NCC forecast is lower than the forecast approved last year by approximately 1,100 per year for the five years that the forecasts overlap (FY2019 through FY2023).

Figure 7
Forecast of State-Responsible New Commitments



Actual:	Year	Commitments	Change
	FY11	11,815	-2.1%
	FY12	11,507	-2.6%
	FY13	11,731	1.9%
	FY14	12,428	5.9%
	FY15	12,306	-1.0%
	FY16	11,583	-5.9%
	FY17	11,412	-1.5%
		Avg. change	-0.7%

Forecast:	Year	Commitments	Change
	FY18	11,015	-3.5%
	FY19	11,317	2.7%
	FY20	11,466	1.3%
	FY21	11,531	0.6%
	FY22	11,579	0.4%
	FY23	11,633	0.5%
	FY24	11,673	0.3%
		Avg. change FY19-FY24	1.0%

Assumptions for Department of Corrections' Simulation Model

DOC utilizes a computer simulation model to develop its forecast of the adult state-responsible confined population. A description of simulation modeling can be found in the *Forecasting Methodologies* section of this report. Use of simulation forecasting requires several assumptions regarding commitments and releases. The important assumptions incorporated into DOC's simulation model include those listed below.

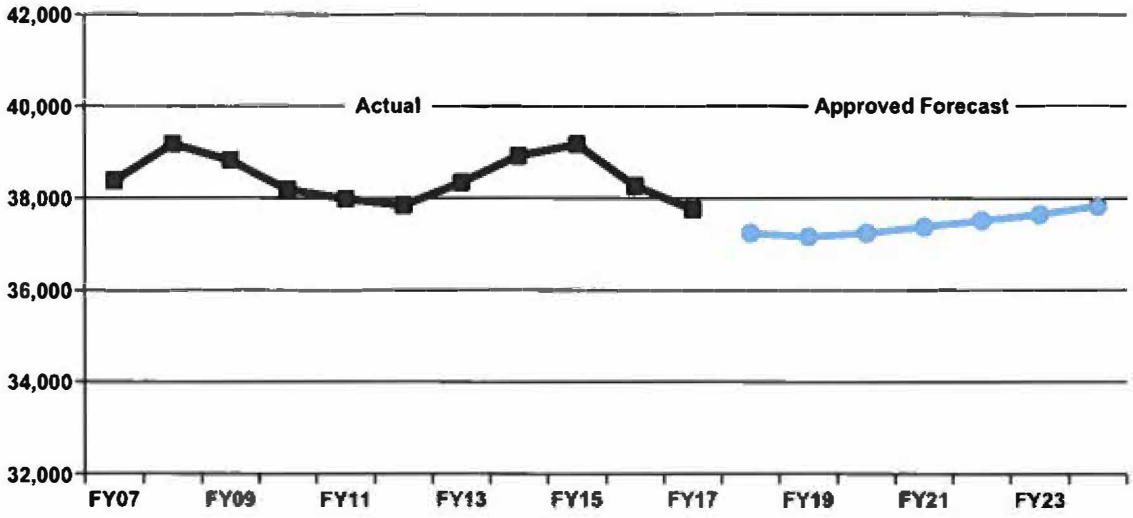
- The number of future commitments is based on the new commitment forecast approved by the Policy Committee (see above);
- Future commitments will have the same characteristics (e.g., gender, offense type, sentence length) as recent commitments to the Department;
  - For male commitments, characteristics of the FY2017 SR NCC were used for the simulation model.
  - For female new commitments, two years of data are typically used because of the smaller number of female commitments and the variability of the data. Characteristics of the FY2016-FY2017 female SR NCC were used for the simulation model.

- Future parole violator admissions are projected based on the trend observed during the most recent three years of available data (i.e., the average annual change over the last three fiscal years is applied for each year of the forecast horizon);
- Due to declining numbers, characteristics of parole violators, such as length of stay, are based on analysis of five years of data;
- For truth-in-sentencing/no-parole offenders, release dates are computed based on the sentence and the rate at which offenders earn sentence credits;
- For discretionary parole releases, parole grant rates by gender and crime type are based on the most recent year of available data (since release rates have been declining over time);
- For parole-eligible confined offenders not released by the model to discretionary parole, the release date is assumed to be the offender's mandatory parole release date;
- For indeterminate sentences to DOC's youthful offender program, expected length-of-stay is assumed to be 38.8 months (based on releases of these offenders in FY2018);
- To account for offenders who die in custody, three-year average rates are applied (for male confined offenders these rates are disaggregated by race and age groups);
- Offenders with sentences of life or death and offenders given sentences pursuant to §19.2-297.1 (three strikes provision) will remain confined throughout forecast horizon and, based on the extremely small numbers sentenced to death since FY2009, no new offenders will enter death row during the six-year forecast period; and
- The proportion of offenders who exit the state-responsible population in other ways (e.g., pardon), and their associated length-of-stay, is based the most recent 12 months of available data.

Forecast of the Adult State-Responsible Confined Population

The Secretary's Policy Committee examined the SR population forecasts produced by the DOC simulation model and the DPB time series model (see the *Forecasting Methodologies* section of this report for a description of these techniques). In the first few years of the 2018 SR population forecast, the current confined SR population has the largest impact on the future SR population. Approximately two to three years into the forecast horizon, the admissions have a larger impact on the population forecast. As discussed earlier in this report, admissions data information is lagging and the expected length of stay (LOS) for the most recent SR New Court Commitments is lower than previous years. It is not known if this lower LOS is an anomaly or a shift. VCSC sentencing guidelines data do not show a shift toward lower sentences in recent years. There have been increases in arrest rates, and there has been an increase in the number violent and drug offenders awaiting trial. Given these factors and the uncertainty as to when the backlog of cases at the Department of Forensic Science might begin to fall, the Policy Committee approved a hybrid model averaging both the DOC simulation model and the DPB time-series models. This hybrid model compensates for the data limitations discussed above by applying recently observed population growth rates to the forecast. Based upon the approved male and female forecasts, the total offender population is projected to increase by an average of 97 (0.3%) per year between the end of FY2018 and the end of FY2024 (Figure 8).

Figure 8
Adult State-Responsible Confined Population Forecast (for June 30 of each year)



Actual:	Year	Population	Change
	FY12	37,849	-0.4%
	FY13	38,337	1.3%
	FY14	38,871	1.4%
	FY15	38,761	-0.3%
	FY16	38,264	-1.3%
	FY17	37,762	-1.3%
		Avg. change	-0.1%

Forecast:	Year	Population	Change
	FY18	37,254	-1.3%
	FY19	37,177	-0.2%
	FY20	37,254	0.2%
	FY21	37,382	0.3%
	FY22	37,525	0.4%
	FY23	37,656	0.3%
	FY24	37,837	0.5%
		Avg. change FY19-FY24	0.3%

The 2018 SR population forecast is lower than the forecast presented to the Governor and General Assembly in 2017 (Figure 9).

Figure 9
Comparison of 2017 and 2018 Forecasts of the Adult State-Responsible Confined Population

Year	2017 Forecast	2018 Forecast
FY2018	38,276	
FY2019	38,907	37,177
FY2020	38,777	37,254
FY2021	38,854	37,382
FY2022	39,063	37,525
FY2023	39,278	37,656
FY2024		37,837

Figures represent the population on June 30 of each year.

The SR population forecast is disaggregated by gender below (Figure 10). Between FY2012 and FY2017, the number of females in the SR population grew by 11.2%, compared to a 1.1% decrease in the number of SR males during that same period. Based on the approved forecast, the females will continue to grow faster than their male counterparts. The male population is expected to increase by an average of 0.1% per year, but growth is not expected to begin until FY2021. The female population is expected to increase by an average of 1.8% per year with all of this growth occurring prior to FY2023.

Figure 10
Adult State-Responsible Confined Population by Gender (for June 30 of each year)

Year	Males	Change
FY19	33,844	-0.7%
FY20	33,790	-0.2%
FY21	33,877	0.3%
FY22	33,990	0.3%
FY23	34,122	0.4%
FY24	34,314	0.6%

Projected average growth FY2018 – FY2024: 0.1%

Year	Females	Change
FY19	3,333	5.0%
FY20	3,464	3.9%
FY21	3,505	1.2%
FY22	3,535	0.9%
FY23	3,534	-0.0%
FY24	3,523	-0.3%

Projected average growth FY2018 – FY2024: 1.8%

As required by Item 381 of Chapter 2 of the Acts of Assembly of 2018, Special Session I, the forecast has been disaggregated to identify the number of probation violators within the overall population who may be appropriate for punishment via alternative sanctions. By the end of FY2024, it is projected that the state-responsible population will include 2,569 technical probation violators (Figure 11 below). Technical violators are offenders who violated the rules of probation but have not been convicted of a new crime. This forecast is higher than the forecast presented last year. However, this forecast should be considered a maximum, as DOC will continue to analyze this subpopulation. As the criminal history repository is updated with new conviction information, the proportion of violators identified as technical violators (i.e., those with no new convictions) will decrease.

Based on a previous study, DOC has estimated that 53% of technical violators with a state-responsible sentence may be suitable for alternative sanctions such as its Detention and Diversion Center Programs. DOC concluded that approximately 47% of technical violators entering DOC are likely not good candidates for such alternatives due to convictions for violent offenses (22%), mental health issues (15%), or medical conditions (10%).

Figure 11
Technical Probation Violator Population Forecast

Year	Forecast
FY19	2,234
FY20	2,394
FY21	2,452
FY22	2,491
FY23	2,528
FY24	2,569

The Technical Probation Violator forecast is a subgroup of, and not in addition to, the State-Responsible Confined Offender

Adult Local-Responsible Jail Population

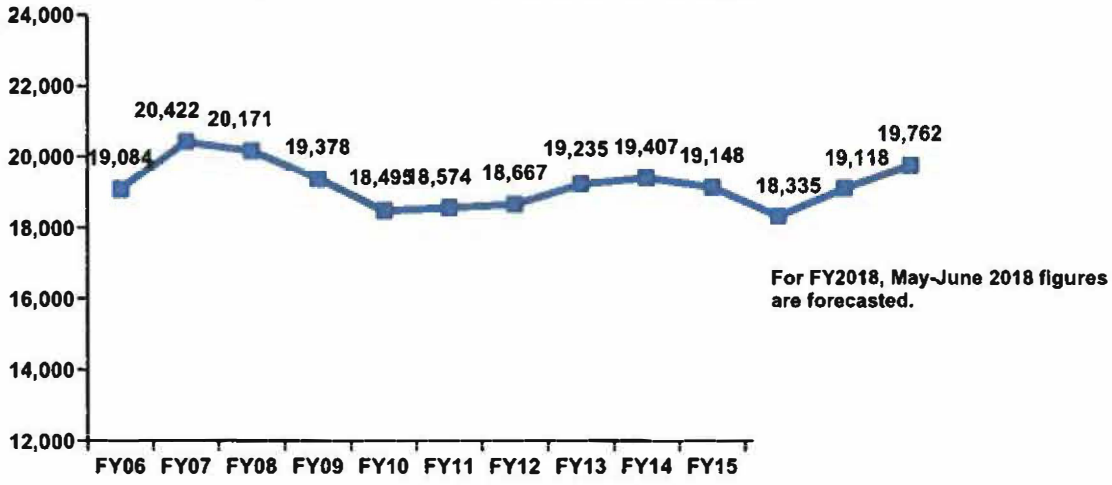
The adult local-responsible jail population is defined as the number of persons confined in local and regional jails across the Commonwealth, excluding state and federal inmates and ordinance violators. Because jail populations fluctuate daily (with higher numbers on weekends) and seasonally (with peaks during late summer and early fall and lows during the winter months), the average daily population traditionally is used for reporting and forecasting purposes.

A new jail data system, known as LIDS-CORIS, was implemented in June 2013. Improvements in the LIDS-CORIS system and support programming, along with corrections and updates entered into the system by jail staff, led to subsequent updates of the data. Thus, the figures in this report are not directly comparable to those provided in previous offender forecasting reports.

Population Change

Following substantial growth in FY2006 and FY2007, the average local-responsible jail population declined each succeeding year through FY2010 (Figure 12). The population grew slowly from FY2011 through FY2014. This was followed by decreases in FY2015 (1.3%) and FY2016 (4.2%). The trend reversed again in FY2017, with the population increasing by 4.3%. In FY2018, analysts estimate the population increased by 3.4% (complete data are not available for FY2018; this estimate includes forecasted data for May and June 2018).

Figure 12
Adult Local-Responsible Jail Population (Fiscal Year Average)



Based on improvements in the LIDS-CORIS data system and associated co with corrections and updates entered into the system by jail staff, the Compensation Board has released revised figures for the number of local-responsible offenders held in jails. Figures have been updated accordingly and, therefore, are not comparable to those provided in previous offender forecasting reports.

Factors Affecting the Population

Numerous factors have an impact on the local-responsible jail population, such as arrests, bail release decisions, case processing time in the courts (which affects the time served awaiting trial), and lengths-of-stay for convicted offenders serving a sentence.

Despite reductions in the crime rate (crimes per 100,000 population) since the early 1990s, the total number of adult arrests in Virginia (based on arrests reported to the Federal Bureau of Investigation) had been climbing from 2007 through 2013. In 2014 and 2015, the number of adults arrested declined across all three offense categories (violent, property and drug). In 2016, arrests for violent and drug offenses increased, while arrests for property offenses continued to decrease. In 2017, arrests for violent offenses remained at approximately the same level (increasing less than a quarter of a percentage point), while arrests for drug offenses continued to increase and arrests for property offenses continued to decrease. Shifts in arrest patterns, both in number and types of arrests, can have a significant impact on the local-responsible population, including individuals in awaiting trial and the number of sentenced offenders in jail.

The number of adults arrested for violent index crimes (murder/non-negligent manslaughter, forcible rape, robbery and aggravated assault) has fluctuated from year to year but has not exhibited an overall trend. Most recently, the number of adults arrested for violent offenses increased by 0.2% from 2016 to 2017. The number of adults arrested for property offenses (burglary, larceny and motor vehicle theft) grew between 2006 and 2011, before leveling off during 2012 and 2013. The number of these arrests declined by 4.9% in 2014, by 0.3% in 2015, by 12.9% in 2016, and by 6.8% in 2018.

The number of arrests for drug offenses increased 43% between 2002 and 2007. In 2008 and 2009, Virginia experienced a decline in drug arrests. Data reveal that this dramatic shift was driven by a steep drop in arrests for cocaine offenses, which dropped 65.7% between 2006 and 2015. This is consistent with trends across the country. However, that trend shifted, with arrests for cocaine offenses increasing by 15.7% in 2016 and 6.7% in 2017. The total number of drug arrests has been rising since 2010 due to increases in arrests for marijuana, heroin and other drugs. For example, between 2009 and 2016, arrests for heroin grew by 155.7%, while arrests for methamphetamine and other stimulants drugs together increased by 263.1%. Marijuana arrests increased 49.5% between 2006 and 2013, decreased 15.7% between 2013 and 2015, and then increased 33.4% between 2015 and 2017. Total adult drug arrests increased 14.5% in 2017.

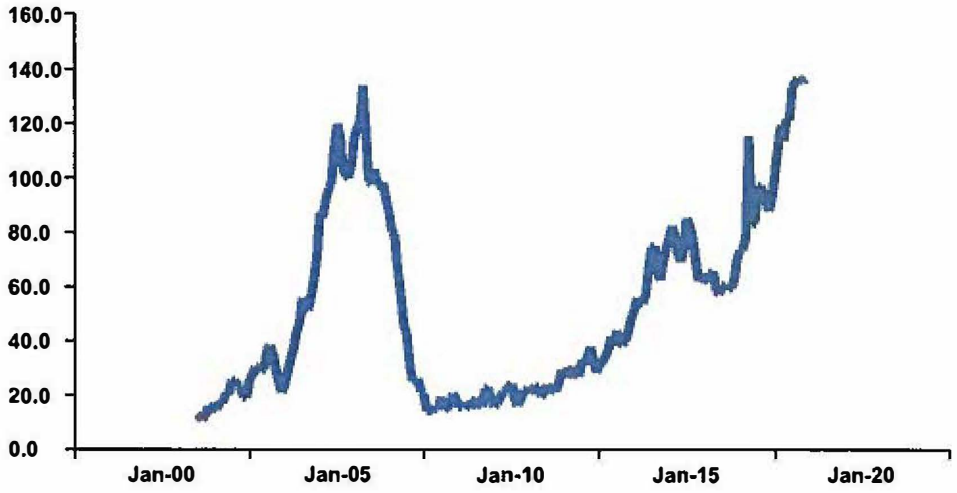
Another drug-related issue that could impact the local-responsible offender population is the ongoing crisis of opioid overdose fatalities. Anecdotally, there are unofficial reports that some judges are becoming more likely to confine opioid addicts charged with criminal offenses in an effort to prevent them from having a fatal overdose. If this happens in large numbers, it could contribute to a rise in the awaiting-trial population. However, at this time, there is no official confirmation of this practice.

One factor that likely has had an impact on the awaiting trial population in the last fifteen years is the backlog of drug cases awaiting analysis at the Department of Forensic Science (DFS). Beginning in 2003, the average number of days to complete a drug analysis rose sharply (Figure 13). The backlog is suspected to have resulted in delays in criminal case processing for

those offenders charged with drug crimes. The effect of these delays could be seen in the dramatic rise from FY2004 through FY2007 in the number of persons in jail awaiting trial and those in jail with additional charges pending. Once given additional resources, DFS was able to swiftly reduce the backlog of drug cases. With analysis for thousands of drug cases completed, a large number of open court cases could be concluded, and the offenders convicted and sentenced. Consequently, the number of offenders in jail awaiting trial declined and several categories of sentenced offenders increased through FY2008.

Since FY2013, the average number of days to complete a drug analysis has been increasing and the drug case backlog has been rising once again. DFS faces a number of challenges contributing to this trend. Drug case submissions have been increasing by about 10% per year for the past two years and is on track to increase by 10% again in 2018. The complexity of the drug samples has also increased; as submissions of marijuana and cocaine dropped, submissions of illicit synthetic opioids, cannabimimetic agents, and a wide range of other synthetic drugs increased. Increased safety measures for the handling of dangerous substances, such as carfentanil, have also added to the time needed to test drug samples. Finally, when DFS hires new analysts, the training and certification process takes many months; thus, new analysts are not available to take on the more complex types of cases for quite some time.

Figure 13
Department of Forensic Science
Average Days to Complete Drug Analysis



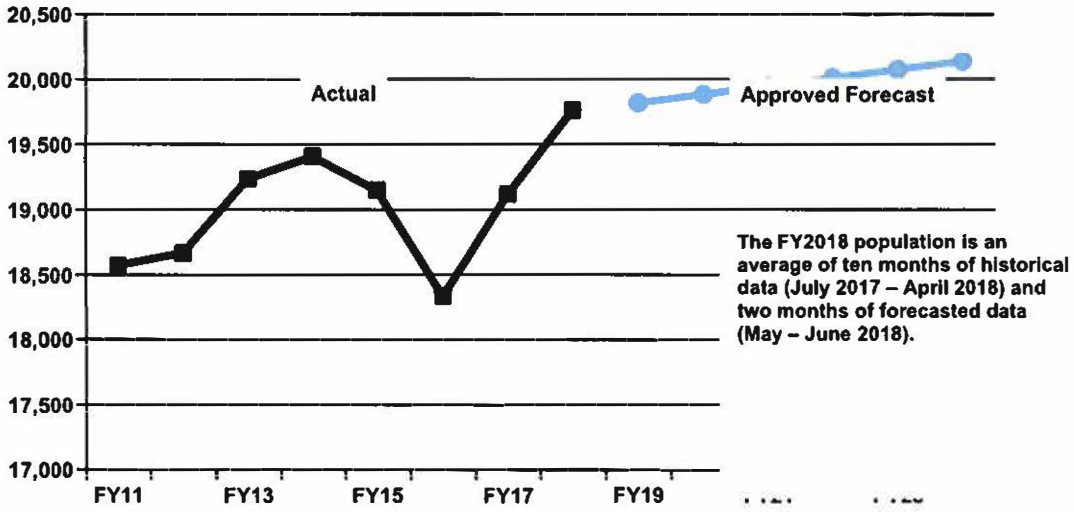
Forecast of the Adult Local-Responsible Jail Population

Forecasts of the local-responsible jail population were produced by the Department of Criminal Justice Services (DCJS) and DPB. Both agencies used time series techniques to forecast this population (time series forecasting techniques are described in the *Forecasting Methodologies* section of this report). Both agencies used April 2018 as the last month of historical population data, to account for time needed for the LIDS-CORIS data to mature. Both

models fit the historical data well, although the DCJS model yielded better statistical accuracy, and was recommended by the Technical Advisory Committee. Upon review, the Policy Committee approved the recommended model as the official forecast.

The local-responsible jail population is expected to increase by 0.3% from an average of 19,762 in FY2018 (using projections for May and June 2018 data) to an average of 19,819 in FY2019. The population is projected to continue to increase 0.3% each year, reaching 20,137 in FY2024 (Figure 14). In comparison, in the forecast submitted to the Governor and General Assembly last year, the population was projected to reach 20,522 in FY2023.

Figure 14
Local-Responsible Jail Population Forecast (Fiscal Year Average)



Actual:	Year	Population	Change
	FY12	18,667	0.5%
	FY13	19,235	3.0%
	FY14	19,407	0.9%
	FY15	19,148	-1.3%
	FY16	18,335	-4.2%
	FY17	19,118	4.3%
	FY18*	19,762	3.4%
		Avg. change	1.0%

Forecast:	Year	Population	Change
	FY19	19,819	0.3%
	FY20	19,883	0.3%
	FY21	19,946	0.3%
	FY22	20,010	0.3%
	FY23	20,073	0.3%
	FY24	20,137	0.3%
		Avg. change	0.3%

Figures represent the average population for each fiscal year.

***The FY2018 population is an average of ten months of historical data (July 2017 – April 2018) and two months of forecasted data (May – June 2018).**

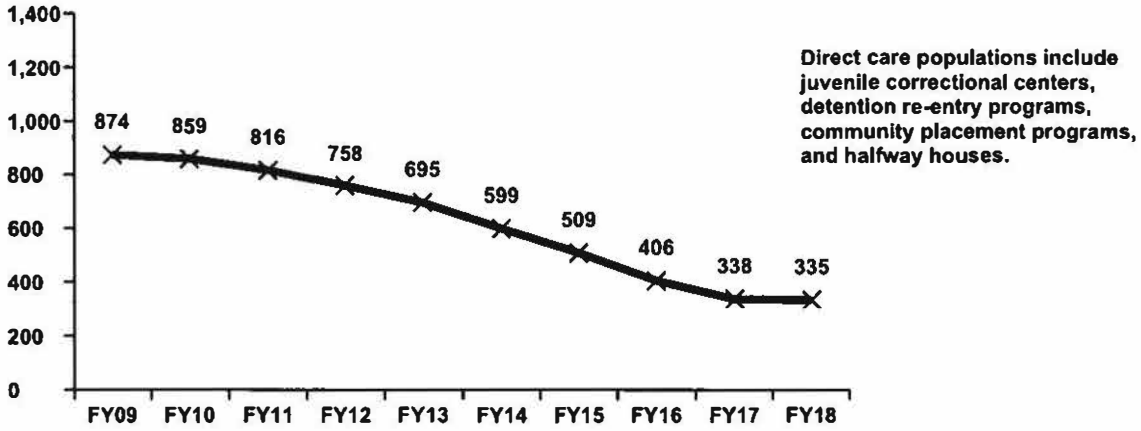
Juvenile Direct Care Population

Juvenile state-responsible offenders are committed by a court to Virginia's Department of Juvenile Justice (DJJ). They are housed in juvenile correctional facilities around the state or they are placed in re-entry, community placement, or halfway house programs[2]; collectively, these make up DJJ's direct care population. Virginia's juvenile justice system differs substantially from the adult system. While Virginia has moved to a more determinate sentencing system for its adult offenders, dispositions involving commitment in the juvenile justice system remain largely indeterminate. In FY2018, 74.1% of commitment orders to DJJ were for an indeterminate period of confinement.[3] This means that DJJ, rather than a judge, determines the length of the juvenile's commitment which is governed by guidelines approved by the Board of Juvenile Justice. The courts commit a smaller percentage of juvenile offenders to DJJ with a determinate, or fixed length, sentence; a juvenile given a determinate commitment may be reviewed by the judge at a later date and may be released at the judge's discretion prior to serving the entire term. In Virginia, juveniles tried and convicted as adults in circuit court may also be committed to DJJ, at the judge's discretion.

Population Change

The juvenile direct care population has been declining since FY2000. Overall, the population fell from an average of 874 juveniles in FY2009 to an average of 335 juveniles in FY2018, a decrease of 61.7% (Figure 15). From FY2009 to FY2013, the decline rate was 20.5%; the downward trend accelerated to 51.8% from FY2013 to FY2017, and then leveled out at 1.1% for FY2017 to FY2018.

Figure 15
Juvenile Direct Care Population (Fiscal Year Average)



[2] DJJ operated halfway houses for the direct care population beginning in July 2012. Due to budget reductions, the halfway houses were closed in January 2014.

[3] In FY2018, 74.1% of the commitment orders received by DJJ were for indeterminate commitments; however, an individual juvenile may be admitted to direct care with more than one commitment order. In FY2018, 71.4% of juveniles admitted to direct care had indeterminate commitments only (this excludes any juveniles that came in with both indeterminate and determinate sentences or with both indeterminate and blended sentences; it is strictly juveniles with only indeterminate commitment orders).

Accuracy of the Forecast Adopted in 2017

The juvenile direct care population projection adopted in 2017 accurately forecasted the actual population for FY2018 (Figure 16).

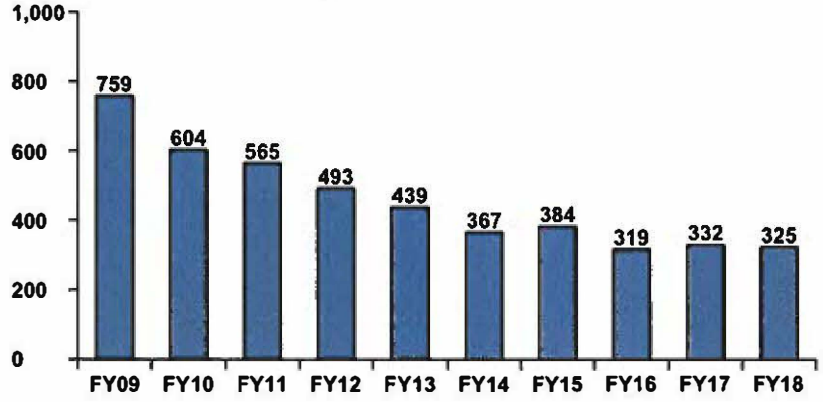
Figure 16
Accuracy of the Juvenile Correctional Center/Direct Care Population Forecast Adopted in 2017

	Actual	Projected	Difference	Percent
FY2018 Average Population	335	335	0	0.0%

Factors Affecting the Population

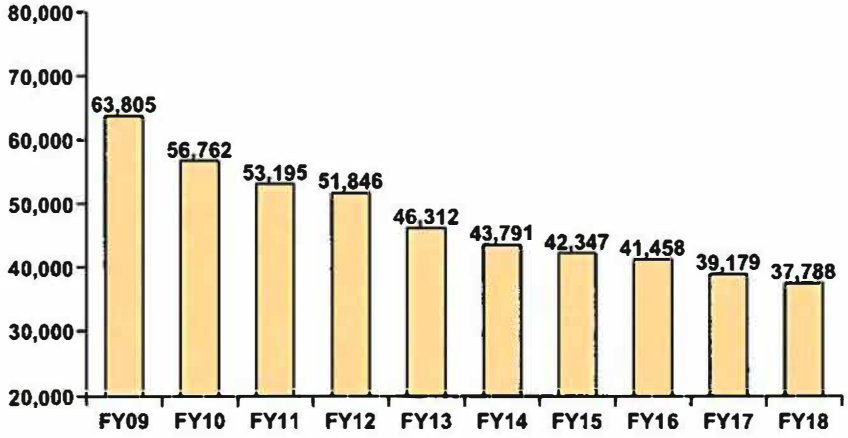
The number of juveniles in direct care has been declining, largely driven by a decrease in the number of admissions (Figure 17). There have been several statutory and policy changes related to juvenile offenders. The General Assembly changed the minimum criteria for a juvenile to be committed to DJJ (from a felony or two Class 1 misdemeanor adjudications to a felony or four Class 1 misdemeanor adjudications) beginning July 1, 2000. In 2002, the General Assembly required DJJ to establish objective guidelines for use by intake officers when deciding whether to place a juvenile in a juvenile detention center at intake. In 2004, DJJ successfully implemented, statewide, the use of the Detention Assessment Instrument (DAI), a validated detention screening tool. In 2004, the General Assembly afforded juveniles the right to counsel in their initial detention hearing. The legislation also provided that, when a juvenile is not detained, but is alleged to have committed an offense that would be a felony if committed by an adult, that juvenile may waive his right to an attorney only after he or she consults with an attorney. Additionally, in 2004 and 2009, the *Code of Virginia* was amended to expand the use of diversion by allowing intake officers greater discretion to divert misdemeanor offenses, and other legal actions such as "child in need of services," and "child in need of supervision" petitions, from going to court. These policy changes alone, however, cannot explain the trend in admissions that persisted through FY2014. Between FY2009 and FY2014, yearly admissions to DJJ dropped by 51.6%. In FY2015, the number of admissions increased for the first time in 15 years. The number of admissions dropped again in FY2016 from 384 to 319, a 16.9% decrease. In FY2017, the number of admissions increased by 4.1% from 319 to 332 and then dropped again in FY2018 to 325, a decrease of 2.1%. Compared to the sharp downward trend from FY2009 to FY2014, the overall decrease of 11.4% from FY 2014 to FY 2018 could represent a leveling off period.

Figure 17
Admissions to the Department of Juvenile Justice



The state's court services units serve as the point of entry into the juvenile justice system. A "juvenile intake" occurs when a juvenile is brought before a court services unit officer for one or more alleged delinquent offenses, or for "child in need of services," and "child in need of supervision" complaints, or for status offenses[4]. DJJ data reveal that the total number of juvenile intake cases has been falling over the last decade (Figure 18). Between FY2009 and FY2018, juvenile intake cases at court services units declined by 40.8%.

Figure 18
Juvenile Intake Cases at Court Services Units



DJJ procedures and practices may have affected intakes and admissions. DJJ has implemented approaches that include the use of validated, structured decision-making tools in numerous aspects of community and facility operations. Critical decision points include the initial decision to detain, the assignment to various levels of community probation or parole supervision, and the classification of committed juveniles within the facility setting. Tools include the DAI, described above, a court services unit risk assessment instrument, and the

[4] Status offenses are acts prohibited by law that would not be an offense if committed by an adult, such as truancy, curfew violation, or running away.

juvenile correction center classification instrument. The DAI is designed to enhance consistency and equity in the detention decisions and to ensure that only those juveniles who represent a serious threat to public safety and those most at risk for failing to appear in court are held in secure pre-trial detention. In 2008, DJJ began the process of implementing an enhanced risk/needs assessment tool, called the Youth Assessment & Screening Instrument (YASI), in the court services units. Finally, DJJ has implemented procedures and practices to address juvenile probation and parole violators. The goal is to enhance consistency and equity in the handling of violators and to ensure that only those juveniles who represent a serious threat to public safety are confined.

The composition of commitments to DJJ has continued to change as well. Many less serious juvenile offenders are no longer committed to DJJ. Thus, juveniles with longer commitment lengths of stay now make up a larger share of those received by DJJ. There are three categories of juvenile commitments: indeterminate commitments, determinate commitments, and blended sentences. For a juvenile with an indeterminate commitment, DJJ determines how long the juvenile will remain in direct care, up to his or her statutory release date which is 36 continuous months or the juvenile's 21st birthday, whichever occurs first, for most offenses. These juveniles are assigned a length-of-stay range based on the Board of Juvenile Justice's guidelines. The guidelines in use through October 2015 considered the juvenile's current committing offenses, prior offenses, and chronicity of prior delinquency or criminal offense record to project the estimated length of stay.

In FY2015, the most commonly assigned length-of-stay categories for court-ordered indeterminate commitments were 12-18 months. Failure to complete a mandatory or recommended treatment program, such as substance abuse or sex offender treatment, or the commission of institutional offenses, could prolong the actual length of stay beyond the assigned range. The guidelines put in place in October 2015 consider the juvenile's current committing offenses and risk for reoffending, as determined by a YASI assessment, to project the estimated stay. The YASI includes information on the juvenile's contacts with the criminal justice system. The highest range of the new length-of-stay guidelines is 9 to 15 months, compared to a high-end range of 24 to 36 months under the previous length-of-stay guidelines. It is expected that the new length-of-stay guidelines will result in shorter lengths-of-stay for most juveniles committed to DJJ. In FY2018, the most commonly assigned length-of-stay category for court-ordered indeterminate commitments was 6-9 months. However, a juvenile may remain in direct care after the projected range and until his or her statutory release date through a series of case-specific reviews of progress in treatment and behavior in the facilities.

For a juvenile given a determinate commitment to DJJ, the judge sets the commitment period to be served (up to age 21), although the juvenile can be released at the judge's discretion prior to serving the entire term. Nonetheless, determinately-committed juveniles remain in DJJ facilities longer, on average, than juveniles with indeterminate commitments to DJJ. The average assigned length-of-stay for a court-ordered determinate sentence to DJJ is approximately 36 to 42 months. Finally, a juvenile given a blended sentence from a circuit court after transfer from juvenile court for trial as an adult can serve up to age 21 at a DJJ facility before being transferred to DOC to serve the remainder of his term in an adult facility. One juvenile may be subject to more than one commitment order and type of commitment order. Compared to FY2004, the percentage of commitment orders for determinate commitments and blended sentences now

make up a larger share of admissions. Together, orders for these two commitment types increased from roughly 10.0% of the total in FY2004 to as high as 25.9% in FY2018.

Along with admissions, the actual lengths-of-stay are a critical factor affecting the direct care population. In FY2014, the average length-of-stay for all commitment types was 18.7 months, compared to 15.3 months in FY2009 (Figure 19). Average length-of-stay decreased to 12.7 months in FY2018.

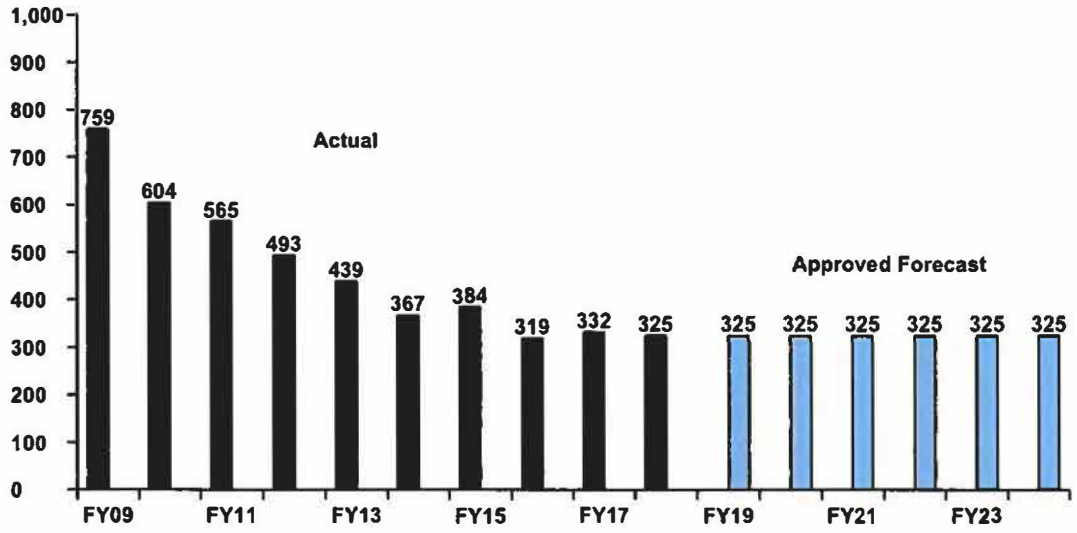
Figure 19
Average Length-of-Stay in the Juvenile Direct Care Population (in months)

New Admissions Forecast

The admission forecast is one of the key inputs into DJJ's simulation model. Given the long-term downward trend in juvenile admissions, statistical models based on historical data typically are not useful tools in projecting future admissions because the models often continue the downward trend to zero, which is not a realistic assumption for future admissions to DJJ. As in previous years, the Policy Committee concluded that the decrease in admissions will not continue indefinitely. In two of the last nine years, the Policy Committee elected not to use the statistical forecast of juvenile admissions and instead set a level admissions forecast equal to the number of actual admissions during the most recent fiscal year. In the other years, the Policy Committee utilized the statistical projection for the first year(s) of the forecast horizon and then assumed a flat admissions forecast for the remaining years of the forecast period.

For this year's forecast, the Policy Committee approved a flat forecast calculated by averaging the actual DJJ admissions for the last three fiscal years (FY2016, FY2017, and FY2018) (Figure 20). Under this forecast, it is assumed that admissions will remain level at 325 per year from FY2019 through FY2024.

Figure 20
Juvenile Direct Care Admissions Forecast



Assumptions for Department of Juvenile Justice's Simulation Model

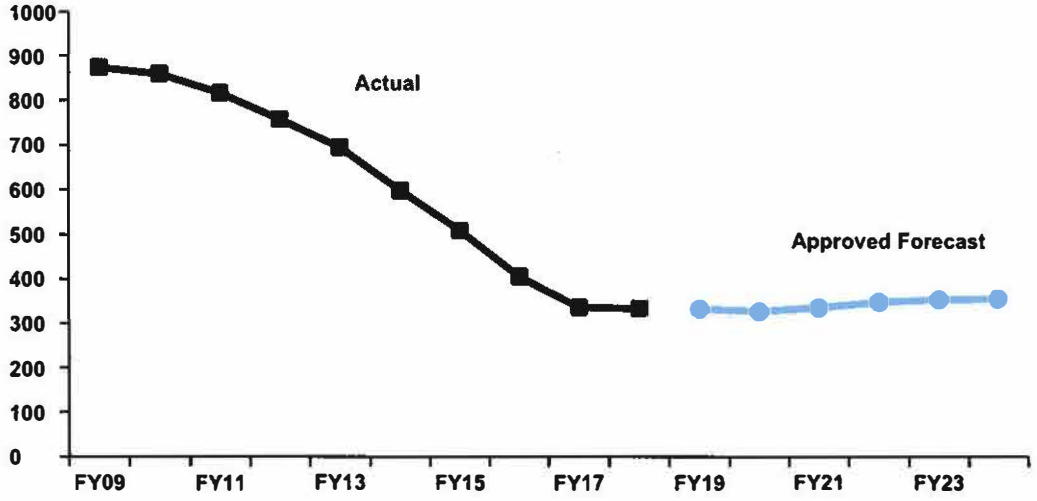
DJJ utilizes a computer simulation model to develop its forecast of the juvenile direct care population. A description of simulation modeling can be found in the *Forecasting Methodologies* section of this report. Use of simulation forecasting requires several assumptions regarding commitments and releases. The following are the important assumptions incorporated into DJJ's simulation model:

- The number of future admissions will reflect the admissions forecast approved by the Policy Committee (see above);
- Future admissions will have the same characteristics (e.g., offenses, prior record adjudications, treatment assignment, institutional offenses, etc.) as admissions during an average of FY2017 and FY2018;
- Juveniles given a determinate commitment or blended sentence will comprise the same percentage of admissions as they did during FY2017 and FY2018 averaged;
- Juveniles with indeterminate commitments will be assigned length-of-stay categories according to DJJ's new length-of-stay guidelines; based on an average of FY2017 and FY2018 admissions characteristics, future admissions will be assigned to one of the new length-of-stay categories.

Juvenile Direct Care Population Forecast

The Policy Committee examined the juvenile direct care population forecasts produced by the DJJ simulation model and the DPB time series model (see the *Forecasting Methodologies* section of this report for a description of these techniques). After reviewing both the DJJ and DPB population projections in detail, the Policy Committee approved the DJJ simulation model forecast. The approved forecast suggests that the population will remain fairly level in the short term, and then rise slightly (Figure 21). The forecast projects a marginal decrease through FY2020, when the population is expected to average about 327 juveniles. Beginning in FY2021, however, the population may begin increasing slightly. By FY2024, the total juvenile direct care population is projected to average 355 for the fiscal year.

Figure 21
Juvenile Direct Care Population Forecast (Fiscal Year Average)



Actual:	Year	Population	Change
	FY13	695	-8.3%
	FY14	599	-13.8%
	FY15	509	-15.1%
	FY16	406	-20.2%
	FY17	338	-16.7%
	FY18	335	-1.1%
		Avg. Change	-12.5%

Forecast:	Year	Population	Change
	FY19	334	-0.3%
	FY20	327	-1.9%
	FY21	341	4.0%
	FY22	351	3.0%
	FY23	354	1.0%
	FY24	355	0.2%
		Avg. Change	1.0%

Figures represent the average population for each fiscal year.

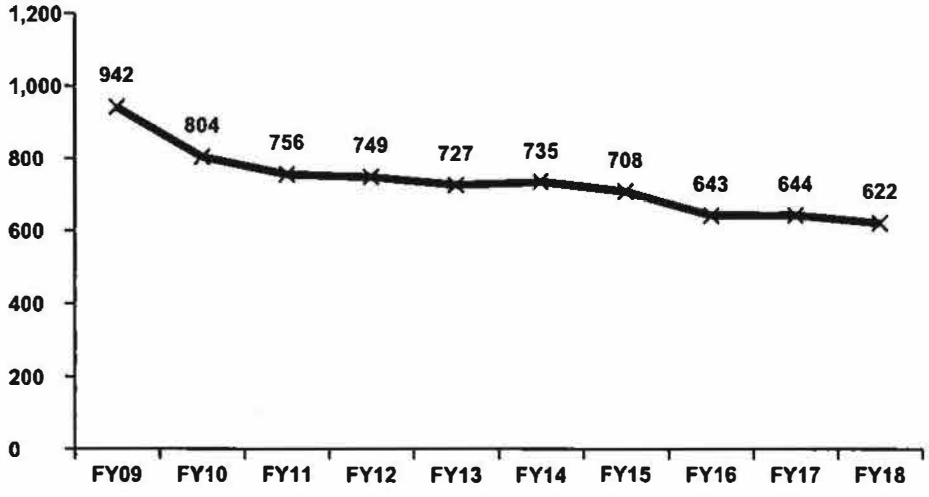
Juvenile Detention Center (JDC) Population

Local governments or multi-jurisdictional commissions operate secure juvenile detention centers throughout the Commonwealth. The Board of Juvenile Justice promulgates regulations and the Director of the Department of Juvenile Justice is responsible for the certification of these facilities. A judge may order a juvenile to be held in pre-dispositional detention pending adjudication, disposition, or placement. To be eligible for pre-dispositional detention, there must be probable cause establishing that the juvenile committed an offense that would be a felony or a Class 1 misdemeanor offense if committed by an adult, violated the terms of probation or parole for such offense, or knowingly and intentionally possessed or transported a firearm. To be eligible for post-dispositional detention, the juvenile must be 14 years or older and been found to have committed a non-violent juvenile felony or Class 1 or Class 2 misdemeanor offense. A judge may order an adjudicated juvenile to be held in post-dispositional detention up to 30 days or, if the juvenile detention center operates a post-dispositional detention program, up to 6 months. Historically, the majority of the JDC population has been comprised of juveniles in pre-dispositional status.

Population Change

Overall, the juvenile detention center population declined by 33.9% between FY2009 and FY2018. The JDC population leveled off from FY2016 to FY2017 and then dropped again in FY2018, reaching an average of 622 juveniles statewide. While individual facilities may be experiencing crowding, JDC capacity statewide has not been fully utilized in recent years.

Figure 22
Juvenile Detention Center Population (Fiscal Year Average)



Accuracy of the Forecast Adopted in 2017

The juvenile detention center population forecast adopted in 2017 was slightly higher than the actual population in FY2018. On average for the year, the forecast was seven juveniles (or 1.1%) higher than the actual population (Figure 23). The actual population decreased by 3.4% during the fiscal year.

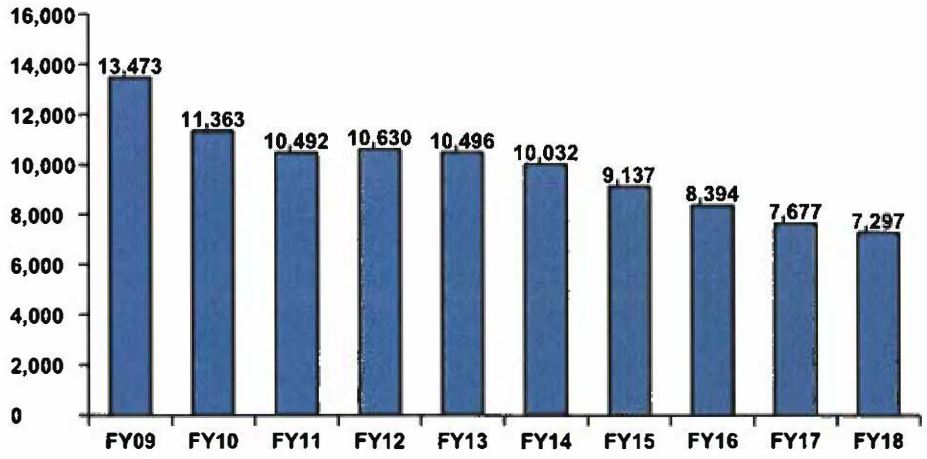
Figure 23
Accuracy of the Juvenile Detention Center Forecast Adopted in 2017

	Actual	Projected	Difference	Percent
FY2018 Average Population	622	629	7	1.1%

Factors Affecting the Population

As described in the previous chapter, the number of juvenile intake cases at the state's court services units has declined significantly since FY2009. Reflecting this downward trend in intakes, JDC admissions (the first admission of a continuous detention stay, excluding transfers[5]) dropped 22.1% between FY2009 and FY2011 (Figure 24). After remaining relatively flat from FY2011 to FY2013, detainments dropped another 27.3% from FY2014 to FY2018.

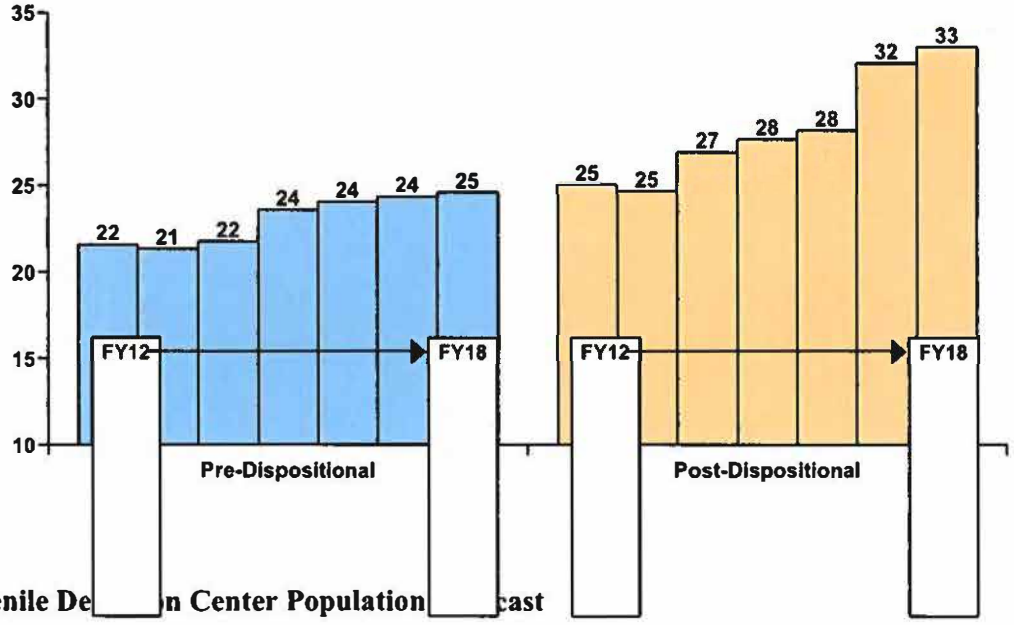
Figure 24
Juvenile Detention Center Admissions – Distinct Detainments (excluding Transfers)



[5] A new detainment is not counted if a juvenile is transferred to another JDC or has a change in dispositional status before being released. An individual juvenile may have more than one detainment in a fiscal year.

Shorter lengths-of-stay for many of the juveniles in JDCs was an important factor in reducing the population between FY2008 and FY2013, during which time the average length-of-stay for the pre-dispositional juveniles fell from 26 to 21 days. Lengths-of-stay for juveniles placed in post-dispositional detention, who account for a smaller share of the population, remained at 24 or 25 days until FY2013. In FY2014, both pre-dispositional and post-dispositional lengths-of-stay increased (Figure 25). This increase in length-of-stay offset the decrease in admissions and resulted in a small increase in the overall population for FY2014. Lengths-of-stay for pre-dispositional and post-dispositional juveniles continued to increase in FY2015. However, this increase was offset by a significant decrease in detainments, resulting in a population decline for the year. The lengths-of-stay for pre-dispositional juveniles then remained relatively level through FY2018 but continued to increase for post-dispositional juveniles.

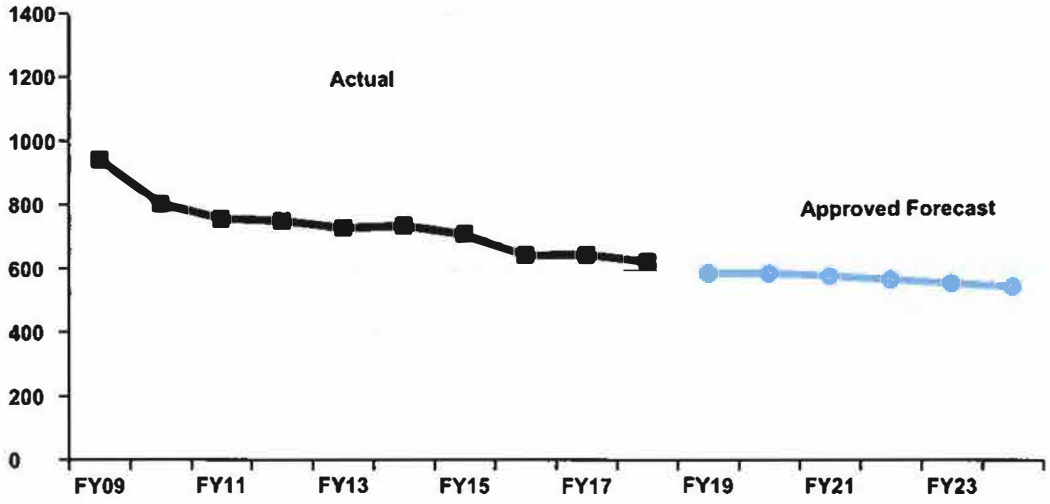
Figure 25
Average Length-of-Stay in Juvenile Detention Centers, FY2012-FY2018
(in days)



Juvenile De n Center Population cast

Forecasts of the juvenile detention population were produced by DJJ and DPB. Both agencies used time series techniques to forecast this population (time series forecasting techniques are described in the *Forecasting Methodologies* section of this report). After careful evaluation of both the DJJ and DPB projections, the Policy Committee approved the DJJ model as the official forecast of the juvenile detention center population. Under the approved forecast, the JDC population is expected to decline over the next six years by an average of 2.2% annually, reaching an average population of 545 in FY2024 (Figure 26).

Figure 26
Juvenile Detention Center Population Forecast (Fiscal Year Average)



Actual:	Year	Population	Change
	FY13	727	-2.9%
	FY14	735	1.0%
	FY15	708	-3.6%
	FY16	643	-9.2%
	FY17	644	0.2%
	FY18	622	-3.4%
		Avg. change	-3.0%

Forecast:	Year	Population	Change
	FY19	587	-5.7%
	FY20	586	-0.1%
	FY21	578	-1.3%
	FY22	568	-1.8%
	FY23	556	-2.0%
	FY24	545	-2.0%
		Avg. change	-2.2%

Figures represent the average population for each fiscal year.

Appendices

Appendix A
Legislative Directive

Item 381 of Chapter 2 of the 2018 Acts of Assembly, Special Session I (Appropriation Act)

Authority: Title 2.2, Chapter 2, Article 8, and § 2.2-201, Code of Virginia.

A. The Secretary of Public Safety and Homeland Security shall present revised six-year state and local juvenile and state and local responsibility adult offender population forecasts to the Governor, the Chairmen of the House Appropriations and Senate Finance Committees, and the Chairmen of the House and Senate Courts of Justice Committees by October 15 of each year. The secretary shall ensure that the revised forecast for state-responsible adult offenders shall include an estimate of the number of probation violators included each year within the overall population forecast who may be appropriate for alternative sanctions.

B. The secretary shall continue to work with other secretaries to (i) develop services intended to improve the re-entry of offenders from prisons and jails to general society and (ii) enhance the coordination of service delivery to those offenders by all state agencies. The secretary shall provide a status report on actions taken to improve offender transitional and reentry services, as provided in § 2.2-221.1, Code of Virginia, including improvements to the preparation and provision for employment, treatment, and housing opportunities for those being released from incarceration. The report shall be provided to the Governor and the Chairmen of the House Appropriations and Senate Finance Committees no later than November 15 of each year.

C. Included in the appropriation for this item is $500,000 the first year and $500,000 the second year from the general fund for the Commonwealth's nonfederal cost match requirement to accomplish the United States Corps of Engineers Regional Reconnaissance Flood Control Study for both the Hampton Roads and Northern Neck regions as authorized by the U.S. Congress.

D. The appropriation in this item includes $150,000 the first year from the general fund to fulfill the requirements set forth in §2.2-222.2, Code of Virginia, and to assess and prioritize the systems that require upgrade to ensure the Commonwealth's goals for interoperability. The Secretary of Public Safety and Homeland Security shall submit a report detailing costs associated with the upgrade to achieve statewide interoperability to the Governor, the Chairmen of the House Appropriations and Senate Finance Committees, and the Department of Planning and Budget by November 1, 2018.

Appendix B
Committee and Work Group Members

2018 Policy Committee Members

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Virginia Parole Board

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Virginia Department of Juvenile Justice

Harold W. Clarke
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The Honorable Vanessa R. Crawford
Sheriff
Petersburg City

Senator Roslyn Dance
Senate of Virginia

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Compensation Board

Shannon Dion
Director
Virginia Department of Criminal Justice Services

Gabriel A. Morgan, Sr.
Sheriff
City of Newport News

Colonel Bobby D. Russell
Superintendent, Western Virginia Regional Jail

Timothy Doss
Superintendent
Middle Peninsula Regional Security Center
Saluda, Virginia

Alfred Durham
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City of Richmond Police Department

Delegate Scott Garrett
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Linda Jackson
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June Jennings
Deputy Secretary of Finance

Senator Ryan McDougle
Senate of Virginia

Dr. S. Hughes Melton, Commissioner,
Represented by Michael Schaefer,
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Virginia Department of Behavioral Health and Developmental Services

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Director, Judicial Planning
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Compensation Board

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Department of Criminal Justice Services

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Caitlin Kilpatrick
Public Safety Analyst
Senate Finance Committee

James Parks
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David Reynolds
Legislative Fiscal Analyst
House Appropriations Committee

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Virginia Department of Corrections

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Virginia Department of Juvenile Justice

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Virginia Criminal Sentencing Commission