October 18, 2007

SUBJECT: *Research in Review*

TO: Executive Staff
Superintendents
Other Readers

FROM: Gary Zajac, Ph.D.   Kristofer Bret Bucklen
Chief of Research and Evaluation   Chief of Projections and Population Statistics

Enclosed please find Volume 10, Number 3 of *Research in Review* (RIR). This issue is a special report on correctional population projections.

The first piece is a review of a major national report on population projections which was recently released by the Pew Charitable Trusts. This review was prepared by Jennifer Pawling, Programs and Reentry Analyst in the PADOC. The second piece is a discussion of projections in the PADOC prepared by RIR co-editor Bret Bucklen, who now heads up populations projections for the Department.

Upcoming issues of RIR will focus on special topics like the Prison Rape Elimination Act (PREA), present findings of the third phase of the PA DOC Parole Violator Study and continue to feature summaries of other PA DOC research projects, as well as reviews of new and interesting journal articles and books.

As always, we welcome your feedback on RIR. We also welcome your suggestions for specific topical areas for future issues. While we cannot promise that we can produce an issue in response to all suggestions offered, we are very much interested in knowing what questions and topics are most interesting to our readers.

Thank you for your ongoing interest in *Research in Review.*

Research in Review

Special Issue: Corrections Population Projections

This issue of Research in Review presents two pieces on the topic of prison population projections. Developing accurate and long term estimates of prison population growth has become an issue of major importance for correctional systems across the country, and no less here in Pennsylvania. Population projections are complex statistical exercises that have tremendous implications for policy, planning and budgeting. Accordingly, we at RIR thought it would be appropriate to devote an issue to this emerging topic in corrections research.

The first piece on this issue is a review of a major report on population projections nationwide that was commissioned and recently released by the Pew Charitable Trusts - *Public Safety, Public Spending: Forecasting America's Prison Population 2007-2011*. This study looks at population projections in all 50 states and discusses the national growth in prison populations and the impact of this growth on public budgets at the federal, state and local levels. This study concludes that prison growth will continue over the next four years, resulting in a 13% increase in the number of inmates by 2011. Population projections becomes an increasingly important issue given the impact of this growth on public services. This review was prepared by Jennifer Pawling, Programs and Reentry Analyst in the PADOC and a PRSG alum.

The second piece – Department of Corrections Population Projections: Fiscal Years 2007-2012 - focuses on population projections in the PADOC. Populations projections within the PADOC has assumed an increasingly significant role over the past year or two, leading to the creation of a new Projections and Populations Statistics section within PRSG, headed up by RIR co-editor Bret Bucklen. Bret's piece explains the new projections methodology used by the PADOC, and examines projected growth trends in the inmate population in Pennsylvania.

Future issues of RIR will focus on special topics like the Prison Rape Elimination Act (PREA), present findings of the third phase of the PA DOC Parole Violator Study and continue to feature summaries of other PA DOC research projects, as well as reviews of new and interesting journal articles and books. We at RIR hope that you find these topics to be informative, practical, and relevant to your work in corrections.

Pew Charitable Trusts. 2007. *Public Safety, Public Spending: Forecasting America's Prison Population 2007-2011*

Review by Jennifer Pawling
Programs and Reentry Analyst
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A recent Pew Charitable Trusts report, *Public Safety, Public Spending: Forecasting America's Prison Population 2007-2011*, states that the United States' incarceration rates are higher than those of any other nation. There were fewer than 190,000 offenders in the state and federal prison systems in 1970, but that number climbed to 1.5 million by 2005, or to 2.2 million if one also considers the local jail populations. The statistics reveal that seven out of every 1,000 U.S. residents are either in jail or prison. In addition, 4.3 million ex-offenders already reside in the U.S., and probation rates have been increasing so that over four million adults are currently under probationary status.

By examining individual state prison population methodologies and forecasts, this report addresses fiscal concerns that policymakers and the public have concerning prison growth. Forecasts can aid policymakers when determining the amount of funds that may be necessary for growth, investigating potential reforms, assessing whether or not public safety investments are producing anticipated results and addressing concerns regarding future correctional spending. Especially in light of a $50 billion increase in national corrections spending since 1980, there is concern regarding the fiscal future of the state and federal prison systems.

Forecasting Correctional Populations

As the cost of corrections rises and consumes a growing proportion of public budgets, there is increasing interest in identifying and evaluating alternatives to traditional incarceration that can serve the multiple goals of punishing the criminal, promoting offender rehabilitation and maintaining public safety, while saving money. An important part of this search for cost-effective correctional alternatives is the forecasting or projection of prison populations and costs under current and proposed policy environments. Forecasting, a tool to aid and inform policymaking and to influence reform, can be valuable in recognizing the underlying reasons for prison population growth and the effect that potential changes may have on correctional systems.

Prison populations projections are complex statistical exercises involving potentially hundreds of variables representing population trends and policy mediators. Population trends are affected by both internal factors which "reflect the various decision points within the criminal justice system" and external factors that "reflect the interplay of demographic, socio-economic and crime trends that produce arrests."

Crime rates, in addition to population trends, also factor into prison population projections. States with higher crime rates tend to have greater incarceration rates and conversely, states with lower rates tend to have lower rates. Demographic factors also interact with crime trends to influence current prison populations and projections of future populations. For example, demographic sub-groups differ in their arrest and incarceration rates; thus, they differ in how much they contribute to prison population growth. States that have a higher percentage of demographic groups that are at-risk for incarceration will see larger increases in prison growth and spending, all other things being equal.

Another factor to be considered is that those offenders who have violated the terms of their probation or parole may be sentenced or returned to prison. Therefore, a projection model needs to include a feedback loop that takes into account the number of expected probation and parole violators. The effect of newly-enacted laws, judicial decisions and other policy decisions play a role as well.

To capture the intricate nature of a prison system, micro-simulation models are employed. They are "designed to mimic the flow of (1) the current prisoner population, and (2) the expected new admissions over the projection horizon based on [these] internal factors." Prison sentences, potential parole release dates and possible probation and parole violations are factored in when determining current and future probabilities related to admissions and releases.

Accuracy of these forecasts can only be determined after current data is incorporated into the model, which is then started several months in the past. The projections from this model are compared to actual monthly counts of admissions, releases and populations, and if successful, the forecast can subsequently be considered to be accurate. Even after making this determination, projections need to be continually modified as new policies or administrative procedures are adopted or adjusted.

National Prison Population Projection Estimates

In order to estimate the national prison population, all 50 states and the Federal Bureau of Prisons (BOP) were contacted. Forty-two states and the BOP responded with population projections for a five year period, at minimum, while estimates were made for the remaining states. As a result of national and state level prison population estimates, the following six key trends were revealed:

- *The nation's state and federal prison population will reach 1,722,477 by 2011—an increase of approximately 192,000 (13%) over a five-year period.*

- *This rate of growth—about 38,400 more inmates per year—is markedly higher than the growth rate of the past three years.*

- *The prison incarceration rate will continue to grow, from 491 per 100,000 U.S. residents in 2005 to 562 per 100,000 in 2011.*

- *The Western region will have the largest prison population increase (18%) while the Northeast will experience the smallest growth (7%).*

- *There is considerable variation among the states. Montana, Alaska, Arizona, Idaho, Vermont and Colorado all are poised to grow by more than 30% under current criminal justice policies. Conversely, Connecticut, Delaware, New York and Maryland are expected to have little if any growth.*

- *Four states—Florida, California, Arizona and Texas—and the federal prison system will account for more than 87,000 additional prisoners, or about 45% of the total prison population increase.*

Specifically in the Southern and Western states, demographic growth, particularly for the at-risk population, was cited as a factor affecting the estimates. The authors also discuss five key factors influencing and interacting with prison population projections.

First, in the 25 states that were able to provide gender-related forecast information, the female prison population growth rate is expected to occur at a faster rate than for males (a 16 versus 12% growth rate), as may also be the case for the remaining states. The Bureau of Justice Statistics (BJS) also reported an increase in the female prison population, 57% since 1995 (as opposed to 34% among males). Gender information is especially important when estimating future facility needs given the unique security and programmatic needs of female prisoners and also the lower risk that females tend to pose when compared to their male counterparts.

Second, inmate age is a factor to consider in light of the BJS reporting that between 1990 and 1999, the age of those released to parole had increased by three years from 31 to 34. If offender age at parole continues to increase and offenders begin to serve longer prison terms, additional medical costs may become a fiscal concern.

Third, corrections workforce recruitment and retention becomes a third issue in that as prison populations increase, more qualified staff are needed. Factoring in high turnover rates and those nearing retirement age, financial concerns may especially begin to arise in states such as Louisiana, Mississippi, and Alabama that are seeking to attract and retain employees through increased wages.

Fourth, as the number of methamphetamine (meth) cases increase, the potential probation and parole revocations due to meth use becomes a fourth concern for correctional practitioners and policymakers. Although the increase in meth use was not included in this forecast, alternatives to incarceration for meth users may be a topic for exploration.

Finally, the impact of enhanced sex offender sentences may also affect prison population forecasts. With longer incarceration and parole sentences as a result of sex offender legislation, the impact of such laws will eventually be experienced, although there will be a lag effect as newly sentenced sex offenders enter and work their way through the system. California, for example, requires that sex offenders be electronically tracked for life, which may lead to a greater number of parolees receiving technical violations.

Regional and State Trends[1]

Typically accounting for the lowest incarceration rates in the nation, the Northeastern region does not expect much future growth. In New York, Massachusetts, New Jersey and Connecticut, little if any growth is expected, and among the region in general, crime rates are anticipated to be low. Demographically, the region will be slow to grow and new policies have been instituted to control existing prison growth.

Two examples of some of the Northeastern region's efforts to control population growth include Connecticut which recently hired additional probation officers to reduce the number of probation and parole revocations by 20%. The state's $13 million in estimated savings was redirected toward reducing recidivism per their justice reinvestment initiative, focusing on measures such as the development of comprehensive reentry plans focusing on specific neighborhoods with large numbers of reentering offenders. As a result of Connecticut's efforts, within two years, crime rates decreased and prison population rates drastically declined. And secondly, in New York, a decline in the prison population, which was related to reductions in serious crime and felony arrests, is attributed to New York City police reforms.

The Midwestern regional states have experienced a growth in their prison populations largely due to new court admissions and parole violations. Looking at selected states, Ohio and Kansas at one point actually witnessed a decrease in prison population rates, but their rates are now increasing as a result of white female admissions (growing at a rate of 47%) in Ohio and new child sex offender laws in Kansas. Despite this growth, Kansas should not experience prison population growth at the rate initially expected because of changes in regard to graduated sanctions for technical parole violators.

Iowa's prison population, however, is expected to grow more slowly than rates of other Midwestern states. This is due to efforts to relax truth-in-sentencing laws and increase parole rates. Estimates still reflect growth though, as a result of the abolishment or restriction of parole for certain crimes, increased sentences for sex offenders and a projected increase in the number of female prisoners beyond that of the male population.

In the past, the Southern region had the highest prison population rates, and that trend is likely to continue. While significant increases are expected in Texas, Florida, Georgia, South Carolina and West Virginia, Maryland and Delaware should experience stable rates as a result of new low-risk offender parole guidelines in Maryland and West Virginia.

Southern states' efforts to respond to prison population growth include those of Texas and Louisiana. The increase in Texas is being attributed to a demographic growth of more than 2.3 million residents within five years, low parole grant rates and a high number of probation revocations. Policymakers are currently exploring options related to intermediate sanctions,

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[1] While this report does present projections for Pennsylvania, please see the next paper in this issue of RIR for a specific discussion of Pennsylvania's population projections.

probation and institutional treatment capacity while Louisiana is investigating options related to "good time," limited terms for first-time technical parole violators and expedited parole hearings.

All Western regional states, aside from California and Oregon, will witness a prison population growth of 20% or more, with Montana experiencing the greatest percentage increase. Again, demographics are partly responsible for the increase in rates. As the U.S. population grows by almost 4.5% over five years, this region expects a 6.4% increase in population. For example, Nevada, a mostly discretionary release state, is expected "to house one of the fastest-growing prisoner populations in the nation," with the female population increasing at a faster rate than the male population and a high number of admissions coming from the Las Vegas area. Arizona, which is a determinate sentencing state with no discretionary parole, could be a "leader in prison growth" given the legislative policies that have been implemented. And yet another determinate state, California, is expecting continual growth due to an increase in the at-risk population and the effect of two- and three-strikes legislation. Possible policy responses discussed in California include eliminating or reducing parole supervision for low risk offenders and establishing a sentencing commission.

Estimating Current and Future Prison Costs

The PEW report focuses primarily on a discussion of projected growth in inmate populations, but also attempts to examine the impact of this growth on public budgets. The authors caution that they were not able to conduct a comprehensive economic analysis of this impact, and were limited by the data they received from states. These caveats noted, this report projects a $2.5 billion per year increase in state and federal correctional spending is expected as operating costs rise and additional prison beds are estimated. In terms of operational costs (e.g. support services, personnel costs, utilities) and capital costs (e.g. land purchases, new building construction), the U.S. Department of Justice reported that according to 2001 data, $29.5 billion was spent on state correctional facilities, $28.4 billion of which went to operating costs and $1.1 billion to capital costs.

According to a 2001 BJS report, an average of $22,650 was spent on each state prisoner in 2001; however, the Northeast region averaged the highest spending per inmate, $33,037, while the Southern region only averaged $16,479 per inmate. This disparity is attributed to the differences in staff salaries and benefits and inmate-to-staff ratios.

When estimating future prison costs, the following methodological issues need to be taken into consideration in order to produce accurate results:

- *Regional and State Variation in Costs*
- *Marginal Versus "Fully Loaded" Operational Costs* – some jurisdictions can absorb growth while minimizing new construction and hiring.
- *Tipping Point Effects* - for states already beyond capacity, a small increase in population may trigger a large increase in costs needed to expand capacity to meet new needs.
- *Differences in Cost-containment Approaches Adopted by the States* – states may have varying degrees of success with cost containment strategies, such as outsourcing.

- *Average Costs* – cost estimates based on average may not account for demographic and other shifts in the inmate population which impose different cost profiles on an agency.

When looking at current operational costs, if states did not provide data regarding cost-per-inmate, the BJS used its 2001 data and controlled for inflation. The results revealed that the states' operational costs were $23,876 per inmate and $23,429 for the BOP. Regardless of the method by which the data were obtained, the operational cost pattern that emerged showed a steady increase from 1984 to 1996 followed by relative stability through 2001 and then a decline in FY 2005-06. The decline may be attributed to the way in which the states and the BJS collected the data. Or if an actual decline does exist, one factor that may explain this is prison overcrowding, which would reduce the costs per inmate.

Comparable to the 2001 BJS results, the 2005 data obtained for this report also reveal that the Northeast region has the highest costs per prisoner (e.g. Rhode Island $44,860, Massachusetts $43,026, New York $42,202) while the Southern region has the lowest expenditures (e.g. Louisiana $13,009, Alabama $13,019, South Carolina $13,170, Mississippi $13,428).

In order to determine future operational costs, estimates were either calculated by using FY 2005-06 costs and multiplying them by the 2011 prisoner population projections or by calculating the actual cost changes between 2001 and FY 2005-06 in relation to the change in the prisoner population. Under the first method of estimation, the researchers found that the state and federal <u>operating</u> budgets would reflect a $5 billion a year increase to $40 billion per year (constant dollars) by 2011. If using BJS 2001 data and FY 2005-06 state data, the more conservative estimation method, the following results were found:

	Prisoner Population	Operating Budget
2001	1,345,217	$28,374,273
FY 2005-06	1,480,223 (by end of 2005)	$30,802,574 (estimated)

If the above comparison is valid, "the marginal annual cost for housing each additional prisoner was $13,797 (not adjusted for inflation)." If estimating costs by 2011 and using the $13,797 figure for each of the projected 192,000 prisoners, the result is $2.5 billion annually, in constant dollars, or half of the previous estimate noted above.

The difficulty in determining capital costs for prison construction over the next five years lies with states' decisions such as whether or not to use existing prisons to house additional prisoners or whether or not to replace aging structures. Using the states' reports of prison construction costs, which ranged between $25,000 and $100,000 per bed, an average of $65,000 in capital costs per standard bed was used. Any anticipated construction costs would equal $12.5 billion, in 2006 dollars, if this $65,000 figure is multiplied by the number (192,000) of estimated beds.

The Relationship Between Incarceration and Crime Rates

Despite the notion that an increase in incarceration rates is directly associated with a decrease in crime rates, criminologists cite a complex set of factors, which includes incarceration as only one such factor. If incarceration rates are to be directly linked to an increase or decrease in crime rates, the following needs to be shown:

- *Temporal assumption (an increase or decrease in incarceration before the crime rate changed)*
- *Empirical association (a statistical relationship existed between crime and imprisonment rates after the change in incarceration rate)*
- *Non-spurious assumption (no other factors could explain the change in crime rate)*

According to James Q. Wilson, the expansion of state incarceration was followed by a search for those "persons eligible for prison, dredging up offenders with shorter and shorter criminal records," and this does not necessarily produce the crime reductions that lead to the eventual increase in public safety.

The Vera Institute of Justice found that "the most sophisticated analyses generally agree that increased incarceration rates have some effect on reducing crime," however, if incarceration rates continue to increase, the desired effect of reducing crime may not necessarily be achieved and costs may be significantly greater.

Public Safety, Public Spending: The Challenge Ahead for State Policy Makers

Considering that prisons account for states' fourth-largest budget item, there is an expectation on the part of the public, criminal justice practitioners and crime victims that correctional systems need "to produce the best possible outcomes at the best price."

In order to potentially yield such outcomes, the $27.5 billion that is projected to fund prison systems over the next five years warrants attention. With continued efforts in areas such as engaging in innovative and cost effective strategies, developing effective prison programs and applying new technologies, states will need to be resourceful in managing their prison populations.

Editors' Note: The full report *Public Safety, Public Spending: Forecasting America's Prison Population 2007-2011*, can be accessed at the following link:
http://www.pewpublicsafety.org/pdfs/PCT%20Public%20Safety%20Public%20Spending.pdf

Since 1988, Pennsylvania's correctional population projections have been overseen by the Corrections/Parole Population Projections Committee (CPPPC). This joint committee includes members from the Department of Corrections (DOC), Board of Probation and Parole (PBPP), PA Commission on Sentencing (PCS), PA Commission on Crime and Delinquency (PCCD), and Governor's Budget Office. In years past, the projection model adopted by this committee worked fairly well and proved to be reasonably accurate. More recently, however, the existing forecasting methodology has significantly under-projected prison population growth. This model under-projected prison population growth primarily due to its reliance on U.S. Census data for projecting prison admissions. Since a census is only conducted every ten years, inaccuracies in prison population projections increase as projections are run further from the time of the last census (see more complete description of this problem below under "The ARIMA Model"). To get a better handle on forecasting future prison population growth, a new projections protocol was established in early 2007. This new protocol directs the DOC and PBPP to collect data on their respective populations and develop four-year projections each year. While projections are now to be developed by DOC and PBPP for their respective populations, they are still to be conducted on a consensus basis, with input from the CPPPC on methodology and on the expected impact of changes to policy, practices, and legislation. Below is a summary of the DOC's forecasting model and four-year projections.

The ARIMA Model

A forecast of the prison population is completely determined by a) the starting stock population at the beginning of the forecasting period, b) a projection of future prison admissions during the forecasting period, and c) an estimation of the length of stay for both those in the stock population and projected future admissions. The primary problem with Pennsylvania's old forecasting methodology was in estimating the number of future prison admissions. Admissions were forecasted based on census projections of the state's general civilian population. Two concerns with this approach have been noted: 1) the U.S. Census Bureau only conducts projections every ten years and is notoriously late in making available updated projection numbers and 2) prison admission projections that are based on census projections in essence involve a "forecast of a forecast", which increases the potential for error.

A new forecasting model is used for the first time this year in generating correctional population projections. This model was developed by a consultant from Applied Research Services through

funding from PCCD and was built to run in a simulation software package called SIMUL8. More importantly, this new model makes two significant improvements over the existing model which should considerably enhance forecasting accuracy:
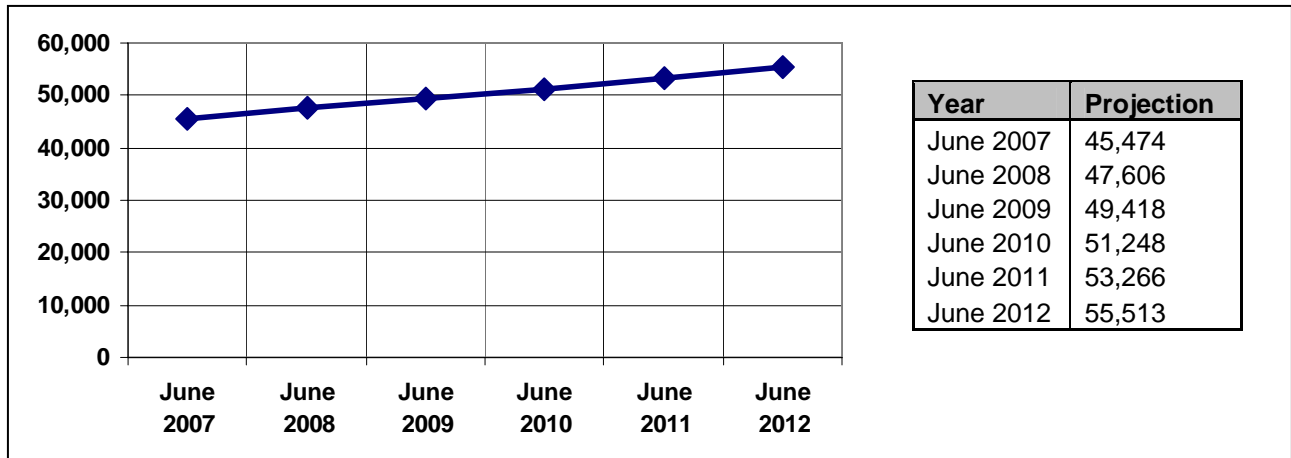
1. Under the new model, a new methodology is utilized for projecting the admissions component. This methodology makes use of a statistical technique of common use in economic time-series analysis called Auto-Regressive Integrated Moving Averages (ARIMA). In essence, ARIMA examines previous years' admissions data and looks for subtle patterns in the data (e.g., patterns of seasonality or subtle trends not readily observed through a visual observation of graphical plots). ARIMA then extrapolates these patterns forward in time to generate forecasted admissions. This methodology is widely used by other states and has proven to be a reliable correctional forecasting technique. Monitoring of our own admissions data for the beginning of 2007 demonstrates only a 3% error rate in admissions projections for year to date using ARIMA.

2. The overall approach of the new model is a micro-simulation approach instead of the previously utilized "disaggregated flow" approach. What this means is that we are now simulating individuals moving through the correctional system as opposed to clumping individuals into demographic groups and simulating group movement through the system. This is especially important for estimating the length of time served in prison. To illustrate, under the old "disaggregated flow" model all African-American males between age 20 and 25 with an offense of burglary would receive the average expected time served for that particular group. We know however that in the real world there is a degree of variation around the average, so that some in the group get out before the average expected time served and some get out after the average expected time served. Based on all available individual characteristics, the new model calculates an individual probability for the length of time served instead of grouping people into sub-populations and forcing them to all conform to the mean of that group. Such an approach was computationally impossible using the old model but now can be accommodated using the new Simul8 software. The value of such a micro-simulation approach has been widely recognized and the majority of states now use such a model in projecting their correctional populations (see the review of the Pew Charitable Trusts report on prison population projections in this issue of RIR).

The additional advantage of the new model developed in SIMUL8 is that it can easily handle impact analyses based on various scenarios that are important to policy-makers. For example, SIMUL8 can estimate the impact on the correctional population of newly proposed or recently implemented legislation, policies, or programs such as Pennsylvania's State Intermediate Punishment (SIP) program.

Projection Numbers

The projection numbers that are presented below are for **fiscal** year-end. Three different scenarios were actually run, with the below scenario being the one that we believe most accurately forecasts our expected population growth (all three scenarios are plotted on the companion graph that is

included with this document). The first scenario used ARIMA to generate the admissions component of the projection. The second scenario again used ARIMA for the admissions component and additionally made some adjustments to the population estimates based on the expected growth of the SIP program. The third scenario was a baseline scenario run simply using the old census-based methodology for projecting admissions. It is the second scenario (incorporating ARIMA admissions projections and adjustments for anticipated SIP growth) that is believed to be the most accurate projections.

Year	Projection
June 2007	45,474
June 2008	47,606
June 2009	49,418
June 2010	51,248
June 2011	53,266
June 2012	55,513

The chart at the end of this summary, entitled "Department of Corrections - Population vs. Bed Space Projections", provides a more complete graphical representation of the forecasted numbers using the three scenarios as well as using a straight-line approach assuming a growth of 175 per month. This chart also tracks the accuracy of each scenario compared to actual month-end population, up through the first eight months of this year. An important note is that the projections using the new model were run on an annual basis and not on a monthly basis. Therefore in the attached chart, we assumed a straight-line growth from month to month within each year. Obviously monthly projections are preferred since we know that the population growth does not occur within a perfect linear fashion in a given year. For example, trends show that population (and admission) growth often slows down over the summer months. For next year's forecast, we anticipate being able to forecast our population within the SIMUL8 model on a monthly basis.

Three observations should be made from the attached chart. First, the line plotting the numbers for the old census-based approach reveal that this approach is clearly under-projecting the DOC's population and presents an unrealistic scenario for the future. Second, both scenarios using ARIMA to forecast admissions follow close to what we were previously "best guessing" by assuming a straight-line growth of 175 per month. Third, the approach representing what we believe to be our best estimate (the ARIMA w/ SIP growth) represents the scenario with the smallest monthly error for the current year to date. Consider too that this scenario may demonstrate additional gains in accuracy when projections are actually run at the monthly level in the future.

Forecasting In The Future

One important footnote when presenting population projections is that any forecast represents where the future population is expected to go given the current state of affairs (i.e., if nothing outside of the model changes). Obviously things do change though. In fact projections can, and should, be used to better plan for the future and to initiate change to the system where necessary, which may actually alter the magnitude of the original projections.

We are aware of several potential developments that may impact the above projection numbers over the next several years. First, Pennsylvania's Senate Bill 1045 (and the accompanying bills in the House) has significant potential for reducing prison population growth if passed. Second, PBPP is targeting a reduction in technical parole violators sent to prison, which will have an impact on lowering prison admissions. Third, a targeted strategy for short minimum sentence inmates is being planned, in which classification of these inmates will be expedited and treatment programming will be delivered in a concentrated time-frame so as to increase their chance of getting out closer to their minimum sentence. Fourth, a planned expansion of treatment resources, to ensure that more inmates are completing their programming and are thus more likely to parole at their minimum sentence date, will also help to expedite the paroling process. Fifth, the DOC and PBPP are working towards ensuring that as many cases as possible are reviewed by the Parole Board in their docketed month. Both agencies are also working on reducing the number of "parole release pending" cases. Sixth, some planned efficiencies in the DOC's community corrections (CCC) system, including expanding CCC beds to 5,000 in order to knock down prison backlogs and to accommodate short minimum sentence inmates, SIP inmates, and parolees having difficulty in the community, will aid in alleviating the institutional population. These initiatives are too early in their development to incorporate into our current projections model but will be considered over the next year.

PA Department of Corrections - Population vs. Bed Space
- Projections -

2007 Projection Estimates vs. Actual

	Actual	ARIMA Adjusted Projection	Difference from Actual	ARIMA Adjusted Projection w/SIP Growth	Difference from Actual
January	44,625	44,571	-54	44,550	-75
February	44,753	44,777	24	44,735	-18
March	45,177	44,982	-195	44,919	-258
April	45,201	45,188	-13	45,104	-97
May	45,505	45,394	-111	45,289	-216
June	45,484	45,600	116	45,474	-10
July	45,514	45,805	291	45,659	145
August	45,588	46,011	423	45,844	256

	Actual	Projection @ 175/Month	Difference from Actual	Census-Based Projection	Difference from Actual
January	44,625	44,540	-85	44,510	-115
February	44,753	44,715	-38	44,655	-98
March	45,177	44,890	-287	44,799	-378
April	45,201	45,065	-136	44,944	-257
May	45,505	45,240	-265	45,089	-416
June	45,484	45,415	-69	45,234	-250
July	45,514	45,590	76	45,378	-136
August	45,588	45,765	177	45,523	-65

Legend:
- Maximum Capacity
- Operational Capacity
- Projection @ 175/month Growth
- Census-Based Projection
- ARIMA Adjusted Projection
- ARIMA Adjusted Projection w/ SIP Growth
- Actual Population