Oregon Youth Authority Demand Forecast

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Prepared By:
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Background

The Office of Economic Analysis produces the semi-annual Juvenile Corrections Population Forecast, which provides projections for close custody and community placement beds for the Oregon Youth Authority (OYA). Oregon Revised Statute 420.085-090 directs the Department of Administrative Services and the Juvenile Corrections Population Forecasting Advisory Committee to produce the forecast. The forecast is mandated to estimate monthly populations over a ten-year period and is due April 15 and October 15 of each year. OYA incorporates the forecast as one element for planning and budgeting.

The forecast is for close custody beds (incarcerated youths) and OYA community placements. The close custody population is composed of three groups: the Public Safety Reserve (PSR), Department of Corrections (DOC) offenders who are housed by OYA up to age 25, and the discretionary bed allocation (DBA) population. The PSR and DOC offenders represent the portion of OYA's close custody population for which incarceration is mandatory. The remaining bed space is for DBA and is occupied by youths committed to a youth correctional facility after a determination by a judge that the youth be placed in a close custody facility, and a length of stay in a facility is not set as OYA has parole authority over this population. In addition, the forecast includes projections for community placement beds.

The forecast advisory committee is comprised of individuals with knowledge of the juvenile justice system. It meets prior to each forecast to discuss issues and trends related to the system and how they could affect the forecast. The committee also defines the demand measure used for the discretionary close custody and community placement populations.

Juvenile Corrections Population Forecasting Advisory Committee

Torri Lynn (Chair)	Linn County Juvenile Department
Joe O'Leary	Oregon Youth Authority
Michelle Inderbitzen	Oregon State University
Vacant	Juvenile Department Representative 1
Vacant	Juvenile Department Representative 2
Vacant	District Court Judge

Forecast Assumptions and Risks

While the actual close custody population was significantly below the levels predicted in the April 2023 forecast, this was as much a product of a temporary bump up in the forecast as it was the decline in the close custody population. In fact, the close custody population has been rising for the past four months and the last forecast error was a mere eight beds. The October 2023 forecast assumes that the population will rise steadily in the near term and then modulate between 390 and 400 over the ensuing ten years. It should be noted that these forecasts in the wake of the Covid-19 pandemic exhibit substantial potential error in the near- to medium-term future for three distinct reasons (not all directly pandemic related):

- Intakes to close custody fell significantly following the onset of the pandemic and have remained well below pre-pandemic levels to this day due to a variety of factors: youth were immediately confined to their homes for some number of months. Even following the resumption of in-person schooling, anecdotal evidence suggests that criminal behavior was not detected, charged and prosecuted in the same manner as prior to the onset of the pandemic. Thus even though underlying juvenile criminality may have returned to pre-pandemic levels, referrals to juvenile departments are only beginning to increase from their pandemic-era lows. There is significant risk that the criminal justice system will shift back to a more "normal" (i.e. pre-pandemic) rate of detection, charging and most importantly committing youth to the close custody setting, thus causing the population to rise significantly above the forecast presented herein.
- As discussed in more detail beginning on page 10, the forecast methodology was changed recently. The model currently in use has been used for the adult forecast going on three decades and has exhibited a zero percent average error over a long period of time. However, there is one distinct difference on the youth side: most youth in close custody have indeterminate sentences; in other words, their release dates are not known at the time of intake as they are on the adult side. In other for the model to function, these individuals' release dates must be projected based on the lengths of stays of similar youth some years in the past. To the extent that lengths of stay fluctuate over time, this introduces substantial potential for error in the forecast.
- As also noted on page 8 and elaborated in detail on page 15, Senate Bill 1008 (2019) changed the manner in which Measure 11 charges are waived to adult court. This is shifting most the Department of Corrections population with determinate sentences to Public Safety Reserve youth with indeterminate sentences. Given the dynamic outlined in the previous paragraph, it is not known currently how the lengths of stay of these youth will change going forward, contributing even more potential error to the forecast.

The Juvenile Correction Population Forecast Advisory Committee has discussed these issues at length over the last few forecast cycles. It has also expressed concern that close custody capacity could well fall short of demand if the risks outlined above come to fruition. See a more general discussion of forecast risk on page 15.

Juvenile Crime Information

Information Sources

There are a number of sources for information concerning juvenile crime. The forecast analysis relies primarily on the Juvenile Justice Information System (JJIS). This data system maintains information on juvenile referrals in Oregon and juveniles supervised by OYA and county juvenile departments. It provides the most complete and timely source of juvenile crime data for Oregon.

The advisory committee meets before each forecast and provides information related to factors driving trends, changes in judicial system processes, and identification of things which may impact the forecast but do not yet show up in statistical data.

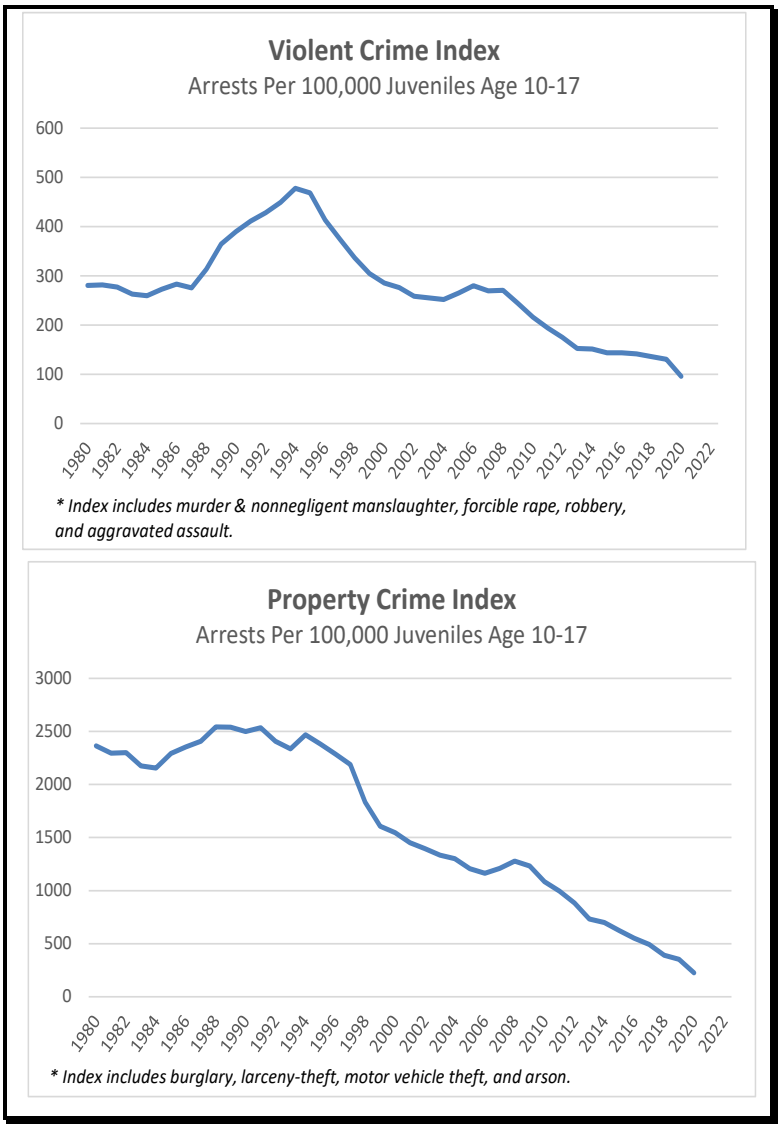
Additionally, national data and research in juvenile crime are surveyed prior to each forecast. Although national level research and statistics are based on data that is typically several years old, it is valuable in understanding trends seen in Oregon in comparison to national trends.

National Data and Trends

In general, national juvenile justice trends are reflected in Oregon specific data. National juvenile crime and delinquency trends generally indicate a substantial decrease in juvenile crime from the mid 1990's through the mid-2000's, followed by a modest increase associated with the financial crisis of 2008. Rates have resumed falling through the latest data. In particular, 2020 witnessed a sharp drop in crime rates coincident with the Covid-19 pandemic.

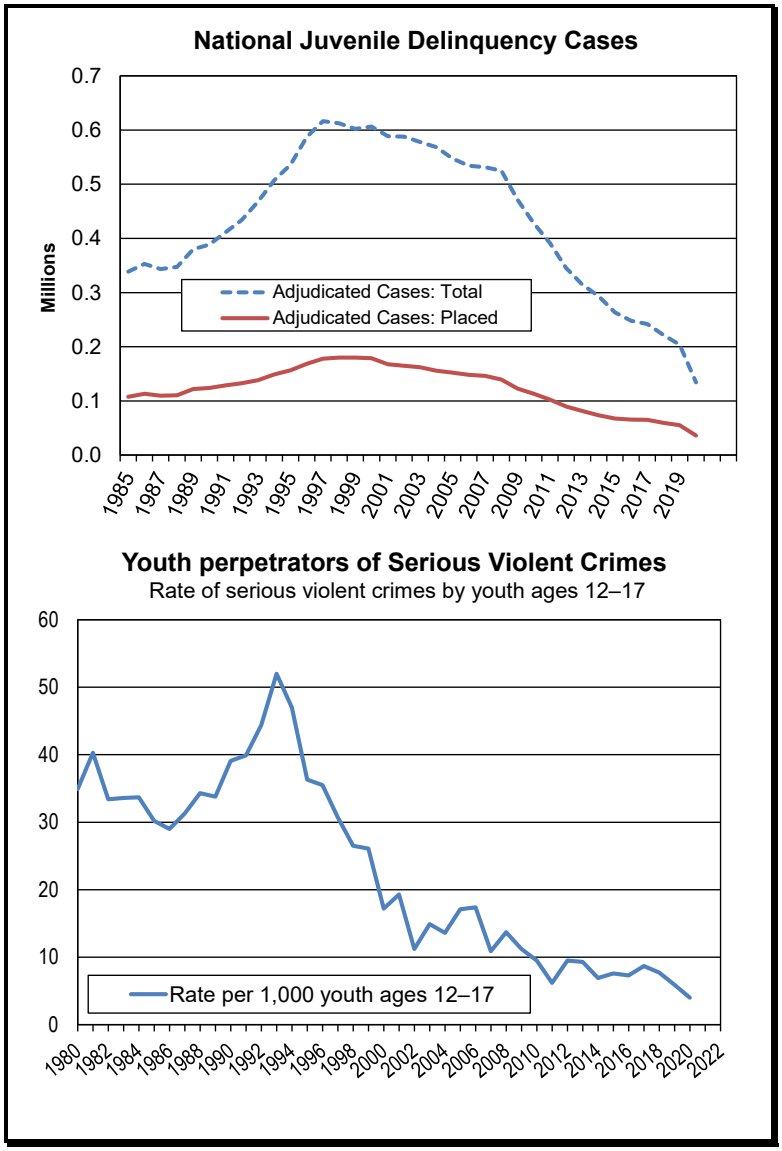
The charts below display different measures of nationwide juvenile crime/delinquency based on arrests, court cases, and survey data. They indicate that serious juvenile crime/delinquency at the national level peaked in the mid 1990's, dropped substantially from then through the early 2000's, remained relatively stable since the mid 2000's and has dropped in the last three years that data are available.

The FBI Uniform Crime Reporting (UCR) program provides the number of arrests by



age and crime type. The Violent Crime Index and Property Crime Index are standardized measures commonly used to characterize crime rates for those categories[1].

Juvenile court case statistics provide another measure of juvenile crime. Adjudicated cases, specifically those resulting in a facility placement, also serve as measures of relative demand for juvenile correctional services. Those trends (chart right) peaked in the mid 1990's, then fell gradually, leveling off in in the mid-2000s at a level about 20 percent below the peak[2]. Over the last twelve years there has been a marked drop. Compared with charts that are calculated as a ratio of a certain number of youths, this graph does not adjust for population growth and therefore the declines are even more meaningful.



Serious violent crimes perpetrated by youths aged 12 to 17, based on survey data, have declined dramatically from peak levels in the 1990's[3] [4]. In 2015, the serious violent crime offending rate was 7.6 crimes per 1,000 juveniles ages 12-17. This is a large drop from the peak rate of 52 per 1,000 in 1993. As compared to the Violent Crime Index (above), which is based on law enforcement agency reports of arrests, this indicator assesses crime reported by victims when surveyed. As such, it is believed to capture more total crime since it does not depend on any interaction with, or success of, the criminal justice system.

Underlying much national criminal justice research and juvenile criminality are data from the Federal Bureau of Investigation's Uniform Crime Reporting (UCR) program and U.S. Census Bureau's surveys of criminal justice agencies. Below is a listing of agencies which maintain references to national level data.

- Bureau of Justice Statistics
- Office of Juvenile Justice and Delinquency Prevention

[1]Internet Citation: OJJDP Statistical Briefing Book. Online. Available: https://www.ojjdp.gov/ojstatbb/crime/excel/JAR_2019.xls. March 28, 2022

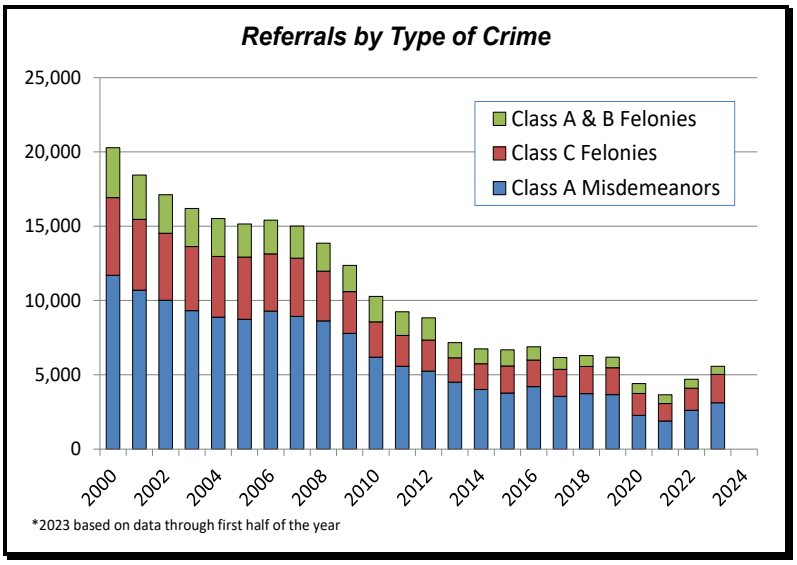
[2] Office of Juvenile Justice and Delinquency Prevention. Juvenile Court Statistics. http://www.ojjdp.gov/ojstatbb/ezajcs/

[3] Bureau of Justice Statitistics. National Criminal Victimization Survey. http://bjs.ojp.usdoj.gov

[4] America's Children in Brief: Key National Indicators of Well-Being, 2010. http://childstats.gov/americaschildren/index.asp

- National Juvenile Court Data Archive
- National Criminal Justice Reference Service
- National Archive of Criminal Justice Data
- Forum on Child and Family Statistics (general source for national data on children)

Oregon Data from the Juvenile Justice Information System (JJIS)



Reports from national data are not available for the most recent years and they generally lack sufficient detail to use directly in the forecast. Oregon's JJIS data system, in contrast, provides juvenile justice information from 1996 to the current day in considerable detail. The data system is used at both the county and the state level. Of interest in forecasting, it tracks individual events for each youth such as dates and offenses for referrals to county juvenile departments, dispositions ordered by a court, placement information for custody and supervision episodes, and risk assessment details. Informal events or dispositions are often not recorded. An example might be a court requirement for a youth to write an essay.

Referrals to Oregon county juvenile departments are the primary source for assessing overall juvenile criminality for the forecast. Youths are referred by law enforcement. In general, a referral is analogous to an arrest for a crime in the adult criminal justice system. Detail data on individual referrals is available going back through 1996 and is generally considered to be consistent over time in the way actual events are characterized in the data. The referral data are used for the forecast in establishing juvenile crime trends. For each referral, the data captures the youth's identity and a variety of characteristics including date of referral, age, gender, race, and offense information such as the statute violated, OYA's 19-point severity classification for the offense, and crime class such as "A Felony" or "B Misdemeanor".

Crime Trends from JJIS Referral Data

Juvenile crime, measured by the number of referrals, has dropped significantly in Oregon since the mid 1990's. In 1996, there were approximately 10,400 referrals for felonies. By 2013, that number had dropped to 2,658, a 74 percent reduction (over the same period, the total number of juveniles in Oregon age 12 to 17 increased about 4.6 percent). Similarly, though less dramatic, the number of misdemeanor referrals over the same period declined by 49 percent. For both felony and misdemeanor referrals, reductions were relatively rapid from 1998 to 2002, gradual from 2003 to 2007, and rapid again into 2013. Total referrals have been stable from 2014 to 2019, but the Covid-19 pandemic has resulted in a significant drop for 2020 and again in 2021. Data for 2022 and the first half of 2023 are showing a significant increase from the 2021 low.

The general reduction in crime rates is not specific to Oregon or to the juvenile population. Declines in crime rates have been observed nationwide. Although the reduction in juvenile crime is a national phenomenon and much research has been devoted to analyzing the reasons for the decline, there is no

single widely accepted explanation for the reduction. Various sources discuss theories related to race, gender, smart policing and curfew enforcement, weapon laws, drug use, gang activity, economic factors, social factors, geographic factors, environmental factors, etc. Most reports provide analyses that demonstrate significant declines across various categories, but fail to draw satisfying conclusions as to the underlying causes. This suggests the reduction is a general societal change.

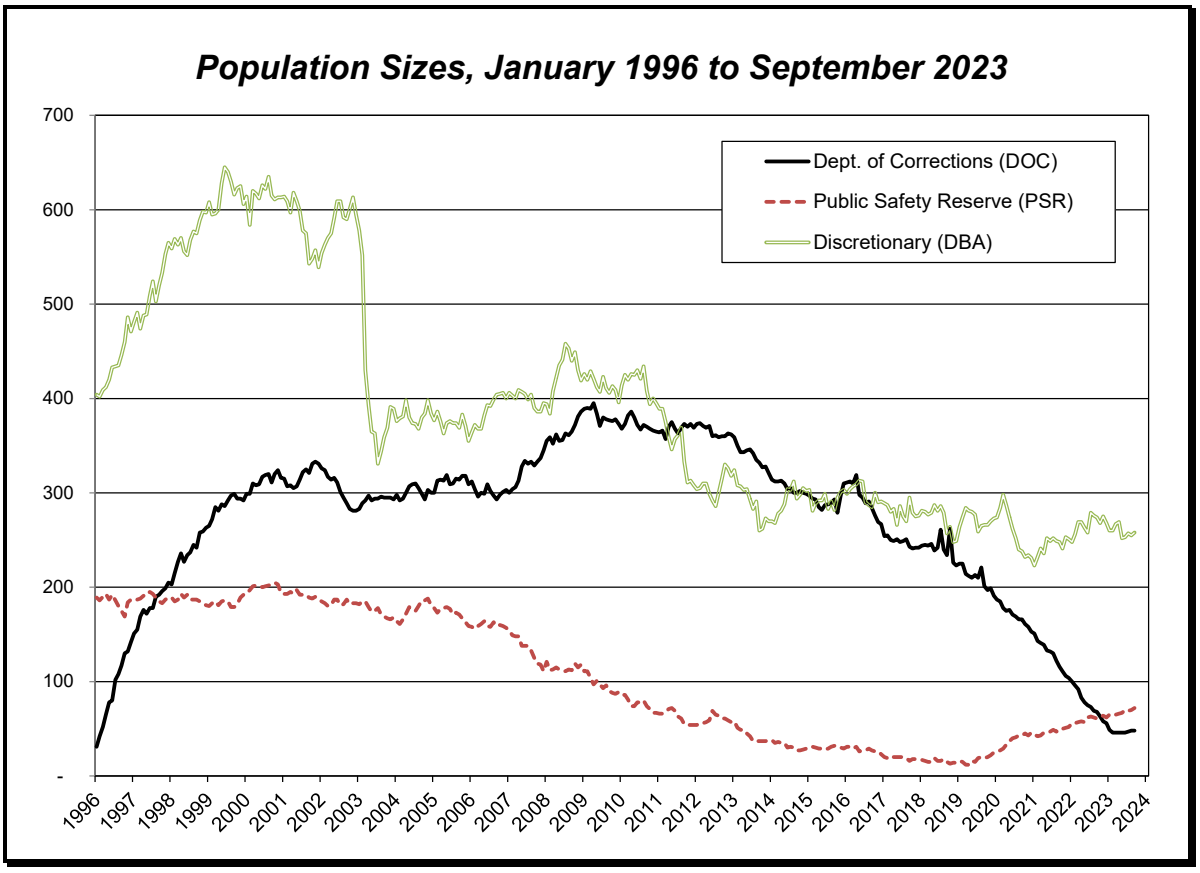
Population Size, Trends and Forecast Tracking

Population Size

As describe in more detail on page 14, Senate Bill 1008 has the potential to alter dramatically the magnitudes of the three Close Custody populations discussed and projected in this report. The Public Safety Reserve (PSR) population stayed relatively constant at about 200 from 1996 to 2005. From 2005 until early 2019 this population fell sharply. Since then, and particularly following the passage of SB 1008, the PSR population have risen steadily. To respond to SB 1008, OYA adjusted the PSR policy to ensure that it captured all Measure 11 crimes and any crime that resulted in loss of life. This adjustment will shift most DOC to PSR.

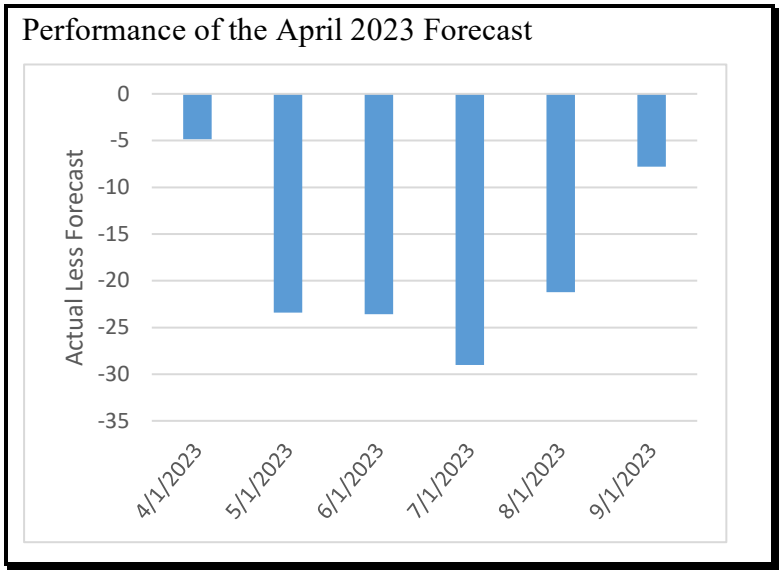
The Department of Corrections (DOC) population increased rapidly from 1996 through 1999 to roughly 300. The rapid increase was due to Measure 11, which made incarceration mandatory for serious violent crimes. It remained near 300 through 2006, and then gradually increased through 2008 to exceed 390 in April 2009. Since then, the DOC count has declined steadily, and the rate of decline has accelerated since the passage of SB 1008 as more of these youth are classified as PSR. The September 1 DOC bed level has ticked up slightly to 48 from the six-month ago number of 46.

Prior to January 2003, the Discretionary Bed Allocation (DBA) population size was generally around 600. In January 2003, budget cuts significantly reduced the availability of DBA beds. In the first months of 2003, several hundred DBA youths were released on parole sooner than normal to achieve the reduction. While within the range of historical variation since 2011, the decline during 2020 is likely due to the Covid-19 pandemic. At 258 on September 1, this is down somewhat from a year ago.



Prior Forecast Tracking

The chart at the right assesses the accuracy of the previous forecast for the close custody population. The actual population fell modestly below the forecast for the previous six months. The average forecast error was a negative 18 beds. The error was evenly distributed between those in on a new crime and revocations, and was fairly equally representative across cohorts.



Forecast Methodology

General Discussion

The nature of the forecast was changed substantially for the April 2021 cycle. Oregon Revised Statute 420.085 states that "the forecast shall also include an estimate of the demand for beds as defined by the Juvenile Corrections Population Forecast Advisory Committee". As a result, direct projections for the actual number of beds used, both for close custody and community placement, have been made for all subgroupings. In addition, the methodology for forecasting those beds, outlined below, has changed as well.

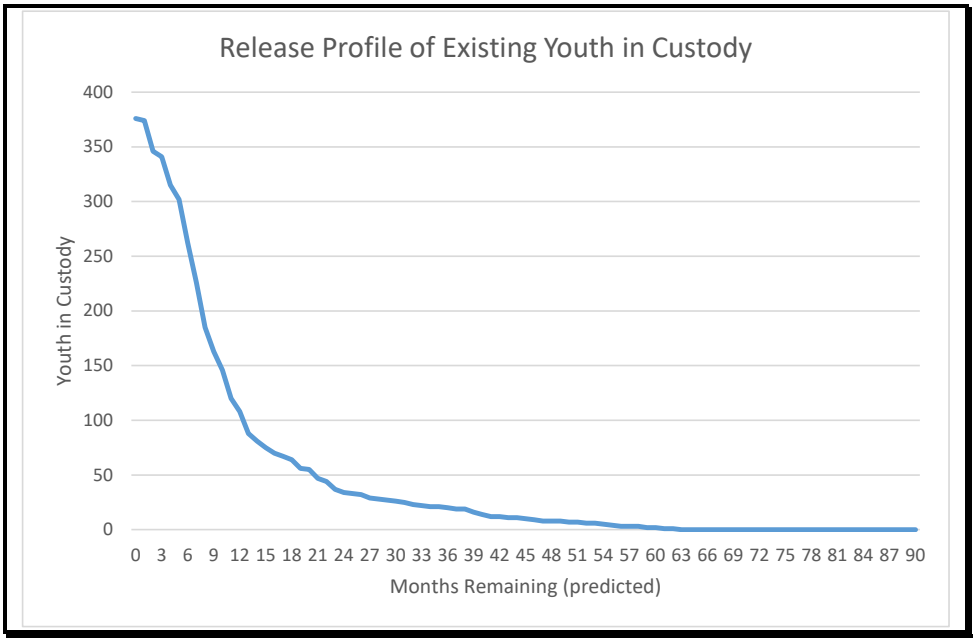
Forecasts for Actual Beds Used

The methodology for projecting the actual number of beds for all three populations (DOC, PSR, and DBA) is a "flow" model analogous to what demographers use to project population sizes and growth. The governing equation is as follows:

$Youth_T = Youth_{T-1} + Admission_T - Releases_T$

Where time T is the month being forecasted. For example, the number of youth in beds on April 1 will equal the number of youth in beds on March 1, plus admissions during the month of March and minus releases during the month of March.

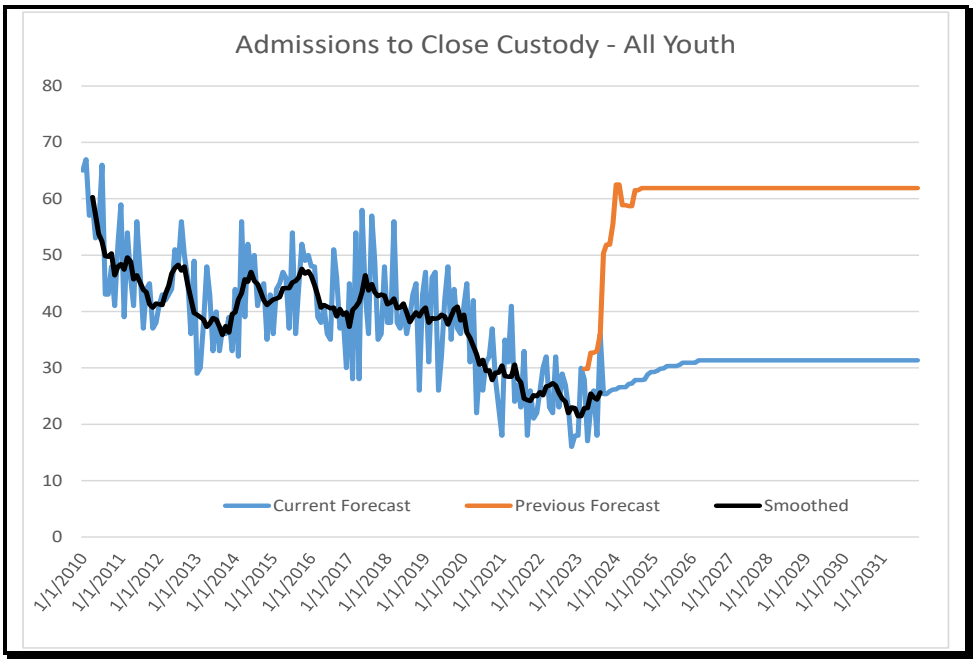
The model has three distinct components. The first is a census of the existing population and some estimate for when they will be released. The following graph illustrated the close custody population at a given point in time and how they are projected to release from close custody over the next few years. Note that the methodology for imputing length of stay for existing youth has changed for this forecast. Previously, a regression model was used to generate length of stay based on specific youth characteristics. Due to shortcomings with this approach, alternatives were examined and it was



Graph 1

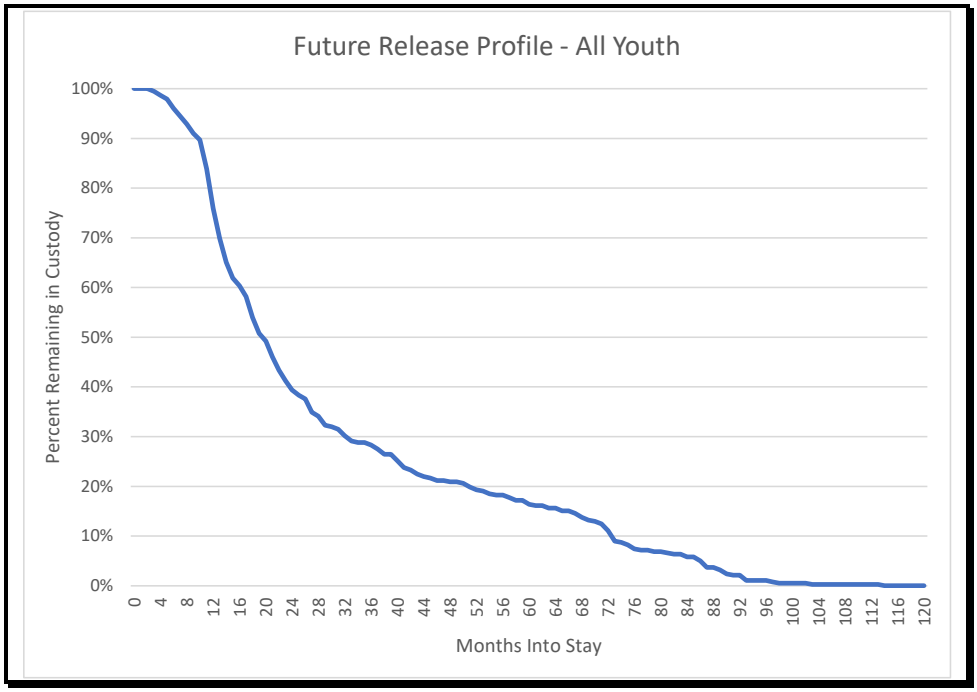
determined that Life Table Survival Analysis would produce a much better fit for the actual distribution of length of stay, in particular the youth who stay well past the mean.

The second component is a forecast for the number of intakes (admissions) that will occur each month for the next ten years. This is generated using historical relationships and trends, and takes into account predictable changes such as those described earlier for Senate Bill 1008. Note that due to the methodological changes described for the length-of-stay derivations elsewhere in this section, the necessary intake projections are now much more in line with historic levels and trends. The following graph shows the intake forecast aggregated across all sub-populations.



Graph 2

Finally, a release profile must be generated for each intake cohort to simulate when they will release from custody. For this October 2023 forecast, the methodology for identifying this release profile has been updated. Previously length-of-stay characteristics of youth in the past were used to generate the release profile imposed on future intake cohorts. Currently, the release characteristics of the existing youth, created using the methodology outlined above, are being employed to project the release profiles of future youth. The chart below exhibits this release profile.



These three components combine to create a forecasting model that can be used at any level of granularity. The eight sub-populations projected for the close custody population are DOC-Males, DOC-Females, PSR-Males, PSR-Females, DBA-Males-New Crime, DBA-Males-Revocation, DBA-Females-New Crime, and DBA-Females-Revocation. The DOC and PSR populations are not disaggregated by New Crime and Revocation due to the small number of revocations that occur. However, should PSR revocations increase sufficiently in the future, this population may be disaggregated by New Crime and Revocation intakes.

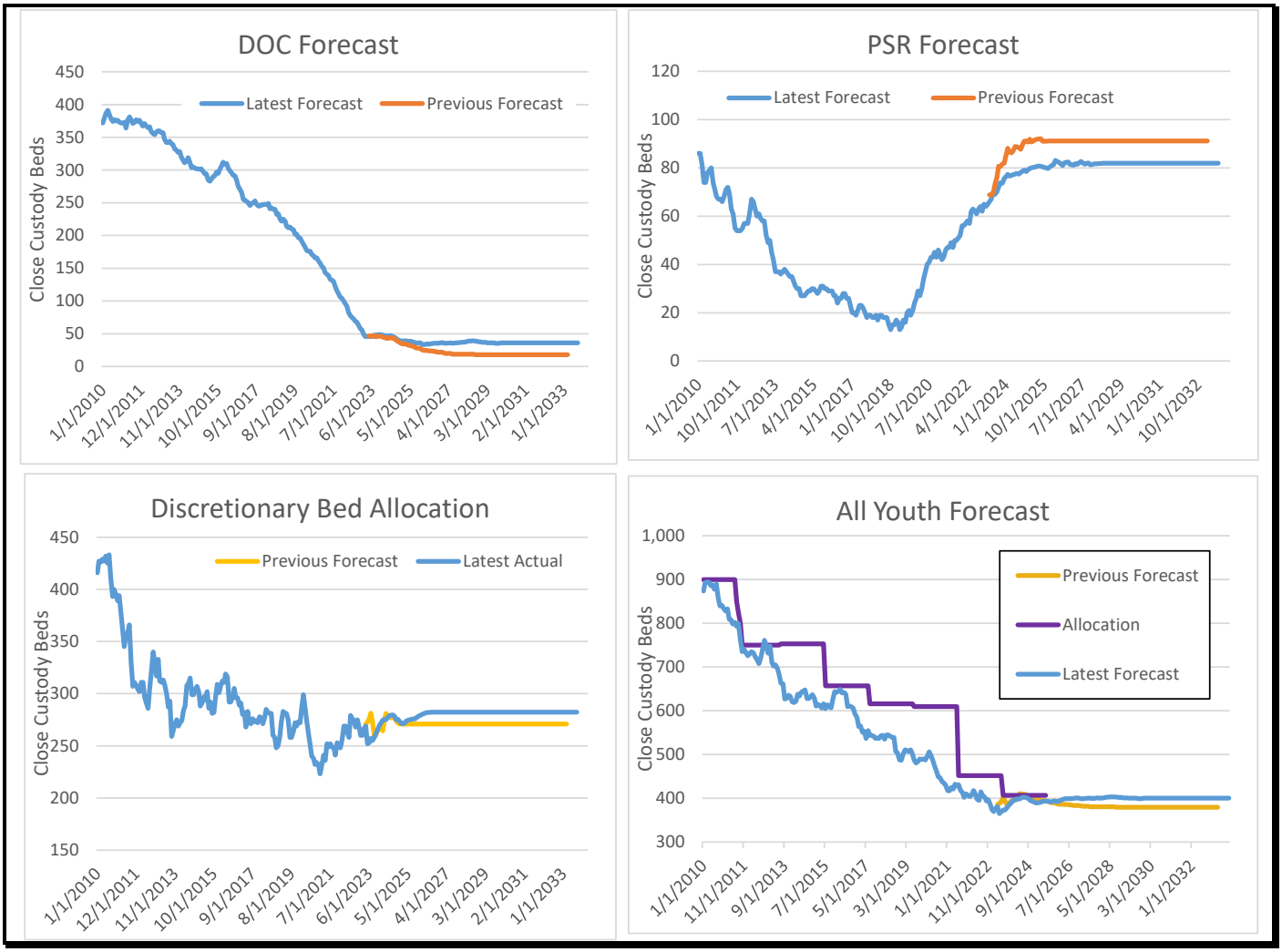
Demand for Beds

Currently, every youth committed to the Oregon Youth Authority is assigned a bed. Thus, the demand for beds, which has been construed to mean the number of youth that "should" be served, equals the actual population. Additionally, the Oregon Youth Authority is engaging in community conversations to update and revise the Youth Reformation System (YRS) initiative. As such, Predicted Success Rates and other models are actively being reviewed and updates/changes are anticipated. As such, the committee felt that continuing to employ the associated model for deriving the demand forecasts for discretionary close custody and residential placements was no longer appropriate.

Forecast

Currently, there are two major factors causing disruption in the OYA system. As discussed in greater detail on page 15, Senate Bill 1008 (2019) will likely cause changes in the distribution of youth across the various close custody bed types. Coincidentally, the Covid-19 pandemic caused the number of close custody beds to drop by approximately 100 over the course of a year and a half. As noted in the first section, this forecast assumes that the population remains stable at roughly 400 beds for the foreseeable future.

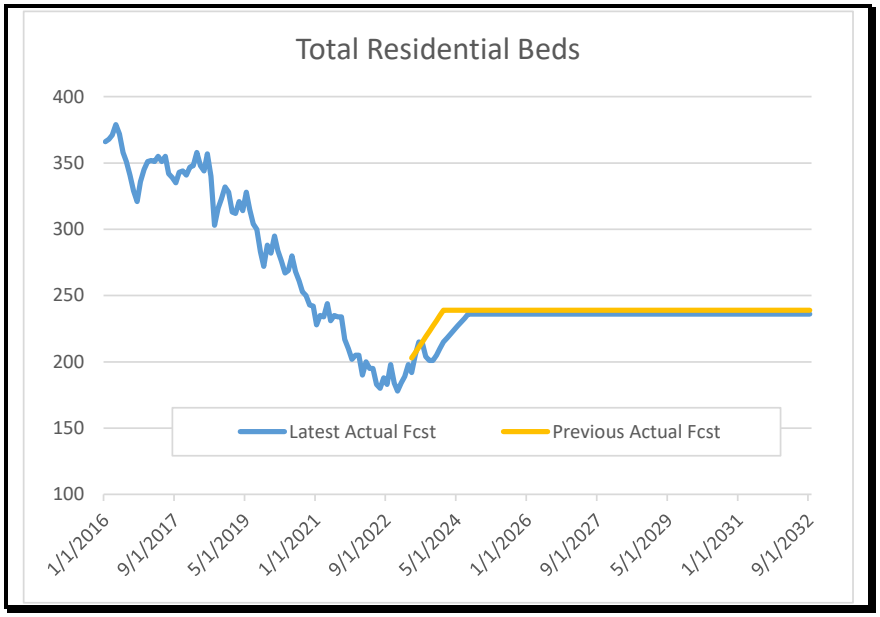
Graph 4 characterizes the forecast for the actual number of close custody beds used by bed type. The DOC population is expected to remain stable at current levels. While it has declined steadily for many years, recent intakes suggest that this trend may finally subside. Due to the effects of Senate Bill 1008, the Public Safety Reserve population is expected to rise somewhat in the near term and then level off for the remainder of the forecast horizon. The Discretionary (DBA) population is expected to remain stable. The overall close custody forecast calls for the population to rise modestly in the near term to a little over 400 beds and then modulate between 390 and 400 for the foreseeable future.



Graph 4

Note: This document forecasts of the number of youth who will occupy a close custody or residential bed. This is different than characterizing the number of beds that the OYA would need to administer these youth, for a few reasons. First, the demand for both close custody and community placement are not static numbers. Due to the turnover that takes place from forecast to forecast, these numbers vary significantly over time. Necessary capacity needs to account for this variation. Secondly, an additional buffer in close custody and community placement is needed such that incoming youth can be placed in the right type of bed. The forecast does not account for these buffer beds. Finally, the department is currently working to increase staffing ratios to approximate national standards. **As such, sufficient capacity for both close custody and community placement from a budgetary and operation standpoint necessarily exceeds the current demand estimates presented in this document.**

The residential (community placement) forecast is characterized in Graph 5. Despite a recent dip in beds, the forecast assumes that the population gradually rises to a level somewhat below where it was prior to the pandemic, and then holds steady for the remainder of the forecast horizon. The committee discussed the fact that the shift in youth from the DOC to the PSR designation will increase those youth eligible for residential treatment. This has the potential to impact the forecast in coming cycles.



Graph 5

Forecast Risks Addendum

The forecast assumes that current laws and current criminal justice practices continue as they have in the past. It also assumes trends in juvenile criminal activity continue and that demographics follow expected trends. If those and other assumptions fail, the forecast is at risk. An additional general risk is associated with the prevalence and success of the juvenile justice system in deterring juvenile crime. The forecast does not assume changes in those programs or practices.

Additional specific risks include the following:

Senate Bill 1008 (2019). The single greatest risk to the forecast presented herein is the passage of Senate Bill 1008 by the 2019 Legislative Assembly. Among a variety of modifications, the bill changes the criteria for determining that a person charged with a criminal offense is a youth offender under the law and could result in more youth offenders being supervised by county juvenile departments and the Oregon Youth Authority. Additionally, and perhaps more importantly, the legislation dramatically alters how youth between the ages of 15 and 17 who are charged with Measure 11 offenses are processed and supervised. Previously, these youth were waived to adult court, and if convicted were sentenced to a Department of Corrections prison term but transferred to Oregon Youth Authority custody until their 25th birthday. The state must now file a waiver to get a case moved to adult court, and thus not all cases are guaranteed to be tried in adult court. At first blush, this could alter significantly the relative sizes of the DOC versus PSR populations. While a shift is already evident in the early data, the true long-run impact will not be known for a couple more years. As more data are employed in the model, adjustments will be made to account for this impact.

Criminal Trends. Juvenile crime rates have dropped significantly since the late 1990's. The forecast assumes that the lower rates will continue. If the juvenile crime rates rebound to levels of the mid-1990's, the need for juvenile corrections resources could increase dramatically.

Budgetary restrictions. Over the next several years budget levels for law enforcement, criminal justice courts, education, and juvenile programs will remain depressed, particularly at the county level. These cuts could impact the juvenile crime rate, juvenile crime prosecutions, and the number and length of placements in close custody in ways that are difficult to predict.

County Resources and Practices. The forecast does not examine the interaction between county funding levels and demand for OYA services but recognizes that an interaction may exist. In some sense, OYA serves as a backstop when there is a lack of county diversionary resources, and if county resources change there could be an impact in the need for OYA services. In addition, use of OYA resources reflects decisions made at the county level. Systematic change in these practices would impact the forecast for OYA resources.

General Economic Conditions. While the impact of the economy on crime is not clear, it stands to reason that those with the least job skills will be impacted disproportionately when the economy is weak. Many juveniles fall into this category. As a result, depending on the degree to which juveniles will face limited job opportunities and turn to criminal activities, the forecast could understate demand.

Forecast Values

A more detailed spreadsheet is available in Excel spreadsheet format from the Office of Economic Analysis web site.

https://www.oregon.gov/das/OEA/Pages/forecastoya.aspx