



The Research Bureau

# Benchmarking Public Safety in Worcester: 2012

Report 12-02  
May 2012

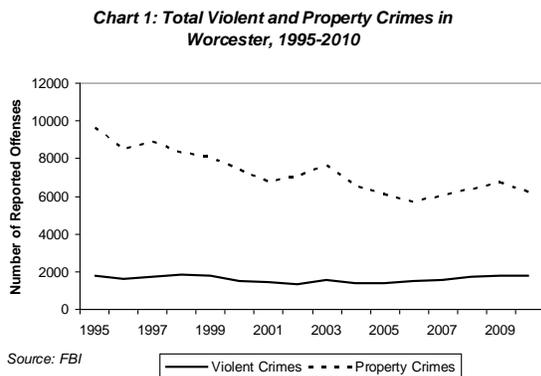
## EXECUTIVE SUMMARY

This report is the 8<sup>th</sup> installment of the Research Bureau's "Benchmarking Public Safety in Worcester" series. Its findings include:

- Although Worcester's property crime rate is down by over 30% over the past 15 years, its violent crime rate has remained flat.
- Among the ten largest New England cities, Worcester ranks 5<sup>th</sup> in terms of violent crime and 7<sup>th</sup> in terms of property crime.
- The recent economic downturn has had no evident direct effect on Worcester's crime rate.
- The number of uniformed positions in the Worcester Police Department (WPD) is down 11% since the beginning of the recession and the same amount since the late 1990s.
- Among the ten largest cities in New England, Worcester ranked 6<sup>th</sup> in 2010 in terms of police staffing levels.
- In 2011 the public made 83 complaints containing 180 allegations about police misconduct in Worcester. In 2010, there were 53 complaints and 88 allegations.
- The number of uniformed positions in the Worcester Fire Department (WFD) is down 2% since the beginning of the recession and 14% since 1998.
- Almost 70% of the WFD's 2011 workload consisted of first-responder responsibilities. Over the last ten years, the number of structure fires has remained fairly constant, while the number of first-responder calls has steadily grown.
- The National Fire Protection Association recommends a four-minute response time for 90% of all incidents. The WFD meets this standard. The WFD's 2011 average response time for all incidents was 4:51 (this figure includes a one-minute turnout time). However, WFD's average response time has increased 44 seconds since 2002.
- UMass Memorial provides EMS services in Worcester. UMass Memorial's 2011 average response time was close to that of the WFD's: 5:16. Since 2002, UMass Memorial's average response time to all incidents has declined by 55 seconds. Its average response time to so-called priority-one calls (life-threatening injuries or illnesses) declined by 3 seconds between 2002 and 2011.
- UMass Memorial responded to over 30% more incidents in 2011 than it did in 2002.

## LONG-TERM TRENDS IN VIOLENT AND PROPERTY CRIME IN WORCESTER

Over the past fifteen years, Worcester's property crime rate has gradually declined while the violent crime rate has remained flat. In 2010, there were 35.6% fewer crimes than in 1995, but only 2.1% fewer violent crimes. (Chart 1).



Among the ten largest New England cities, Worcester ranks 5<sup>th</sup> in terms of violent crime and 7<sup>th</sup> in terms of property crime (Table 1 and 2).<sup>1</sup>

**Table 1: Violent Crime Rates among the Ten Biggest New England Cities, 2010 (Reported Offenses per 100,000 population)**

City	Violent Crime Rate	Violent Crime Rate Rank
New Haven	1,595.40	1
Springfield	1,354.40	2
Hartford	1,292.70	3
Bridgeport	1,017.20	4
<b>Worcester</b>	<b>958.7</b>	<b>5</b>
Boston	903.5	6
Providence	707.6	7
Manchester	503.2	8
Waterbury	337.4	9
Stamford	285.5	10

Source: FBI

**Table 2: Property Crime Rates among the Ten Biggest New England Cities, 2010 (Reported Offenses per 100,000 population)**

City	Property Crime Rate	Property Crime Rate Rank
New Haven	5,788.3	1
Springfield	4,890.7	2
Providence	4,796.4	3
Hartford	4,374.1	4
Waterbury	4,282.5	5
Manchester	3,472.7	6
<b>Worcester</b>	<b>3,402.8</b>	<b>7</b>
Bridgeport	3,373.7	8
Boston	3,202.8	9
Stamford	1,601.7	10

Source: FBI

## CRIME AND THE RECESSION IN WORCESTER

The recession has produced no new and distinct crime trends in Worcester (Table 3).<sup>2</sup>

**Table 3: Crime Activity in Worcester Since the Beginning of the Recession**

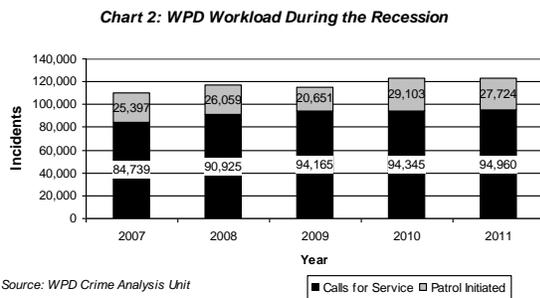
		2007	2008	2009	2010	2011	2007 vs. 2011
<b>Murder</b>	Incidents	6	6	7	7	9	3
	Arrests	7	12	11	10	23	16
<b>Shootings</b>	Incidents	22	11	18	29	20	-2
	Arrests	n/a	n/a	n/a	n/a	n/a	n/a
<b>Aggravated assault</b>	Incidents	868	1,013	1,047	1,080	1,069	201
	Arrests	969	978	973	996	1,014	45
<b>Robbery</b>	Incidents	374	378	414	368	416	42
	Arrests	112	79	115	83	109	-3
<b>Breaking and Entering</b>	Incidents	1,367	1,762	1,542	1,979	2,135	768
	Arrests	191	208	160	203	217	26
<b>Shoplifting</b>	Incidents	564	541	514	528	480	-84
	Arrests	351	326	260	302	258	-93
<b>Larceny from Motor Vehicle</b>	Incidents	1,745	2,011	2,638	1,712	1,689	-56
	Arrests	58	59	71	57	49	-9
<b>Prostitution and related</b>	Incidents	106	93	71	80	85	-21
	Arrests	212	219	141	133	156	-56
<b>Drug Violations</b>	Incidents	951	892	540	650	537	-414
	Arrests	1,238	1,203	689	844	705	-533

Source: WPD Crime Analysis Unit

Among the 17 crime categories listed in Table 3, seven registered increases between 2007 and 2011, and ten registered decreases. Breaking and

entering crimes are up, but shoplifting crimes are down. Aggravated assaults were more frequent in 2011, but murders and shootings were essentially unchanged. In several categories, crime numbers fluctuated annually between 2007 and 2011.

Total incidents are up (Chart 2),<sup>3</sup> both those initiated by citizens' calls for service and those initiated by patrol officers.



On the other hand, total arrests are down (Table 4).

**Table 4: WPD Arrest Totals During the Recession**

<b>2007</b>	9,343
<b>2008</b>	8,646
<b>2009</b>	7,165
<b>2010</b>	7,584
<b>2011</b>	7,174

Source: WPD Crime Analysis Unit

## THE RECESSION AND SPENDING AND STAFFING LEVELS IN THE WORCESTER POLICE DEPARTMENT

**Table 5: Worcester Police Department, Spending and Staffing, FY07-FY12**

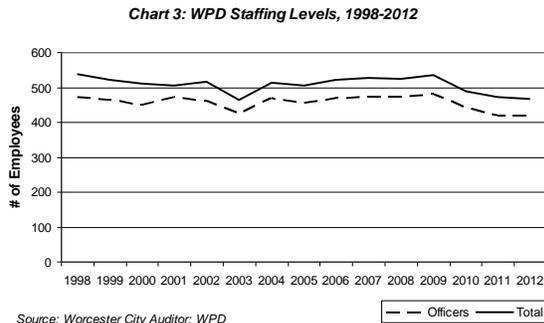
	FY07	FY08	FY09	FY10	FY11	FY12
<b>Expenditures</b>	\$38.9M	\$40.1M	\$40.3M	\$38.9M	\$38.8M	\$39.1M
<b>Uniformed Positions</b>	472	472	480	440	419	419
<b>Civilian Positions</b>	52	52	53	49	52	48
<b>Total Positions</b>	524	524	533	489	471	467

Source: Worcester City Auditor (FY07-FY11) and City Budget Office (FY12); WPD

As with all of Worcester's non-school departments, the WPD was hit hard by the recent economic downturn. In FY12, Worcester employs 11%, or about 50 fewer uniformed officers than it did prior to the recession. Half of this loss (25 officers) will be recouped this coming fiscal year with a new recruit class, the city's first since 2008.<sup>4</sup> WPD staffing was also given some relief by the recent agreements over health insurance cost-sharing that city government negotiated with the police officials' and officers' unions. The unions agreed to newer plan designs (higher co-pays and deductibles) and, in the case of the officials' union, a higher contribution rate. Without these settlements, the WPD would have had to eliminate 35 more uniformed positions to balance its FY12 budget.<sup>5</sup>

The recent decline in WPD personnel is part of a longer-term trend that began at the beginning of the last decade (**Chart 3**). Two recessions and rising health care costs (not included in **Table 5** above) have left the WPD’s staffing level well below what it was at the beginning of the last decade. Spending and staffing have followed divergent paths.

Worcester is *not* spending less on police and other services. Staffing has gone down because the cost of providing basic municipal services (paying for staff) has risen.



**Table 6: Full-time Law Enforcement Employees in American Cities, 2010**

Population	Average Uniformed Employees per 1,000
500,000+	2.6
250,000-500,000	2.1
100,000-250,000	1.8

Source: FBI

**Table 7: 2010 Police Staffing Rates in the Ten Biggest New England Cities**

City	Average Uniformed Employees per 1,000
Boston	3.3
Hartford	3.6
New Haven	3.6
Bridgeport	2.9
Providence	2.8
Waterbury	2.6
<b>Worcester</b>	<b>2.3</b>
Stamford	2.3
Manchester	1.9
Springfield	1.8

Source: FBI

## SPENDING AND STAFFING LEVELS IN WORCESTER COMPARED WITH OTHER NEW ENGLAND CITIES

Drawing on data compiled in the FBI’s “Crime in the United States: 2010,” survey, **Tables 6 and 7** show how Worcester’s staffing levels compared with those in other cities in 2010.

Among the most populous cities in New England, Worcester ranked 6<sup>th</sup> in 2010 in terms of staffing levels. The average among the over 10,000 American communities surveyed in the FBI’s 2010 report was 2.6 uniformed officers per 1,000 population.

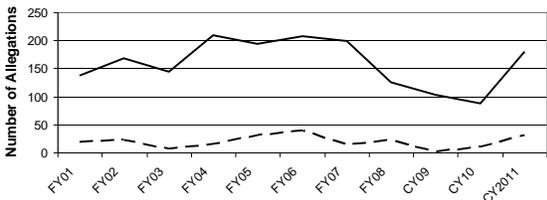
## TRENDS IN ALLEGATIONS OF POLICE MISCONDUCT

In 2011, there were 180 allegations of police misconduct against the WPD. In

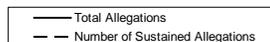
addition to being more than twice the number in 2010, this represents a break in the downward trend that was underway between FY06 and 2010. However, the number of total *complaints* only increased from 53 to 83. (A single complaint may contain multiple allegations of misconduct.)

**Chart 4** illustrates the trends in total allegations and in allegations sustained by the WPD’s Bureau of Professional Standards. “Sustained” allegations are those in which the investigation discloses sufficient evidence to prove the allegations made in the complaint.

Chart 4: Allegations of Police Misconduct in Worcester, FY02-CY11



Source: WPD’s Bureau of Professional Standards



## THE RECESSION AND SPENDING AND STAFFING LEVELS IN THE WORCESTER FIRE DEPARTMENT

**Table 8: Worcester Fire Department, Spending and Staffing, FY07-FY12**

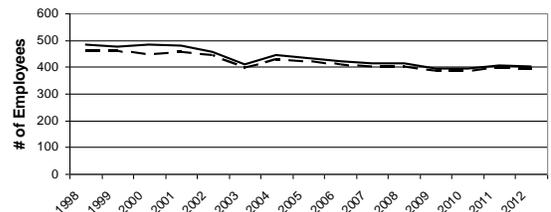
	FY07	FY08	FY09	FY10	FY11	FY12
Expenditures	\$31.8M	\$34.2M	\$33.5M	\$33.2M	\$31.7M	\$32.2M
Officers	402	403	384	385	399	394
Civilians	11	11	9	8	8	8
Total Positions	413	414	393	393	407	403

Source: Worcester City Auditor (FY07-FY11) and City Budget (FY12)

As shown in **Table 8**, since FY07, WFD staffing levels have declined, but less dramatically than those for police. In FY12, the WFD’s number of uniformed positions was down 2% (8 positions) whereas the WPD was down 11% (53 positions). As with police, further WFD staff reductions were avoided in FY12 thanks to settlements with the firefighters’ union.<sup>6</sup> The union agreed to new health insurance plan designs (higher co-pays and deductibles), which allowed the city to preserve 35 firefighter positions. The WFD will receive a new recruit class of 30 firefighters in FY13.<sup>7</sup>

The WFD’s recent staffing trend is generally similar to that of the WPD’s (**Chart 5 and Table 9**).

Chart 5: WFD Staffing Levels, 1998-2012



Source: Worcester City Auditor, City Budget Office



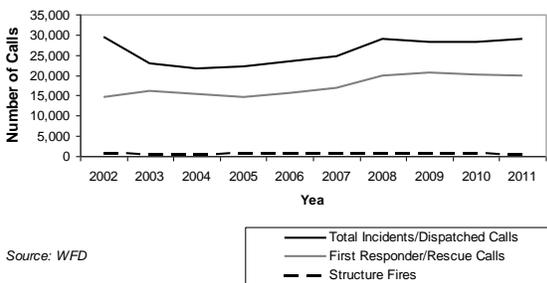
**Table 9: Staff Decline in the WPD and WFD, 1998 to 2012**

	1998 Total Staff	2012 Total Staff	1998 vs. 2012 Difference in Total Staff	1998 Total Uniformed Staff	2012 Total Uniformed Staff	1998 vs. 2012 Difference in Uniformed Staff
WFD	482	403	79 (16.4%)	458	394	64 (14%)
WPD	538	467	71 (13.2%)	470	419	51 (10.9%)

## TRENDS IN THE WFD'S RESPONSE TIMES AND FIRE SUPPRESSION ACTIVITIES

As the WFD's staffing levels have declined in recent years, its workload has increased, but primarily in the area of first responder/rescue services (Table 10 and Chart 6).<sup>8</sup>

Chart 6: Trends in Total, First Responder, and Structure Fire Calls to the WFD, 2002-2011



Source: WFD

As Chart 6 shows, in recent years, the total number of incidents and the number of first-responder calls have tended to run parallel, while the number of structure fires has remained flat. In 2011, almost 70% of the WFD's calls for service were for first-responder calls (Table 10).<sup>9</sup>

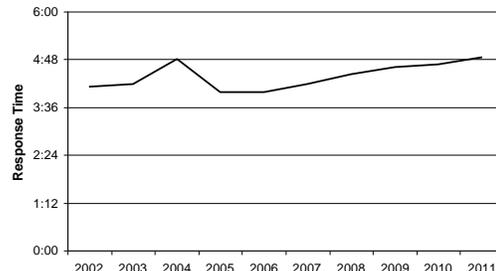
	2002	% of Total	2011	% of Total
<b>Total Incidents/Dispatched Calls</b>	29,350		28,891	
<b>First Responder/Rescue Calls</b>	14,624	49.8%	19,857	68.7%
<b>Structure Fires</b>	716	2.4%	627	2.2%
<b>Hazardous Conditions without a Fire (e.g., chemical spills, natural gas leaks, electrical equipment)</b>	805	2.7%	1,248	4.3%
<b>False Alarms</b>	1,591	5.4%	3,679	12.7%
<b>Other</b>	7,956	27.1%	1,859	6.4%

Source: WFD

Worcester firefighters also perform a number of educational, enforcement, and engineering functions. In 2011, the WFD conducted 6,473 fire safety inspections, reviewed 670 building plans, issued 5,456 permits, and conducted fire safety education programs at 521 locations (excluding schools). 5,614 students attended the Department's S.A.F.E. (Student Awareness of Fire Education) program in schools.

The National Fire Protection Association (NFPA) recommends a four-minute response time for 90% of all incidents.<sup>10</sup> The WFD meets this standard. (The figures in Chart 7 include an approximately one-minute "turnout" time. The NFPA standard concerns solely travel time.) However, the WFD's response times have been rising. This could be the result of the 2007 Redeployment Plan for the Fire Department, which closed two engine companies and transferred their firefighters to other stations. The WFD did caution at the time that this reorganization could lead to longer response times.

Chart 7: WFD Average Response Time (All Incidents)



Source: WFD

## EMS TRENDS

Since 1991, UMass Memorial EMS has provided emergency ambulance services in Worcester at no cost to the City.<sup>11</sup> The all-paramedic, hospital-based service operates a fleet of six ambulances staffed by 50 full-time and 25 part-time paramedics.

Over the last ten years, the EMS workload has risen and response times have declined (**Chart 8**<sup>12</sup> and **Chart 9**). UMass Memorial responded to over 30% more incidents in 2011 than it did in 2002. During the same period, its average response time to all incidents has declined by 55 seconds. Its average response time to so-called priority one calls (life-threatening injuries or illnesses) went down 3 seconds to 5:05.

Chart 8: EMS Responses and Transports, UMass Memorial EMS, 2000-2011

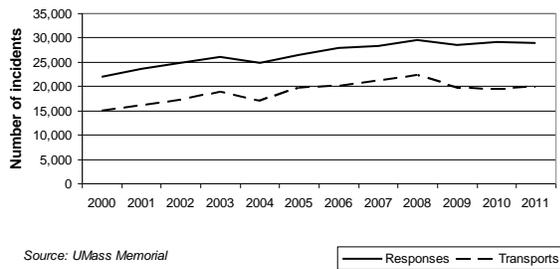
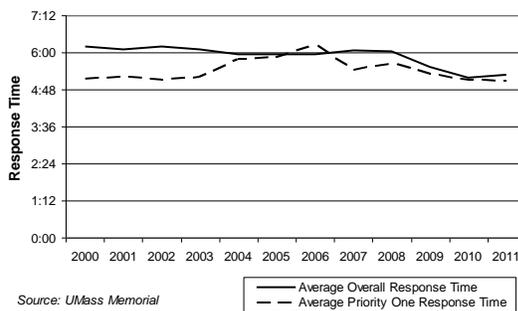


Chart 9: EMS Response Times, 2000-2011



UMass staff believes that improved response times in recent years could be the result of the employment in April 2009 of new global positioning system (GPS) and CAD (computer aided dispatch) system technologies. These allow dispatchers to view the exact location of each EMS vehicle, and automatically identify street routes and calculate drive times. Also, in 2009, UMass Memorial EMS added six field supervisors to the system for purposes of better quality oversight and better integration with fire and police services, and in 2010, it added a Quality Assurance/ Performance Improvement specialist to oversee the preparation and analysis of metrics as well as monitoring the performance of paramedics. These and other recent improvements, which total millions of dollars, were undertaken and fully funded by UMass Memorial at no cost to the City of Worcester.

It should be noted that, with the exception of cases of cardiac arrest, rapid response times do not necessarily enhance a patient's survival chances.<sup>13</sup>

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<sup>1</sup> Data in these tables are drawn from the FBI's Uniform Crime Reporting Program, which contains the following caveat: "Figures used in this Report were submitted voluntarily by law enforcement agencies throughout the country. Individuals using these tabulations are cautioned against drawing conclusions by making direct comparisons between cities. Comparisons lead to simplistic and/or incomplete analyses that often create misleading perceptions adversely affecting communities and their residents. Valid assessments are possible only with careful study and analysis of the range of unique conditions affecting each local law enforcement jurisdiction. It is important to remember that crime is a social problem and, therefore, a concern of the entire community. The efforts of law enforcement are limited to factors within its control. The data user is, therefore, cautioned against comparing statistical data of individual agencies."

<sup>2</sup> The arrest data for murder in **Table 3** also includes the charges of attempted murder as well as manslaughter.

<sup>3</sup> An "incident" is any criminal and non-criminal event to which the police respond. The figures in **Chart 2** do not represent actual crime rates, since they include calls which were not substantiated (complaints which turned out not to be criminal), calls for general assistance, and calls to which the police responded but found no one there upon arrival. A single incident may involve more than one crime, and more than one arrest.

<sup>4</sup> Scott Croteau, "Worcester Commits to New Academy Class," *Worcester Telegram & Gazette*, April 10, 2012.

<sup>5</sup> See "Worcester Settles with its Unions: A Review," Worcester Regional Research Bureau, Report 11-07, November 2011.

<sup>6</sup> "Worcester Settles with its Unions."

<sup>7</sup> Nick Kotsopoulos, "Worcester to Avert Firefighter Shortage with Larger Recruit Class," *Worcester Telegram & Gazette*, January 18, 2012.

<sup>8</sup> For more on this issue see "Dial 911: Whose Call is it, Anyway?," Worcester Regional Research Bureau, Report 06-03, October 3, 2006.

<sup>9</sup> The WFD urges caution in interpreting these data, as some categories are not directly comparable among different years. In 2005, the WFD broadened the definitions of "structure fire" and "false alarm" to code many incidents that had previously been counted in other categories.

<sup>10</sup> NFPA Document 1710, "Career Fire Department Deployment," 5.2.4.1.1.

<sup>11</sup> In July 1977, ambulance service was transferred from the Worcester Police Department to Worcester City Hospital. With Worcester City Hospital's closing in 1991, ambulance services were taken over by UMass Medical Center, which became "UMass Memorial Health Care" in 1997.

<sup>12</sup> Calls do not result in transport when they prove unfounded, when medical attention is refused, victims are dead on arrival, or when no services needed.

<sup>13</sup> MJ Callahan, CD Madsen, "Relationship of timeliness of paramedic advanced life support interventions to outcome in out-of-hospital cardiac arrest treated by first responders with defibrillator," *Annals of Emergency Medicine*, Volume 27, Issue 5, May 1996, pp. 638-48; Peter T. Pons, Vincent J. Markovchick, "Eight minutes or less: does the ambulance response time guideline impact trauma patient outcome?," *The Journal of Emergency Medicine*, Volume 23, Issue 1, July 2002, pp. 43-8; Valerie J. De Maio, Ian G. Stiell, George A. Wells, Daniel W. Spaite, "Optimal Defibrillation Response Intervals for Maximum Out-of-Hospital Cardiac Arrest Survival Rates," The Ontario Prehospital Advanced Life Support Study Group, *Annals of Emergency Medicine*, Volume 42, Issue 2, August 2003, pp. 242-50; and Peter T. Pons, Jason S. Haukoos, Whitney Bludworth, Thomas Cribley, Kathryn A. Pons, Vincent J. Markovchick, "Paramedic response time: does it affect patient survival?," *Academic Emergency Medicine*, Volume 12, Issue 7, July 2005, pp. 594-600.

*Mission Statement:*

*The Research Bureau serves the public interest of the Greater Worcester region by conducting independent, non-partisan research and analysis of public policy issues to promote informed public debate and decision-making.*



## The Research Bureau

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