

Criminal Justice Economics

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Presentation Outline

- Criminal Justice Spending
- Incarceration
- Crime
- Prison Economics
- Economics of programs



Senate Bill 267

- Programs designed to reduce recidivism must be evidence based and cost-effective
- Passed in 2003 during budget crisis
 - Gradually implemented – 25% increments per biennium
- Was the impetus for cost-benefit work in Oregon



General Fund Growth by Category

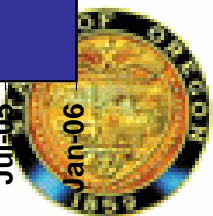
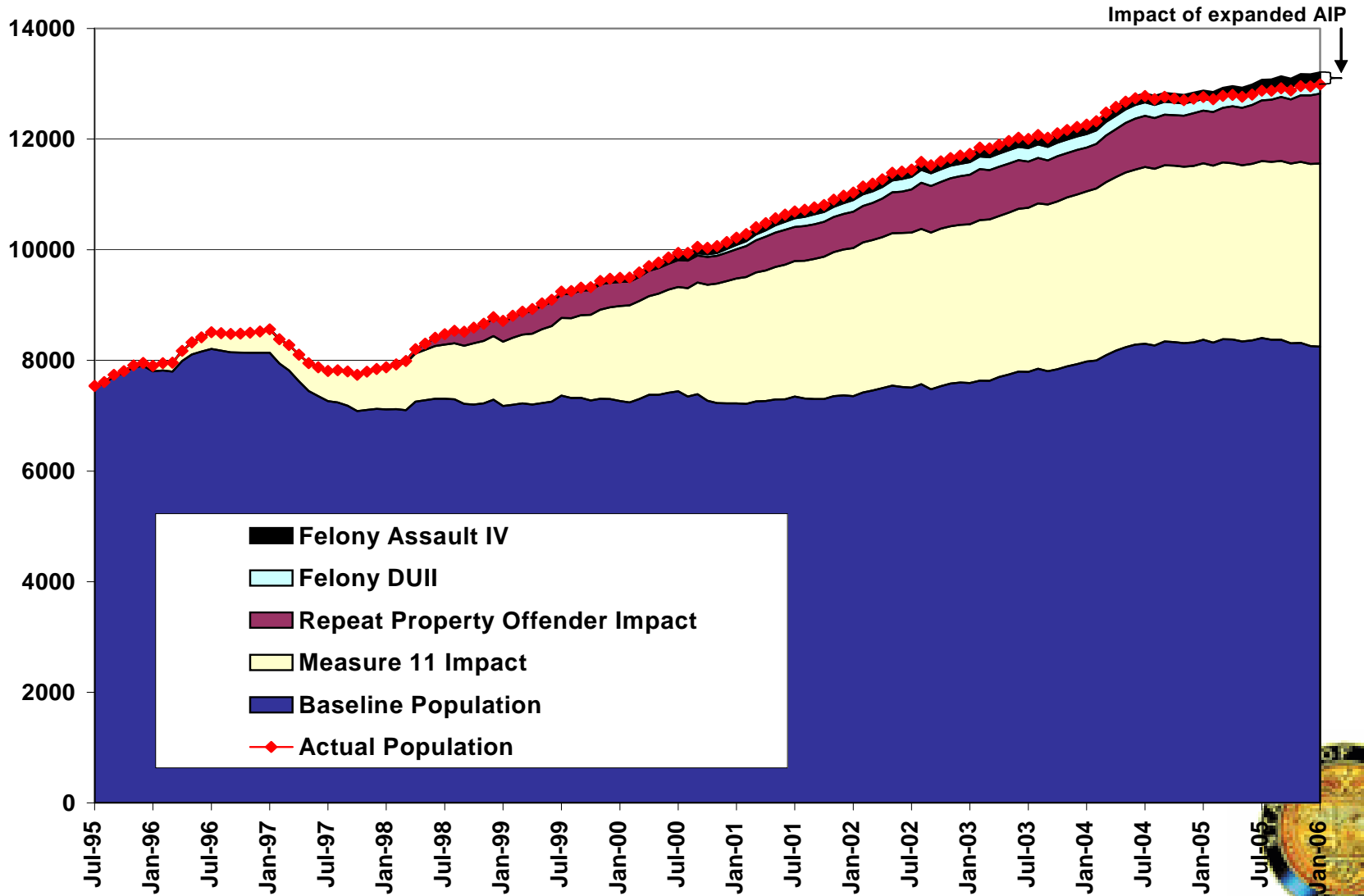
- Inflation adjusted criminal justice spending per household has more than doubled since 85-87, mostly due to DOC (up 211%)
 - Courts includes the criminal portion of OJD, Public Defense and the District Attorney's and their Deputies

Inflation adjusted per household general fund spending (2008 dollars)			
	85-87	07-09	85-87 to 07-09 % Change
DOC	\$272	\$846	211%
OYA	\$109	\$171	56%
Courts	\$164	\$250	53%
OSP	\$155	\$147	-5%
Total	\$700	\$1,414	102%

Source: Legislatively Adopted Budget



Estimated Impact of Policy Changes

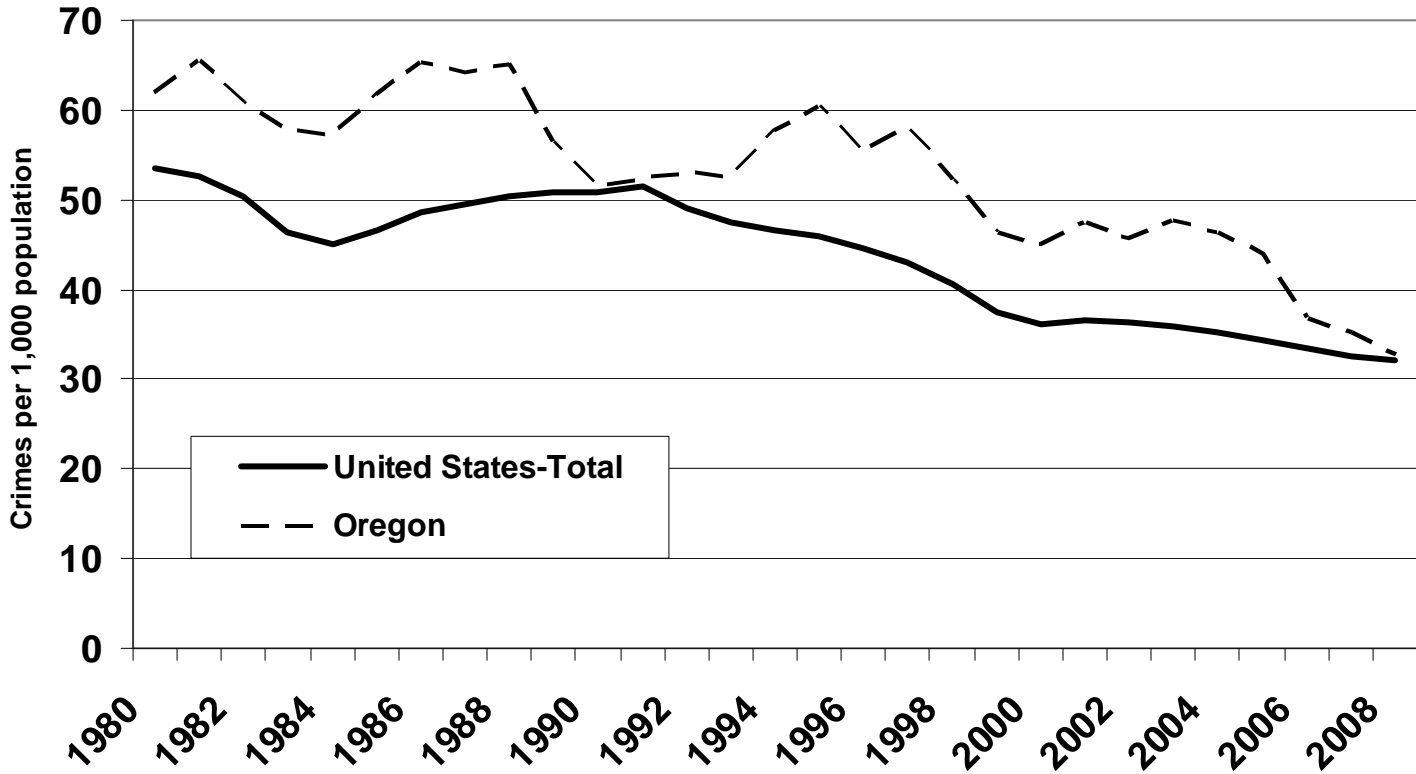


Crime Rates

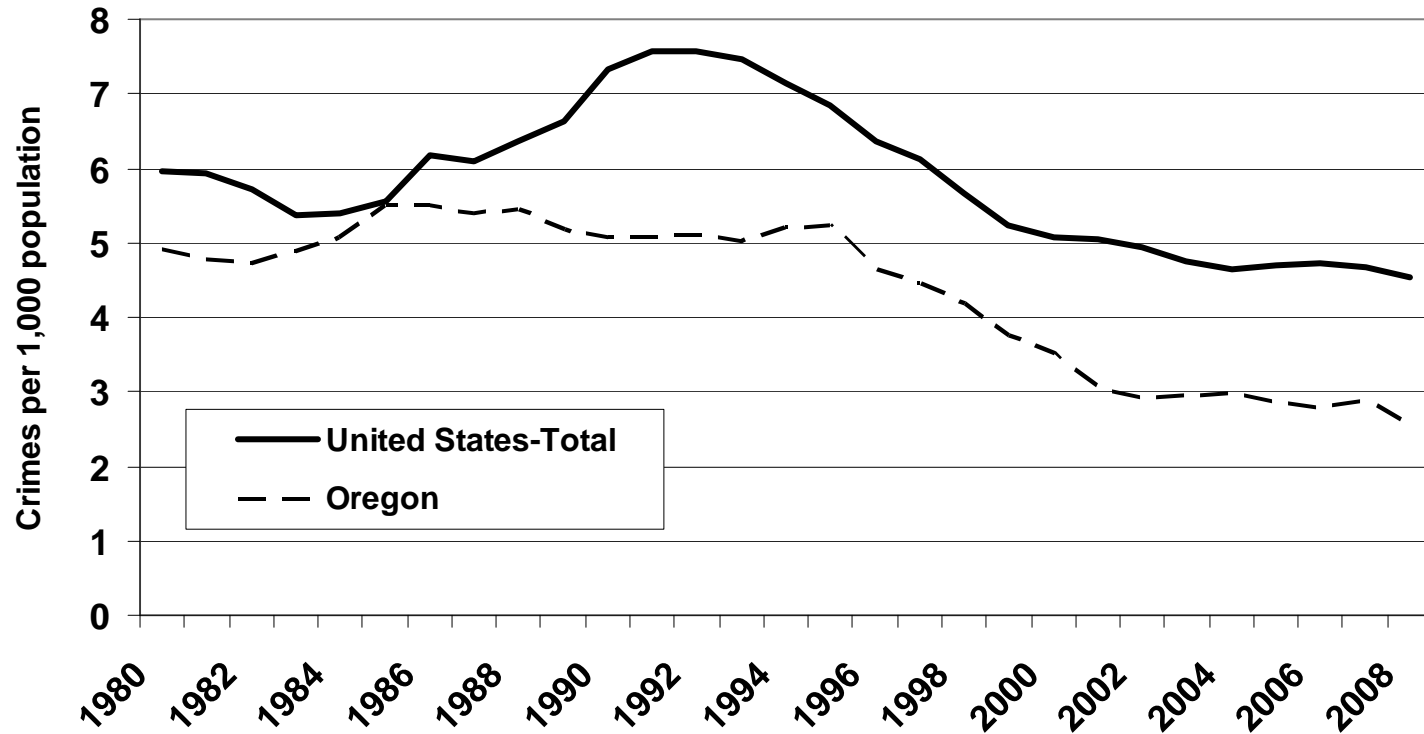
- In Oregon violent and property crimes were much lower in 2008 than in 1980
- This followed the trend in the United States as a whole



Property Crime Rate Comparison



Violent Crime Rate Comparison

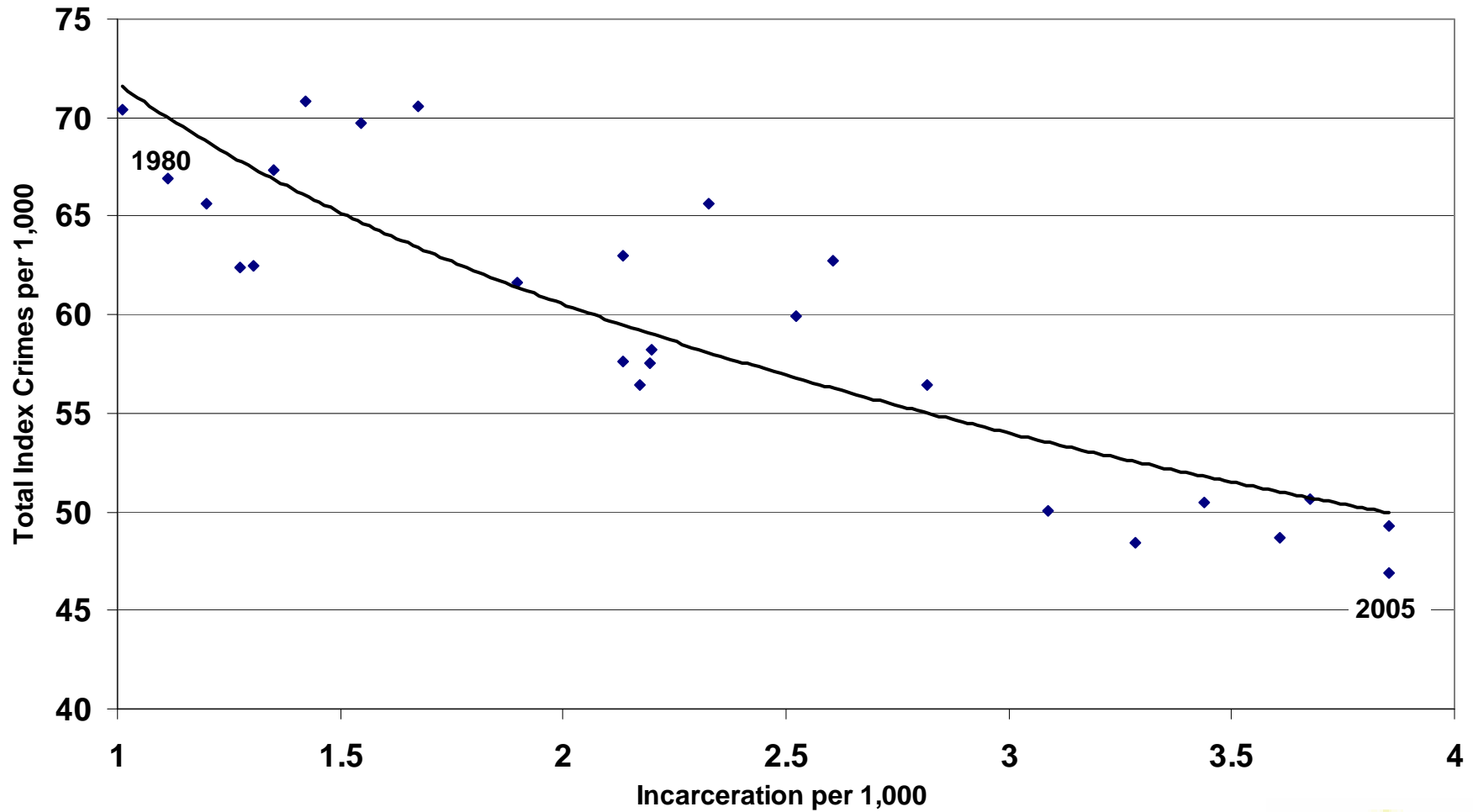


Prison Economics

- Oregon's largest criminal justice investment is in prisons
- Does incarceration reduce crime?
- How many crimes are avoided by incarceration?
- What are the benefits of avoiding crime?



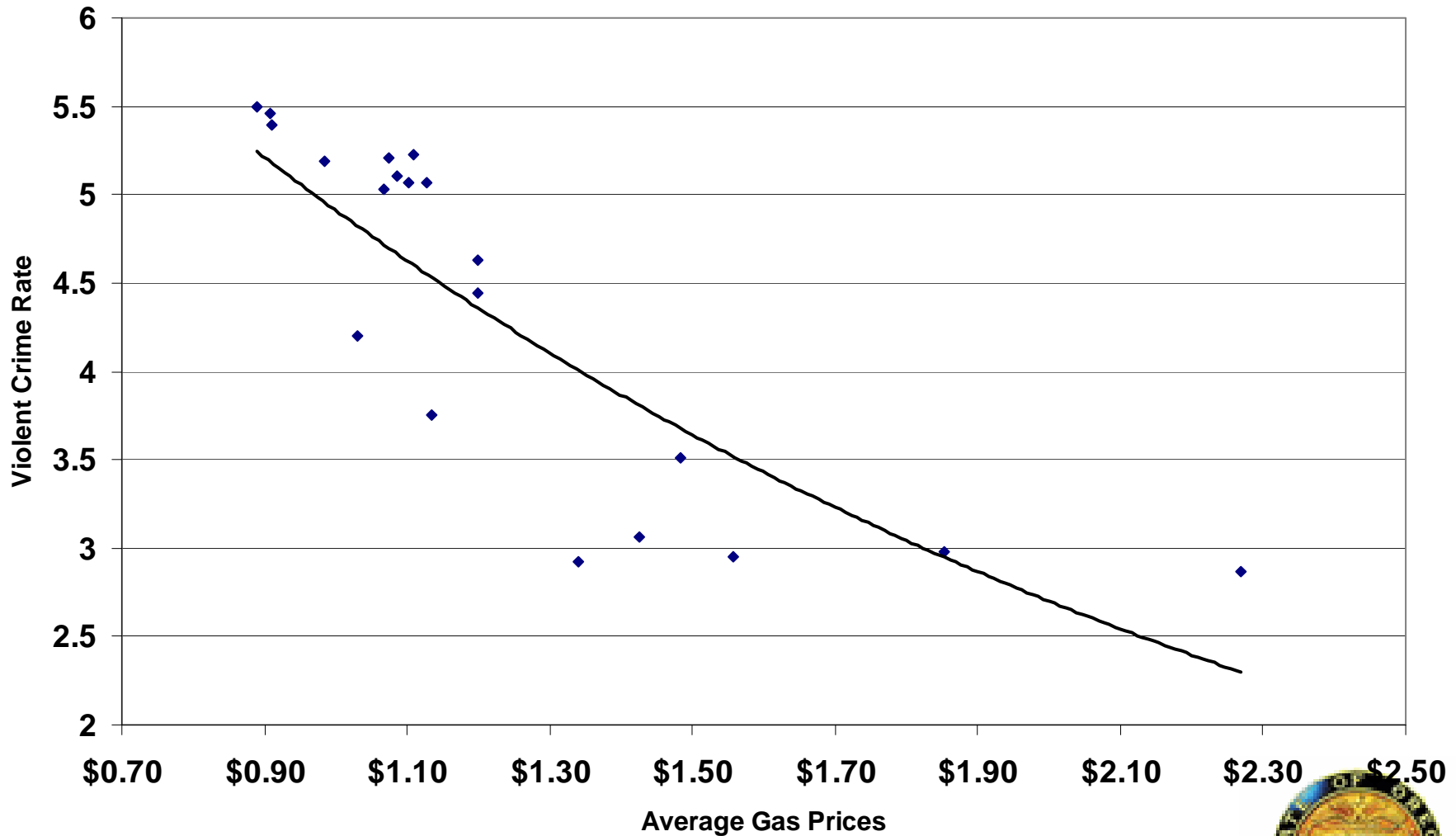
Oregon Crime Rates and Incarceration Rates



Source: Department of Corrections and FBI Uniform Crime Reporting



Gas Prices and Violent Crime Rates



Prison Economics

- Simple plot suggests that as incarceration rates went up, crime rates went down
- To test the effect of incarceration on crime we control for other factors that may cause crime rates to change
 - Demographics, economic factors, population density, police force

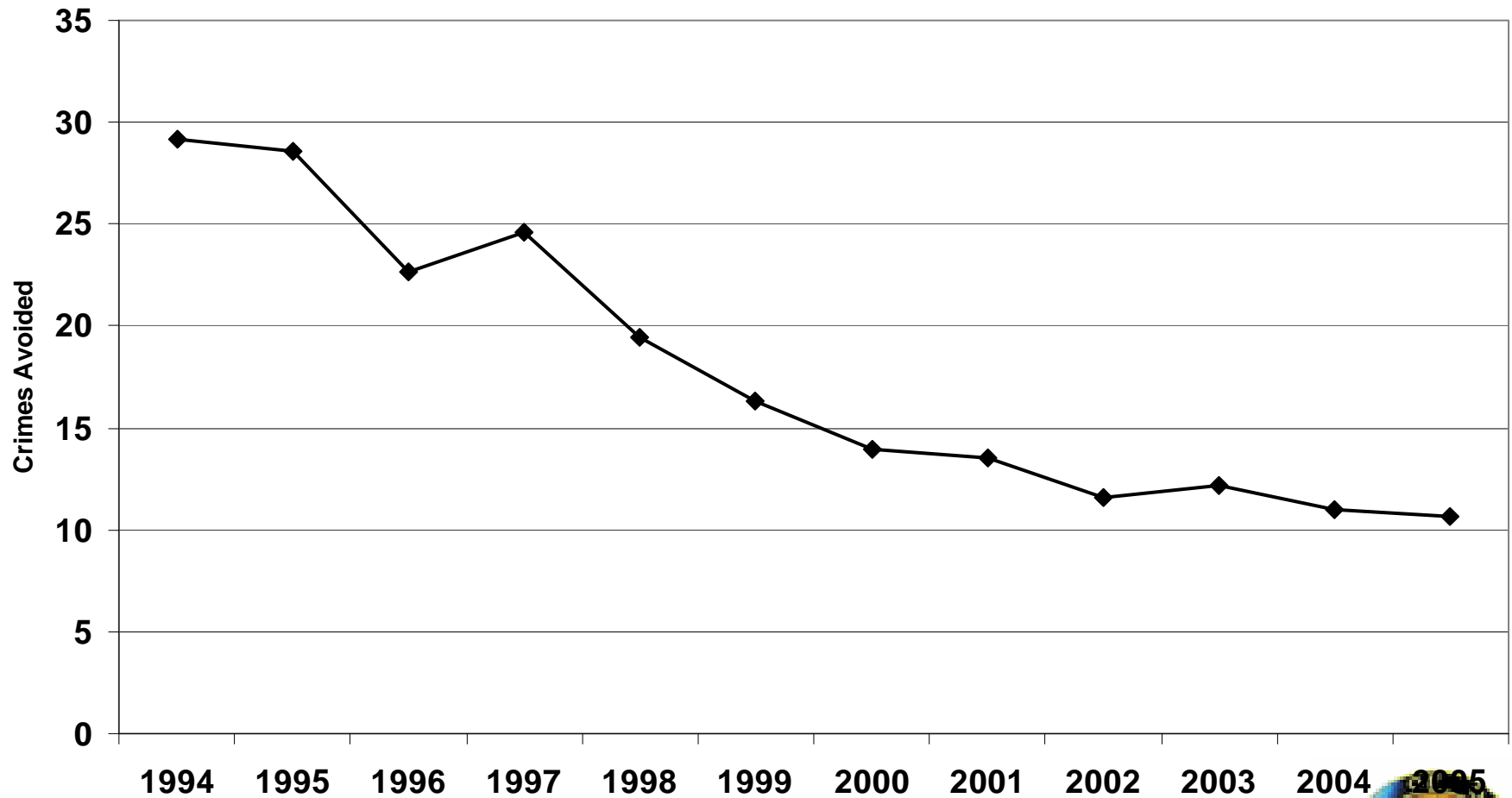


What is an elasticity?

- A measure of responsiveness
 - measures how a percent change in one variable affects the percent change in another variable
- Results for Oregon show if the incarceration rate increases by **10%** the violent crime rate is predicted to decrease by **3.4%** and the overall crime rate is predicted to decrease by **2.6%**
- Once an elasticity is estimated the number of avoided crimes can be easily estimated.



Crimes Avoided Per Year by Adding One Inmate to Oregon's Prisons



Source: Estimated from model



Crimes Avoided to Benefit Cost

- The cost of crime must be estimated to calculate a benefit of avoiding crime
 - The cost of crime (benefit of avoiding crime) includes taxpayer costs (arrest, conviction, incarceration, probation, post-prison supervision)
 - The cost of crime also includes costs to victims
 - These are taken from a respected national study that estimates monetary losses (lost wages, medical bills, etc.)
 - This also includes intangible loss (pain and suffering and lost quality of life)



Diminishing marginal returns reduce the benefit of incarceration

Benefit Cost Ratio

	Oregon	Washington		
	All	Violent	Property	Drug
1994	\$3.31	\$9.57	\$2.36	\$0.37
1995	\$2.89	\$8.20	\$2.40	\$0.37
1996	\$2.37	\$7.06	\$2.23	\$0.34
1997	\$2.31	\$6.58	\$2.22	\$0.36
1998	\$1.99	\$5.85	\$1.94	\$0.36
1999	\$1.62	\$5.37	\$1.74	\$0.32
2000	\$1.22	\$5.24	\$1.61	\$0.31
2001	\$1.21	\$4.87	\$1.46	\$0.28
2002	\$1.04	\$4.46	\$1.20	\$0.26
2003	\$1.10	\$4.82	\$1.26	\$0.29
2004	\$1.09	\$4.33	\$1.18	\$0.32
2005	\$1.03	\$4.35	\$1.10	\$0.35

Note: Washington numbers were provided from WSIPP

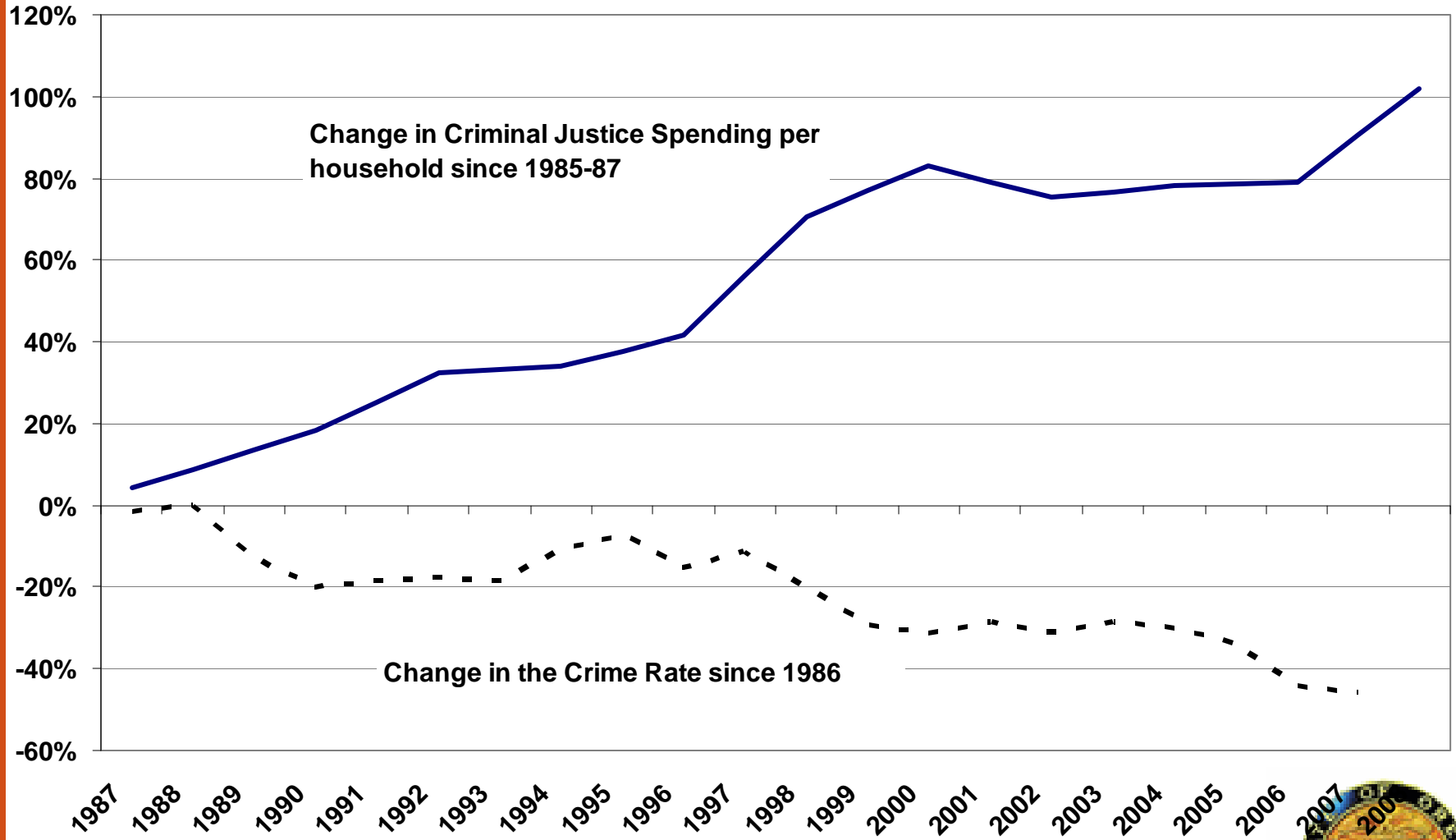


House Bill 3563

- Passed in 2007 HB 3563 created the Public Safety Strategies Task Force
 - Evaluate public safety investment in programs that reduce crime
 - Make recommendations for sentencing
 - Make recommendations based on cost-benefit analysis
 - Submit report on findings on 10/1/08
 - Appropriation of \$100,000



Criminal Justice Spending and the Crime Rate



Cost-Benefit and Programs

- Are there programs effective at reducing crime?
- Apply cost-benefit analysis to programs that reduce crime



Effect Size

- Meta-Analysis
 - Based on available research
 - Washington Institute of Public Policy analyzed 571 studies to see what works
- In state program evaluation



Drug Courts

- Reduce recidivism by an estimated 12%
 - From roughly 40% to 35%
- This reduces an estimated 9 felony convictions per 100 participants
- Each drug court participant avoids \$6,000 in taxpayer and victim costs
 - Taxpayer - \$3,600
 - Victim - \$2,400
- Cost estimate of \$1,600 per participant
- Cost Benefit = \$3.73



Recidivists

Recidivism of Drug and Property Probationers Convicted in 1997								
Year	Hom	Sex	Rob	Ass	Prop	Drug	Oth	All
1	1	11	33	24	306	503	160	1038
2	0	15	16	16	172	331	144	694
3	3	7	8	26	128	281	99	552
4	0	5	8	20	109	258	62	462
5	1	7	8	15	118	192	53	394
6	0	7	9	16	89	181	41	343
7	0	7	3	19	88	155	41	313
8	1	3	8	17	77	167	38	311
9	0	7	13	10	76	162	39	307
10	0	1	10	12	70	113	43	249
All	6	70	116	175	1233	2343	720	4663

10 Year Recidivism Rate		
	N	PctN
No	3520	61.7%
Yes	2177	38.2%
All	5697	100.0%



Average Offenses per 100 Released Offenders

Conviction Distribution for 100 Drug or Property Probationers, 1997								
Year	Hom	Sex	Rob	Ass	Prop	Drug	Oth	All
1	0.02	0.19	0.58	0.42	5.37	8.83	2.81	18.22
2	0.00	0.26	0.28	0.28	3.02	5.81	2.53	12.18
3	0.05	0.12	0.14	0.46	2.25	4.93	1.74	9.69
4	0.00	0.09	0.14	0.35	1.91	4.53	1.09	8.11
5	0.02	0.12	0.14	0.26	2.07	3.37	0.93	6.92
6	0.00	0.12	0.16	0.28	1.56	3.18	0.72	6.02
7	0.00	0.12	0.05	0.33	1.54	2.72	0.72	5.49
8	0.02	0.05	0.14	0.30	1.35	2.93	0.67	5.46
9	0.00	0.12	0.23	0.18	1.33	2.84	0.68	5.39
10	0.00	0.02	0.18	0.21	1.23	1.98	0.75	4.37
All	0.11	1.23	2.04	3.07	21.64	41.13	12.64	81.85



Number of Avoided Convictions

Estimated Convictions Avoided for 100 Drug Court Participants								
Year	Hom	Sex	Rob	Ass	Prop	Drug	Oth	All
1	0.002	0.023	0.068	0.049	0.627	1.031	0.328	2.13
2	0.000	0.030	0.032	0.032	0.344	0.662	0.288	1.39
3	0.006	0.014	0.016	0.051	0.250	0.548	0.193	1.08
4	0.000	0.010	0.015	0.038	0.207	0.491	0.118	0.88
5	0.002	0.013	0.015	0.028	0.219	0.356	0.098	0.73
6	0.000	0.013	0.016	0.029	0.161	0.327	0.074	0.62
7	0.000	0.012	0.005	0.034	0.155	0.274	0.072	0.55
8	0.002	0.005	0.014	0.029	0.133	0.287	0.065	0.54
9	0.000	0.012	0.022	0.017	0.128	0.272	0.065	0.52
10	0.000	0.002	0.016	0.020	0.115	0.185	0.070	0.41
All	0.01	0.13	0.22	0.33	2.34	4.43	1.37	8.83

Crime Reduction
-11.68%
-11.39%
-11.11%
-10.84%
-10.57%
-10.31%
-10.05%
-9.80%
-9.56%
-9.33%



Other Programs - Adult

- Intensive Supervision on Parole
- Cognitive Behavioral Treatment
- General Education in Prison
- Drug Treatment in the Community
- Sex Offender Treatment
 - Not cost effective
- Adult Boot Camp
 - ineffective



Juvenile Programs

- Multi-Dimensional Foster Care
- Adolescent Diversion Project
- Functional Family Therapy
- Teen Courts
- Scared Straight
 - ineffective



Oregon's Portfolio Analysis

Program	Crime Reduction	Avoided Felony			Benefits to			Benefit Cost Ratio
		Convictions Per Participant	Number Served	Benefits to Tax Payers	Crime Victims	Costs	Benefits Minus Costs	
Adult Programs								
Sex Offender Treatment - Community	-41.48%	0.12	2240	\$6,651	\$23,519	\$1,880	\$28,290	\$16.05
General Education	-8.70%	0.11	3875	\$5,581	\$4,024	\$1,441	\$8,164	\$6.67
Vocational Education	-11.08%	0.14	226	\$7,113	\$5,129	\$3,339	\$8,902	\$3.67
Cognitive-Behavioral Treatment in Prison	-7.74%	0.10	1664	\$4,968	\$3,582	\$617	\$7,933	\$13.86
Corrections Industry	-7.36%	0.09	1100	\$4,723	\$3,405	\$444	\$7,684	\$18.31
Drug Treatment in Community	-13.53%	0.10	12317	\$4,096	\$2,812	\$1,870	\$5,037	\$3.69
Cognitive-Behavioral Treatment in Community	-10.08%	0.07	8431	\$2,889	\$2,218	\$86	\$5,021	\$59.39
Intensive Supervision on Parole	-23.85%	0.17	0	\$6,849	\$5,257	\$7,587	\$4,519	\$1.60
Drug Court	-11.68%	0.09	1883	\$3,534	\$2,426	\$1,600	\$4,361	\$3.73
Employment and Job Training - Community	-6.18%	0.04	5145	\$1,772	\$1,360	\$0	\$3,132	N/A
In Prison Therapeutic Communities w/o After Care	-5.55%	0.08	922	\$3,610	\$1,136	\$5,745	-\$998	\$0.83
Drug Treatment in Jail	-6.69%	0.05	0	\$2,025	\$1,390	\$5,745	-\$2,329	\$0.59
Sex Offender Treatment	-9.17%	0.04	0	\$2,821	\$7,791	\$13,403	-\$2,791	\$0.79
Juvenile Programs								
Adolescent Diversion Project	-27.49%	0.25	7	\$11,379	\$20,739	\$2,037	\$30,081	\$15.77
Multi-dimensional Foster Care	-33.78%	0.31	60	\$13,992	\$25,501	\$11,857	\$27,636	\$3.33
Functional Family Therapy	-22.33%	0.20	282	\$9,235	\$16,833	\$2,481	\$23,587	\$10.51
Other Family-Based Therapy	-17.29%	0.16	0	\$7,151	\$13,034	\$623	\$19,562	\$32.40
Family Integrated Transition	-20.72%	0.19	0	\$8,569	\$15,618	\$10,293	\$13,893	\$2.35
Juvenile Sex Offender Treatment	-12.12%	0.12	1036	\$5,573	\$10,073	\$2,737	\$12,909	\$5.72
Teen Courts	-10.01%	0.09	84	\$4,139	\$7,544	\$997	\$10,686	\$11.72
Aggression Replacement	-8.97%	0.11	740	\$4,681	\$8,384	\$4,138	\$8,927	\$3.16
Restorative Justice Programs	-7.80%	0.07	220	\$3,224	\$5,877	\$937	\$8,165	\$9.71
Multisystemic Therapy in juvenile courts	-14.91%	0.14	53	\$6,163	\$11,232	\$12,766	\$4,629	\$1.36
Interagency Coordination Programs	-3.66%	0.03	58	\$1,513	\$2,757	\$1,319	\$2,951	\$3.24
Juvenile Drug Courts	-5.01%	0.05	248	\$2,070	\$3,773	\$2,958	\$2,885	\$1.98
Diversion Programs with Services	-2.41%	0.02	833	\$995	\$1,814	\$310	\$2,499	\$9.06
Life Skills Education Programs	-4.53%	0.04	4647	\$1,871	\$3,410	\$3,610	\$1,671	\$1.46
Juvenile Cognitive-Behavioral Treatment	-3.66%	0.03	1826	\$1,513	\$2,757	\$3,136	\$1,134	\$1.36

For More Information Contact...

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