



Oregon Youth Authority Demand Forecast

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Background

The Office of Economic Analysis produces the semi-annual Juvenile Corrections Population Forecast which provides projections for close custody bed space managed by the Oregon Youth Authority (OYA). Executive Orders 98-06, 04-02, and 08-15 direct 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 uses the forecast for planning and budgeting.

Close custody bed space at OYA is based on funding as opposed to being directly tied to a measure of the need for space (although need for space could drive funding levels). The fixed bed space (about 925 beds for the 2007-09 biennium) is generally filled. It is filled first with youths for whom incarceration is required (non-discretionary beds). The remaining space is occupied by youths judged to need close custody incarceration above others, but it is not mandatory (discretionary beds).

Non-discretionary beds are for youths convicted of a Measure 11 crime and sentenced in adult court (the Department of Corrections or DOC population), and youths who commit crimes similar to Measure 11 but are under the age of 15 (Public Safety Reserve or PSR). For those youths, the forecast projects the actual number of youths occupying OYA beds.

For discretionary bed space, the forecast does not project the number of beds used since it would simply be the number of beds remaining after the non-discretionary space it taken – essentially a function of budget levels. Instead, the forecast provides a measure of the pressure or demand for the space, where demand is assessed relative to a reference period. The reference period is 1996 through 2002, prior to when budget cuts in 2003 significantly reduced bed space.

The 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.

Juvenile Corrections Population Forecasting Advisory Committee

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Forecast Methodology and Trends

Methodology

The Oregon Youth Authority (OYA) populations consist of non-discretionary bed allotments and discretionary bed allotments. The non-discretionary population consists of youths in the legal custody of Department of Corrections (DOC) for adult court convictions (Measure 11 and waived youth) and the public safety reserve (PSR) consisting of younger youth who commit similar serious person crimes. The discretionary allotment consists of youth who do not fall in those categories, but are judged to warrant close custody incarceration based on the seriousness of their criminality, age, abuse/neglect history, etc.

The forecast uses different approaches for the non-discretionary (DOC and PSR) population and the discretionary bed demand. For the DOC and PSR groups, the number of intakes is projected based on historical trends, then translated into a distribution of lengths of stay. For discretionary demand, a statistical model is employed to measure recent historical demand relative to a reference period (1996 through 2002), and then forecast the demand based on recent trends.

The DOC and PSR groups are modeled together in a top-down manner. The model tracks how many beds are occupied broken out by estimated length of stay. The monthly number of beds is the previous month's number, less youths who had less than 1 month estimated length of stay, plus the number of intakes. The total is then split out to DOC and PSR according to historical trend.

The discretionary demand relies on a model which assigns a score from 0 to 1 to each youth. The score is a measure of the youth's history of criminality based on data from referrals to county juvenile departments. The model identifies youths with characteristics which resulted in a close custody intake during the reference period (they receive a higher score). A cutoff score is determined so that the number of actual close custody intakes during the reference period is equal to the number of youth scoring above the cutoff. Youth that score above the cutoff are called "scorers" and constitute close custody demand. The model is then applied to recent referrals and the monthly number of scorers forms the base for the recent close custody demand. Several adjustments are applied to the base to account for the amount of unmet demand during the reference period and for the lower level of criminality currently necessary to warrant close custody incarceration.

Trends

Crime rates in the juvenile population have dropped significantly since the mid-1990's. In 2006, the rate of Uniform Crime Report (UCR) arrests for more serious crimes was about half the rate seen in 1995. This general trend also appears in data on referrals to county juvenile departments: there has been a significant decline in referrals for more serious crimes since the late 1990's; in recent years the declining trend has flattened. Overall, the number of referrals has increased in recent years, but the increase is due to less serious crimes. The general reduction in crime rates is not specific to Oregon or to the juvenile population. Similar declines are observed nationwide.¹ This trend does not appear to be tied to the size of the at-risk population.

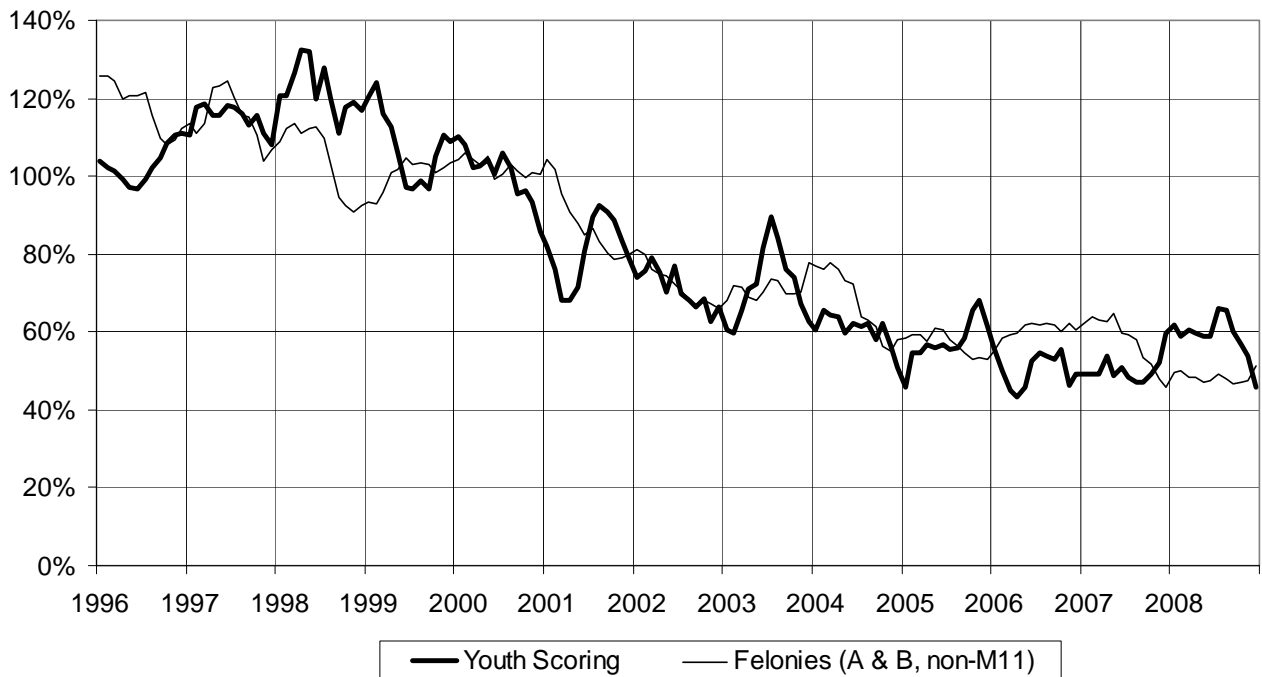
The past year brought increases in the non-discretionary population size suggesting increased crime or more aggressive prosecution, possibly associated with gang activity.

¹ Center on Juvenile and Criminal Justice, Pennsylvania Commission on Crime and Delinquency, U.S. Department of Justice Office of Juvenile Justice and Delinquency Prevention.

The referral history of youths has trended toward fewer and less serious crimes over the past 12 years (as measured by the discretionary demand model). This is mirrored by declines in the number of non-Measure 11 class A and B felonies. The graph below shows those measures as an index (percent relative to the reference period average).

In addition to general societal changes, factors influencing the trend may include successful youth programs as evidenced by a reduction in recidivism,² reductions in law enforcement or juveniles effectively avoiding enforcement, and a shift away from the most serious person crimes to less serious property crimes. Measure 11 also likely had an impact flowing into the early 2000's as the system restabilized under different sentencing rules and there was less access to re-offend since some individuals were serving longer Measure 11 sentences. Regardless of the source, the steady reduction since the late 1990's across most measures of juvenile crime indicates a continuing modest reduction in demand for close custody beds.

Index of the number of youth scoring as close custody demand and number of referrals for class A and B non-Measure 11 felonies:



² OYA Biennial Report 2005-07

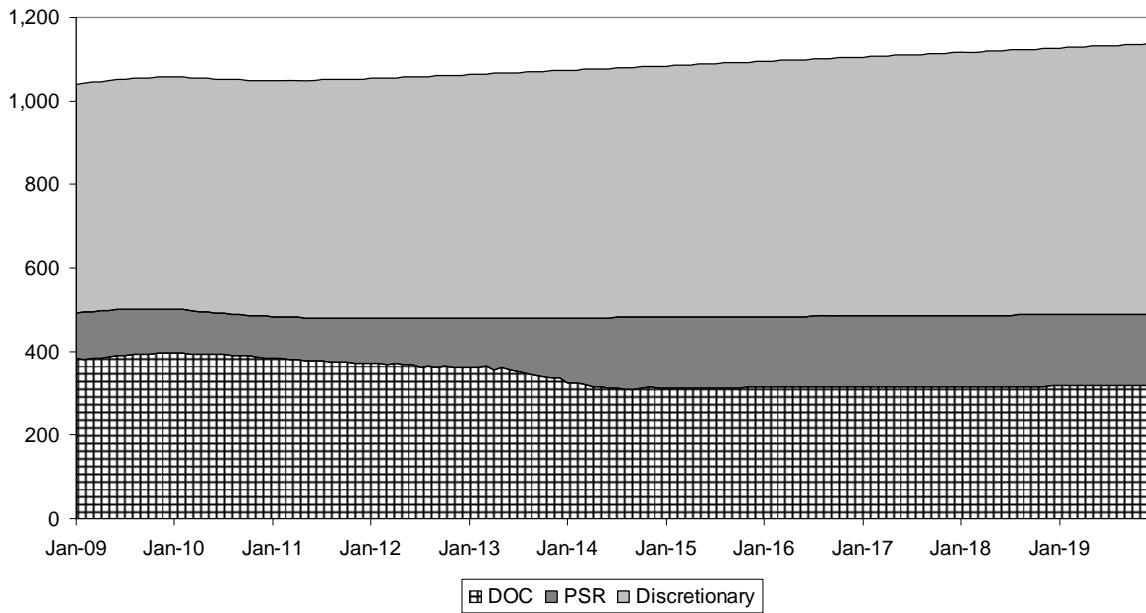
Forecast

The total demand for Oregon Youth Authority close custody beds is approximately 1,050 in the near term, increasing to 1,150 in the outer years of the forecast (2019). This is lower than previously forecasted in the near term, but slightly higher in the outer years.

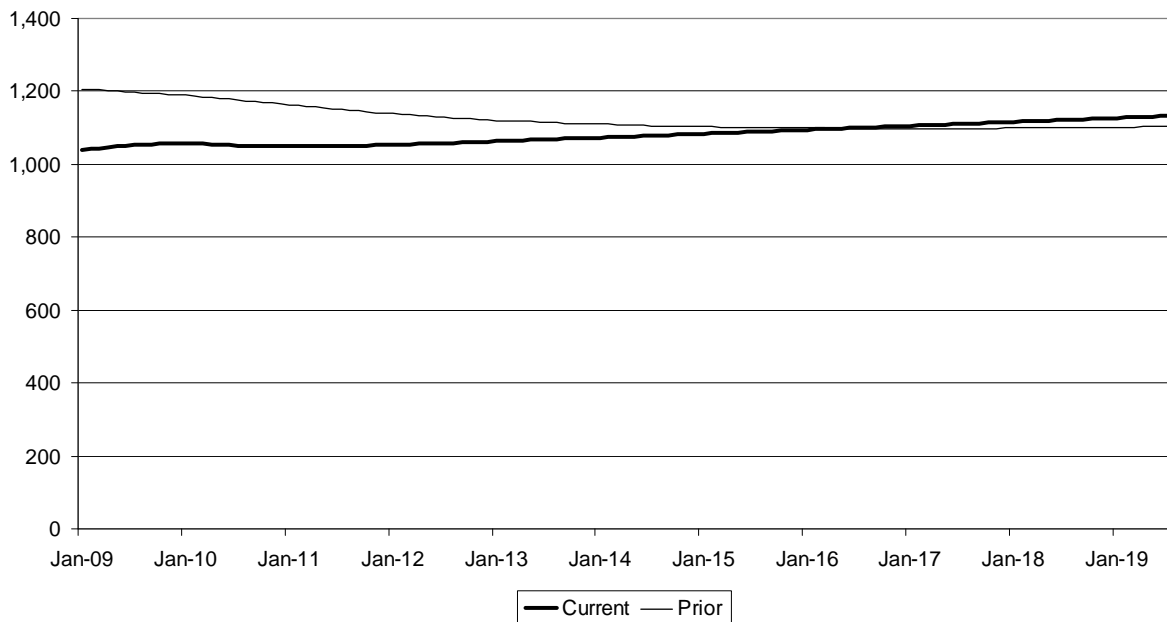
Monthly forecast detail broken out by category (PSR, DOC, and discretionary) is available in spreadsheet format as an appendix to this document. See <http://oregon.gov/DAS/OEA/oia.shtml>.

The current forecast does not include estimates for OYA community corrections. This will be included in subsequent forecasts.

Close Custody Bed Demand by Custody Type:



Total Close Custody Bed Demand – Current versus Prior Forecast:



Non-Discretionary Beds

Because the demand for non-discretionary beds in the juvenile system is driven by the most serious juvenile offenders, the forecast represents expectations for convictions for Measure 11 crimes. Furthermore, because the state is required under current law to house these juveniles, the amount of demand, as currently defined, is simply the number of juveniles in the system for these crimes.

Juveniles in this category include those over the age of 15 convicted in adult court of Measure 11 crimes, while those under the age of 15 are convicted in juvenile court for similar crimes and are defined as part of the Public Safety Reserve. Since the beginning of 2008, there has been a significant increase in the number of juveniles entering the system in these categories, particularly as it relates to older juveniles. As a result, the forecast for non-discretionary close custody bed demand has been increased by approximately 40 beds per month for the near future. Over the next several years, these youths exit the juvenile system and the population is expected to be stable in the long term.

Over the next year, the non-discretionary population is expected to increase from approximately 495 to 500, declining to 480 in 2012, and then gradually increase to 490 in the outer years of the forecast. Based on historic trend, the percentage of PSR beds (currently 23 percent of the non-discretionary population) is expected to increase while the DOC percentage decreases; in the outer years, the PSR population is expected to be 35 percent of the total non-discretionary population.

Discretionary Beds

The baseline for the discretionary bed demand forecast is the number of “scorers” above the cutoff relative to the number above the cutoff during the reference period. Recent history shows the number of scorers reduced about 40 percent relative to the reference period. In the near term, this leads to bed demand of about 350, increasing to nearly 420 in the outer years. From a statistical viewpoint, this 40percent drop is due to a strict adherence to the reference period. If discretionary bed demand was being met during that period and the level of criminality and other youth background characteristics (based on OYA data sources) determines propensity for close custody in the same manner now as during the reference period, then a decline in scores would indicate a commensurate decline in discretionary demand.

However two factors suggest the need to make adjustments associated with the reference period. First, there was unmet demand during the reference period which exceeded actual bed allocation by approximately 30 percent.³ Second, the level of criminality of youths admitted to close custody has decreased steadily since the reference period. This could be an indication of different criteria being used to determine if a youth should be housed at OYA. Following the reference period adjustments (30 percent for unmet demand and 25 percent for decreased criminality level), the total discretionary demand is about 550 in the near term, increasing to 650 in the outer years.

The adjustments to the reference period are an assessment of the changing population associated with demand for OYA services. While referrals have increased with the general population, the level of serious criminal activity has declined by significant amounts. Given the higher criminal activity of the reference period, the “score” to be associated with the OYA close custody population would dramatically reduce the potential population today. If the lower average criminality scores today were applied to the reference period, this would greatly increase the potential population used as a reference for the forecast. The characteristics of the referrals, judiciary review boards, societal views of youth

³ On Juvenile Incarceration: An Application of Binary Choice Model, Dae Baek and Susanne Porter

crime, and other factors in the reference period may not be the same today. This requires a fuller investigation as to the relevance of the reference period to assess potential demand for OYA services.

The April 2009 discretionary demand forecast is a significant departure from earlier forecasts. The reason for this departure relates to a reassessment of adjustments used in previous forecasts, specifically for the level of criminality used as a base for the reference period. Strict adherence to the logistic model methodology of previous forecasts resulted in a dramatic reduction in demand due to criminality scores in the general youth population becoming lower. The lower numbers meeting the critical score dropped the discretionary demand forecast to be below the filled bed count for discretionary close custody. The model was essentially saying that given the higher level of criminality of the reference period, the potential demand was less than the number of beds actually filled for the degree of criminality used for the reference base.

This result is unreasonable on the grounds that close custody beds are consistently filled to capacity which indicates demand is not fully met. Further, advice from the advisory committee indicates that if bed capacity were modestly increased, the additional capacity would be filled. Therefore, either 1) demand during the reference period was significantly higher than determined per the logistic model, or 2) the reference period is no longer a valid base of comparison. Forecasts through October 2007 (which remained in the extensions of this forecast in 2008) therefore adjusted the reference period by lowering the critical score to reflect the current trend of lower average criminality of the close custody population. This in turn raised the unmet demand in the reference period, thus raising the demand for the forecast period. While this approach fixed the problem of too low a forecast for demand, it lead to increasing demand as criminality scores dropped. Given the significant drop in average criminality scores, one would not expect the demand to be increasing. This forecast takes this information into account and finds a discretionary demand that is above the discretionary bed capacity, yet acknowledges that the potential demand population has likely decreased in the last couple of years.

Forecast Risks

The forecast assumes that current laws and current criminal justice practices continue as they are now. 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 programs or practices.

Additional specific risks include the following:

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.

Budgetary restrictions. The next several years are expected to bring reduced funding for law enforcement, criminal justice courts, education, and juvenile programs. 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.

Data Sources. The discretionary demand is measured based on recorded referrals to county juvenile departments. If the information recorded for juvenile referrals changes relative to the reference period, youth histories would not be scored for criminality in the same manner as during the reference period and potentially understate discretionary demand.

Perception of what constitutes demand. Discretionary demand is measured relative to the reference period (1996 through 2002). Since that time, general societal beliefs as to the degree of criminality which warrants close custody incarceration may have changed making the reference period obsolete given current beliefs. The adjustment included in the forecast for this is subjective and a potential source of error.