

FEASIBILITY OF PROJECTING THE STATEWIDE MISDEMEANANT CONFINEMENT POPULATION

Introduction

In 2018, the North Carolina General Assembly directed the North Carolina Sentencing and Policy Advisory Commission, with the assistance of the North Carolina Sheriffs' Association (Sheriffs' Association), to study the feasibility of developing population projections for the Statewide Misdemeanant Confinement Program (SMCP).

The Judicial Department, through the North Carolina Sentencing and Policy Advisory Commission (Commission) and with the assistance of the North Carolina Sheriffs' Association (Sheriffs' Association), shall study the feasibility of developing five-year population projections for the Statewide Misdemeanant Confinement Program. The study shall examine potential data needs and existing data, as well as potential projection methods, including making modifications to the existing population simulation model, developing a new model, or using another approach. All State agencies, the Sheriffs' Association, and the person having administrative control of a local confinement facility as defined in G.S. 153A-217(5) shall furnish to the Commission data related to the population as requested to implement this section.

The Commission shall report the results of the feasibility study to the chairs of the Senate Appropriations Committee on Justice and Public Safety and the chairs of the House Appropriations Committee on Justice and Public Safety no later than February 15, 2019.¹

The purpose of the study is to determine the feasibility of projecting the SMCP population based on data that are available through the Sheriffs' Association or other agencies. It is important to note that this study does not assess the feasibility of projecting the overall jail population for North Carolina – it only addresses the feasibility of projecting the SMCP population, which is a subset of North Carolina's jail population.

This feasibility study is a counterpart to the 2018 legislative directive for the Commission, also with the assistance of the Sheriffs' Association, to develop five-year projections of available bed space for the SMCP (Session Law 2018-5, Section 18B.3(a)). While it is important to have a projection of the capacity of the SMCP, it is equally important to have a projection of the population of the SMCP for the same time period. Without a SMCP population projection, it is not possible to assess whether capacity will meet future population needs.

The Commission sincerely appreciates the assistance of the Sheriffs' Association in conducting this study. The feasibility study could not have been completed without the partnership and collaboration of its staff.

¹ Session Law (hereinafter S.L.) 2018-5, s. 18B.3.(b).

The information for this report largely comes from meetings with staff from the Sheriffs' Association, as well as supporting materials. Information was also obtained through an examination of numerous jail projections (from other states and Mecklenburg County, North Carolina), as well as discussions with criminal justice professionals who have experience projecting jail populations.² In addition, the Commission relied upon its own extensive experience projecting criminal justice populations. With its inception in 1990, the Commission received a legislative directive to develop a correctional population simulation model and has since prepared projections of North Carolina's prison population on an annual basis.^{3,4} In the 1998 Session, this mandate was further expanded to include juvenile justice resource projections.⁵ These two projections allow for the consideration of criminal and juvenile justice policies within the context of available resources and are used by policymakers to determine long-term resource needs for the criminal justice and juvenile justice systems.

This report describes the purpose of a population projection, provides a description of the SMCP, summarizes available data and potential projection methods, and concludes with an assessment of the feasibility of projecting the SMCP population.

Purpose of Population Projections

Population projections are estimates of the future population that are based on empirical data that reflect the policies and practices of the system over time. Correctional population projections are a valuable tool for policymakers in planning for future correctional resource needs. The projections are typically considered within the context of available system capacity. When the population is projected to exceed capacity, policymakers may consider options such as increasing resources or changing policies to reduce the need for additional resources. Correspondingly, when the population is projected to be below capacity, policymakers may consider shifting resources to fund other needs. The data that form the basis of the projections can usually be used to identify or inform possible policy changes.

In conjunction with the SMCP capacity projections, SMCP population projections would inform policymakers as to whether the committed and expected beds will be sufficient to meet the needs of the program and allow for more accurate resource planning. By comparing the projected population to the projected capacity, policymakers would be able to determine any potential shortfall in SMCP beds and any changes needed to address a shortfall. This is of particular importance given that any potential shortfalls have implications for Department of Public Safety (DPS) resources in addition to SMCP resources – any offenders that cannot be housed in the SMCP (e.g., due to lack of capacity, medical or other reasons) are to be housed in the DPS prison system (*see Background on SMCP*).

Background on SMCP

In 2011, the General Assembly created the SMCP as part of the Justice Reinvestment Act (JRA).⁶ The SMCP was designed to move more misdemeanants to the local jails while providing State financial assistance for housing them. Under the SMCP, the Division of Adult Correction and Juvenile Justice of

² See list of references.

³ N.C. Gen. Stat. (hereinafter G.S.) § 164-40.

⁴ See <https://www.nccourts.gov/documents/publications/adult-correctional-population-projections> for the Commission's most recent prison population projections.

⁵ See <https://www.nccourts.gov/documents/publications/youth-development-center-population-projections> for the Commission's most recent juvenile justice projections.

⁶ S.L. 2011-192, s. 7.

the Department of Public Safety (DACJJ) enters into voluntary agreements with counties to provide housing in their jails for certain misdemeanants serving periods of confinement.⁷ Every county is required to send eligible misdemeanants to the SMCP but becoming a receiving county is voluntary. The county and the sheriff determine whether they will participate in the Program and, if so, how many beds they will provide. The DACJJ also contracts with the Sheriffs' Association to manage the program and to identify space in a participating county when an eligible misdemeanant is sentenced to the SMCP.⁸ If the Sheriffs' Association determines that the local jails available for housing misdemeanants under the SMCP are filled to capacity, additional misdemeanants may be transferred to a state prison.⁹

The SMCP was originally designed to reduce the number of misdemeanants housed in the state prison system. Structured Sentencing Act misdemeanants ("SSA misdemeanants") who received an active sentence of between 91 and 180 days were sentenced to the SMCP, while SSA misdemeanants who received a sentence greater than 180 days and misdemeanants sentenced for impaired driving offenses under G.S. 20-138.1 regardless of their sentence length ("DWI misdemeanants") remained in the state prison system.¹⁰ However, in 2014 the General Assembly amended the statutes so that all misdemeanants would serve their sentences in local jails.¹¹ Beginning October 1, 2014, SSA misdemeanants who received a sentence greater than 90 days served their sentences in local jails through the SMCP and, effective January 1, 2015, so did DWI misdemeanants.

Under the SMCP, the State helps pay the cost of housing these misdemeanants. Originally, the General Assembly established the Statewide Misdemeanant Confinement Fund to cover Program costs including care, supervision, transportation, medical, and any other related costs, as well as the cost of managing the system.¹² Two court costs imposed on criminal convictions supported the fund.¹³ In 2015, the Court of Appeals held that one of these imposed costs was in fact punishment for committing a crime and, therefore, a fine which must go to school boards as required under Article IX, Section (7a) of the North Carolina Constitution.¹⁴ Starting with FY 2016, the General Assembly funded the SMCP with a direct appropriation.¹⁵

Potential Data Needs

Data Elements

Projections for incarcerated populations take into account the decline of the current inmate population and the buildup of the new inmate population over the projection period. Data used to produce projections for these populations typically consist of demographic information (e.g., age and sex) and sentence information (e.g., offense description, reason for entry, sentence length) for both populations.

⁷ G.S. 148-32.1(b2).

⁸ G.S. 148-32.1(b1).

⁹ G.S. 148-32.1(b4).

¹⁰ G.S. 148-32.1(b1) and (b2).

¹¹ S.L. 2014-100, s 16C.1.

¹² G.S. 148-10.4.

¹³ G.S. 7A-304(a)(2b) and (4b) (2013).

¹⁴ *Richmond Cty. Bd. of Educ. v. Cowell*, 243 N.C. App. 116, 123, 776 S.E.2d 244, 249 (2015), *aff'd* 225 N.C. App. 583, 739 S.E.2d 566 (2013), *rev'd* ___ N.C. App. ___, ___, 803 S.E.2d 27, 32, (2017) (admonishing the state to pay back the funds owed to Richmond County, but recognizing that "[i]f the other branches of government still ignore [their decision], the remedy lies not with the courts, but at the ballot box"), *appeal dismissed and review denied*, 370 N.C. 574, 809 S.E.2d 872 (2018).

¹⁵ S.L. 2015-241, Budget Support Document (The Joint Conference Committee Report on the Base, Expansion, and Capital Budgets), p. I-5, North Carolina General Assembly (September 14, 2015).

The data may be at the individual-level (i.e., data for each offender) or at the aggregate-level (i.e., data for groups of offenders). The data that are available will determine whether a projection can be produced, as well as the methodology used for the projection (see Potential Projection Methods).

Demographic information is often used for projecting subgroups of the population that are important for inmate housing considerations, while sentence information is used to estimate time served. In addition, these characteristics are also important in terms of understanding the composition of the population of interest (e.g., buildup of the population by offense seriousness). For the SMCP population, it will be important to distinguish between SSA misdemeanants and DWI misdemeanants given the significant differences in the length of sentences imposed for these offenses and the differences in the offender characteristics of these populations.

Data Sources

In assessing the availability of data for projecting the SMCP population, several databases were considered:

- The Sheriffs' Association's database of SMCP offender data,
- The Administrative Office of the Courts' (AOC) automated database of charges and dispositions,
- The Department of Public Safety's (DPS) prison and probation database, and
- Databases maintained by individual jails.

These administrative databases are used internally by the organizations for record management purposes. These databases contain varying levels and types of information relating to the SMCP-eligible population – SSA misdemeanants with active or suspended sentences greater than 90 days and offenders convicted of DWI offenses. The Sheriffs' Association database is described in detail below. The AOC database, a docket-based system, contains information on convictions for misdemeanants who are sentenced to the SMCP. The DPS database, which is offender-based, only contains information on a limited portion of the SMCP eligible population – SSA misdemeanants and DWIs who are sentenced to supervised probation and any DWI misdemeanor offender sentenced to the SMCP with an active punishment. Databases maintained by local jails contain varying information about offenders booked into local jails, but the data management systems and information captured within are not standardized across jails.

Determination of Data Source

After reviewing the aforementioned databases and the available, relevant data contained within each, the SMCP database maintained by the Sheriffs' Association was determined to be the most comprehensive source of data for the SMCP population and, therefore, the most appropriate database to be used as the primary source for projecting the SMCP population. Information maintained in the other data systems could be used to supplement information from the SMCP database, if needed.

Description of Data Available from the SMCP

The Sheriffs' Association has maintained a database for the SMCP since its implementation in 2012. A new software, which incorporates data from the original system, was launched in April of 2018 to provide enhanced reporting capabilities. To explore the data available to project the SMCP population, Sheriffs' Association staff provided Commission staff with an overview of the SMCP database (including a demonstration), as well as the training manual for the system.

The SMCP database is used to track inmates in the SMCP in addition to its other functions, which include tracking SMCP capacity and reimbursements to counties for housing, mileage, personnel, and medical expenses. The system can produce reports on the SMCP population, beds available, and reimbursements paid. The reports can be generated for various timeframes (i.e., yearly, monthly, and daily as applicable) and for specific counties or the SMCP as a whole.

The SMCP database contains data for each offender who has been in or is currently in the SMCP. Figure 1 details the data available for offenders in the SMCP database. The database contains the essential information needed to produce a projection – demographic and sentence information for SMCP admissions, releases, and population.

Figure 1
Data Available for Offenders in the SMCP Database

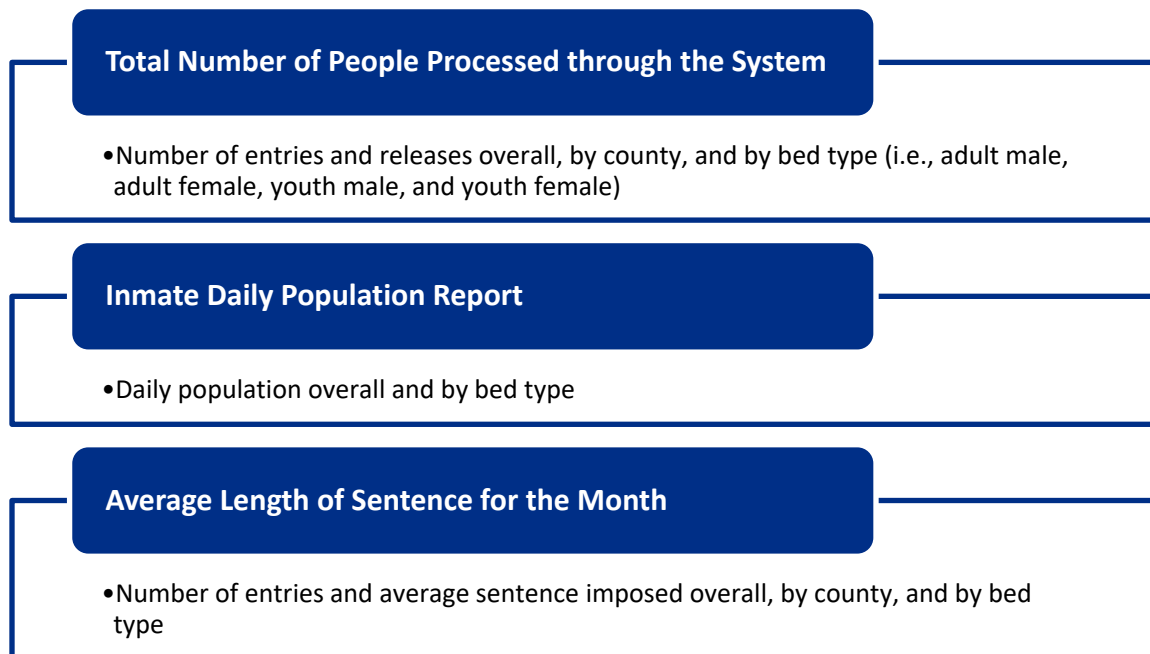
Demographics	Conviction and Sentence Imposed	Sending/Receiving County Information
<ul style="list-style-type: none"> •Unique ID/record tracking number •State ID (if known) •Adult/youthful offender status •First, middle, last name, and suffix •Date of birth •Sex •Race 	<ul style="list-style-type: none"> •County of conviction •AOC docket number •Statute number and name •Consecutive/concurrent •Confinement in response to violation indicator •Sentence start date •Sentence imposed (in days) •Credit time (in days) •Estimated release date 	<ul style="list-style-type: none"> •Sending county •Receiving county •Transfer date to receiving county •Actual release date

SOURCE: NC Sheriffs' Association

As noted previously, it is important to be able to distinguish between SSA misdemeanants and DWI misdemeanants in terms of their proportion within the total SMCP population. This differentiation would allow for the determination of resource needs and policy considerations (e.g., treatment programs for DWI offenders) for these groups separately. The data allow for this distinction. Knowing the DWI punishment level would allow for a more detailed examination of the DWI population within the SMCP. The SMCP database currently does not have a specific field to capture the DWI punishment level but the Sheriffs' Association is working with the software vendor to add this field.

According to the Sheriffs' Association, a comprehensive extract of offender information to be used for SMCP population projections is available from the software vendor. Supplementary data that are available from the system include numerous pre-determined reports that are used to monitor the SMCP population as well as other aspects of the SMCP (e.g., receiving counties, beds available/occupied program-wide). As shown in Figure 2, there are several existing reports that are very useful for examining trends in SMCP admissions, releases, and population – all of which are critical factors for projecting the SMCP population.

Figure 2
Select SMCP Population Reports



SOURCE: NC Sheriffs' Association

Data Quality

In addition to availability of data, another important consideration for SMCP population projections is the quality of the data. As the administrative body for the SMCP, Sheriffs' Association staff enter and manage the data collected in the SMCP database. When a sending county receives an offender sentenced to the SMCP, the county emails the offender's judgment form to the Sheriffs' Association so the offender can be assigned to a receiving county. As part of that process, staff enters the offender's demographic and sentence information into the database. Currently, the Sheriffs' Association has staff members assigned to enter data into the system directly from the judgment forms. Having staff specifically trained and responsible for entering and verifying data results in more accurate data entry.

It is critical that data for incarcerated populations be accurate due to the importance of not releasing an inmate before his/her sentence has been served and not keeping an inmate beyond the sentence imposed. For the SMCP program in particular, the accuracy of the data is also essential in that it is used to determine reimbursement to counties. These two factors – limited staff responsible for data entry coupled with the dependence on data accuracy for reimbursements – offer a high level of confidence in the quality of data contained within the SMCP database.

Other SMCP Data Considerations

Although the SMCP database contains the essential data needed to project the population, there are several data elements and reports that are not currently available that would further facilitate the projection process.

The conviction and sentence imposed data entered in the SMCP database do not include offense class and prior conviction points, which are critical components in projecting the adult prison population and could also be used for the SMCP projection. Although this information would allow for a more nuanced examination of SSA misdemeanants in the SMCP, this information is not critical for projecting this population since it is not as widely diverse as the prison population in terms of offense seriousness. Sentence imposed and time served can be used as substitutes for offense class to group misdemeanants, as needed, within the SMCP.

The Sheriffs' Association offered to create any additional custom reports that would be useful for projecting the SMCP population and to have them developed through their contract with the software vendor. Current reports do not distinguish between SSA misdemeanants and DWI misdemeanants in terms of admissions, releases, or population. Reports containing these data would be useful for projecting the SMCP population and for monitoring key trends. Reports containing time served for SMCP releases (overall and with the option to include categorization by SSA misdemeanants and DWI misdemeanants) would also be beneficial.

Potential Projection Methods

There is no standard projection method recommended for criminal justice populations. The type of data available is one of the primary factors to be considered in selecting a projection method, although other factors must also be considered (e.g., staff, funding, time). When extensive data are accessible, more options are available in terms of projection methods. Two types of projections often considered for criminal justice populations are system flow models and trend models.

System Flow Models

System flow models simulate the movement of individual offenders in and out of the system. These models typically require individual-level data (i.e., information on individual offenders or cases), although aggregate-level data may be used for some portions of the model. The projection models used by the Commission to project the adult prison population and the juvenile youth development center population are examples of this type of model. These projections are prepared using sophisticated software that was developed by consultants (e.g., the prison projection model was developed using SAS® Simulation Studio). Figure 3 shows the data requirements for the adult prison population projections as an example of the data that are needed for this type of projection model.

Trend Models

Projections using trend models are typically based on historical data, although projected data trends may also be used. Data needs for trend models vary based on the complexity of the trend model used, but typically are not as extensive as those required for system flow models. Typical data for trend models includes aggregate data on population, admissions, releases, and length of stay. Data categorized by personal characteristics (e.g., gender, age), offense, or other relevant information, if available, allow for more nuanced projections.

A trend model projection may be as simple as applying one of the trend line functions available in Microsoft (e.g., linear, logarithmic) to historical data related to a single factor (e.g., population) or as complex as using a regression model or time series model that takes into account multiple factors (e.g.,

admissions, releases, length of stay). Demographic models, which apply future estimates of county population growth to the criminal justice population, are another example of a trend model.

Figure 3
Data Needed for Sentencing Commission’s Prison Population Projections

Court Data	Prison Population on June 30	Additional Prison Data*
<ul style="list-style-type: none"> • Sentence date • Demographic information (e.g., age, sex) • Offense information (e.g., offense date, offense type, offense class, prior record level) • Estimated time to be served • Probability of active sentence • Length of probation/post-release supervision • Probability of probation/post-release revocation 	<ul style="list-style-type: none"> • Prison admission date • Type of prison admission (e.g., new crime, revocation) • Demographic information • Offense information • Time to be served (e.g., total time to be served, time remaining on date of snapshot) • Length of supervision following release 	<ul style="list-style-type: none"> • Number of prison admissions • Average time served for prison exits • Number of months between imposition of a probation sentence or PRS and admission to prison for violations of conditions

*Categorized by offense class and type of prison admission.

SOURCE: NC Sentencing and Policy Advisory Commission

Determination of Projection Method

Offender data from the SMCP database would be appropriate to use with any of the projection methods described above. The adult prison population projection model, which was revised in 2012 to take into account the changes in the criminal justice system resulting from the JRA, could be modified to project the SMCP population. However, an important consideration is that these modifications would require outside assistance, additional resources (e.g., funding), and significant time to develop. Trend methods could be developed internally by Commission staff and would require less time to develop.

Assessment of Feasibility

The purpose of this study was to determine the feasibility of projecting the SMCP population including whether the necessary data are available to inform a projection of the SMCP population and, if so, what type of projection methods could be used for the projection. It is the conclusion of Commission staff that it is possible to project the SMCP population.

In the course of this study, several potential data sources were reviewed. It was determined that the data collected by the Sheriffs’ Association in their SMCP database included all of the critical elements to produce a SMCP population projection. The projection would be based on an extract of offender data from the database, as well as custom reports.

Given the differences between the two populations within the SMCP, it is recommended that separate projections be prepared for SSA misdemeanants and DWI misdemeanants. To facilitate this process, it would be helpful if certain custom reports could be modified to distinguish between SSA misdemeanants and DWI misdemeanants (primarily those listed in Figure 2). The Sheriffs' Association is currently working to enhance the reporting capabilities of the current software and is willing to add any additional fields necessary to provide more specific data (e.g., offense class) to allow for more nuanced projections.

In terms of projection method, it is recommended that trend models be used initially due to the cost and time involved in developing or modifying an existing system flow model. This decision can be reconsidered if the need arises. The projection methodology selected should be tested with earlier data and should accurately project past SMCP populations.

The Commission has extensive experience preparing projections for various criminal and juvenile justice populations (e.g., prison, Youth Development Center) and, if directed, would be able to project the SMCP population. SMCP population projections, in combination with the Commission's mandate to produce SMCP capacity projections, would be a valuable tool to assist policymakers in considering future resource needs and policies for the SMCP.

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