



REPLACING THE UCR: PRACTICAL AND THEORETICAL CONSIDERATIONS OF SHERMAN'S CRIME HARM INDEX

Captain Tim Hegarty, Riley County (KS) Police Department
2015 CEBCP-PF Symposium on Evidence-Based Crime Policy





PRESENTATION SOURCES

- Ratcliffe, J. H. (2015). Towards an Index for Harm-Focused Policing. *Policing: A Journal of Policy and Practice*, 9(2), 164-182.
- Sherman, L. W. (2013). 'Targeting, Testing and Tracking Police Services: The Rise of Evidence-Based Policing, 1975-2025.' In Tonry, M. (ed.), *Crime and Justice in America, 1975-2025*, Vol. Crime and Justice 43. Chicago: University of Chicago Press.
- Sherman, L. W. (2011). 'Al Capone, the Sword of Damocles, and the Police-Corrections Budget Ratio.' *Criminology and Public Policy* 10(1): 195–206.





THE BASIC PREMISE

UCR: Every crime is treated as (numerically) equal.

Crime Harm Index (CHI): Each type of crime is given a weight that represents how harmful it is to society.





SEPARATE BUT NOT EQUAL

KSA 21-5420. Robbery; aggravated robbery.

(a) Robbery is knowingly taking property from the person or presence of another by force or by threat of bodily harm to any person.

(b) Aggravated robbery is robbery, as defined in subsection (a), when committed by a person who:

- (1) Is armed with a dangerous weapon; or
- (2) inflicts bodily harm upon any person in the course of such robbery.

Robbery is a severity level 5, person felony.

Aggravated Robbery is a severity level 3, person felony.



CHI SCORE EXAMPLE

Robbery is a severity level 5, person felony.

Aggravated Robbery is a severity level 3, person felony.

Kansas Sentencing Guidelines Guide

	3 + Person Felonies	2 Person Felonies	1 Person and 1 Nonperson Felony	1 Person Felony	3+ Nonperson Felonies	2 Nonperson Felonies	1 Nonperson Felony	2+ Misds	1 Misd or No Record
I	653 620 592	618 586 554	285 272 258	267 253 240	246 234 221	226 214 203	203 195 184	186 176 166	165 155 147
II	493 467 442	460 438 416	216 205 194	200 190 181	184 174 165	168 160 152	154 146 138	138 131 123	123 117 109
III	247 233 221	228 216 206	107 102 96	100 94 89	92 88 82	83 79 74	77 72 68	71 66 61	61 59 55
IV	172 162 154	162 154 144	75 71 68	69 66 62	64 60 57	59 56 52	52 50 47	48 45 42	43 41 38
V	136 130 122	128 120 114	60 57 53	55 52 50	51 49 46	47 44 41	43 41 38	38 36 34	34 32 31
VI	46 43 40	41 39 37	38 36 34	36 34 32	32 30 28	29 27 25	26 24 22	21 20 19	19 18 17
VII	34 32 30	31 29 27	29 27 25	26 24 22	23 21 19	19 18 17	17 16 15	14 13 12	13 12 11
VIII	23 21 19	20 19 18	19 18 17	17 16 15	15 14 13	13 12 11	11 10 9	11 10 9	9 8 7
IX	17 16 15	15 14 13	13 12 11	13 12 11	11 10 9	10 9 8	9 8 7	8 7 6	7 6 5
X	13 12 11	12 11 10	11 10 9	10 9 8	9 8 7	8 7 6	7 6 5	7 6 5	7 6 5

AGG ROBBERY: CHI SCORE = 1770 DAYS

ROBBERY: CHI SCORE = 960 DAYS





TO BUILD A CRIME HARM INDEX

- 1) Count the number of crimes of each type.
- 2) Multiply the count for each type of crime by the median number of prison days recommended for crimes of that type by first offenders (Harm Subtotals/HST).
- 3) Sum up all the HSTs to yield the total crime harm (TCH).
- 4) Divide the population (area or jurisdiction) by the TCH to create a standardized CHI.





CHI WEIGHTS FOR KANSAS

- [CHI WEIGHTED SCORES.xlsx](#)



WHY CHI?

- CHI supports “democratic policing”
- “Almost every sentencing guideline process in the United States and United Kingdom has reflected awareness of opinion polls, debates, and scrutiny by elected officials and the media. The scrutiny may not have been perfect. Yet it remains far closer to the will of the people than any theoretical or even empirical system of weighting that academics might develop.” Sherman (2013)
- Potential to positively impact police legitimacy efforts through procedural justice



A MORE ACCURATE MEASURE OF HARM

UNIFORM CRIME REPORT

Year	MONTH			YEAR TO DATE			QUARTER		
	2013	2014	-%+	2013	2014	-%+	2013	2014	-%+
Murder	0	0	0.0%	5	2	-60.0%	1	0	-100.0%
Rape	3	2	-33.3%	20	28	40.0%	4	7	75.0%
Robbery	1	1	0.0%	16	29	81.3%	6	8	33.3%
Ag. Asslt	15	7	-53.3%	109	104	-4.6%	28	35	25.0%
Total	19	10	-47.4%	150	163	8.7%	39	50	28.2%
Burglary	11	9	-18.2%	206	173	-16.0%	45	44	-2.2%
Larceny	77	85	10.4%	1030	894	-13.2%	233	252	8.2%
Auto Theft	4	3	-25.0%	47	30	-36.2%	15	7	-53.3%
Total	92	97	5.4%	1283	1097	-14.5%	293	303	3.4%
Overall Total	111	107	-3.6%	1433	1260	-12.1%	332	353	6.3%

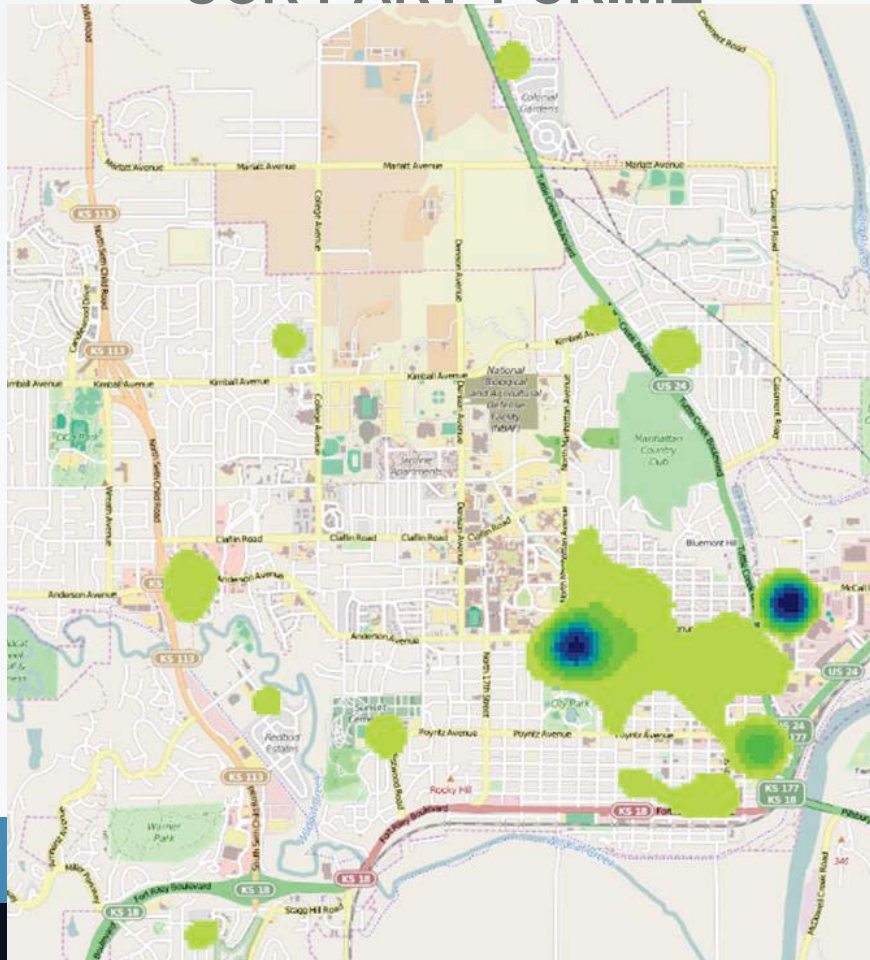
CRIME HARM

Year	MONTH			YEAR TO DATE			QUARTER		
	2013	2014	-%+	2013	2014	-%+	2013	2014	-%+
Murder	0	0	0.0%	22110	7200	-67.4%	4650	0	-100.0%
Rape	11070	9300	-16.0%	90120	127320	41.3%	15720	32550	107.1%
Robbery	1770	960	-45.8%	24270	39210	61.6%	9000	10920	21.3%
Ag. Asslt	7410	3120	-57.9%	59610	61560	3.3%	14250	18960	33.1%
Total	20250	13380	-33.9%	196110	235290	20.0%	43620	62430	43.1%
Burglary	6120	4200	-31.4%	101040	79740	-21.1%	22620	20700	-8.5%
Larceny	16080	16020	-0.4%	199560	173160	-13.2%	45840	48120	5.0%
Auto Theft	720	540	-25.0%	9360	6120	-34.6%	3060	1440	-52.9%
Total	22920	20760	-9.4%	309960	259020	-16.4%	71520	70260	-1.8%
Overall Total	43170	34140	-20.9%	506070	494310	-2.3%	115140	132690	15.2%

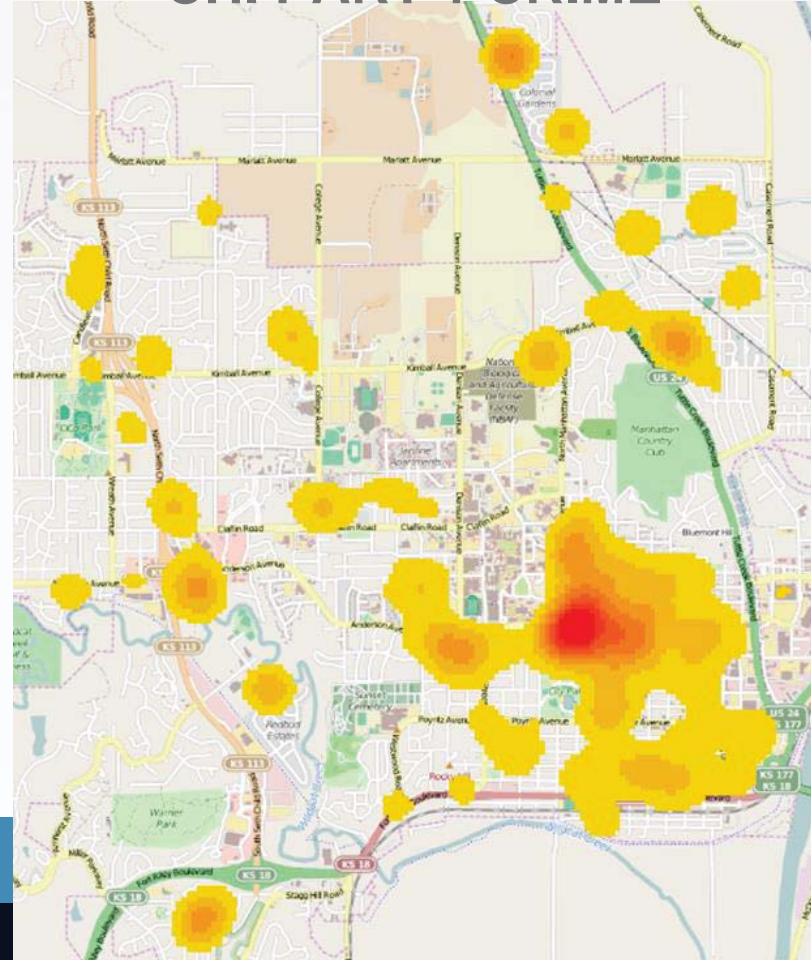


A MORE ACCURATE PICTURE OF HARM

UCR PART 1 CRIME



CHI PART 1 CRIME





A MORE HOLISTIC APPROACH TO HARM

- Quality of life offenses
- Accidents
- Police tactics
- Community harm is a better rallying cry than Part I Crime



OFFENDER MANAGEMENT

- Divide an individual offender's TCH by the number of years the offender has been at risk of committing crimes as an adult, removing days in prison if the data is available
- “Perhaps the greatest value of a CHI would be in using it to forecast how much harm an individual offender, suspect, or defendant is likely to cause in the next two years.” Sherman (2013)





OFFENDER CRIME HARM

TRADITIONAL
REPEAT
OFFENDERS

FullName	12Qtr1	12Qtr2	12Qtr3	12Qtr4	13Qtr1	13Qtr2	13Qtr3	13Qtr4	14Qtr1	14Qtr2	14Qtr3	14Qtr4	Grand Total	Cases	
	0	0	720	900	3870	2430	270	0	6300	0	630	0	15120	21	
	0	0	0	1770	13200	0	0	0	0	0	0	0	14970	4	
	0	0	0	1770	11790	0	0	0	0	0	0	0	13560	5	
	0	0	0	0	0	450	810	0	0	2460	0	8070	11790	8	
	0	0	0	0	0	180	0	0	0	0	10335	1080	11595	7	
	0	0	0	10260	960	0	0	0	0	0	0	0	11220	2	
	0	0	0	9060	2010	0	0	0	0	0	0	0	11070	7	
	0	0	0	0	0	0	0	0	0	0	180	10500	10680	3	
	9300	0	0	270	0	180	180	0	540	0	0	0	10470	7	
	0	0	10260	0	0	0	0	0	0	0	0	0	10260	1	
	0	0	0	0	0	0	0	0	0	0	10260	0	10260	1	
	0	0	0	420	450	270	7500	0	960	540	0	0	10140	9	
	5910	270	0	0	90	0	3510	0	0	0	0	0	9780	4	
	5910	90	0	0	0	0	3510	0	0	0	0	0	9510	3	
	0	0	0	0	0	0	0	0	0	0	0	9480	9480	2	
	0	0	0	0	0	0	0	0	0	9300	105	0	9405	3	
	0	0	0	450	1800	540	5655	0	0	0	0	0	8445	19	
	0	0	0	0	0	0	0	0	0	0	8385	0	8385	3	
	0	0	8250	0	0	0	0	0	0	0	0	0	8250	4	
	750	0	0	15	6435	0	720	0	0	0	0	0	7920	7	
	0	0	0	0	0	0	7830	0	0	0	0	0	7830	1	
	0	0	0	90	0	0	0	0	0	360	0	7320	7770	5	
	3270	0	0	0	2910	0	0	0	1530	0	0	0	7710	4	
	0	0	630	0	6960	0	0	0	0	0	0	0	7590	4	
	0	0	0	0	0	0	270	0	465	0	0	0	6765	7500	7
	0	0	0	0	0	0	0	0	0	0	90	7200	7290	3	
	4950	0	0	0	2100	0	0	0	0	0	0	0	7050	4	
	0	0	0	0	0	0	0	1590	2100	180	1140	2010	7020	7	
	0	0	180	0	0	0	0	0	90	6540	0	0	6810	6	
	0	0	3705	0	0	360	0	2730	0	0	0	0	6795	6	
	0	0	0	0	0	0	0	0	0	0	0	6690	6690	2	
	0	0	0	0	0	0	0	6600	90	0	0	0	6690	3	
	0	0	0	0	0	0	0	0	0	90	6585	0	6675	4	
	0	0	0	0	0	0	0	0	0	0	0	6660	6660	1	
	0	0	6600	0	0	0	0	0	0	0	0	0	6600	3	
	0	0	0	0	0	6570	0	0	0	0	0	0	6570	1	
	0	0	0	0	0	0	0	0	6570	0	0	0	6570	1	
	0	0	0	0	5460	1080	0	0	0	0	0	0	6540	9	
	0	0	0	0	6420	0	0	0	0	0	0	0	6420	1	
	0	0	0	0	0	0	0	0	0	0	0	6420	6420	1	
	0	0	0	0	6420	0	0	0	0	0	0	0	6420	1	
	0	0	0	0	6420	0	0	0	0	0	0	0	6420	1	
	285	900	1740	1050	180	90	450	180	270	1260	0	0	6405	19	
	0	270	600	0	180	420	15	180	0	0	4575	0	6240	9	
	0	0	0	0	5790	180	180	0	0	0	0	0	6150	4	
	0	0	0	0	0	6150	0	0	0	0	0	0	6150	1	
	0	0	0	0	0	0	0	5880	0	0	0	0	5880	2	
	0	0	0	270	90	2460	270	2730	0	0	0	0	5820	7	



RILEY COUNTY POLICE DEPARTMENT

To reduce crime and improve the quality of life for the citizens we serve

NameNum	FullName	2012				2013				2014				Grand Total
		Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	
170717		0	0	720	900	3870	2430	270	0	6300	0	630	0	15120
243303		0	0	0	0	0	450	810	0	0	2460	0	8070	11790
333376		0	0	0	420	450	270	7500	0	960	540	0	10140	
193009		0	0	0	450	1800	540	5655	0	0	0	0	8445	
41121		285	900	1740	1050	180	90	450	180	270	1260	0	6405	
231328		180	0	3660	720	0	0	0	0	0	1140	0	5700	
105599		180	0	450	90	4665	0	0	0	0	180	0	5565	
80761		840	4680	0	0	0	0	0	0	0	0	0	5520	
141067		0	0	225	15	2850	1185	1230	0	0	0	0	5505	
146522		0	0	0	0	1770	1080	0	0	720	0	1770	5340	
258670		0	0	0	0	90	90	90	270	540	0	3990	5070	
22809		0	0	0	270	0	1350	285	1410	0	90	1545	4950	
127033		0	360	15	0	3240	0	1260	0	0	0	0	4875	
13882		0	0	0	630	450	0	645	630	0	645	0	4680	
298319		360	540	2070	780	0	0	0	0	0	0	0	3750	
265785		0	0	0	0	0	0	630	1335	1170	555	0	3690	
80423		0	1740	1800	0	0	0	0	0	0	0	0	3540	
256139		0	30	180	180	0	270	0	2670	0	0	0	3330	
25738		360	0	0	360	0	0	0	2070	180	0	180	3150	
53780		0	0	2040	180	0	180	0	0	630	0	0	3030	
101254		270	1830	0	0	810	0	0	0	0	0	0	2910	
27464		0	0	0	0	540	15	270	0	0	555	1455	2835	
22291		0	0	630	0	0	0	0	0	2100	0	0	2730	
8001		0	1140	0	450	0	0	0	0	0	0	1140	2730	
9070		0	0	0	0	270	540	1500	360	0	0	0	2670	
215240		2340	0	0	90	0	0	0	0	0	0	0	2430	
9528		0	0	0	0	0	0	0	1170	0	630	630	2430	
245464		0	0	0	1080	0	270	0	15	960	0	90	2415	
185363		0	0	0	2280	0	0	0	0	0	0	0	2280	
37642		180	0	0	0	0	0	0	0	0	2100	0	2280	
44175		1080	180	90	0	90	0	0	0	630	0	0	2070	
58877		0	960	0	195	720	0	0	0	0	90	90	2055	
151216		0	180	0	0	0	540	1320	0	0	0	0	2040	
94319		0	0	0	0	1080	0	0	0	0	645	180	1905	
283689		360	0	0	0	0	0	0	0	0	360	1140	1860	
246453		0	0	0	0	1620	0	0	0	0	0	0	1620	
189406		180	180	0	0	0	0	0	0	195	1005	0	1560	
56842		0	0	0	90	1440	0	0	0	0	0	0	1530	
217996		0	90	0	90	0	0	1170	0	180	0	0	1530	
254043		180	180	960	0	180	0	0	0	0	0	0	1500	
232822		0	0	90	0	0	540	810	0	0	0	0	1440	
345396		0	0	0	0	0	15	90	810	0	0	360	1275	
299168		0	0	0	0	780	450	0	0	0	0	0	1230	
124693		1050	180	0	0	0	0	0	0	0	0	0	1230	
41265		0	360	780	0	0	0	0	0	0	0	0	1140	
198487		0	180	270	540	0	90	0	0	0	0	0	1080	
12455		180	0	0	0	0	0	0	0	0	900	0	1080	
253186		540	0	15	0	0	0	0	450	180	0	0	1005	
141506		0	0	0	0	0	0	0	0	0	0	1005	1005	
195200		0	0	0	180	810	0	0	0	0	0	0	990	
243216		360	0	0	0	0	0	450	90	0	0	0	900	
190581		0	270	0	0	0	0	0	630	0	0	0	900	
43743		0	180	270	0	180	90	180	0	0	0	0	900	
127892		90	0	0	0	0	0	0	0	780	0	0	870	
25280		0	0	0	90	0	0	180	0	0	540	0	810	
208947		630	0	180	0	0	0	0	0	0	0	0	810	
50072		0	0	0	630	0	0	0	0	0	0	180	810	
146794		0	0	720	0	0	0	0	0	0	90	0	810	
269099		0	0	0	0	90	0	0	450	180	0	0	720	
289585		540	0	0	0	90	0	0	0	90	0	0	720	
2775		0	0	0	90	90	15	0	450	0	15	0	660	
59526		0	0	0	0	90	0	0	180	0	180	0	450	
2961		0	360	0	0	0	0	0	0	0	0	0	360	
107803		0	180	0	180	0	0	0	0	0	0	0	360	
207548		0	0	0	0	0	180	0	90	0	0	0	270	
90235		0	0	0	0	180	0	0	0	0	0	0	180	
15312		180	0	0	0	0	0	0	0	0	0	0	180	
9903		0	0	0	0	0	0	0	0	0	0	105	105	
251908		0	0	0	0	0	0	0	0	0	0	0	0	

ROP





OBSTACLES TO CHI

- Availability of (comprehensive) sentencing guidelines
- Police culture
- The human element
- Pre-arrest identification
- The role of intelligence reports



OFFENDER CRIME HARM

**TRADITIONAL
REPEAT
OFFENDERS**

FullName	12Qtr1	12Qtr2	12Qtr3	12Qtr4	13Qtr1	13Qtr2	13Qtr3	13Qtr4	14Qtr1	14Qtr2	14Qtr3	14Qtr4	Grand Total	Cases	
	0	0	720	900	3870	2430	270	0	6300	0	630	0	15120	21	
	0	0	0	1770	13200	0	0	0	0	0	0	0	14970	4	
	0	0	0	1770	11790	0	0	0	0	0	0	0	13560	5	
	0	0	0	0	0	450	810	0	0	2460	0	8070	11790	8	
	0	0	0	0	0	180	0	0	0	0	10335	1080	11595	7	
	0	0	0	10260	960	0	0	0	0	0	0	0	11220	2	
	0	0	0	9060	2010	0	0	0	0	0	0	0	11070	7	
	0	0	0	0	0	0	0	0	0	0	180	10500	10680	3	
	9300	0	0	270	0	180	180	0	540	0	0	0	10470	7	
	0	0	10260	0	0	0	0	0	0	0	0	0	10260	1	
	0	0	0	0	0	0	0	0	0	0	10260	0	10260	1	
	0	0	0	420	450	270	7500	0	960	540	0	0	10140	9	
	5910	270	0	0	90	0	3510	0	0	0	0	0	9780	4	
	5910	90	0	0	0	0	3510	0	0	0	0	0	9510	3	
	0	0	0	0	0	0	0	0	0	0	0	9480	9480	2	
	0	0	0	0	0	0	0	0	0	9300	105	0	9405	3	
	0	0	0	450	1800	540	5655	0	0	0	0	0	8445	19	
	0	0	0	0	0	0	0	0	0	0	8385	0	8385	3	
	0	0	8250	0	0	0	0	0	0	0	0	0	8250	4	
	750	0	0	15	6435	0	720	0	0	0	0	0	7920	7	
	0	0	0	0	0	0	7830	0	0	0	0	0	7830	1	
	0	0	0	90	0	0	0	0	0	360	0	7320	7770	5	
	3270	0	0	0	2910	0	0	0	1530	0	0	0	7710	4	
	0	0	630	0	6960	0	0	0	0	0	0	0	7590	4	
	0	0	0	0	0	0	270	0	465	0	0	0	6765	7500	7
	0	0	0	0	0	0	0	0	0	0	90	7200	7290	3	
	4950	0	0	0	2100	0	0	0	0	0	0	0	7050	4	
	0	0	0	0	0	0	0	1590	2100	180	1140	2010	7020	7	
	0	0	180	0	0	0	0	0	90	6540	0	0	6810	6	
	0	0	3705	0	0	360	0	2730	0	0	0	0	6795	6	
	0	0	0	0	0	0	0	0	0	0	0	6690	6690	2	
	0	0	0	0	0	0	0	6600	90	0	0	0	6690	3	
	0	0	0	0	0	0	0	0	0	90	6585	0	6675	4	
	0	0	0	0	0	0	0	0	0	0	0	6660	6660	1	
	0	0	6600	0	0	0	0	0	0	0	0	0	6600	3	
	0	0	0	0	0	6570	0	0	0	0	0	0	6570	1	
	0	0	0	0	0	0	0	0	6570	0	0	0	6570	1	
	0	0	0	0	5460	1080	0	0	0	0	0	0	6540	9	
	0	0	0	0	6420	0	0	0	0	0	0	0	6420	1	
	0	0	0	0	0	0	0	0	0	0	0	6420	6420	1	
	0	0	0	0	6420	0	0	0	0	0	0	0	6420	1	
	0	0	0	0	6420	0	0	0	0	0	0	0	6420	1	
	285	900	1740	1050	180	90	450	180	270	1260	0	0	6405	19	
	0	270	600	0	180	420	15	180	0	0	4575	0	6240	9	
	0	0	0	0	5790	180	180	0	0	0	0	0	6150	4	
	0	0	0	0	0	6150	0	0	0	0	0	0	6150	1	
	0	0	0	0	0	0	0	5880	0	0	0	0	5880	2	
	0	0	0	270	90	2460	270	2730	0	0	0	0	5820	7	

DRUG OFFENSES

Name#	TOTAL CHI	2014 Overall Rank	% CHI Drug Suspect	Rank Without Drug Suspect
144535	11415	1		1
348788	10680	2		2
243303	10530	3		3
317046	10260	4		4
361907	9480	5		5
347970	9405	6		6
321022	9030	7	15.0%	8
303684	8700	8	95.9%	749
358948	8385	9		7
27464	8130	10	75.3%	111
197645	7920	11	8.0%	9
344227	7860	12	8.0%	10
334600	7590	13	65.2%	70
170717	7110	14	2.5%	11
356177	7035	15	83.2%	193
245245	6690	16		12
355147	6675	17		13
336187	6660	18		14
70719	6630	19		15
352048	6570	20		16
118184	6420	21		17
258670	6150	22	22.0%	23
337371	6060	23	72.8%	133
332137	5670	24	96.8%	1302
150085	5430	25		18



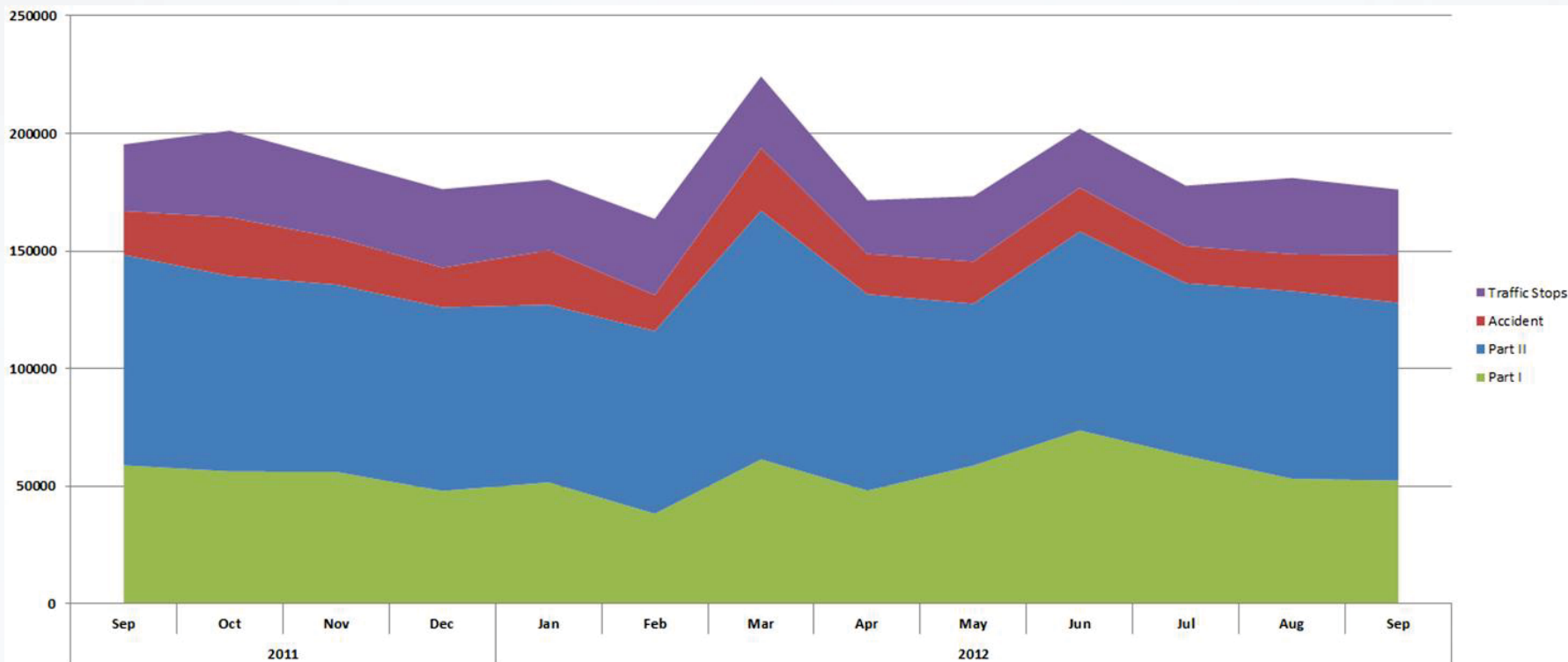


THE ROLL OF INVESTIGATORY STOPS

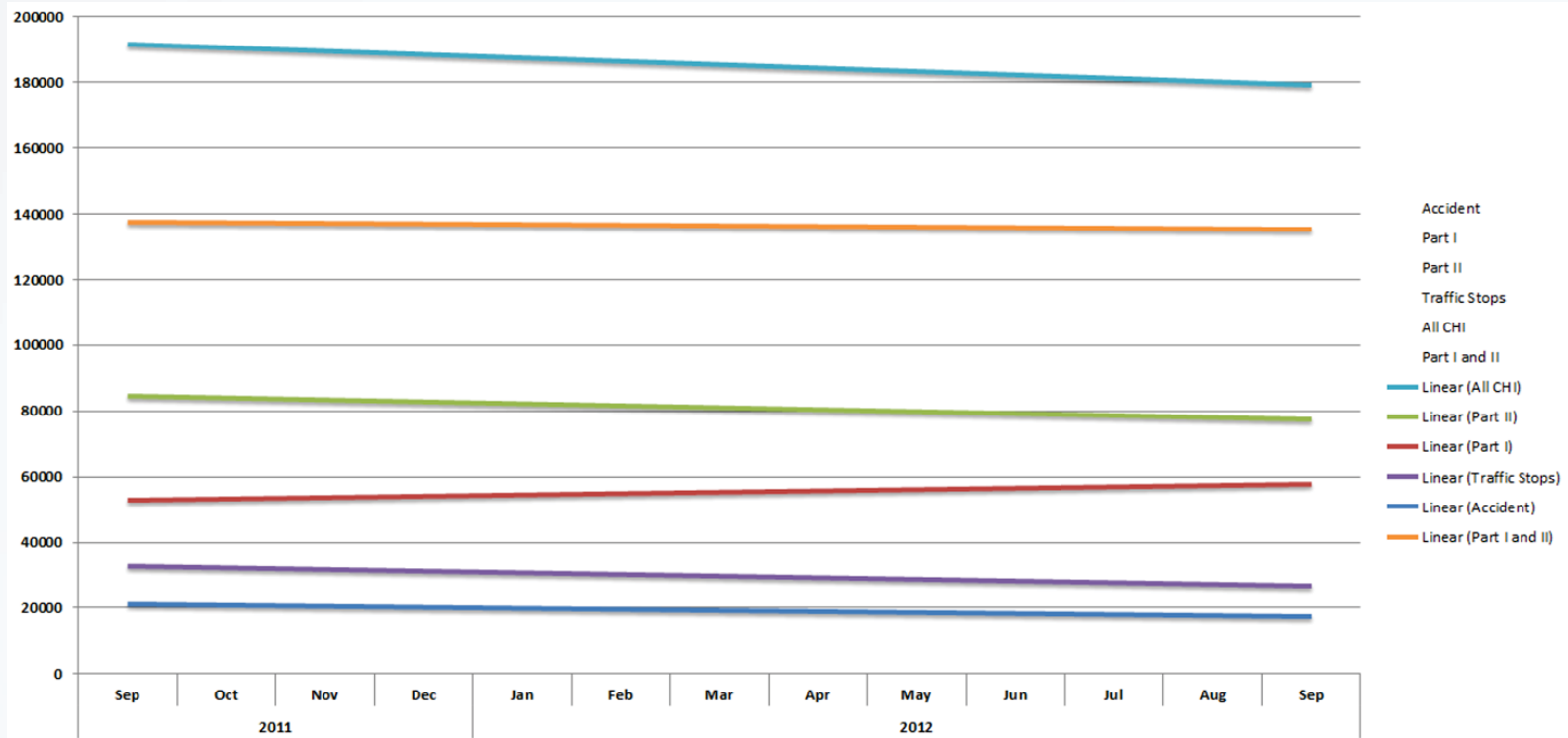
- Ratcliffe, JH, Groff, ER, Sorg, ET, Haberman, CP (in press) Citizens' reactions to hot spots policing: Impacts on perceptions of crime, disorder, safety and police, **Journal of Experimental Criminology**.
- “In sum, the current evidence suggests that backfire as a result of hot spots policing is not a certain outcome. The potential for backfire may depend on the type of intervention employed, and currently only one policing strategy, broken windows policing, has been found to exhibit this characteristic.”
- Philadelphia Foot Patrol Experiment: “Our study found no evidence for any perceived backfire effects.”
- Portland Oregon’s Neighborhood Involvement Locations Project



HARM BY LEVEL



HARM BY TREND



COST INCURRED

- “This perspective emphasizes the importance of operational efficiency. The measured cost should include both the expenses of the agency and the social cost it imposes on citizens and other organizations through its operations. The agency should be attempting to minimize the direct and social costs required to deliver the benefits in its mission.” Kaplan (1999)
- What is the social cost (value)of an investigative stop?



FUTURE STEPS

- Is this a worthy pursuit?
- Research, research, research
- Apply the concept of weighting to other areas
- Internal use





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