OREGON YOUTH AUTHORITY DEMAND FORECAST

Office of Economic Analysis

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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) youth who are housed by OYA up to age 25, and the discretionary bed allocation (DBA) population. The DOC youth represent the portion of OYA's close custody population for which a length of stay in an incarcerated setting is defined by the court for an adult charge. The PSR population have committed a set of crimes defined by policy, that were historically referenced as Measure 11 crimes. 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 Juvenile Correction Population 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 Forecast Advisory Committee

Torri Lynn (Chair)	Linn County Juvenile Department
Mike Tessean	Oregon Youth Authority
Michelle Inderbitzen	Oregon State University
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Glen Banfield	Multnomah County District Attorney's Office
Ted Martinez	Malheur County Juvenile Department

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Forecast Process

Summary of Assumptions and Risks

The Oregon Youth Authority close custody population has been tracking below the expectations built into the October 2025 forecast. In total, the number of youths in close custody beds is currently 23 beds (6.1%) below what was expected last Spring. The April 2026 forecast assumes that the overall population will remain around the level of 350 beds over the next ten years. The outlook remains uncertain given policy changes and the changes in population trends seen since the COVID19 pandemic. In particular:

- Intakes to close custody fell significantly following the onset of the pandemic and have remained well below pre-pandemic levels to this day. At first, the drop in intakes could be largely explained by the fact that many youths were confined to their homes. Since then, measures of underlying juvenile criminality (including referrals to OYA) appear to have nearly returned to pre-pandemic levels. However, caseloads for juvenile departments are only beginning to increase from their pandemic-era lows. The baseline outlook calls for some increases going forward. There remains the possibility that the criminal justice system will shift back to a more "normal" (i.e. pre-pandemic) rate of detection, charging, and committing youth to the close custody setting, thus causing the population to rise above the forecast.

- Policy changes impact the criminal justice system. Senate Bill 1008 (2019) changed the way Measure 11 charges are waived to adult court, requiring prosecutors to petition the court in order to try juveniles as adults. Since the passage of SB 1008, the number of Department of Correction youth in the OYA system has dropped by 80% and is not expected to grow going forward. Additionally, House Bill 4002 (2024), which reformed many aspects of Ballot Measure 110 (2020) may have an impact on the close custody population. The estimated impacts from the Oregon Criminal Justice Commission were incorporated into the adult corrections forecast, but no such estimates exist for youth. To the extent policy changes related to HB 4002 impact the criminal justice system in terms of detection, charging, and committing youth to close custody, it could contribute 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.

Juvenile Crime Information

Information Sources

There are several 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.

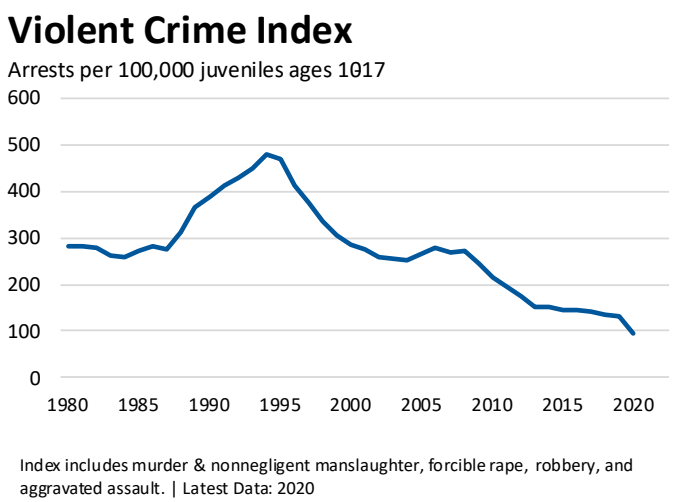
National Data and Trends

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 1990s through the mid 2000s, 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 coinciding with the Covid-19 pandemic.

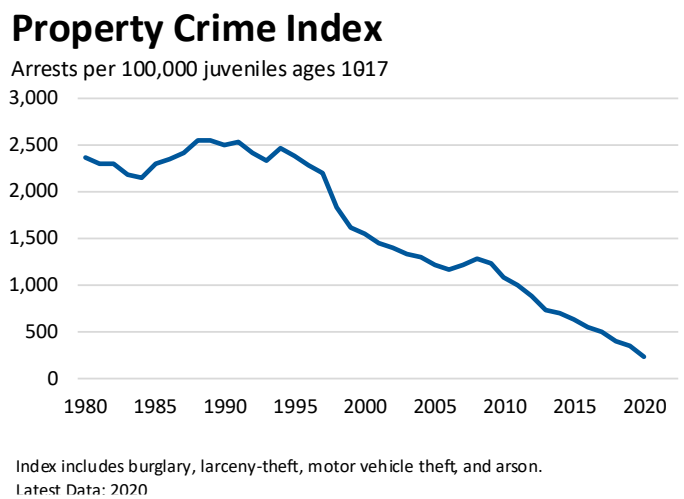
The charts below display different measures of nationwide juvenile crime/delinquency based on arrests, court cases, and survey data. They indicate that serious juvenile crime/delinquency at the national level peaked in the mid 1990's, dropped substantially from then through the early 2000s, remained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

[1]Internet Citation: OJJDP Statistical Briefing Book. Online. Available: https://ojjdp.ojp.gov/sites/g/files/xyckuh176/files/media/document/jar_2020.xls

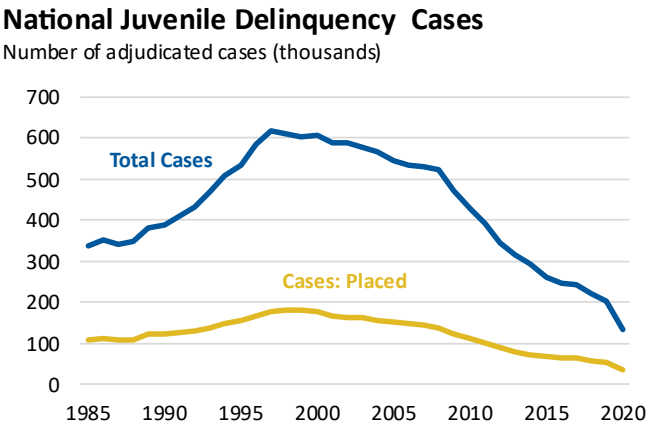


Index includes murder & nonnegligent manslaughter, forcible rape, robbery, and aggravated assault. | Latest Data: 2020

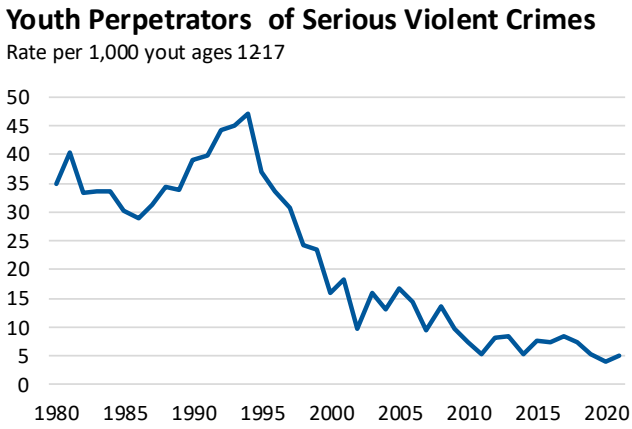


Index includes burglary, larceny-theft, motor vehicle theft, and arson. Latest Data: 2020

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, as seen in the chart below, 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.



Latest Data: 2020



Latest Data: 2021

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

Serious violent crimes perpetrated by youths aged 12 to 17, based on survey data, have declined dramatically from peak levels in the 1990s[3] [4]. In 2015, the serious violent crime offending rate was 7.5 crimes per 1,000 juveniles ages 12-17. This is a large drop from the peak rate of 47 per 1,000 in 1994. As compared to the Violent Crime Index, 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
- 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

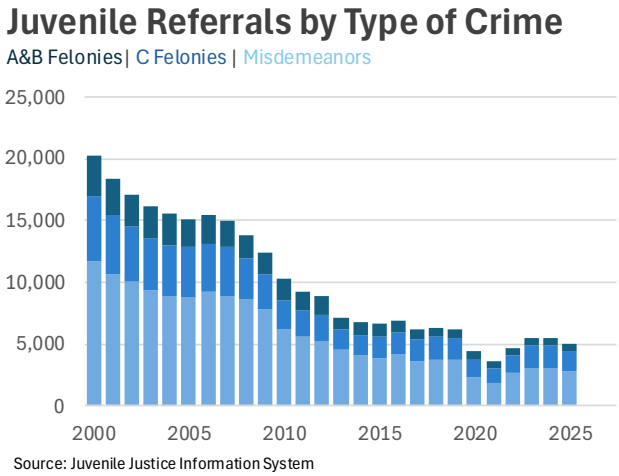
[3] Bureau of Justice Statitistics. National Criminal Victimization Survey. http://bjs.ojp.usdoj.gov

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

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 1990s. 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. Referrals increased from 2021 to 2023 before flattening out in 2024 and lowering slightly in 2025.



Source: Juvenile Justice Information System

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.

Forecast Methodology

General Discussion

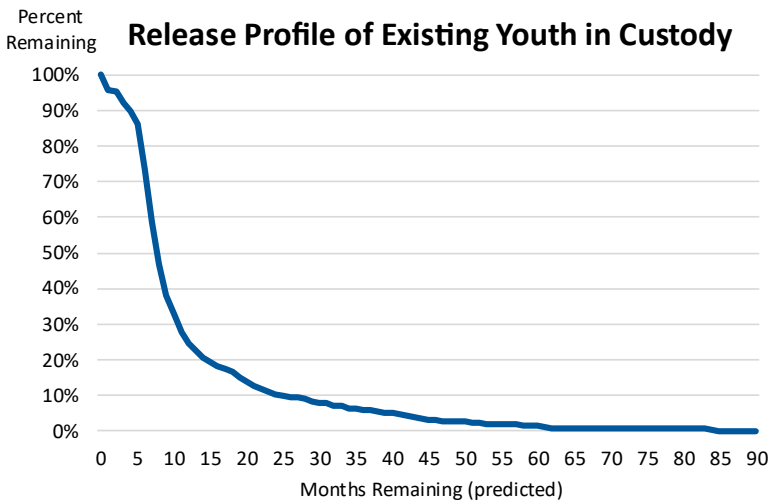
Oregon Revised Statute 420.085 states that "the forecast shall also include an estimate of the demand for beds as defined by the Juvenile Corrections Population Forecast Advisory Committee". As a result, direct projections for the actual number of beds used, both for close custody and community placement,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

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 October 1 will equal the number of youth in beds on September 1, plus admissions during the month of March and minus releases during the month of September.



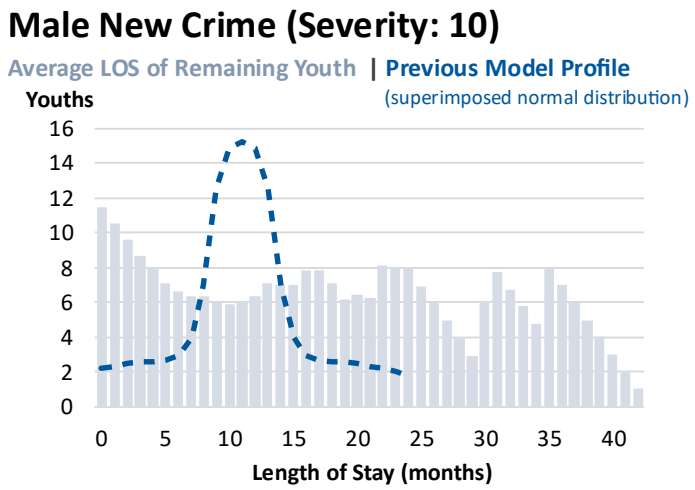
The model has three distinct components.

The first is a census of the existing population and some estimate for when they will be released. The graph on the right illustrates the close custody population as of September 1st, 2024, 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 in recent forecasts. Previously, a regression model was used to generate length of stay based on specific youth characteristics. The modeling challenge is the fact that the actual, observed length of

stays were not normally distributed around the average, which is what traditional regression models estimate. A relatively small number of youth remain in close custody for an extended period of time, skewing the distribution. Imposing the assumption of normality on the length of stay of the close custody population resulted in less accurate forecasts overall, and impacted other components to the forecast process, such as the assumptions regarding new intakes (admissions) in order to produce a final forecast the advisory committee, and our office believed was the most likely outcome. As such, alternative methodologies were examined.

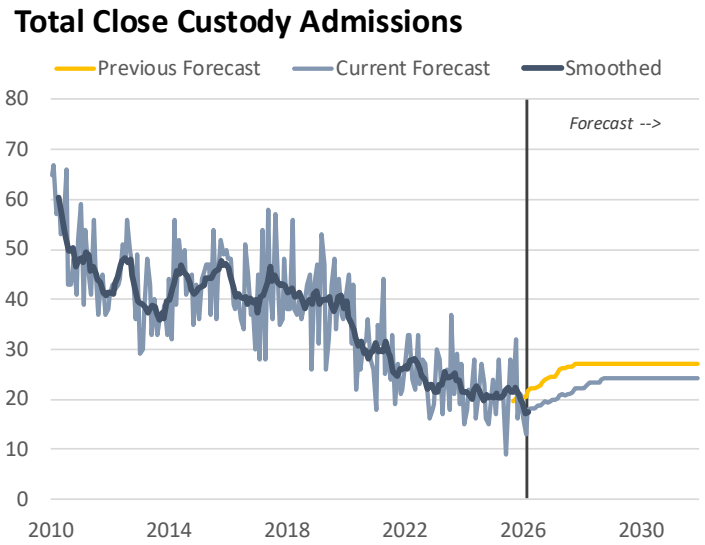
It was determined that Life Table Survival Analysis would produce a much better fit for the actual distribution of the length of stay. The important difference is the average length of stay, based on how long a youth has been in close custody.



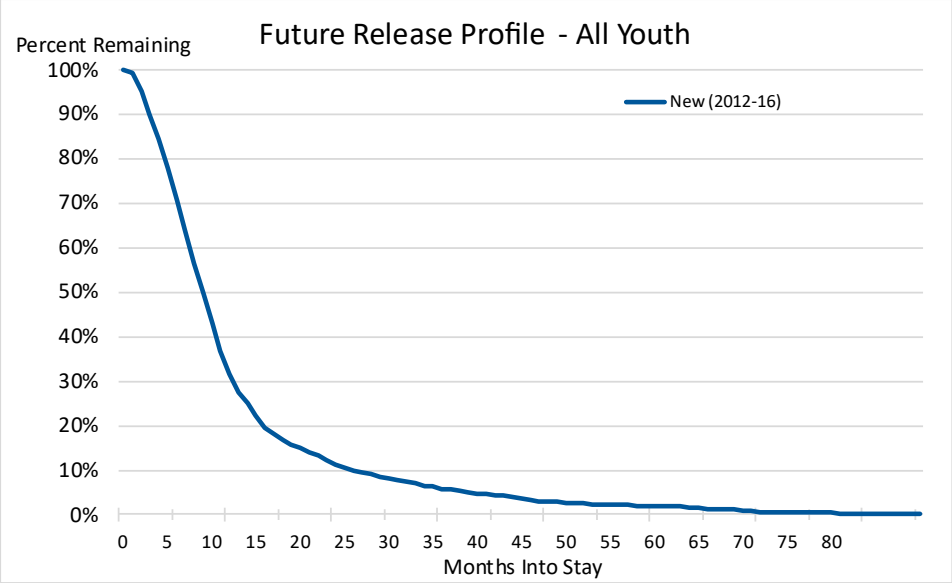
One example, based on actual OYA data and calculations made by OYA research staff is shown here. You can see in the first gray bar the average length of stay when youth, in this case male new crime with severity score 10, enter into close custody is around 11 months. As seen in the dark blue line, the normally distributed regression estimates indicate the largest number of youth have a length of stay of around 11 months as well.

The modeling challenge is not these averages, but the fact the distribution of youth in close custody is skewed. As seen in the light blue bars, for youth in close custody for 24 months already is an expected 8 additional months. In the regression model, the assigned probability that a youth would even be in close custody for 24 months was less than 3 percent, let alone the expected length of stay would be even longer. Life Table Survival Analysis better captures what is actually happening in terms of the length of stay for youth in close custody.

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 elsewhere for Senate Bill 1008. The chart on the right shows the intake forecast aggregated across all sub-populations.



Finally, a release profile must be generated for each intake cohort to simulate when they will release from custody. 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 to the right exhibits this release profile.



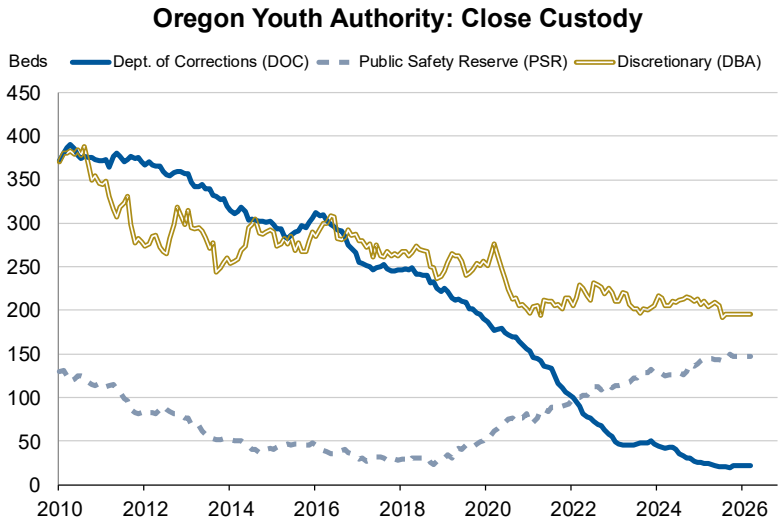
These three components combine to create a forecasting model that can be used at any level of granularity. The eight sub-populations projected for the close custody population are DOC-Males, DOC-Females, PSR-Males, PSR-Females, DBA-Males-New Crime, DBA-Males-Revocation, DBA-Females-New Crime, and DBA-Females-Revocation. 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 youths 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, 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.

Population Size and Trends

As described in more detail on page 16, 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 had fallen from 2010 until the effective date of the bill. Since then, the PSR population has 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.



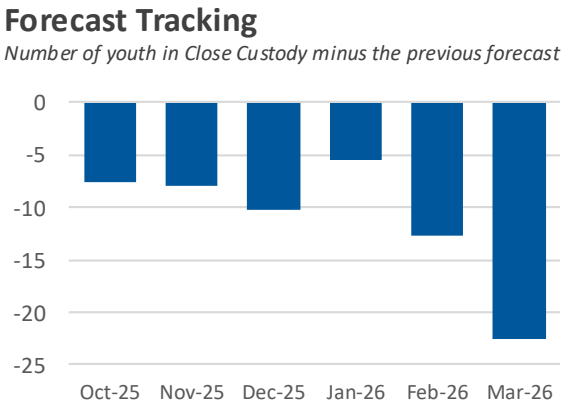
The Department of Corrections (DOC) was elevated for many years due to the passage of Measure 11. Since 2010, the DOC count has declined steadily, and the rate of decline has accelerated since the passage of SB 1008 as more of these youth are classified as PSR. The March 1 DOC bed level has dropped to 16 from the year ago number of 24.

The Discretionary Bed Allocation, the beds remaining after DOC and PSR youth are served, was close to 400 in 2010. Budget reductions during the Great Recession were responsible for the first drop circa 2011, while the Covid-19 pandemic resulted in a further decline in 2020. The population has held steady at just over 200 beds since.

Forecast

Prior Forecast Tracking

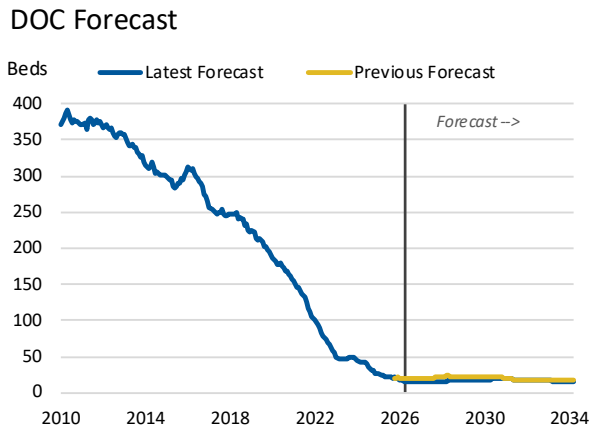
The chart at the right assesses the accuracy of the previous forecast for the close custody population. The actual population fell below the forecast for the previous six months. The average forecast error was negative 11 beds. Negative errors in both male and female new Discretionary Bed Allocation were the largest sources of error. Male DBA revocation beds were also negative.

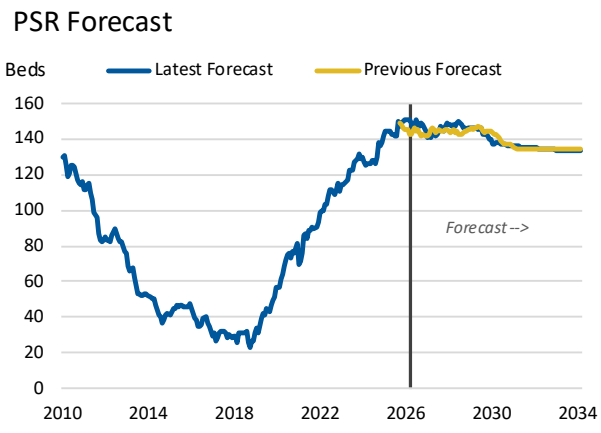


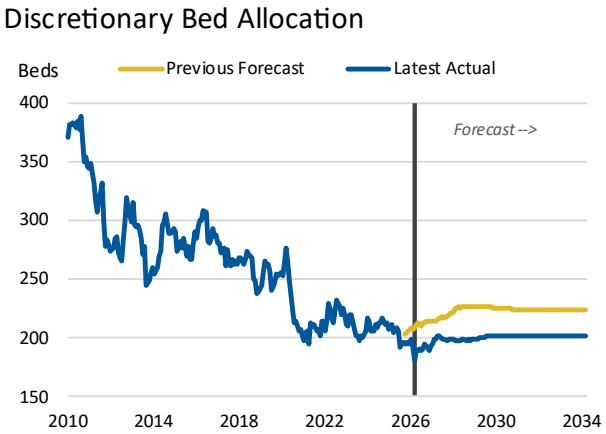
Youth Authority Demand Forecast

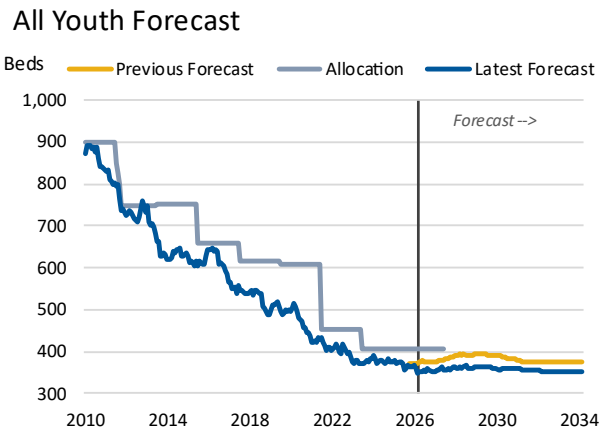
Currently, there are two major factors causing disruption in the OYA system. As discussed in greater detail on page 16, Senate Bill 1008 (2019) will likely cause changes in the distribution of youth across the various close custody bed types. Coincidentally, the Covid-19 pandemic caused the number of 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 just under 370 beds for the foreseeable future.

The forecast for the actual number of close custody beds used by bed type are seen in the charts on the next page. The DOC population is expected to maintain its low level as very few youth are being waived to adult court. The PSR population is expected to hold steady in the near term before declining a bit, while the DBA cohort holds steady in the near term before rising a bit. The total close custody population is expected to reach its peak at roughly 370 beds around 2028.



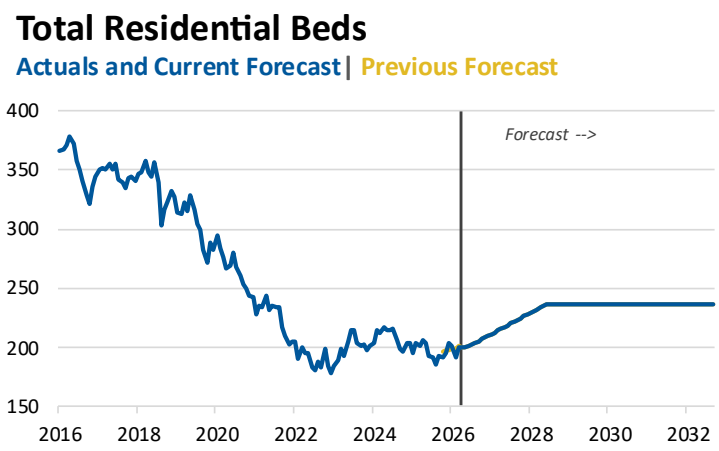






Note: This document forecasts of the number of youths who will occupy a close custody or residential bed. This is different than characterizing the number of beds that the OYA would need to administer these youth for a few reasons. First, the demand for both close custody and community placement are 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. Second, 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.**

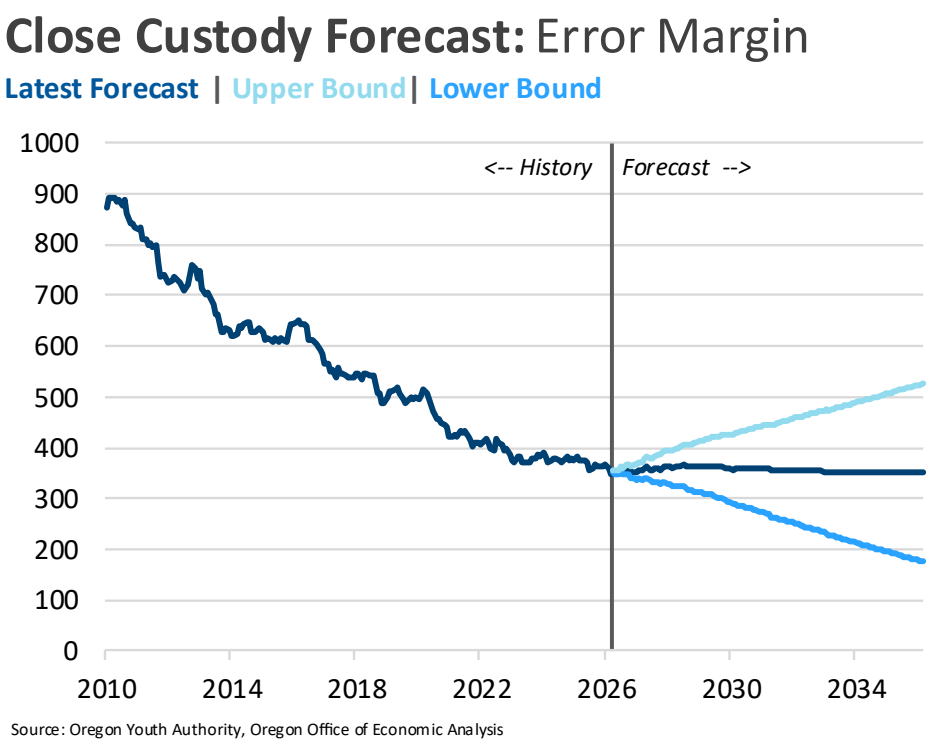
The residential (community placement) forecast is shown in the chart on the right. Despite a recent dip in beds, the forecast assumes that the population gradually rises to a level somewhat below where it was prior to the pandemic and then holds steady for the remainder of the forecast horizon. The committee discussed the fact that recent budget constraints may lead to a decrease in community based treatments for youths. This has the potential to impact the forecast in coming cycles.



Margin of Error

In addition to publishing the baseline forecast values, OEA feels that characterizing the potential for actual beds to vary from the forecast adds significant value. In due time, a suitable number of prior forecast iterations will allow for a history of errors from which to calculate a predicted confidence interval for future forecasts. The current OYA forecast model has only been in use for a few years, and only since the COVID-19 pandemic. As such, another method for producing a margin of error is necessary.

Looking at the historical variation in the close custody population provides an indication for how the actual population might deviate from the forecast. To avoid pandemic distortions, the period from January 2017 through December 2019 is examined and the variance around the trend is calculated. Two standard deviations should approximate a ninety-five percent confidence interval for the forecast. The chart below exhibits the calculated margins for error for the juvenile population forecast.



Appendix

Additional Forecast Risks

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