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## West Virginia Correctional Population Forecast, 2007-2017

### *A Study of the State's Prison Population*

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The purpose of this report is to describe the current correctional population in West Virginia and provide policy makers with a 10-year correctional population forecast. The data presented indicates that West Virginia's current correctional population has grown in recent years and will continue to grow over the next decade. It is anticipated that the information provided in this report will enable public officials and agency representatives to plan for the future and develop policies for the management of the WV correctional population.

At the end of 2007, there was a total of 6,056 confined inmates in WV's correctional population. This was an increase of 5.6% or 323 additional inmates from the previous year.

According to the most recent figures released by the Bureau of Justice Statistics, the national incarceration rate in 2007 was 506 per 100,000 residents. WV ranked 34th in the nation, with an incarceration rate of 333 per 100,000 residents for this same year (West and Sabol, 2008). Additionally, the incarceration rate in WV experienced the second largest increase between 2000 and 2007, resulting in 123 additional prisoners per 100,000 residents (West and Sabol, 2008).

Despite the fact that WV has one of the nation's lowest correctional populations and incarceration rates, the

state continues to have one of the fastest growing prison populations in the nation. Between 2000 and 2006, the nation's prison population experienced an average annual growth of 2.0%. During this period there were only five states that had an average annual growth of at least 5.0% in their prison populations. WV was one of these states, ranking first in the nation with an average annual growth of 7.1% between 2000 and 2006. West Virginia was the only state that experienced an average annual growth above 7.0% during this period. (West and Sabol, 2008).

This report begins with a description of the state's current and historical correctional population and growth. The report concludes with the presentation of the current 2007-2017 forecast projections.

### West Virginia Correctional Population

This section describes the number and type of commitments, admissions, and releases to and from the Division of Corrections (DOC). Special attention is given to the proportion of new admissions and commitments that are comprised of parole violators. Trends in average maximum sentence lengths are also presented. Lastly, the time prisoners serve in DOC facilities is described by type of offense.

State of West Virginia  
Department of Military Affairs & Public Safety  
Division of Criminal Justice Services

### Report Highlights

- WV ranked 34th in the nation in 2007, with an incarceration rate of 333 per 100,000 residents.
- Between 2000 and 2006, WV had the fastest growing prison population in the nation.
- Commitments to DOC grew by 21.9% in 2007, resulting in 3,449 new inmates.
- Parole violators comprised 14.0% of all new commitments in 2007.
- In 2007, only 4.9% of all parole violators were returning due to the commission of a new crime.
- In 2006, 75.9% of new admissions were for nonviolent offenses.
- As of December 2007, WV's correctional population was almost two and one-half times its size in 1995.
- In 2007, property offenders comprised the largest group of inmates confined in the total prison population at 19.2%.
- Between 2000 and 2004, 37.1% of inmates were released to parole compared to 51.5% between 2005 and 2007.
- Over half (54.8%) of all inmates released in 2007 were granted parole.
- Parole grant rates increased by 9.0% between 2006 and 2007.
- WV's correctional population is forecasted to increase at an average annual growth rate of 5.6% over the next decade.
- According to the forecast, DOC can expect to receive approximately 430 additional inmates per year.
- The correctional population is expected to reach 8,530 inmates in 2012 and 10,304 in 2017.

**Table 1**  
**Annual Change in Commitments to the Division  
of Corrections Custody, 1996-2007**

Year	New Felons	Anthony Center	Diagnostic	Parole Violators	Total	Total Annual Change	
						N	%
1996	920	82	47	188	<b>1,237</b>		
1997	1,166	194	21	161	<b>1,542</b>	+305	24.7%
1998	1,185	205	143	214	<b>1,747</b>	+205	13.3%
1999	1,381	194	106	197	<b>1,878</b>	+131	7.5%
2000	1,436	199	110	214	<b>1,959</b>	+81	4.3%
2001	1,363	240	158	228	<b>1,989</b>	+30	1.5%
2002	1,508	267	179	207	<b>2,161</b>	+172	8.6%
2003	1,846	264	189	229	<b>2,242</b>	+81	3.7%
2004	1,508	230	167	225	<b>2,468</b>	+226	10.1%
2005	1,900	237	82	386	<b>2,605</b>	+137	5.6%
2006	2,106	195	103	426	<b>2,830</b>	+225	8.6%
2007	2,536	270	160	483	<b>3,449</b>	+619	21.9%
<b>Average</b>						<b>201</b>	<b>10.0%</b>

*Source:* DOC Commitment and Release Logs

## Commitments to Custody

Table 1 represents the number of offenders committed to DOC by commitment type from 1996 through 2007. The term *commitments* refers to all offenders that are ordered by the court to the custody of DOC.

In 2007, the total number of new commitments was 3,449, up from 2,830. This resulted in a 21.9% increase, the highest annual change since 1997 (see Table 1). Over two-thirds (73.5%) of new commitments in 2007 were for new felons. The commitment figures available for 2007 included other types of commitments such as Anthony Correctional Center (7.8%), diagnostic units (4.6%), and offenders returning as a result of a parole violation (14.0%).

Between 2006 and 2007, the largest percent increase occurred for offenders sentenced to undergo a diagnostic evaluation. There was an increase of 57 offenders or 55.3%

among this type of commitment compared to the previous year. Anthony Correctional Center (ACC), new felon commitments, and parole violators also contributed to the growth at 38.5%, 20.4%, and 13.4%, respectively.

The rate of growth in WV's correctional population declined significantly after the mid to late 1990's. However, in recent years the rate of growth has once again begun to increase. Between 2000 and 2005, there was approximately a 33.0% increase in the number of commitments, resulting in an average annual rate of growth of only 5.6%. This was down from an average annual rate of growth of 15.0% between 1994 to 1999.

However, between 2002 to 2007, the number of commitments increased by approximately 60.0%; almost doubling the increase of 33.0% which occurred between 2000 to 2005. In 2007 there were 3,449 new commitments, up from 2,161 in 2002,

resulting in an average annual rate of growth of 7.3%. The annual change of 21.9% was not calculated into the 2002 to 2007 average annual rate of growth. When the annual change of 21.9% is included, the average annual rate of growth increases to 10.0%.

Since 1996, new commitments have increased by 201 offenders per year on average with an annual growth of 10.0%. Increases have occurred for every type of new commitment. However, the most frequent type of commitment has been for new felons. The number of new felon commitments has increased by 175.6% from 920 in 1996 to 2,536 in 2007. Although fewer in number, there have also been substantive increases in the number of ACC and diagnostic commitments over the past eleven years.

## Parole Violator Returns

There has been a substantial increase over the past decade with the

number of offenders returning to DOC custody for a parole violation. Parole violator returns include offenders that have had their parole revoked by the parole board. These revocations are either due to a technical violation of their parole, or the offender has committed a new crime while under parole supervision. Technical parole violations are based on violations of the conditions of parole, which are set forth by law, violations of the standard rules of parole, set forth by the DOC, or violations of any special conditions set forth by the WV Parole Board or a Parole Officer. A new felony parole revocation is when a parolee is revoked as a result of a conviction for an entirely new crime (Bauer, 2006).

In 2007, there were three times as many offenders returning to prison for

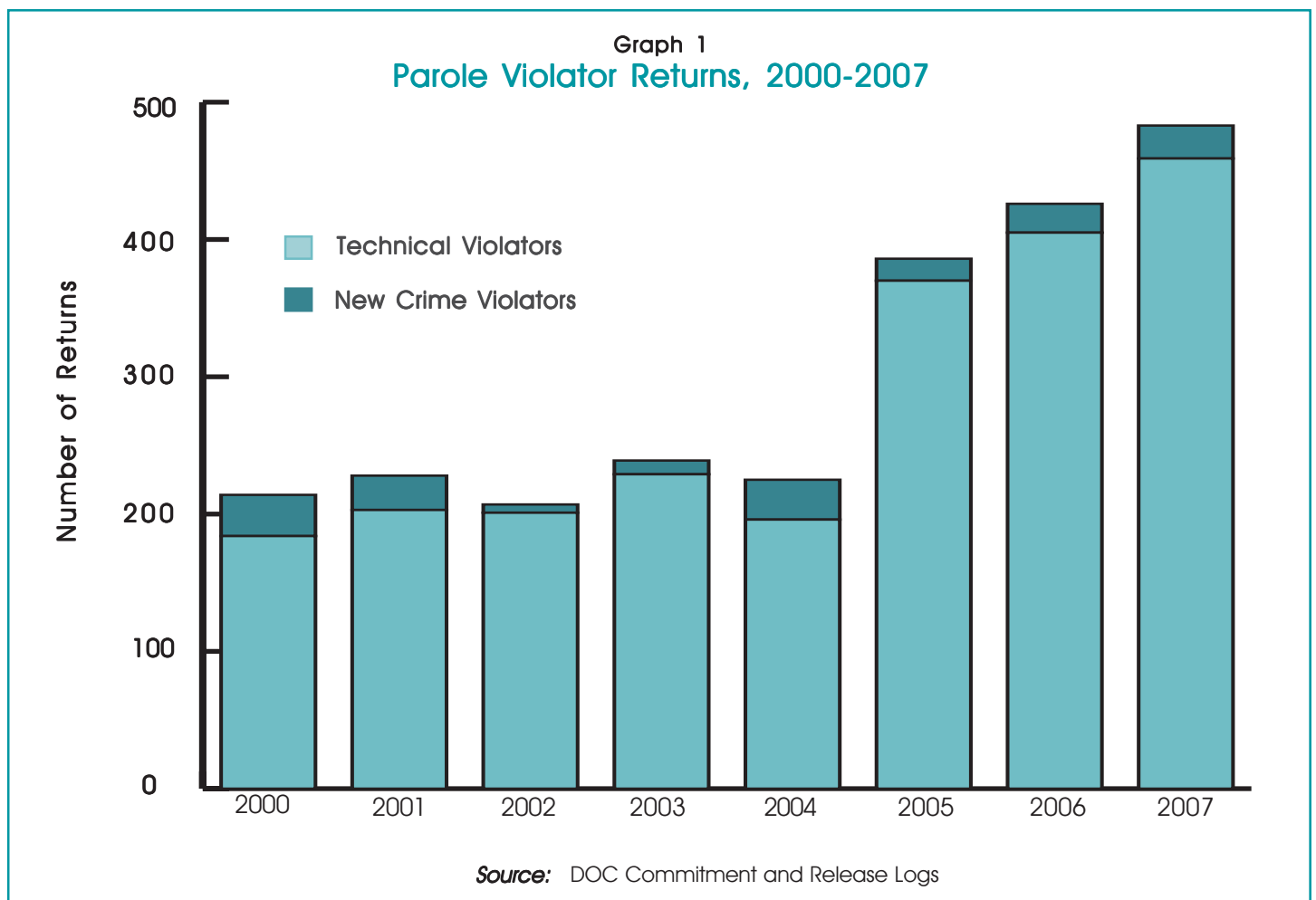
a violation of parole than there were in 1997. Parole violators returning to custody increased by 200%, from 161 in 1997 to 483 in 2007 (see Table 1). This resulted in an average annual rate of growth of approximately 14.1% during this ten year period.

There has been a significant increase in the number of parole violators returning to prison in the past five years. Between 1996 and 2001, offenders returning to DOC facilities for a parole violation increased by 21.3%, with an average annual rate of growth of 5.1%. In comparison, parole violator returns increased by 133.3% between 2002 and 2007, with an average annual rate of growth of approximately 20.8%.

Nevertheless, while parole violator returns have grown considerably over the past decade, their *proportion of total*

commitments has remained relatively stable. In 1996, the proportion of commitments for parole violations was at a high of 15.2%. It wasn't until ten years later, in 2006, that parole violators would again occupy more than 15.0% (15.1%) of the total commitment population. This was an increase of 5.9% from 2004, when parole violator returns reached a low at 9.1% of all commitments. In 2007, the proportion of new commitments consisting of parole violators slightly declined to 14.0%. This resulted in a 1.1% decrease compared to the previous year.

Graph 1 shows the proportion of all parole violator returns to custody by the type of violation (i.e., technical or new crime). As shown in Graph 1, offenders returning to custody are overwhelmingly doing so based on technical violations



**Table 2**  
**Inmates Admitted by Type of Offense and Year**  
**2000-2006**

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>% Change 05-06</b>	<b>% Change 00-06</b>
Murder	5.1%	3.9%	3.3%	4.9%	5.7%	4.8%	2.5%	-2.3%	-2.6%
Sex Crimes	11.3%	10.6%	7.8%	8.7%	10.1%	8.8%	7.1%	-1.7%	-4.2%
Robbery	4.0%	6.0%	5.5%	6.7%	6.2%	4.8%	6.2%	+1.4%	+2.2%
Assault	9.4%	8.1%	8.0%	7.8%	7.9%	7.4%	8.2%	+0.8%	-1.2%
Burglary	15.1%	19.8%	15.0%	15.9%	16.7%	15.3%	15.2%	-0.1%	+0.1%
Property	16.1%	17.4%	20.6%	23.1%	20.8%	21.9%	21.8%	-0.1%	+5.7%
Drug	13.9%	10.9%	15.7%	15.5%	15.7%	19.4%	23.6%	+4.2%	+9.7%
DUI	18.6%	13.4%	15.3%	15.3%	10.0%	7.8%	4.8%	-3.0%	-13.8%
Other	6.5%	9.8%	8.8%	7.1%	6.9%	9.8%	10.5%	+0.7%	+4.0%

*Source:* NCRP Prisoner Admission Reports

**Notes:** Anthony Center inmates are not included in these figures, in order to allow for a historical comparison. There were no diagnostic inmate figures between 2003 and 2005 due to constraints on data availability. Percentages may not total to 100.0% due to rounding.

rather than for the commission of a new crime. Between 2000 and 2007, an average of 92.6% of all parole violator returns were due to technical violations. As a result, only about 7.4% of parolees returned to prison for the commission of a new crime during this same period.

It is clear that the majority of parolees returning to DOC custody are a result of technical violations. In 2007, only 24 or 4.9% of the 483 parole violators were returned to prison for the commission of a new crime.

### Admissions by Offense Category

The percentage distribution of admissions by offense category for 2000-2006 are presented in Table 2. *Admissions*, as opposed to commitments, refers to all offenders who are committed *and* are physically housed in a DOC facility.

Admissions figures continue to indicate that the majority of inmates admitted have been convicted for nonviolent offenses (eg. burglary, property, drugs, DUI, and “other”). In 2006, roughly 75.9% of inmates were

admitted to DOC facilities for nonviolent offenses compared to 23.4% admitted for violent offenses. Property and drug offenses represented the majority of these admissions. These two categories comprised almost half or 45.4% of the total admissions in 2006. Burglary, “other” offenses, and DUI offenses followed at 15.2%, 10.5%, and 4.8% respectively.

The largest percentage of violent offense (murder, sex crimes, robbery, and assault) admissions was assault at 8.2%, followed by sex crimes (7.9%) and robbery (6.2%). The murder category represented the smallest percentage of all admissions, reaching an all time low in ten years at 2.5%.

Between 2005 and 2006, there were only three offenses that encountered a percent increase. The largest percent increase was for drug offenses at 4.2% followed by robbery at 1.4% and assault at 0.8% (see Table 2). The remaining categories revealed a decline in admissions ranging between 0.1% to 3.0%.

A comparison of 2000 and 2006 admission figures by offense reveals an

increase in admissions in four nonviolent offense categories. The largest increase occurred in the drug category at 9.7%, followed by property (5.7%), “other” offenses (4.0%), and burglary (0.1%). The DUI offense category was the only nonviolent offense that did not increase in admissions; yet had the largest decline of all offense categories at 13.8%. All violent offense categories declined with the exception of robbery, which increased by 2.2%. The largest decline in admissions for violent offenses occurred in the sex crimes category at 4.2%, followed by murder (2.6%), and assault (1.2%).

### Average Maximum Sentences by Offense Category

The average maximum sentence lengths for admissions to DOC facilities from 2000-2006 are described in Table 3. The average maximum sentences for eight of the nine offense categories decreased between 2000 and 2006. Violent offenses show a significant decline with sentence lengths decreasing between 12.2 to 214.0 months. The only category to increase

in sentence length was drug offenses. In 2000, the average maximum sentence length for drug offenses was 121.7 months, compared to an average maximum sentence of 129.9 months in 2006.

Violent offenders, with the exception of assault, were given the longest sentences in 2006. Offenders sentenced for robbery received the longest sentences at an average of 233.0 months (see Table 3). Sex Offenders and inmates sentenced for murder received sentences that averaged 209.0 and 207.0 months respectively. Among violent offenses, offenders sentenced for assault were given the shortest average maximum sentences at approximately 92.0 months.

Burglary, property, and drug offenders were also given extensive sentences. Prisoners incarcerated for burglary offenses received sentences that averaged 187.0 months. Property and drug offenders received sentences

that averaged 133.0 and 130.0 months, respectively (see Table 3). The shortest average sentence length was given to DUI offenders at 39.0 months.

Between 2005 and 2006, seven offense categories experienced a reduction in average maximum sentence lengths. The largest decline occurred in the murder category, with a decrease of approximately 45.0 months. All other violent offenses also experienced a decline in sentence lengths with sex offenses decreasing by an average of 24.0 months, robbery by 8.0 months, and assault by 3.0 months. Sentences for drug offenses decreased by approximately 10.0 months, while sentences for DUI offenses decreased by 3.0 months. Sentences for “other” offenses underwent the smallest reduction at roughly 2.0 months during this period.

Average maximum sentence lengths increased for only two offense categories between 2005 and 2006.

Burglary offenses received the largest increase in sentence length at nearly 9.0 months, and property offenses followed with an increase of approximately 4.0 months.

Since 2000, sentence lengths for every violent offense category have declined. The largest reductions in average sentences among violent offenses occurred for robbery. Robbery offenders experienced a decline of 17.4 years or 214.0 months. Both murder and sex offenses declined by slightly over four years or 50.0 months. Sentences for assault experienced the smallest reduction, decreasing by 1.0 year or 12.2 months.

Sentence lengths for almost all nonviolent offenses also decreased during this time frame, with the exception of drug offenses. “Other” offenses received the largest decrease in sentence length, at 9.1 months, followed by property offenses at 5.3 months. The sentence lengths for burglary and

**Table 3**  
**Average Maximum Sentences (in Months) by**  
**Type of Offense and Admission Year**

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>Change</u> <u>2005-2006</u>	<u>Change</u> <u>2000-2006</u>
Murder	258.0	247.4	384.9	245.4	234.7	254.3	208.9	-45.4	-49.1
Sex Crimes	257.4	237.7	181.0	245.2	239.3	230.6	207.0	-23.6	-50.4
Robbery	447.0	244.7	294.4	239.7	234.1	241.4	233.0	-8.4	-214.0
Assault	103.6	108.8	103.3	96.2	95.1	94.8	91.8	-3.0	-12.2
Burglary	191.8	215.8	198.4	188.5	184.2	178.8	187.3	+8.5	-4.5
Property	138.3	142.9	142.9	144.5	148.5	128.8	133.0	+4.2	-5.3
Drug	121.7	123.5	128.9	127.5	133.4	139.7	129.9	-9.8	+8.2
DUI	41.3	45.9	45.8	42.3	46.1	42.4	39.1	-3.3	-2.2
Other	63.8	70.8	73.4	54.1	57.7	57.0	54.7	-2.3	-9.1

**Source:** NCRP Prisoner Admission Reports

**Notes:** Anthony Center and diagnostic populations are not included in this table. Maximum sentences that exceeded 1,000 months or more were excluded based on historical methodology. As a result, 10 cases were excluded from the sex offense category in 2006. Of these 10 cases, 7 were for sexual assault in the first degree, and three were for child sexual abuse by parent. Three cases were excluded from the burglary and breaking and entering category. The average maximum sentence for these three cases ranged between 1,589 months and 1,980 months. The robbery category has 1 case excluded, with a sentence of 1,080 months for first degree robbery with physical violence. Lastly, the property offense category had 1 case excluded for grand larceny. This case received a sentence of 1,512 months.

DUI offenders declined by 4.5 and 2.2 months, respectively.

Sentences for drug offenses were the only nonviolent offense category to experience an increase. During this same seven year period, sentences for drug offenses increased by approximately 8.2 months.

Despite reductions in average sentence lengths for the majority of offense categories, the increases that occurred were among offenders making up the greatest proportion of the population which include burglary, property, and drug offenders.

### Correctional Population Growth

The correctional population, which includes all inmates in DOC custody, has steadily increased for more than a decade. In 2007, the number of confined inmates in WV reached an all time high with a population of 6,056. This included 323 additional inmates from the previous year, resulting in a 5.6% increase between 2006 and 2007.

At the end of 2007, the WV correctional population was more than two times its size in 1995 (see Table 4). From 1995 to 2007, the number of inmates in DOC custody increased by 140.6%. This translates into an average annual increase of 295 inmates per year.

In spite of the increases in the number of confined prisoners each year, annual growth rates have slowed in recent years. Since 2002, the correctional population has increased by approximately 6.1% each year on average (see Table 4). This is slightly lower than the 9.0% average annual growth rate observed between 1996 and 2001.

**Table 4**  
**Confined End-of-Year Population, 1995-2007**

Year	Population	Annual Change	
		N	%
1995	2,517		
1996	2,832	+315	12.5%
1997	3,198	+366	12.9%
1998	3,535	+337	10.5%
1999	3,543	+8	0.2%
2000	3,870	+327	9.2%
2001	4,215	+345	8.9%
2002	4,544	+329	7.8%
2003	4,758	+214	4.7%
2004	5,067	+309	6.5%
2005	5,312	+245	4.8%
2006	5,733	+421	7.9%
2007	6,056	+323	5.6%
<b>Average</b>		<b>295</b>	<b>7.6%</b>

*Source:* DOC End-of-Year Tallies (Tracking)

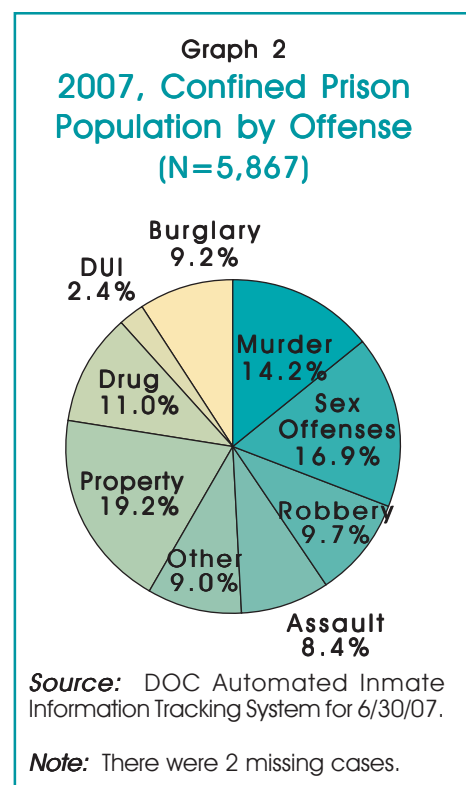
### Confined Population by Offense Category at Midyear

The total confined prison population includes all inmates housed in DOC facilities. As of June 30, 2007 there were a total of 5,867 offenders confined in DOC facilities.

As shown in Graph 2, nearly one-half (49.2%) of the confined prison population was serving time for a violent offense in 2007, resulting in a 5.0% decrease from 2005. Meanwhile, nearly one-third (28.4%) of inmates were confined for a property offense, and 11.0% were housed in DOC facilities for a drug offense. Inmates confined for “other” offenses comprised 9.0% of the population, while only 2.4% of the population consisted of DUI offenders.

In the past several years, sex and murder offenders have comprised the largest groups of inmates in the total confined prison population. However, in 2007 inmates confined for property

offenses comprised the largest group of offenders at 19.2%. Prisoners confined for sex offenses comprised 16.9% of the population, followed by those confined



for murder at 14.2%. These offender groups were followed by prisoners confined for drug offenses (11.0%), robbery (9.7%), burglary (9.2%), “other” offenses (9.0%), and assault (8.4%). Inmates serving time for DUI offenses made up the smallest proportion of the total confined prison population at 2.4%.

### Releases from DOC Custody

Table 5 presents the number and type of releases from DOC custody from 2000 until 2007. These figures include DOC inmates housed in local and regional jails, as well as those confined in DOC facilities.

In 2007, there were a total of 2,623 prisoners released from DOC custody. Of these 2,623 inmates released, most were granted release by the parole board. A total of 1,437 or 54.8% of all inmates released in 2007 were granted parole. Another 750 or 28.6% were discharged as a result of a court order or the completion of their sentence. Other types of releases included

diagnostic (7.0%), ACC (8.5%), and “other” miscellaneous (1.1%).

In 2007, there was a 17.1% increase in releases from DOC custody. This resulted in the release of 383 more inmates than in 2006. Inmates transitioning to parole exhibited the largest increase with 27.5% more releases than the previous year. In contrast, inmates released under the “other” miscellaneous category had one additional release in 2007 compared to 2006, which resulted in a 3.6% increase. Inmates released in the diagnostic category increased by 24.3%, while discharged inmates increased by 7.1%. There was a 5.9% reduction in releases for ACC prisoners between 2006 and 2007.

Over the past seven years, the number of offenders released from DOC custody has steadily increased. Between 2000 and 2007, the number of inmates released from DOC custody increased from a total of 1,278 in 2000 to 2,623 in 2007. This translates into a 105.2% increase in the number of inmates being released from DOC

custody over this period.

Since 2000, there have been a total of 15,129 inmates released from DOC custody. The vast majority of inmates released are either discharged or granted parole. Approximately 44.0% were released to parole, while 31.5% have been discharged as a result of a court order or expiration of their sentence.

The *proportion* of releases to parole has increased in recent years. Between 2000 and 2004, there were 8,109 inmates released from DOC custody. Of these inmates 3,033 or 37.4% were granted parole while 2,662 or 32.8% were discharged. In comparison, there were 7,020 inmates released between 2005 and 2007. Slightly more than half (51.4%) comprised parole releases, while roughly one-third (30.0%) consisted of discharged inmates.

### Offenses of Prisoners Released from DOC Facilities

Graph 3 illustrates the percentage distribution of 2006 releases from DOC facilities by the type of release and

**Table 5**  
**Annual Change in Releases from the Division of Corrections Custody, 2000-2007**

Year	Discharge	Parole	Anthony Center	Jail	Diagnostic	Other	Total	Annual Change	
								N	%
2000	455	324	----	N/A	86	113	<b>1,278</b>		
2001	626	480	----	21	165	56	<b>1,348</b>	+70	5.5%
2002	489	650	233	120	177	10	<b>1,679</b>	+331	24.6%
2003	519	806	247	78	183	18	<b>1,851</b>	+172	10.2%
2004	573	773	293	137	153	24	<b>1,953</b>	+102	5.5%
2005	658	1,048	251	----	180	20	<b>2,157</b>	+204	10.4%
2006	700	1,127	237	----	148	28	<b>2,240</b>	+83	3.8%
2007	750	1,437	223	----	184	29	<b>2,623</b>	+383	17.1%

**Source:** DOC Commitment and Release Logs

**Notes:** The figures prior to 2001 do not include offenders released from jail while awaiting transfer to a DOC facility. Prior to 2002, ACC releases were not separately reported. The *discharge* category includes both expired sentences and court-ordered releases. The *other* category includes escapes, medical respite, and deaths. Between 2005 and 2007, the number of jail releases were not able to be extracted from the overall total due to changes in the data systems at DOC.

offense. Less than one-half (47.3%) of the total number of releases in 2006 were placed on parole supervision, compared to over one-half (53.0%) the previous year. Prisoners discharged as a result of completing their sentence represented 27.5% of all releases in 2006. This was a 1.6% decrease from 2005. Court-ordered releases comprised 24.0%, while “other” types of releases accounted for only 1.2% of the total releases.

Parole releases were most prevalent among burglary, property, robbery, drug, and murder offenders (see Graph 3). A parole release constituted over 50.0%

of all releases for these offenses. Among these five offenses, burglary offenders were the most likely to receive a period of supervised release on parole. Roughly, 64.0% of burglary offenders released from DOC facilities in 2006 were granted parole.

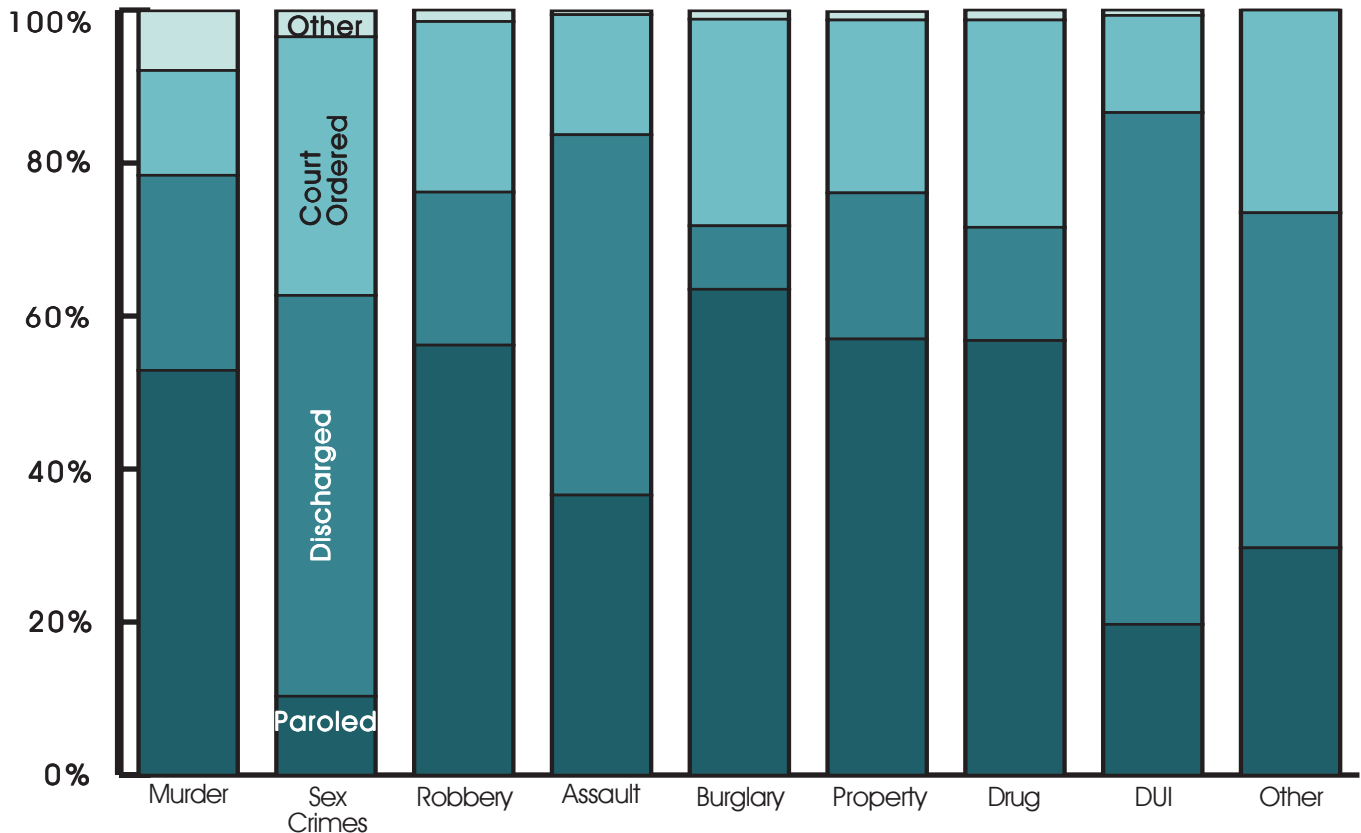
Prisoners serving time for sex crimes, DUI, assault, and “other” offenses were least likely to be paroled in 2006. Sex offenders were considerably less likely than other inmates to be granted parole (see Graph 3). Slightly more than one-tenth (10.3%) of sex offenders were released to parole supervision. Instead,

more than half (52.4%) served their full sentence and were discharged. Sex offenders were followed by those serving time for DUI offenses. Over two-thirds (66.9%) of all DUI offenders released from DOC facilities in 2006 were discharged upon completion of their sentence.

### Time Served in DOC Facilities

The mean number of months served by inmates released by DOC facilities in 2006 is presented in Graph 4. Inmates confined for violent offenses, with the exception of assault, served the

**Graph 3**  
**Type of Release by Offense Category, 2006**  
 (N=2,330)



Source: NCRP 2006 Prisoner Release File

Notes: The *paroled* category includes both board decisions and mandatory parole releases. The *discharge* category includes expired sentences. *Court-ordered* includes probation releases, other conditional releases, and releases to custody/detainer/or warrant. *Other* includes other conditional releases, deaths, and suicides. Type of release was missing for one case.



greatest amount of time in prison. The longest average sentences were served by inmates incarcerated for murder and robbery offenses at 86.1 months and 74.2 months respectively. Following murder and robbery offenders, sex crime offenders served an average of 45.7 months. Inmates incarcerated for assault served the least amount of time among violent offenders, and also served less time than those confined for burglary and property offenses. Offenders confined for assault served an average of 30.0 months in prison.

Burglary and property offenders served the longest amount of time among nonviolent offenders. Prisoners confined for burglary and property

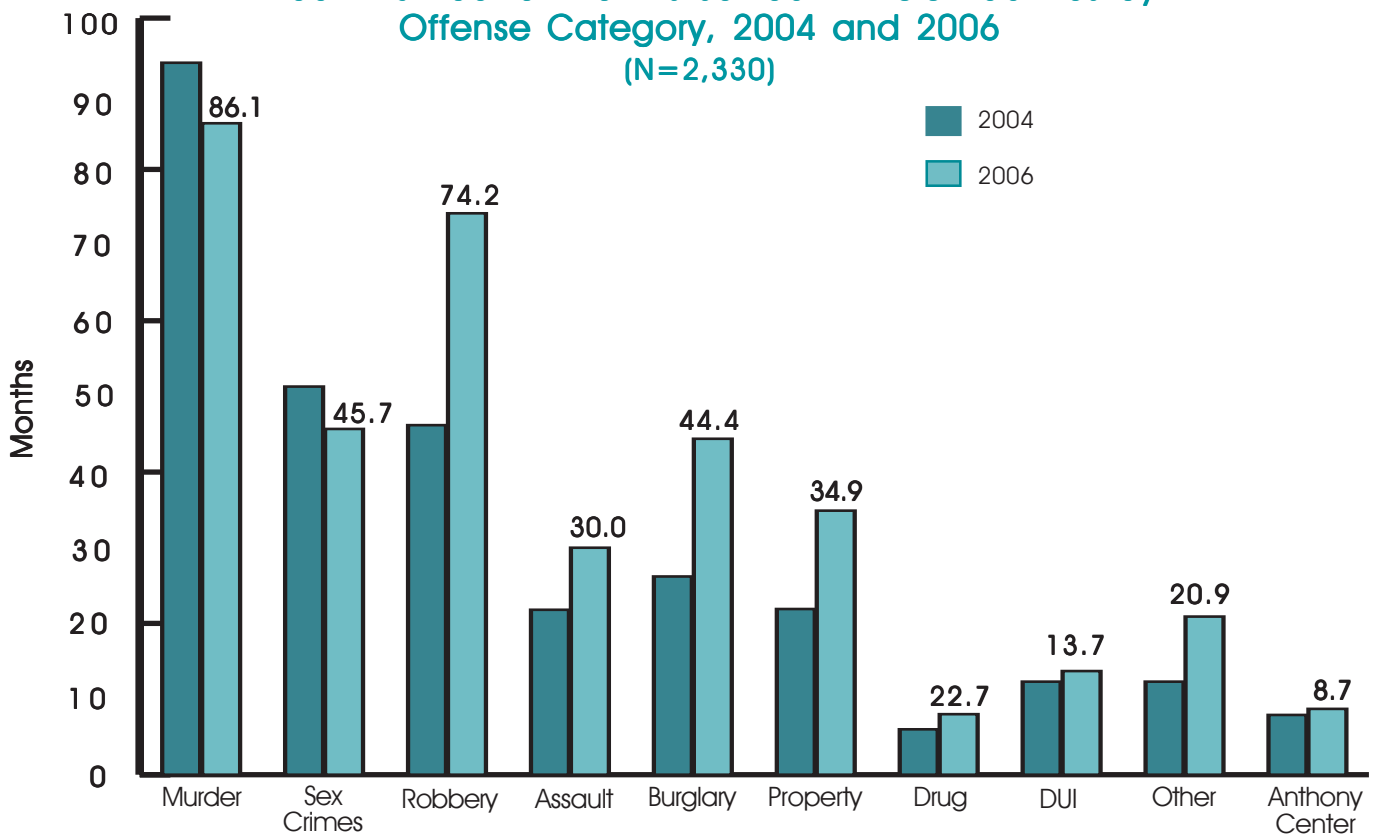
offenses served an average of 44.4 months and 34.9 months, respectively. Property offenders were followed by inmates confined for drug offenses (22.7 months), “other” offenses (20.9 months), and DUI (13.7 months). As expected, ACC inmates served the shortest amount of time at 8.7 months.

Between 2004 and 2006, the mean number of months served increased in almost every category, with the exception of murder and sex offenders. Robbery offenders encountered a 28.0 month increase, resulting in the largest increase among offense categories. Inmates incarcerated for burglary offenses had the second largest increase at 18.2 months, followed by property

and assault offenders, increasing by 13.0 months and 8.2 months, respectively. Increases in time served were also found among the remaining offense categories with “other” offenses increasing by 8.6 months, drug offenses (7.2 months), and DUI offenses (1.4 months). There was a slight increase in time served for inmates incarcerated in the ACC, by 0.8 months.

Another measure of time spent in incarceration is the percentage of maximum sentence served by inmates. This measure provides an estimate of the actual amount of time offenders served in DOC facilities in relation to the maximum sentence they received from the courts.

**Graph 4**  
**Mean Number of Months Served in DOC Facilities by**  
**Offense Category, 2004 and 2006**  
 (N=2,330)



Source: NCRP 2006 Prisoner Release File

Notes: The mean time served for those in DOC facilities does not include any time previously spent in jail prior to admission into prison. One case was excluded due to missing information.

Murder and sex offenders served the greatest proportion of their maximum sentences compared to all other offenders. Offenders confined for murder served 43.0% of their maximum sentence, while over half (54.9%) of the maximum sentences given to sex offenders were served. Violent offenders incarcerated for robbery and assault served slightly over one-third of their maximum sentences at 34.2% and 34.8% respectively.

Among nonviolent offenders, the greatest percentage of maximum sentences served was by DUI and “other” offenders. DUI offenders served approximately 36.8% of their maximum sentence, and inmates confined for “other” offenses served 35.9% of their maximum sentence. Inmates confined for property and drug offenses served 29.8% of their

**Table 6**  
**Parole Decisions by Type and Year**

Year	Denied	Granted	Total	% Granted
2002	1,414	723	2,137	33.8%
2003	1,483	838	2,321	36.1%
2004	1,625	799	2,424	33.0%
2005	1,516	1,145	2,661	43.0%
2006	1,597	1,194	2,761	43.2%
2007	1,491	1,630	3,121	52.2%

**Source:** DOC Commitments and Releases Log/MV Parole Board Activity Sheets

**Note:** The total column represents the sum of all cases in which the outcome was either to grant or deny parole.

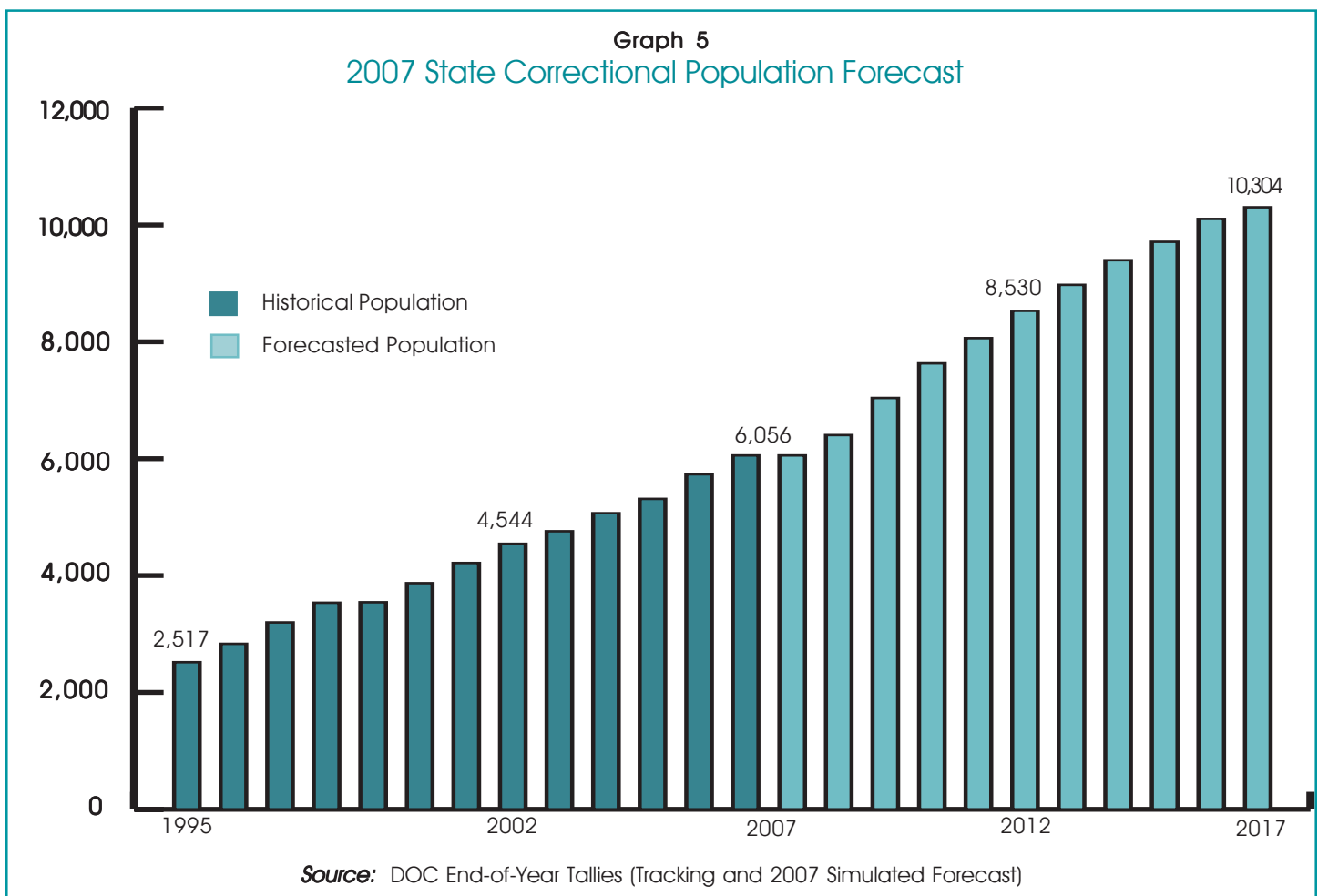
maximum sentence, followed by burglary offenders in which 26.4% of their maximum sentences were served.

Outside of the “regular” inmate population were offenders who were serving time at the Anthony Correctional Center. These offenders served 36.4% of their maximum sentence, an increase of

3.7% compared to 2004.

### Parole Board Decisions

Parole board decisions for the current correctional population are examined in Table 6. Although there are multiple outcomes that may occur during a WV parole board hearing, the total



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number of decisions that resulted in either the granting or denying of parole to an inmate are presented in Table 6.

Since 2002, the proportion of cases granted parole has increased each year, with the exception of 2004, which declined only 3.1% from the previous year. Between 2002 to 2004, one-third of all cases were granted parole. In 2005, however, 43.0% of cases were granted parole, resulting in a 10.0% increase from the previous three years. The number of cases granted parole in 2006 remained relatively the same as in 2005, yet in 2007 another extensive increase occurred. Of the 3,121 hearings in which a decision was made to either grant or deny parole in 2007, a total of 1,630 cases were granted parole. Over half (52.2%) of the inmates eligible for parole in 2007 were given a favorable decision (see Table 6). This corresponds to the largest percentage of inmates granted parole since 2002.

## Correctional Population Forecast

This section of the report presents the current 2007-2017 correctional population forecast, along with selected characteristics of this population. A *backcast* of the 2007-2017 forecast is also discussed. The backcast provides a means for evaluating the accuracy of the current forecast for the 2007 calendar year.

Previous forecast projections have been rather accurate. However, the potential for greater error increases with time. This section begins with a presentation of the current forecast projections.

## Current Forecast Projections, 2007-2017

The results of the 2007-2017

forecast are presented in Graph 5. The forecast projections depicted in this graph represent all offenders in DOC custody, which includes Anthony Correctional Center (ACC), diagnostic, and local/regional jail inmates.

The actual correctional population was comprised of 6,056 inmates at the end of 2007. According to the current forecast, the correctional population is expected to grow at an average annual growth rate of 5.6% over the next decade. This will result in a correctional population that is expected to reach 8,530 inmates by the end of 2012 and 10,304 inmates by the end of 2017. This growth translates into a 70.1% increase in the total number of inmates confined in WV's adult correctional population between 2007 and 2017.

Based on the average annual growth rate of 5.6% over the next ten years, DOC can expect to receive an average of 430 additional inmates per year. Once the known error that has been found to exist with previous forecasts has been considered, it is likely that the average will fall somewhere between 416 and 430 additional inmates over the next few years.

The projected growth in the correctional population over the next decade, is slightly less than what the state experienced in the previous decade. Between 1997 and 2007, the state's correctional population increased at an average rate of 6.5% or 286 additional inmates annually. The result was a correctional population that almost doubled in the course of a decade. There was an 89.4% increase in the number of inmates in DOC custody, from 3,198 in 1997 to 6,056 in 2007. This is compared to a forecasted average annual growth rate of 5.6%, with a total increase of 70.1% between

2007 and 2017.

A backcast for the current 2007-2017 forecast was created by comparing the actual and forecasted populations. January through December 2007 represents the backcast period (one full calendar year prior to when the current forecast officially begins). Over the course of the 12-month period in 2007, population projections fell within plus or minus 4.6%. Percentage differences ranged from a high of 4.6% in January 2007 to a low of 0.1% in July of 2007.

## Characteristics of Forecasted Population by Year

Selected characteristics of the forecasted population by year are presented in Table 7. The figures represented in this table are based solely on forecast estimates. The purpose of this table is to describe any changes that may occur in the adult correctional population over time.

The proportion of the correctional population serving time in the general population is forecasted to slightly increase between 2007 and 2017. The 2007 estimates predicted that the general population of inmates should account for 94.5% of the total DOC population. By 2017, these same inmates are projected to comprise 95.4% of the total correctional population. While the population of "regular" inmates is forecasted to increase slightly over the forecast period, the ACC population is projected to decline. The ACC population is expected to make up 4.3% of the total correctional population in 2017, down from 5.0% in 2007. Meanwhile, the diagnostic population is forecasted to remain relatively stable, comprising 0.4% of the correctional

population in 2007 and 2012 and 0.3% in 2017. In terms of the gender distribution of inmates, males are clearly forecasted to comprise the majority of DOC prisoners. Male inmates are projected to decrease only slightly from 89.0% in 2007 to 85.9% in 2017. Females, conversely, are expected to increase slightly from 11.0% in 2007 to 14.0% in 2012 and 14.1% in 2017. Forecast estimates indicate that violent offenders should comprise 50.1% of the general population in 2007. There is a significant decrease of 10.2% among violent offenders between 2007 and 2012 (see Table 7). By 2017, forecast estimates predict a continual decline in the proportion of the population made up of violent offenders. Hence, the general population of DOC offenders in 2017 is projected to comprise 12.6% fewer violent offenders compared to 2007 estimates.

These forecasted declines in the proportion of violent offenders are accompanied by an increase in the percentage of property offenders serving time in DOC custody. Inmates serving time for property crimes are estimated to *increase by 7.0%* over the next ten years, occupying 30.4% of the correctional population in 2017.

In the meantime, drug offenders are forecasted to make up a greater proportion in the future, while public order offenders are projected to decline over the next ten years. Offenders incarcerated for drug crimes are estimated to experience an *increase of 8.9%* over the next decade. Conversely, public order offenders are projected to decline by 3.3% between 2007 and 2017.

### Methodology

This section of the report provides a description of the simulation model,

forecast assumptions, and data sources used to produce the current 2007-2017 projections. Variable definitions and calculations are also provided. This section begins with a technical description of the forecast model and the various assumptions used to generate and interpret the correctional population projections.

### Technical Description of Model

The forecast of the state correctional population was completed using Wizard 2000 projection software. This computerized simulation model mimics the flow of offenders through the state's correctional system over a ten-year forecast horizon and produces monthly projections of key inmate groups.

The Wizard 2000 simulation model utilizes a technique that is consistent with

**Table 7**  
**Characteristics of Forecasted Population by Year**

Population Type	2007		2012		2017	
	N	%	N	%	N	%
General Population	5,679	94.5%	8,114	95.1%	9,827	95.4%
Anthony Center	303	5.0%	386	4.5%	443	4.3%
Diagnostics	25	0.4%	30	0.4%	34	0.3%
<b>Total</b>	<b>6,007</b>	<b>100.0%</b>	<b>8,530</b>	<b>100.0%</b>	<b>10,304</b>	<b>100.0%</b>
<b>Gender</b>						
Male	5,052	89.0%	6,978	86.0%	8,450	85.9%
Female	627	11.0%	1,136	14.0%	1,377	14.1%
<b>Total</b>	<b>5,679</b>	<b>100.0%</b>	<b>8,114</b>	<b>100.0%</b>	<b>9,827</b>	<b>100.0%</b>
<b>Broad Offense Category</b>						
Violent	2,848	50.1%	3,236	39.9%	3,690	37.5%
Property	1,328	23.4%	2,381	29.3%	2,986	30.4%
Drug	722	12.7%	1,614	19.9%	2,119	21.6%
Public Order	781	13.8%	883	10.9%	1,032	10.5%
<b>Total</b>	<b>5,679</b>	<b>100.0%</b>	<b>8,114</b>	<b>100.0%</b>	<b>9,827</b>	<b>100.0%</b>

**Source:** Simulated Forecast for December 2007, 2012, and 2017

**Notes:** Total population figures include all offenders in DOC's custody. This includes Anthony Center, diagnostic, and local or regional jail inmates. Due to the small number of Anthony Center and diagnostic inmates, gender and offense projections do not include these populations. Percentages may not total to 100.0% due to rounding.

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that of a stochastic entity simulation model. It is stochastic, or probabilistic, in the sense that random numbers are used in the modeling process, and an entity simulation in the sense that the model is conceptually designed around the movement of individuals through the correctional system. The model is also generally an example of a Monte Carlo simulation technique, again because random numbers are used in the process of simulating the system. Individual cases (offenders admitted to supervision in WV) are processed by the model through a series of possible statuses (e.g., awaiting trial, prison, parole, and parole violation) based upon the transition probabilities fed in by the researcher.

Once the simulation model has moved the case to its new status, the process is repeated over and over until the case either reaches the end of the projection period, or enters what is referred to as a terminal. Terminal status signifies a complete exit from the system being modeled.

When a model is loaded with accurate data, it will prove to be quite reliable in forecasting a population, as it will mimic the actual flow of cases through the correctional system being modeled. The model operates under the notion of a “growing admissions assumption.” This assumes, as stated in the introduction, that what happened last year will carry over to the next year. In order for the simulation model to work to its full potential, information must be gathered describing all of the entries and exits from the actual system for a previous one-year period. This applies to all offenders sentenced to the DOC custody. Additional data must be gathered describing the characteristics of the admission, confined, and release

populations, parole hearing outcomes, and parole revocations. This information is then entered into the simulation model.

The Wizard 2000 simulation model used for West Virginia was used to generate a ten-year prison population forecast. After several preliminary models, one model was produced to model the population accurately. The resulting model forecasts the state sentenced offender population according to their most serious offense. Anthony Correctional Center (ACC), and diagnostic inmates are entered separately into the model. The model is unable to provide forecast projections on specific characteristics of the ACC and diagnostic populations due to their small sample size. This can be considered a limitation of the model.

The model requires the formation of offense categories, also referred to as ID groups. It is assumed that offenders within each of the identified ID groups are handled by the criminal justice system in a similar fashion. In particular, it is assumed that offenders within each offense category are treated similarly in terms of factors related to sentencing, time served, and release decisions. Thus, specific offense categories or ID groups form the basis for all of the analysis contained in this report including the population forecast. These offense categories are murder, sex crimes, robbery, assault, burglary, property, drug, DUI, and “other” offenses. Each offender’s most serious offense was used to construct the ID groups.

In addition to the construction of ID groups, sentencing information is vital to the simulation model. There are a variety of descriptive statistics (minimums, maximums, and means)

required from the sentencing data. These sentence calculations are described later in this section.

## Forecast Assumptions

The Wizard 2000 simulation model simulates the movements of inmates through the prison system based on known and assumed factors affecting both the volume of admissions into the system and the lengths of stay for inmates who are housed in prison. It simulates the movements of individual cases, by offense category, and projects each separately.

The forecast model assumes that various factors known to impact trends in admissions and releases of inmates will remain relatively stable over time. It is assumed, for instance, that the sentencing composition for new commitments will remain the same as in the 2005 admissions. In addition, forecast projections assume that decision rates, which result in granting of parole, will remain somewhat constant. The accuracy of the correctional population projections are contingent upon these assumptions holding true over the forecast period.

## Data Sources

***National Corrections Reporting Program “NCRP” (1998-2004).*** NCRP admission and release data describes the inmates who are entering and exiting from DOC facilities.

***Automated Inmate Information Tracking System “Tracking” (1995-2004).*** Data obtained from this tracking system are used to describe the inmates who currently reside in the physical custody of DOC.

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***Inmate Management Information System “IMIS” (2005).*** This is a new automated system that has replaced the older “tracking” system described above. IMIS became effective in February 2005.

***Commitments and Releases Log “CRL” (1998-2008).*** The data from the CRL are used to monitor the trends in commitments to and releases from DOC custody, as well as parole grant rates.

***End-of-Month Log “EML” (1998-2008).*** The data contained in the EML includes the number of inmates in DOC custody at the end of each month.

***WV Parole Board Activity Sheets (2002-2007).*** Various pieces of data are collected on the processing of all hearings considered by the parole board on a monthly basis.

## Definitions and Calculations

***Correctional Population.*** The 2007 correctional population forecast referred to in this report includes inmates sentenced to ACC, and diagnostic inmates. Also, included are offenders committed to the DOC that are housed in local or regional jails. These DOC inmate populations are included in the forecast projections and other calculations unless otherwise noted.

***Anthony Correctional Center (ACC).*** Offenders sentenced to the ACC have a shorter length of stay, as compared to other DOC facilities. Young offenders are typically sentenced to 6 months to two years. Given that this population is handled differently from the general population of inmates, offenders sentenced to the ACC are separated

from the general population in some analyses.

***Diagnostics:*** These offenders can be sentenced to 60 days for a diagnostic evaluation.

***Commitments:*** This term is used to describe the number of offenders that are ordered by the court to the custody of DOC. Commitments include all offenders sentenced to DOC custody, including inmates that may be housed in regional jails awaiting transfer to a DOC facility.

***Admissions.*** This term refers to offenders sentenced to a DOC facility and physically enter a DOC facility. Admissions differ from commitments in that they do not include inmates housed in regional jails pending transfer to a DOC facility.

***Violent Crimes:*** Violent crime is composed of four offense categories, which are also referred to as ID groups. These categories include: murder, sex crimes, robbery, and assault.

***Nonviolent Crimes:*** Nonviolent crime consists of five offense categories, or ID groups including: burglary, property, drug, DUI, and “other”. For greater detail on the types of offenses contained in each ID group, see Lester and Haas 2005, Appendices A-C.

***Average Annual Growth Rates.*** The average annual growth rate is calculated by summing or adding the annual growth rates for each year over a span of time. This number is then divided by the total number of years in the given time frame.

***Average Maximum Sentence.*** This is a conversion of the total maximum sentence given for all offenses into months. Anthony Correctional Center and diagnostic populations are not included in the calculation of the average maximum sentence length. Maximum sentences that exceeded 1,000 months or more were due to methodological considerations and for comparison purposes to previous forecasts.

***Mean Time Served.*** This is the average time served in a DOC facility, converted to months. This is calculated by subtracting the release date from the date of admission. This calculation does not include any time previously spent in jail, prior to admission into prison.

***Mean Percent of Maximum Sentence Served.*** This represents the average percent of the maximum sentence served in a DOC facility, converted to months. This is calculated by taking the total time served in prison and dividing that by the total maximum sentence for all offenses. Cases with zero time served and equal to 250 months or greater are excluded from total maximum sentence calculation.

***Parole Decision Rates.*** The parole decision rates are calculated by taking the total number of cases granted and dividing that by the total number of all decisions to either grant or deny parole.

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## References

Bauer, Jared C. (2006). *Parole Revocation Profile 2002-2005*. Charleston, WV: West Virginia Division of Corrections, Office of Research and Planning, Department of Military Affairs and Public Safety. Available online at [www.wvdoc.com/wvdoc/Portals/documents/revocation2006.pdf](http://www.wvdoc.com/wvdoc/Portals/documents/revocation2006.pdf).

Lester, Theresa K. and Stephen M. Haas (2005, February). *West Virginia Correctional Population Forecast 2004-2014: A Study of the State's Prison Popoulation*. Charleston, WV: Criminal Justice Statistical Analysis Center, Division of Criminal Justice Services, Department of Military Affairs and Public Safety. Available online at [www.wvdcjs.com/statsanalysis](http://www.wvdcjs.com/statsanalysis).

West, Heather C. and Sabol, William J. (2008, December). *Prisoners in 2007* (NCJ 224280). Washington, DC: Bureau of Justice Statistics, U.S. Department of Justice. Available online at [www.ojp.usdoj.gov/bjs/abstract/pim07.htm](http://www.ojp.usdoj.gov/bjs/abstract/pim07.htm).

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# West Virginia Correctional Population Forecast: 2007-2017

## *A Study of the State's Prison Population*

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