Forecast of Douglas County Jail Housing Capacity Requirements

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FORECAST OF
JAIL HOUSING CAPACITY REQUIREMENTS
FOR DOUGLAS COUNTY, KANSAS

July 21, 2017

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TABLE OF CONTENTS

FORECAST OF JAIL HOUSING CAPACITY REQUIREMENTS
2017 - 2040

SECTION 1. EXECUTIVE SUMMARY

Development of the forecast involved collecting jail and county population data, estimating the impact of the new pretrial release program that is soon to be fully implemented, examining how Douglas County jail incarceration rates compare to other counties, developing a rationale for the forecast, projecting total capacity requirements and breaking those requirements into estimates of specific types of beds that would be needed.

Highlights of this study include the following:

- Douglas County is tied as the fastest growing county in Kansas.[1]
- The jail population will continue to grow as a result of the increasing county population.
- Jail overcrowding has required the transport of 60 to 80 inmates, which includes up to 40% of the female inmate population, to other county jails. Those jails are becoming scarce resources as their own inmate populations are increasing.
- Approximately 75% of the individuals eligible for reentry case management are housed out of county. This means that they cannot receive the level of services needed to reduce their likelihood of recidivating.
- Douglas County's rate of booking people into jail (incarceration rate per 100,000 residents, ages 18-64) is the lowest in comparison to counties in this general region.
- Forecasted jail housing capacity requirements for the following years are:
     Year 2020 - 241 beds
     Year 2030 - 271 beds
     Year 2040 - 301 beds
- The forecast took into account the estimated reduction in bed space demand that will result from full implementation of the new pretrial release program. Full implementation is expected to occur within the next two months.

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[1] Lawhorn, Chad. "Lawrence tied for tops in the state for population growth; most Kansas communities continue to shrink." *Town Talk*, LJWorld.com. May 26, 2017. Available at http://www2.ljworld.com/weblogs/town_talk/2017/may/26/lawrence-tied-for-tops-in-the-state-for-/

SECTION 2. INTRODUCTION

Forecasting is a process of providing an estimate of the future based on the best available information. Although statistical techniques are used in creating forecasts, this does not make the process "scientific." Forecasting the future is akin to driving down the road looking in the rearview mirror. (In this instance, the view behind is historical data.) As long as the road is straight or curves in a continuous manner, the decision maker will arrive as envisioned. However, no one can guarantee that unexpected events will not occur. Unfortunately, decision makers, often, cannot put off dealing with serious problems resulting from jail overcrowding that affect both the safety of inmates and jail staff, as well as requiring the expenditure of hundreds of thousands of dollars for the housing of excess inmates in other jails.

The Douglas County Sheriff's Office Correctional Facility, hereinafter referred to as the "jail," has been challenged by overcrowding since 2014. Over the last three years the inmate population has grown to a point that out- of-county housing expense in 2016 increased to 1.3 million dollars.

In comparison to Kansas Counties and similar size counties in other states, Table 1 shows that Douglas County's jail incarceration rate is the lowest among comparative counties.

Table 1. Jail Incarceration Rates - 2014[2]

JURISDICTION	RATE	POPULATION
National	337.6	161,920,589
Kansas	324.3	2,904,321
Douglas County, KS	163.6	116,585
Johnson County, KS	176.7	574,272
Saline County, KS	635.4	55,755
Sedgwick County, KS	367.9	508,803
Shawnee County, KS	442.7	178,406
Wyandotte County, KS	320.1	161,636

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[2] All county jail incarceration rates and population data are for 2014. Data for later years are not available. The source (Vera Institute) provided National and Kansas incarceration rates only for 2013. The comparison counties in nearby states were chosen according to similarity in size to Douglas County. In only one instance was a county omitted, Kendall County, Illinois, (population 114,736) which was the fastest growing county in the U.S. between 2000 and 2010. The northern region of that county is near the Chicago area. That particular area of the county experienced most of its growth as a result of construction of new housing subdivisions. The rest of the county is predominately agricultural. Neither Nebraska or Colorado have counties in the 100,000-130,000 population range.

SIMILAR SIZE COUNTIES IN NEARBY STATES		
Delaware County, IN (Muncie)	373.5	118,769
Jasper County, MO (Carthage)	246.3	117,404
Kankakee County, IL (Kankakee)	519.1	113,449
LaSalle County, IL (Ottawa)	234.1	113,924
Macon County, IL (Decatur)	434.9	110,768
Richland County, OH (Mansfield)	294.0	124,475
SIMILAR SIZE COUNTIES CONTAINING UNIVERSITIES (a sample)		
Comanche County, OK (Cameron Univ)	338.9	125,033
Coconino County, AZ (Northern AZ Univ)	265.1	137,682
Cache County, UT (Utah State Univ)	287.8	118,343
Clarke County, GA (Univ of Georgia)	600.6	120,938

SOURCE OF 2014 COUNTY DATA: Vera Institute of Justice, *Growth of Jails in Rural America*, June 2017. Available at http://trends.vera.org/incarceration-rates?data=pretrial. The county population data are for persons 18-64. NOTE: The Vera Institute provided National and Kansas jail incarceration rates only for 2013. The 2013 rate data are presented in this table for relative comparison purposes and are not essential to the purpose of comparing county jail incarceration rates. The 2014 National population estimate was obtained from the U.S. Census Bureau and the 2014 Kansas population estimate was provided by Wichita State University, Center for Economic Development and Business Research.

Table 1 indicates that Douglas County's closest comparison county is Johnson County, which has developed many of the same alternatives to incarceration as Douglas County. Although it cannot be absolutely verified, the low jail incarceration rate for Douglas County would seem to reflect the positive steps that county criminal justice officials have taken to minimize jail admissions. For example, in June 2017 Douglas County was selected by the Substance Abuse and Mental Health Services Administration, SAMHSA, as one of the nine national model sites in jail mental health programming.

As will be explained in Section 3, further reductions in the demand for jail bed space may be possible. Other than estimating the impact of the new pretrial release program, which is soon to be fully implemented, prediction of the impact of new initiatives that are in the thinking stage is a tenuous task. Because that task is filled with a variety of "what if" pitfalls, the forecast in this document stays within the confines of what is reasonably knowable.

The jail has 186 beds, with overcrowding in the women's housing unit, men's medium and minimum housing units. This overcrowding has required the transport of 60 to 80 inmates, which includes up to 40% of the female inmate population, to other county jails. Those jails, however, are becoming a scarce resource. Their excess bed space has dwindled due to increased local needs

along with local inability to retain sufficient staff required to keep excess housing space open. Further complicating the issue is that out-of-county jails will not take inmates who have certain types of medical problems, have disciplinary problems, or are classified as maximum security inmates. This fluctuating availability of out-of-county jail space sometimes results in unexpected calls from those jails to immediately come and pick up Douglas County inmates because of sudden increased local need for jail beds.

The transportation of inmates to out-of-county jails critically affects more than just budgets. For example, ease of access for family visitation is reduced, attorneys are hampered in their ability to have timely access to their clients, and the inmates are denied important services and programs that are available only in the Douglas County Jail.[3] Approximately 75% of the individuals eligible for reentry case management are housed out of county. This means that they cannot receive the level of services needed to reduce the likelihood of recidivating.

[3] The Douglas County Jail has become nationally recognized for its innovative programming to reduce recidivism, to assist individuals in reentry, and establishing active referral and support to community services, such as mental health treatment.

SECTION 3. FORECASTING ASSUMPTIONS

All forecasts of the future are based on assumptions. Multiple assumptions can be made about future growth. However, as the number of assumptions increases, the possibility of major variations also increases. Thus, trying to refine the precision of a forecast by adding numerous considerations and "what if's" about changes in law enforcement activities, laws, court operations, and possible new programs is a self-limiting endeavor.

In creating the forecast of Douglas County Jail bed space needs, four key assumptions are made:

1. The County will continue to grow.

    a. Lawrence is tied as the fastest growing community in Kansas. Lawrence grew by 1.5% from July 1, 2015 to July 1, 2016 (about 1,400 persons), which is a significant increase over the rate in the 2000s.[4]
    b. As the population grows so will the tax base for supporting various services, such as law enforcement.
    c. At-risk populations will proportionally increase.
    d. Local calls from the public for law enforcement service will proportionally increase.
    e. State support for treatment programs in Douglas County, as well as in other counties, will continue at the current rate of underfunding.

2. The growth rate of the jail population is linked to county population growth.

3. The impact of currently planned jail population reduction programs can be estimated and applied to modify the rate of jail growth.

4. No unexpected events will occur that will drastically increase the demand for jail beds.

The longer a forecast extends into the future, the greater the possibility that unexpected events and variations in the environment will occur. For this reason, a five- or ten-year forecast is more likely to be reliable than a twenty-year forecast. For this reason, jail design should always be configured to allow for expansion if and when major unexpected events occur.

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[4] Lawhorn. *Town Talk*, May 26, 2017.

SECTION 4. THE FORECAST OF TOTAL CAPACITY REQUIREMENTS

The jail capacity forecast up to 2040 is presented in Figure 1. Two projections are shown: one without inclusion of the impact of the new pretrial release, PTR, program and one that includes the PTR program. The second projection, which is lower, will be used as the planning forecast.

Importantly, the forecast in Figure 1 is an approximation of needed jail capacity. It is based on the number of inmates, not how housing spaces are designed. Jails are not built to accommodate odd numbers of inmates. For example, main housing units, such as male minimum and male medium housing, are often configured in 28 or 56 bed increments. For this reason, a forecast that identifies the need for 49 more male medium beds does not represent the bed count that will actually be built – a 56-bed unit would be built.

Figure 1. Jail Capacity Requirements Projected to 2040[5]

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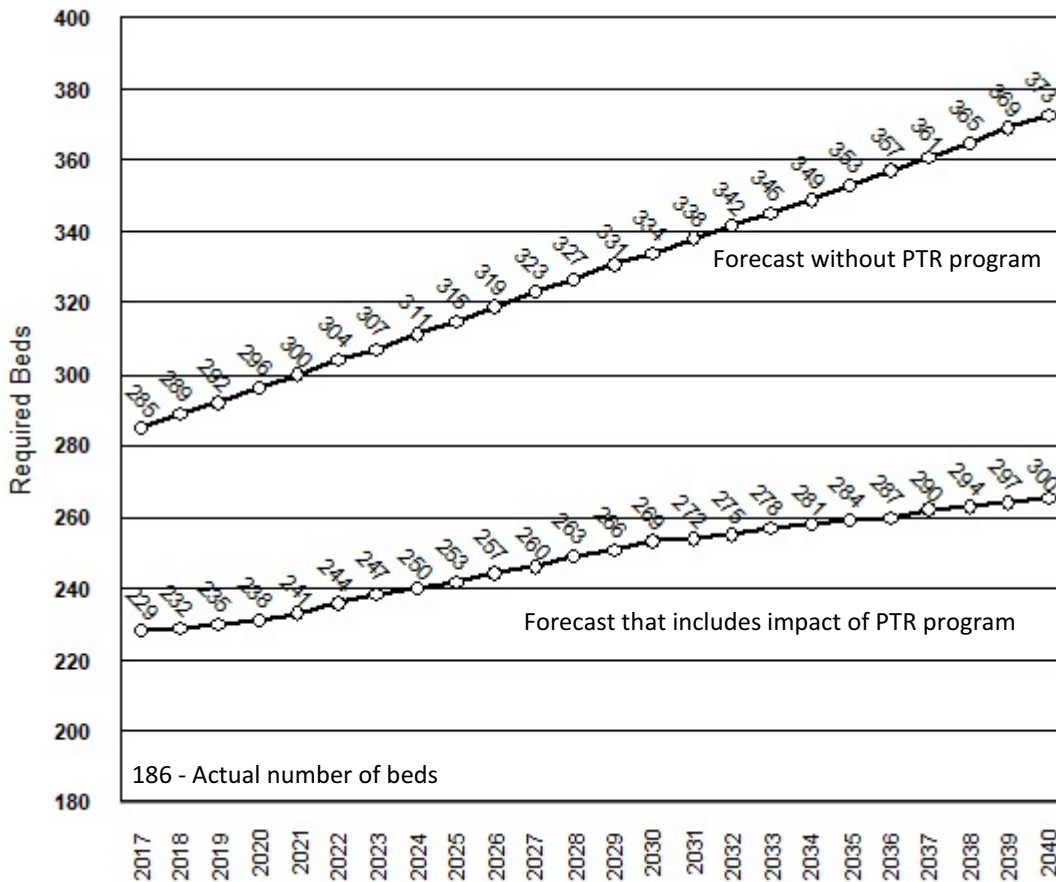
[5] The two graph lines are shown as diverging, rather than running parallel. Also, the lower graph line appears to contain more fluctuation. These effects are the result of including the formula for calculating impact of the PTR program. The upper graph line contains fluctuations which become more pronounced when PTR calculations are included in numbers shown in the lower line.

The projections are more than just extrapolations of inmate population growth. They are calculated to accommodate two aspects: (1) Providing sufficient housing on peak days when the inmate count is high and (2) Accommodating movement of inmates within the facility, such as to move inmates from medium classification beds into medical unit beds, when they become sick. This flexibility to move inmates within the facility is known as the "Management Factor." It is also called the "Classification Factor," depending on which jail planner you are speaking to. Further explanation of how the projections are calculated is presented in Section 6.

Immediately noticeable in Figure 1 is the large gap between the current jail capacity and the needed capacity estimated for 2017. Sometimes the public interprets "current capacity" incorrectly. In that view, it is sometimes mistakenly assumed that all 186 beds would be filled before needing to transport inmates to out-of-county jails. For example, if there were empty beds in a female pod, then excess males in other areas could be placed in the female pod – which is an untenable idea. For this reason, it is irrational to assume that all 186 beds could be filled on a particular day.

The gap between the 2017 actual jail capacity and 2017 projected capacity is relatively large, 43 beds. By 2040 that gap increases to 114 beds. Given this gap and Douglas County's already low incarceration rate highlighted in Table 1, the question arises about the viability trimming the demand for bed space so that no additional construction is needed. Indeed, the ongoing work of criminal justice system agencies, including law enforcement, and local government demonstrates a commitment to be responsive to community needs. However, challenging that work has been, it does not rule out the possibility of making additional impacts on the jail population. However, herein lies a difficulty in forecasting: trying to estimate the hypothetical impact of an idea that has not yet been sufficiently studied:

- How applicable is the idea to Douglas County, given all of the other improvements that have occurred? – Some options have a greater impact in environments in which little improvements in criminal justice system operations have occurred.
- What barriers would be encountered that might restrict full implementation and/or effectiveness?
- Would there be a different option that would do the same thing?
- How long would it take to implement the option?
- What would be the most likely impact in light of the other questions?

In the instance of trying to forecast a jail population, attempting to estimate unknown remedies is an example of "blue sky" forecasting (wishful thinking). The field of forecasting is littered with many examples of blue sky forecasts that never approached their envisioned goals.

Table 2, on the next page, presents the various numbers depicted in the planning forecast in Figure 1, on the previous page.

Table 2. Projected Capacity Requirements, 2017 - 2040

Years	Forecasts
2017	229
2018	232
2019	235
2020	238
2021	241
2022	244
2023	247
2024	250
2025	253
2026	257
2027	260
2028	263
2029	266
2030	269
2031	272
2032	275
2033	278
2034	281
2035	284
2036	287
2037	290
2038	294
2039	297
2040	300

SECTION 5. CONSIDERATIONS THAT AFFECT THE NUMBER OF PLANNED BEDS

Breakout of Forecasts

Architectural planning requires that a forecast be broken out into specific types of beds. In order to do this, some form of allocation plan needs to be developed. Table 2 shows an allocation table that was created with input of jail staff. The "% of Total Space Needs" is based on an analysis of how inmates on a specific day would have been classified. These percentages, then, can be applied to any year's forecast to estimate the capacity requirements of various housing types.

Table 3. Best Estimate of Housing Capacity Requirements in Ten-Year Increments

HOUSING CLASSIFICATIONS	% OF TOTAL SPACE NEEDS	FORECASTED CAPACITY NEEDS		
		2020	2030	2040
Male Minimum	20.9%	50	56	63
Male Medium	24.3%	58	65	73
Male Maximum	8.4%	20	23	25
Male Special Management	10.7%	26	29	32
Male Work Release/Reentry	11.3%	27	30	34
Male Pre-classification	5.4%	13	15	16
Male Medical	0.6%	2	2	2
Female Minimum	4.7%	11	13	14
Female Medium	4.9%	12	13	15
Female Maximum	0.6%	2	2	2
Female Special Management	1.6%	4	4	5
Female Work Release/Reentry	3.9%	9	11	12
Female Pre-Classification	2.3%	6	6	7
Female Medical	0.3%	1	1	1
TOTAL HOUSING CAPACITY	100%	241	271	301

Note that the column totals differ by one to three numbers from the forecasts in Table 1 for those years. This is due to rounding errors in calculating the table. For example, in the 2020 forecast column, 25.5 persons in Male Special Management was rounded to 26.

Difference Between Forecasted and Designed Capacity

Architectural planning often specifies a number of beds that differs from the forecast. This is because design standards and construction cost efficiencies use multiples of bed sizes, such 14, 28, and 56. This is particularly relevant to how the addition of beds would be affected by the current design of the Douglas County Jail. Also, housing geometries have also been found to be more efficient at certain increments, such as when designing to share plumbing chases with adjoining housing units. As a result, a forecast that calls for the addition of 49 beds might be configured as 56 beds.

Since the management/classification adds 10% more beds to the base forecast and the design increments could add additional beds on top of that, architectural planning should avoid the possibility of double counting when developing space programs.

SECTION 6. FORECASTING METHODOLOGY

METHODOLOGICAL CONSIDERATIONS

Creation of the forecast involved the following calculations:

1. Obtaining the projected county forecast for the years 2017 to 2040.
2. Calculating the Incarceration Rate: The ratio of the inmate jail population and county population.
3. Calculating the Base Forecast: Applying the Incarceration Rate to the various years of projected county population.
4. Calculating the PTR Reduction Ratio: Obtained by dividing the impact of PTR program (50 inmates) by the 2016 inmate population. This calculation was omitted in the projection in Figure 1, which shows what the capacity requirements might have been if the PTR program had not been implemented.
5. Calculating the Reduced Forecast: Obtained by applying the PTR Reduction Ratio to the Base Forecast.
6. Calculating the Management Factor Forecast: Applying a 10% management factor to the Reduced forecast. This is the last step in the forecast process.

The peak-day average was used in calculating the Incarceration Rate, i.e., the average-peak day for 2016 was divided by the county population estimate for 2016. The average daily population, ADP, was not used because it underestimates the real capacity needs of the jail. Since ADP is an average calculated using every day of the year, it includes both the lowest days and highest days. Thus, half the time the average will underestimate the number of inmates in jail. This aspect sometimes slips from the public awareness because ADP is so frequently mentioned when discussing jail populations.

Historical data prior to 2016 were not incorporated into the forecast because significant changes occurred during those years, such as changes in laws, arrest patterns, criminal case processing conditions, new programs, and state funding for local programs. For this reason, a trend analysis would amount to a mishmash of effects. In other words, in an environment which is changing, the period of time that closest resembles the future is the current period, 2016.

An estimate of the impact of the new pretrial release, PTR, program (50 inmates) was created by examining early data on inmates released prior to formal start-up of the new program. Also, jail data were reviewed to estimate the likely number of inmates who might be released when the program is fully implemented. Full program implementation will not begin until an additional pretrial release staff member is hired. The PTR impact was applied to 2016 data in order to establish a baseline estimate that builds on the last full year of data.

A Management Factor (also called Classification Factor) of 10% was used in calculating the last step of the forecast. The Management Factor is important in providing flexibility for moving inmates around. Rarely will the beds be evenly filled throughout the facility. On a day in which several inmates need to be moved into maximum custody housing , there must be available space

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in which to place them. This ability to accommodate unexpected events is made possible by the Management Factor, thereby facilitating proper movement, housing, and management of inmates throughout the facility. However, some forecasts use a lower percentage, such as the in the 2015 updated forecast of San Francisco's jail needs, which used 8.2%. The forecast document stated that "No accepted or standard methodology exists for calculating a classification factor."[6] This recognition is also reflected in the National Institute of Corrections, NIC, Jail Capacity Planning Guide, which states:

> *"There is no one percentage or number that will work for every jurisdiction, as each jurisdiction is unique. Nor is there a single formula that can assure a jurisdiction that it will build space for just the right number of beds."*[7]

Additional efforts to improve criminal justice system programs and procedures that affect the jail can be anticipated in the future. However, the ability to estimate the impacts of those improvements is very limited. Examples of new programs can be found across the county. However, the levels of jail population reduction they achieve is difficult to estimate when applied to Douglas County. What cannot be readily gauged is how those programs would perform in Douglas County in light of the many improvements that have already been implemented. Counties which have not implemented as many programs would likely see much bigger impacts. For this reason, trying to develop "what if" estimates has not been undertaken in this forecast study.

DATA SOURCES

- County population forecast data were obtained from The University of Kansas Institute for Policy and Social Research which publishes a document entitled, *County Profiles*.
- Jail data were obtained from the Douglas County Jail. A special analysis by Jail staff was performed to estimate the five peak-day inmate counts in 2016. The peak-day count number used in the forecast is an average of the five peak-days. By using an average, the possibility of basing the peak-day count on an anomaly is reduced.
- Booking data were obtained from the jail.
- An estimate of the impact on jail population of the new pretrial release program is based on an estimate of what is currently known about the program and data analyses that were performed in the last several months. The actual impact cannot be closely estimated because the program is not yet fully implemented. When the PTR program is implemented in 2017, it may reduce the jail population by 50 inmates.
- Data on county jail incarceration rates reported in Table 1 were obtained from the Vera

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[6] *Update to the Jail Population Forecast*. City and County of San Francisco, Office of the Controller. June 16, 2015, page 18.

[7] Bennett, D. & Lattin, D. *Jail Capacity Planning Guide*. Washington, D.C., National Institute of Corrections, Nov. 2009, page 45.

Institute of Justice, *Growth of Jails in Rural America*, June 2017. Available at http://trends. vera.org/incarceration-rates?data=pretrial.