REPORT TO THE LEGISLATURE
Pursuant to P.A. 207 of 2018
Article V, Section 401
Prison Population Projection Report
March 2019

INTRODUCTION

The Michigan prison population decreased by 905 prisoners during calendar year 2018 to a total of 38,761 prisoners at the end of the year (-2.3%). The prison only population has not been this low since the end of November 1995 when the institutional population was growing through 38,777 and the total prisoner population hasn't been this low since 1993-1994 when Michigan had prisoners reacclimating to society while serving sentence in halfway houses (Community Residential Programs – CRP – eliminated in 1998 by Truth in Sentencing statutes).

The 2018 year-end prison population was 24.8% smaller than the record high of 51,554 prisoners reached in March of 2007 (12,793 prisoners smaller than the peak population).

During 2018, the net operating capacity of the prisons decreased by 1,337 beds leaving the capacity of the system 97.6% occupied at the end of the year with 941 beds available across 29 prison facilities.

The population projections issued in February of last year were 99.2% accurate at the end of 2018 (321 projected prisoners higher than the actual prisoner population).

FACTORS DRIVING PRISON POPULATION CHANGE

The prison population exits outpaced the prison population entrances again in 2018 resulting in the 905 prisoner population decline while most key factors declined during 2018.

Parole Board Decisions were down for a 9th consecutive year in 2018. The Parole Board Approval Rate also declined slightly, though it still remains high at 71.5%. The decline in Parole Board Decisions is the natural result of the multi-year decline in prison intake and the need for less parole rehearings as prisoner treatment needs are met in preparation for their first Parole Board hearing yielding higher first hearing parole grant rates. Movements to parole declined for a second straight year in 2018.

The prison intake declined again in 2018 since the recent peak in 2013. The 2018 decline occurred across all intake categories. Most of the prison intake decrease was driven by fewer probation violators sent to prison either for probation violations or because of new sentences for crimes committed on probation, closely followed by fewer parole violators with new sentences, and finally new court commitments of offenders. The fewer probation violators sent to prison represented the 5th consecutive year of decline in this intake category and over a 50% decline since the peak in 2002. The fewer parole violators with new sentences represented the 10th consecutive year of decline in that category of prison intake and over a 50% decline since the 2008 peak.

Despite a slight increase in the 2018 prison commitment rate (up 0.3% from 2017), prison intake declined due to the 2.3% decrease in felony court dispositions in 2018 compared to 2017.

PRISON POPULATION PROJECTION METHODOLOGY

Michigan's prison population projections are generated by a computerized simulation model, developed originally by the National Council on Crime and Delinquency (NCCD). It was then adapted for Michigan by research and planning staff in the Michigan Department of Corrections. The computerized simulation model mimics the movement of prisoners through the Corrections system and uses past practice and prior year trends to predict future patterns.

The projection model itself is simply an automated shell into which numerous probability distribution arrays must be fed (after creation outside the model by extensive statistical analyses), regarding how and when prisoners move through the various points in the corrections process (e.g., intake at reception, time to each subsequent parole hearing, likelihood of parole at each hearing, timing of release to parole, chances of return as a violator, and discharge from sentence). These arrays are broken down by the various population subgroups with particular characteristics (i.e., offense, sentence length, etc.).

Michigan's projection model incorporates finer resolution than the original NCCD model. For example, Michigan's model has up to 50 distinct maximum-term groups, each of which can have up to six minimum-term pairings. This level of detail allows particular attention to relatively short sentences of 2 years or less, which have the most influence on 3 to 5 year projection accuracy.

The projection model does not forecast the annual number of prison admissions; but once entered as values, the model does disaggregate admissions randomly based on past distributions. Then, the projection model simulates the flow of the existing prison population and new intake through the system, including feedback loops for parole violators with and without new sentences.

The source of the raw data for the projection is downloads from the MDOC data systems and the data are analyzed via the Statistical Package for the Social Sciences (SPSS). Once the projection model shell is populated with probability distribution arrays, numerous iterations of the model are run, "fine tuning" against two or more years of historical, actual trace vectors for purposes of validating the rebuilt data.

After a successful result is obtained (which must track past trends accurately, and must correspond to short-term expectations for the future informed by considerable independent analysis of recent trends), then the projections are issued by the Department.

Multiple projection runs can be combined – especially in times of particular uncertainty – to generate a confidence interval based on the monthly minimums and maximums for all of the runs, with the expectation that future population will more assuredly fall within the confidence interval. The model can also be used for "what if" analyses, such as simulating the impact of proposed legislative sunset provisions or modifications to sentencing laws.

Exceptions to the model's track record of better than 99% short-term projection accuracy have sometimes occurred over the years, when criminal justice practices and trends deviated from the past or showed unstable or uncharacteristic patterns – in which case the problem has generally been inadequate history against which to validate and fine-tune the results.

Long-term projections are generally considered less reliable because of the difficulty associated with predicting multi-year prison intake volume as well as changes in laws and policies that may affect the underlying statistical distributions which drive the model. That is why the projections are updated at least once each year – to adjust for any new laws, policies, court rulings, operational practices or trends.

NEW PRISON POPULATION PROJECTION ASSUMPTIONS

The prison population projections in this report are a baseline forecast that assumes no new legislative or policy initiatives. Therefore, the assumptions underlying these projections pertain to the key factors that drive prison population, prison intake, paroles, and parole revocations.

Prison Intake

The decrease in prison intake for 2018 continued the decline since 2013, which was the peak since the most recent prison intake trough in 2011. Prison intake for 2018 marks the lowest prison intake since 1988, and the second consecutive year that prison intake fell below a two decades long range of 8,000 to 11,000 prisoners per year

Shifting from yearly trends to monthly trends shows a slightly different picture. From late 2013 through 2016 the monthly trend was downward similar to the yearly trend. However, the monthly trend breaks its downward slope in 2017 to a flat trend through all of 2018. Upon closer examination, analysis of the monthly intake trend by gender shows that while male intake is relatively flat, female intake began increasing in 2017.

Again this year, it is a difficult time to make assumptions about prison intake. On the one hand, there are five consecutive years of intake decline from the 2013 level. A trend is apparent and trends are hard to argue against. In addition, felony court dispositions were at their lowest level in over a decade and the prison commitment rate for felony dispositions has been in a tight 3% range between 19% and 22% over this period.

On the other hand, the prison intake is lower than it has been in two decades. The last three times the prison intake hit a "bottom", the prison intake rose for at least two consecutive years. In addition, a mere one percentage point increase in the prison commitment rate can raise the prison intake by 500 prisoners.

The prudent course is to assume a subtle increase in prison intake, with male intake remaining flat at the 2018 level and female intake continuing the increase seen since 2017. This projection update thus assumes the annual prison admissions will experience a 1% increase in 2019, a 0.7% increase in 2020, a 0.9% percent increase in 2021, and then stability thereafter.

Paroles

Both the parole grant rate and Parole Board Decisions were down for 2018, resulting in decreased moves to parole in 2018. Assuming the parole grant rate continues at the 2018 level throughout the projection period results in a slow decline in future moves to parole. The model is showing the future impact on parole movements that result from the combination of declining intake over the last few years, declining returns to prison over the last few years for parole violations, as well as the need for less Parole Board rehearings as prisoners receive treatment programs in preparation for their first parole hearing. This projection update thus assumes the annual parole grant rate for 2018 throughout the remainder of the projection period.

Parole Revocations

Parole violator technical (PVT) returns to prison decreased for a 2nd consecutive year in 2018. This decrease was enhanced by another decrease in parole violators returned with new sentences (PVNS). Parole revocations are related to the number of paroles that occur. The slowly declining number of paroles can be expected to produce a slow decrease in parole revocations. This projection update thus

assumes the number of PVT returns and PVNS returns to slowly reduce and moderate in the later years of the projection period as the moves to parole slow down.

Implications for the New Prison Population Forecast

Given the above discussion regarding assumptions, it is projected the prison population through 2023 will continue to decline slowly, similar to the slower population decline of 2018.

Again, keep in mind this baseline projection makes no assumptions about future changes in criminal justice statutes, policies or practices that would further affect the size of the prison population.

It should be remembered that the prison population projection is not expected to be precisely on-target from one month to the next, but rather will be expected to see the actual population alternately curving under and over the projection line periodically during the course of time, to even out the month-to-month fluctuations in favor of the longer-term trend.

PRISON POPULATION PROJECTIONS

The following chart summarizes the revised and extended baseline prison population projections through calendar year 2023. Table 1 (quarterly) and Table 2 (monthly) show the figures corresponding to the projection line in the chart.

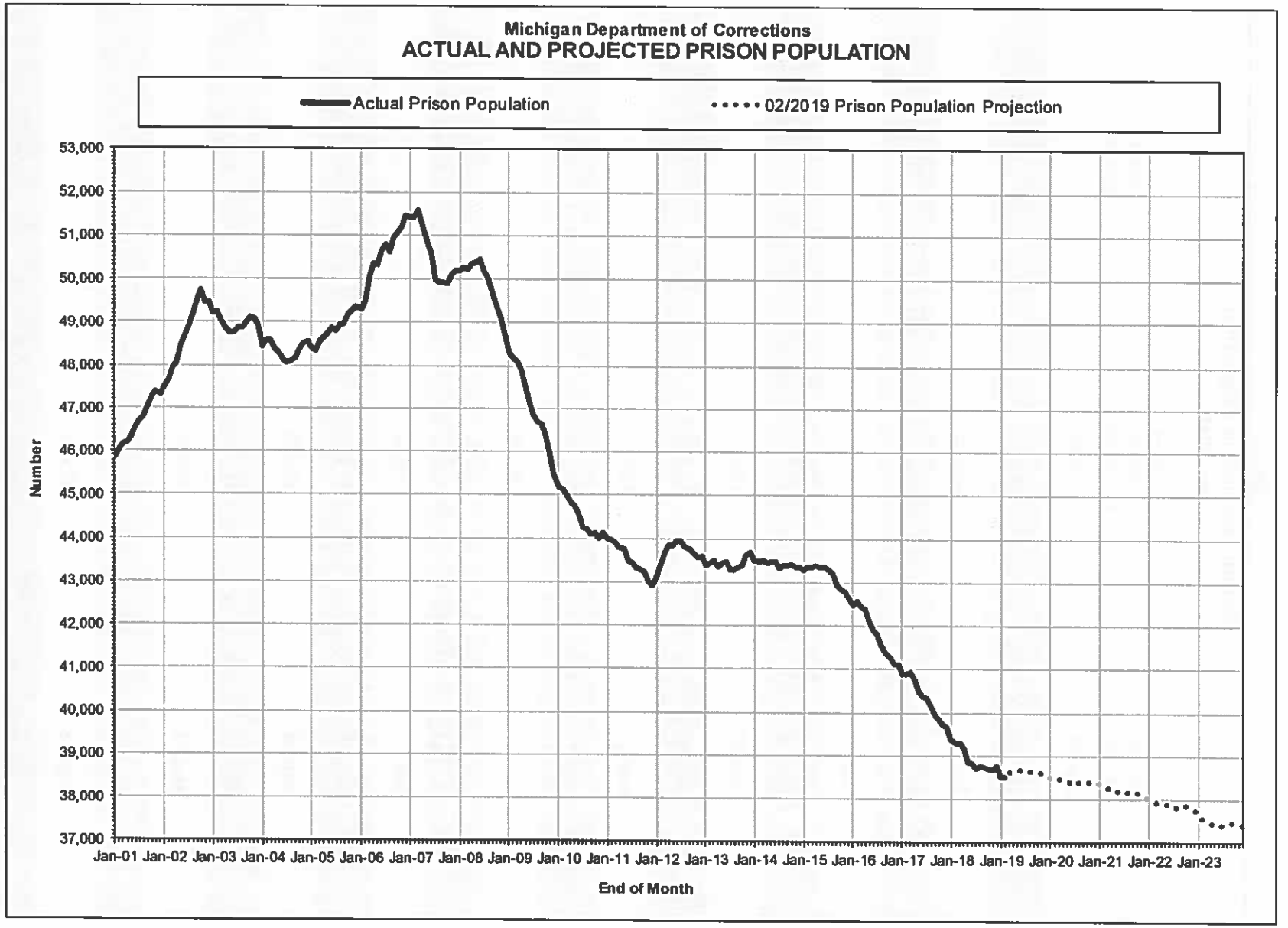
Michigan Department of Corrections
ACTUAL AND PROJECTED PRISON POPULATION
Actual Prison Population
02/2019 Prison Population Projection
Number
53,000
52,000
51,000
50,000
49,000
48,000
47,000
46,000
45,000
44,000
43,000
42,000
41,000
40,000
39,000
38,000
37,000
Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08 Jan-09 Jan-10 Jan-11 Jan-12 Jan-13 Jan-14 Jan-15 Jan-16 Jan-17 Jan-18 Jan-19 Jan-20 Jan-21 Jan-22 Jan-23
End of Month

Table 1

Prison Population Projection

March 2019

End of Month	Projected Prisoner Population	Yearly Change
Mar-19	38,608	
Jun-19	38,663	
Sep-19	38,645	
Dec-19	38,591	-170
Mar-20	38,482	
Jun-20	38,377	
Sep-20	38,351	
Dec-20	38,413	-178
Mar-21	38,251	
Jun-21	38,218	
Sep-21	38,176	
Dec-21	38,060	-353
Mar-22	37,940	
Jun-22	37,862	
Sep-22	37,793	
Dec-22	37,785	-275
Mar-23	37,528	
Jun-23	37,361	
Sep-23	37,457	
Dec-23	37,412	-373

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Table 2

Prison Population Projection
March 2019

End of Month	Projected Prisoner Population	Yearly Change
Jan-19	38,527	
Feb-19	38,513	
Mar-19	38,608	
Apr-19	38,649	
May-19	38,671	
Jun-19	38,663	
Jul-19	38,597	
Aug-19	38,629	
Sep-19	38,645	
Oct-19	38,609	
Nov-19	38,597	
Dec-19	38,591	-170
Jan-20	38,490	
Feb-20	38,461	
Mar-20	38,482	
Apr-20	38,434	
May-20	38,400	
Jun-20	38,377	
Jul-20	38,336	
Aug-20	38,395	
Sep-20	38,351	
Oct-20	38,396	
Nov-20	38,404	
Dec-20	38,413	-178
Jan-21	38,335	
Feb-21	38,278	
Mar-21	38,251	
Apr-21	38,200	
May-21	38,187	
Jun-21	38,218	
Jul-21	38,148	
Aug-21	38,186	
Sep-21	38,176	
Oct-21	38,164	
Nov-21	38,087	
Dec-21	38,060	-353
Jan-22	38,009	
Feb-22	37,917	
Mar-22	37,940	
Apr-22	37,936	
May-22	37,884	
Jun-22	37,882	
Jul-22	37,806	
Aug-22	37,823	
Sep-22	37,793	
Oct-22	37,852	
Nov-22	37,806	
Dec-22	37,785	-275
Jan-23	37,676	
Feb-23	37,553	
Mar-23	37,528	
Apr-23	37,462	
May-23	37,438	
Jun-23	37,361	
Jul-23	37,418	
Aug-23	37,455	
Sep-23	37,457	
Oct-23	37,439	
Nov-23	37,409	
Dec-23	37,412	-373

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