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DEPARTMENT OF CORRECTIONS  
LANSING

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**DATE:** February 1, 2010

**TO:** Senator Alan L. Cropsy, Chair  
Senate Appropriations Subcommittee on Judiciary and Corrections

Representative Alma Wheeler Smith, Chair  
House Appropriations Subcommittee on Corrections

*Patricia Caruso*

**FROM:** Patricia L. Caruso, Director

**SUBJECT:** Prison Population Projections

Section 401 of PA 114 of 2009 requires that the Department of Corrections submit three-year and five-year prison population projection updates by February 1, including an explanation of the methodology and assumptions used in developing them. This report can be viewed at [www.michigan.gov/corrections](http://www.michigan.gov/corrections).

c: Bob Emerson, State Budget Director  
Jacques McNeely, Office of the State Budget  
Matt Grabowski, Senate Fiscal Agency  
Robert Schneider, House Fiscal Agency  
MDOC Executive Policy Team

**REPORT TO THE LEGISLATURE**  
**Pursuant to P.A. 114 of 2009**  
**Section 401**  
**Prison Population Projection Report**  
**January 2010**

**INTRODUCTION**

The Michigan prison population has now decreased for three consecutive years, to a total of 45,478 inmates at the end of December 2009. This is the smallest prison population since July 2000. It also represents a decline of 6,076 inmates (-11.8%) from the peak prison population of 51,544 reached in March 2007.

In calendar year 2009, the prison population decreased by 3,208 inmates (-6.6%), due to fewer prison admissions, more paroles, and the lowest parole revocation rate since at least before routine record keeping began in 1987.

The continuation of the decrease in prison population throughout 2009 enabled the department to reduce net operating capacity by a total of 4,116 prison beds over the course of the year (-8.2%), reducing the number of correctional facilities from 49 at the end of 2008 to 36 at the end of 2009 (via several prison closings and facility consolidations - including the complete elimination of Michigan's prison camp system because of the reduced numbers of lower risk, low security level inmates).

**CONTROLLING PRISON POPULATION THROUGH POLICY IMPROVEMENTS**

The reduction in the size of the prison population has been achieved by:

- Expanding the Michigan Prisoner ReEntry Initiative (MRPI) into all 83 counties around the state and working toward bring the initiative up to scale.

The latest MPRI preliminary tracking results show a 32% relative rate reduction in total returns to prison against baseline expectations when controlling for a history of prior parole failure and time at risk. This translates into an absolute reduction of 2,083 fewer returns to prison so far than would otherwise have been expected to occur.

- Continuing a multifaceted strategy to reduce the number of prisoners who are past their earliest release dates (ERD) due to either denial of parole or return to prison for parole revocation.

At the peak in 2002, more than 17,000 prisoners were past the ERD and continuing service toward their statutory maximum sentences (which, on average, are three to four times longer than the minimum sentences that were imposed by judges under legislative sentencing guidelines).

In contrast, at the end of 2009, only 10,692 prisoners were past the ERD (-37% from 2002), and 1,475 of those were awaiting release following a positive parole action. The reduction in prisoners who are past the ERD has been accomplished in three ways, by:

- Using the successful MPRI process to mitigate and control offender risk and thereby increase the percentage of cases that are able to be safely paroled on the ERD. This action minimizes the addition of new cases to the past-ERD population on the front end.
- Refining and expanding the Review of Continuance Cases (ROCC) process that the Parole and Commutation Board (PCB) has been using to target past-ERD inmates with special needs for evidence-based programming, services and supervision strategies that better prepare these

offenders for successful community re-entry once the PCB is satisfied that their risks have been mitigated or controlled. This action reduces the existing population of past-ERD cases.

Examples of these special risk/needs inmates include: female offenders, medically fragile offenders, mentally ill offenders, elderly offenders, and offenders for whom GPS tether is especially promising as a parole-supervision tool because of the nature of the offenses.

Improved resources for the Parole and Commutation Board, in the form of training and more sophisticated assessment instruments, have also been employed as part of the strategy. And improved parole guidelines are being developed as a way to sustain and expand the impact of these improvements.

- Reducing the number of parole revocations via statewide implementation of the MPRI. Annual parole revocations are down by 35% since the record high year of 2002, despite a 43% increase in the size of the parole population since that time. This action minimizes the addition of new cases to the past-ERD population on the back end.

However, there is a limit to how much farther these strategies may be able to reduce the prison population because 65% of remaining inmates have not yet reached the ERD, and another 11% are serving life sentences.

## **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) [their initial mainframe computer model, not the later micro-based, somewhat generic, and thus comparatively superficial PROPHET system]. 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, 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 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**

Some broad statutory changes to Michigan sentencing laws have been proposed and/or introduced in the State legislature, but this report does not incorporate any of them into the new forecast as assumptions (despite the dramatic impact on prison population that some of the proposed changes could yield).

Consequently, the projection herein serve essentially as a baseline forecast absent new legislative or policy initiatives, as a starting point for dialogue regarding further change.

Therefore, the assumptions underlying this projection pertain to the usual key factors that drive prison population (which include - for the most part - prison intake, parole, and parole revocations).

### **Prison Intake**

Preliminary data through November show that felony court dispositions have now declined for two years in a row, following eight consecutive years of growth. Annual felony dispositions were down by more than 5,000 (about 10%) in 2009 from the peak reached in 2007. The prison commitment rate, which had decreased by about 1% in 2008 (to 21.6%), remained at that slightly lower level in 2009.

The net result was a modest decrease of 4% for prison intake in 2009 compared to 2008 (down by 427 to 9,288 admissions). Prison intake thus finished 2009 down for a third consecutive year, with the lowest number of admissions since calendar year 2000 (and down by 16% from the record high set in 2006).

Every category of prison admissions declined in 2009, but especially probation violators sentenced to prison (down nearly 8% for the year).

The pace of the decline in prison admissions slowed in 2009, and in fact early data for January 2010 now appear to show what will have been a third consecutive month of slight increases compared to the same months the year before. So, the prudent course is to assume that while no upward spike in prison admissions appears imminent, the new projections should at least incorporate the possibility of a small rebound.

This projection update thus assumes that annual prison admissions will increase slightly in 2010 and a bit more in 2011 to approximately the 2008 figure and then level off throughout the remainder of the forecast.

## **Community Residential Programs (CRP) Prisoner Population**

The last prisoner that qualified for electronic monitoring status in CRP was paroled in December 2009, so the long-running CRP placement option has come to a close and is no longer a factor in prison population projections. Prior to limits imposed by Michigan's Truth in Sentencing law on extensions to confinement, the CRP population peaked at about 3,500 inmates residing in corrections centers or on electronic monitoring, with a 1% new felony rate while on CRP status and better outcomes once paroled from that status as well.

## **Parole**

There were a record number of moves to parole in calendar year 2009 (13,541), due to a record high number of parole decisions and a 4% higher parole approval rate for the year. But the number of moves to parole was only about 1,100 more than in 2007, the previous peak year.

The 2009 parole approval rate of 62.5% was a by-product of the success and statewide expansion of the MPRI and the effects of the past-ERD population reduction strategy discussed earlier. We believe that a higher parole approval rate can be continued into the future, as the MPRI is brought up to scale and more specialized and refined risk assessment tools become available to the Parole and Commutation Board.

But the annual number of Parole and Commutation Board decisions will likely decrease given the smaller remaining prisoner population, the increasing proportion of inmates who have not yet reached the ERD, the declining number of past-ERD inmates available to the Board for review, and the lower parole revocation rate resulting in fewer decisions regarding possible re-parole.

Consequently, this projection update assumes that the annual number of moves to parole will decrease and then stabilize in the neighborhood of about 10,000-11,000 each year.

## **Parole Violator Technical Returns to Prison (parole revocations)**

The parole revocation rate for 2008 and 2009 averaged just 100 revocations per 1,000 parolees. That is the lowest revocation rate since at least before routine record keeping began in 1987. And the number of parole violators with new sentences decreased by 3% in 2009, even though the parole population increased by 9% for the year.

Bringing the MPRI up to scale and continued progress toward implementation of the full MPRI model, along with many other related efforts by the department to improve parolee success are expected to maintain these trends. Such efforts include: collaborative case management, GPS monitoring, and the residential re-entry beds and specialized services for parolees that are now available in local communities as a continued reinvestment in offender transition and success.

As a result, this projection update assumes that the annual number of parole revocations will increase modestly in 2010 due simply to the increased number of parolees who are now on active supervision, but then gradually decline from there as outcomes improve further and both moves to parole and parole population stabilize and then diminish over time.

## **The Special Alternative Incarceration (SAI) Intensive Reentry Program for Prisoners**

This projection update does not assume either that the current September 30, 2010 statutory sunset on SAI for prisoners will remain in place, or that it will again be delayed (as it was last year), or even eliminated. Instead, this projection update once again provides two separate projection lines to illustrate the impact of either scenario.

It is certainly the department's hope that the independent evaluation (now in its second and final year) of outcomes of the SAI program (redesigned as a specialized intensive reentry subpopulation under the MPRI) will yield findings positive and encouraging enough to warrant continuation of the SAI-Prison program.

If not, then the projections chart that follows this narrative clearly shows that there will be a need for more prison beds to be brought back into service in the event that the SAI-Prison program is allowed to sunset.

## **PRISON POPULATION PROJECTIONS AND BED SPACE**

This projection update represents: 1) A revised and extended base projection with SAI-Prison included and continued beyond the current sunset date of 9/30/2010 (orange lower line); and 2) A revised and extended base projection with SAI-Prison allowed to sunset as a program on 9/30/2010 (red higher line).

Again, this report does not reflect any legislative changes that have either been introduced in the legislature or proposed by other interested parties. Subsequent updates may include the projected impact of such scenarios depending on their status toward consideration or passage.

Chart 1 summarizes the two revised and extended alternative baseline prison population projections through calendar year 2014. Table 1 (quarterly) and Table 2 (monthly) show the figures corresponding to the lower orange projection line in the chart and Tables 3 (quarterly) and 4 (monthly) show the figures corresponding to the higher red projection line in the chart. Chart 1 also shows anticipated, available future prison bed net operating capacity.

Chart 1

Michigan Department of Corrections  
PROJECTED PRISON POPULATION & NET OPERATING CAPACITY

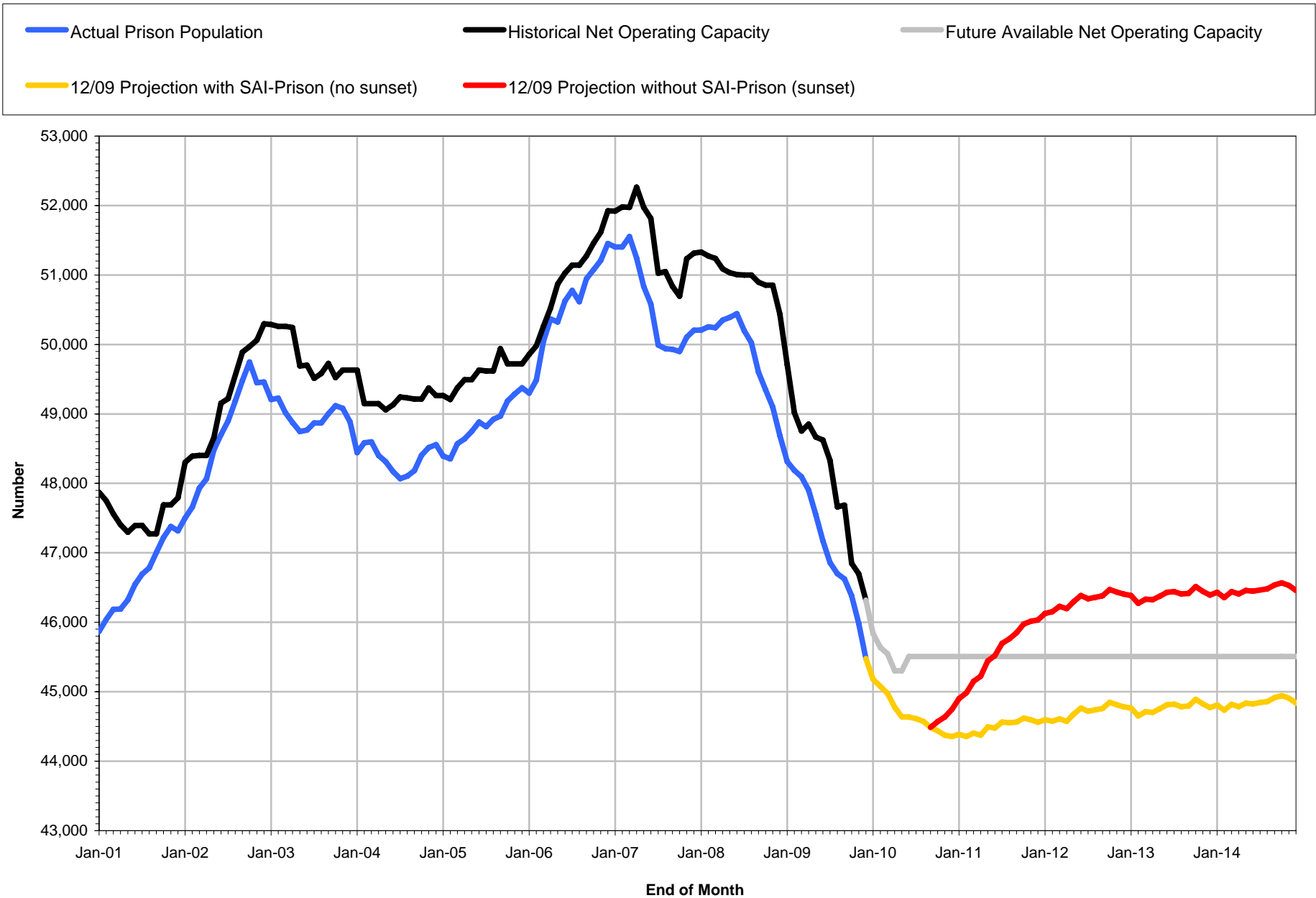


Table 1

**Base Prison Population Projection with SAI-Prison (no sunset)  
January, 2010**

<u>End of Month</u>	<u>Projected Prisoner Population</u>	<u>Yearly Growth</u>
Mar-10	44,978	
Jun-10	44,635	
Sep-10	44,488	
Dec-10	44,354	-1,124
Mar-11	44,406	
Jun-11	44,478	
Sep-11	44,565	
Dec-11	44,560	206
Mar-12	44,609	
Jun-12	44,764	
Sep-12	44,760	
Dec-12	44,783	223
Mar-13	44,712	
Jun-13	44,812	
Sep-13	44,795	
Dec-13	44,772	-11
Mar-14	44,820	
Jun-14	44,826	
Sep-14	44,916	
Dec-14	44,838	66



Table 2

**Base Prison Population Projection with SAI-Prison (no sunset)  
January, 2010**

<u>End of Month</u>	<u>Projected Prisoner Population</u>	<u>Yearly Growth</u>
Jan-10	45,178	
Feb-10	45,078	
Mar-10	44,978	
Apr-10	44,779	
May-10	44,638	
Jun-10	44,635	
Jul-10	44,612	
Aug-10	44,573	
Sep-10	44,488	
Oct-10	44,439	
Nov-10	44,373	
Dec-10	44,354	-1,124
Jan-11	44,387	
Feb-11	44,354	
Mar-11	44,406	
Apr-11	44,373	
May-11	44,493	
Jun-11	44,478	
Jul-11	44,565	
Aug-11	44,552	
Sep-11	44,565	
Oct-11	44,620	
Nov-11	44,597	
Dec-11	44,560	206
Jan-12	44,597	
Feb-12	44,578	
Mar-12	44,609	
Apr-12	44,574	
May-12	44,679	
Jun-12	44,764	
Jul-12	44,719	
Aug-12	44,738	
Sep-12	44,760	
Oct-12	44,849	
Nov-12	44,813	
Dec-12	44,783	223
Jan-13	44,765	
Feb-13	44,653	
Mar-13	44,712	
Apr-13	44,703	
May-13	44,754	
Jun-13	44,812	
Jul-13	44,821	
Aug-13	44,787	
Sep-13	44,795	
Oct-13	44,893	
Nov-13	44,825	
Dec-13	44,772	-11
Jan-14	44,810	
Feb-14	44,736	
Mar-14	44,820	
Apr-14	44,786	
May-14	44,836	
Jun-14	44,826	
Jul-14	44,844	
Aug-14	44,859	
Sep-14	44,916	
Oct-14	44,946	
Nov-14	44,909	
Dec-14	44,838	

Table 3

**Base Prison Population Projection without-SAI Prison (sunset)  
January, 2010**

<u>End of Month</u>	<u>Projected Prisoner Population</u>	<u>Yearly Growth</u>
Mar-10	44,978	
Jun-10	44,635	
Sep-10	44,488	
Dec-10	44,744	-734
Mar-11	45,150	
Jun-11	45,521	
Sep-11	45,850	
Dec-11	46,035	1,291
Mar-12	46,230	
Jun-12	46,385	
Sep-12	46,381	
Dec-12	46,404	369
Mar-13	46,333	
Jun-13	46,433	
Sep-13	46,416	
Dec-13	46,393	-11
Mar-14	46,441	
Jun-14	46,447	
Sep-14	46,537	
Dec-14	46,459	66

Table 4

**Base Prison Population Projection without-SAI Prison (sunset)  
January, 2010**

<u>End of Month</u>	<u>Projected Prisoner Population</u>	<u>Yearly Growth</u>
Jan-10	45,178	
Feb-10	45,078	
Mar-10	44,978	
Apr-10	44,779	
May-10	44,638	
Jun-10	44,635	
Jul-10	44,612	
Aug-10	44,573	
Sep-10	44,488	
Oct-10	44,571	
Nov-10	44,636	
Dec-10	44,744	-734
Jan-11	44,900	
Feb-11	44,985	
Mar-11	45,150	
Apr-11	45,223	
May-11	45,443	
Jun-11	45,521	
Jul-11	45,695	
Aug-11	45,762	
Sep-11	45,850	
Oct-11	45,974	
Nov-11	46,014	
Dec-11	46,035	1,291
Jan-12	46,126	
Feb-12	46,155	
Mar-12	46,230	
Apr-12	46,195	
May-12	46,300	
Jun-12	46,385	
Jul-12	46,340	
Aug-12	46,359	
Sep-12	46,381	
Oct-12	46,470	
Nov-12	46,434	
Dec-12	46,404	369
Jan-13	46,386	
Feb-13	46,274	
Mar-13	46,333	
Apr-13	46,324	
May-13	46,375	
Jun-13	46,433	
Jul-13	46,442	
Aug-13	46,408	
Sep-13	46,416	
Oct-13	46,514	
Nov-13	46,446	
Dec-13	46,393	-11
Jan-14	46,431	
Feb-14	46,357	
Mar-14	46,441	
Apr-14	46,407	
May-14	46,457	
Jun-14	46,447	
Jul-14	46,465	
Aug-14	46,480	
Sep-14	46,537	
Oct-14	46,567	
Nov-14	46,530	
Dec-14	46,459	