

OREGON YOUTH AUTHORITY DEMAND FORECAST

Office of Economic Analysis

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Table of Contents

Accessibility Statement.....	3
Executive Summary	4
Background.....	5
Forecast Process.....	6
Assumptions.....	6
Data Inputs	6
Forecast Methodology	8
Forecast.....	11
Prior Forecast Tracking	11
Youth Authority Demand Forecast	11
Margin of Error	13
Conclusion.....	15

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Executive Summary

Close custody beds at the Oregon Youth Authority tracked slightly below the April 2026 forecast over the intervening six months, although the September 1 bed level was 23 beds lower. Recent errors are primarily due to publicity and optics issues and hesitance on the part of juvenile judges to send youths to state beds. It is not certain how long this issue will persist. The current forecast assumes that beds will remain at recent averages for the foreseeable future. More generally, the juvenile justice system appears to have reached a new normal since the Covid-19 pandemic in which state resources are deemphasized for community-based alternatives. Prior to the pandemic, close custody beds numbered 500 whereas the near-term forecast averages 350.

The Juvenile Corrections Population Forecast Advisory Committee met and discussed these issues. While the future of the system is uncertain, it was determined that this “new normal” was not without national precedence. The committee also discussed the need for budgeted beds to exceed population projections due to subpopulation fluctuations and the need for appropriately typed beds to suit youth’s needs.

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

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

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 estimates 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. Remaining beds are 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
vacant	Juvenile Department Director position
Vacant	Juvenile Judge position
Glen Banfield	Multnomah County District Attorney's Office
Ted Martinez	Malheur County Juvenile Department

For more information or questions regarding the forecast please contact:

Website: <https://www.oregon.gov/das/oea/Pages/forecastoya.aspx>

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Forecast Process

Assumptions

Since the Covid-19 pandemic, the close custody population has fallen from 500 beds to approximately 350 beds. At the same time, measures of youth offending have returned to pre-pandemic norms. The Juvenile Corrections Population Forecast Advisory Committee has discussed this issue at length and determined that a shift from state incarceration to more local treatment has occurred. While forecasts immediately following the pandemic assumed that pre-pandemic patterns would return, more recent forecasts have started to accept this “new normal”. The effect can be seen in the relatively constant projected bed levels characterized later in the report.

At the same time, Senate Bill 1008 (2019) changed the way Measure 11 charges are waived to adult court, requiring prosecutors to petition the court 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. This has dramatically increased the number of youth with indeterminate sentences.

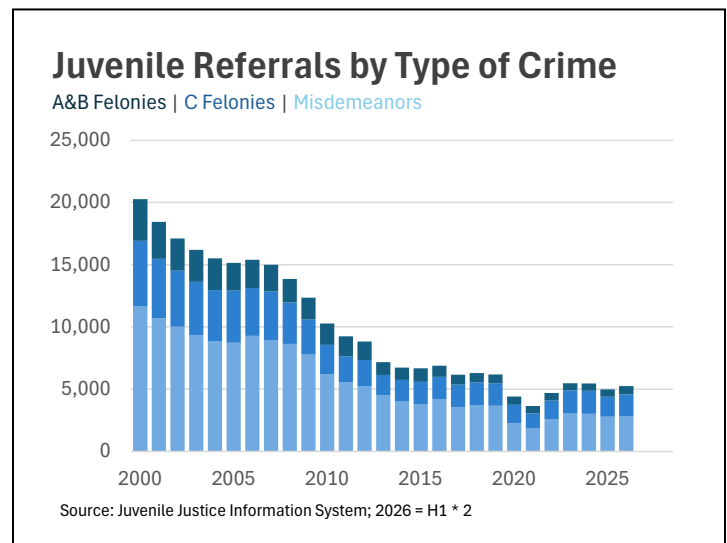
Finally, there are significant risks inherent in this forecast. The new state of the juvenile justice system is nascent and potentially tenuous. Should trends reverse to pre-pandemic norms, commitments to OYA custody could climb significantly. In addition, there are discussions about modifying language around Senate Bill 1008. This too would have ramifications for the forecast.

Data Inputs

Oregon Data from the Juvenile Justice Information System (JJIS)

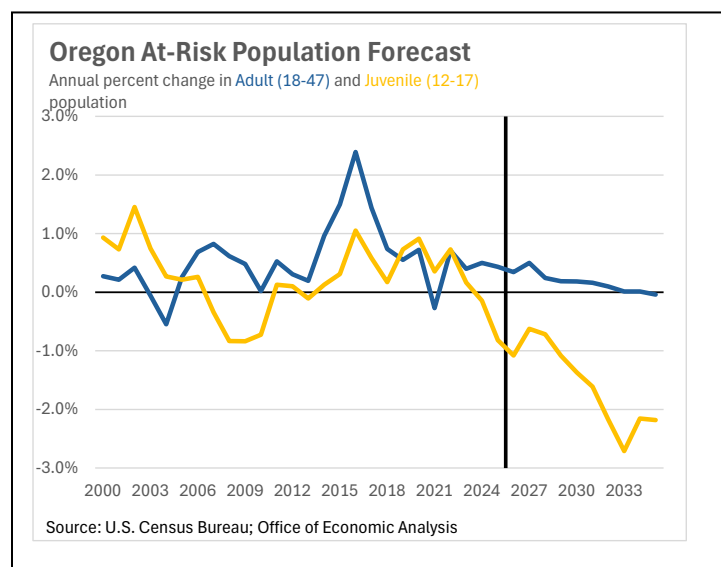
Referrals to Oregon county juvenile departments are the primary source for assessing overall juvenile criminality for the forecast. Youths are referred by law enforcement. In general, a referral is analogous to an arrest for a crime in the adult criminal justice system. Detailed data on individual referrals 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”.

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 and have been roughly constant thereafter.



Oregon Population History and Forecast

The Office of Economic Analysis issues a quarterly demographic forecast detailing the Oregon population by age and gender. The associated chart exhibits the criminal at-risk populations, both adult (18-47 years old) and juvenile (12-17), in year-over-year percentage changes from 2000 through 2035. Due to decline birth rates and tepid in-migration, Oregon's population growth is expected to slow (adults) and/or outright decline (juveniles) over the next ten years. Although the juvenile population forecast is not currently mechanically incorporated into the forecast model, this outlook is considered when determining assumptions regarding future intakes. The Covid-19 pandemic in recent years and falling crime patterns over the longer term have disconnected close custody population levels from broader population trends.



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.

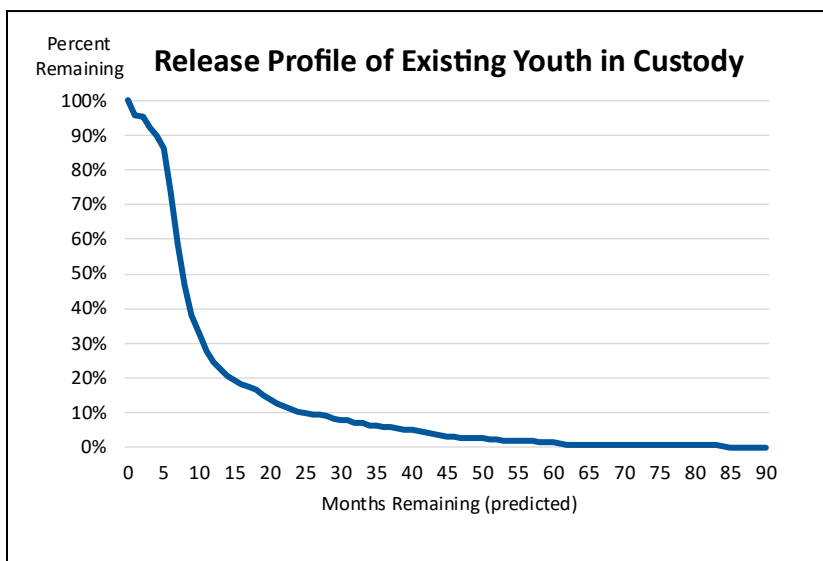
Forecasts for Actual Beds Used

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:

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

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 September and minus releases during the month of September.

The model has three distinct components.

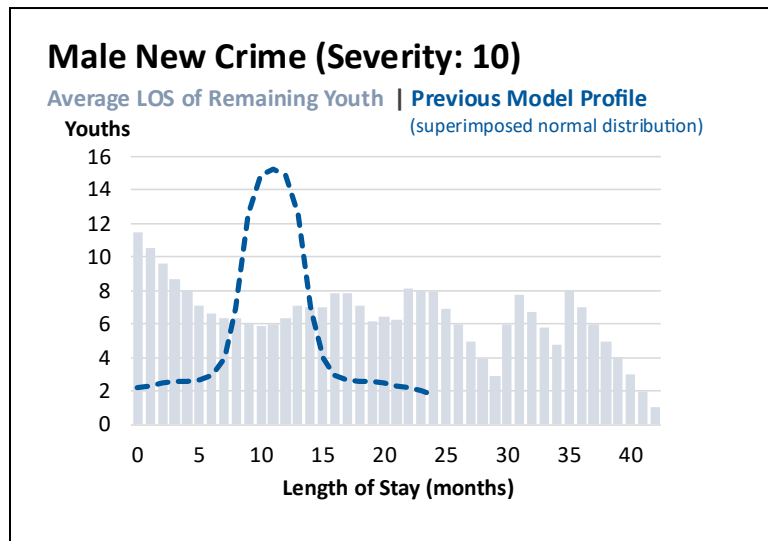


The first is a census of the existing population and some estimate for when they will be released. The graph on the right illustrates the close custody population as of September 1st, 2024, and how they are projected to release from close custody over the next few years.

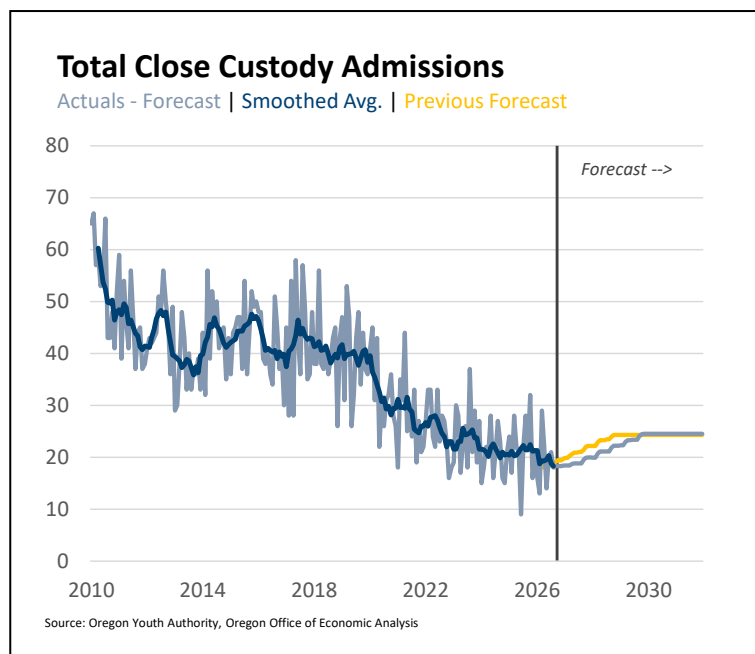
Note that the methodology for imputing length of stay for existing youth has changed in recent forecasts. Previously, a regression model was used to generate length of stay based on specific youth characteristics. The modeling challenge is the fact that the actual, observed length of stays were not normally distributed around the average, which is what traditional regression

models estimate. A relatively small number of youth remain much longer than average, skewing the distribution. Imposing the assumption of normality on the length of stay of the close custody population resulted in less accurate forecasts overall, requiring abnormal intake assumptions to produce reasonable population forecasts. As such, alternative methodologies were examined.

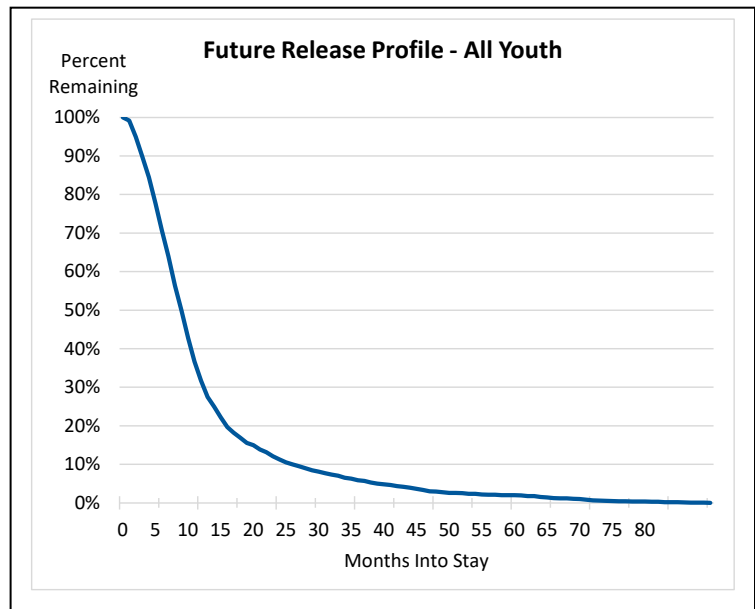
It was determined that Life Table Survival Analysis would produce a much better fit for the actual distribution of the length of stay. The most significant difference between the normal distribution and the Life Table distribution is the characterization of remaining time at every point in the stay. 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 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 considers 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.

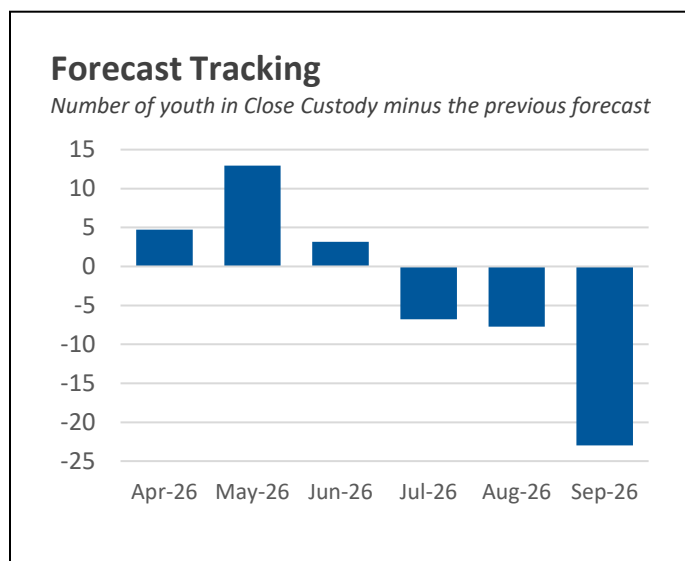


These three components combine to create a forecasting model that can be used at any level of granularity. The eight sub-populations projected for the close custody population are DOC-Males, DOC-Females, PSR-Males, PSR-Females, DBA-Males-New Crime, DBA-Males-Revocation, DBA-Females-New Crime, and DBA-Females-Revocation.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

Forecast

Prior Forecast Tracking

The chart to the right assesses the accuracy of the previous forecast for the close custody population. The actual population fluctuated relative to the forecast over the intervening six months, averaging three beds below the forecast overall. However, the final observation was 23 beds below the forecast. Most of the error was observed in the discretionary bed allocation population, particularly for the female cohort. The male public safety reserve cohort, in fact, averaged ten beds above the forecast.

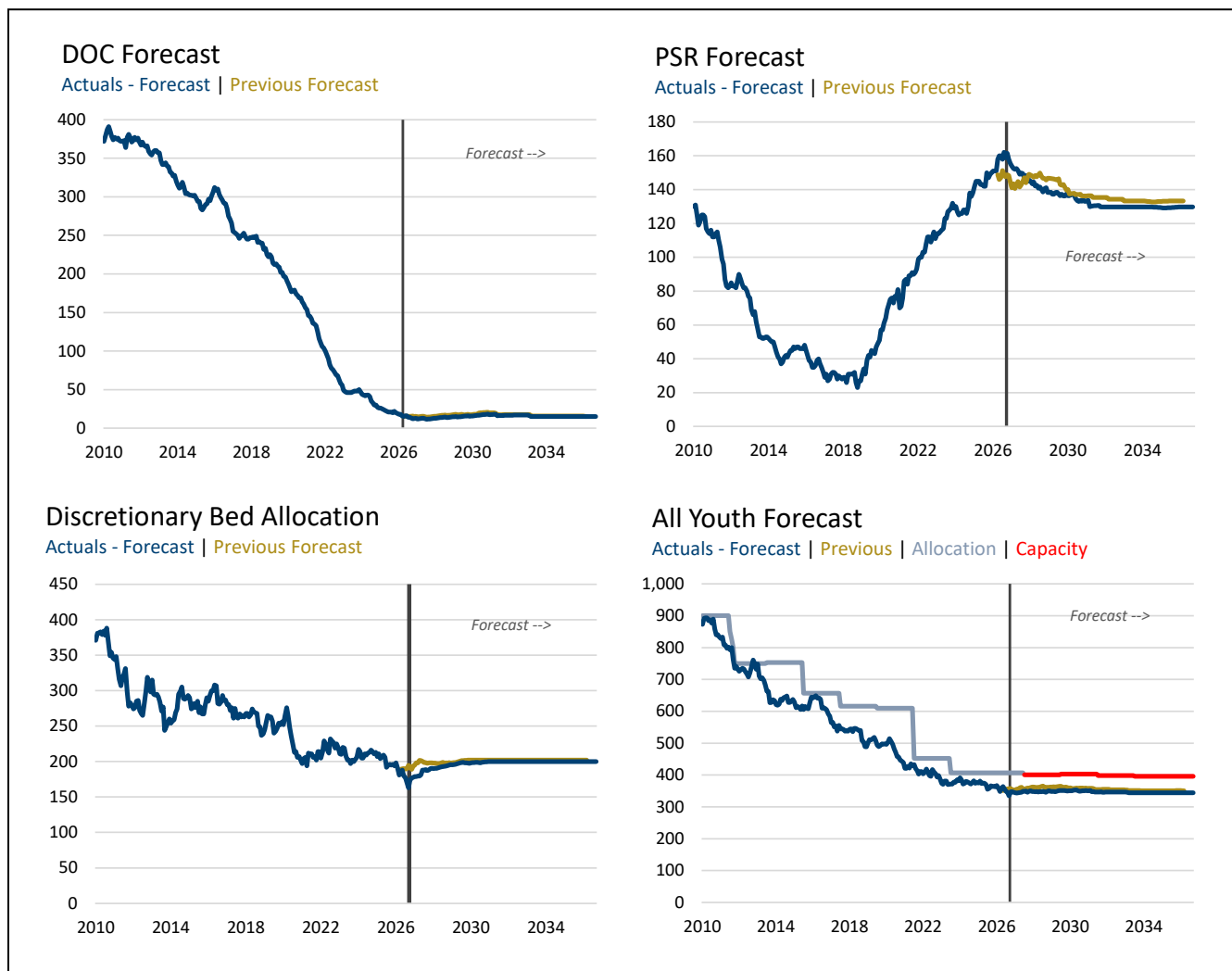


Youth Authority Demand Forecast

Currently, there are three 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. Finally, recent news accounts regarding the Oregon Youth Authority have affected commitments negatively.

Close Custody

The forecast for the actual number of close custody beds used by bed type are seen in the following charts. 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 fall to a steady-state level of roughly 130. The discretionary bed allocation will rise over the next few years to 200 beds and level off. Total close custody beds are projected to hover around 350 beds over the next ten years.



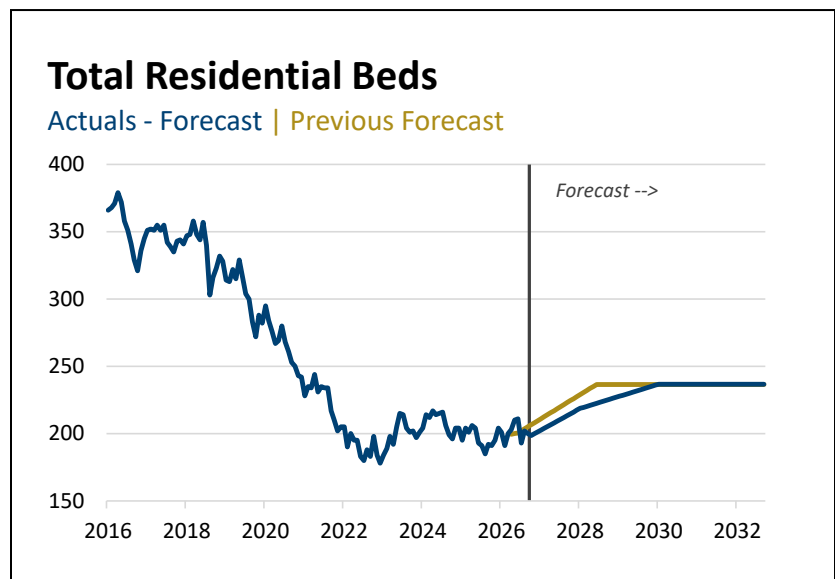
Note: The Youth Corrections Forecast estimates the number of youth expected to require placement; it should not be interpreted as the number of beds a juvenile correctional system needs to operate effectively. Juvenile correctional populations fluctuate over time, and individual beds are not fully interchangeable. Youth must be assigned to facilities and living units based on factors such as age, gender, security and supervision needs, treatment and programming requirements, medical or behavioral health needs, and other classification considerations. Consequently, a system operating at or near 100% of physical capacity may have an empty bed somewhere in the system but lack an appropriate bed for a particular youth. Capacity planning must therefore account for both population peaks and the operational flexibility needed to appropriately classify and place youth.

Federal juvenile justice research has explicitly incorporated this type of operational buffer into estimates of required bed space. In its national assessment of juvenile detention and

correctional space needs, the Office of Juvenile Justice and Delinquency Prevention¹ documented a planning approach in which projected average daily population was multiplied by a combined classification and peaking factor of 1.15 to 1.25 when translating population forecasts into bed needs. These factors effectively provided capacity approximately 15 to 25 percent above projected average daily population to accommodate periods when populations exceed the average and to preserve the ability to assign youth to appropriate beds based on their needs rather than simply bed availability. Similar juvenile facility planning studies have continued to distinguish projected average daily population from actual bedspace requirements and to apply peaking factors to provide flexibility for population fluctuations, classification, and day-to-day facility management². Thus, maintaining some buffer between forecasted population and operational capacity is an important component of safe and effective juvenile correctional system planning. An estimate of this capacity with a 15% buffer can be seen in the red line in the total close custody chart on the preceding page.

Residential Beds

The residential (community placement) forecast is shown in the chart on the right. While exhibiting some volatility, there has been a noticeable upward trend over the past couple of years. Continued growth is assumed based on the fact that more youth are eligible for step-down to residential treatment due to Senate Bill 1008.



Margin of Error

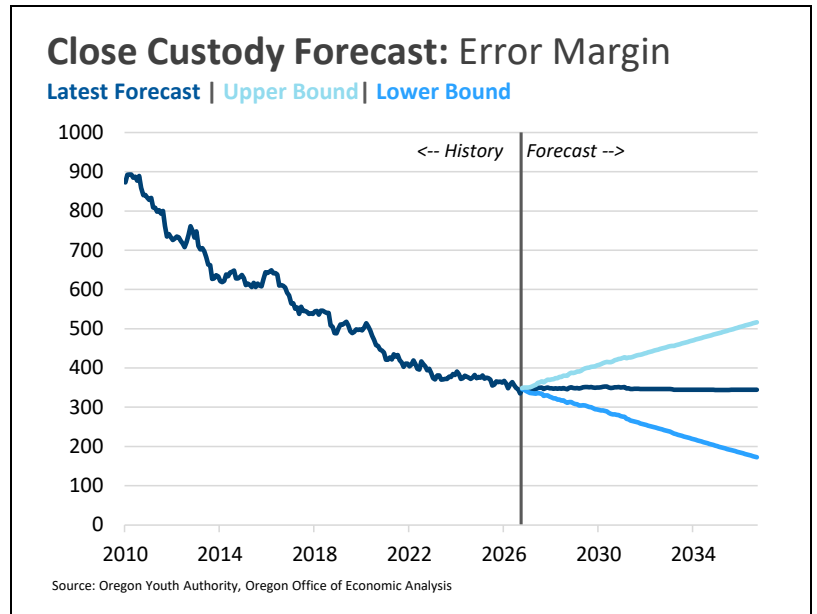
In addition to publishing the baseline forecast values, OEA feels that characterizing the potential for actual beds to vary from the forecast adds significant value. In due time, a suitable number of prior forecast iterations will allow for a history of errors from which to calculate a predicted confidence interval for future forecasts. The current OYA forecast model has only been in use

¹ Office of Juvenile Justice and Delinquency Prevention. (1998). *An assessment of space needs in juvenile detention and correctional facilities: Report to Congress*. U.S. Department of Justice, Office of Justice Programs.

² Travis County Juvenile Probation Department. (2015). *Needs analysis and master plan*. Travis County, Texas. [FINAL-REPORT-TCJPD-Phase1.pdf](#)

for a few years since the COVID-19 pandemic. This is not a reasonable history for the purpose of assessing model error. 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.



Conclusion

The forecast for OYA close custody is relatively stable at 350 beds on average. However, this assumes that the recent state of the juvenile justice system whereby more youth are treated in the community rather than in state custody continues to manifest well into the future. As characterized in the margin of error section, significant risk exists for bed levels to skew up or down over the ensuing ten years. The advisory committee also discussed the need to characterize and convey the need for a budgetary buffer so that appropriate beds of all types are available to serve youths' needs. There will be one more forecast (April 2027) before the passage of the 2027-29 Legislatively Adopted Budget.