February, 2003

Center for
Community
Performance
Measurement

Benchmarking Public Safety in Worcester: 2003

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CCPM-03-01

Welcome...

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Dear Citizen,

We are pleased to publish this latest benchmarking report from the Research Bureau's Center for Community Performance Measurement (CCPM). The CCPM was established to measure and benchmark municipal and community performance in the areas of economic development, public education, municipal and neighborhood services, public safety, and youth services. This report focuses on public safety.

The report is divided into two sections: police services and fire and emergency medical services. Each section begins with statistics on the human and financial resources that are invested in these services each year. The indicators that follow these input statistics measure the results of the investment. Because this is the first of many annual reports on public safety, these indicators will serve as the benchmark by which future performance will be measured. Next year, when we re-release this report with updated information, the community will be able to ask, "What has changed, what have we accomplished, and what challenges are still before us?"

Indicators appearing in this report are interrelated. For example, police-community relations (**Indicator 2**) are related to the overall crime rate (**Indicator 1**) and the number of allegations of police misconduct (**Indicator 3**).

Thank you for taking the time to read this report. We look forward to hearing your comments and suggestions on the project.

Sincerely,

Mark Colborn - *President*

Roberta R. Schaefer, Ph.D. - *Executive Director*   **Richard H. Beaman -** *Manager, CCPM*

Benchmarking Public Safety in Worcester: 2003

Worcester Police Department

According to the Worcester Police Department, its mission is to promote the highest level of public safety and quality of life in the City of Worcester through exceptional police services to the City's residents, businesses and visitors.[1]

The Worcester Police Department (WPD) employs 519 individuals, 459 of whom are sworn officers. The Department's budget is $31.6 million, and constitutes the second largest municipal expenditure after the Worcester Public Schools.

As shown in the table below, the WPD's budget has increased more than 11% over the last three years, while the number of employees has declined more than 4%. The increase in costs is primarily the result of contractually obligated increases in salaries and health insurance premiums. In order to pay for these increases, the number of personnel had to be reduced. According to the FBI, the average number of employees for a police department in comparably sized cities in the northeast was 3.5 per 1,000 population in 2001, whereas Worcester employed 3.14 per 1,000 people. Worcester employed 2.75 sworn officers per 1,000 population in 2001, which was also slightly lower than the average of 2.9.

Also shown in the table below are input statistics for the Community Services unit, which relate to **Indicator 2: Police/Community Relations**, and for the Internal Affairs unit, which relate to **Indicator 3: Allegations of Police Misconduct.**

[1] City of Worcester Annual Budget, FY03.

Input Statistics: Worcester Police Department

FULL DEPARTMENT	FY2001	FY2002	FY2003	% Change, FY01-FY03
Total department budget	$28,385,598 (actual expenditures)	$31,844,487 (approved budget)	$31,643,184 (approved budget)	+11.5%
Total number of funded positions	542	540	519	-4.2%
Positions per 1,000 population[2]	3.14	3.13	3.01	-4.2%
Total number of sworn officers	474	472	459	-3.2%
Sworn officers per 1,000 population[2]	2.75	2.73	2.66	-3.2%
COMMUNITY SERVICES UNIT (see Indicator 2)				
Budget[3]	$584,626	$454,459	$641,135	+12.6%
Number of sworn officers	13	10	12	-7.7%
Number of civilian positions	1	1	1	0.0%
INTERNAL AFFAIRS DIVISION (see Indicator 3)				
Budget[3]	$272,425	$333,424	$329,319	+20.9%
Number of sworn officers	5	6	4	-20.0%
Number of civilian positions	1	1	1	0.0%

Data source: City of Worcester FY2003 Annual Budget; FBI Uniform Crime Report, 2001.

[2] Based on 2000 Census.

[3] Proposed budget each year.

1 Crime Rates

Why is it important?

Crime rates indicate a city's level of crime compared to other cities. When disaggregated by neighborhood, these rates can highlight how to reallocate police resources to respond to problematic areas. Because external conditions such as the economy and changing demographics affect the level of crime in a community, crime rates do not directly reflect how well a police department is functioning. Nonetheless, high and increasing crime rates can cause residents and businesses to leave a city, while low and falling crime rates indicate a safe community in which to live and conduct business.

Chart 1-1: Historical Trends: Major Crimes in Worcester, 1994-2001 (per 100,000 people)

Data source: Worcester Police Department Crime Analysis Unit. Major crimes include murder and non-negligent manslaughter, robbery, aggravated assault, burglary, larceny, motor vehicle theft. Population based on 2000 Census.

Chart 1-2: Historical Crime Index Rates for Northeastern Cities, 1999-2001 (per 100,000 Population)

Data source: FBI Uniform Crime Reports. Based on population from 2000 Census. Includes murder and non-negligent manslaughter, robbery, aggravated assault, burglary, larceny, and motor vehicle theft.
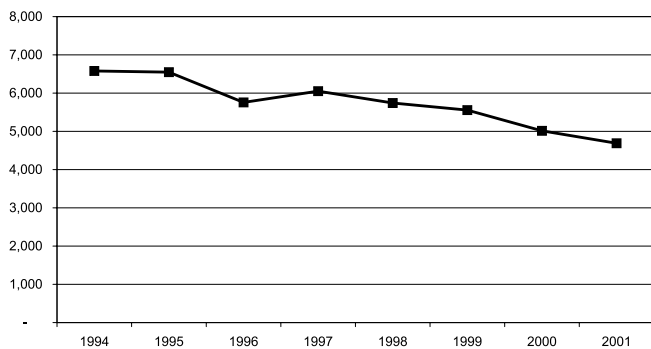
How does Worcester perform?

Worcester's rate for the major crimes of murder and non-negligent manslaughter, robbery, aggravated assault, burglary, larceny, and motor vehicle theft (see the bottom of Page 4 for definitions) has fallen significantly since 1994, as shown in **Chart 1-1**. In 1994, there were 6,579 instances of these crimes per 100,000 people. In 2001, this level had dropped 27.5% to 4,689 per 100,000 people. (It should be noted that larceny is the largest category of those listed, representing 2,643 crimes per 100,000 population in 2001.)

Because of these falling rates for major crimes, Worcester ranks fairly well compared to similarly sized cities in the country. As shown in **Table 1-1**, for the major crimes specified, Worcester ranked between 24th and 67th of 92 cities with populations between 125,000 and 250,000. Several of these categories have decreased significantly over the last several years. For example, burglaries in the city declined by 64%, from 3,234 in 1994 to 1,179 in 2001. Although aggravated assault in Worcester remains higher than in some other cities, it has declined 22% since 1998 (from 1,278 to 982 in 2001). Worcester also ranks well when compared to cities in the northeast, as shown in **Chart 1-2**.
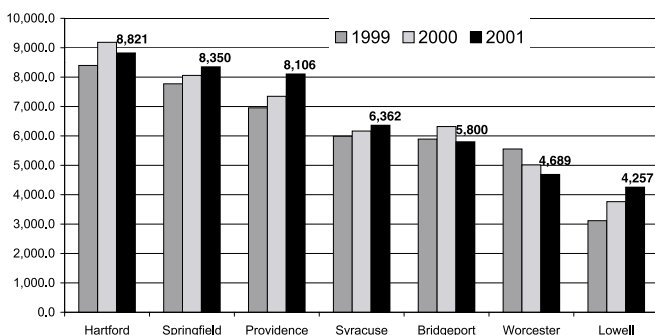
Aside from the major impact on a city's quality of life that is exercised by the rate of the major crimes discussed above, quality of life is also influenced by the amount of nuisance and disorder in a neighborhood, such as loud parties, fights, and disorderly conduct. **Table 1-2** shows the number of violations of public order in the various areas of the city from 1999 to 2001. (See the bottom of Page 4 for situations considered part of public order violations.) Because the size, residential population, and daytime and nighttime user populations differ in these areas, for assessment purposes, disorder in an area should only be compared against prior levels in the same area, rather than comparing it to the level in other areas. The central area had 6,423 violations of public order in 2001, which was a 9% decline since 1999. The downtown area has seen the largest increase, or 12.6% since 1999. (See **Appendix A** on page 8 for a map of more detail about the violations of public order that occurred in these areas.)

What does this mean for Worcester?

Since the early 1990's, Worcester has experienced a significant decline in the major crimes identified above. As a result, Worcester ranks relatively well when compared to other northeastern cities as well as other similarly sized cities across the country. It is not known why crime fell during this period, although some possibilities include a strong economy and efforts by the Police Department and other agencies such as the District Attorney's office. While the rate of major crimes decreased nationwide during this period (15% since 1995), the decrease was greater in Worcester (28%). More specifically, between 1995 and 2001, burglaries fell 22% nationwide and 53% in Worcester, aggravated assaults fell 19% nationwide and 22% in Worcester, larcenies fell 10% nationwide and 21% in Worcester. The one exception to this trend was motor vehicle thefts which fell 20% nationwide and 12% in Worcester.

It is important for the Police Department to continue to track crime data for a number of reasons. It allows the department to monitor crime and disorder for sudden outbreaks or surges in the number of crimes in neighborhoods. Tracking the data shows longer-term trends in crime throughout the city which may require the re-deployment of resources. It enables the department to respond to requests from citizens, neighborhoods groups, and the city council. Finally, it also enables other agencies within the municipal government and private neighborhood groups to utilize this information.

*By tracking crime data in the future we will know whether Worcester will continue to experience decreasing crime rates. We can expect, however, that there will be a certain level of crime that will ebb and flow with changes in the economy, demographics, and the efforts of the Police Department and other criminal justice agencies. For example, crime during the first nine months of 2002 was slightly higher than in 2001, as shown in **Table 1-3.** Next year's report on public safety will enable us to see whether that trend continued for the remainder of 2002.*

Table 1-1: Major Crimes in Worcester Compared to Similarly Sized Cities, 2000

	Rate per 100,000 Residents	Rank Out of 92 Cities*	Percent Above or Below Average*
Burglary	715	67th	30.0% lower
Murder and Non-Negligent Manslaughter	2.9	64th	61.8% lower
Larceny	2,886	57th	18.4% lower
Robbery	184	48th	22.0% lower
Motor Vehicle Theft	670	36th	0.7% lower
Aggravated Assault	579	24th	33.1% higher

* Ranking and average is calculated from 92 cities nationwide with populations of 125,000 to 250,000.
Data source: Worcester Police Department

Table 1-2: Violations of Public Order by Area, 1999-2001

	1999	2000	2001	% Change
Central	6,863	6,641	6,243	-9.0%
South	3,420	3,723	3,288	-3.9%
Downtown	2,719	3,181	3,062	12.6%
Southeast	2,382	2,330	2,293	-3.7%
East	2,047	1,992	2,094	2.3%
North	1,905	1,855	2,034	6.8%
West	1,828	1,902	1,806	-1.2%
Northwest	926	909	913	-1.4%

Data source: Worcester Police Department

Table 1-3: Most Current Crime Trends, Worcester

	Jan-Sep 2001	Jan-Sep 2002	Number Change	Percent Change
Breaking and Entering	856	1,107	251	29.3%
Larceny	3,309	3,426	117	3.5%
Simple Assault	1,323	1,384	61	4.6%
Arson	48	66	18	37.5%
Robbery	268	276	8	3.0%
Murder	5	8	3	60.0%
Motor Vehicle Theft	803	794	-9	-1.1%
Vandalism	2,086	2,077	-9	-0.4%
Aggravated Assault	784	742	-42	-5.4%
Total	9,482	9,880	398	4.2%

Data source: Worcester Police Department, Crime Analysis Unit

Definition of Major Crimes (UCR Part 1 Crimes)

Murder and Non-negligent Manslaughter: The willful killing of one human being by another. The classification of this offense, as for all other offenses listed here, is based solely on police investigation as opposed to the determination of a court, medical examiner, coroner, jury, or other judicial body. Not included… are deaths caused by negligence, suicide, or accident; justifiable homicides; and attempts to murder or assaults to murder, which are included as aggravated assaults.

Robbery: The taking or attempting to take anything of value from the care, custody, or control of a person or persons by force or threat of force or violence and/or by putting the victim in fear.

Aggravated Assault: An unlawful attack by one person upon another for the purpose of inflicting severe or aggravated bodily injury. This type of assault is usually accompanied by the use of a weapon or by means likely to produce death or great bodily harm. Attempts are included since it is not necessary that an injury result when a gun, knife, or other weapon is used which could and probably would result in serious personal injury if the crime were successfully completed.

Burglary: The unlawful entry of a structure to commit a felony or theft. The use of force to gain entry is not required to classify an offense as burglary. It is categorized into three sub-classifications: forcible entry, unlawful entry where no force is used, and attempted forcible entry.

Larceny: The unlawful taking, carrying, leading, or riding away of property from the possession or constructive possession of another. It includes crimes such as shoplifting, pocket-picking, purse-snatching, thefts from motor vehicles, thefts of motor vehicles parts and accessories, bicycle thefts, etc., in which no use of force, violence, or fraud occurs. Motor vehicle theft is excluded from this category, as it is its own category as listed below.

Motor Vehicle Theft: The theft or attempted theft of a motor vehicle, which includes the stealing of automobiles, trucks, buses, motorcycles, snowmobiles, etc. The definition excludes the taking of a motor vehicle for temporary use by those persons having lawful access.

Violations of Public Order

Violations of public order include the following and are not necessarily criminal offenses: disorderly conduct, fights, gunshots, loud parties/music, non-domestic disputes, suspicious persons or vehicles, animal complaints, vice crimes, and other disturbances.

Sources: U.S. Department of Justice, Crime in the United States 2000, and the Worcester Police Department.

2 Police-Community Relations

Why is it important?

Regular interaction, collaboration, and information sharing between the police and community residents and business owners can improve a city's safety. By working collaboratively, police departments can rely on community members to help identify problems, and community residents can learn how to make their neighborhoods safer. One way that police departments across the country have improved police-community relations is by implementing community policing programs. Community policing is primarily comprised of two interrelated components: increased formalized interaction between the police and the community, and the adoption of a problem-solving approach to policing. In terms of day-to-day activities, community policing means replacing some patrol cars with foot or bicycle patrols, neighborhood sub-stations, and other interactions with the community. Officers thereby get to know residents and business owners in their assigned neighborhood and can better identify crime-related and other community needs, such as parking, traffic, or nuisance problems.

In Worcester, community policing has been implemented through the creation of various neighborhood crime watch groups throughout the city, a "citizens' police academy," some foot patrols, and the addition of some police substations, such as the one downtown on Front Street. Neighborhood watch groups meet on a regular basis (usually monthly) with a community services officer[1] who has received special training. During these meetings, residents are able to voice neighborhood safety concerns and discuss various other community issues. The citizens' police academy is a program for enabling citizens to learn more about the responsibilities of community members as well as the role of the police.

How does Worcester perform?

First, to determine the overall level of community satisfaction with the police, a random telephone survey of 1,479 households in Worcester was completed by InterGlobal Services under contract with the Research Bureau during the summer of 2002. Of these 1,479 households, 357 had had some contact with the police department over the last year. Of those 357 respondents, 66% said they were satisfied with their interaction, 18% were neutral about their interaction, and 16% were not satisfied, as shown in **Chart 2-1**.[2] In terms of fairness and courtesy, 79% of those who had some contact with the department said that the police were fair in dealing with their situation, and 80% of respondents said that the police were courteous in their dealings.[3] These results are presented in **Table 2-1**.

Second, to measure the effectiveness of neighborhood watch groups in the city for achieving the purposes of community policing, a survey was conducted by the Research Bureau of these groups during the fall of 2002. A total of 106 surveys were completed from nine neighborhood watch groups.

Table 2-2 shows the frequency of particular activities at meetings. Overall, 76.8% of respondents said that the police representative always informs them about the types and number of crimes committed in the neighborhood. Similarly, a large majority (79.8%) said that the police representative always identifies problem areas and explains what police are doing to diminish crime in those areas. A slightly smaller percentage (72.3%) indicated that the officer always asks residents for suggestions for reducing crime.

Participants at neighborhood watch meetings also appear to be satisfied with their route officer. The route officer is the officer who is assigned to regular patrols in a neighborhood and may or may not attend neighborhood watch meetings. When asked whether they felt their relationship between the neighborhood and the route officer was productive and mutually helpful, 75.5% of respondents said "always", as shown in **Chart 2-2**.

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[1] While route officers may periodically attend neighborhood watch meetings, a separate officer with the community services division of the Police Department is the primary liaison to neighborhood watch groups.

[2] Margin of error = +/- 8%

[3] Margin of error = +/- 5%

Chart 2-1: Satisfaction with Police Department Interaction

Not Satisfied
16%

Neutral
18%

Satisfied
66%
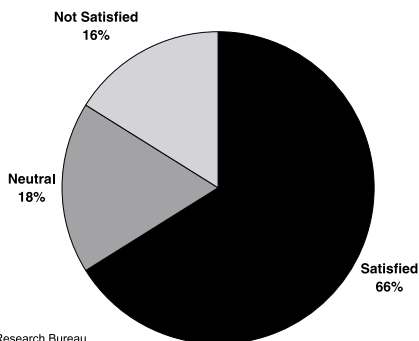
Margin of error: +/- 8%
Data source: Worcester Regional Research Bureau

Table 2-1: Police Department Fairness and Courteousness

	Yes	No	Don't Know
Were the Police fair in dealing with your situation?	79%	18%	3%
Were the Police courteous in dealing with your situation?	80%	17%	3%

Table 2-2: Frequency of Activities at Neighborhood Crime Watch Meetings

	Always	Sometimes	Never
Police inform residents about the types and number of crimes in the neighborhood	76.8%	21.2%	2.0%
Police identify problem areas and explain what they are doing to diminish crime	79.8%	19.2%	1.0%
Police ask residents for suggestions on how to reduce crime	72.3%	25.7%	2.0%
Police present information on how to deal with neighborhood disturbances	82.5%	17.5%	0.0%
Time is provided for residents to voice their opinion	93.0%	6.0%	1.0%

Chart 2-2: Is the relationship between neighborhoods and route officers a productive one in which they help each other?

Never
1.0%

Sometimes
23.5%

Always
75.5%
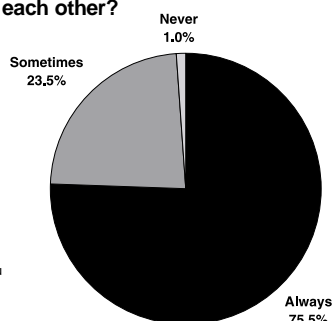
Data source: Worcester
Regional Research Bureau

The route officer is the police officer assigned to patrol a particular neighborhood. This is a different officer from the community services officer who attends neighborhood crime watch meetings.

What does this mean for Worcester?

The results of these two surveys indicate a very favorable relationship between the citizens that were surveyed and the police. Certain limitations of the neighborhood watch survey should be recognized, however. The results of that survey represent only the views of those who attend these meetings, and cannot be interpreted as being representative of all constituencies in Worcester. For example, the survey probably did not reach a large number of business owners, who also depend on the police. As well, those who attend neighborhood watch groups may have personality traits that make them more likely to attend meetings and also to rate the police better on these measures. For example, a neighborhood resident who attended one or two meetings but was displeased at the response or lack of response from the police may stop attending meetings and therefore would not have been surveyed. Still it is noteworthy that those who attend the watch groups are currently very satisfied with their community services officers and their route officers.

The telephone survey also indicated general satisfaction with the police. Because it was a random survey of households in Worcester, it can be interpreted as representative of everyone who had contact with the police over the last year, within the associated margins of error. These surveys will be repeated annually to determine whether attitudes change regarding satisfaction with the police.

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3

# Allegations of Police Misconduct

Why is it important?

The police department's role in preventing criminal activity and apprehending criminals must be balanced with the rights of the accused and protecting the innocent. One measure to determine whether the police are appropriately balancing these roles is the number of allegations of police misconduct and the number of those allegations that are substantiated following investigation by the Internal Affairs Division of the Worcester Police Department.

How does Worcester perform?

The Internal Affairs Division of the Worcester Police Department handles all citizen complaints, such as allegations of corruption and misconduct. After a complaint is filed, the allegations are investigated internally by the department and are disposed of in one of six ways: unfounded/resolved at intake (the behavior in the complaint did not occur), exonerated (the incident occurred but the actions of the officer were lawful and proper), not sustained (investigation did not reveal sufficient evidence), sustained (there was sufficient evidence to sustain the allegation), sustained other (investigation reveals that the officer committed a violation other than the one named in the complaint), and policy failure (the allegation is true, but the officer was acting in a manner consistent with policy, which indicates a policy revision is necessary).

Between July, 2001 and June, 2002, there were 112 citizen complaints against the Worcester Police Department. Contained in those complaints were 168 allegations of corruption and misconduct, such as theft, bribery, unlawful arrest, or harassment. Of those 168 allegations, 23 (13.7%) were sustained following investigation, indicating that there was sufficient evidence to sustain the allegations. This was five more sustained allegations than in FY01. These results are shown in **Chart 3-1**. **Chart 3-2** shows the disposition of all complaints during FY01 (137 total allegations) and FY02 (168 total allegations). There was an increase in almost all categories, although the number of allegations that were unfounded or resolved at intake, meaning that the behavior in the complaint did not occur, increased from 57 to 70, or 22.8%.

Chart 3-1: Number of Allegations and Number Sustained Following Investigation, FY01-FY02
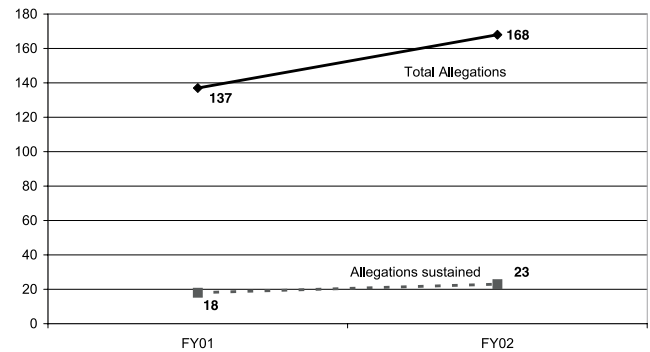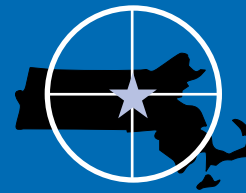

Data source: Worcester Police Department

Chart 3-2: Disposition of All Citizen Complaints, FY01-FY02
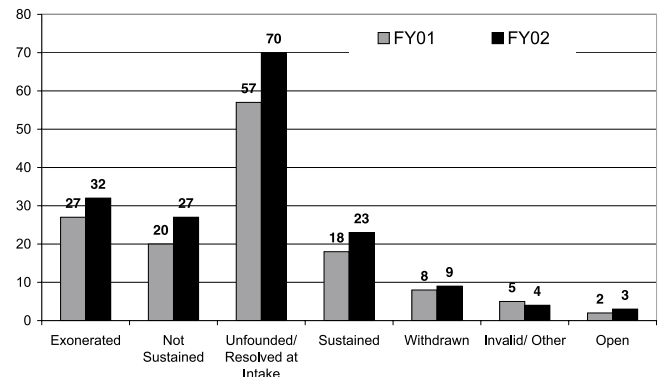
Data source: Worcester Police Department

What does this mean for Worcester?

The purpose of the Internal Affairs Division of the Police Department is to ensure that citizens are protected against inappropriate or unlawful police behavior, and to ensure that police officers are protected against unwarranted allegations. According to the data presented here, the number of sustained allegations has increased between FY01 and FY02. While it is difficult to draw conclusions regarding emerging trends based only on information for two years, it is important to monitor this trend in the future. Next year's report on public safety will determine whether the number of allegations and the number of sustained allegations continues to rise in FY03.

One limitation of these data is that they do not indicate the success or soundness of the process that the Police Department utilizes to investigate these allegations. According to the Police Department, the process is as follows: "…complaints are thoroughly investigated and then a report is prepared, which includes information contained in the statements from the complainant, the accused, and any witnesses. The completed investigative report also includes a narrative summary of the events and a finding of facts as determined by the evidence, including the statements of those involved. The report is then given to the Chief of Police to review for completeness, objectivity and evaluation. If the Chief of Police has reason to believe that there was misconduct or corruption on the part of the employee, the Chief shall take whatever remedial action necessary." [1] Future reports on public safety may include additional information regarding whether this process is transparent enough to citizens. A sound process is critical to ensuring both that the rights of Worcester's citizens are protected and that police officers can perform their duties without being unjustly accused of misbehavior.

[1] Worcester Police Department Internal Affairs Division:
    http://www.ci.worcester.ma.us/police/iad.htm

Appendix A: Additional Police Data
Distribution of Violations of Public Order

(Shaded areas within each geographical area indicate the primary concentration of violations of public order for that area.)

North Area
2,034 violations of public order (9.3% of city total)
Concentration: 57% of all violations in this area are in the Great Brook Valley area.

Northwest Area
913 violations of public order (4.2% of city total)
Concentration: 54% of all violations in this area are in the Gold Star Blvd and Grove Street area.

West Area
1,806 violations of public order (8.2% of city total)
Concentration: 44% of all violations in this area are in the Park Ave area near Highland St., Pleasant St, Chandler St., and May St, which have high commercial activity.

East Area
2,094 violations of public order (9.5% of city total)
Concentration: 67% of all violations in this area are in the Belmont Hill and Shrewsbury Street areas. Shrewsbury Street area has high evening user population due to restaurants and bars/clubs.

Southeast Area
2,293 violations of public order (10.4% of city total)
Concentration: 57% of all violations in this area are in the Union Hill/Oak Hill areas, including parts of Grafton Street.

South Area
3,288 violations of public order (15.0% of city total)
Concentration: 55% of all violations in this area are in the Green Island and Vernon Hill areas. Green Island has a high evening/nighttime user population due to bars.

Central Area
6,243 violations of public order (28.5% of city total)
Concentration: 64% of all violations in this area are in the lower Pleasant St, lower Chandler St, and Main South areas. Highland Street area has high commercial activity.

Downtown Area
3,062 violations of public order (14.0% of city total)
Concentration: 73% of all violations of public order in this area are in the Front St, Chestnut St, and Southbridge St areas. There is a high daytime user population in the downtown area, and a fluctuating evening/nighttime population due to events, bars, and nightclubs.

Violations of public order are not necessarily criminal offenses and include: disorderly conduct, fights, gunshots, loud parties/ music, non-domestic disputes, suspicious persons or vehicles, animal complaints, vice crimes, and other disturbances.

Source: Worcester Police Department.
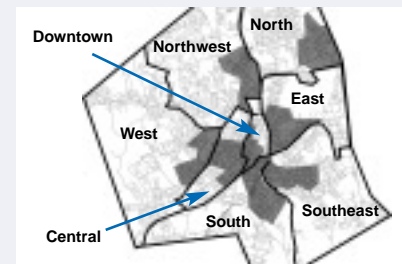
Worcester Fire Department and Emergency Medical Services

According to the Fire Department, its mission is to protect the lives and property of the citizens of Worcester from the adverse effects of fire, medical emergencies, or any hazardous conditions both man-made and natural.[1]

The Worcester Fire Department (WFD) budget includes funding for 469 individuals, 458 of whom are uniformed firefighters. (32 of these are in a new firefighter class that was planned for this year but which the City Manager put on hold due to budget difficulties.) Its current budget of $29.3 million is the third largest municipal expenditure after the Worcester Public Schools and the Worcester Police Department. The WFD has 23 fire companies in 12 fire stations located throughout the city. (A fire company consists of about 16 people with about four on each shift. Because of the Fire Department work schedule, there are generally several firefighters from one company off duty at any point in time.)

The WFD has primary responsibility for all fires and hazardous materials situations, and is the "first responder" for medical emergencies. In other words, the WFD responds to medical emergencies until UMass Memorial EMS arrives to provide advanced life support and transport. As discussed in **Indicator 6: Response Times for Emergency Services**, UMass Memorial EMS provides this service at no cost to the municipal government.

As shown in the table below, the WFD's budget has increased 9% over the last three years, from $26.9 million in FY01 to $29.3 million in FY03, while the number of employees has declined 1.5% from 476 in FY01 to 469 in FY03. The reason for the increase in costs are the same as those noted for the Police Department: contractual salary increases and health insurance premium increases. This meant that retiring firefighters could not be replaced. The number of fire companies has remained unchanged. According to statistics from the National Fire Protection Association, the median number of firefighters per 1,000 population in similarly sized cities in the northeast in 2000 was 2.51.[2] In Worcester, it was 2.68 per 1,000 population in FY01.

Input Statistics: Worcester Fire Department

	FY2001	FY2002	FY2003	% Change, FY01-FY03
Total department budget	$26,878,364 (actual expenditures)	$26,565,023 (approved budget)	$29,292,780 (approved budget)	+9.0%
Total number of funded positions	476	476	469	-1.5%
Positions per 1,000 population[3]	2.76	2.77	2.72	-1.5%
Total number of uniformed personnel	463	466	458	-1.1%
Uniformed personnel per 1,000 population[3]	2.68	2.70	2.65	-1.1%
Number of fire companies	23	23	23	0.0%

Data source: City of Worcester FY2003 Annual Budget.
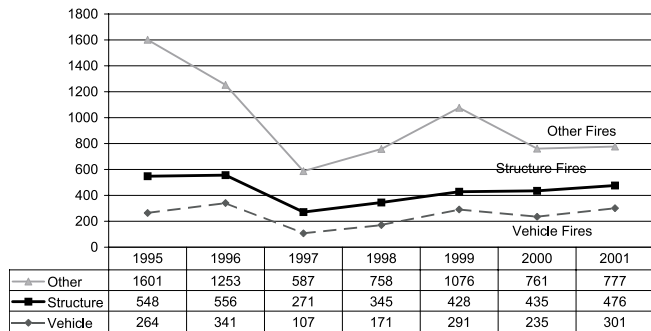
[1] City of Worcester Annual Budget, FY03.

[2] Michael J. Karter, "U.S. Fire Department Profile Through 2000," National Fire Protection Association, 2000.
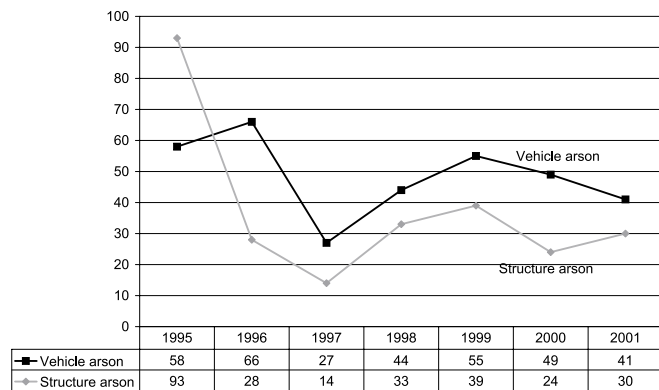
[3] Based on 2000 Census.

Number of Fires and Calls for Emergency Services

Chart 4-1: Number of Structure, Vehicle, and Other Fires, 1995-2001

	1995	1996	1997	1998	1999	2000	2001
Other	1601	1253	587	758	1076	761	777
Structure	548	556	271	345	428	435	476
Vehicle	264	341	107	171	291	235	301

Data source: Massachusetts Fire Marshal, Worcester Fire Department

Chart 4-2: Number of Arson Fires, 1995-2001

	1995	1996	1997	1998	1999	2000	2001
Vehicle arson	58	66	27	44	55	49	41
Structure arson	93	28	14	33	39	24	30

Data source: Massachusetts Fire Marshal, Worcester Fire Department

Why is it important?

The number of fires and emergency medical situations in a city indicate the workload of the Fire Department and UMass Memorial EMS. Tracking the number of fires and emergency medical situations can help reallocate resources where they are needed most.

How does Worcester perform?

From 1995 to 2001, the total number of fires in Worcester declined 35.6%, from 2,413 to 1,554. This decline is probably the result of changes in materials used in construction and prevention measures such as smoke detectors. Structure and vehicle fires are the most numerous fires, representing 31% and 19% respectively of all fires in 2001. As shown in **Chart 4-1**, the number of structure fires was lowest in 1997 at 271, and has risen slowly to 476 in 2001. The number of vehicle fires has followed a similar trend. The rate of decline in the number of fires has been faster in Worcester than in the rest of the country. From 1995 to 2000, the total number of fires in Worcester fell 41%, whereas the number of fires nationwide declined 13%.[1]

As shown in **Chart 4-2**, from 1995 to 2001, the number of structure and vehicle arsons in Worcester declined 53% from 151 to 71. The most significant decline in arsons was between 1995 and 1997 when it dropped by 73%. The number of arsons has risen slightly since that time.

[1] "The U.S. Fire Problem," 2001, National Fire Protection Association.

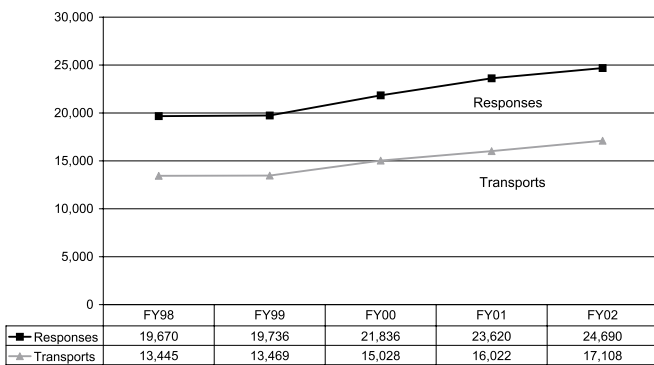**WORCESTER REGIONAL RESEARCH BUREAU**

While the number of fires in the city have generally declined, the number of EMS calls that the Fire Department and UMass Memorial EMS have responded to has increased. According to the Worcester Fire Department, the number of first responder EMS calls has increased 8.7% between 1999 and 2001, from 9,069 calls to 9,860 calls. As shown in **Chart 4-3**, the number of medical responses as reported by UMass Memorial EMS increased 25.5%, from 19,670 in FY98 to 24,690 in FY02. The number of hospital transports by UMass Memorial EMS increased 27.2%, from 13,445 in FY98 to 17,108 in FY02.

What does this mean for Worcester?

While the number of fires in the city has declined over the last decade, the number of firefighters has generally remained stable. In 1996, there were 2,150 fires in Worcester and 457 firefighters.[2] *In 2001, there were 1,554 fires (27.7% fewer than in 1996) and 463 firefighters (1.3% more than in 1996). The reason that the number of firefighters has remained stable is because of the higher number of EMS calls in the city. As is discussed more in* **Indicator 6: Response Time for Emergency Services**, *the Fire Department serves as first responder for EMS calls because state law requires that each community designate a first responder. Because of strategic location throughout the city, the Fire Department can arrive on the scene of a medical situation quicker than UMass Memorial EMS. The success of both the Fire Department and UMass Memorial EMS in providing EMS services, as measured by response times, is discussed more in depth in* **Indicator 6: Response Times for Emergency Services**.

[2] Worcester Municipal Research Bureau, Report No. 97-1, "Police and Fire Department Staffing: A survey of Worcester and eleven other cities," p. 3.

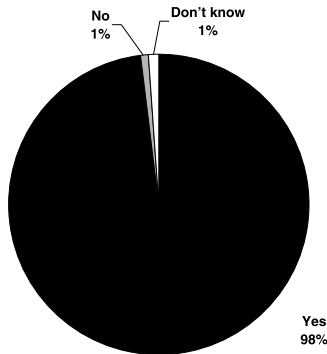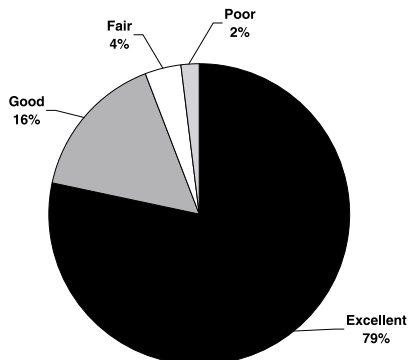**Chart 4-3: Number of EMS Calls, FY98-FY02**

	FY98	FY99	FY00	FY01	FY02
Responses	19,670	19,736	21,836	23,620	24,690
Transports	13,445	13,469	15,028	16,022	17,108

Data Source: UMass Memorial EMS

Chart 5-1: **Did the Fire Department Respond in a Timely Manner?**

No
1%

Don't know
1%

Yes
98%

Margin of error: +/- 4%

Chart 5-2: **Level of Overall Satisfaction with Fire Department Service**

Fair
4%

Poor
2%

Good
16%

Excellent
79%

Margin of error: +/- 9%

Why is it important?

The Fire Department, when responding to calls for fire or medical emergencies, should arrive in a timely manner and should act professionally and treat all citizens with respect. One way to determine the quality of the Fire Department's services and personnel is through household surveys.

How does Worcester perform?

A random telephone survey of 1,479 households in Worcester was completed by InterGlobal Services under contract with the Research Bureau during the summer of 2002. (See **Indicator 2: Police/Community Relations** for additional data from this same survey.) Out of these 1,479 households, 179 (12%) had had some contact with the Fire Department for either a fire or medical emergency.

Of those who had some contact with the Fire Department, 98% said that the Department arrived in a reasonable amount of time. This is also shown in **Indicator 6: Emergency Services Response Times**. 79% of respondents said that the overall service from the Fire Department was excellent. An additional 16% said service was good, while 4% said it was fair, and just 2% said it was poor. These results are shown in **Charts 5-1** and **5-2**.

What does this mean for Worcester?

Overall, those who have had contact with the Fire Department over the last year are overwhelmingly satisfied with the service that they received. This survey will be repeated annually, and those results will show whether the high ratings continue.

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6 Emergency Services Response Times

Why is it important?

Responding quickly to fires and emergency medical situations can save lives and reduce property damage. In Worcester, response to fires is solely the duty of the Fire Department, while emergency medical services (EMS) are provided by both the Fire Department and UMass Memorial EMS. The Worcester Fire Department serves as the "first responder" for medical emergencies and provides basic life support services until advanced life support and hospital transport can be provided by UMass Memorial EMS. The average response time from the receipt of a call to a provider arriving on the scene is one indicator of how well the Fire Department and UMass Memorial EMS are providing emergency services.

Over the last decade, fire departments across the country have assumed more prominent roles in the provision of EMS. As discussed in **Indicator 4: Number of Fires and Calls for Emergency Medical Services**, this has occurred during an overall decline in the number of fires and an increase in the number of medical calls. Thus, fire department staffing levels have remained about the same.

How does Worcester perform?

Table 6-1 shows the summary of the response times for the various emergency services, and the industry standards set for those services by the National Fire Protection Association. During calendar year 2001, the Worcester Fire Department's average time for responding to structure fire calls was 3 minutes 50 seconds. When the Department served as first responder for emergency medical services, the average response time was 4 minutes 13 seconds.

During 2001, the overall average response time for UMass Memorial EMS was 6 minutes 6 seconds. This time varied by area of the city covered because of the distribution of ambulances throughout the city. These results are presented in **Chart 6-1**. Sector 4, the downtown area, had the quickest response time of 4 minutes 48 seconds. Additionally, Priority 1 calls, or those that are most life threatening, have a quicker average response time of 5 minutes 13 seconds for the entire city.

Table 6-1: Summary of Response Times and Industry Standards

	Average Response 2001	Industry Standard 2001	Worcester Performance Better Than Standard?
Fire Department Response to Fire	3:50	4:00	**Yes - by 0:10**
Fire Department Response to EMS	4:13	4:00	**No - by 0:13**
UMass Memorial EMS Response to EMS	6:06	8:00	**Yes - by 1:54**

Data Source: Worcester Fire Department; UMass Memorial EMS

Chart 6-1: UMass Memorial EMS Average Response Times, 2001

City	6:06
Sector 1 - Southeast	5:59
Sector 2 - West/Southwest	7:12
Sector 3 - North/Northwest	6:25
Sector 4 - Central/Downtown	4:48
Priority 1, Citywide	5:13

Data source: UMass Memorial EMS
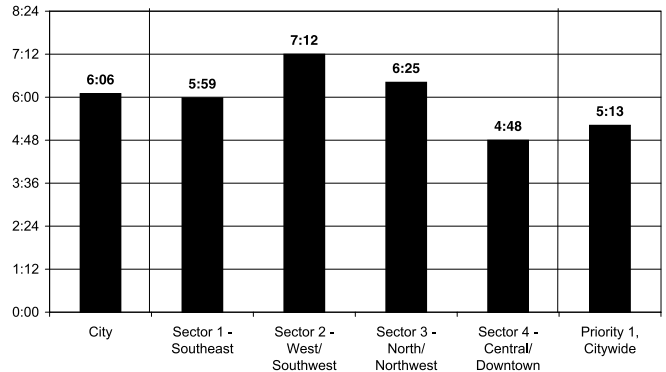
UMass Memorial EMS Sectors

What does this mean for Worcester?

According to standards set by the National Fire Protection Association, the Worcester Fire Department performs better than the standard for structure fires, but worse than the industry standard for first-responder EMS calls. UMass Memorial EMS performs much better than the standard for advanced life support response.

*Worcester has a somewhat unique structure for providing emergency medical services. In fact, out of 200 cities surveyed by the **Journal of Emergency Medical Services**, approximately 3% utilize hospital-based EMS services. Worcester is the only northeastern city out of this group that provides such a service. (Although it is not included in the 200-city survey, UMass EMS also provides EMS for Shrewsbury.) A hospital-based EMS service, such as that provided by UMass Memorial EMS, puts a premium on the medical side of EMS because of the support provided to the program from the UMass Memorial Medical Center (UMMC). UMMC provides ongoing training and professional development opportunities to the staff of UMass Memorial EMS. As well, because UMass Memorial EMS is overseen by a full time medical director, and thus is bound by hospital quality assurance and oversight, staff are authorized to undertake advanced medical procedures in the field that are otherwise only used in the hospital setting. Thus, rather than simply a public safety service, it is seen more broadly as a public health service as well. Since times for advanced-life support EMS are significantly better than the industry standard, and medical services are the focus of a hospital-based service, it seems that the current performance of EMS in Worcester is very successful.*

It should also be noted that UMass Memorial EMS provides this service at no charge to the City. Under this arrangement, the City does not have to purchase or maintain ambulances, or provide advanced life support training to the Fire Department staff who are trained primarily in fire suppression. Thus, not only does the current structure perform better than industry standards, it also saves Worcester the expense of running an ambulance service.

MISSION STATEMENT

The Worcester Regional Research Bureau is a private, non-profit organization dedicated to conducting independent, non-partisan research on financial, administrative, management and community issues facing Worcester's municipal government and the surrounding region.

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