

OPM - Criminal Justice Policy & Planning Division

Prison Population Projection

Highlights

- OPM estimates that over the next 12 months the DOC will shed just over 5% of its prison population. By January 2019, OPM predicts the prison population will fall to 12,901. Peaking at 19,894 in February 2008, the prison population passed 13,000 - going in the opposite direction - in September 1993.
- The prison population has fallen, on a February to February basis 9 of the last 10 years - typically by about 3% each year. In 2016 the drop was 6.8% and in 2017 - 6.5%. The two largest drops on record. There are no indications that this trend will reverse, but the subtle weakening from 6.8% to 6.5% suggests the prison population may fall slower in 2018.
- Before 2016, the prison population fell primarily because admits were down. Over the last two years, the population has dropped faster due to improvements on the back end of the system. By getting sentenced offenders who have been vetted and approved for community supervision out of prison and into a transitional situation in the community, the DOC has realized substantial savings in prisoner bed days.
- As a result of improved release processes at the DOC, more offenders are finishing their sentences with the benefit of community supervision. In 2013, only 39% of sentences were discharged while the offender was in the community. In 2017 nearly half (47%) finished sentences on some form of community supervision.

Forecasting the size of the prison population

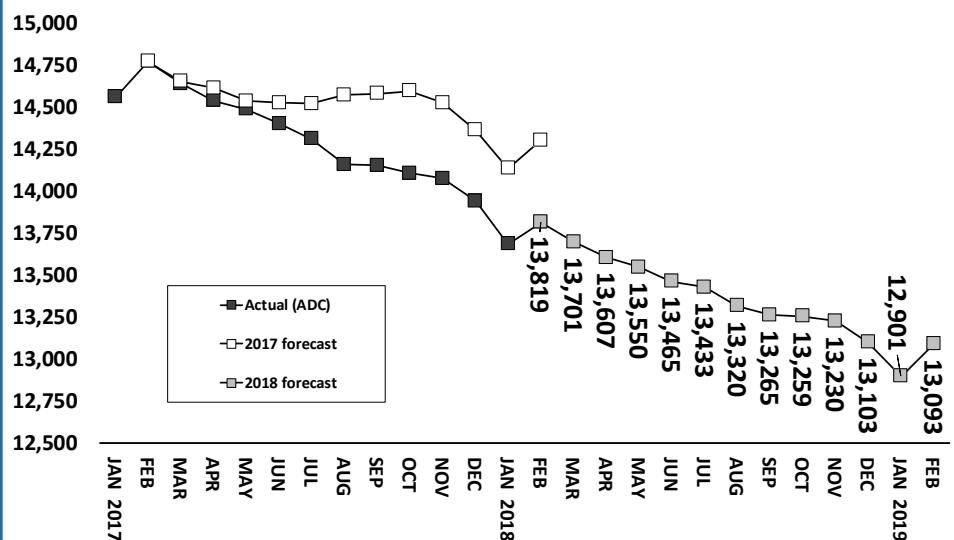
Each February, the Criminal Justice Policy & Planning Division at OPM produces a forecast of the state's prison population for the coming year. In recent years, the forecast has relied on 1) an analysis of prison-population trend data 2) the use of an input-output model to track operational flows and rates of change in the size and composition of the prison population, and 3) assessments of the impact of proposed legislative and policy changes.

OPM projections are intended to provide benchmark estimates of the state's prison population for the upcoming year. By making an annual forecast – not revising monthly as new information is available- the forecast provides an early indication that some component of the system is performing irregularly. Typically, the forecast serves as an alert that the system may be growing abnormally, therefore an overly aggressive forecast could lead to false assumptions that the population is exceeding its parameters. For that reason, OPM has historically followed conservative modeling when producing annual projections.

In 2016 OPM's prison population forecast finished the year overestimating the number of inmates that would be held in Connecticut's prisons and jails - by 800 inmates. In 2017 OPM's forecast overshot the mark again. This time by 450 offenders. With two years of consistent data, OPM's forecasters have taken a more aggressive line in 2018.

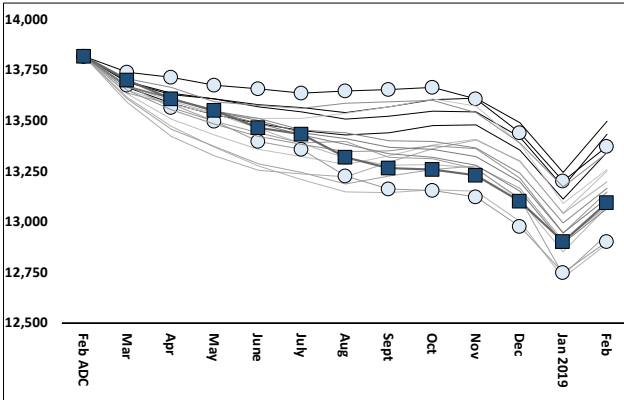
If OPM's 2018 projection is accurate, the prison population will drop, on a February-to-February basis, by 726 prisoners or -5.25%. This bolder prediction, could yet prove too conservative as the last two years have seen reductions of 6.8 and 6.5% respectively.

Connecticut's prison population, actual and projected



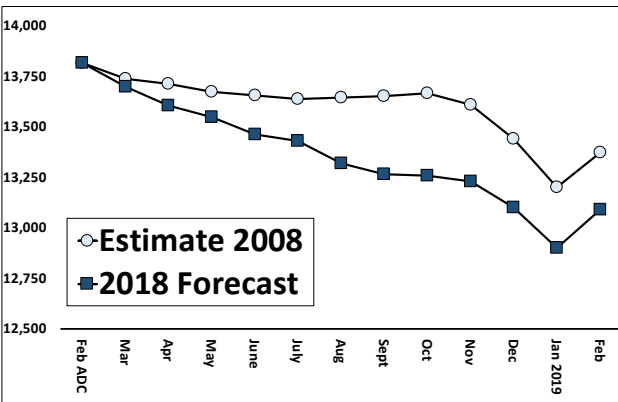
Constructing the Forecast

To demonstrate the impact history on OPM's prison population forecast, we have outlined two scenarios below. Historical trend data is major component of the forecast, but deciding how much historical data to fold into a prediction can be difficult. Too much and the forecast can be too conservative, too little and it becomes too aggressive.



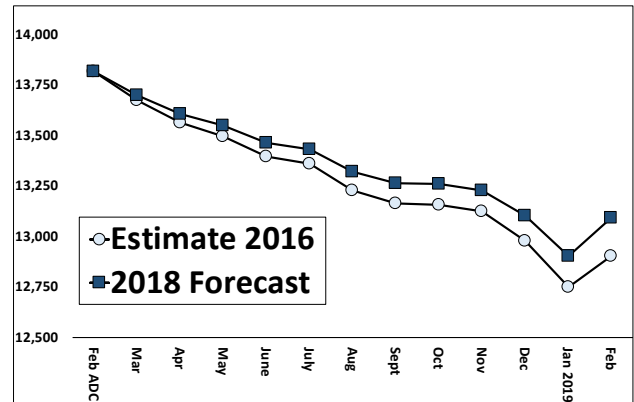
Before selecting a forecast, OPM ran 20 scenarios. The chart above shows the various models and how they diverge as the year plays out. The line near the center, in bold squares, is the 2018 forecast. The two lines highlighted with light circles will be discussed in more detail below.

CT prison population projection 10 years of data



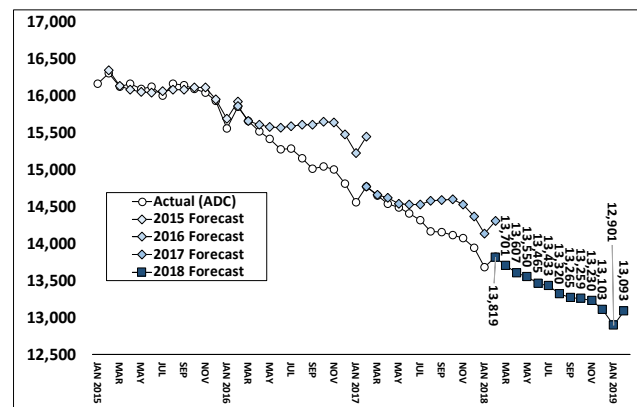
A forecast that includes ten years of data will produce a far too conservative prediction. To hedge for years of growth, the model shows much less of a drop-off. Using 10 years of historical data leads to a projected drop of 445 inmates (-3%) far too conservative.

CT prison population projection 2 years of data



Creating a projection that uses only two years of data leads to an overly aggressive prediction. The population fell by 6.8% in 2016 and 6.5% in 2017 – an average of 6.6% - a larger decrease, in percentage terms, than last year. This is unrealistic given that the drop off seems to be slowing, not accelerating.

CT prison population 2015-2018



Forecasts in 2016 and 2017 overshoot the actual population by considerable margins leading to a more aggressive prediction in 2018.

Prison population, 2008 to 2019

