



# FLINT DDACTS PILOT EVALUATION: SUMMARY OF FINDINGS

**MICHIGAN JUSTICE STATISTICS CENTER  
SCHOOL OF CRIMINAL JUSTICE  
MICHIGAN STATE UNIVERSITY**

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**Michigan Justice Statistics Center**

The School of Criminal Justice at Michigan State University, through the Michigan Justice Statistics Center, serves as the Statistical Analysis Center (MI-SAC) for the State of Michigan. The mission of the Center is to advance knowledge about crime and justice issues in the state of Michigan while also informing policy and practice. The Center works in partnership with the Michigan State Police, Michigan's State Administering Agency (SAA), as well as with law enforcement and criminal justice agencies serving the citizens of Michigan.

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**About the Authors**

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## **EXECUTIVE SUMMARY**

In response to the public safety challenges posed by high levels of violent crime and local level law enforcement resource constraints, the Michigan State Police (MSP) have developed the “Secure Cities” initiative as part of its strategic plan. The Secure Cities initiative involves providing additional MSP enforcement resources to Detroit, Flint, Pontiac and Saginaw; using data-driven planning; and developing evidence-informed and evidence-based strategies for addressing high levels of violent crime. One specific strategy has been the implementation of the Data-Driven Approaches to Crime and Traffic Safety (DDACTS) in Flint.

The Flint DDACTS initiative began enforcement activities in January 2012. The current evaluation examined the program as it operated between January 2012 and March 2014. This report presents the findings of the evaluation of the Flint DDACTS program, describing both trends in program activities and the effect of DDACTS on violent crime.

### **DATA DRIVEN APPROACHES TO CRIME AND TRAFFIC SAFETY**

In 2008, the National Highway Traffic Safety Administration (NHTSA) in conjunction with the Bureau of Justice Assistance (BJA) and the National Institute of Justice (NIJ) developed DDACTS. DDACTS escapes conventional ideas about traffic safety and law enforcement by emphasizing traffic enforcement as an effective strategy for reducing the occurrence of traffic crashes and violations as well as crime in a community. Law enforcement agencies are able to leverage limited resources to provide more effective and efficient services by analyzing crime and traffic data to identify areas with the highest overlapping incidence occurrence then deploying high-visibility traffic enforcement to those areas as a countermeasure to address both crime and traffic safety problems. Since its inception DDACTS has been implemented in a number of cities including Baltimore, MD, Lafourche Parish, LA, Nashville, TN, Rochester, NY, St. Albans, VT, Oakland, CA, Washoe County, NV, and Indianapolis, IN.

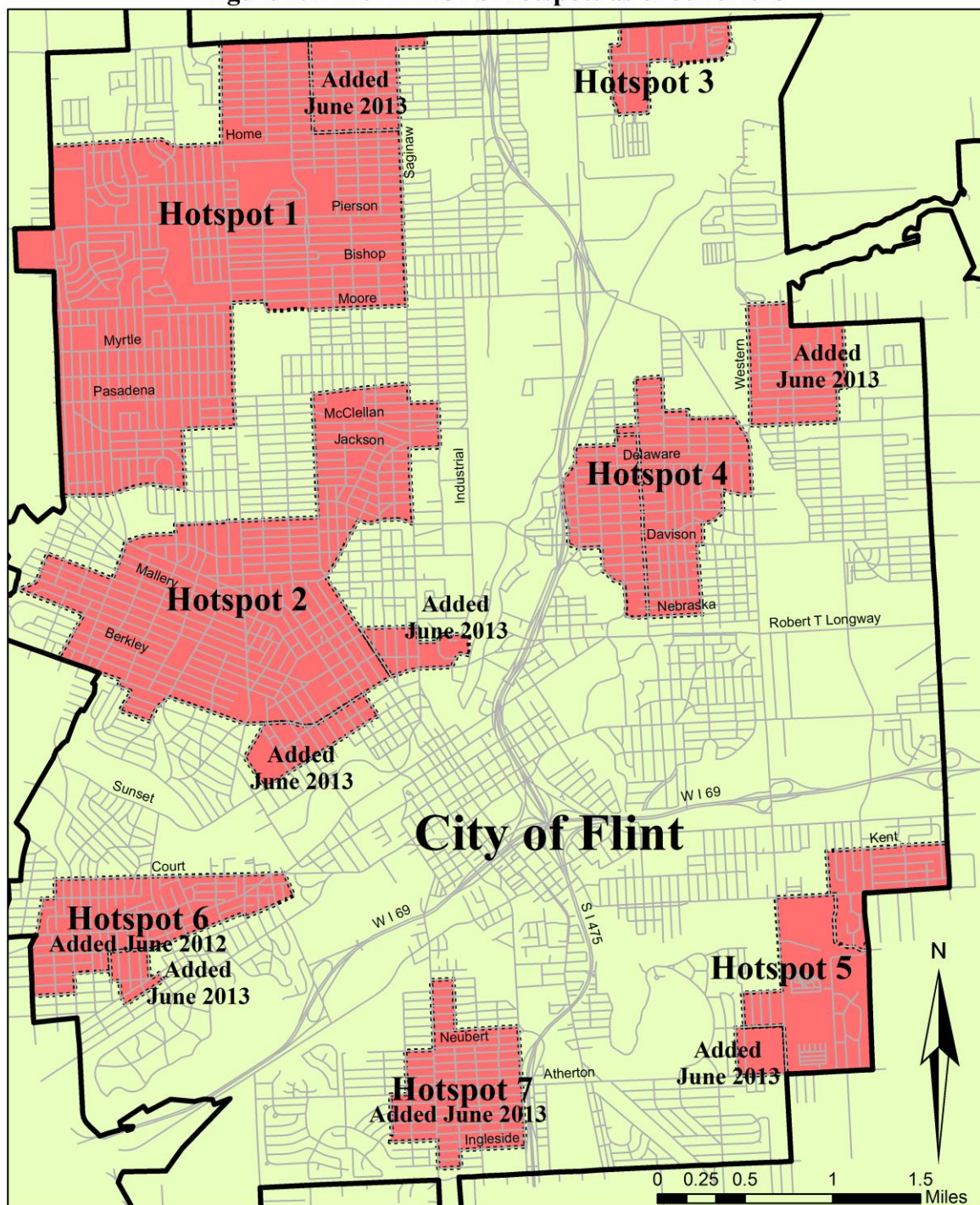
MSP adapted the DDACTS model to address high levels of violent crime in Flint. The process was data-driven as crime analysis was used to identify hotspots of violent crime within the city. The present evaluation was implemented with the goal of informing MSP and the broader law enforcement and criminal justice research community about the potential impact of this type of DDACTS strategy to reduce levels of violent crime.

### **KEY FINDINGS**

#### **Hotspot Target Areas**

- The DDACTS strategy targeted five hotspots for violent crime in Flint. Later, areas were added onto the original hotspots and two additional hotspots were identified (see Figure 1).

Figure 1. Flint DDACTS Hotspots as of June 2013



## DDACTS Enforcement Activity

- MSP collected very detailed activity data from the Troopers involved in DDACTS. This reflected exceptional performance output measures.
- A significant level of patrol resources with associated activities occurred in these hotspot areas. Indeed, over 22,000 traffic stops occurred between January 1, 2012 and March 2014 as part of the DDACTS initiative. Nearly three-quarters of the traffic stops occurred in the targeted hotspots. This equated to significant enforcement presence in the hotspot areas with over 600 traffic stops occurring each month in the hotspot areas (see Table 1)

**Table 1. DDACTS Traffic Stops by Hotspot and Time Period, January 2012 through March 2014**

Location	Jan – Jun 2012	Jul – Dec 2012	Jan – Jun 2013	Jul – Dec 2013	Jan – Mar 2014	<b>Total</b>
Non-Target Areas	145	971	993	2,456	1,234	<b>5,799</b>
Overall Hotspots	870	3,528	4,262	5,886	2,083	<b>16,629</b>
Hotspot 1	659	2,092	2,534	2,474	945	<b>8,704</b>
Hotspot 2	74	422	485	724	255	<b>1,960</b>
Hotspot 3	43	290	294	511	164	<b>1,302</b>
Hotspot 4	89	494	676	1,513	422	<b>3,194</b>
Hotspot 5	5	119	142	252	92	<b>610</b>
Hotspot 6	0	111	131	220	43	<b>505</b>
Hotspot 7	0	0	0	192	162	<b>354</b>
<b>Entire City Totals</b>	<b>1,015</b>	<b>4,499</b>	<b>5,255</b>	<b>8,342</b>	<b>3,317</b>	<b>22,428</b>

- For every 100 traffic stops, there were nearly 95 verbal warnings, 2 citations, 14 arrests for misdemeanor and felony charges, and 17 fugitive arrests (see Table 2).
- The heavy use of verbal warnings appears to reflect concern with maintaining positive relationships with Flint residents.
- The high number of arrests per traffic stop reflects a very high level of enforcement productivity.

**Table 2. DDACTS Enforcement Activity Outputs by Hotspot and Time Period, January 2012 through March 2014**

Location Output	Jan – Jun 2012	Jul – Dec 2012	Jan – Jun 2013	Jul – Dec 2013	Jan – Mar 2014	<b>Total</b>
<i>Non-Target Areas</i>						
Verbal Warnings	143	912	924	2,310	1,150	<b>5,439</b>
Hazardous Citations	2	46	38	100	30	<b>216</b>
Fel & Misd Arrests	27	148	184	424	140	<b>923</b>
Fugitive Arrests	28	201	201	441	203	<b>1,074</b>
<i>Overall Hotspots</i>						
Verbal Warnings	815	3,412	4,068	5,610	1,941	<b>15,846</b>
Hazardous Citations	41	103	126	130	44	<b>444</b>
Fel & Misd Arrests	149	485	448	1,073	235	<b>2,390</b>
Fugitive Arrests	164	675	728	1,026	313	<b>2,906</b>
<i>Hotspot 1</i>						
Verbal Warnings	621	2,021	2,455	2,400	876	<b>8,373</b>
Hazardous Citations	36	61	62	61	28	<b>248</b>
Fel & Misd Arrests	109	270	225	463	96	<b>1,163</b>
Fugitive Arrests	116	382	400	423	148	<b>1,469</b>
<i>Hotspot 2</i>						
Verbal Warnings	74	408	454	675	239	<b>1,850</b>
Hazardous Citations	1	12	10	10	4	<b>37</b>
Fel & Misd Arrests	5	60	61	117	23	<b>266</b>
Fugitive Arrests	18	87	103	142	36	<b>386</b>
<i>Hotspot 3</i>						
Verbal Warnings	37	280	271	489	155	<b>1,232</b>
Hazardous Citations	0	10	20	13	7	<b>50</b>
Fel & Misd Arrests	11	48	43	90	14	<b>206</b>
Fugitive Arrests	6	62	43	83	32	<b>226</b>
<i>Hotspot 4</i>						
Verbal Warnings	79	482	635	1,429	395	<b>3,020</b>
Hazardous Citations	4	9	16	32	3	<b>64</b>
Fel & Misd Arrests	23	77	71	267	72	<b>510</b>
Fugitive Arrests	23	108	130	255	65	<b>581</b>
<i>Hotspot 5</i>						
Verbal Warnings	4	116	134	232	86	<b>572</b>
Hazardous Citations	0	4	11	6	2	<b>23</b>
Fel & Misd Arrests	1	11	16	48	13	<b>89</b>
Fugitive Arrests	1	21	22	49	8	<b>101</b>
<i>Hotspot 6</i>						
Verbal Warnings	0	105	146	202	44	<b>470</b>
Hazardous Citations	0	7	7	4	0	<b>18</b>
Fel & Misd Arrests	0	19	32	57	4	<b>112</b>
Fugitive Arrests	0	15	30	44	4	<b>93</b>

<b>Table 2. Continued</b>						
Location Output	Jan – Jun 2012	Jul – Dec 2012	Jan – Jun 2013	Jul – Dec 2013	Jan – Mar 2014	<b>Total</b>
<i>Hotspot 7</i>						
Verbal Warnings	0	0	0	183	146	<b>329</b>
Hazardous Citations	0	0	0	4	0	<b>4</b>
Fel & Misd Arrests	0	0	0	31	13	<b>44</b>
Fugitive Arrests	0	0	0	30	20	<b>50</b>
<b>Entire City Totals</b>						
Verbal Warnings	958	4,324	4,992	7,920	3,091	<b>21,285</b>
Hazardous Citations	43	149	164	230	74	<b>660</b>
Fel & Misd Arrests	176	633	632	1,497	375	<b>3,313</b>
Fugitive Arrests	192	876	929	1,467	516	<b>3,980</b>

### **Trends in Violent Crime**

- The initial set of analyses focused on the trend in violent crime in the DDACTS hotspot target areas compared to the trend in the rest of the city. Violent crime (homicide, aggravated assaults, robberies, criminal sexual conduct, weapons offenses) declined 19 percent in the hotspot areas. The declines were observed in 14 of the 27 months of the DDACTS initiative. The remainder of the city experienced a 7 percent decline in violent crime (see Table 3).
- Robberies declined 30 percent in the hotspot areas. The remainder of the city experienced a 2 percent decline in robberies.



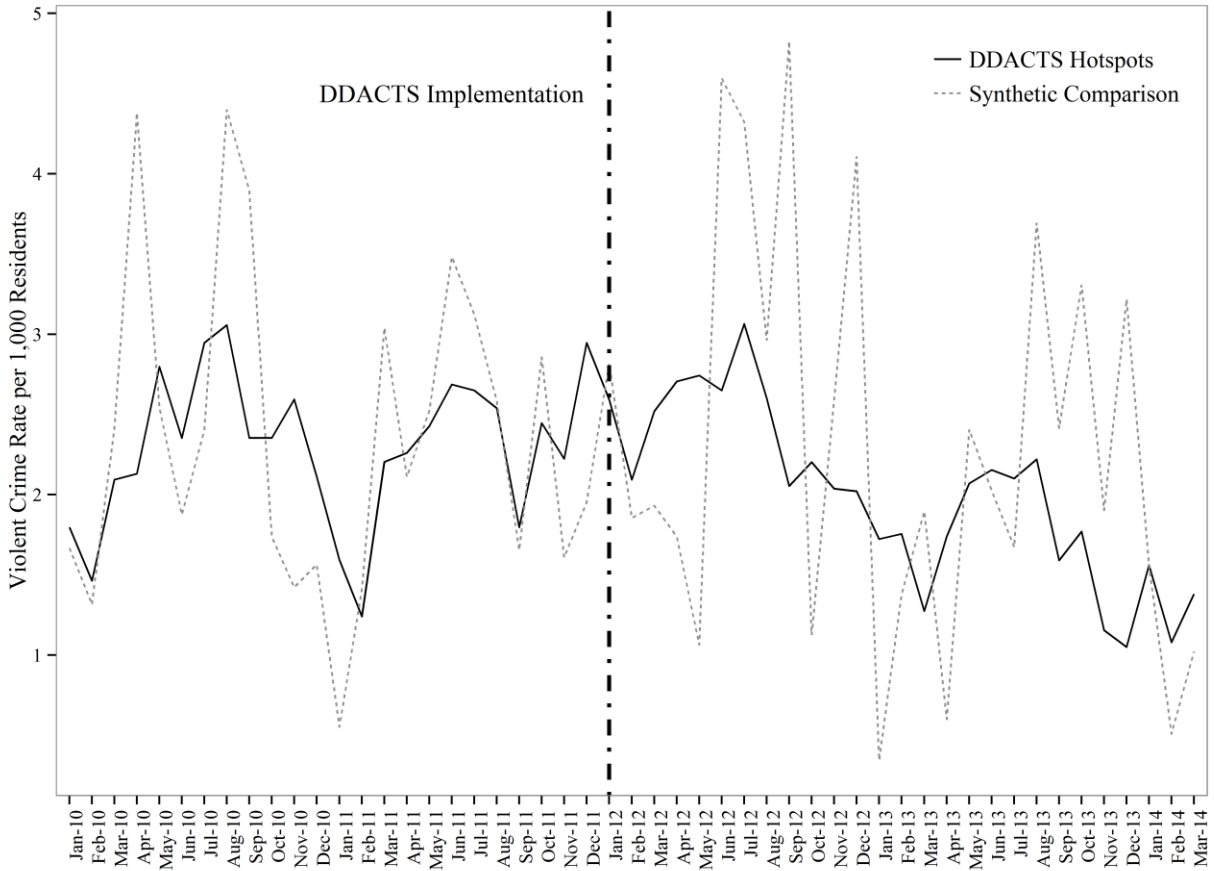
**Table 3. Changes in Monthly Violent Crime Rates per 1,000 residents, Pre- and Post-DDACTS Implementation**

	All Violent Crimes <sup>†</sup>			Homicide, Assault, Robbery		
	Pre	Post	% Chg	Pre	Post	% Chg
DDACTS Hotspots	2.74	2.21	-19.34	2.39	1.92	-19.67
Comparison Areas	1.64	1.52	-7.32	1.42	1.31	-7.75
	Homicides			Aggravated Assaults		
	Pre	Post	% Chg	Pre	Post	% Chg
DDACTS Hotspots	0.06	0.05	-16.67	1.58	1.34	-15.19
Comparison Areas	0.03	0.03	±0.00	0.90	0.81	-10.00
	Robberies			Criminal Sexual Conduct		
	Pre	Post	% Chg	Pre	Post	% Chg
DDACTS Hotspots	0.76	0.53	-30.26	0.09	0.10	+11.11
Comparison Areas	0.48	0.47	-2.08	0.08	0.09	+12.50
	Weapons Offenses					
	Pre	Post	% Chg			
DDACTS Hotspots	0.20	0.19	-5.00			
Comparison Areas	0.13	0.11	-15.38			

Note: % Chg = Percent Change; <sup>†</sup> The combination of homicides, aggravated assaults, robberies, criminal sexual conduct, and weapons offenses.

- Several analyses were undertaken to test rival explanations for the decline in violent crime. Specifically, “synthetic” comparison areas consisting of block groups within the city that were not subject to the DDACTS initiative were compared to the trend in violent crime in the hotspot areas. The findings indicated that the comparison areas also experienced a decline in violent crime (see Figure 2).
- The finding that the comparison areas also experienced a decline in violent crime suggests two contrasting interpretations. The first is that DDACTS had a crime reduction impact and that the benefits diffused to other areas of the city. This interpretation gains plausibility by the finding that approximately one-quarter of the DDACTS traffic stops, over 1,000 fugitive arrests and an additional 923 felony and misdemeanor arrests occurred outside the hotspot areas. The second interpretation is that some factor other than DDACTS was leading to the observed reduction in violent crime. The results do not allow us to rule out this potential explanation.

**Figure 2: Trend in Violent Crime in DDACTS Hotspots and Synthetic Comparison Areas**



**Policy Recommendations and Future Directions**

- The results are certainly promising and indicate continued implementation, experimentation and ongoing assessment.
- The large number of traffic stops and verbal warnings provide an opportunity for Troopers to express MSP’s focus on violence reduction. This opportunity to express a concern for public safety and a focus on reducing gun crime has been suggested in Project Safe Neighborhoods programs in various jurisdictions.

- The Hotspot areas were relatively large and covered a significant portion of the City. This may have diluted some of the impact of the intervention as prior research suggests that highly focused enforcement interventions in small geographic areas have the greatest impact. Identifying specific street blocks with high levels of violence within the larger hotspots and then focusing resources on these high crime street blocks may magnify the impact of the DDACTS strategy. This may include people- (e.g. violent networks) and place-based (e.g., problem-solving, blight reduction, greening) interventions within these street blocks. This may suggest a fruitful area of collaboration with the Flint Police Department (FPD), city of Flint, local residents, and governmental and non-governmental organizations.
- From an evaluation perspective, the impact could be more clearly measured by identifying smaller hotspot areas and systematically rotating enforcement activities. For example, the seven hotspots included in the present DDACTS initiative might be broken into 14 or more target areas. A subgroup of target areas (e.g., 3-4) would receive the DDACTS intervention for a specific period of time (e.g., 30 days) then the focus would move to another set of target areas for a similar period of time. This systematic rotation of the DDACTS intervention would continue over the course of a specified period of time allowing for multiple comparisons of the target area violent crime trends with the remainder of the city. In an ideal evaluation world, the target areas would be randomly assigned for intervention. This would allow the strongest conclusions about the impact of DDACTS. We say this recognizing that the top priority for MSP, FPD, and the city is public safety and that the evaluation goal is one of multiple priorities.
- The evaluation did not include an assessment of the impact on traffic safety. Future assessment should consider this potential effect.
- The largest decline in violent crime in the DDACTS hotspot areas, and the largest divergence from trends in other parts of the city, occurred in the last quarter of 2013. This may indicate increased impact given the duration and the sustained dosage of the DDACTS intervention.
- A large number of firearms seizures occurred, particularly in Hotspot 1. The potential impact on gun crime should be assessed.

## CONCLUSION

In response to high rates of violent crime and reductions in police resources due to city budgetary restrictions, MSP implemented a promising law enforcement strategy known as Data Driven Approaches to Crime and Traffic Safety (DDACTS) in Flint, Michigan. The results of this evaluation demonstrate that MSP invested considerable resources and generated significant outputs in terms of traffic stops, warnings, citations, fugitive arrests, and similar indicators. The target areas experienced substantial decreases in violent crime. Indeed, the target areas experienced a 19 percent reduction in violent crime and a 30 percent reduction in robberies. This compared to 7 and 2 percent reductions, respectively, in the rest of the city. On the other hand, more stringent evaluation methods that compared the target hotspots to matched comparison areas did not reveal significant differences between the trends in the target hotspots and the matched comparison areas. These findings are consistent with two plausible interpretations. One is that the DDACTS strategy had a violence reduction impact that beneficially diffused to other parts of the city. The alternative interpretation is that some other factor was influencing violent crime in Flint and the impact was observed in the DDACTS target areas as well as in areas of Flint most similar to the DDACTS target areas.

These results suggest cautious optimism in the use of DDACTS to address violent crime. Clearly, reductions of 19 and 30 percent in total violent crime and robberies are impressive and suggest future implementation and experimentation with DDACTS as a promising strategy for addressing violent crime. At the same time, the lack of observed impact when the DDACTS hotspot areas were compared with other similar areas of the city suggest that caution is warranted and more evidence needs to be considered before conclusions can be drawn about the efficacy DDACTS as a strategy for reducing violent crime.