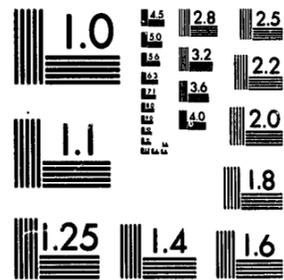


National Criminal Justice Reference Service



This microfiche was produced from documents received for inclusion in the NCJRS data base. Since NCJRS cannot exercise control over the physical condition of the documents submitted, the individual frame quality will vary. The resolution chart on this frame may be used to evaluate the document quality.



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504.

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U. S. Department of Justice.

National Institute of Justice
United States Department of Justice
Washington, D. C. 20531

DATE FILMED

6/11/81

66381

✓
COLORADO DEPARTMENT OF CORRECTIONS

✓ INMATE POPULATION PROJECTIONS
1980 - 1985

Prepared by the
Office of Information Systems

Tom G. Crago, Ph.D.
Director
and
C. Scott Hromas
Senior Researcher

March, 1980

Document #80-2

66381

NCIRS
MAR 20 1980
ACQUISITIONS

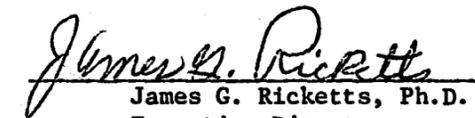
EXECUTIVE SUMMARY

Since 1976, the Department of Corrections has released inmate population projections which have proven invaluable in planning for subsequent budget years.

The key finding in this report is that Colorado, under our present sentencing laws and practice, may expect a prison population of 3214 inmates by 1984. This represents a 19% increase over the next four years, or growth of nearly 5% per year.

It is our hope that all components of Colorado's criminal justice community will work together in planning for the future, and that we will be prepared with adequate programs and facilities to accommodate these people.

Released March 5, 1980


James G. Ricketts, Ph.D.
Executive Director

INDEX

	<u>Page No.</u>
I. Overview	1
II. Presumptive Sentencing Law	1-2
III. Inmate Population Projections	3
IV. Appendices	
1. Incarcerated Population Projection Data Comparison of Five Projections Error Rate (January, 1980).	4
2. Commitment Projections (January, 1980).	5
3. Incarcerated Population Projections (January, 1980).	6
4. New Sentencing Data, July - November, 1979; Sentence Data Summary	7
5. Sentence Lengths for Intake Data in Months (July - November, 1979).	8
6. Quarterly Felon Class Distribution (July, 1978 - November, 1979).	9
7. New Court Commitments - Quarterly Fluctuation Rate (1971 - 1979).	10
8. New Sentence Structure - Historical and Estimated Class of Felon Distribution (January, 1980).	11
9. Most Likely Projection Commitment Base Data (January, 1980).	12-13
10. Incarceration Projections (January, 1980).	14
11. Most Likely Population Projections (by Year and Quarter).	15-16

OVERVIEW

Inmate population projections have been prepared by this office since 1976, with generally satisfactory results. The aggregate error rate for five projections prepared prior to the present one has been less than 2.5%. This is the average percentage by which our projections have fallen short of actual inmate populations. During this same period of time, the inmate population has increased by 21.4%, from 2160 to 2623 persons. More recent projections have been more accurate than early ones (see Population Projections: Past and Present, 1975-1978 for further information).

Projections are revised after 6 or 12-month intervals, depending upon whether any major violation of our assumptions occurs during the 6 months following release of a projection. This has occurred twice, first in 1978, and now in 1980. In 1978, a special research project, directed by this office, documented an average length of incarceration which was significantly higher than previous estimates. Now, in 1980, we have begun to see some noticeable changes in sentencing patterns, particularly among those offenders sentenced under Colorado's new presumptive sentencing law. Since this is an unexpected departure from previous assumptions, we will discuss those changes briefly before moving on to the new projections.

PRESUMPTIVE SENTENCING LAW

Colorado's presumptive sentencing law (H.B. 1589) calls for imposition of a fixed term of incarceration which must fall within a relatively narrow range, unless specific aggravating or mitigating circumstances justify a different sentence. In such cases, the term may be reduced to one-half of the lowest presumptive term, or increased to twice the highest presumptive term for that offense. Aggravated sentences are subject to automatic review by the Colorado Court of Appeals. The authority to grant probation was left intact and the legislative intent appears to have been that presumptive terms of incarceration should be imposed on those individuals who would have been incarcerated under previous law. The Department of Corrections retains authority to administer a system of 'good' time reductions for sentences imposed by the courts, and the Parole Board was given a small amount of 'earned' time to administer.

There has been, and continues to be, much prosecutor discontent with the new terms, at least as publicized in the media. To a lesser extent, judges have been quoted as favoring longer terms for particular cases. Previous sentencing laws authorized indeterminate sentences, consisting of a minimum and maximum term. These maximum terms were as long as 50 years, as opposed to the 12-year term currently authorized for a similar crime.

At this point in time, with five months of new sentencing data available, we have identified four developments which were unexpected. Those four, and a brief explanation of their significance, are as follows:

1. The number of commitments has been higher than expected. The period from July to December of each year is one in which low commitment levels are normal. Commitments, however, have been 13.2% higher

than expected during this last period. This has occurred at the same time that unemployment rates have fallen, eliminating that key variable as a possible explanation. It is our belief that some judges have interpreted the new sentencing law as a presumption of incarceration, rather than a presumptive term for offenders who would have been incarcerated in any case. If this higher commitment rate is sustained over time, the total prison population will increase in direct proportion to the increased commitment rate. A 13.2% increase in the total prison population would amount to over 300 new prisoners within two-and-a-half years.

2. The use of consecutive sentencing is increasing. Last fiscal year, 1.6% of all commitments to the Department had one or more consecutive sentences at the time of arrival. The previous year's figure was 1.3%. During the first five months of the current year, the rate has jumped to 3.7% of all commitments and 8.8% among offenders receiving presumptive terms. A change of 7.2 percentage points (i.e., from 1.6% to 8.8%) would increase future prison populations by about 36 offenders.
3. The proportion of more serious felony convictions has increased. We have noted increases in the percentages of Class 1, Class 2, Class 3, and Habitual Criminal commitments since July 1, 1979. In 1978-79, 21.8% of our intake fell into one of these serious felony classes. During the first 5 months of 1979-80, 26.9% of our intake were in these four categories. We believe that some of these cases may have been continued from 1978-79 at the request of defense lawyers, in the hope that Colorado's new sentencing law might apply to all persons sentenced after July 1, 1979. (The new law actually applies only to crimes committed after July 1, 1979). Now, in 1979-80, these continued cases would be reaching final disposition. Given that prosecutors seem to be displeased with the new sentence lengths, we also believe that they may be prosecuting (and pleading) cases in higher classes than in the past. One effect of this change would be to lengthen the average length of incarceration, and therefore, future prison population levels.
4. The average presumptive sentence for each class is shorter than expected. Based on a survey of over 30 judges prior to passage of the new sentencing law, we were expecting the average sentence to be about 113% of the mid-point of each presumptive range. The average after five months is only 100% of the mid-point. We believe this figure will increase as more serious offenders come to trial and we see more than just the easy, frequently plea-bargained, cases. The impact of this development is that the average length of incarceration will be lower for offenders in a given felony class than originally expected. This, in turn, would produce a lower prison population.

Given these new developments, what can we say about presumptive sentencing and its impact on future prison populations? First, the number of commitments appears to be higher than past experience would have predicted. Second, the average length of incarceration (after considering points 2, 3 and 4 together) appears to be increasing. Both of these changes should add to future prison populations.

INMATE POPULATION PROJECTIONS

As with other recent projections, we have used a statistical projection model which is driven by several key assumptions about future events. Our "most likely" set of assumptions are as follows:

1. Colorado's unemployment rate will increase to 5.0% by December, 1981.
2. The average length of incarceration for offenders now being received will be 28.5 months.
3. A total of 3.7% of all commitments will have consecutive sentences.
4. Presumptive sentences will average 103% of the mid-point of the presumptive ranges.
5. No significant legislative, judicial, or executive changes in criminal law or policy will occur.

While we consider these to be "most likely", we have also prepared high and low projections based on different assumptions. The low set assumes that unemployment will not go over 4.5%, that length of incarceration will be 27.9 months, that 1.6% of all commitments will have consecutive sentences, and that presumptive sentences will average 100% of the mid-point in each range. The high series assumes that unemployment will reach 5.5%, that the average length of incarceration will be 29.1 months, that 8.0% of all commitments will have consecutive sentences, and that presumptive sentences will average 105% of the mid-point in each range.

These three projections are documented in the attached materials. The following table summarizes them.

PROJECTED COMMITMENTS AND
PRISON POPULATIONS
1980 - 1984

	Low Series		Most Likely		High Series	
	Commitments	Population	Commitments	Population	Commitments	Population
1980	1239	2688	1239	2704	1281	2746
1981	1294	2847	1324	2916	1380	3044
1982	1299	2974	1354	3101	1407	3285
1983	1299	3016	1354	3191	1406	3386
1984	1299	3020	1353	3214	1405	3408

INCARCERATED POPULATION PROJECTION DATA
COMPARISON OF FIVE PROJECTIONS ERROR RATE
January, 1980

<u>Projections Release Date</u>	<u>Year/Qtr.</u>	<u>Projections</u>	<u>Actual</u>	<u>Error Rate (Percentage)</u>
2/76	1976-1	2140	2184 } 2260 } 2280 } 2308 }	- 6.8%
	1976-2	2134		
	1976-3	2097		
	1976-4	2098		
<hr/>				
12/76	1977-1	2346	2404 } 2446 } 2464 } 2419 }	- 4.1%
	1977-2	2382		
	1977-3	2338		
	1977-4	2336		
<hr/>				
2/78	1978-1	2453	2438 } 2456 } 2474 }	+ 1.3%
	1978-2	2525		
<hr/>				
9/78	1978-3	2511	2512 } 2556 } 2598 } 2591 }	+ .2%
	1978-4	2541		
	1979-1	2549		
	1979-2	2649		
<hr/>				
6/79	1979-3	2545	2552 } 2587 } 2623 }	- 1.8%
	1979-4	2540		

APPENDICES

COMMITMENT PROJECTIONS

January, 1980

<u>Year</u>	<u>Low</u>	<u>Most Likely</u>	<u>High</u>
1980	1239	1239	1281
1981	1294	1324	1380
1982	1299	1354	1407
1983	1299	1354	1406
1984	1299	1353	1405
1985	1298	1353	1404
1986	1298	1353	1403

<u>Fiscal Year</u>	<u>Low</u>	<u>Most Likely</u>	<u>High</u>
1979-80	1253	1253	1275
1980-81	1268	1284	1334
1981-82	1297	1340	1394
1982-83	1299	1354	1407
1983-84	1299	1353	1405
1984-85	1298	1353	1404
1985-86	1298	1353	1404

INCARCERATED POPULATION PROJECTIONS
January, 1980

Year	Qtr.	Low Projection			Most Likely Projection			High Projection		
		Population	Calendar Year	Fisc. Year	Population	Calendar Year	Fisc. Year	Population	Calendar Year	Fisc. Year
1980	1	2702			2713			2736		
	2	2705		2645	2728		2654	2750		2665
	3	2669			2669			2724		
	4	2676	2688		2705	2704		2776	2746	
1981	1	2771			2816			2910		
	2	2828		2736	2895		2771	3019		2857
	3	2869			2944			3083		
	4	2920	2847		3008	2916		3164	3044	
1982	1	2974			3078			3250		
	2	2992		2939	3118		3037	3308		3201
	3	2959			3095			3285		
	4	2973	2974		3114	3101		3296	3285	
1983	1	3032			3191			3380		
	2	3043		3002	3222		3155	3426		3347
	3	2995			3176			3376		
	4	2994	3016		3174	3191		3362	3386	
1984	1	3041			3231			3422		
	2	3046		3019	3247		3207	3449		3402
	3	2997			3193			3392		
	4	2996	3020		3184	3214		3371	3408	
1985	1	3041			3233			3425		
	2	3045		3020	3246		3214	3446		3408
	3	2996			3192			3389		
	4	2995	3019		3183	3213		3368	3407	
1986	1	3040			3232			3422		
	2	3044		3019	3245		3213	3444		3406
	3	2995			3192			3387		
	4	2994	3018		3183	3213		3366	3405	

NEW SENTENCING DATA
JULY-NOVEMBER 1979

<u>Class</u>	<u>#</u>	<u>ΣX</u>	<u>\bar{X}</u>	<u>Range</u>	<u>CC</u>	<u>CS</u>
2	2	16	8.0	8-8	0	0
3	17	103.2	6.1	4-8	5	2
4	32	98.8	3.1	1.5-4	9	1
5	16	22.7	1.4	1-2	3	2
Habitual Criminal	1	35.0	35.0	35-35	0	1
Totals	68	275.7	4.1	--	17	6

SENTENCE DATA SUMMARY

<u>Class</u>	<u>Range</u>	<u>Mid-Point</u>	<u>Average</u>	<u>Percentage of Mid-Point</u>
2	8-12	10.0	8.0	80%
3	4-8	6.0	6.1	102%
4	2-4	3.0	3.1	103%
5	1-2	1.5	1.4	93%

Total Weighted Average = 100%

January, 1980

SENTENCE LENGTHS FOR INTAKE DATA IN MONTHS

July - November 1979

Class	No.	% of Total	Sent. X Min.	Sent. X Max.	Sent. X Agg. Min.	Sent. X Agg. Max.	Number Concurrent	Number Consecutive
I	10	2.1	Life	Life	Life	Life	7	0
II	21	4.3	13.9	22.1	15.1	23.8	6	1
III	92	18.7	5.1	10.1	5.5	10.8	28	7
IV	222	45.2	1.0	5.1	1.1	5.3	67	6
V	129	26.3	.5	3.1	.5	3.2	19	3
Sex Offenders	5	1.0	--	Life	--	Life	2	0
Habitual Criminal (Little)	8	1.6	23.7	34.1	24.7	34.7	4	1
Habitual Criminal (Life)	1	.2	Life	Life	Life	Life	0	0
Misd.	<u>3</u>	<u>.6</u>	<u>--</u>	<u>.6</u>	<u>--</u>	<u>.6</u>	<u>1</u>	<u>0</u>
TOTALS	491	100.0	2.6	6.7	2.8	7.1	134 (27.3%)	18 (3.7%)

Average based on N = 475, excludes life sentences.

QUARTERLY FELON CLASS DISTRIBUTION

July, 1978 - November, 1979

Class	1978				1979							
	3rd. Qtr.		4th. Qtr.		1st. Qtr.		2nd. Qtr.		3rd. Qtr.		Oct.-Nov. 1979	
	#	%	#	%	#	%	#	%	#	%	#	%
I	2	.7	3	1.1	4	1.3	7	2.6	4	1.4	6	3.0
II	7	2.4	6	2.2	6	2.0	8	3.0	15	5.1	6	3.0
III	54	18.8	51	18.8	43	14.0	46	17.3	52	17.8	40	20.1
IV	132	45.8	135	49.6	141	45.9	130	48.9	139	47.6	83	41.7
V	85	29.5	72	26.5	96	31.3	65	24.4	73	25.0	56	28.2
H.C.L.	1	.4	0	--	3	1.0	1	.4	4	1.4	4	2.0
H.C.B.	0	--	2	.7	1	.3	1	.4	0	0	1	.5
S.O.	2	.7	1	.4	4	1.3	4	1.5	3	1.0	2	1.0
Misd.	5	1.7	2	.7	9	2.9	4	1.5	2	.7	1	.5
Total	288	100.0	272	100.0	307	100.0	266	100.0	292	100.0	199	100.0

-6-

NEW COURT COMMITMENTS
 QUARTERLY FLUCTUATION RATE
 1971-1979

Year	1st. Qtr.	2nd. Qtr.	3rd. Qtr.	4th. Qtr.
1971	251	280	223	261
1972	337	261	230	272
1973	293	294	257	245
1974	311	309	281	286
1975	346	404	355	334
1976	353	343	270	345
1977	379	360	270	267
1978	347	341	288	272
1979	307	266	292	299
Total	2924	2858	2466	2581 = 10,829

1st. Qtr. = 2924/10,829 = 27.00%
 2nd. Qtr. = 2858/10,829 = 26.39%
 3rd. Qtr. = 2466/10,829 = 22.77%
 4th. Qtr. = 2581/10,829 = 23.84%

Total = 100.00%

January, 1980

NEW SENTENCE STRUCTURE
 HISTORICAL AND ESTIMATED CLASS OF FELON DISTRIBUTION

January, 1980

Class of Felon	FY 1978-79	FY 1979-80 and Beyond
	Intake Percentage	Estimated Intake Percentage
I	1.4	2.0
II	2.4	3.2
III	17.1	18.0
IV	47.5	46.4
V	28.1	27.0
Habitual Criminal (Life)	.4	.4
Habitual Criminal (Little)	.5	1.5
Sex Offenders	1.0	1.0
Misdemeanors	1.6	.5
Total	100.0	100.0

MOST LIKELY PROJECTION
COMMITMENT BASE DATA
January, 1980

A. Base Commitment Model (Annual)

<u>Year</u>	<u>Average Unemployment Rate</u>	<u>Average 18-49 Male Population</u>	<u>Annual Commits</u>
1974	3.55	5.363	1187
1975	5.275	5.556	1439
1976	4.927	5.681	1311
1977	4.657	5.810	1276
1978	3.722	5.954	1248
1979	3.282	6.093	1164

B. Correlation Matrix

	<u>Unemployment</u>	<u>Population</u>	<u>Commits</u>
<u>Unemployment</u>		-.36	.92
<u>Population</u>			-.33

C. $R^2 = .8550$ (explained variance)

D. Equation: $Y^1 = 111.03V_1 - 1.62P_2 + 809.88$

E. Commitment Projections 1980-1986

<u>Year</u>	<u>Most Likely Estimated Average Annual Unemployment Rate</u>	<u>Middle Population 18-49 Males</u>	<u>Expected Commitments</u>
1980	3.955	6.305	1239
1981	4.725	6.513	1324
1982	5.0	6.702	1354
1983	5.0	6.911	1354
1984	5.0	7.145	1353
1985	5.0	7.377	1353
1986	5.0	7.610	1353

F. Most Likely Commitment Projections - January, 1980

<u>Year</u>	<u>Qtr.</u>	<u>Quarterly Expected Commits</u>	<u>Annual Commits</u>	<u>Fiscal Year Commits</u>
1980	1	335	1239	1253
	2	327		
	3	282		
	4	295		
1981	1	358	1324	1284
	2	349		
	3	301		
	4	316		
1982	1	366	1354	1340
	2	357		
	3	308		
	4	323		
1983	1	366	1354	1354
	2	357		
	3	308		
	4	323		
1984	1	365	1353	1353
	2	357		
	3	308		
	4	323		
1985	1	365	1353	1353
	2	357		
	3	308		
	4	323		
1986	1	365	1353	1353
	2	357		
	3	308		
	4	323		

INCARCERATION PROJECTIONS

January, 1980

Class	%	Low		Most Likely		High	
		Length Of Stay 100%	% x Time	Length Of Stay 103%	% x Time	Length Of Stay 105%	% x Time
I	2.0	240	480	240	480	240	480
II	3.2	60	192	61.8	197.76	63	201.6
III	18.0	36	648	37.08	667.44	37.8	680.4
IV	46.4	18	835.2	18.54	860.26	18.9	876.96
V	27.0	9	243.0	9.27	250.29	9.45	255.15
H.C. (Life)	.4	240.0	96.0	240.0	96.0	240.0	96.0
H.C. (Little)	1.5	142.2	213.3	142.2	213.3	142.2	213.3
Sex Off.	1.0	38.6	38.6	38.6	38.6	38.6	38.6
Misd.	.5	8.8	4.4	8.8	4.4	8.8	4.4
Totals	100.0		2750.50		2808.05		2846.41
Reparole:			27.50		27.50		27.50
Consecutive:			7.43		17.18		37.15
			2785.43		2852.73		2911.06
			= 27.9 mos.		= 28.5 mos.		= 29.1 mos.

A. Reparole - Length of Stay

$$\frac{110 \text{ revocations} \times 3 \text{ month stay}}{12} = 27.50$$

B. Consecutive Sentences = 3.7% for July-Nov. 1979

Class	%	Consc. Increase	% x Time
II	3.2	1.2	3.84
III	18.0	.4	7.20
IV	46.4	.1	4.64
H.C. (Little)	1.5	1.0	1.50
			17.18

Proportion Rates

1. Low	=	1.6%	=	7.43
2. Most Likely	=	3.7%	=	17.18
3. High	=	8.0%	=	37.15

MOST LIKELY POPULATION PROJECTIONS

Yr. & Qtr.	Commitments	Agg. Length of Stay	YEAR AND QUARTER																		
			77-3	77-4	78-1	78-2	78-3	78-4	79-1	79-2	79-3	79-4	80-1	80-2	80-3	80-4	81-1	81-2	81-3	81-4	82-1
77-3	270	25.9	270	270	270	270	270	270	270	270	(171)										
77-4	267	26.4		267	267	267	267	267	267	267	267	(210)									
78-1	347	26.7			347	347	347	347	347	347	347	347	(312)								
78-2	341	27.0				341	341	341	341	341	341	341	341	341							
78-3	288	27.3					288	288	288	288	288	288	288	288	288	(29)					
78-4	272	27.6						272	272	272	272	272	272	272	272	272	(54)				
79-1	308	27.9						308	308	308	308	308	308	308	308	308	(92)				
79-2	266	28.2							266	266	266	266	266	266	266	266	266	(106)			
79-3	292	28.5								292	292	292	292	292	292	292	292	292	(146)		
79-4	299	28.5									299	299	299	299	299	299	299	299	299	299	(149)
80-1	335	28.5										335	335	335	335	335	335	335	335	335	335
80-2	327	28.5											327	327	327	327	327	327	327	327	327
80-3	282	28.5												282	282	282	282	282	282	282	282
80-4	295	28.5													295	295	295	295	295	295	295
81-1	358	28.5														358	358	358	358	358	358
81-2	349	28.5															349	349	349	349	349
81-3	301	28.5																301	301	301	301
81-4	316	28.5																		316	316
82-1	366	28.5																			366
Total Inmate Population			2464	2419	2438	2474	2512	2525	2598	2591	2552	2623	2713	2728	2669	2705	2816	2895	2944	3008	3078

15

MOST LIKELY POPULATION PROJECTIONS

Yr. & Qtr.	Commitments	Agg. Length of Stay	YEAR AND QUARTER																		
			82-2	82-3	82-4	83-1	83-2	83-3	83-4	84-1	84-2	84-3	84-4	85-1	85-2	85-3	85-4	86-1	86-2	86-3	86-4
80-1	335	28.5	(167)																		
80-2	327	28.5	327	(163)																	
80-3	282	28.5	282	282	(141)																
80-4	295	28.5	295	295	295	(147)															
81-1	358	28.5	358	358	358	358	(179)														
81-2	349	28.5	349	349	349	349	349	(174)													
81-3	301	28.5	301	301	301	301	301	(150)													
81-4	316	28.5	316	316	316	316	316	316	(158)												
82-1	366	28.5	366	366	366	366	366	366	366	(183)											
82-2	357	28.5	357	357	357	357	357	357	357	357	(178)										
82-3	308	28.5		308	308	308	308	308	308	308	308	(154)									
82-4	323	28.5			323	323	323	323	323	323	323	323	(161)								
83-1	366	28.5				366	366	366	366	366	366	366	366	(183)							
83-2	357	28.5					357	357	357	357	357	357	357	357	(178)						
83-3	308	28.5						308	308	308	308	308	308	308	308	(154)					
83-4	323	28.5							323	323	323	323	323	323	323	323	(161)				
84-1	365	28.5							365	365	365	365	365	365	365	365	365	(182)			
84-2	357	28.5								357	357	357	357	357	357	357	357	357	(178)		
84-3	308	28.5									308	308	308	308	308	308	308	308	308	(154)	
84-4	323	28.5										323	323	323	323	323	323	323	323	323	
85-1	365	28.5											365	365	365	365	365	365	365	365	
85-2	357	28.5												357	357	357	357	357	357	357	
85-3	308	28.5													308	308	308	308	308	308	
85-4	323	28.5														323	323	323	323	323	
86-1	365	28.5															365	365	365	365	
86-2	357	28.5																357	357	357	
86-3	308	28.5																	308	308	
86-4	323	28.5																		323	
Total Inmate Population			3118	3095	3114	3191	3222	3176	3174	3231	3247	3193	3184	3233	3246	3192	3183	3232	3245	3192	3183

END