Forecasting the Correctional Facility Population

Each February, the Office of Policy and Management Criminal Justice Policy & Planning Division (OPM CJPPD) forecasts the state’s prison population over the subsequent 12 months. OPM CJPPD began forecasting the DOC facility population in 2007, with OPM’s methodology evolving over time. In recent years, OPM CJPPD’s forecast 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. In all cases, historical performance underpins OPM’s analysis.

Between 2007 and 2020, Connecticut’s correctional facility population closely followed a linear, downward trend with modest seasonal variation. OPM CJPPD’s February projections over these years predicted the correctional facility population twelve-months ahead within five percent of actual counts. Following the 2020 onset of the COVID-19 pandemic, however, population trends shifted sharply and have since limited the precision of OPM’s forecast. By February 2021, the first year of the pandemic, the correctional population contracted 27 percent compared to the 4.4 percent contraction OPM CJPPD anticipated. For February 2022, OPM CJPPD forecast a less-than-one-percent decline, while the correctional population instead grew by 7.2 percent.

With changing trends and continued pandemic uncertainty to begin the year, OPM CJPPD expanded upon its forecasting approach to develop the 2022-2023 projection. OPM CJPPD utilized a traditional approach in combination with a mix of forecast methods, in an effort to robustly consider recent population changes and long-term historic trends. Figure 1 presents OPM CJPPD’s forecast for 2022-2023, a composite that concentrates results from the mix of projection approaches.

Figure 1: Connecticut correctional facility population, actual and projected: February 2021 to February 2023

Note: The y-axis begins at 7,000 instead of 0 to better show the monthly variation in projected amounts.