



December 1, 2014

**Juveniles Charged as Adults and Held in
Maryland's Detention Facilities:
Trend Analysis and Population Projections**

**Submitted to:
Maryland General Assembly,
pursuant to Chapter 412, 2014 Laws of Maryland**

**by
Meredith Farrar-Owens**



Page intentionally left blank.

Table of Contents

Executive Summary	1
Introduction	5
Section 1: Population of Juveniles Charged as Adults and Held in Maryland's Detention Facilities	7
Section 2: Factors Contributing to Change in the Population	15
Section 3: Population Projections	21
Appendix A: Goodness-of-Fit Measures for the Population Projection Models	27

Page intentionally left blank.

Executive Summary

This report is pursuant to Chapter 412, 2014 Laws of Maryland. In Maryland, juveniles who are alleged to have committed a delinquent act and are determined to require secure detention are usually held in one of the state's juvenile detention facilities. Under certain circumstances, Maryland law authorizes that youth may be held in adult pre-trial detention facilities. Youth may be admitted to an adult detention facility and detained pending trial if the youth has been directly charged as an adult because the juvenile court does not have jurisdiction due to the age of the juvenile and the nature of the alleged offense.¹ Youth may also be detained in an adult detention facility if, after a hearing, the juvenile court waives its jurisdiction to the adult court. Conversely, if the youth is eligible for a transfer of jurisdiction to juvenile court, Maryland law permits an adult court, after review of the youth's charges and circumstances, to order a youth to be held in a juvenile detention facility.²

The focus of this report is the population of youth charged as adults and held in Maryland's detention facilities (in accused status). The Maryland Department of Juvenile Services (DJS) partnered with the Governor's Office of Crime Control and Prevention (GOCCP) to contract with an outside consultant to develop a forecast of the population of juveniles charged as adults and held in State and local detention facilities. Data collected as part of the Compliance Monitoring Data Collection System (CMDACS) maintained by the GOCCP were used for this purpose. Compliance data are systematically collected by GOCCP to ensure that Maryland meets the requirements of the Juvenile Justice and Delinquency Prevention Act with regard to juveniles held in adult jails (e.g., sight and sound separation from adult offenders). GOCCP collects these data biennially from detention facilities in Maryland. These data were deemed the best available electronic information source for juveniles charged as adults and admitted to detention facilities.

Important data issues limited the amount of data available for analysis and necessitated the estimation of a lower bound and calculation of an upper bound, within which the actual population is most likely to fall. The data issues pertaining to this population are described in Section 1. Based on the lower and upper bound, the average population for FY2012 fell between 152 and 194 juveniles. The average population decreased significantly in FY2013, with the estimates ranging from 108 to 144, at the lower and upper bounds, respectively. For FY2014 overall, the average population for the year fell between 114 and 143, although higher-

¹ Maryland Department of Juvenile Services, *Department of Juvenile Services: Overview of the Youth Charged as Adults Population*, December 2012.

² Md. Code, Criminal Procedure, §4-202

than-average population levels were recorded during February through May 2014. In 2014, DJS entered into an agreement with Baltimore City such that DJS will house qualified juveniles who have been charged as adults and who would otherwise be held in the City’s adult pre-trial detention center. Juveniles housed by DJS through this agreement are included in the population figures discussed above, as are youth in other jurisdictions held in DJS detention facilities as authorized by the adult court under Maryland statute.

Since FY2010, the number of juveniles charged as adults has fluctuated between 912 and 989, without a clear upward or downward trend. For the majority of these juveniles (more than 90% in FY2013 and FY2014), the charges were automatically excluded from juvenile court jurisdiction. Thus, a minority of juveniles had been charged as adults because the juvenile court waived its jurisdiction. Based on the data available for analysis, the proportion of juveniles charged as adults who are admitted for pre-trial detention appears to be falling and by, FY2014, less than half (47%) of the juveniles charged as adults were in placed in detention facilities.

Admissions and length-of-stay are critical drivers of the population. Data indicate that the number juveniles charged as adults who were admitted for pre-trial detention decreased by 39% between FY2011 to FY2014. Juveniles charged with robbery and assault offenses together accounted for roughly two-thirds of admissions in FY2013 and FY2014. Length-of-stay decreased from FY2012 to FY2014, with the percent change varying depending on the measure examined.

Population Projections

Projections of the population of juveniles charged as adults and held in Maryland’s detention facilities (specifically those in accused status) were developed using an estimated lower bound and calculated upper bound of the population. Projections were produced using a set of statistical techniques known as time-series forecasting. Such models implicitly assume that current policies and practices will continue into the future. The projections are shown below. In Section 3, the projections are disaggregated by facility.

Lower and Upper Bound Projections of the Population of Juveniles Charged as Adults and Held in Maryland Detention Facilities in Accused Status

	Year	Lower Bound	Upper Bound
Historical Average Daily Population (ADP)	FY2012	152.0	193.5
	FY2013	107.8	143.8
	FY2014	113.9	143.2
Projected Average Daily Population (ADP)	FY2012	114.8	148.4
	FY2013	116.0	148.3
	FY2014	116.0	148.3
	FY2018	116.0	148.3
	FY2019	116.0	148.3

Such projections may assist the Department in identifying ways in which some of the youth charged as adults in Maryland might be served in a juvenile detention facility rather than an adult pre-trial facility. However, not all youth charged as adults are eligible for transfer to a juvenile detention facility. Maryland statute prohibits transfer of cases to juvenile court if: 1) the child was convicted in an unrelated case of an offense excluded from the jurisdiction of the juvenile court, or 2) the alleged crime is murder in the first-degree and the accused child was 16 or 17 years of age when the alleged crime was committed. Juveniles whose cases are ineligible for transfer from adult court to juvenile court may not be transferred to a juvenile detention facility while awaiting trial. The data available for this study, however, do not include information necessary to consistently identify those prohibited from transfer due to a previous conviction ((1) above); only a small number of juveniles charged with violations of adult probation, indicative of a prior conviction in the adult system, could be identified. The data do permit the identification of youth ineligible for transfer due to a first-degree murder charge ((2) above)³. The historical and projected ADP is shown below after excluding ineligible juveniles charged with violations of probation or first-degree murder.

Lower and Upper Bound Projections of the Population of Juveniles Charged as Adults and Held in Maryland Detention Facilities in Accused Status

Excluding juveniles 16 years of age or older charged with first-degree murder and juveniles returned to the adult system for a violation of probation

	Year	Lower Bound	Upper Bound
Historical Average Daily Population (ADP)	FY2012	148.6	185.0
	FY2013	106.2	140.6
	FY2014	111.0	139.1
Projected Average Daily Population (ADP)	FY2015	112.5	144.6
	FY2016	113.6	144.4
	FY2017	113.6	144.4
	FY2018	113.6	144.4
	FY2019	113.6	144.4

The above figures include juveniles who are ineligible for transfer due to a previous conviction for an offense excluded from juvenile court jurisdiction. The available data do not include information necessary to consistently identify those juveniles (with the exception of juveniles returned to the adult system for a violation of probation).

³ Only completed acts were identified here.

Page intentionally left blank.

Introduction

Maryland juveniles who are alleged to have committed a delinquent act and are determined to require secure detention may be held in juvenile detention facilities or, under certain circumstances, adult pre-trial facilities. A juvenile may be admitted to an adult detention facility and detained pending trial if he or she has been directly charged as an adult because the juvenile court does not have jurisdiction.⁴ Maryland's juvenile courts do not have jurisdiction over:

- a child at least 16 years old alleged to have committed certain violent crimes;
- a child at least 16 years old alleged to have violated certain traffic or boating laws;
- a child at least 14 years old alleged to have committed an act that, if committed by an adult, would be a crime punishable by death or life imprisonment, and;
- a child who has previously been convicted as an adult of a felony and subsequently is alleged to have committed an act that would be a felony if committed by an adult.⁵

Youth may also be detained in an adult detention facility if the juvenile court waives its jurisdiction to the adult court. A juvenile court may waive its jurisdiction in a delinquency case involving a child who is 15 years or older, or a child who has not reached his 15th birthday but who is charged with committing an act which, if committed by an adult, would be punishable by death or life imprisonment.⁶ The juvenile court may waive its jurisdiction only after it has conducted a waiver hearing and determined that the child is unfit for rehabilitation in the juvenile system. Conversely, Maryland law permits an adult court, after review of the youth's charges and circumstances, to order a youth with an adult charge to be held in a juvenile detention facility if the youth is eligible for a transfer of jurisdiction.⁷ Youth found to be appropriate for juvenile detention may remain there pending a transfer hearing to determine if jurisdiction should remain in the adult court or be transferred to the juvenile court.

⁴ Maryland Department of Juvenile Services, *Department of Juvenile Services: Overview of the Youth Charged as Adults Population*, December 2012.

⁵ Md. Code, Courts and Judicial Proceedings, §3-8A-03

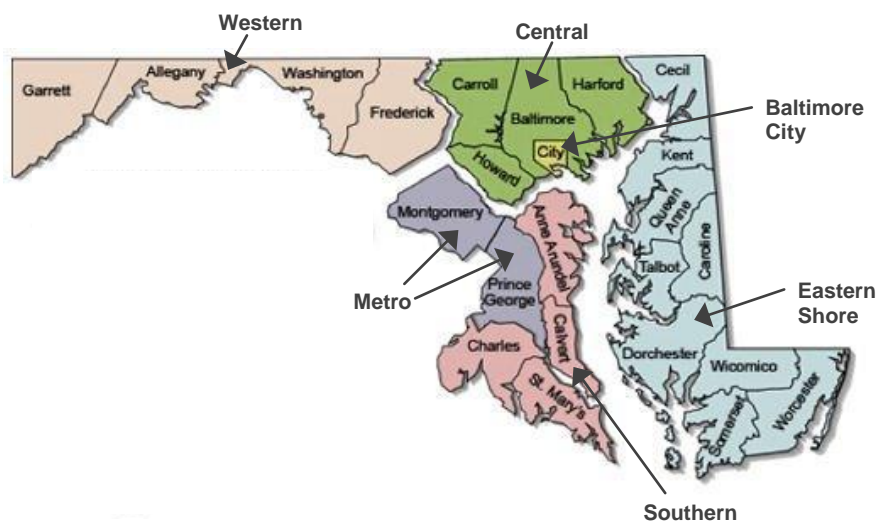
⁶ Maryland Department of Juvenile Services, *Department of Juvenile Services: Overview of the Youth Charged as Adults Population*, December 2012.

⁷ Md. Code, Criminal Procedure, §4-202

This report is pursuant to Chapter 412, 2014 Laws of Maryland. The focus is on the population of youth who are charged as adults and held in Maryland’s detention facilities (in accused status). The Maryland Department of Juvenile Services (DJS) partnered with the Governor’s Office of Crime Control and Prevention (GOCCP) to contract with an outside consultant to develop a forecast of the population of juveniles charged as adults and detained in State and local detention facilities. In Section 1, trends in the population, admissions and length-of-stay are discussed. Important data issues pertaining to the population are described in this section. In Section 2, factors that may contribute to changes in the population are examined. Projections of the population through FY2019 are presented in Section 3. The projections may assist DJS in identifying ways in which some of the youth charged as adults might be served in one of Maryland’s juvenile detention facilities instead of an adult pre-trial facility.

DJS regions, which are referenced in this report, are shown on the map below.

Maryland Department of Juvenile Services (DJS) Regional Map



Region I - Baltimore City
Baltimore City

Region II - Central Maryland
Baltimore County
Carroll County
Harford County
Howard County

Region III - Western Maryland
Allegany County
Frederick County
Garrett County
Washington County

Region IV - Eastern Shore
Caroline County
Cecil County
Dorchester County
Kent County
Queen Anne's County
Somerset County
Talbot County
Wicomico County
Worcester County

Region V - Southern Maryland
Anne Arundel County
Calvert County
Charles County
St. Mary's County

Region VI - Metro
Montgomery County
Prince George's County

Section 1 Population of Juveniles Charged as Adults and Held in Maryland’s Detention Facilities

The population of juveniles charged as adults and held in Maryland’s detention facilities was calculated based on admission records collected as part of the Compliance Monitoring Data Collection System (CMDACS) maintained by the Governor’s Office on Crime Control and Prevention (GOCCP). Compliance data are systematically collected on a biennial basis from local jails and detention centers in Maryland.⁸ These data were available in electronic format beginning in January 2008. Examination revealed, however, that data prior to FY2011 were not complete for all months and for all facilities.⁹ Therefore, population figures were computed using FY2011 – FY2014 data. Due to missing data, the population computed for the early months of FY2011 may be lower than the actual population during that time period.

For juveniles charged as adults and admitted to pre-trial detention, some may be released, once certain conditions are met, to await trial. Other juveniles will remain in jail through the conclusion of their trial. If a confined juvenile is found guilty, his or her status will change from accused to sentenced. Due to data limitations, the average daily population (ADP) calculated from CMDACS admission records and release dates cannot be disaggregated to determine the number of juveniles who became sentenced during their period of confinement.¹⁰ In essence, the ADP calculated from CMDACS data represents an upper bound of the population of juveniles in accused status, since the actual population will not be higher and in most, if not all, months it will be lower than those figures.

⁸ Given the biennial nature of the CMDACS data collection effort, the facility release date – a field critical to the forecast – was often missing. Each local jail or detention facility was therefore asked to review their CMDACS submissions for accuracy and completeness and to fill in missing release dates. An excel spreadsheet was forwarded to each facility for this purpose. Each facility returned an updated spreadsheet to the Department of Juvenile Services for analysis.

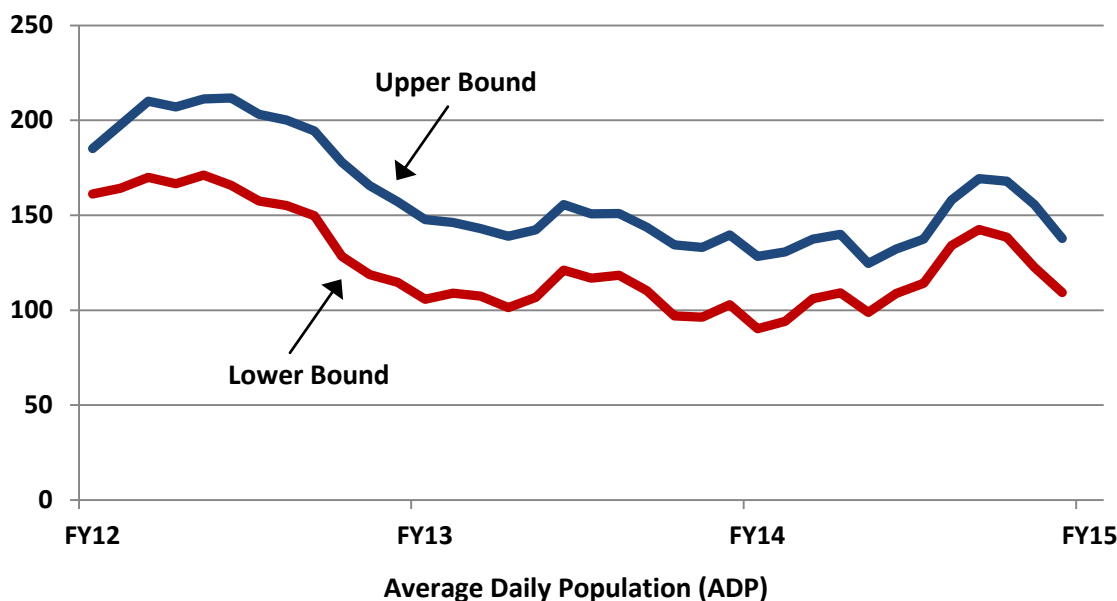
⁹ In early 2010, GOCCP changed data collection systems and adopted a web-based system for submissions. During this conversion period, GOCCP relied in large part on hard copy submissions. Accurate counts of juvenile admissions to adult jails or detention facilities were not available between January and May 2010. In addition, a single facility was missing admissions prior to June 2010.

¹⁰ CMDACS data are collected at the point of admission to a detention facility. A youth’s legal status (whether accused or sentenced) is recorded at this point in time. If a youth’s status changes from *accused* to *sentenced* status during the course of his or her confinement period, the change in legal status is not documented. Therefore, for these youth, it is not possible to distinguish days served in pre-trial detention from days served post-sentence.

With CMDCS data providing an upper bound for the population in accused status, an estimate was developed for the lower bound. DJS analysis revealed that, during 2011, the median circuit court case processing time from arrest to adjudication was 8.2 months (i.e., half of the cases were concluded in less than 8.2 months and half were concluded after more than 8.2 months). To estimate the lower bound of the population, it was assumed that all juveniles charged as adults and admitted to detention facilities had become sentenced if they remained confined beyond eight months. ADP was then computed using only days served up to eight months.

The estimated lower bound and calculated upper bound of the population are presented in Figure 1.1 below. Based on the lower and upper bound, the average population for FY2012 fell between 152 and 194 juveniles. The average population decreased significantly in FY2013, falling between 108 to 144, at the lower and upper bounds, respectively. For FY2014 overall, the average population was between 114 and 143, although higher-than-average population levels were recorded during February through May 2014.

Figure 1.1
Population of Juveniles Charged as Adults and Held in Maryland’s Detention Facilities in Accused Status - Represented as an Upper and Lower Bound



Fiscal Year	Lower Bound	Upper Bound
FY2012	152.0	193.5
FY2013	107.8	143.8
FY2014	113.9	143.2

The upper bound is based on admissions records collected as part of the Compliance Monitoring Data Collection System (CMDCS) maintained by the Governor’s Office on Crime Control and Prevention (GOCCP), which contain an unknown number of juveniles who became sentenced during their period of confinement. The lower bound is estimated based on the assumption that all juveniles charged as adults and admitted to detention facilities had become sentenced if they remained confined beyond eight months (i.e., they were no longer in accused status). Figures exclude juveniles admitted with a code indicating he or she was a federal hold.

In 2014, DJS entered into an agreement with Baltimore City such that DJS will house qualified juveniles who have been charged as adults and who would otherwise be held in the City’s adult pre-trial detention center. Juveniles housed by DJS through this agreement are included in the population figures discussed above, as are youth in other jurisdictions held in DJS detention facilities as authorized by the adult court under Maryland statute.

This population is overwhelming male (Figure 1.2). Males accounted for approximately 93% of the total in FY2014. Thus, females make up only small percentage of the population of juveniles held in pre-trial facilities.

The majority of juveniles in this population are African-American (Figure 1.2). In FY2014, more than 80% of juveniles charged as adults and held in the pre-trial population were African-American youth. White youth made up about 10% of the population, while other groups (including those who are Hispanic, Indian, or Asian) accounted for 2% to 3%. For the remaining 3% to 4% of the population, race is not known.

Figure 1.2
Juveniles Charged as Adults and Held in Maryland Detention Facilities
in Accused Status –
FY2014 ADP by Gender and Race

	Average Daily Population (ADP) Lower Bound	Average Daily Population (ADP) Upper Bound
Males	106.5	133.0
Females	7.4	10.2
Total	113.9	143.2
African-American	96.2	118.5
White	10.5	15.3
Other	2.5	4.6
Unknown	4.7	4.7
Total	113.9	143.2

From a regional perspective, juveniles held in Baltimore City accounted for the largest population numbers from FY2012 to FY2014. Facilities in DJS’ Central and Metro regions had the second and third largest totals, respectively. Relatively small numbers of juveniles were held in facilities located in the Western, Eastern and Southern DJS regions. In Figure 1.3, the lower and upper bound of the population is shown by the individual facilities across the state.

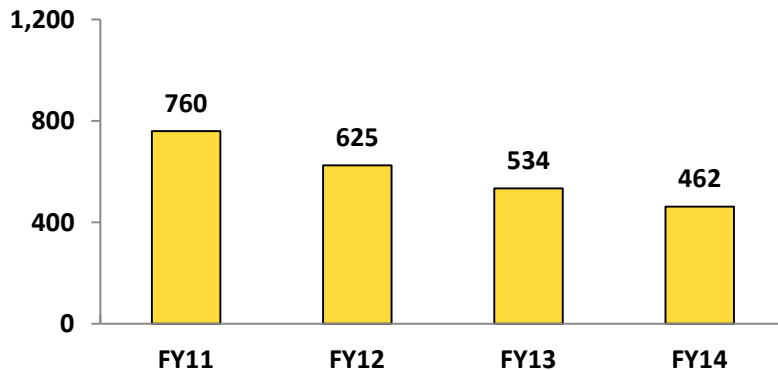
Figure 1.3
Juveniles Charged as Adults and Held in Maryland Detention Facilities in Accused Status
by Facility

Facility	Lower Bound			Upper Bound		
	FY2012	FY2013	FY2014	FY2012	FY2013	FY2014
Allegany County Detention Center	0.0	0.0	0.0	0.0	0.0	0.0
Anne Arundel County						
Jennifer Road Detention Center	7.0	1.2	4.1	14.0	4.7	7.3
Ordinance Road Correctional Center	0.3	0.1	0.0	0.3	0.1	0.0
Baltimore City						
Baltimore City Central Booking and Intake Center	0.6	0.4	1.6	0.6	0.4	1.8
Baltimore City Detention Center	46.8	39.1	17.2	54.8	47.4	22.6
Baltimore County Detention Center	23.4	18.2	21.2	28.5	22.8	25.5
Calvert County Detention Center	0.7	0.0	1.4	0.7	0.0	1.4
Caroline County Detention Center	0.0	0.0	0.0	0.0	0.0	0.0
Carroll County Detention Center	1.8	0.0	0.0	4.0	3.5	2.4
Cecil County Detention Center	2.5	1.3	0.1	2.5	1.0	0.1
Charles County Detention Center	3.4	1.5	0.1	4.0	2.5	0.4
Dorchester County Detention Center	2.0	1.5	0.9	4.0	1.9	1.4
Frederick County Detention Center	0.4	0.6	1.3	0.7	0.6	1.3
Garrett County Detention Center	0.0	0.0	0.0	0.0	0.0	0.0
Harford County Detention Center	2.3	1.5	3.1	2.5	2.3	4.9
Howard County Detention Center	2.1	2.0	1.6	3.1	2.8	2.7
Kent County Detention Center	0.2	0.1	0.6	0.2	0.1	0.6
Montgomery County Detention Center*	6.8	4.2	4.3	11.9	5.7	8.1
Prince George's County Detention Center	35.3	26.5	14.7	41.4	32.3	18.9
Queen Anne's County Detention Center	0.0	0.0	0.0	0.0	0.0	0.0
Somerset County Detention Center	3.1	0.4	0.6	3.2	0.4	0.6
St. Mary's County Detention Center	0.7	1.2	0.0	0.7	2.2	0.2
Talbot County Detention Center	0.0	0.5	0.0	1.0	0.7	0.0
Washington County Detention Center	4.4	3.0	1.5	4.5	3.4	1.6
Wicomico County Detention Center	4.5	1.9	4.2	6.4	5.2	5.7
Worcester County Jail	3.7	2.4	0.1	4.5	3.7	0.1
Juveniles charged as adults and held in Maryland Department of Juvenile Services (DJS) Facilities by agreement:						
Baltimore City Juvenile Justice Center	0.0	0.0	27.1	0.0	0.0	27.3
Other DJS Facilities	0.0	0.0	8.2	0.0	0.0	8.2
Total ADP	152.0	107.8	113.9	193.5	143.8	143.2

* Data from the Montgomery County Detention Center and the Montgomery County Correctional Facility were combined in the population count due to data issues. Two years of admissions appear to have been misattributed in the CMDCS database. Where youth were transferred directly from one Montgomery facility to the other, the admission records were combined to create a single, continuous period of confinement.

As with any criminal justice population, the number of admissions is a key determinant of the size of the overall population. Available data indicate that, in FY2011, 760 juveniles charged as adults were admitted to detention facilities (Figure 1.4). Admissions decreased in FY2012 and FY2013 to 625 and 534, respectively. This downward trend continued into FY2014, when the total number of admissions was 462. There were 39% fewer admissions in FY2014 than in FY2011.

Figure 1.4
Juveniles Charged as Adults and Admitted to Detention Facilities
(in Accused Status)



Figures shown here exclude admissions to the Baltimore City Central Booking and Intake Center, admissions to the DJS Baltimore City Juvenile Justice Center, and others admitted to DJS facilities as courtesy holds in order to avoid double-counting juveniles who were transferred to or from other facilities.

The number of admissions is shown by facility in Figure 1.5 below. In Baltimore City, incoming arrestees are brought to the Central Booking and Intake Center. From there, juveniles who remained confined may be transferred to the Baltimore City Detention Center. In 2014, DJS entered into an agreement with Baltimore City such that DJS will house qualified juveniles who have been charged as adults and who would otherwise be held in the City's adult pre-trial detention center. The total admissions shown in Figure 1.4 and Figure 1.5 excludes admissions to the Baltimore City Central Booking and Intake Center, admissions to the DJS Baltimore City Juvenile Justice Center, and others admitted to DJS facilities as courtesy holds, in order to avoid double-counting juveniles who were transferred to or from other facilities.

Figure 1.5
Juveniles Charged as Adults and Admitted to Detention Facilities
(in Accused Status) by Facility

Facility	FY2012	FY2013	FY2014
Allegany County Detention Center	0	1	0
Anne Arundel County			
Jennifer Road Detention Center	39	25	26
Ordnance Road Correctional Center	5	3	7
Baltimore City			
Baltimore City Central Booking and Intake Center	175	161	146
Baltimore City Detention Center	175	113	118
Baltimore County Detention Center	97	94	85
Calvert County Detention Center	1	0	3
Caroline County Detention Center	0	1	2
Carroll County Detention Center	2	1	0
Cecil County Detention Center	16	7	2
Charles County Detention Center	13	12	3
Dorchester County Detention Center	11	2	3
Frederick County Detention Center	4	5	4
Garrett County Detention Center	0	1	0
Harford County Detention Center	7	14	7
Howard County Detention Center	17	11	12
Kent County Detention Center	1	1	0
Montgomery County Detention Center*	33	64	48
Prince George's County Detention Center	143	133	97
Queen Anne's County Detention Center	2	0	2
Somerset County Detention Center	6	3	4
St. Mary's County Detention Center	6	6	1
Talbot County Detention Center	0	4	4
Washington County Detention Center	17	14	6
Wicomico County Detention Center	22	14	22
Worcester County Jail	8	5	6
Juveniles charged as adults and held in Maryland Department of Juvenile Services (DJS) Facilities by agreement:			
Baltimore City Juvenile Justice Center	0	0	127
Other DJS Facilities	0	0	56
Total Admissions**	625	534	462

* Data from the Montgomery County Detention Center and the Montgomery County Correctional Facility were combined in the forecast due to data issues. Two years of admissions appear to have been misattributed in the CMDCS database. Where youth were transferred directly from one Montgomery facility to the other, the admission records were combined to create a single, continuous period of confinement.

** Total Admissions excludes admissions to the Baltimore City Central Booking and Intake Center, admissions to the DJS Baltimore City Juvenile Justice Center, and others admitted to DJS facilities as courtesy holds in order to avoid double-counting juveniles who were transferred to or from other facilities.

Comparing FY2011 and FY2014, the distribution of offenses for admitted juveniles has not change significantly for most offense types (Figure 1.6). In FY2011, robbery/carjacking accounted for 38.3% of all juveniles charged as adults and admitted pre-trial, while assault/child abuse accounted for 25.8%. Together, these two offense types represented nearly two-thirds of admissions in FY2011. By FY2014, the percentage of admitted juveniles charged with robbery had decreased to 32.9% and assault/child abuse had increased to 37.9%. Despite these shifts, these two offense types continue to account for the majority of juveniles charged as adults and admitted for pre-trial detention (70.8% in FY2014).

Figure 1.6
Juveniles Charged as Adults and Admitted to Detention Facilities
(in Accused Status) by Offense Type

Offense Category	FY2011	FY2014
Murder/Manslaughter	11.2%	10.6%
Rape/Sex Offense	3.7%	4.4%
Robbery/Carjacking	38.3%	32.9%
Kidnapping/False Imprisonment	0.1%	0.4%
Assault/Child Abuse	25.8%	37.9%
Firearms & Other Weapons	11.6%	9.3%
Burglary	1.3%	1.5%
Arson	0.1%	0.2%
Theft	0.9%	1.1%
Narcotics	2.9%	0.9%
Other	2.4%	0.9%
Unknown	1.3%	0.0%
Total	100.0%	100.0%

Length-of-stay is also a critical factor affecting the size of the population. Length-of-stay was calculated for all juveniles who had been charged as adults and held pre-trial. A subset of these juveniles, however, changed from accused status to sentenced status during their period of confinement. As noted above, the number of juveniles who switch from accused to sentenced status cannot be determined. Length-of-stay for all juveniles released from pre-trial facilities corresponds to the upper bound of the population shown in Figure 1.1. Length-of-stay was also calculated for the subset of juveniles who were held eight months or less. This corresponds to the lower bound of the population shown in Figure 1.1 (for the lower bound estimate, it was assumed that all juveniles who served more than eight months had been sentenced). Data indicate that 88% of juveniles charged as adults and held pre-trial had a length-of-stay of eight months or less.

The computed lengths-of-stay are shown in Figure 1.7. Across all measures shown, both mean and median length-of-stay declined between FY2012 and FY2014. For example, among juveniles who served eight months or less, the mean length-of-stay decreased from 60 days in FY2012 to less than 48 days in FY2014.

Figure 1.7
Mean and Median Lengths-of-Stay for
Juveniles Charged as Adults and Held in Maryland Detention Facilities

	Releases for Juveniles with Stays of 8 Months or Less		All Releases	
	Mean (in Days)	Median (in Days)	Mean (in Days)	Median (in Days)
FY2012	60.1	28.2	102.5	53.2
FY2013	54.6	19.5	95.5	35.1
FY2014	47.7	14.8	86.9	19.9

↑
 Corresponds to the lower bound of the population shown in Figure 1.1

↑
 Corresponds to the upper bound of the population shown in Figure 1.1

Length-of-stay was computed excluding juveniles admitted to the Baltimore City Central Booking and Intake Center as these juveniles should be transferred to another facility. Length-of-stay figures also exclude juveniles admitted with a code indicating he or she was a federal hold.

Section 2 Factors Contributing to Change in the Population

Many factors may affect the number of youth who are charged as adults and held in Maryland’s detention facilities. At the broadest levels, these may include demographic shifts, trends in crime rates and offenses reported, and the volume and patterns of arrests.

According to population estimates from the Maryland Department of Planning, Maryland’s 11-to-17 year old population declined by 0.9% between FY2012 and FY2014 (Figure 2.1). Change in this subpopulation, however, has varied considerably across the different regions of the state. For Baltimore City, the data indicate that the number of juveniles in this age group increased by 4.0% during this time period (although the number increased from FY2012 to FY2013 and then decreased slightly from FY2013 to FY2014). For the Central, Western, Eastern, and Southern DJS regions, declines in this age group ranged from 2.2% to 5.5%. Besides Baltimore City, DJS’ Metro region was the only other to record a population increase between FY2012 and FY2014 (up 1.7%).

Figure 2.1
Population of Maryland 11 to 17 Years of Age by DJS Region

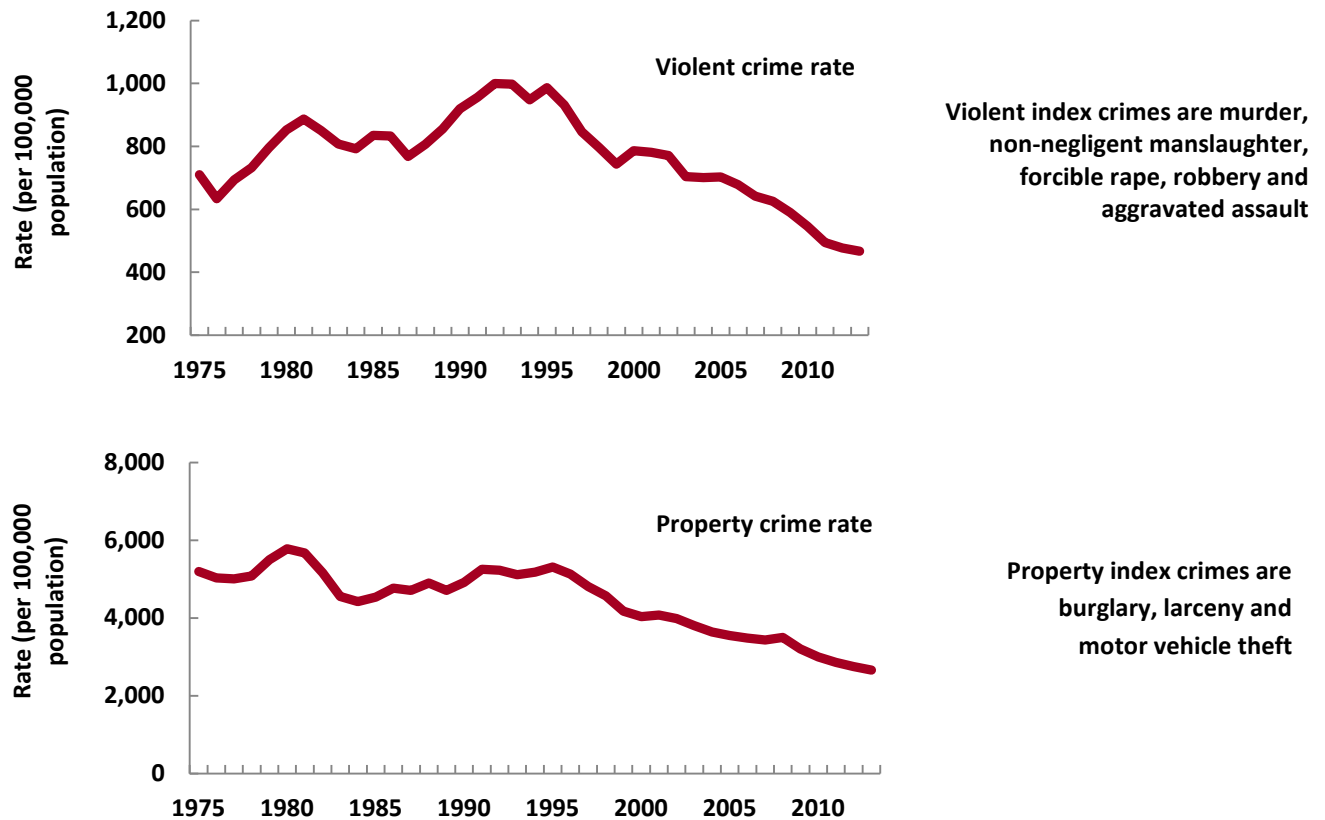
Region	FY2012	FY2013	FY2014	Change FY2012-FY2014
Baltimore City	56,704	60,124	58,966	4.0%
Central Region	139,643	136,757	135,756	-2.8%
Western Region	44,853	42,880	42,389	-5.5%
Eastern Region	41,167	39,881	39,248	-4.7%
Southern Region	81,954	80,580	80,142	-2.2%
Metro Region	171,812	175,748	174,769	1.7%
Total	536,133	535,970	531,270	-0.9%

Source: Maryland Department of Planning data provided by the Maryland Department of Juvenile Services

Crime rates in Maryland, as in much of the nation, have declined over the past 15 to 20 years. Maryland’s violent index crime rate has decreased by 53% since its peak in 1992 and, in 2013, it was the lowest recorded over last 40 years (Figure 2.2 upper panel). Maryland’s property index

crime rate has also decreased significantly. Between 1995 and 2013, the property crime rate fell by 50% and is also at a 40-year low (Figure 2.2 lower panel). Crime rates in Baltimore City, which are substantially higher than the statewide average, dropped steeply after 1995.

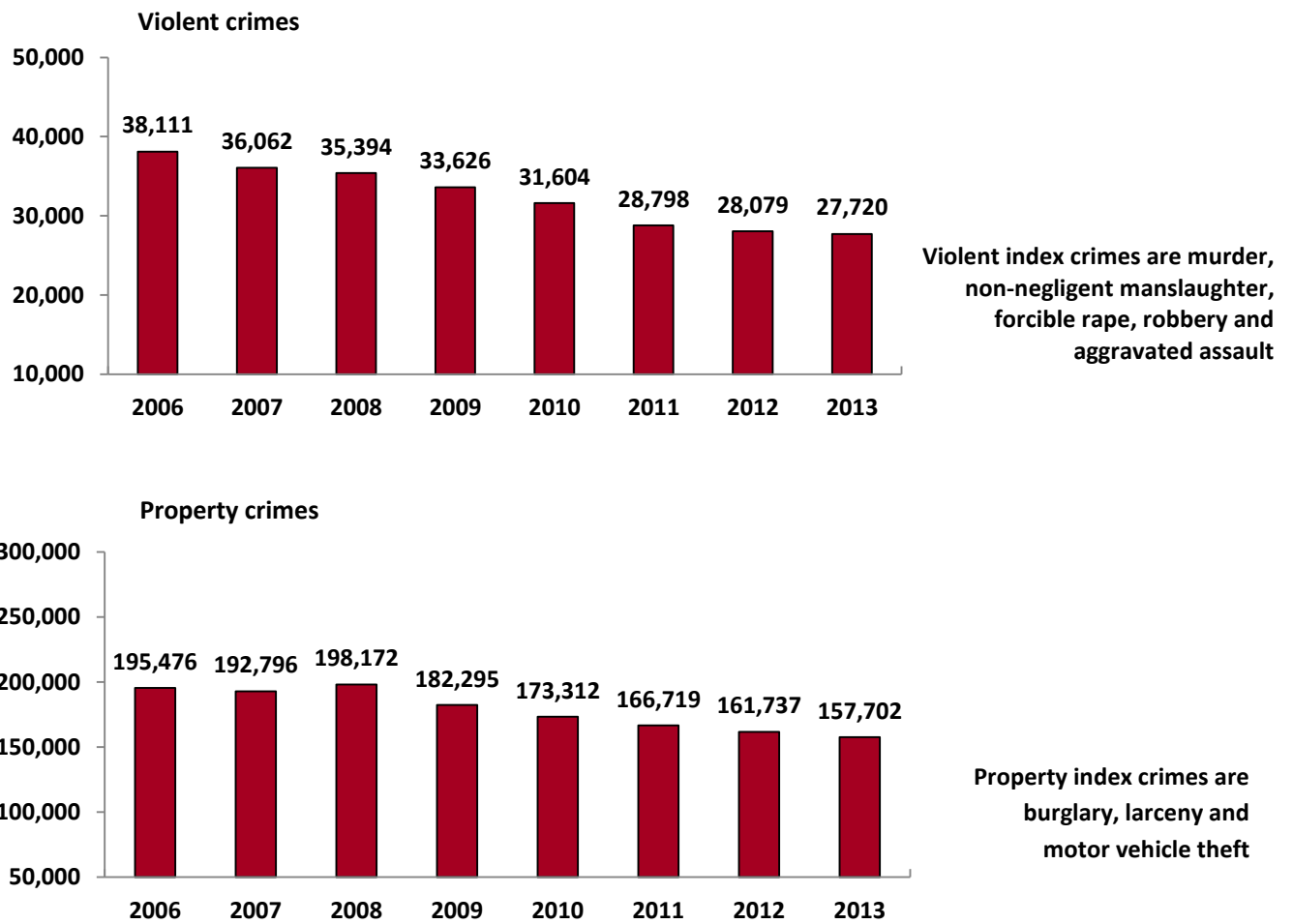
Figure 2.2
Index Crime Rates in Maryland, 1975-2013



Source: Maryland State Police – Crime in Maryland UCR Reports

Because crime rates are affected by increases or decreases in the state’s population, the number of crimes reported to law enforcement was also examined. Mirroring the decrease in the violent crime rate, the number of violent index crimes reported to police has shown a marked decline. Since 2005, the number of violent index crimes has decreased each year (Figure 2.3 upper panel). While the number of property index crimes reported has generally decreased since 2004, an increase was recorded from 2007 to 2008 (Figure 2.3 lower panel). After 2008, the number of reported property crimes resumed its downward trend.

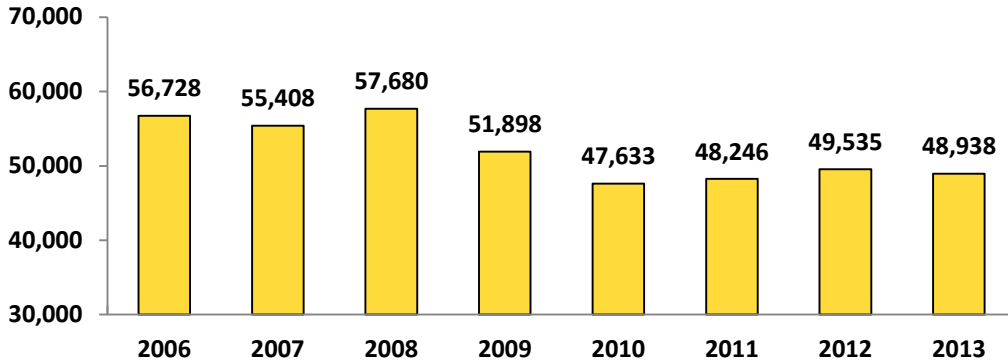
Figure 2.3
Number of Index Crimes Reported in Maryland



Source: Maryland State Police – Crime in Maryland UCR Reports

Index crime measures do not include drug offenses, as these crimes are not reliably reported to law enforcement. Drug crime, therefore, is often measured by examining arrests for drug offenses. In Maryland, the number of drug arrests increased overall between 2004 and 2008. After peaking in 2008, drug arrests dropped significantly in 2009 and again in 2010 (Figure 2.4). Since 2010, drug arrests have increased, but they remain well below the level recorded in 2008. For example, there were 15% fewer drug arrests statewide in 2013 than in 2008. In Baltimore City, drug arrests dropped at an even steeper pace (down 34% from 2008 to 2013).

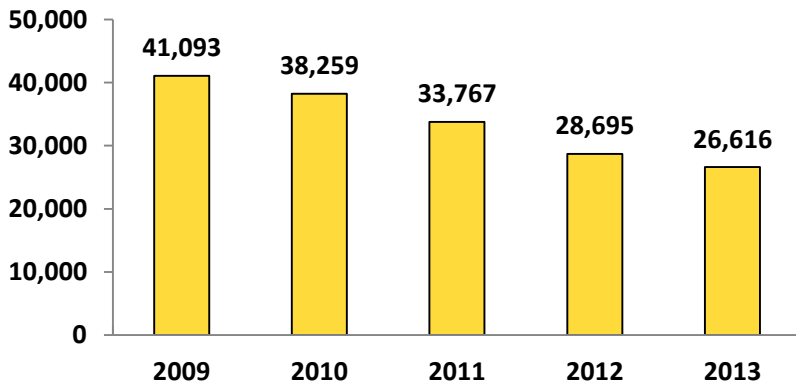
Figure 2.4
Number of Drug Arrests in Maryland



Source: Maryland State Police - Crime in Maryland UCR Reports

The volume of juveniles arrested each year has demonstrated a clear downward trend over the most recent five years. (Figure 2.5). Although still declining, the rate of decline appeared to slow in 2013. Overall, the number of juvenile arrests (excluding arrests recorded as curfew, loitering and runaways) decreased by 35% between 2009 and 2013.

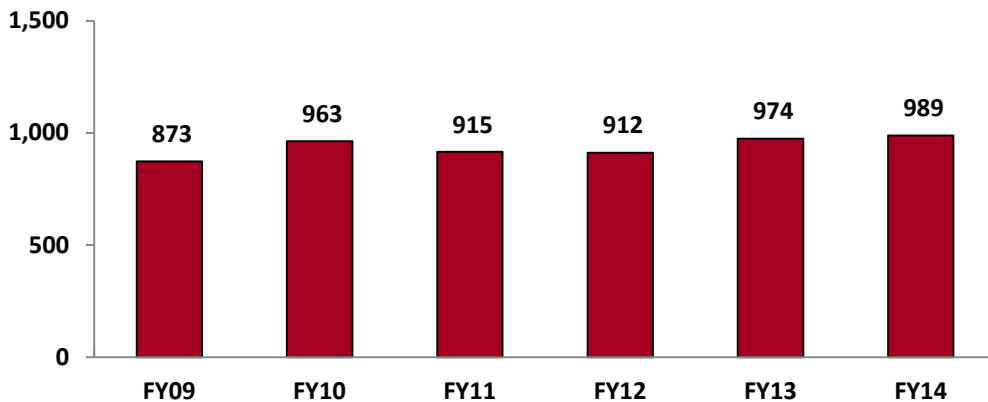
Figure 2.5
Number of Juvenile Arrests in Maryland
(excluding arrests recorded as curfew, loitering and runaways)



Source: Maryland State Police – Crime in Maryland UCR Reports

Despite significant reductions in arrests, the number of juveniles charged as adults has not declined in recent years. Since FY2010, the number of juveniles charged as adults has fluctuated between 912 and 989 (Figure 2.6). While there has not been a clear upward or downward trend, there were more juveniles charged as adults in both FY2013 and FY2014 than in any of the previous four years. For the majority of these juveniles (more than 90% in FY2013 and FY2014), the charges were automatically excluded from juvenile court jurisdiction. Thus, a minority of juveniles had been charged as adults because the juvenile court waived its jurisdiction.

Figure 2.6
Number of Juveniles Charged as Adults



	FY10	FY11	FY12	FY13	FY14
Total number of juveniles charged as adults:	963	915	912	974	989
Of the total, the number of juveniles waived by juvenile court to adult jurisdiction:	194	202	143	89	79

Sources: Maryland Department of Juvenile Services and Maryland Department of Public Safety – CJIS data

Based on the data available for analysis, the proportion of juveniles charged as adults who are admitted for pre-trial detention appears to be falling. In FY2012, more than two-thirds of juveniles (68.5%) charged as adults were admitted to detention facilities (Figure 2.7). By FY2014, less than half (47%) of the juveniles charged as adults were placed in pre-trial detention.

Figure 2.7
Percentage of Juveniles Charged as Adults Who Are Admitted for Pre-Trial Detention

Fiscal Year	Juveniles Charged as Adults	Juveniles Charged as Adults Who Are Admitted for Pre-Trial Detention	Percentage of Charged Juveniles Who Are Admitted
FY2012	912	625	68.5%
FY2013	974	534	54.8%
FY2014	989	462	46.7%

Percentages shown in the table above are calculated based on the number of juveniles charged as adults and the number of juveniles admitted for pre-trial detention during the same fiscal year. Data limitations do not permit the tracking of individual juveniles from charging to confinement.

Section 3 Population Projections

Projections of the population of juveniles charged as adults and held in Maryland's detention facilities (in accused status) were developed using the lower and upper bounds of the population presented in Section 1.

Projection models were generated using two common forecasting techniques: auto-regressive integrated moving average (ARIMA) analysis and exponential smoothing analysis. ARIMA 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 identify any seasonal fluctuations. Time parameters are tested in a times-series model and the statistically significant parameters are retained. Exponential smoothing computes a series of weighted averages over past observations to project future values, with recent observations given relatively more weight for the projection than older observations. For forecasting purposes, a minimum of 60 observations, or data points, is preferred, particularly if a seasonal component is to be modeled.

Although all available admission records dating back to January 2008 were provided, data prior to FY2011 were incomplete. See Section 1 for a full discussion of the data limitations. ADP was calculated using data from FY2011 through FY2014; however, the population computed for the early months of FY2011 may be lower than the actual population during that time period. The most recent month of data provided, June 2014, may also be incomplete. Therefore, to develop projection models, only data for October 2010 through May 2014 were selected. This provided 44 monthly data points for developing forecast models. Due to the limited number of data points, seasonal parameters could not be tested.

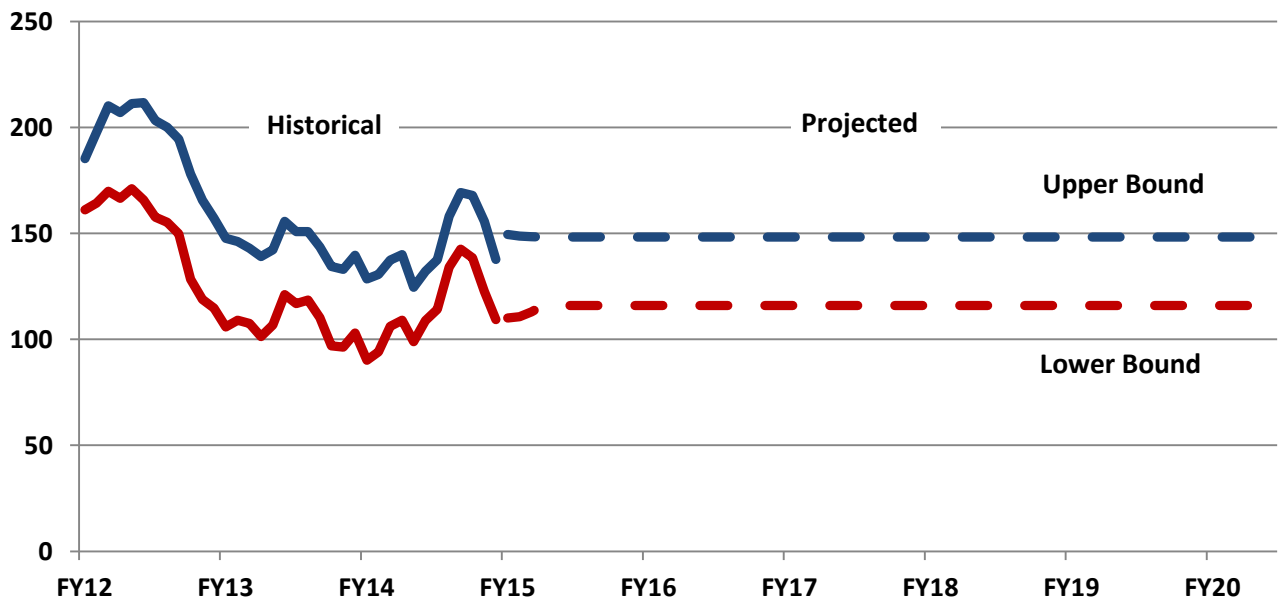
Projection models were selected based on rigorous statistical testing and comparing each model's fit to the historical data (see Appendix A for a discussion of goodness-of-fit measures for the population projection models).

These models implicitly assume that current policies and practices (for example, prosecutors' charging practices and juvenile court decisions to waive jurisdiction) will continue into the future.

In this section, projections of the average population for each fiscal year through FY2019 are presented.

Projections of the lower and upper bounds of the population are shown in Figure 3.1. The projections presented in the table below reflect the average population for each fiscal year. A 15-year forecast was requested; however, given the relatively small number of data points available for building projection models, such a long forecast horizon is not advisable. Five-year projections are presented here.

Figure 3.1
Lower and Upper Bound Projections of the
Population of Juveniles Charged as Adults and Held in Maryland’s Detention Facilities
in Accused Status



	Year	Lower Bound	Upper Bound
Historical ADP	FY2012	152.0	193.5
	FY2013	107.8	143.8
	FY2014	113.9	143.2
Projected ADP	FY2015	114.8	148.4
	FY2016	116.0	148.3
	FY2017	116.0	148.3
	FY2018	116.0	148.3
	FY2019	116.0	148.3

These projections may assist the DJS in identifying ways in which additional youth charged as adults might be served in a juvenile detention facility rather than an adult pre-trial facility. However, some of the juveniles charged as adults would not be eligible for transfer to a juvenile facility. Maryland law prohibits the transfer of cases involving juveniles who are at least 16 years of age and accused of first-degree murder and juveniles who have been convicted in an unrelated case of an offense excluded from the jurisdiction of the juvenile court. The data available for this study, however, do not include information necessary to consistently identify those prohibited from transfer due to a previous conviction for an excluded offense; only a small number of juveniles charged with violations of adult probation, indicative of a prior conviction in the adult system, could be identified. The data do permit the identification of youth excluded from transfer due to a first-degree murder charge.¹¹ The historical and projected ADP, excluding ineligible juveniles charged with violations of probation or first-degree murder, is shown in Figure 3.2 below.

Figure 3.2

Lower and Upper Bound Projections of the Population of Juveniles Charged as Adults and Held in Maryland’s Detention Facilities in Accused Status

Excluding juveniles 16 years of age or older charged with first-degree murder and juveniles returned to the adult system for a violation of probation

	Year	Lower Bound	Upper Bound
Historical Average Daily Population (ADP)	FY2012	148.6	185.0
	FY2013	106.2	140.6
	FY2014	111.0	139.1
Projected Average Daily Population (ADP)	FY2015	112.5	144.6
	FY2016	113.6	144.4
	FY2017	113.6	144.4
	FY2018	113.6	144.4
	FY2019	113.6	144.4

To disaggregate the projections by facility, the characteristics of the population in FY2014 were examined (with percentages for the lower and upper bound computed separately). The resulting percentages are shown in Figure 3.3. Rather than a two or three year average, FY2014 alone was used to calculate these percentages because DJS initiated a new policy in FY2014 to house many of the Baltimore City juveniles who are charged as adults and held pre-trial. Calculating an average over a two to three year period would not accurately reflect this new DJS policy and its impact on the Baltimore City adult detention center population.

¹¹ Only completed acts were identified here.

Figure 3.3
FY2014 Percentage of Population by Facility

Excluding juveniles 16 years of age or older charged with first-degree murder and juveniles returned to the adult system for a violation of probation

Facility	Lower Bound	Upper Bound
Allegany County Detention Center	0.0%	0.0%
Anne Arundel County		
Jennifer Road Detention Center	3.7%	5.3%
Ordnance Road Correctional Center	0.0%	0.0%
Baltimore City		
Baltimore City Central Booking and Intake Center	1.5%	1.3%
Baltimore City Detention Center	14.0%	14.9%
Baltimore County Detention Center	18.5%	17.7%
Calvert County Detention Center	1.3%	1.0%
Caroline County Detention Center	0.0%	0.0%
Carroll County Detention Center	0.0%	1.7%
Cecil County Detention Center	0.1%	0.0%
Charles County Detention Center	0.1%	0.3%
Dorchester County Detention Center	0.8%	1.0%
Frederick County Detention Center	1.2%	0.9%
Garrett County Detention Center	0.0%	0.0%
Harford County Detention Center	2.8%	3.5%
Howard County Detention Center	1.4%	2.0%
Kent County Detention Center	0.5%	0.4%
Montgomery County Detention Center	3.9%	5.8%
Prince George's County Detention Center	12.7%	12.7%
Queen Anne's County Detention Center	0.0%	0.0%
Somerset County Detention Center	0.6%	0.4%
St. Mary's County Detention Center	0.0%	0.1%
Talbot County Detention Center	0.0%	0.0%
Washington County Detention Center	1.3%	1.2%
Wicomico County Detention Center	3.8%	4.1%
Worcester County Jail	0.1%	0.1%
Juvenciles charged as adults and held in Maryland Department of Juvencile Services (DJS) Facilities by agreement:		
Baltimore City Juvencile Justice Center	24.4%	19.6%
Other DJS Facilities	7.4%	5.9%
Total	100.0%	100.0%

Projections of the lower and upper bounds of the population, broken out by facility, are shown in Figure 3.4. These projections exclude juveniles 16 years of age or older charged with first-degree murder and juveniles returned to the adult system for a violation of probation. The projections presented in Figure 3.4 reflect the average population for each fiscal year. Because the projections reach a level state very quickly in the forecast horizon and the models do not include a component to account for seasonality (monthly fluctuations associated with the time of year), the projections are not shown by month.

Note: Historical data from the Montgomery County Detention Center and the Montgomery County Correctional Facility were combined in the population count due to data issues. Thus, the forecast represents the combined population.

The projections contained in this report do not include a peaking factor to account for short-term population swings. A peaking factor can be applied a later date, however.



Figure 3.4
Lower and Upper Bound Projections of the
Population of Juveniles Charged as Adults and Held in Maryland’s Detention Facilities in Accused Status
Excluding juveniles 16 years of age or older charged with first-degree murder and
juveniles returned to the adult system for a violation of probation

Facility	FY2015		FY2016		FY2017		FY2018		FY2019	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Allegany County Detention Center	0	0	0	0	0	0	0	0	0	0
Anne Arundel County										
Jennifer Road Detention Center	4.2	7.6	4.2	7.6	4.2	7.6	4.2	7.6	4.2	7.6
Ordnance Road Correctional Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Baltimore City										
Baltimore City Central Booking & Intake Center	1.7	1.9	1.7	1.9	1.7	1.9	1.7	1.9	1.7	1.9
Baltimore City Detention Center	15.7	21.5	15.9	21.5	15.9	21.5	15.9	21.5	15.9	21.5
Baltimore County Detention Center	20.8	25.6	21.1	25.6	21.1	25.6	21.1	25.6	21.1	25.6
Calvert County Detention Center	1.4	1.5	1.4	1.5	1.4	1.5	1.4	1.5	1.4	1.5
Caroline County Detention Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carroll County Detention Center	0.0	2.5	0.0	2.5	0.0	2.5	0.0	2.5	0.0	2.5
Cecil County Detention Center	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Charles County Detention Center	0.1	0.5	0.1	0.5	0.1	0.5	0.1	0.5	0.1	0.5
Dorchester County Detention Center	0.9	1.4	0.9	1.4	0.9	1.4	0.9	1.4	0.9	1.4
Frederick County Detention Center	1.3	1.4	1.3	1.4	1.3	1.4	1.3	1.4	1.3	1.4
Garrett County Detention Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Harford County Detention Center	3.2	5.1	3.2	5.1	3.2	5.1	3.2	5.1	3.2	5.1
Howard County Detention Center	1.6	2.9	1.6	2.8	1.6	2.8	1.6	2.8	1.6	2.8
Kent County Detention Center	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Montgomery County Detention Center (combined)	4.4	8.4	4.4	8.4	4.4	8.4	4.4	8.4	4.4	8.4
Prince George's County Detention Center	14.3	18.3	14.4	18.3	14.4	18.3	14.4	18.3	14.4	18.3
Queen Anne's County Detention Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Somerset County Detention Center	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
St. Mary's County Detention Center	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2
Talbot County Detention Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Washington County Detention Center	1.5	1.7	1.5	1.7	1.5	1.7	1.5	1.7	1.5	1.7
Wicomico County Detention Center	4.3	5.9	4.3	5.9	4.3	5.9	4.3	5.9	4.3	5.9
Worcester County Jail	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DJS Facilities										
Baltimore City Juvenile Justice Center	27.5	28.4	27.8	28.3	27.8	28.3	27.8	28.3	27.8	28.3
Other DJS Facilities	8.3	8.6	8.4	8.5	8.4	8.5	8.4	8.5	8.4	8.5
TOTAL	112.5	144.6	113.6	144.4	113.6	144.4	113.6	144.4	113.6	144.4

Appendix A
Goodness-of-Fit Measures for
the Population Projection Models

Goodness-of-Fit Measures for Population Projection Models

Goodness-of-fit measures for a statistical model describe how well the model fits a set of observations. These measures summarize the difference between observed values (i.e., actual historical values) and the predicted values generated by the model. Such measures can be used to compare results across projection models. Definitions for commonly-used measures are below.

Error: the numerical difference between the actual value and the predicted value.

Mean error: the average of the errors (note: because actual rather than absolute values of the projection errors are used, positive and negative forecast errors can offset each other).

Mean absolute error: the average of the absolute values of the errors.

Mean percent error: the average of errors as a percentage of the actual values (positive and negative forecast errors can offset each other).

Mean absolute percent error: the average of absolute errors as a percentage of the actual values.

Root mean squared error: the difference between actual values and the predicted values, which are then squared before the average is computed; finally, the square root of the average is taken (note: since the errors are squared before they are averaged, the root mean squared error gives a relatively high weight to large errors).

Population projections for juveniles charged as adults and held in Maryland’s detention facilities (representing those in “accused” status only) were selected based on rigorous statistical testing and each model’s fit to the historical data. Goodness-of-fit measures for the lower and upper bound projection models are shown below.

Goodness-of-Fit Measures for Population Projection Models

	Number of monthly observations used in model	Degrees of freedom	Mean Error	Mean Absolute Error	Mean Percent Error	Mean Absolute Percent Error	Root Mean Squared Error
Lower Bound Projection Model	43	41	-.18	7.277	-0.4%	5.7%	8.710
Upper Bound Projection Model	44	42	.18	7.098	0.1%	4.5%	8.754

