REPORT TO THE LEGISLATURE
Pursuant to P.A. 252 of 2014
Article V, Section 401
Prison Population Projection Report
February 2015

INTRODUCTION

The Michigan prison population decreased by 345 inmates during calendar year 2014, to a total of 43,359 prisoners at the end of the year (-0.8%). The small prison population decline followed modest growth that had occurred during the previous two years (+800), so the population is still 455 inmates larger than it was at the end of 2011 (which was the contemporary low mark).

Nevertheless, the prison population is now 15.9% smaller than the record high of 51,554 inmates that was reached in March of 2007 (now 8,195 inmates smaller than the peak population).

The population projections issued in February of last year were 98.5% accurate at the end of 2014 (663 prisoners higher than actual population).

Based on the latest available data, decreases in felony court dispositions, prison admissions, and parole violator technical returns to prison were the factors responsible for the modest prison population decline in 2014. Moves to parole and discharges on the maximum sentence also decreased, but by smaller amounts, so the net difference in prison intake and returns to prison versus prison releases yielded the small prison population decline.

During 2014, the net operating capacity of the prisons was reduced by 46 beds, leaving the capacity of the system 98.7% occupied at the end of the year, with 580 beds available across both the 32 prison facilities and the 12 county jails that are currently housing MDOC prisoners in leased beds.

FACTORS DRIVING PRISON POPULATION CHANGE

The modest decline in the size of the prison population during 2014 was primarily due to a decrease in felony court dispositions (down by a preliminary 4% from 2013 based on the latest available data), which then resulted in a corresponding decrease in prison admissions with new sentences (down by a preliminary 3% from 2013).[1]

Based on the latest available data, it appears that the prison intake decrease was driven by fewer parole violators with new sentences to prison (-9%) and fewer probation violators sent to prison either for probation violations or because of new sentences for crimes committed on probation (-5%). The fewer parole violators with new sentences represented the 6th consecutive year of decline in that category of intake. New court commitments of offenders who were not under the jurisdiction of the MDOC at the time of the offenses for which convicted experienced little change in 2014 from 2013 (up < 1%).

Even though prison admissions for 2014 declined due to fewer felony court dispositions, there was a small increase in the prison commitment rate among the likely 49,000+ felony court dispositions for the year.

[1] A slight increase in the prison commitment rate caused the reduced felony court dispositions to impact probation and jail dispositions more than prison dispositions, keeping the prison admissions percentage decrease (-3%) smaller than the percentage decrease for felony court dispositions as a whole (-4%).

Another factor in the small prison population decline was fewer parole revocations for technical violations of parole conditions (tentatively down about 2% from 2013 based on the latest available data).

The prison population decrease during 2014 (-345 inmates) might have been larger except that prison releases also declined, just not as much as the decreases in admissions and returns to prison:

- Moves to parole decreased by a preliminary 2% in 2014 compared to the previous year, due primarily to fewer parole decisions compared to the previous year, but also to a lesser extent by a marginally lower parole approval rate compared to the previous year.

- Discharges on the maximum sentence (either without parole, or after parole and return to prison for technical violations) decreased in 2014 for the 9th consecutive year (a preliminary 3% drop in max outs for the year). Given the long downward trend, max outs have become much less of a factor in prison population change.

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 projections is downloads from the MDOC Corrections Management Information System (CMIS), 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 usual key factors that drive prison population (which include - for the most part - prison intake, paroles, and parole revocations).

Prison Intake

Through November (the latest available data), felony court dispositions were on a pace to decrease in 2014 compared to 2013. The prison commitment rate was on a pace to climb slightly in 2014, but the number of felony court dispositions to prison was on a pace to decrease anyway because of the overall decline in felony court dispositions.

There was a preliminary decrease of 3% for prison intake in 2014 compared to 2013. Prison intake thus finished 2014 down modestly after two consecutive years of increase.

The decrease in prison admissions for 2014 was unexpected by the forecast in the last projection, but prison admissions in 2014 were still the second highest in the past four years, and it would not take much of a shift for the intake trend to reverse direction again.

So the prudent course is to assume that – while upward spikes in prison admissions are unlikely given what has been three years of relative stability compared to historical trends – the new baseline projection should continue to incorporate the possibility of somewhat higher prison intake going forward. This projection update thus assumes that annual prison admissions will experience a 1% increase each year throughout the projection.

Paroles

Based on the latest available data, moves to parole in calendar year 2014 decreased by about 2% from the previous year, due to a modest decrease in the number of parole decisions, as well as marginally lower parole approval rates.

These parole-related decreases were expected in the last projection, but are likely to stabilize going forward because of the comparative equilibrium that has been in evidence during the past three years,

with release and return trends varying only within a narrow range from year to year. The small expected increases in new prison admissions also promote general stability in the trends.

Consequently, this baseline projection update assumes that the annual number of moves to parole will be roughly the same each year throughout the projection. If not, then any change could arguably go either way because of the twin factors that most directly influence moves to parole – namely, the number of parole decisions and the parole approval rate, neither of which is expected to change appreciably.

Parole Violator Technical Returns to Prison (parole revocations)

Parole violator technical (PVT) returns to prison in 2014 declined by a preliminary 2% compared to 2013. This decline was anticipated by the last projection.

It is assumed that the number of PVT returns will continue to moderate throughout the baseline projection thanks to further refinements to prisoner reentry practices, but the overall stability of the corrections system that has occurred over the past three years is likely to continue regardless, as further moderation in the number of PVT returns will be offset by the gradual increase in prison admissions with new sentences.

Implications for the New Prison Population Forecast

Given the above discussion regarding assumptions, it is expected that the size of the prison population will increase very gradually throughout the baseline projection because of the prudent supposition that prison admissions will slowly increase as well. This small and gradual change could easily occur because of either a modest rebound in felony court dispositions or a continuation of the trend toward slight increases in the prison commitment rate.

Still, the above set of assumptions essentially yields continued short-term stability in the key factors that drive the size of the prison population. Using the past three years to generate an average, prison population has increased by only about 150 inmates per year. The new baseline projection averages less than that per year for the first three years, and then exceeds that average somewhat in the last two years of the forecast, largely because of the year-over-year accumulated annual increases in prison admissions.

Again, keep in mind that this is a baseline projection that 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 also be noted that January of 2015 has witnessed a prison population decline of 76 inmates for the month because of below average numbers of prison admissions, along with closer to average moves to parole for the month. But prison population declines in January are typical, as court activity generally slows during the holiday period. In January of 2014, the prison population fell by 197 inmates.

What the single-month change in January does demonstrate is that a projection of very slow prison population growth cannot possibly 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 2019. Table 1 (quarterly) and Table 2 (monthly) show the figures corresponding to the projection line in the chart.

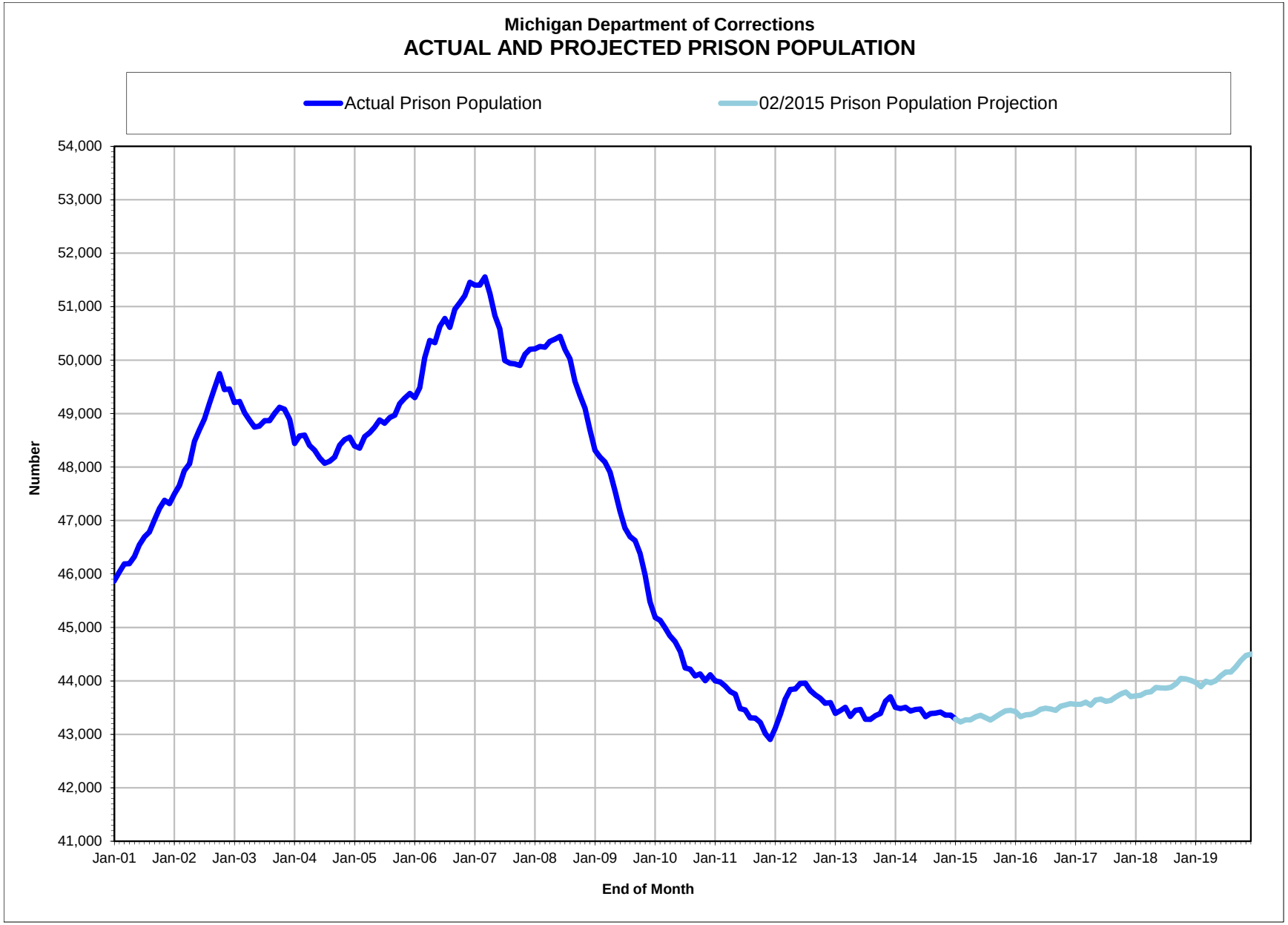
Michigan Department of Corrections
ACTUAL AND PROJECTED PRISON POPULATION
Actual Prison Population
02/2015 Prison Population Projection
54,000
53,000
52,000
51,000
50,000
49,000
48,000
47,000
46,000
45,000
44,000
43,000
42,000
41,000
Number
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
End of Month

Table 1

Prison Population Projection

February, 2015

End of Month	Projected Prisoner Population	Yearly Change
Mar-15	43,273	
Jun-15	43,358	
Sep-15	43,327	
Dec-15	43,447	88
Mar-16	43,366	
Jun-16	43,469	
Sep-16	43,450	
Dec-16	43,572	125
Mar-17	43,602	
Jun-17	43,657	
Sep-17	43,698	
Dec-17	43,708	136
Mar-18	43,783	
Jun-18	43,867	
Sep-18	43,944	
Dec-18	44,009	301
Mar-19	43,992	
Jun-19	44,098	
Sep-19	44,261	
Dec-19	44,502	493

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Table 2

Prison Population Projection

February, 2015

End of Month	Projected Prisoner Population	Yearly Change
Jan-15	43,283	
Feb-15	43,230	
Mar-15	43,273	
Apr-15	43,270	
May-15	43,328	
Jun-15	43,358	
Jul-15	43,312	
Aug-15	43,268	
Sep-15	43,327	
Oct-15	43,387	
Nov-15	43,439	
Dec-15	43,447	88
Jan-16	43,425	
Feb-16	43,332	
Mar-16	43,366	
Apr-16	43,372	
May-16	43,410	
Jun-16	43,469	
Jul-16	43,491	
Aug-16	43,473	
Sep-16	43,450	
Oct-16	43,526	
Nov-16	43,550	
Dec-16	43,572	125
Jan-17	43,561	
Feb-17	43,561	
Mar-17	43,602	
Apr-17	43,547	
May-17	43,642	
Jun-17	43,657	
Jul-17	43,617	
Aug-17	43,634	
Sep-17	43,698	
Oct-17	43,756	
Nov-17	43,790	
Dec-17	43,708	136
Jan-18	43,717	
Feb-18	43,731	
Mar-18	43,783	
Apr-18	43,797	
May-18	43,875	
Jun-18	43,867	
Jul-18	43,864	
Aug-18	43,882	
Sep-18	43,944	
Oct-18	44,045	
Nov-18	44,038	
Dec-18	44,009	301
Jan-19	43,969	
Feb-19	43,891	
Mar-19	43,992	
Apr-19	43,963	
May-19	44,004	
Jun-19	44,098	
Jul-19	44,168	
Aug-19	44,166	
Sep-19	44,261	
Oct-19	44,378	
Nov-19	44,476	
Dec-19	44,502	493

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