

# Ohio Prison Population Projections and Intake Estimates FY 2010 - FY 2018

**Prepared by:**

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## Introduction

This report presents the latest long-term prison population forecast for the period covering FY 2010-FY 2018. These projections are based on revised intake assumptions and a comprehensive update of major population parameters last revised in July 2008. They rely on the latest available population and length of stay data and incorporate updated analyses on the impact of the Supreme Court's 2006 *Foster* ruling.

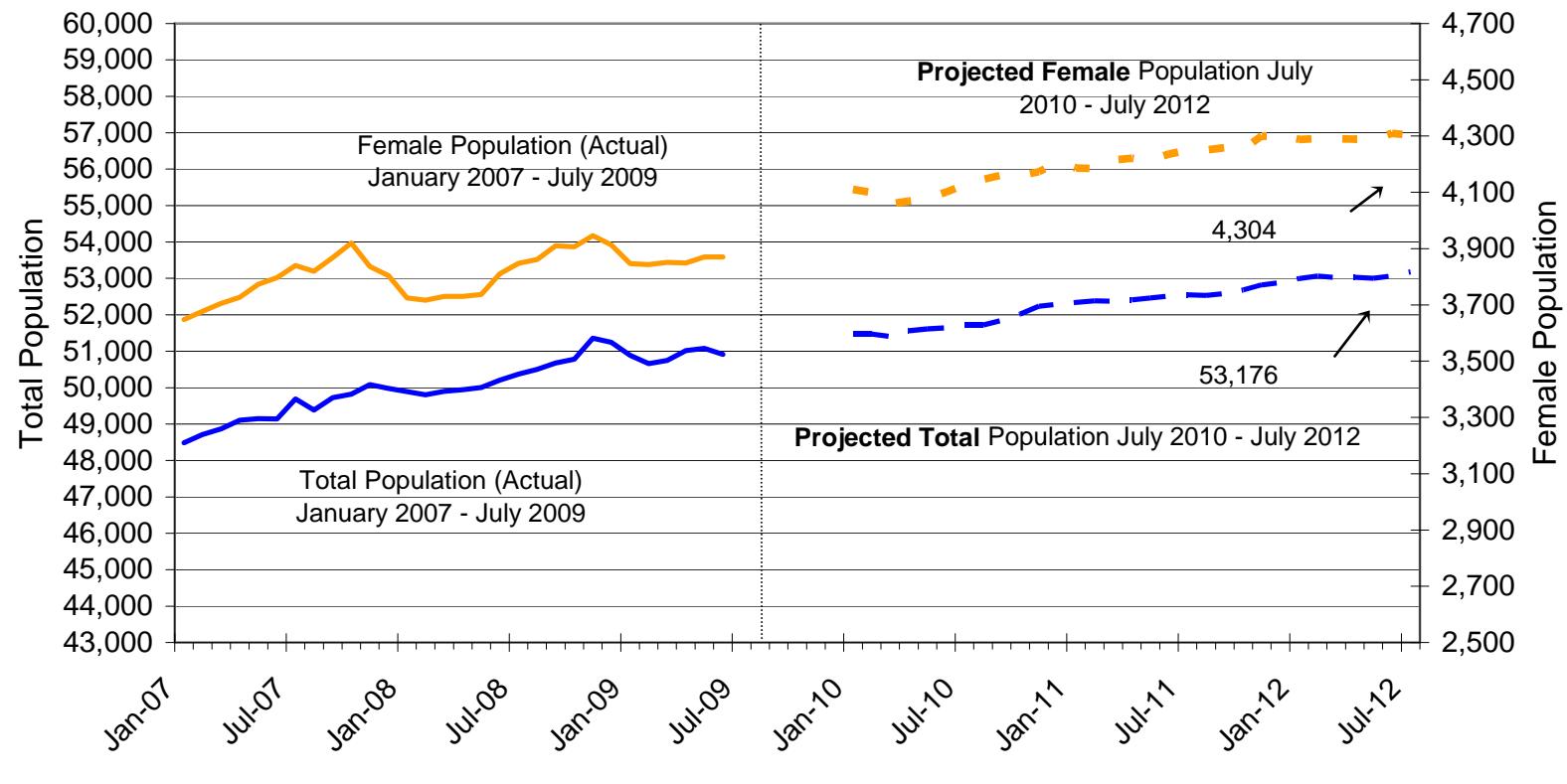
The report begins with an overview of recent population and commitment patterns, and then provides a summary of the current forecast and intake assumptions. It also includes a discussion of how the forecast changes under alternative assumptions, as well as a detailed presentation of data describing recent upward shifts in sentence length since 2005.

## Recent Patterns and Forecast Summary

Figure 1 presents a line graph of actual and projected population levels from January 2007 through July 2012. Female levels are shown separately. The total trend line reflects an overall increase of 2,761 inmates (5.7%) between January 2007 and December 2008, even as court commitments declined by six percent over the same period. The population briefly surpassed record levels of 51,300 in November 2008 before dropping to as low as 50,650 early in 2009, then stabilizing at around 51,000 during the last four months. The number of female inmates approached 4,000 late last year, before dipping below 3,800 in January 2009, then rebounding slightly to 3,900 in late June.

Figure 1 also shows projected population growth through July 2012. Annual projected growth for the entire nine-year forecast period is presented in Table 1. The population is expected to continue to grow modestly over the next biennium, assuming present practices and sentencing patterns continue, no extra diversionary beds become available, and key reform proposals remain on hold: over **51,700** inmates by July 1, 2010, increasing to **52,546** by July 2011. This represents a total population increase of nearly

Figure1. Total and Female Population Counts, Actual and Projected, Through July 2012



**Table 1. ODRC Prison Population Projections, by Sex, for July 1, 2010 - July 1, 2018 (Primary Forecast)**

Date	Male	pct change	Female	pct change	<b>Total</b>	pct change			
							current rated capacity	additional beds needed to stay at 123%	additional beds needed to stay at 115%
6/29/2009*	47,200		3,913		<b>51,113</b>				
7/1/2010	47,596	1.008	4,126	1.054	<b>51,722</b>	1.012	38,665	<b>3,385</b>	<b>6,311</b>
7/1/2011	48,296	1.015	4,250	1.030	<b>52,546</b>	1.016	38,665	<b>4,055</b>	<b>7,027</b>
7/1/2012	48,872	1.012	4,304	1.013	<b>53,176</b>	1.012	38,665	<b>4,568</b>	<b>7,575</b>
7/1/2013	49,538	1.014	4,388	1.020	<b>53,926</b>	1.014	38,665	<b>5,177</b>	<b>8,227</b>
7/1/2014	50,102	1.011	4,327	0.986	<b>54,429</b>	1.009	38,665	<b>5,586</b>	<b>8,665</b>
7/1/2015	50,327	1.004	4,477	1.035	<b>54,804</b>	1.007	38,665	<b>5,891</b>	<b>8,991</b>
7/1/2016	50,869	1.011	4,473	0.999	<b>55,342</b>	1.010	38,665	<b>6,328</b>	<b>9,458</b>
7/1/2017	51,154	1.006	4,406	0.985	<b>55,560</b>	1.004	38,665	<b>6,506</b>	<b>9,648</b>
7/1/2018	51,252	1.002	4,482	1.017	<b>55,734</b>	1.003	38,665	<b>6,647</b>	<b>9,799</b>

\*Actual population from 6/29/2009 Weekly Count Sheet

three percent over the next two years. Female population levels are expected to grow by about nine percent over the same period, to 4,250 inmates by July 2011. Table 1 also shows the number of additional beds that would be required to reduce crowding ratios down to 123% (and 115%) of rated capacity, a recent low point achieved in early 2005.

**These numbers are significantly lower than projections prepared last December, ranging from a total difference of 1,000 to 1,400 over the next two years.** The revised female projection is about 30-70 lower over the same period. The forecast model projects a total population of 55,734 by July 2018, about 4,000 lower than reported in the December 2008 forecast. Although this remains a relatively robust forecast, it is a noticeable downward revision. Revised assumptions about prison intake are the main reason for the lower population numbers. Intake estimates are outlined in more detail below.

### Intake Estimates and Assumptions

After peaking in 2006 at 28,713, court commitments dropped six percent over the next two years and are down another six percent so far in 2009. This downward pattern follows total increases in intake of over 60% in the period 1997-2006. The percentage decreases are similar among males and females. An analysis of four week moving averages in intake over the past two years confirms the overall declining pattern, but also shows periods of volatility during which commitments have dropped occasionally to near 400 per week (not presented). In the past three months, the moving average has remained below 500, resulting in relatively flat population growth.

This protracted reversal in commitment levels has not been factored sufficiently into previous forecasts. Volatility in intake is typically a major source of forecasting error. The December forecast overestimated the July 2009 prison population by about 900 because it relied on intake estimates for 2009 that were extrapolated from levels well above 500 per week in late 2008. Those levels helped push the population briefly past 51,300 in November, but the corresponding admission estimates for CY 2009 used in that forecast will likely turn out to be roughly 2,100 too high.

Table 2 presents the revised admissions estimates on which the current population projections are based. Both historical and estimated levels are presented, along with the corresponding admission rate, defined as the number of yearly court admissions per 100,000 Ohio residents 18-49 years old at mid year.<sup>1</sup> The historical numbers point to a striking 50% rise in the admission rate across 2000-2006, controlling for age structure. The rate has since declined and is consistent with the decline in the actual number of commitments. The current forecast model is based on a predicted total of 25,643 new admissions in 2009, which would represent a five percent drop from 2008 levels. The model conservatively assumes no changes in the level of commitments in 2010 and 2011,

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<sup>1</sup> The *admission* rate should not be confused with the incarceration (or imprisonment) rate, which is calculated from counts of incarcerated persons per 100,000 total residents. In mid 2008, Ohio's incarceration rate was 445 (Bureau of Justice Statistics).

as shown in Table 2. The proportion of female commitments is expected to remain at 12.5-13% of total levels. Starting in 2012, the estimates are based on applying historical admission rates. For 2012-2015, the commitment number is calculated by applying the average rate over the last 5 years against the projected Ohio 18-49 population. The 2008 admission rate is used in estimating intake for the final three years of the forecast timeframe.

The estimates in Table 2 should be considered conservative in that they assume virtually no growth in court commitments over the next 10 years. But since the sources of the downturn seen in Ohio and other states are not well understood, there is no good basis at this point in assuming any wider year-to-year variation in either direction. In addition, there are other emerging trends that support these assumptions, or point to even further downward pressure on court intake. Criminal case filings in Ohio, considered a good leading indicator of prison admissions, are down four percent across 2006-2008 following several years of uninterrupted increases.<sup>2</sup> Although no other systematic court data are available in Ohio, felony court dispositions in Michigan are also down four percent in 2008, and consequently, have generated fewer than expected admissions.<sup>3</sup> Several states are also revising future growth assumptions due to recent declines in court intake.<sup>4</sup> Finally, the latest UCR data show that violent crime is down in the Midwest by about four percent in 2008, though the pattern is mixed and more inconclusive among Ohio's larger cities.<sup>5</sup>

#### Alternative Population Forecast with Modified Assumptions

The Ohio Legislature is currently considering a package of criminal justice reform measures that, in combination, have the potential to significantly reduce the prison population (On the other hand, there are other proposals to increase sentences for specific crimes). None of these proposed measures has been incorporated into the current forecast discussed above. The expected population impact of each has been reported previously in independent analyses conducted by the ODRC Bureau of Research. However, since several of the proposals have front-end diversionary effects, it is useful to consider how reducing the flow of felons into prison, in general, might alter the present forecast.

The results of this alternative analysis are presented in Table 3. Based on previous impact studies, the proposed measures that address diversions for non-support offenders, crack-powder cocaine disparities, felony escape language, and retail theft penalty thresholds could potentially divert several hundred offenders from prison each year. The purpose of this alternative model is not to simulate the precise impact of these specific measures, but to simply demonstrate to what extent further reductions in admissions

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<sup>2</sup> Source: *2008 Ohio Courts Summary*, Supreme Court of Ohio.

<sup>3</sup> Source: *Updated Prison Bed Space and Projections*, May 2009, Michigan DOC.

<sup>4</sup> See for example, *Spring 2008 Adult Population Projections*, California DCR; *Offender Population Forecast FY 2009 through 2012*, Idaho DOC; *Correctional Population Forecasts, December 2008*, Colorado Division of Criminal Justice; *Updated Prison Bed Space and Projections*, May 2009, Michigan DOC.

<sup>5</sup> Source: *2008 Preliminary Annual Uniform Crime Report*, Federal Bureau of Investigation.

(achieved through various statutory changes) alter the population forecast, holding constant all other model parameters.

**Table 2. ODRC New Court Commitments, Actual and Expected, 2000-2018**

Calendar Year	New Court Commitments	Percent Change	Commitment Rate*
2000	19,721		378.0
2001	20,669	1.048	397.2
2002	22,411	1.084	432.2
2003	23,126	1.032	447.4
2004	24,662	1.066	479.5
2005	25,841	1.048	506.1
2006	28,714	1.111	566.5
2007	28,178	0.981	560.2
2008	26,993	0.958	541.2
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2009	<b>25,643</b>	0.950	514.9
2010	<b>25,643</b>	1.000	515.7
2011	<b>25,643</b>	1.000	518.4
2012	<b>26,116</b>	1.018	530.7
2013	<b>25,980</b>	0.995	530.7
2014	<b>25,844</b>	0.995	530.7
2015	<b>25,708</b>	0.995	530.7
2016	<b>26,079</b>	1.014	541.2
2017	<b>25,940</b>	0.995	541.2
2018	<b>25,801</b>	0.995	541.2

\* Number of court commitments per 100,000 Ohio residents, ages 18-49

Projected rates are calculated from linear interpolation of projected state population through 2020.

**Table 3. Alternative Forecast Scenario based on Increased Prison Diversions, 2010-2018**

Year	Estimated Commitments	Percent Change	Projected Population	Percent Change
(Calendar Year)			(July 1)	
2009	<b>25,643</b>		51,113 *	
2010	<b>25,189</b>	0.982	<b>51,555</b>	1.009
2011	<b>25,053</b>	0.995	<b>52,075</b>	1.010
2012	<b>24,918</b>	0.995	<b>52,831</b>	1.015
2013	<b>24,785</b>	0.995	<b>52,745</b>	0.998
2014	<b>24,652</b>	0.995	<b>53,097</b>	1.007
2015	<b>24,520</b>	0.995	<b>53,343</b>	1.005
2016	<b>24,388</b>	0.995	<b>53,389</b>	1.001
2017	<b>24,257</b>	0.995	<b>53,591</b>	1.004
2018	<b>24,127</b>	0.995	<b>53,582</b>	1.000

\*Actual Population from 6/29/2009 Weekly Count Sheet

The admission estimates in Table 3 (starting in 2010) were calculated conservatively by first applying the average commitment rate for the past five years against the projected residential population (for the entire nine-year forecast period), and then simply subtracting 1,200 from that number in each year. We use a figure of 1,200 as a crude estimate of the total reduction that would occur under the proposed measures that involve diversions, sentencing presumptions, and offender flow. Combining the constant 5-year admission rate average with the 1,200 felon reduction yields a set of annual intake estimates that drop by about six percent over nine years, down to 24,127 by 2018.

This modified admission stream was then entered into the same projection model used to generate the forecast in Table 1. The results of the simulation in Table 3 indicate a total projected population increase of 2,500 in nine years, even under a moderately declining intake pattern. And since these proposals are targeted toward lower level offenders, the population “savings” (compared to the main forecast above) achieved would actually be less than indicated under this scenario. Regardless of which admission assumptions are used, there continues to be strong upward population pressure stemming from aggregate increases in sentence terms. These trends are discussed more fully in the analysis below.

#### Updated Impact Analysis of the *Foster* Ruling

Two full calendar years of sentencing data are now available to help assess the ongoing impact of the Ohio Supreme Court’s *Foster* ruling issued in early 2006.<sup>6</sup> The data continue to point to an emerging upward trend overall in average sentence length. Table 4 presents detail in the patterns by gender and felony level in the periods immediately before and after the ruling. The numbers are based on expected time to serve at the time of admission, thus reflecting the effect of aggregate sentences. The values for average stay are shown in months, net of jail credit. The pre-Foster period is described using CY 2005 commitments, the last full year of data available prior to the ruling. Sentencing patterns since 2005 are shown across three subsequent periods, CY 2007, FY 2008 and CY 2008, in order to show trends in the magnitude of the impact.

The analysis reveals a steady increase in average terms across all three periods, with the exception of the F1 female category, in which the patterns are more volatile. Otherwise, the increases so far since 2005 have ranged from one to seven months, with greater increases among the higher felony levels. This upward shift is also presented graphically in Figures 2 and 3. The changes have been seemingly insignificant in the Felony 4 and 5 categories. But based on CY 2008 commitment levels, this upward shift in expected stay (assuming no further increases) translates to a prison population increase of about 6,700 beds, spread out over the course of the full forecast period (beginning shortly after

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<sup>6</sup> The Ohio Supreme Court, in *State v. Foster, et al.*, ruled that mandated judicial fact-finding in the imposition of sentencing decisions is unconstitutional, thus allowing maximum or consecutive sentences without stated justification.

Table 4. Change in Average Expected Length of Stay Since CY 2005 (in months, after jail credit),  
New Court Commitments to ODRC, CY 2007, FY 2008 and CY 2008

Felony	CY 2005 (Pre-Foster)		CY 2007 (Post-Foster)		FY 2008 (Post-Foster)		CY 2008 (Post-Foster)	
	Males	Females	Males	Females	Males	Females	Males	Females
F1	91.7	69.4	94.2	2.5	67.6	-1.8	97.1	5.4
F2	41.9	35.1	45.9	4.0	37.6	2.5	46.5	4.6
F3	23.6	20.3	25.3	1.7	23.7	3.4	26.0	2.4
F4	10.3	10.1	11.5	1.2	11.1	1.0	11.9	1.6
F5	6.6	6.0	7.7	1.1	7.3	1.3	7.8	1.2

Figure 2. Change in Months to Serve since CY 2005, Males, by Felony Level

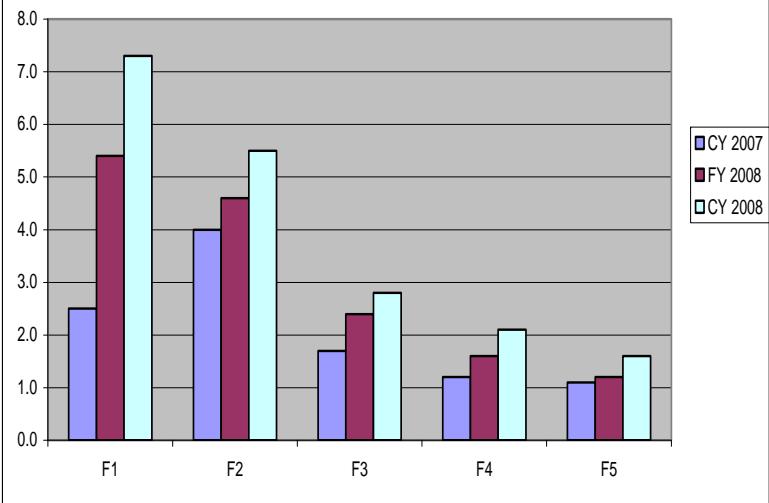
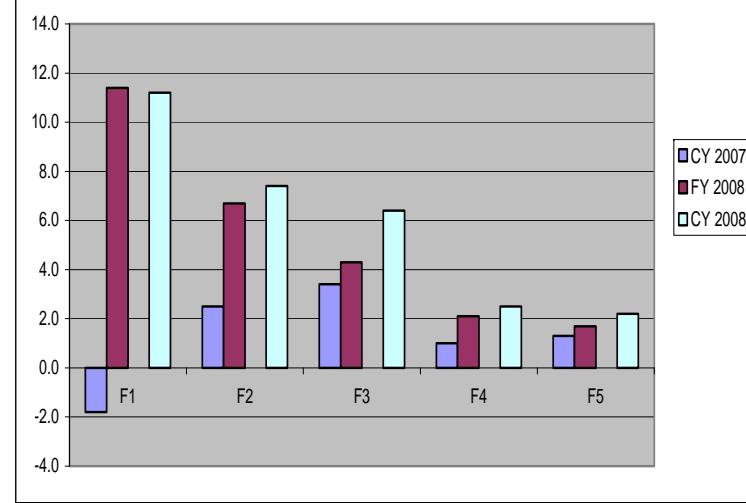


Figure 3. Change in Months to Serve since CY 2005, Females, by Felony Level



Foster). Further, these changes in stay are occurring in the midst of a shift toward lower proportions of F4 and F5 offenders (not shown). The overall proportion of these two categories is now less than 55% of all commitments, down from over 60% as recently as 2002. There has been a noticeable trend upward toward more F3-level male commitments, which could potentially exacerbate the impact of *Foster* described above.

While it is possible that the increases shown in Table 4 are attributable to changing aspects of criminal behavior and offender backgrounds, longer sentences for some crimes, and other unknown sources, terms were remarkably stable in the three-year period preceding *Foster* (2002-2005), further substantiating that the ruling is indeed the basis for recent shift in patterns. Both (Table 1 and Table 3) forecasts presented above are based on CY 2008 length of stay data and assume no further changes in future years.

### Forecast Summary

- This report presents a downward revision in forecasted population levels compared to the last projections released in December 2008. We expect modest, but steady increases in total population over the next biennium, rising to 52,546 by July 2011.
- The Department is currently experiencing an unexpected, three-year downward trend in new court commitments, the first since 1976-78. The forecast model assumes flat levels of commitments through CY 2011, consistent with other states that have also significantly revised their future intake estimates. Case filing and crime data support these assumptions.
- The report presents updated post-*Foster* data that document substantial inflationary pressure from increased length of stay. The upward shift in sentencing patterns has so far grown steadily over time. It is also contributing gradually to a declining proportion of “short-term” offenders who spend less than one year in prison.
- The projections presented here assume very little change in commitment patterns over the next nine years. They also assume that sentencing patterns observed most recently will hold throughout the span of the forecast period. Population increases would be much flatter, however, if current proposals increasing diversions are passed and no other sources of increased commitment levels emerge. On the other hand, the main forecast above would be too low with even a 1-2% increase in commitments in the next two years, or with any further aggregate increase in sentence length under *Foster*. Finally, the projections assume no changes in current recidivism patterns or change in the rate of return for technical violations of supervision.