


N A A T A P

Native American and Alaskan Technical Assistance Project



**PROJECT GUIDE:**  
Population Profiles,  
Population Projections and  
Bed Needs Projections

*Part of A Series of Guides for Planning, Designing  
and Constructing Adult and Juvenile Correctional and  
Detention Facilities on Tribal Lands*

The Native American and Alaskan Technical Assistance Project (NAATAP) was created pursuant to an interagency agreement between the National Institute of Corrections and the Bureau of Justice Assistance.

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## Purpose

The purpose of each NAATAP Guide is to communicate substantive information concerning a range of subjects that are relevant to the development of adult and juvenile detention and correctional facilities in Indian Country. This series of guides grew out of a recognition that there were common concerns and questions being raised by Tribes and consultants developing new correctional facilities on Native lands throughout the country. The guides seek to provide research and information on issues of common concern to the Tribes. These guides also seek to document the knowledge and experience gained by Justice Planners International LLC (JPI) while providing technical assistance to tribes engaged in the facility development process.

## Acknowledgements

JPI acknowledges the assistance of the many consultants who contributed their expertise in the preparation of this series of guides. These materials were developed and reviewed by individuals with diverse backgrounds, expertise and experience in planning and design of juvenile and adult correctional and detention facilities, as well as analysis, design and operation of justice programs, facilities and systems on a local, state and national level.

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## Overview

A Needs Assessment is conducted to determine, verify, and/or quantify the need for greater capacity, a different type of facility, a new facility, or expansion and renovation of an existing facility. It is part of the facility development process for adult and juvenile detention and correctional facilities. The Needs Assessment includes a process of gathering and analyzing data and it usually covers the following areas:

1. Alternatives to Incarceration
2. Population Profiles
3. Population Projections
4. Bed Needs Projections
5. Space Needs Projections
6. Staffing Projections
7. Site Criteria and Site Selection
8. Estimates of Initial, Operational and Life Cycle Costs

This document covers three of these topics: Population Profiles, Population Projections and Bed Needs Projections.

## Population Profiles

Understanding the characteristics of the inmates/ youth who will be occupying a detention/correctional facility enables the Tribe's project team to plan and program a facility that meets the needs of the inmates/juveniles and the Tribe. Planning appropriate housing units and program and support areas enhances the effectiveness of the facility. For example, a population profile might indicate that a majority of the occupants of a proposed facility will be low security and non-violent, with substance abuse histories and histories of unemployment. In such a case, the Tribal planning team may wish to consider an intake area with a nurse's station and at least one padded cell/room, dormitory style or "dry cell" housing units, large group rooms suitable for self-help and counseling groups, a room suitable for job readiness classes and, perhaps, vocational shops.

A population profile describes the probable characteristics of the population who will be housed in the detention or correctional facility. Often profiles are based on data collected from samples or the entire population on specific dates, such as the first Tuesday of every third month over the past four years. Such profiles are called "snapshot profiles." By profiling the population on multiple dates, jurisdictions may be able to spot trends (e.g., the population is, on a whole, getting slightly older), and see patterns. Although the past is usually a good predictor of the future, the profile should be used along with an awareness of likely trends that may impact characteristics of the population. For example, if laws relating to the sale or possession of narcotics continue to become more and more stringent, then the proportion of the population with substance abuse issues is likely to continue to increase.

For small to medium sized facilities, which include virtually all Tribal detention and correctional facilities, the profiled sample should involve either all or a significant portion of the entire population of the facility. For larger facilities, the sample size may be a lower percentage. For example, for an existing 30-bed facility, the profile should be all-inclusive; for a 500-bed facility, the profile could be limited to every fourth or fifth occupant.

Consideration should be given to what impact, if any, the time of day, day of the week, part of the month, and/or month of the year might

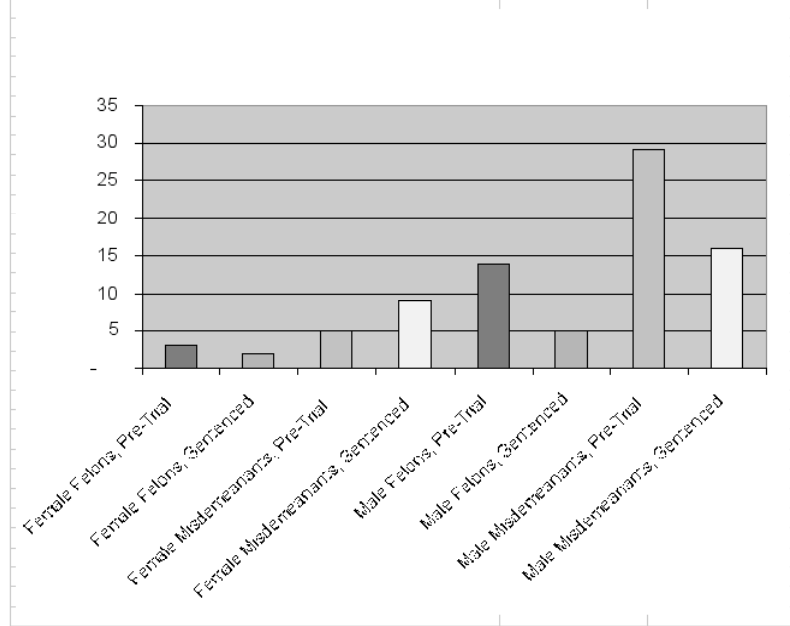
have on the profile. Therefore, profiles taken at various times, days, weeks, and months produce more reliable information than single profiles.

A computer spreadsheet program such as Excel works well for recording and analyzing profile data. Totals and percentages can be readily calculated, and the program can generate pie and bar charts that visually display and illustrate comparative information.

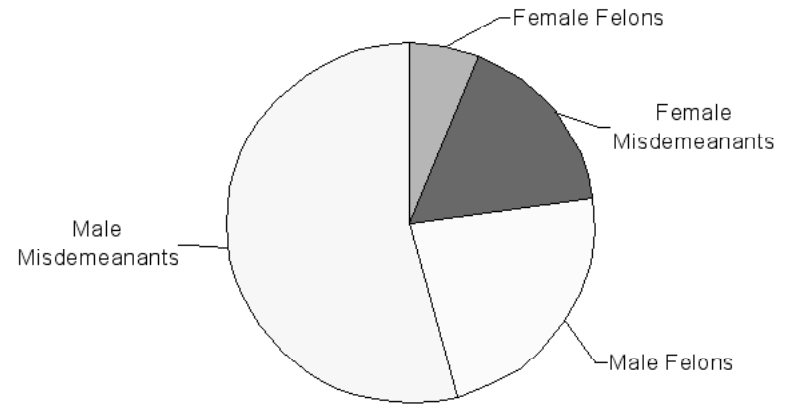
Here is an example of one type of data that is collected and analyzed for a profile, with two graphic means of presenting the information.

### Example of Profile: Gender, Sentence Status, & Offense Category Bar Chart

| Population Category             | Number    | Percentage    |
|---------------------------------|-----------|---------------|
| Female Felons, Pre-Trial        | 3         | 3.6%          |
| Female Felons, Sentenced        | 2         | 2.4%          |
| Female Misdemeanants, Pre-Trial | 5         | 6.0%          |
| Female Misdemeanants, Sentenced | 9         | 10.8%         |
| Male Felons, Pre-Trial          | 14        | 16.9%         |
| Male Felons, Sentenced          | 5         | 6.0%          |
| Male Misdemeanants, Pre-Trial   | 29        | 34.9%         |
| Male Misdemeanants, Sentenced   | 16        | 19.3%         |
| <b>Total</b>                    | <b>83</b> | <b>100.0%</b> |



### Example of Profile: Gender & Offense Category Pie



Information gathered for the profile should consist of the following, at a minimum, but it could include more information that could later be used in the classification process, and/or the development of individual treatment plans. Profile information is also valuable for future management and budget planning. All profiles should include the following:

- Gender
- Adult/juvenile and age (especially important for juveniles)
- Sentence status—pre-sentenced or sentenced
- Sentence length
- Specific offense
- Offense category (crimes against people, crimes against property, traffic, other; and misdemeanor/felony)
- Number and types of prior convictions (and, perhaps, arrests)
- Outstanding warrants
- Place of residence
- Family and marital status; including who the inmate was living with immediately before incarceration
- Drug/alcohol history and current issues
- Physical and mental health issues with special consideration of suicidal tendencies and other issues that may impact housing placement
- Length of stay at time of profile (to determine if changing over time; need for intake versus long-term beds/services)

To have additional information that is extremely useful for classification and treatment planning, profiles should also include as much of the following as is available:

- Behavior during previous incarcerations
- Academic level achieved, and if testing is feasible, functioning level
- Work history
- Vocational training/skills

The relevancy of the various types of profile information is important to correctional facility planning for many reasons. Some of the planning and design implications of profile information are described below.

**Gender.** Obviously males and females are separated while incarcerated, so there must be separate housing units for each. National trends over the past decade have indicated a rise in the percentage of females in adult and juvenile correctional and detention facilities. Based on these trends, the percentage of females is likely to continue to increase over time. Therefore the percentage of females in current profiles may be less than the percentage in the near future, and the percentage in the near future may be less than the percentage in the more distant future. Therefore, there should be flexibility in some male and female housing units.

**Adult/Juveniles and Age.** In those jurisdictions in which juveniles and adults are held in the same facility, even for very short periods of time, complete sight and sound separation in all areas is absolutely essential. For juveniles, age is important as it impacts programs and housing assignments. For example, older, and especially larger more-criminally sophisticated youth should not be mixed with younger, smaller, more vulnerable youth. For adults, some larger facilities separate older inmates from younger adults, as older inmates may be subject to abuse by others or require a closer medical watch.

**Offense and Offense Category.** For pre-adjudicated/pre-trial offenders, offense is important, as it is a major factor in determining if one may be eligible for release via bond or own recognizance release prior to court. Historically, offense information has also been used as a major factor regarding housing assignments. The conventional wisdom was that those who have been charged with or convicted of felony crimes against people posed a danger to other inmates and should be placed in

maximum security, and that those in for minor offenses could be housed in low security. More and more facilities are finding that there is a lack of direct correlation between offense and behavior while incarcerated, and that in making housing assignments, it is far better to focus on institutional behavior rather than offense. With respect to juveniles, it is important to note that the Juvenile Justice and Delinquency Prevention Act of 1974 as amended requires the removal of all status offenders from juvenile detention and correctional facilities. Status offenses consist of acts that would not be considered crimes if committed by an adult. Juveniles charged solely with status offenses, such as truancy and running away from home, should not be placed in detention or correctional facilities. .

**Prior arrests/convictions.** The number and types of prior arrests and convictions is another factor that is usually used in determining if a pre-adjudicated/pre-trial detainee may be eligible for release prior to court. Patterns of offenses also may be useful in determining treatment needs and programs. For example, a person who has been arrested for driving under the influence one time may not need substance abuse treatment, but one who has a long history of alcohol and/or drug-related offenses should receive treatment.

**Outstanding warrants.** Those arrested on minor charges might very well be wanted in other jurisdictions for more serious crimes. Because outstanding warrants may impact risk of flight, these impact decisions regarding pre-trial release, and housing unit placement.

**Place of residence.** This is another stability factor that is considered when reviewing candidates for pre-trial release. Residency in the jurisdiction where one is incarcerated decreases the chances of leaving the Reservation prior to court dates, or attempting to escape from the facility.

**Family and Marital Status.** Generally, married inmates who lived with their spouses prior to incarceration are more stable and less likely to be suicidal or at risk for escape. Their propensity for enrolling in and completing treatment programs is relatively high. Similarly, youth from stable, supportive families are more likely to be successful in pre-trial release, in custody treatment, and after-care programs.

**Academic Level and Graduation Status.** Minors who have not completed high school must be enrolled in full time academic programs while incarcerated. Typically, one-third or more of youth in correctional facilities should be in very small special education classes. There should also be opportunities for adults to work towards taking and passing high school equivalency tests. All of this impacts the number and size of program spaces.

**Work History.** Generally the ability to get and hold a job correlates to a more stable individual. It is recognized, however, that high unemployment rates on many Reservations correlate to limited employment opportunities. Those with steady jobs prior to incarceration are more likely to succeed on pre-trial release programs. To help address issues related to unemployment, opportunities for job readiness, pre-vocational, and vocational classes should be considered for adults and older juveniles. Again, there is an impact on space needs.

**Sentence Status.** Many jurisdictions used to separate pre-adjudicated youth from post-adjudicated youth, and sentenced inmates from those not sentenced. The proportions of the population that are pre-adjudicated/pre-trial as opposed to adjudicated/sentenced are important in relation to alternatives to incarceration. If resources for alternatives are limited, the focus should be on providing alternatives that serve the largest number or group. For example, if 75 percent of the population are pre-trial, and the community believes in the concept of “least restrictive environment,” then there should be a pre-trial release program with provisions for supervision/monitoring, as well as treatment programs for those with behavioral issues related to their crimes.

**Drug/Alcohol History and Current Issues.** It is widely acknowledged that alcohol and drug abuse are strongly correlated with criminality throughout the world, and that substance abuse is a factor in the vast majority of crimes committed on Reservations. Knowing the approximate percentage of alleged and convicted offenders with substance abuse issues should impact the staffing, operations, spaces, and layouts of intake, medical, housing, program and treatment areas. Drug and alcohol histories and current issues most likely will also impact pre-trial release programs and community-based alternative programs.

**Physical and Mental Health.** Significant information regarding physical illnesses and mental health should be obtained during the intake process. Skilled intake workers can spot mental aberrations or suicidal tendencies and a nurse or well-trained staff (in smaller facilities) can gather medical histories. Suicide is a major concern, especially with juveniles, those incarcerated for the first time, and younger, troubled adults. Those inmates requiring more secure housing or closer watch housing should be identified and sent to those housing units. Those that are suicidal may be better off in two-person rooms/cells. If Indian Health Services and/or other agencies will be providing services in the facility, their representatives should be involved in the planning and design process to ensure that there are appropriate spaces for their functions and programs. All facilities should be designed for physically handicapped inmates, staff, and visitors; and there should always be at least one nurses’ station and treatment/examination room. Based on data from profiles, Tribes may decide to also have one or more padded cells, individual and group counseling rooms for those in custody, and treatment rooms for non-custody mental health programs (which may be part of pre-release or after-care programs).

If there is concern that alleged offenders wait too long prior to sentencing/adjudication, or if there is some question whether pre-trial release mechanisms are under- or over-utilized, release profiles should also be conducted. These should consider the following factors:

- Length of stay by offense type prior to sentencing/adjudication
- Reason for release (time served, cash bond, own recognizance release, case dismissed, etc.)

## Population Projections

Population projections analyze existing data and consider justice system changes to estimate the number of inmates/youth the Tribe will have detained or incarcerated at a certain time. These projections, coupled with a study and decisions regarding the use of alternatives to incarceration, will drive the capacity and size of the facility to be built or expanded.

Data collected usually consists of historical data, ideally from the previous 10 years. The quantitative data should include:

- Numbers of arrests by category (e.g., traffic offenses)
- Arrest rates (numbers arrested compared with the general population)
- Number of Bookings/Admissions into the existing facility(ies)
- Numbers of court filings by category
- Average Length of Stay (ALOS) and Average Daily Population (ADP)
- General population trends and projections for the future

Sometimes population projections are done solely by looking at historical trends and believing that the future will be totally based on the past. For example, some believe that if the average daily population increased by an average of three percent per year for the previous twenty years, that growth rate will remain a constant. That would be oversimplifying population projections. In addition to quantitative data listed above, qualitative information that impacts the inmate/juvenile population should be studied. This is because there are many reasons why numbers change, and it is best to stop and think about those reasons and how they may impact future numbers. These factors should be identified and explored by each Tribe's planning committee and justice system and other Tribal leaders, perhaps with assistance from justice system planners/consultants. These factors include the following:

- Current use of release mechanisms for pre-adjudicated/pre-trial alleged offenders, and possible changes to the use of these and other release mechanisms (including release on own recognizance)
- Current use of alternatives to incarceration for pre-adjudicated/pre-trial and post-adjudicated/sentenced offenders
- Likely changes in the use of alternatives
- Recent changes in the local justice system that may have impacted trends, such as the COPS program, which added more arresting officers to many jurisdictions
- Likely future changes on the justice system that may impact the numbers, categories, and length of stay of those incarcerated
- Economic factors that might affect employment and crime
- Justice system factors that may increase or decrease pre-trial length of stay, such as adding another judge or prosecutor

- Understanding whether existing overcrowding may be resulting in the release of inmates who would normally be incarcerated
- Laws that have recently been passed, or are likely to be in the future, that would result in minimum sentences, required arrests, decriminalization of certain offenses, and so forth
- Possible changes regarding those categories of offenders that are kept locally and those that are transferred to Federal institutions
- Possible agreements with the County or State regarding the housing of certain categories of offenders
- Increases or decreases in the general population growth due to factors such as the opening or closing of industries/casinos/other businesses

One way to project populations is to analyze historical quantitative data and, using Excel or a similar program, determine historical rates of change. Then, the planning team can review the data and trends, and during several focused workshops discuss the qualitative factors that may impact the trends. Several scenarios can be developed and explored. For example, one scenario might be that the Tribe will increase the use of alternatives by 25 percent of pre-adjudicated detainees, will convert the last third of post-adjudicated incarcerations to days in aftercare programs, and will stop locking up all status offenders. These three changes can then be applied to the projections that were based solely on quantitative data, and the impact on numbers incarcerated can be estimated.

Another means of estimating future populations would be to estimate the number of people coming into the facility (those being booked and admitted) based on historical trends. Multiplying the estimated number of admittances by the current average length of stay (ALOS) for the population as a whole or, preferably, by category (e.g., sentenced misdemeanants) would result in a first cut of population projections. Then factors such as the expected impacts of new alternatives such as graduated sentences would be applied to these projections.

For larger Tribes, counties and states, more advanced, but time-consuming methods that may be used involve specially created computerized data bases and a statistical software program that computes percentage changes each year and average annual percentage changes across all years. One of these methods, the "linear regression analysis," analyzes trends in average daily population (ADP) over time. The "Stollmach Method" uses flow analysis of admissions and length of stay (LOS) to project future populations.



## Example of Method Using Quantitative Data & Quantitative Information and Tribal Decision-Making

For this example, quantitative data for the past 10 years is as follows.

| Year                                    | Number of Admissions |           | Tribe's General Population | Average Daily Jail Population | Arrests for Tribal Offenses |
|---|----------------------|-----------|----------------------------|-------------------------------|-----------------------------|
|   | Pre-Trial            | Sentenced |                            |                               |                             |
| 1991                                    | 230                  | 107       | 6,708                      | 22                            | 644                         |
| 1992                                    | 256                  | 120       | 6,745                      | 25                            | 675                         |
| 1993                                    | 220                  | 109       | 6,822                      | 26                            | 639                         |
| 1994                                    | 288                  | 135       | 6,900                      | 24                            | 690                         |
| 1995                                    | 290                  | 139       | 6,903                      | 29                            | 715                         |
| 1996                                    | 278                  | 140       | 6,931                      | 30                            | 738                         |
| 1997                                    | 311                  | 152       | 6,988                      | 35                            | 756                         |
| 1998                                    | 320                  | 150       | 7,012                      | 36                            | 790                         |
| 1999                                    | 321                  | 157       | 7,044                      | 38                            | 783                         |
| 2000                                    | 307                  | 155       | 7,060                      | 38                            | 821                         |
| 2001                                    | 342                  | 172       | 7,064                      | 41                            | 838                         |
| Average Annual Change                   | 4.7%                 | 5.2%      | 0.5%                       | 6.7%                          | 2.7%                        |
| Average Annual Change of these Factors: |                      |           |                            |                               | 4.0%                        |

Based on the quantitative historical data, one might estimate that the jail's average daily population will continue to increase at an average of 6.7 percent per year. Following other factors, this growth rate might be lower, perhaps 4 percent, which is the average of the five annual rates of change in this example. Either of these growth rates will result in a large increase in the Average Daily Population (ADP); at 4 percent, ADP would be 61 in 10 years; at 6.7 percent, ADP would be 78 in 10 years. Clearly, other factors should be considered.

The Tribe's planning team and Tribal leaders should consider factors that might mitigate or accelerate this growth rate, such as adding or enhancing alternatives to incarceration, changing criteria for pre-trial release, new industry and increased employment, and an additional judge or a judge with different views on incarceration. As best as possible, likely scenarios should be developed and the projections adjusted accordingly.

## Bed Needs Projections

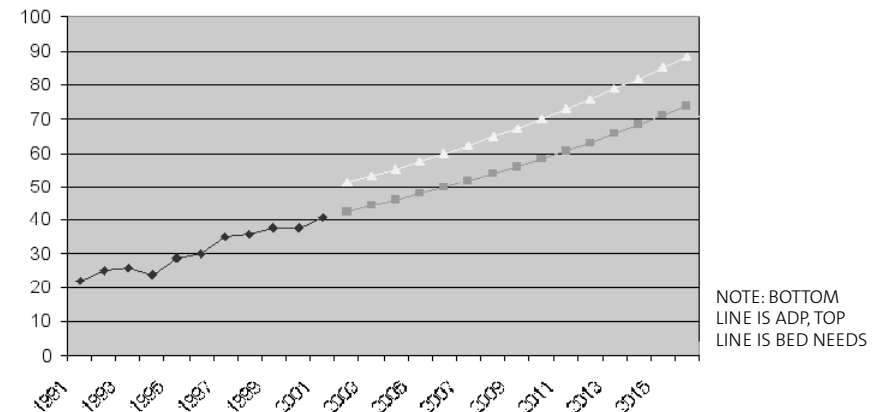
The number of beds needed is primarily dependent upon the projected inmate/juvenile population. Also, the numbers and types of classification categories that must be kept in separate housing units affect bed needs. And if projections are in Average Daily Populations (ADP), populations in excess of the anticipated averages must be considered. To allow for proper inmate classification and to accommodate most peak populations, the number of beds must exceed the ADP.

A "Peaking and Classification Factor" is recommended for two reasons:

1. It allows the administration to have sufficient capacity to be able to place incoming juveniles or adults in appropriate housing units, as opposed to in any available bed. For example, when a 14-year-old female must be incarcerated, she must be housed in the same unit with other female juveniles. If the only bed that is available when she comes into the facility is in male housing, that bed will have to remain empty; and
2. Half of the time, facilities exceed Average Daily Populations, and half of the time the actual populations are below ADP. There need to be adequate beds so that when the actual population is greater than the ADP, no one has to sleep on the floor.

Generally, a peaking and classification factors are 20 percent. In other words:  $\text{Bed Needs} = (\text{Projected ADP}) \times (1.20)$ . The following chart illustrates this point.

### Example of Difference Between ADP and Bed Needs



To determine bed needs by type, the profile is applied to the projections, and then multiplied by 120 percent.

Even in very small facilities, capability is needed to do more separation than the mandated males from females and adults from juveniles. Some jurisdictions want to separate pre-trial (or pre-adjudicated) from sentenced (post-adjudicated). Those who are maximum security or in segregation should be separated from the general population. Work releasees and trustees/inmate workers should also be housed separately from each other and from the general population. Larger facilities often have separate units for the mentally ill (male and female), and sometimes have geriatric units.

Each population category has corresponding impacts on housing unit size and design. Planning and designing appropriate living units for each population is a separate topic.



**ALSO AVAILABLE:**

**Project Guide:** Adult Correctional Facility Design Resources

**Project Guide:** Alternatives to Incarceration of Offenders

**Project Guide:** Assessment of Project Status  
& Technical Assistance Needs

**Project Guide:** Best Practices - In-Custody Programs  
for Juveniles and Adults

**Project Guide:** Design Review

**Project Guide:** Existing Facility Evaluations

**Project Guide:** Objective Classification Analysis

**Project Guide:** Population Profiles, Population Projections  
and Bed Needs Projections

**Project Guide:** Selecting an Architect-Developing  
RFQs and RFPs

**Project Guide:** Site Selection

**Project Guide:** The NEPA Land Use Process for Proposed  
Development of Correctional Facilities in Indian Country

**Project Guide:** Tribal Justice System Assessment