

# **Patrol Resource Analysis of the Police Department**

## **MILWAUKEE, WISCONSIN**

**matrix**   
consulting group

721 Colorado Avenue, Suite 101  
Palo Alto, California 94303  
v. 650.858.0507 f.650.858.0509

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# 1. INTRODUCTION AND EXECUTIVE SUMMARY

This report represents the compilation of two reports, which provide an analysis of police officer staffing needs in the Milwaukee Police Department Patrol Bureau. The first report provided an analysis of the 'best use' of current resources available in the Patrol Bureau. An initial analysis of overall reactive workloads, personnel availability, and proactive time available in patrol is provided. The second report provides the project team's analysis of the optimum level of patrol staffing within the MPD based on the same workloads as well as alternative service levels targets.

In developing this report, the project team utilized the Patrol Resource Allocation Manual developed by the Center for Public Safety at Northwestern University as well as a patrol officer utilization model developed by the Matrix Consulting Group (this model was utilized to identify current patrol capacity and utilization issues). In addition, a number of steps were utilized in developing this report and the current resources report, including the following:

- Initial interviews with City and Department top management to understand key service levels issues, financial constraints and general environmental factors impacting the study.
- Extensive interviews with managers and line personnel within the Milwaukee Police Department to understand operational practices, assignment and utilization of personnel, and overall service delivery organization.
- The project team conducted extensive data collection to document current department workloads, costs, resources allocation, and other operational facets.
- The project team also developed a descriptive profile of the Patrol Bureau to document organization, staffing levels, key workloads, and other key information for review. Comments received from the MPD were incorporated into this document.

This report includes a number of observations and recommendations related to patrol staffing in the Milwaukee Police Department. The following section discusses the key findings and recommendations made by the project team.

### **EXECUTIVE SUMMARY**

The project team has identified a number of opportunities to enhance the current service levels being provided by the Milwaukee Patrol Bureau. The executive summary does not recap all of the findings and observations made in this report. However, the major findings and recommendations made related to current patrol staffing and “optimal” patrol staffing are described in the table, below:

<b>Finding/Observation</b>	<b>Recommendation</b>	<b>Fiscal Impact</b>
Overall, current proactive time levels in patrol are within recommended targets. However, workload is unevenly balanced between the patrol districts leading to low proactivity levels in districts 3, 4, and 7.	The MPD has already developed a redistricting plan to better distribute workload among the patrol districts. However, the Department has not yet identified staffing needs under the new plan. The project team has identified the number of personnel needed to balance proactive time levels, under current staffing, under the new plan.	None.

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Finding/Observation	Recommendation	Fiscal Impact
<p>The Patrol Support Division is generally appropriately staffed. However, there are operational practices, which impact the effectiveness of patrol support units.</p>	<p>The MPD should change the role of the Motorcycle Unit to primarily handling traffic enforcement. Primary traffic accident investigation should be transferred to patrol on Day and Early shift as is currently done on Late shift.</p> <p>The MPD should reduce staffing in the Harbor Patrol Unit from 12 positions during the boating season to 8 positions. This would include 2 full-time officers and 6 seasonal officers transferred from patrol. Consider revising the current shift schedule to focus on high boater activity.</p> <p>The City of Milwaukee and the MPD should stop the current practice of staffing special events with on-duty officers. Major events should be staffed using overtime and funded through event fees charged by the City. The project team has provided examples of the range of fees.</p>	<p>Net savings of Officer time. Approximately 26 Police Officer positions are lost each year to special event staffing. Depending on the criteria utilized, the City can recoup a large share of this lost time.</p> <p>Net revenue from special event fees. Actual amount will vary based on criteria/fees set by the City.</p>

Finding/Observation	Recommendation	Fiscal Impact
<p>Based on current operational practices, the MPD cannot meet “optimal” service levels targets recommended by the project team.</p> <p>Based on the current approach to prisoner transport and booking, use of civilians, and telephone reporting, the MPD needs 1,017 Police Officers in Patrol to meet “optimal” targets. The Patrol Bureau currently has 960 funded Police Officer positions allocated to Patrol.</p>	<p>The MPD and the City can reduce the number of Police Officer positions needed by making the following operational changes:</p> <p>Utilize civilian field responders for low priority, non-emergency calls for service.</p> <p>Increase the utilization of the telephone-reporting unit for non-emergency calls for service.</p> <p>Redeploy personnel currently dedicated for prisoner conveyance and bookings.</p> <p>Reduce seasonal harbor patrol staffing.</p> <p>The project team recommends making these operational changes in order to meet the optimal targets in this report.</p> <p>Changes in operational practices would also result in reductions in overtime.</p>	<p>Police Officer position savings as follows:</p> <p><b>Civilian Responders (@ 5% of calls for service)</b></p> <ul style="list-style-type: none"> <li>• Additional 22 Civilian personnel @ \$57,559 each. Total of \$1.266 million.</li> <li>• Decrease of 41 Police Officer positions @ \$71,948 each.</li> </ul> <p><b>Increased utilization of telephone reporting unit</b></p> <ul style="list-style-type: none"> <li>• Decrease of 10 Police Officer positions @ \$ 71,948 each.</li> <li>• Additional 5 Police Aide positions.</li> </ul> <p><b>Redeploy prisoner conveyance and booking personnel:</b></p> <ul style="list-style-type: none"> <li>• Decrease of 55 Police Officer positions @ \$71,948 each.</li> </ul> <p><b>Reduce seasonal harbor patrol staffing from 10 to 6 Officers.</b></p> <ul style="list-style-type: none"> <li>• Increase of 4.5 Police Officers (not originally included in “optimal” figure).</li> </ul> <p><b>Police Officer positions needed:</b></p> <p>Optimal: 1,017            Optimal with changes: 961            Current: 960 funded Officer positions in patrol</p> <p>Changes in operational practices would result in a reduction of approximately \$2.3 million per year in overtime.</p>

In summary, the conclusions reached and recommendations made in this report include the following:

- **The Best Use of Existing Patrol Personnel:**

- The current assignment of personnel to the Patrol Bureau provides a high level of service to the City of Milwaukee. There is sufficient proactive time currently available within Patrol to meet recommended service level targets. However, there are opportunities to better deploy personnel to match workloads and the need for proactive patrol. This is particularly important since the Department has developed a redistricting plan, which has significantly changed workload in each patrol district.
- The Patrol Support Bureau is appropriately staffed. However, there are opportunities to enhance service levels, and reduce costs, by changing operational practices. These changes include: reducing seasonal staffing for harbor patrol, using fees and overtime for special event staffing, and re-focusing the motors unit on traffic enforcement instead of accident investigation.

- **The Analysis of Optimal Staffing Requirements:**

- Based on current operational practices, and optimal service levels targets, MPD patrol districts need 1,017 Police Officers. There are currently 960 Police Officer positions budgeted and funded for the patrol districts. The estimated cost of meeting this optimal figure are shown below:

PO Salary	\$53,693
Benefits (@34%)	18,256
Total PO Cost	\$71,948
Number Needed	57
Total Cost	\$4,101,036
Overtime Reduction	\$2,298,247
<b>Net Cost</b>	<b>\$1,802,789</b>

As shown above, the net cost, after a reduction in overtime costs due to staffing increases, is \$1.8 million.

- The MPD and the City can reduce the number of Officers needed in patrol if recommended operational changes are made including: use of civilian field responders for low priority, non-emergency calls for service, increased utilization of the telephone reporting unit, centralization and reduction of booking and prisoner transport assignments, and reduction of harbor patrol seasonal staffing. If all of these changes are made, a total of 961 Police Officer positions are needed. The estimated costs of this approach are shown in the table, below:

Civilian Salary (@80% of PO)	\$42,954
Benefits (@34%)	\$14,604
Total CSO Estimated Cost	\$57,559
Number Needed	22
Total CSO Cost	\$1,266,298
Overtime Reduction	(\$2,298,247)
Net Cost / Savings	(\$1,031,949)

As shown above, the net cost, after a reduction in overtime due to staffing increases, is a savings of \$1,031,949.

Based on the service levels provided by each option as well as the estimated costs and savings, the project team recommends making the operational changes discussed in this report.

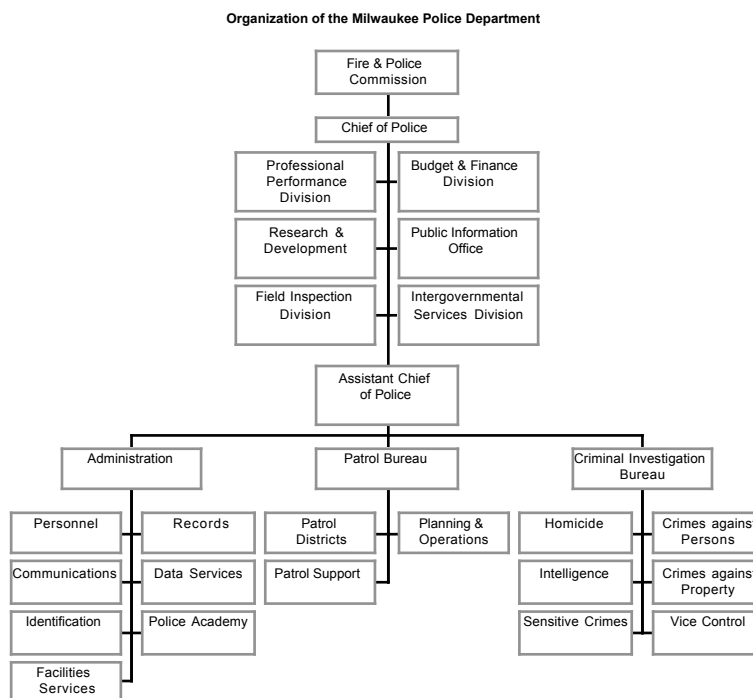


## 2. CURRENT ORGANIZATION OF THE MILWAUKEE POLICE DEPARTMENT

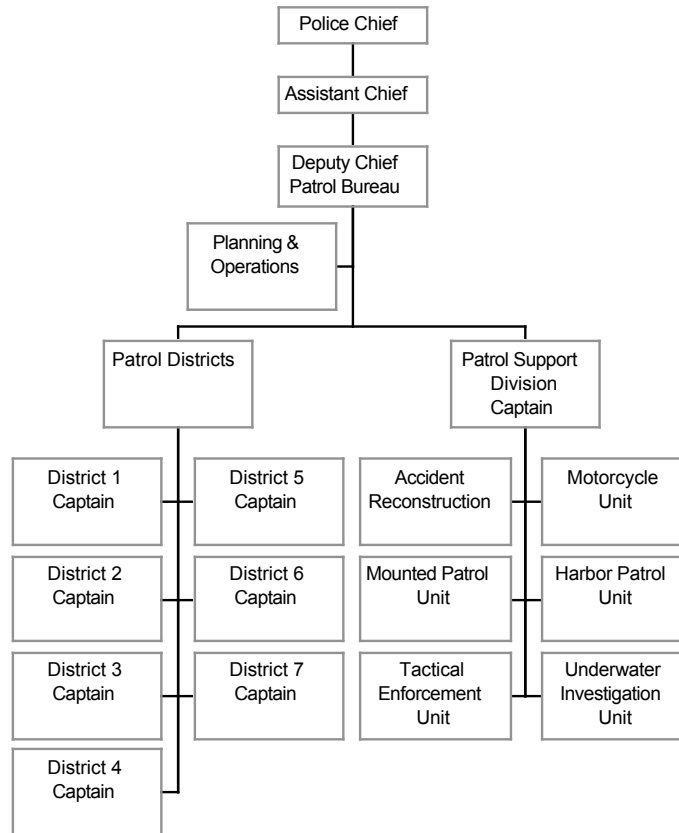
This chapter provides a summary of the current organization of the Milwaukee Police Department and Patrol Bureau. A more detailed summary of the operational practices and utilization of personnel is provided in the Patrol Bureau Profile at the end of this report.

### 1. THE MILWAUKEE POLICE DEPARTMENT IS ORGANIZED INTO THREE MAJOR BUREAUS.

The Milwaukee Police Department provides a number of services to the City of Milwaukee including patrol, investigations, emergency communications, special enforcement and emergency tactical response, crime prevention and public affairs, and many other services. The organization charts, below, show the overall organization of the Milwaukee Police Department and the Patrol Bureau:



**Organization of the Patrol Bureau**



As shown above, the Milwaukee Police Department is organized into three main bureaus: Administration, Patrol, and Investigations. The Patrol Bureau is comprised of 7 patrol districts and the Patrol Support Division, which includes Accident Reconstruction, Mounted Patrol, Tactical Enforcement Unit, Motorcycle Unit, Harbor Patrol, and Underwater Investigation Unit.

**2. THE MILWAUKEE POLICE DEPARTMENT IS ALLOCATED 1,382 POLICE OFFICER POSITIONS, OF WHICH, 27 HAVE BEEN GRANT FUNDED.**

Based on information received from the City’s Budget and Finance Department, the City of Milwaukee currently has a total of 1,382 budget funded police officer positions. The current assignment of police officers within the Department is shown in the table, below:

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<b>Division / Unit</b>	<b>Officers</b>
CENTRAL RECORDS DIV (CRD)	22
CIB - HOMICIDE - DAYS (CIH)	1
CIB - PROPERTY CRIMES - DAYS (CIP)	5
CIB - PROPERTY CRIMES - EARLY (CIP)	1
COMMUNICATIONS DIV (CD)	6
COMMUNITY SRV DIV (CSD)	6
CRIME ANALYSIS (CAS)	3
DISTRICT 1 - DAYS (1)	30
DISTRICT 1 - EARLY (1)	17
DISTRICT 1 - LATE (1)	15
DISTRICT 2 - DAYS (2)	36
DISTRICT 2 - EARLY (2)	37
DISTRICT 2 - LATE (2)	29
DISTRICT 3 - DAYS (3)	43
DISTRICT 3 - EARLY (3)	51
DISTRICT 3 - LATE (3)	39
DISTRICT 4 - DAYS (4)	30
DISTRICT 4 - EARLY (4)	48
DISTRICT 4 - LATE (4)	28
DISTRICT 5 - DAYS (5)	36
DISTRICT 5 - EARLY (5)	53
DISTRICT 5 - LATE (5)	37
DISTRICT 6 - DAYS (6)	34
DISTRICT 6 - EARLY (6)	41
DISTRICT 6 - LATE (6)	29
DISTRICT 7 - DAYS (7)	48
DISTRICT 7 - EARLY (7)	75
DISTRICT 7 - LATE (7)	55
FACILITIES SRV DIV (FSD)	7
HIDTA (HID)	6
IDENTIFICATION DIV – LATE (ID)	4
INTELLIGENCE DIV - DAYS (INT)	29
INTELLIGENCE DIV – EARLY (INT)	19
INTERGOVERNMENTAL SRV DIV (IGS)	21
MOTORCYCLE UNIT (MCU)	40
NEIGHBORHOOD SAFETY INITIATIVE (NSI)	92
OFFICE of the CHIEFS/EXEC COMND STAFF (OC)	4
PATROL SUPPORT DIV (PSD)	23
POLICE ACADEMY (PA)	17
PROCESSING SECT (PRO)	74
PROFESSIONAL PERFORMANCE DIV (PPD)	10
RECRUIT SECT (REC)	28
SENSITIVE CRIMES DIV - DAYS (SCD)	16
SENSITIVE CRIMES DIV - EARLY (SCD)	8
SENSITIVE CRIMES DIV - LATE (SCD)	3
TACTICAL ENFORCEMENT UNIT (TEU)	38
VICE CONTROL DIV - DAY (VCD)	12
VICE CONTROL DIV - EARLY (VCD)	13
<b>Total</b>	<b>1,319</b>

As shown above, a total of 1,319 Police Officer positions were filled as of August 27, 2007. Note that of the 1,382 funded positions, 27 positions have been funded (in whole or part) by grants. The table, below, shows the total number of grant-funded positions for the current budget year:

<b>Description</b>	<b>#</b>
Beat Patrol Grant	6
HIDTA	6
MMDEG	1
TABS	6
UASI	2
COPS In Schools	6
Total	27

HIDTA: High Intensity Drug Trafficking Area  
MMDEG: Milwaukee Metro Drug Enforcement Grant  
TABS: Truancy Abatement  
UASI: Urban Area Security Initiative

Note that the COPS in Schools grant expired in late summer 2007 and several of the grant-funded positions have been in the process of renewal.

**3. THE POLICE DEPARTMENT HAS TEMPORARILY ASSIGNED PERSONNEL AS PART OF THE NEIGHBORHOOD SAFETY INITIATIVE (NSI).**

As of May 20, 2007, the MPD has reassigned patrol personnel to a targeted crime prevention effort known as the Neighborhood Safety Initiative. The focus of this effort is to reduce the level of violent crime and calls for service in high crime areas. This program ended in mid-October, 2007, while the study was in its concluding phases. During this period, a number of personnel have been temporarily reassigned. As shown in the previous Police Officer assignment table, 92 officers were assigned to the NSI.

In order to evaluate the utilization of patrol officers and the “optimal” number of officers needed, the project team utilized the following assumptions:

- The analysis of the best use of current resources is based on personnel deployments prior to the NSI.

- The project team assumed that officers assigned to the NSI returned to patrol at the end of the initiative. As a result, the total number of personnel assigned to patrol will include these personnel.
- New recruits are counted in the total patrol officer staffing figures. Also note that two additional academies will be held before the end of the year in September and December. It is anticipated that there will be 66+ recruits in each class.

Based on the assumptions above, and the information collected by the project team, the total number of funded police officer positions assigned to the patrol districts is shown below:

<b>Assignment</b>	<b>27-Aug</b>	<b>NSI</b>	<b>Total</b>
DISTRICT 1 - DAYS (1)	30		30
DISTRICT 1 - EARLY (1)	17	2	19
DISTRICT 1 - LATE (1)	15	3	18
DISTRICT 2 - DAYS (2)	36		36
DISTRICT 2 - EARLY (2)	37	11	48
DISTRICT 2 - LATE (2)	29	1	30
DISTRICT 3 - DAYS (3)	43		43
DISTRICT 3 - EARLY (3)	51	9	60
DISTRICT 3 - LATE (3)	39	4	43
DISTRICT 4 - DAYS (4)	30		30
DISTRICT 4 - EARLY (4)	48	2	50
DISTRICT 4 - LATE (4)	28	9	37
DISTRICT 5 - DAYS (5)	36		36
DISTRICT 5 - EARLY (5)	53	9	62
DISTRICT 5 - LATE (5)	37	6	43
DISTRICT 6 - DAYS (6)	34		34
DISTRICT 6 - EARLY (6)	41	8	49
DISTRICT 6 - LATE (6)	29	2	31
DISTRICT 7 - DAYS (7)	48	1	49
DISTRICT 7 - EARLY (7)	75	8	83
DISTRICT 7 - LATE (7)	55	6	61
Recruits	28		28
<b>Total</b>	<b>839</b>	<b>81</b>	<b>920</b>

As shown above, a total of 920 positions are current filled within the patrol districts. Note that these figures do not include the patrol support division.

### 3. ANALYSIS OF THE BEST USE OF CURRENT PATROL BUREAU PERSONNEL

This chapter provides the project team's analysis of the best use of current patrol bureau personnel.

#### 1. CURRENT DEPLOYMENT OF PERSONNEL

The initial step in evaluating current field police officer utilization in the Patrol Bureau was to document the current assigned of officers throughout the City. The table, below, shows the total number of officers assigned by district and shift within the Patrol Bureau. Note that these figures include all officers: patrol officers, community liaison officers, and those assigned to specialized units such as the Anti-Gang Unit, Violent Crime Reduction Unit, etc. Also note that the assignments below reflect police officer assignments prior to the implementation of the Neighborhood Safety Initiative, which began May 20, 2007 and is scheduled to end September 8, 2007. In addition, where a shift is split into "early" and "late" squads, the total shift compliment is divided by 2 and assigned to those hours.

**District 1 Officer Assignments – All Officers**

Hours	Day Shift	Early Shift	Late Shift
0000			17
0100			17
0200			17
0300			17
0400			17
0500			17
0600			17
0700	14.00		8.5
0800	28.00		
0900	28.00		
1000	28.00		
1100	28.00		

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Hours	Day Shift	Early Shift	Late Shift
1200	28.00		
1300	28.00		
1400	28.00		
1500	14.00	10	
1600		20	
1700		20	
1800		20	
1900		20	
2000		20	
2100		20	
2200		20	
2300		10	8.5

**District 2 Officer Assignments – All Officers**

Hours	Day	Early	Late
0000			31
0100			31
0200			31
0300			31
0400			31
0500			31
0600			31
0700	16.50		15.5
0800	33.00		
0900	33.00		
1000	33.00		
1100	33.00		
1200	33.00		
1300	33.00		
1400	33.00		
1500	16.50	21.5	
1600		43	
1700		43	
1800		43	
1900		43	
2000		43	
2100		43	
2200		43	
2300		21.5	15.5

**District 3 Officer Assignments – All Officers**

Hours	Day	Early	Late
0000			39
0100			39
0200			39
0300			39
0400			39
0500			39
0600			39
0700	19.50		14.5
0800	39.00		
0900	39.00		
1000	39.00		
1100	39.00		
1200	39.00		
1300	39.00		
1400	39.00		
1500	19.50	25.5	
1600		51	
1700		51	
1800		51	
1900		51	
2000		51	
2100		51	
2200		51	
2300		25.5	19.5

**District 4 Officer Assignments – All Officers**

Hours	Day	Early	Late
0000			31
0100			31
0200			31
0300			31
0400			31
0500			31
0600			31
0700	14.50		15.5
0800	29.00		
0900	29.00		
1000	29.00		
1100	29.00		
1200	29.00		
1300	29.00		
1400	29.00		
1500	14.50	24.5	
1600		49	



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Hours	Day	Early	Late
1700		49	
1800		49	
1900		49	
2000		49	
2100		49	
2200		49	
2300		24.5	15.5

**District 5 Officer Assignments – All Officers**

Hours	Day	Early	Late
0000			39
0100			39
0200			39
0300			39
0400			39
0500			39
0600			39
0700	18.00		19.5
0800	36.00		
0900	36.00		
1000	36.00		
1100	36.00		
1200	36.00		
1300	36.00		
1400	36.00		
1500	18.00	30.5	
1600		61	
1700		61	
1800		61	
1900		61	
2000		61	
2100		61	
2200		61	
2300		30.5	19.5

**District 6 Officer Assignments – All Officers**

Hours	Day	Early	Late
0000			29
0100			29
0200			29
0300			29
0400			29
0500			29
0600			29
0700	17.00		14.5
0800	34.00		
0900	34.00		
1000	34.00		
1100	34.00		
1200	34.00		
1300	34.00		
1400	34.00		
1500	17.00	16	
1600		32	
1700		32	
1800		32	
1900		32	
2000		32	
2100		32	
2200		32	
2300		16	14.5

**District 7 Officer Assignments – All Officers**

Hours	Day	Early	Late
0000			58
0100			58
0200			58
0300			58
0400			58
0500			58
0600			58
0700	23.50		29
0800	47.00		
0900	47.00		
1000	47.00		
1100	47.00		
1200	47.00		
1300	47.00		
1400	47.00		
1500	23.50	40	
1600		80	

Hours	Day	Early	Late
1700		80	
1800		80	
1900		80	
2000		80	
2100		80	
2200		80	
2300		40	29

Note that the tables above show the total number of officers assigned to each shift, not the total number of officers available on any given day. Officers assigned to patrol work a 4 on 2 off, 5 on 2 off schedule, which results in 10 out of 14 days worked. These figures will be adjusted in a later section after officer availability is discussed.

## **2. THE PROJECT TEAM EVALUATED POLICE OFFICER NET AVAILABILITY**

This section provides the project team's analysis of the net number of hours available for patrol activities.

### **(1) The Project Team Documented the Use of Leave by Patrol Officers.**

The next step in the analysis was to document the amount of leave time utilized by patrol officers within the Milwaukee Police Department. Leave time includes: vacation, sick, compensatory time, military leave, and other time where an officer is not available for work. The table, below, shows the total amount of leave time utilized by sworn personnel assigned to the patrol bureau during 2006:

**Leave Time Utilization, Patrol Bureau 2006  
 Milwaukee Police Department**

Leave Type	Total Hours	Hours/Officer	Days/Officer
Compensatory day	176,198.80	120.44	15.05
Vacation	160,697.40	109.84	13.73
Holiday	125,261.60	85.62	10.70
Sick	72,504.40	49.56	6.19
Injury	27,666.10	18.91	2.36
FMLA-sick	11,737.30	8.02	1.00
Suspended with pay	9,663.00	6.60	0.83
Sick Leave Control Incentive Program Day	9,016.00	6.16	0.77

Leave Type	Total Hours	Hours/Officer	Days/Officer
FMLA-compensatory	3,668.40	2.51	0.31
Military leave	3,264.00	2.23	0.28
Death in family	2,240.00	1.53	0.19
Excused union time	2,146.00	1.47	0.18
FLMA-vacation	1,416.00	0.97	0.12
New Flex	861.70	0.59	0.07
Miscellaneous unapplied day	644.00	0.44	0.06
Sickness in family	641.00	0.44	0.05
Jury duty	587.50	0.40	0.05
Dismissed with pay	272.00	0.19	0.02
Old flex	218.30	0.15	0.02
Merit day	184.00	0.13	0.02
Union negotiation pay	136.00	0.09	0.01
Prior year vacation	120.00	0.08	0.01
<b>Total</b>	<b>609,143.50</b>	<b>416.37</b>	<b>52.05</b>

The points, that follow, summarize the information above:

- As shown above, a total of 609,143 hours of leave time were utilized by patrol bureau personnel in 2006. Note that this includes all sworn personnel assigned to the Bureau. A total of 1,463 personnel were included in the data set, which results in an average of 416 hours or 52 days of leave per person.
- The largest categories included compensatory time and vacation time, which averaged 15 days and 13 days per officer respectively.
- Based on the average number of leave hours per officer, the project team calculated the average number of hours available for work to be approximately 1,664 hours or 80% of regularly scheduled hours (2,080).

These figures were utilized to determine overall police officer availability. The next section, that follows, discusses other time elements that impact officer availability.

**(2) The Project Team Documented Administrative and Other Duty Time Impacting Officer Availability.**

There are other activities and duties that impact officer availability. These include time spent training, administrative time spent for briefings, preventive maintenance checks, meals and breaks, and other miscellaneous time. The table, below, describes how each of these activities impacts officer availability:

<b>Time Element</b>	<b>Summary Discussion</b>										
<b>Training</b>	The project team documented the amount of time each officer spends training including mandatory training for recertification, attendance at outside schools and conferences, time spent as an instructor, and other in-service training. Based on data collected from the Department's training academy, each officer averaged approximately 72 hours of training each year.										
<b>Meals, briefings, and preventive maintenance</b>	The project team utilized estimates of the average amount of time per shift spent on these activities. Meals were estimated at 45 minutes per shift, briefings at 15 minutes per shift, and preventive maintenance (e.g. vehicle and equipment checks) at 15 minutes, for a total of 1 hour and 15 minutes per shift.										
<b>Net Time Available</b>	<p>Using the estimated number of hours worked by each officer of 1,592 (1,664 – 72 hours for training), the project team determined the average number of shifts worked. This figure was calculated by dividing 1,592 by 8 hours (shift length). This results in 199.25 shifts and 249 hours of total time spent on training, meals, briefings, and preventive maintenance.</p> <p>The overall net available time for each officer was calculated at 1,345 hours, as shown below:</p> <table data-bbox="669 1037 1149 1184"> <tr> <td>Scheduled hours:</td> <td>2,080</td> </tr> <tr> <td>Leave time:</td> <td>416</td> </tr> <tr> <td>Training:</td> <td>72</td> </tr> <tr> <td>Meals, breaks, etc.</td> <td>249</td> </tr> <tr> <td>Net Available Time</td> <td>1,345</td> </tr> </table>	Scheduled hours:	2,080	Leave time:	416	Training:	72	Meals, breaks, etc.	249	Net Available Time	1,345
Scheduled hours:	2,080										
Leave time:	416										
Training:	72										
Meals, breaks, etc.	249										
Net Available Time	1,345										

As shown above, after considering other activities which impact officer availability, the net available officer time was estimated at 1,345 hours each year, or about 65% of gross availability.

### **3. ANALYSIS OF PATROL PROACTIVITY**

A critical component of any community-policing program is the availability and use of proactive time to address crime, quality of life issues, and other community concerns. The concept of proactivity is very important in law enforcement – if field personnel are committed to reactive workload (e.g. workload associated with responding to community generated calls for service) a large portion of the time, they

have little capability to impact the root causes of crime, to anticipate crime in selected situations, or to work with citizens. Further, field personnel with little uncommitted time find it difficult to produce the response times at community expected levels.

In evaluating field service resources, the Matrix Consulting Group distinguishes between two distinct types of police work: reactive and proactive. Reactive time is defined as the time required by patrol and field service personnel to respond to community generated calls for service. Reactive time, therefore, includes call for service handling time, time required to process arrests, write reports, and provide back-up to officers. Proactive time is defined as the time available to perform proactive activities (e.g. field interviews, directed patrols, house and business checks, “knock and talks”).

As a general guideline, effective proactive time targets should be within a 40% to 50% range. Proactivity below 40% does not provide time in sufficient blocks to be useable, while being above the 50% level is typically not affordable nor efficient in a jurisdiction. The table, below, provides a brief discussion of the various proactive time targets in our proactive time analysis model:

40% Proactive Time	45% Proactive Time	50% Proactive Time
<ul style="list-style-type: none"> <li>Below this level, proactive time begins to come in blocks that are too small to be useful for problem-oriented policing, and the ability to quickly respond to calls for service diminishes.</li> <li>Officers provide a minimum level of effective service and should be able to engage in basic preventive activities, including directed patrol, responding to non-criminal quality of life complaints, engaging in traffic enforcement, etc.</li> <li>Ability to engage in community meetings and other time consuming efforts.</li> <li>This requires active involvement of supervisors. More of the officers' time is dictated by the necessity of handling calls for service than in higher target situations.</li> </ul>	<ul style="list-style-type: none"> <li>Proactive time at this level provides a high level of service for the community, and provides an effective and efficient balance of reactive and proactive workload.</li> <li>At this level, officers are providing a high level of service and should be able to address the proactive needs of the community, without having to deal with having too high or too low of proactive time available.</li> <li>At this level as well, supervisors are to be held accountable for their officers' utilization, and for the results in the community.</li> </ul>	<ul style="list-style-type: none"> <li>Above this level, proactive time comes in blocks that are difficult to utilize in routine shift circumstances.</li> <li>Proactive time of more than 50% becomes inefficient and ineffective use of time and is difficult to manage personnel whose time is so weighted towards the proactive.</li> <li>At this level, officers are providing a very high level of service and should be able to engage in the full range of proactive activities (including traffic enforcement, special enforcement, directed patrol).</li> <li>Investment in this level of proactive law enforcement requires a strong commitment to actively manage the use of this time, to hold staff accountable for officer utilization.</li> </ul>

The project team views the 40% range to be a minimum average proactive time target for the City which is involved in the community; 45% is targeted by many agencies which have developed a comprehensive program of regular officer / community involvement; and a 50% proactive level typically found in communities with very high service expectations and / or greater financial resources.

The following points introduces and summarizes several key factors that should be kept in mind when reviewing the analysis of proactive time:

- Effective municipal law enforcement requires a field patrol force which is designed and managed to be flexible in providing both reactive and proactive response to law enforcement issues in the community.
- This requires that the MPD balance personnel, resources and time to handle both of these types of law enforcement. On average, an officer should devote between 50% and 60% of his/her time on to handling all the elements of reactive patrol. The remaining 40% to 50% should be spent providing proactive patrol.

- The time which each officer should have dedicated to proactive patrol needs to be structured and should not be approached in a random way. Random patrol does not effectively address the issues facing any community; patrol should include efforts to address specific problems in pre-determined ways.
- Any effective proactive approach to patrol requires that information be managed formally and that an analytical effort be put into evaluating that information for issues. In addition, attempts to address problems should be evaluated formally – this is to ensure that an approach has been effective. This requires active participation by both patrol officers and support staff to identify crimes, trends, and measure the effectiveness of prevention mitigation efforts.

The following table provides a summary of the key elements off the staffing / proactive time analysis model, as well as a brief discussion of each:

<b>Element of the Matrix Consulting Group’s Patrol Staffing Model</b>	<b>Summary Discussion</b>
<b>Reactive Workload</b>	<ul style="list-style-type: none"> <li>• Intended to be established by policy as between 50% to 60% of an Officer’s net available time.</li> <li>• This calculation takes administrative time (i.e., briefings, vehicle maintenance, etc.) out before this calculation is made.</li> <li>• This portion of workload is based on actual calls for service workload – the committed time (for all units) related to all elements of patrol workload.</li> </ul>
<b>Proactive Time Available</b>	<ul style="list-style-type: none"> <li>• Targeted at between 40% and 50% of total time (i.e., the time not reacting to community generated calls for service) – as determined as a policy decision by the City of Milwaukee.</li> </ul>
<b>Administrative Time</b>	<ul style="list-style-type: none"> <li>• On-shift time which typically makes a patrol officer unavailable to respond to calls for service and is counted as unavailable time (i.e., briefing and vehicle maintenance time).</li> <li>• However, the City of Milwaukee police officers will respond to all emergency calls for service during their respective shift time (including during any lunch or briefing time).</li> </ul>
<b>Staff Availability</b>	<ul style="list-style-type: none"> <li>• Approach which utilizes the actual availability of patrol officers after leaves including: vacation, sick, military, bereavement, etc.</li> </ul>

This approach provides managers and policy makers with an easily understood measure of the capability of the patrol force for providing directed and proactive law enforcement (it is the time left over once calls for service have been handled).



While the project team did not utilize proactive time targets to estimate optimal staffing needs within the Patrol Bureau, proactive time was utilized to evaluate the current resources available within patrol and to identify potential areas for reallocation or redeployment of personnel to better match service levels throughout the Bureau. In addition, the proactive time analysis was utilized to evaluate the impact of alternative operating practices which impact overall staffing needs. A different model, based on the Patrol Allocation Manual (PAM), will be utilized to develop estimates of the “optimal” number of police officers needed within the Patrol Bureau. It should be noted, however, that many of the concepts and data elements discussed in this report are also utilized in the PAM model.

Each of the steps in this analysis are described in the following subsections.

**(1) Key Workload and Reactive Time Data Were Collected.**

The next step in the proactive time analysis was to document reactive workloads within the Patrol Bureau. This step is critical in determining the amount of time spent by officers handling “reactive” workload. This is the time associated with community generated calls for service. To document this time, the project team collected data from the Department’s Computer Aided Dispatch (CAD) system and other records. The table, below, describes each of the elements of the reactive time calculation.

<b>Reactive Factor in Calculation of Proactive Time</b>	<b>Summary Discussion</b>
<b>Calls for Service</b>	Based on actual data obtained from the Department CAD System for 2006. Total CFS were 281,144 (excludes all officer-initiated activity).
<b>Call Handling Time</b>	<p>The project team targets 30 minutes for an average handling time for all calls for service, including emergency, priority, and routine. Time which is significantly more than the target range of 30-40 minutes indicates patrol officers may not be timely in processing calls for service, while handling time significantly lower than this target indicates officers may not be providing an appropriate amount of attention on calls.</p> <p>For the City of Milwaukee, the actual average call handling time was 55 minutes in 2006. Note that the average handling time includes the time from dispatch to clearing the call. As a result, extended call holding times will impact this figure. The Department's CAD system does not provide detail on when an officer actually is en route to a call for service.</p>
<b>Back-Up Frequency / Number of Units per Call</b>	Actual back-up rate was calculated based on response data indicating 1.4 patrol units responding, on average, to each call for service. This equates to a back-up unit rate of 40% (after considering the primary unit response). However, because the MPD utilizes two officer units approximately 36% of the time, the officer back-up rate is 1.9. This means that 90% of calls for service received a second officer.
<b>Duration of Time on Scene by Back-Up</b>	The total unit back-up time during 2006 was 115,269 hours. Total officer backup time during 2006 was 236,944 or approximately 105% more than unit back-up time.
<b>Report Writing Time</b>	Based on actual data for 2006, personnel within the Patrol Bureau wrote 56,145 reports. The project team estimated average report writing time was 36 minutes.
<b>Number of Arrests / Bookings</b>	Based on the actual number of arrests handled by the Patrol Bureau, officers handled 38,552 arrests.
<b>Time to Complete an Arrest / Booking</b>	Current estimate of 1.0 hour for a police officer to be involved in the arrest / booking of a prisoner.

**(2) The Project Team Calculated Overall Proactive Time Levels in Patrol.**

Utilizing the current number of scheduled officers in each patrol district, estimates of net officer availability, and the workload data presented in the previous section, the project team calculated the overall level of proactive time within the patrol districts in the

MPD. The first table, below, shows the total number of police officers available on average, adjusting for shift schedule and use of leave. Note that the figures below include all police officers assigned to the patrol districts including anti-gang units, violent crime reduction personnel, Captain’s cars, and officers assigned to tasks such as booker, prisoner conveyance, etc. The only officers not included are beat officers assigned in District 2, which are grant funded.

**Average Number of Police Officers Available in Districts Based on Assignment and Use of Leave**

Hours	Day	Early	Late	Total	Net Available
0000			173	173	139
0100			173	173	139
0200			173	173	139
0300			173	173	139
0400			173	173	139
0500			173	173	139
0600			173	173	139
0700	87		83	170	136
0800	175			175	140
0900	175			175	140
1000	175			175	140
1100	175			175	140
1200	175			175	140
1300	175			175	140
1400	175			175	140
1500	87	119		207	165
1600		239		239	191
1700		239		239	191
1800		239		239	191
1900		239		239	191
2000		239		239	191
2100		239		239	191
2200		239		239	191
2300		119	87	206	165

As shown above, the number of police officers available on average, ranges from 136 during the hour of 0700 to 191 during the hours of 1600 to 2200.

The project team next compared available officer time to reactive workload throughout the day, citywide. The table, below, shows the overall level of proactive time in MPD patrol districts:

**Overall Proactive Time Citywide (All Police Officers)  
 Milwaukee Police Department**

Hour	Total CFS	Handling Time	Other Handling Time	Total Reactive Time	Officer Hours	Lost Time	Net Available	Proactive
0	13,080	22,759	3,361	26,120	50,586	9,611	40,975	36%
1	10,914	18,990	2,804	21,795	50,586	9,611	40,975	47%
2	10,307	17,934	2,648	20,583	50,586	9,611	40,975	50%
3	7,055	12,276	1,813	14,088	50,586	9,611	40,975	66%
4	4,879	8,489	1,254	9,743	50,586	9,611	40,975	76%
5	4,127	7,181	1,060	8,241	50,586	9,611	40,975	80%
6	4,637	8,068	1,191	9,260	50,586	9,611	40,975	77%
7	6,455	11,232	1,659	12,890	49,757	9,454	40,303	68%
8	8,544	14,867	2,195	17,062	51,001	9,690	41,311	59%
9	9,833	17,109	2,527	19,636	51,001	9,690	41,311	52%
10	10,634	18,503	2,732	21,236	51,001	9,690	41,311	49%
11	11,811	20,551	3,035	23,586	51,001	9,690	41,311	43%
12	12,483	21,720	3,207	24,928	51,001	9,690	41,311	40%
13	12,538	21,816	3,222	25,038	51,001	9,690	41,311	39%
14	12,430	21,628	3,194	24,822	51,001	9,690	41,311	40%
15	14,296	24,875	3,673	28,548	60,330	11,463	48,867	42%
16	15,757	27,417	4,049	31,466	69,660	13,235	56,424	44%
17	15,821	27,529	4,065	31,594	69,660	13,235	56,424	44%
18	15,635	27,205	4,017	31,222	69,660	13,235	56,424	45%
19	15,674	27,273	4,027	31,300	69,660	13,235	56,424	45%
20	16,110	28,031	4,139	32,171	69,660	13,235	56,424	43%
21	17,165	29,867	4,410	34,278	69,660	13,235	56,424	39%
22	16,731	29,112	4,299	33,411	69,660	13,235	56,424	41%
23	14,228	24,757	3,656	28,413	60,123	11,423	48,699	42%
<b>Total</b>	<b>281,144</b>	<b>489,191</b>	<b>72,239</b>	<b>561,430</b>	<b>1,368,934</b>	<b>260,097</b>	<b>1,108,837</b>	<b>49%</b>

The following points highlight the information in the table above:

- As shown above, the overall proactive time rate, citywide, including all police officers, is approximately 49%. This is a high overall service level.
- Overall proactive time is highest during the hours of 0400 to 0600 when the rate is between 76% and 80%. It is common to have high proactive time levels during the early morning hours given low levels of activity. Proactive time is lowest during the hours of midnight to 0100, where the average rate is 36%. This is also the hour when the early shift gets off duty and the late shift comes on duty.

As indicated above, the overall proactive time analysis includes all police officers. For example, community liaison officers, who usually spend their time attending community meetings and other crime prevention events, as well as specialty units like the anti-gang unit, are included in the above analysis. These personnel typically do not handle calls for service. The project team evaluated proactive time levels within the Patrol Bureau after excluding officers assigned to special assignments. These include:

- Officers assigned to a booker position. Typically, 1 officer is assigned per shift in each district (except for district 1) to handle all district bookings. A total of 18 officers are assigned each day to handle bookings.
- Community Liaison Officers are excluded. These officers typically attend monthly crime analysis meetings in each district office as well as regular community meetings. Two CLO positions are authorized in each district. However, some districts only utilize 1 position.
- An anti-gang unit is assigned to each of the districts, except for district 1, and is comprised of 5 to 8 officers. Note that if regular patrol staffing is insufficient to meet basic squad car requirements, these personnel can be used for regular patrol.
- Other specialized units including school officers (assigned to respond to calls for service at the schools), tavern cars, captain's cars (assigned at the discretion of the district captain), foot patrol, and other specialized duty.

The table, below, shows the impact of special assignments on net available police officers within the Patrol Bureau:

**Average Number of Police Officers Available within Patrol Districts  
Based on Current Assignment and Adjusting for Use of Leave  
Excluding Special Assignment Officers**

<b>Hours</b>	<b>Day</b>	<b>Early</b>	<b>Late</b>	<b>Total</b>	<b>Net Available</b>
0000			158	158	127
0100			158	158	127
0200			158	158	127
0300			158	158	127
0400			158	158	127
0500			158	158	127
0600			158	158	127
0700	75		79	154	124
0800	151			151	120
0900	151			151	120
1000	151			151	120
1100	151			151	120
1200	151			151	120
1300	151			151	120
1400	151			151	120
1500	75	98		173	138
1600		195		195	156
1700		195		195	156
1800		195		195	156
1900		195		195	156
2000		195		195	156
2100		195		195	156
2200		195		195	156
2300		98	79	177	141

As shown above, the impact of special assignments reduces the net availability of patrol officers by 11 officers during the late shift (2300 to 0700), 19 officers during the day shift (0700 to 1600), and 34 officers during the early shift (1500 to midnight). The project team used these figures to determine the adjusted proactive time levels citywide. The table, that follows, shows the results of this adjustment:

**Overall Proactive Time Citywide (Without Special Assignment Officers)**

Hour	Total CFS	Handling Time	Other Handling Time	Total Reactive Time	Officer Hours	Lost Time	Net Available	Proactive
0	13,080	22,759	3,361	26,120	46,440	8,824	37,616	31%
1	10,914	18,990	2,804	21,795	46,440	8,824	37,616	42%
2	10,307	17,934	2,648	20,583	46,440	8,824	37,616	45%
3	7,055	12,276	1,813	14,088	46,440	8,824	37,616	63%
4	4,879	8,489	1,254	9,743	46,440	8,824	37,616	74%
5	4,127	7,181	1,060	8,241	46,440	8,824	37,616	78%
6	4,637	8,068	1,191	9,260	46,440	8,824	37,616	75%
7	6,455	11,232	1,659	12,890	45,299	8,607	36,693	65%
8	8,544	14,867	2,195	17,062	44,159	8,390	35,769	52%
9	9,833	17,109	2,527	19,636	44,159	8,390	35,769	45%
10	10,634	18,503	2,732	21,236	44,159	8,390	35,769	41%
11	11,811	20,551	3,035	23,586	44,159	8,390	35,769	34%
12	12,483	21,720	3,207	24,928	44,159	8,390	35,769	30%
13	12,538	21,816	3,222	25,038	44,159	8,390	35,769	30%
14	12,430	21,628	3,194	24,822	44,159	8,390	35,769	31%
15	14,296	24,875	3,673	28,548	50,690	9,631	41,059	30%
16	15,757	27,417	4,049	31,466	57,220	10,872	46,348	32%
17	15,821	27,529	4,065	31,594	57,220	10,872	46,348	32%
18	15,635	27,205	4,017	31,222	57,220	10,872	46,348	33%
19	15,674	27,273	4,027	31,300	57,220	10,872	46,348	32%
20	16,110	28,031	4,139	32,171	57,220	10,872	46,348	31%
21	17,165	29,867	4,410	34,278	57,220	10,872	46,348	26%
22	16,731	29,112	4,299	33,411	57,220	10,872	46,348	28%
23	14,228	24,757	3,656	28,413	51,830	9,848	41,982	32%
<b>Total</b>	<b>281,144</b>	<b>489,191</b>	<b>851,192</b>	<b>561,430</b>	<b>1,182,553</b>	<b>224,685</b>	<b>957,868</b>	<b>41%</b>

The following points highlight the information in the table above:

- Excluding officers assigned to special assignments, the overall proactivity rate citywide drops from 49% to 41%. This is still within the recommended targets of 40% to 50%.
- Overall proactive time varies significantly by time of day, from a low of 26% during the hour of 2100 to 2200, to a high of 78% during the hour of 0500 to 0600. This suggests there may be opportunities to redeploy officers to better match staffing to workload throughout the day.

The project team next evaluated proactive time levels within each of the patrol districts. The tables, that follow, show proactive time levels within each district based on the current deployment of officers and special assignments.

**Overall Proactive Time District 1  
Milwaukee Police Department**

<b>Hour</b>	<b>Total CFS</b>	<b>Handling Time</b>	<b>Other Handling Time</b>	<b>Total Reactive Time</b>	<b>All Officers Proactive</b>	<b>w/o Special Proactive</b>
0	317	552	81	633	78%	75%
1	317	552	81	633	78%	75%
2	334	581	86	667	77%	74%
3	190	331	49	379	87%	85%
4	156	271	40	312	89%	88%
5	113	197	29	226	92%	91%
6	174	303	45	347	88%	86%
7	195	339	50	389	90%	88%
8	244	425	63	487	90%	88%
9	288	501	74	575	88%	86%
10	326	567	84	651	86%	84%
11	351	611	90	701	85%	83%
12	352	612	90	703	85%	83%
13	384	668	99	767	84%	82%
14	360	626	93	719	85%	83%
15	385	670	99	769	81%	78%
16	393	684	101	785	77%	71%
17	440	766	113	879	74%	67%
18	367	639	94	733	78%	73%
19	306	532	79	611	82%	77%
20	312	543	80	623	81%	77%
21	298	519	77	595	82%	78%
22	319	555	82	637	81%	76%
23	293	510	75	585	81%	78%
<b>Total</b>	<b>7,214</b>	<b>12,552</b>	<b>21,841</b>	<b>14,406</b>	<b>84%</b>	<b>81%</b>



**Overall Proactive Time District 2  
Milwaukee Police Department**

<b>Hour</b>	<b>Total CFS</b>	<b>Handling Time</b>	<b>Other Handling Time</b>	<b>Total Reactive Time</b>	<b>All Officers Proactive</b>	<b>w/o Special Proactive</b>
0	1,813	3,155	466	3,620	30%	30%
1	1,538	2,676	395	3,071	41%	41%
2	1,570	2,732	403	3,135	40%	40%
3	956	1,663	246	1,909	63%	63%
4	669	1,164	172	1,336	74%	74%
5	543	945	140	1,084	79%	79%
6	661	1,150	170	1,320	75%	75%
7	811	1,411	208	1,620	70%	68%
8	1,090	1,897	280	2,177	61%	55%
9	1,199	2,086	308	2,394	57%	51%
10	1,381	2,403	355	2,758	50%	43%
11	1,503	2,615	386	3,001	46%	38%
12	1,588	2,763	408	3,171	43%	35%
13	1,539	2,678	395	3,073	45%	37%
14	1,653	2,876	425	3,301	40%	32%
15	1,899	3,304	488	3,792	41%	33%
16	2,150	3,741	552	4,293	41%	33%
17	2,184	3,800	561	4,361	40%	32%
18	2,111	3,673	542	4,216	42%	34%
19	2,149	3,739	552	4,291	41%	33%
20	2,164	3,765	556	4,321	40%	32%
21	2,180	3,793	560	4,353	40%	32%
22	2,224	3,870	571	4,441	38%	30%
23	1,857	3,231	477	3,708	40%	36%
<b>Total</b>	<b>37,432</b>	<b>65,132</b>	<b>113,329</b>	<b>74,750</b>	<b>48%</b>	<b>43%</b>

**Overall Proactive Time District 3  
Milwaukee Police Department**

<b>Hour</b>	<b>Total CFS</b>	<b>Handling Time</b>	<b>Other Handling Time</b>	<b>Total Reactive Time</b>	<b>All Officers Proactive</b>	<b>w/o Special Proactive</b>
0	2,141	3,725	550	4,275	35%	18%
1	1,877	3,266	482	3,748	43%	28%
2	1,642	2,857	422	3,279	50%	37%
3	1,153	2,006	296	2,302	65%	56%
4	828	1,441	213	1,653	75%	68%
5	691	1,202	178	1,380	79%	73%
6	786	1,368	202	1,570	76%	70%
7	1,121	1,951	288	2,239	61%	58%
8	1,542	2,683	396	3,079	53%	43%
9	1,784	3,104	458	3,563	46%	34%
10	1,866	3,247	479	3,726	43%	31%
11	2,060	3,584	529	4,114	37%	23%
12	2,164	3,765	556	4,321	34%	20%
13	2,247	3,910	577	4,487	31%	16%
14	2,142	3,727	550	4,277	35%	20%
15	2,498	4,347	642	4,988	34%	17%
16	2,560	4,454	658	5,112	40%	24%
17	2,659	4,627	683	5,310	38%	21%
18	2,609	4,540	670	5,210	39%	22%
19	2,652	4,614	681	5,296	38%	21%
20	2,757	4,797	708	5,506	36%	18%
21	3,016	5,248	775	6,023	30%	10%
22	2,805	4,881	721	5,601	35%	17%
23	2,387	4,153	613	4,767	37%	20%
<b>Total</b>	<b>47,987</b>	<b>83,497</b>	<b>145,285</b>	<b>95,827</b>	<b>44%</b>	<b>31%</b>

**Overall Proactive Time District 4  
Milwaukee Police Department**

<b>Hour</b>	<b>Total CFS</b>	<b>Handling Time</b>	<b>Other Handling Time</b>	<b>Total Reactive Time</b>	<b>All Officers Proactive</b>	<b>w/o Special Proactive</b>
0	1,819	3,165	467	3,632	30%	20%
1	1,409	2,452	362	2,814	46%	38%
2	1,275	2,219	328	2,546	51%	44%
3	885	1,540	227	1,767	66%	61%
4	604	1,051	155	1,206	77%	73%
5	580	1,009	149	1,158	78%	74%
6	685	1,192	176	1,368	74%	70%
7	977	1,700	251	1,951	61%	56%
8	1,284	2,234	330	2,564	47%	41%
9	1,524	2,652	392	3,043	38%	30%
10	1,659	2,887	426	3,313	32%	24%
11	1,831	3,186	470	3,656	25%	16%
12	1,933	3,363	497	3,860	21%	12%
13	1,818	3,163	467	3,630	25%	17%
14	1,786	3,108	459	3,567	27%	18%
15	2,181	3,795	560	4,355	33%	20%
16	2,418	4,207	621	4,829	41%	26%
17	2,345	4,080	603	4,683	43%	28%
18	2,355	4,098	605	4,703	43%	28%
19	2,428	4,225	624	4,849	41%	26%
20	2,527	4,397	649	5,046	39%	23%
21	2,639	4,592	678	5,270	36%	20%
22	2,577	4,484	662	5,146	37%	21%
23	2,027	3,527	521	4,048	40%	27%
<b>Total</b>	<b>41,566</b>	<b>72,325</b>	<b>125,845</b>	<b>83,005</b>	<b>43%</b>	<b>33%</b>

**Overall Proactive Time District 5  
Milwaukee Police Department**

<b>Hour</b>	<b>Total CFS</b>	<b>Handling Time</b>	<b>Other Handling Time</b>	<b>Total Reactive Time</b>	<b>All Officers Proactive</b>	<b>w/o Special Proactive</b>
0	2,375	4,133	610	4,743	28%	24%
1	2,033	3,537	522	4,060	38%	35%
2	1,936	3,369	497	3,866	41%	38%
3	1,336	2,325	343	2,668	59%	57%
4	876	1,524	225	1,749	73%	72%
5	651	1,133	167	1,300	80%	79%
6	645	1,122	166	1,288	80%	79%
7	1,009	1,756	259	2,015	68%	65%
8	1,298	2,259	334	2,592	57%	50%
9	1,568	2,728	403	3,131	48%	40%
10	1,692	2,944	435	3,379	44%	35%
11	1,914	3,330	492	3,822	37%	27%
12	1,975	3,437	507	3,944	35%	24%
13	2,014	3,504	517	4,022	33%	23%
14	1,994	3,470	512	3,982	34%	24%
15	2,211	3,847	568	4,415	46%	32%
16	2,351	4,091	604	4,695	54%	39%
17	2,408	4,190	619	4,809	53%	38%
18	2,347	4,084	603	4,687	54%	39%
19	2,432	4,232	625	4,857	53%	37%
20	2,464	4,287	633	4,920	52%	36%
21	2,669	4,644	686	5,330	48%	31%
22	2,733	4,755	702	5,458	47%	29%
23	2,467	4,293	634	4,926	41%	29%
<b>Total</b>	<b>45,398</b>	<b>78,993</b>	<b>137,447</b>	<b>90,657</b>	<b>50%</b>	<b>41%</b>

**Overall Proactive Time District 6  
Milwaukee Police Department**

<b>Hour</b>	<b>Total CFS</b>	<b>Handling Time</b>	<b>Other Handling Time</b>	<b>Total Reactive Time</b>	<b>All Officers Proactive</b>	<b>w/o Special Proactive</b>
0	1,398	2,433	359	2,792	43%	38%
1	1,137	1,978	292	2,271	53%	50%
2	1,139	1,982	293	2,275	53%	50%
3	827	1,439	212	1,651	66%	64%
4	556	967	143	1,110	77%	76%
5	464	807	119	927	81%	80%
6	511	889	131	1,020	79%	77%
7	662	1,152	170	1,322	75%	73%
8	871	1,516	224	1,739	70%	68%
9	917	1,596	236	1,831	68%	66%
10	1,012	1,761	260	2,021	65%	62%
11	1,149	1,999	295	2,294	60%	57%
12	1,285	2,236	330	2,566	55%	52%
13	1,329	2,312	341	2,654	54%	51%
14	1,346	2,342	346	2,688	53%	50%
15	1,544	2,687	397	3,083	44%	44%
16	1,760	3,062	452	3,515	35%	37%
17	1,717	2,988	441	3,429	36%	38%
18	1,767	3,075	454	3,529	34%	36%
19	1,669	2,904	429	3,333	38%	40%
20	1,698	2,955	436	3,391	37%	39%
21	1,824	3,174	469	3,642	32%	34%
22	1,748	3,042	449	3,491	35%	37%
23	1,514	2,634	389	3,023	41%	40%
<b>Total</b>	<b>29,844</b>	<b>51,929</b>	<b>90,356</b>	<b>59,597</b>	<b>53%</b>	<b>52%</b>

**Overall Proactive Time District 7  
 Milwaukee Police Department**

Hour	Total CFS	Handling Time	Other Handling Time	Total Reactive Time	Proactive	Proactive
0	3,066	5,335	788	6,123	37%	35%
1	2,484	4,322	638	4,960	49%	47%
2	2,299	4,000	591	4,591	53%	51%
3	1,604	2,791	412	3,203	67%	66%
4	1,129	1,964	290	2,255	77%	76%
5	1,038	1,806	267	2,073	79%	78%
6	1,100	1,914	283	2,197	77%	77%
7	1,588	2,763	408	3,171	64%	60%
8	2,114	3,678	543	4,222	47%	34%
9	2,434	4,235	625	4,861	38%	24%
10	2,569	4,470	660	5,130	35%	20%
11	2,855	4,968	734	5,701	28%	11%
12	3,024	5,262	777	6,039	23%	5%
13	3,066	5,335	788	6,123	22%	4%
14	2,999	5,218	771	5,989	24%	6%
15	3,417	5,946	878	6,824	36%	20%
16	3,873	6,739	995	7,734	42%	28%
17	3,845	6,690	988	7,678	43%	29%
18	3,849	6,697	989	7,686	43%	28%
19	3,821	6,649	982	7,630	43%	29%
20	3,969	6,906	1,020	7,926	41%	26%
21	4,296	7,475	1,104	8,579	36%	20%
22	4,117	7,164	1,058	8,221	39%	24%
23	3,546	6,170	911	7,081	39%	30%
<b>Total</b>	<b>68,102</b>	<b>118,497</b>	<b>206,186</b>	<b>135,996</b>	<b>45%</b>	<b>36%</b>

As shown in the preceding analysis, there is significant variation among patrol districts and shifts. The project team summarized the overall proactive time levels by shift and district with and without specialized units for easy comparison.

**Current Officer Deployment - Including Specialized Units**

Shift	Hours	Overall Proactive Time						
		District 1	District 2	District 3	District 4	District 5	District 6	District 7
Day	0700 to 1500	86%	51%	42%	34%	45%	62%	35%
Early	1500 to 2300	80%	40%	36%	39%	51%	36%	40%
Late	2300 to 0700	84%	55%	57%	58%	55%	62%	60%
<b>Total</b>		<b>84%</b>	<b>48%</b>	<b>44%</b>	<b>43%</b>	<b>50%</b>	<b>53%</b>	<b>45%</b>

**Current Officer Deployment - Without Specialized Units**

Shift	Hours	Overall Proactive Time						
		District 1	District 2	District 3	District 4	District 5	District 6	District 7
Day	0700 to 1500	85%	45%	31%	27%	36%	60%	20%
Early	1500 to 2300	75%	32%	19%	24%	35%	38%	26%
Late	2300 to 0700	81%	55%	46%	51%	52%	59%	57%
<b>Total</b>		<b>81%</b>	<b>43%</b>	<b>31%</b>	<b>33%</b>	<b>41%</b>	<b>52%</b>	<b>36%</b>

The following points summarize the analysis above:

- Considering all police officers assigned to the patrol districts, proactive time varies significantly between the districts. District 1 has the highest level of proactive time at 84%. This figures is also fairly consistent among the shifts. This is a very high level of proactive time. After considering the use of specialized units, proactive time levels are still above the 80% level. This suggests that there are opportunities to redeploy officers from District 1 to busier areas of the City.
- The district with the lowest level of proactive time, given total officer deployment, was District 4 which had an overall level of 43%. After considering specialized units, District 4 has 33% proactive time. The district with the lowest level of proactive time, given officer deployment less specialized unit assignments, was District 3 at 31%. During evening hours proactive time drops to 19%.

As shown above, there are opportunities to deploy patrol personnel to better match resources and workload.

**4. THE MPD DEVELOPED A REDISTRICTING PLAN TO REDISTRIBUTE WORKLOAD AMONG THE PATROL DISTRICTS. THIS PLAN WILL REQUIRE THE ADJUSTMENT OF THE CURRENT ASSIGNMENT OF PATROL OFFICERS.**

This year, the Police Department developed a plan to redefine existing patrol district boundaries. This was the MPD's first step in the process of realigning workload among the districts. The next step is to develop a staffing plan to ensure adequate personnel are assigned to handle the adjustments in workload. The Department issued a letter dated June 20, 2007, which lays out the General Order for changes in territorial divisions which took effect on September 14, 2007. The changes altered the size of

several districts including District 1, District 5, and District 7. The biggest change will be to the size of District 1, which will now represent a larger portion of total calls for service.

The estimated changes to calls for service workload is shown in the table, below:

District	Dispatched 2004	2004 With Changes	Dispatched 2005	2005 With Changes	Dispatched 2006	2006 With Changes	% Change 06
1	6,750	29,104	6,331	31,355	6,587	32,180	389%
2	39,296	39,296	40,215	40,215	40,141	40,141	0%
3	49,917	49,917	50,258	50,258	52,165	52,165	0%
4	41,143	41,143	42,688	42,688	43,695	43,695	0%
5	48,016	47,641	48,555	47,638	47,920	46,408	-3%
6	33,305	33,305	33,561	33,561	34,634	34,634	0%
7	68,742	46,763	47,199	47,199	72,144	48,057	-33%
<b>Total</b>	<b>287,169</b>	<b>287,169</b>	<b>268,807</b>	<b>292,914</b>	<b>297,286</b>	<b>297,280</b>	<b>0%</b>

Note that the figures above include all dispatched calls for service during 2004, 2005, and 2006. Due to definition issues and data criteria (e.g. cancelled calls, non-community generated calls, calls with missing time stamps), these figures are slightly different than those used by the project team. However, the table above, shows that the proposed redistricting plan will increase workload in District 1 significantly by 389%. In addition, workload in District 5 and District 7 will decrease by 3% and 33% respectively.

The project team evaluated the impact of the redistricting on proactive time levels within patrol (based on pre-NSI assignments). The table, below, shows the impact of this change:

Shift	District 1	District 2	District 3	District 4	District 5	District 6	District 7
Days	27%	45%	30%	27%	38%	59%	47%
Early	-22%	32%	19%	24%	37%	37%	50%
Late	10%	55%	46%	51%	53%	59%	72%
<b>Total</b>	<b>8%</b>	<b>43%</b>	<b>30%</b>	<b>33%</b>	<b>43%</b>	<b>51%</b>	<b>57%</b>

The following points highlight the information above:

- With the proposed district boundary changes and the current (pre-NSI) patrol assignments, proactive time levels among the districts will change significantly. The most significant change is in District 1 where proactive time levels decrease



significantly to 8% and are negative during the early shift. Also note that proactive time levels in District 7 jump to 57% from 36%.

- As shown above, while the proposed redistricting will improve proactivity levels in some districts, it creates disparities in others. This is not a significant problem since personnel can be reassigned to adjust for the increase or decrease in workload in each district.

The project team next determined the allocation of patrol officers needed to equalize proactive time levels among the districts. Note that only patrol officers are included in this analysis. The table, below, shows the number of officers needed to provide a consistent level of 41% proactive time by shift and district based on new district boundaries:

Shift	District 1	District 2	District 3	District 4	District 5	District 6	District 7
Days	36	32	45	38	39	26	42
Early	45	51	65	58	57	42	63
Late	27	29	35	28	36	23	33
<b>Total</b>	<b>104</b>	<b>113</b>	<b>145</b>	<b>125</b>	<b>132</b>	<b>91</b>	<b>137</b>

Shift	District 1	District 2	District 3	District 4	District 5	District 6	District 7
Days	8	(3)	4	9	3	(8)	(5)
Early	25	4	12	9	(4)	(0)	(17)
Late	10	(2)	(4)	(3)	(3)	(6)	(25)
<b>Total</b>	<b>39</b>	<b>(0)</b>	<b>12</b>	<b>16</b>	<b>(4)</b>	<b>(14)</b>	<b>(48)</b>

As shown above, several changes would need to be made to current patrol officer assignments to balance proactive time levels. The points, below, summarize these changes:

- District 1 would need an increase of 39 officers to meet workloads and a proactive time target of 41%.
- District's 3 and 4 would need an additional 12 officers and 16 officers respectively.
- District 5 and District 6 would need a reduction of 4 officers and 14 officers respectively.

- The largest change in assigned officers would need to occur in District 7, where a reduction of 48 officers would be needed.

Note that the figures above are based on a number of assumptions:

- Future calls for service will exhibit a similar pattern of geographic distribution. For example, the historic number of calls for service as a proportion of total calls for service which occur in a given area will continue.
- The distribution of other reactive workload (e.g. arrests and reports) will occur in each district in proportion to the share of calls for service. For example, the project team assumes that other reactive workload is distributed based on a district's share of calls for service.

In summary, the analysis shown above assumes that the current distribution of workloads will continue into the future. Given this assumption, the Milwaukee Police Department should consider redeploying personnel to better match workloads and the need for proactive time.

**Recommendation: The MPD should plan for the reassignment of patrol officers, as shown in this section, to better match personnel resources, workloads, and the need for proactive time.**

## **5. THE PROJECT TEAM EVALUATED THE CURRENT SHIFT SCHEDULE UTILIZED BY THE PATROL BUREAU.**

The Patrol Bureau currently utilizes eight hour shifts, which begin at 0700, 1500, and 2300. In addition, the Patrol Bureau assigns personnel to “early” squads, which begin one hour early to provide continuous coverage throughout the day.

In order to evaluate the current shift schedule, the project team determined the average staffing needs by district and hour to identify variations in workload throughout the day. Note that only reactive workload, time associated with community-generated calls for service, is used to determine staffing needs. Also note that net availability is not included. The table, below, is meant to document variations in call for service workload only:

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Hour	District 1	District 2	District 3	District 4	District 5	District 6	District 7	Total	Hourly Change
0	8.33	9.94	11.76	9.94	12.55	7.74	11.23	71.50	-7%
1	8.33	8.43	10.31	7.70	10.74	6.30	9.10	60.91	-15%
2	8.78	8.61	9.02	6.97	10.23	6.31	8.42	58.33	-4%
3	4.99	5.24	6.33	4.84	7.06	4.58	5.88	38.92	-33%
4	4.10	3.67	4.55	3.30	4.63	3.08	4.14	27.46	-29%
5	2.97	2.98	3.79	3.17	3.44	2.57	3.80	22.72	-17%
6	4.57	3.62	4.32	3.74	3.41	2.83	4.03	26.53	17%
7	5.12	4.45	6.16	5.34	5.33	3.67	5.82	35.88	35%
8	6.41	5.97	8.47	7.02	6.86	4.83	7.75	47.30	32%
9	7.57	6.57	9.80	8.33	8.29	5.08	8.92	54.55	15%
10	8.57	7.57	10.25	9.07	8.94	5.61	9.41	59.41	9%
11	9.22	8.24	11.31	10.01	10.11	6.37	10.46	65.72	11%
12	9.25	8.70	11.88	10.57	10.44	7.12	11.08	69.04	5%
13	10.09	8.44	12.34	9.94	10.64	7.36	11.23	70.04	1%
14	9.46	9.06	11.76	9.76	10.54	7.46	10.99	69.03	-1%
15	10.12	10.41	13.72	11.92	11.68	8.55	12.52	78.92	14%
16	10.33	11.78	14.06	13.22	12.42	9.75	14.19	85.75	9%
17	11.56	11.97	14.60	12.82	12.72	9.51	14.09	87.28	2%
18	9.65	11.57	14.33	12.87	12.40	9.79	14.10	84.71	-3%
19	8.04	11.78	14.56	13.27	12.85	9.25	14.00	83.75	-1%
20	8.20	11.86	15.14	13.82	13.02	9.41	14.54	85.98	3%
21	7.83	11.95	16.56	14.43	14.10	10.10	15.74	90.72	6%
22	8.38	12.19	15.40	14.09	14.44	9.68	15.08	89.27	-2%
23	7.70	10.18	13.11	11.08	13.04	8.39	12.99	76.48	-14%

The following points highlight the information in the table, above:

- The table above shows that call for service workload varies significantly throughout the day and by district. The peak workload hour is 2100 when 91 Officers are needed. The slowest hours is 0500, when 23 Officers are needed.
- The gray highlighted rows depict the current start times utilized by the Patrol Bureau. The hourly change in call for service workload indicates that start times generally coincide with an increase in workload from the previous hour. For example, during the 0700 hour, workload increases by 35% from the previous hour. Similarly, there are big changes in workload during the hours of 1500 and 2300, the other two start times.
- While there are opportunities to add additional start times to better match workload to staffing, these options are not feasible. For example, a large decrease in workload occurs during the hours of 0200 to 0300. However, this is a very unattractive start time for employees and uncommon in patrol operations in other law enforcement agencies.

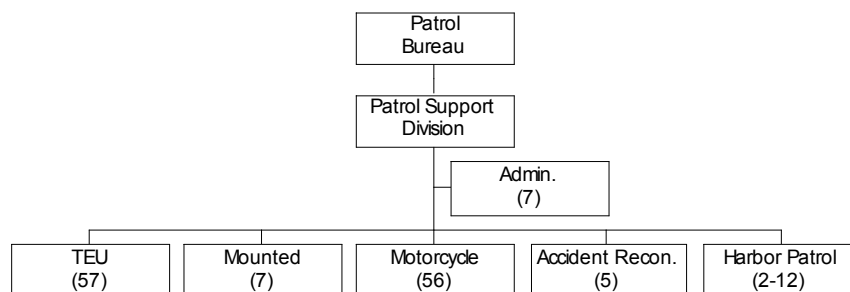
Overall, the project team believes the current shift schedule utilized by the Patrol Bureau is efficient.

## **6. ANALYSIS OF PATROL SUPPORT DIVISION STAFFING**

The following sections of the study pertain to the optimum staffing analysis of the field Units within the Patrol Support Division. This chapter reflects the project team’s analysis of staffing and operations for the five dedicated field units of the Patrol Support Division. These sections include:

- Motorcycle Unit;
- Accident Reconstruction Unit;
- Harbor Patrol Unit;
- Mounted Patrol Unit;
- Tactical Enforcement Unit.

The Division provides a variety of special services augmenting patrol enforcement and other Milwaukee Police Department (MPD) operational activities. The following organizational chart reflects the field units within this Division and the authorized unit staffing levels at the time of this report:



Analysis of the Division is based on staff interviews, collection of data for specific operations, a comparative evaluation of services against best practices, and information abstracted from various surveys performed by the project team.

### **(1) MOTORCYCLE UNIT**

This section of the chapter presents the project team's analysis of the MPD's Motorcycle Unit. Details regarding the Unit are provided in the Profile; however, the following summarizes major aspects of the Motorcycle Unit:

- The Motorcycle Unit is directly overseen by the Lieutenant who has oversight of the Motorcycle Unit, Accident Reconstruction Unit, Harbor Patrol Unit and Underwater Investigation Unit.
- The Motorcycle Unit is authorized fifty (50) officers and six (6) sergeant positions and deploys in two shifts. Each shift is authorized the same number of staff.
- Day shift operates from 0700-1500 hours on a modified work schedule that includes alternating weeks deployed as follows: Week 1 – Monday to Friday, weekend off; Week 2 – Tuesday to Thursday and Saturday/Sunday with Monday and Friday off. Early shift operates from 1500-2300 hours Monday to Sunday on a 5/2-4/2 shift schedule.

The following sections will discuss these Unit operations.

#### **(1.1) The MPD Motorcycle Unit Provides a Wide Variety of Enforcement Services.**

The Motorcycle Unit is responsible for providing a wide variety of services ranging from traffic enforcement to special event traffic control and response. The duties and responsibilities of the Unit are broad, and various functions take a considerable amount of Unit time. The primary services provided include:

- Motorcycle Unit staff provide traffic control and other attendant services at most special events and daily events. These events occur throughout the year but are typically focused in the spring and summer.
- The Unit provides escort services for funerals, construction companies, etc.

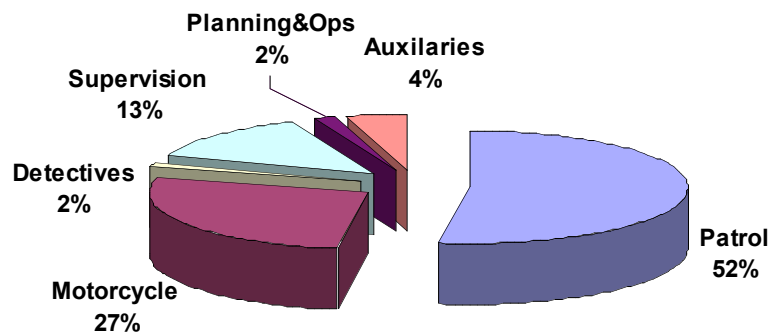
- The Motorcycle Unit provides vehicular accident response and investigations, either as primary (first on-scene) unit or as requested by a patrol squad. Motorcycle Unit staff typically perform these duties on Day and Early shifts whereas patrol officers accomplish this during Late shift. Our project team has noted, based on our interviews, that this is the Unit's primary stated responsibility, as opposed to directed traffic enforcement, during the shifts where the Motorcycle Unit is deployed.
- The Unit provides traffic enforcement services, through deployment of bikemen in each District, which includes the generation of written citations, parking citations, provision of verbal warnings and Traffic Warning Cards, etc. This is the typical function of most motor units with a primary goal related to reducing the occurrence of death and injury-related vehicular accidents.
- The Unit provides calls for service response, back-up to Patrol and self-initiated workload. This results in outputs such field interview cards, arrests, incident reports, and the like.

The variety of services performed by the Unit is discussed in further detail in the following sub-sections.

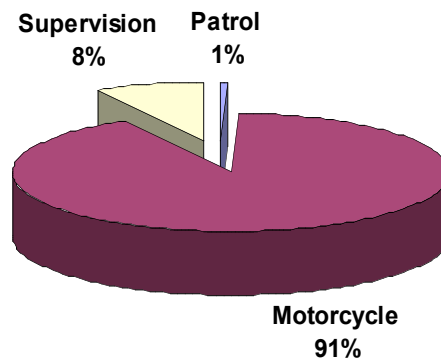
**(1.2) Deployment of Bikemen to Special and Daily Events on Regular Time Occupies a Significant Proportion of Unit Time and Resources, Particularly During Some Seasons.**

Over the past six years an average of 203 *special* events and 1,016 *daily* events have been staffed annually by MPD, with an average of 34,062 and 5,414 sworn hours dedicated on regular time, per annum, respectively. The Motorcycle Unit is a major participant in providing special event services and the primary provider of a law enforcement presence at daily events. Detailed analyses were conducted on special and daily events for 2006. The following pie charts show the proportion of time the Motorcycle Unit dedicated to events compared to other MPD sworn and non-sworn staff.

**% Contribution of Hours Dedicated to Special Events - 2006**



**% Contribution of Hours Dedicated to Daily Events - 2006**



The following information is noted regarding the data portrayed in the pie charts:

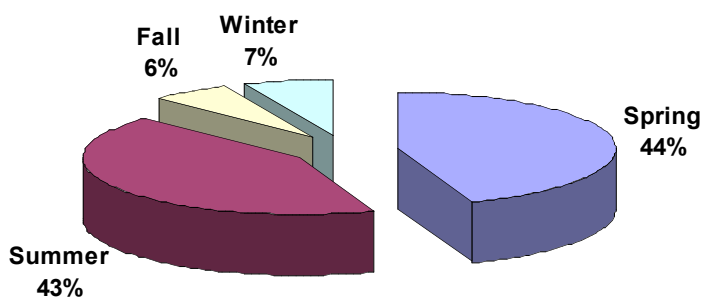
- Over 32,200 regular time hours were dedicated by MPD staff in 2006 to special events. Of these hours, over one-quarter were provided by the Motorcycle Unit.
- Hours dedicated by the Motorcycle Unit to special events are only exceeded by hours dedicated by other sworn staff in the Patrol Bureau coming primarily from the Districts and other assigned units as well.
- Nearly all of the approximately 4,900 regular hours dedicated to daily events in 2006 was accomplished by the Motorcycle Unit officers and their supervisors.

- In sum, 13,135 regular hours were dedicated by Motorcycle Unit officers to special and daily events in 2006.

Based on these data, combined with an average of 43.5 officers deployed in the Unit in 2006 and the net officer availability of 1,345 annual hours calculated elsewhere in this report, nearly 9.8 full-time equivalent's (FTEs) time, or fully 35% of the Motorcycle Unit's officer's annual time<sup>1</sup>, based on 2006 actual staffing levels, was dedicated exclusively to special and daily events.

Allocating one-third of an entire Motorcycle Unit's annual available field resources to event services is significant, and has an impact on the provision of other traffic-related services, particularly as the number of resources required fluctuates by season, by event type, etc. In regard to seasonal fluctuations, the vast majority of event time is allocated in the spring and summer seasons, significantly impacting Motorcycle Unit resource availability during that time. The following pie chart shows the distribution of special event hours.

**Motorcycle Unit - Special Event Hours Allocated by Season, 2006**

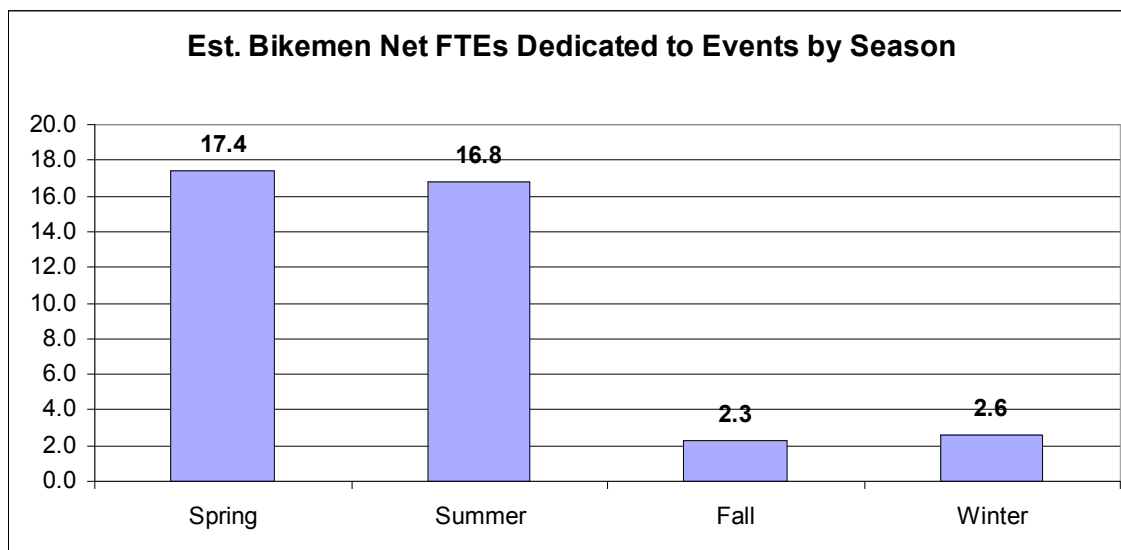


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<sup>1</sup> 13,135 event hours/1,345 Net Officer Available Hours = 9.77 FTEs. 43.5 actual officers X 1,345 net hours/2,080 annual hours = 28.1 Net Available Officer Hours. 9.77/28.1 = 35%.



Although event hours spent in 2006 by the Motorcycle Unit resulted in an average of 9.8 Bikemen FTEs devoted to this duty throughout the year, resource requirements shift dramatically based on the hours devoted in each season as shown in the graph below.



As shown, approximately 17 FTEs worth of bikemen time are used during the spring and summer seasons: fully 60% of the entire Motorcycle Unit's available time deployed in the field.<sup>2</sup> Clearly, event services have a dramatic impact on operations in the first half of the calendar year.

In regard to event types, particular events require the entire shift contingent whereas other events may utilize only one officer. As an illustrative example of this fluctuation, the following table provides the first 15-days of March 2007, to show how the number of bikemen deployed to events differs on a day-to-day basis.

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<sup>2</sup> 17 Net FTEs/28.1 Net Authorized FTEs Time = 60%.

**Motorcycle Unit – Illustrative Deployment to Various Events**

<b>Date</b>	<b>Day Shift Bikemen Deployed</b>	<b>Maximum Deployed to any Event</b>	<b>% Bikemen Deployed to an Event</b>	<b>Early Shift Bikemen Deployed</b>	<b>Maximum Deployed to any Event</b>	<b>% Bikemen Deployed to an Event</b>
3/1/2007	10	0	0.0%	7	2	28.6%
3/2/2007	10	1	10.0%	8	8	100.0%
3/3/2007	12	1	8.3%	8	8	100.0%
3/4/2007	11	8	72.7%	10	7	70.0%
3/5/2007	10	0	0.0%	12	8	66.7%
3/6/2007	9	0	0.0%	7	0	0.0%
3/7/2007	13	0	0.0%	7	7	100.0%
3/8/2007	12	2	16.7%	7	2	28.6%
3/9/2007	10	1	10.0%	n/a	n/a	n/a
3/10/2007	12	12	100.0%	14	14	100.0%
3/11/2007	12	4	33.3%	16	3	18.8%
3/12/2007	13	0	0.0%	16	8	50.0%
3/13/2007	16	3	18.8%	15	0	0.0%
3/14/2007	17	2	11.8%	8	4	50.0%
3/15/2007	13	2	15.4%	12.5	8	64.0%

As shown by the data, event assignments on any particular day can vary widely, from no bikemen deployed (e.g. 3/6/2007) to the entire contingent on both shifts deployed to an event like the St. Patrick’s Day Parade (e.g. 3/10/2007). The data in the table appears to reflect that Early Shift bikemen are busier conducting event services compared to their Day Shift counterparts. However, a review of all of 2006 data indicates the hours expended on each shift only differs by 10%, indicating that both Motorcycle shifts are widely used in this event capacity.

Beyond the number of Motorcycle Unit FTEs lost to event services as noted previously, the daily fluctuation of event assignments makes it difficult to consistently focus on directed traffic enforcement core business and accident investigations as bikemen become unavailable to perform these services in different Districts, at different times, during different days, etc. Essentially, the “reliability” of the bikemen to support

Patrol and provide core business functions becomes questionable during busy event periods, particularly during the spring and summer seasons.

**(1.3) Deployment of Bikemen to Escort Duties Also Requires a Proportion of Unit Resources, Mostly on Day Shift.**

Bikemen, particularly on Day Shift, perform escort duties related to funerals, escorting construction equipment transport, wide-loads, etc. Although the project team does not have quantifiable information regarding the hours of escort duty accomplished, there is some anecdotal evidence that suggests it can occupy a reasonable proportion of resources. Re-examining the first three weeks of March 2007 shows that bikemen, on Day shift, performed escorts regularly in either a 2-officer or 4-officer configuration. Escort services occurred from zero to up to four times per day in the various deployment configurations as shown in the table below.

**Motorcycle Unit – Escort Duties, March 2007**

<b># Daily Escorts</b>	<b># of Days Occurred</b>	<b>2 Bikemen</b>	<b>4 Bikemen</b>
0 Escorts	8	0	0
1 Escort	9	8	1
2 Escorts	1	1	1
3 Escorts	1	3	0
4 Escorts	2	4	4

The following is noted about the information in the table.

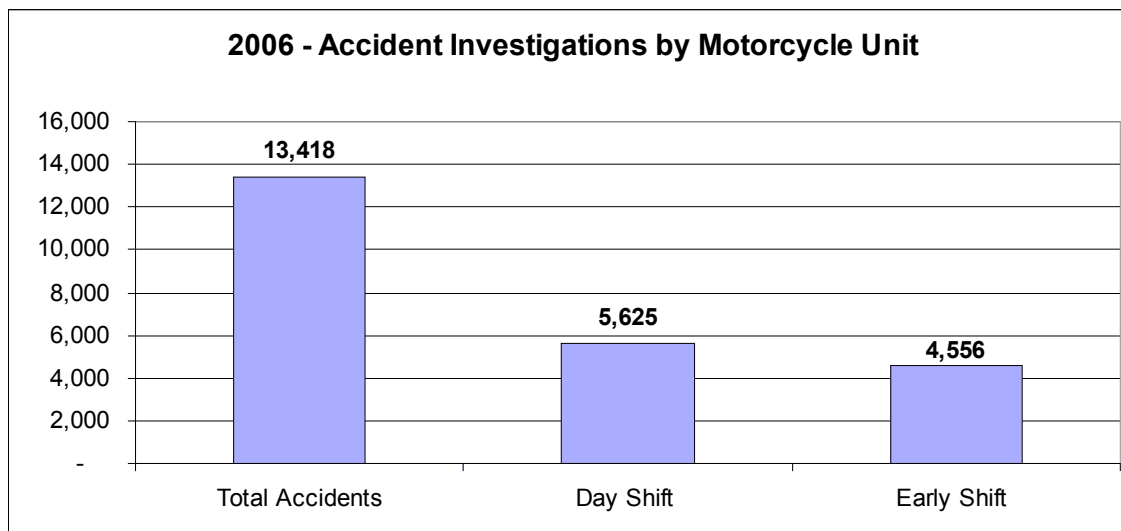
- Escort duties were provided in some form in 13 out of 21 days (62%) in the first three weeks of March.
- The majority of escort duties only occurred once per day (69%); however close to one-third of the time escort services were provided, two or more escort assignments were deployed on that day.
- When escort duties were provided, 27% of the time four bikemen were assigned, whereas over two-thirds of the time two bikemen were assigned.

As stated previously, the project team does not have total hours dedicated to escort services; however, based on the average number of officers assigned in the first

three weeks of March 2007 and the number of officers deployed to participate in escort services as shown above, fully 22% of the Day shift's average assigned contingent was occupied during some time of the day conducting escort services. As with event duties and responsibilities, the constant fluctuation in daily assignment requirements makes it difficult to consistently focus on traffic enforcement and accident investigations. The project team understands the perceived importance of assigning the Motor Unit to escort duties and events on regular time, yet it cannot be emphasized enough that these impact the ability of the Unit to focus on mission-critical responsibilities.

**(1.4) The Motorcycle Unit Responds to Most Traffic Accidents Within Milwaukee, Impacting Bikemen Availability for Other Duties.**

The Motorcycle Unit provides vehicular accident response and investigations, either as primary (first on-scene) unit or as requested by a patrol squad. Motorcycle Unit staff typically perform these duties on Day and Early shifts whereas patrol officers accomplish this during Late shift. As noted by supervision, this is the Unit's primary responsibility, as opposed to directed traffic enforcement, during these two shifts. The Unit responded to 10,181 vehicular accidents in 2006. Additional data related to traffic accidents is shown in the graph below:



Based on the aforementioned data, the Motorcycle Unit responded to 76% of all traffic accidents occurring in 2006. Stated otherwise, for every shift hour on Day and Early shift, the Motorcycle Unit was responding to an average of 1.75 accidents per shift hour. Clearly accident investigation represents a significant amount of workload for the Motorcycle Unit.

Based on the project team's experience, assuming a reasonable estimated 1-hour for accident investigation and report writing, and based on net officer availability calculations shown elsewhere in this section, nearly 7.6 full-time equivalent's (FTEs) time, or approximately one-quarter of the Motorcycle Unit's officer's annual time<sup>3</sup>, based on 2006 actual staffing levels, is our estimate for the resources dedicated by the Unit to motor vehicle accident investigation. As shown in the previous sub-sections, a large percentage of Motorcycle Unit time is dedicated to event services, accident investigations, and to a lesser extent escort duties. This impacts the ability of the Unit

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<sup>3</sup> 10,181 accident investigation hours/1,345 Net Officer Available Hours = 7.57 FTEs. 43.5 actual officers X 1,345 net hours/2,080 annual hours = 28.1 Net Available Officer Hours. 7.57/28.1 = 27%.

to focus on what is typically considered a core business of a motor unit—traffic enforcement. This is discussed further below.

**(1.5) The MPD Motorcycle Unit Completes Moving Citations and Warnings Slightly Below the Best Management Practices Benchmark, Although This Is Expected Given Other Unit Responsibilities.**

One important measure of traffic enforcement productivity, particular for a motor unit, is the number of citations issued and contacts (warnings) per field deployment hour. Based on 2006 and the first half of calendar 2007, the following table shows the moving citation and traffic warning card production for the Motorcycle Unit:

**Motorcycle Unit – Vehicle Citations and Warning Output – 2006**

	<b>Uniform Traffic Citation</b>	<b>Vehicle Registration</b>	<b>Operator License Laws</b>	<b>Equipment Violations</b>	<b>Traffic Warning Cards</b>	<b>TOTAL</b>
Day Shift	15,277	2,035	2,831	1,301	2,186	23,630
Early Shift	19,596	2,315	3,570	2,053	1,808	29,342
<b>Total</b>	<b>34,823</b>	<b>4,350</b>	<b>6,401</b>	<b>3,336</b>	<b>3,994</b>	<b>52,972</b>

**Motorcycle Unit – Vehicle Citations and Warning Output – Jan-Jun, 2007**

	<b>Uniform Traffic Citation</b>	<b>Vehicle Registration</b>	<b>Operator License Laws</b>	<b>Equipment Violations</b>	<b>Traffic Warning Cards</b>	<b>TOTAL</b>
Day Shift	7,674	1,121	1,395	994	1,081	12,265
Early Shift	10,146	1,211	1,965	921	641	14,884
<b>Total</b>	<b>17,820</b>	<b>2,332</b>	<b>3,360</b>	<b>1,915</b>	<b>1,722</b>	<b>27,149</b>

The following points summarize the information above:

- The various citations represent written moving violations whereas traffic warnings cards represent verbal notifications of violations that have been committed but not cited.
- Early shift produces more outputs related to these metrics compared to Day shift, yet this is not representative of the entire workload requirements of either shift. Early shift has somewhat more hours dedicated to event services than Day whereas Day shift provides the vast majority of escort services. Furthermore, Day shift investigated almost 1,100 more traffic accidents than Early in 2006 as shown previously.

- Based on 2006 data, the Motorcycle Unit had 52,972 moving citation/warning outputs. This figure can be used to compare to best-management practice expectations discussed as follows.
- Based on the first six months of 2007 data, the Motorcycle Unit had 27,149 moving citation/warning outputs. This level of performance is consistent, and slightly exceeds, the average monthly output of 2006. This figure can be used to compare to best-management practice expectations discussed as follows.

Based on the project team's research over two decades, we have discovered that a productive motor unit should be able to generate 1.0 moving citations or verbal warning per field deployed hour. This benchmark excludes parking citations as dedicated parking enforcement activities can result in significantly higher ticket production levels. Based on the estimated field hours available to the Motorcycle Unit<sup>4</sup> in 2006, an estimated 0.91 moving citations/warnings per field hour were generated; similarly the data for 2007 reflect an estimated 0.94 moving citations/warnings per field hour. This is below the best-management practice target of 1.0, but only marginally so. Given the other duties and responsibilities which the Unit performs, failure to achieve the listed benchmark standard is not surprising. Indeed, the project team believes that given the numerous other time commitments associated with Motorcycle Unit workload, this level of citation performance under existing operating circumstances is exemplary.

**(1.6) The Milwaukee Police Department Traffic Enforcement Index is 1:45 and Consistent with Best Management Practices Standards.**

The overarching and primary mission of any traffic enforcement unit is reducing the occurrence of death and injury related to vehicular accidents. To that end, minimizing both fatal and injury accidents should be a core business responsibility of the Motorcycle Unit. Research by the Northwestern University Traffic Safety Institute

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<sup>4</sup> 1,345 net field hours X estimated 43.5 actual bikemen deployed in 2006 = 58,507 hours. The same type of calculation was accomplished for 2007.

suggests that there is a strong correlation between accidents, driving under the influence of alcohol, and the ability of a traffic enforcement unit to generate citations. In brief, as citations and driving while intoxicated arrests go up, injury and fatal accidents generally go down. Consequently, a Traffic Enforcement Index (TEI) was developed by the Traffic Safety Institute and largely adopted by the Matrix Consulting Group as a valid analysis tool. The TEI is a performance indicator of traffic enforcement effectiveness, which suggests that the ratio of injury/fatal accidents to the number of moving citations plus the number of OWI arrests should be, at the lowest, in the 1:25 range and ideally 1:40 or better.

Based on calendar 2006 data provided by MPD, the following table is shown:

**Table – 2006 Milwaukee Traffic Enforcement Index (TEI) Data**

<b>Activity</b>	<b>Number of Activities</b>
Vehicular Citations	199,431
Operating While Intoxicated (OWI)	842
TOTAL Citations/OWI	200,273
Fatal and Injury Accidents	4,396 <sup>5</sup>
<b>TRAFFIC ENFORCEMENT INDEX:</b>	<b>1:45</b>

The 1:45 TEI somewhat exceeds the best management practices standards established. This is an important accomplishment for which the Department should take credit. There is, however, one caveat that should be noted. The TEI is typically presented in a motor unit analysis as the project team has found that in many other agencies the motor unit's outputs can have a significant impact on the TEI. This is due to the fact that most motor units are responsible for a good portion of the citations generated for the jurisdiction. By example, in a recently completed study for a large southern U.S. county, the ratio of motor officers to patrol officers in that jurisdiction is

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<sup>5</sup> 4,360 Injury Crash events + 36 Fatal Crash events in 2006.



consistent with the same ratio at MPD. In that organization, the motor unit completed nearly half of the entire jurisdiction's citations. This compares to 25% of all moving citations completed by the Motorcycle Unit at MPD. While the TEI indicates the entire Department is accomplishing traffic enforcement activities, the Motorcycle Unit's contribution to this effort is proportionally less than many other agencies' motor units. Reiterating, this is due to the numerous other duties and responsibilities which the Motorcycle Unit must focus upon.

**(1.7) The Motorcycle Unit Spends an Inordinate Amount of Time Focused on Duties that Detract From Proactive Traffic Enforcement Work.**

Throughout this section information has been provided to demonstrate the MPD Motorcycle Unit is very productive in the performance of the numerous duties and responsibilities it undertakes, but in doing so it is not achieving what the project team believes is the core business of a motor unit: that is directed and proactive traffic enforcement, citation production, contributing significantly to an appropriate Traffic Enforcement Index, and consequently achieving the core mission and outcome of reducing injuries and fatalities related to vehicular accidents. Philosophically, the City and MPD have chosen to use the Motorcycle Unit whereby over 60% of the Unit's time is dedicated to functions other than traffic enforcement and has deployed the Unit in a fashion that impedes its ability to accomplish core business, the impact of which is summarized as follows.

- On an hour-for-hour production basis, the Motorcycle Unit can nearly achieve benchmark standards relative to citation and warning output; however, the Unit has the skills and capability to be a best-in-class traffic enforcement unit that can produce far more citations if alleviated from other workload requirements.
- Compared to many agencies, the ratio of citations generated by the Motorcycle Unit compared to Patrol is low, indicating that Patrol may be undertaking traffic

enforcement duties which cannot be accomplished by the Motorcycle Unit, thereby impacting Patrol's time for other proactive patrol activities.

- In order to maintain an effective Traffic Enforcement Index, the City has had to overly rely on Patrol to generate citations and OWI arrests.
- The Department relies heavily on the Motorcycle Unit to conduct motor vehicle accident investigation during Day and Early shift despite the fact patrol officers perform this duty on Late shift. Accident investigation detracts from the ability to perform traffic enforcement, which is *designed to reduce accident occurrences*.
- The City's use of the Motorcycle Unit for event services on regular time significantly impacts its ability, particularly for half of the calendar year, to focus on core business operations.

In sum, the project team believes that the duties and responsibilities of the Motorcycle Unit need to be revised to allow for additional focus on traffic enforcement, and the attendant philosophical shift related to how the Motorcycle Unit is operated must occur. To that end, the following is recommended.

- The City should implement an event fee to allow the bulk of event services to be conducted on off-duty overtime as opposed to regular time. This is an issue that impacts more than the Motorcycle Unit and will be discussed in greater depth elsewhere in this report. However, alleviating the Motorcycle Unit from performing the bulk of event services on regular time will have the most dramatic impact on its ability to regularly and effectively focus on traffic enforcement duties.
- Regarding accident investigation, the project team recommends that accident investigation be accomplished by Patrol on Day and Early shift as is done on Late shift to allow the Motorcycle Unit additional time for traffic enforcement. As noted previously, this would require approximately eight FTEs worth of staff time to perform in Patrol, yet the impact of this workload on Patrol would be significantly less overall than the impact on the Motorcycle Unit. Furthermore, this workload could be optimally accomplished largely by non-sworn staff as discussed in the Patrol chapter. Optionally, transfer of accident investigation workload from the Motorcycle Unit to Patrol could only occur only in the spring and summer months, thereby allowing the Unit to focus additional traffic enforcement efforts during busy seasonal periods.
- The Motorcycle Unit should continue its present efforts related to escort and Patrol-support functions (e.g. calls for service back-up).

With the implementation of the aforementioned recommendations, and the attendant increase in Motorcycle Unit traffic enforcement activities, the Department may wish to re-visit the time dedicated by Patrol to citation production. Off-loading citation generation responsibilities to the Motorcycle Unit will free Patrol resources to perform other proactive functions.

**Recommendation: Implement alternate philosophical and operational Motorcycle Unit service delivery approaches as discussed in this section. This includes a reduction in time dedicated to event services and motor vehicle accident investigations.**

**(1.8) The Motorcycle Unit Should Maintain Existing Authorized Staffing Levels.**

Given the totality of information discussed herein, the Motorcycle Unit is a productive unit and appropriately staffed based on existing Unit operations or the recommended revisions. Supervision to staff ratios are appropriate, with neither understaffing nor overstaffing issues noted. Consequently, the Motorcycle Unit should maintain six (6) sergeant and fifty (50) officer positions divided equally on Day and Early shift.

**Recommendation: Maintain existing authorized staffing levels in the Motorcycle Unit.**

**(1.9) The Motorcycle Unit Can Implement Some Additional Best Management Practices.**

The project team has been impressed with the capabilities of MPD's Motorcycle Unit. There are, however, a few opportunities to implement additional best management practices. Best management practices are law enforcement efforts the project team has identified that are progressive and could prove valuable if implemented in a jurisdiction. The following operational options are offered for consideration.

- **Formally coordinate with the City’s traffic engineering, to help develop a Traffic Management Plan.** While Unit supervision has monthly meetings in regards to the I-94 freeway construction as well as planning meetings with various officials when large events occur to coordinate traffic flow around and to those events, there is no formal mechanism in place to ensure MPD feedback relative to signal timing, speed limit modifications, etc., that could be included in the City’s Traffic Management Plan. This should be rectified, and a written procedure established to ensure the Department is a contributor to this valuable plan.
- **Implement a ‘Suspended or Revoked Operator Enforcement Program’ as per the National Sheriff’s Association guidelines.** Although the Motorcycle Unit is currently engaged in many other tasks other than directed traffic enforcement, a re-focus of efforts as previously discussed can incorporate a Suspended or Revoked Operator Enforcement Program. This program is detailed in the Guidelines for a Suspended or Revoked Operator Enforcement Program report published by the NHTSA and available at [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov). In brief, it is a program designed to address the growing problem of multiple suspended or revoked operators who openly disregard compliance with the law by continuing to drive.
- **The Department should implement a full cost recovery mechanism for OWI enforcement.** Within the framework of state law, MPD should implement a full cost recovery program related to Operating While Intoxicated. Beyond the existing fine for such activity, those found guilty of this offense should be responsible for the fully loaded costs of providing the resources to enforce OWI. This includes technician time for breathalyzer testing, officer costs, booking costs, transport costs, and other Department costs that can be readily calculated and directly linked to the OWI arrest. Agencies that have implemented this progressive program have found success in covering costs related to OWI, in addition to providing an additional disincentive for drinking and driving.

**Recommendation: As resources are available, implement listed best management practices for the Motorcycle Unit.**

## **(2) ACCIDENT RECONSTRUCTION UNIT**

This section of the chapter presents the project team’s analysis of the MPD’s Accident Reconstruction Unit. Details regarding the Unit are provided in the Profile; however, the following summarizes major aspects of the Accident Reconstruction Unit (ARU):

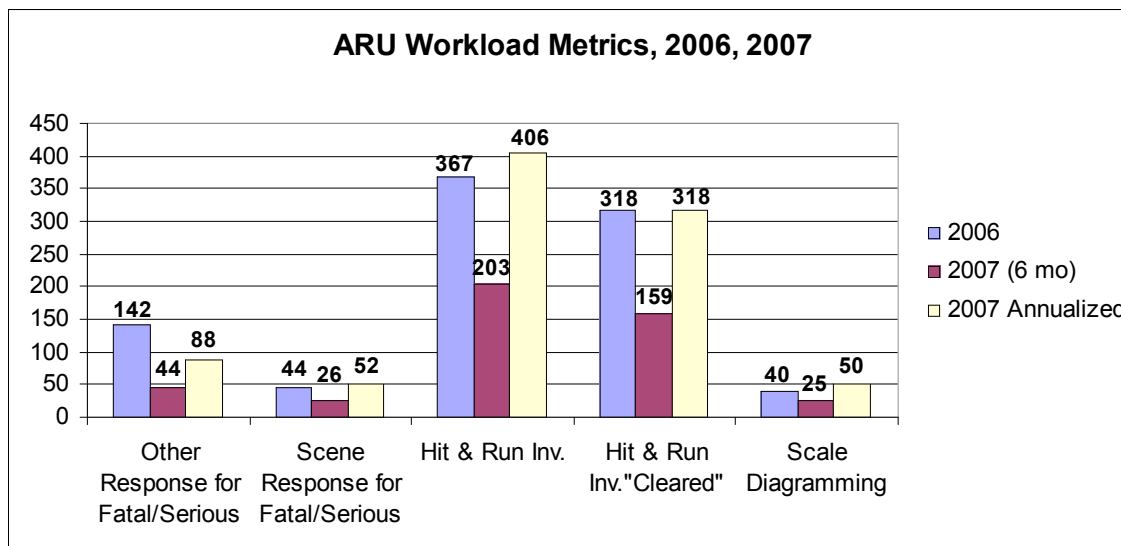
- The Accident Reconstruction Unit is directly overseen by the Lieutenant who has oversight of the Motorcycle Unit, Accident Reconstruction Unit, Harbor Patrol Unit and Underwater Investigation Unit.
- The ARU is deployed Monday-Friday on Days and Early shifts during three different time periods: 0600-1400; 0900-1700; and 1500-2300 hours.
- The ARU performs a few primary functions noted below and other ancillary duties such as self-initiated calls-for-service back-up on priority 1 calls. The ARU is staffed with five (5) officers and is supervised on a day-to-day basis by the Patrol Support Division's "desk sergeant."

The following sections will discuss these Unit operations.

### **(2.1) The Accident Reconstruction Unit Provides Varied Services to MPD.**

The Accident Reconstruction Unit responds to fatal or near-fatal vehicular accidents for scene processing and subsequent investigative follow-up. For those serious accidents not taken over directly by the ARU, assistance is provided in the field to responding officers, paperwork is reviewed prior to submittal, etc. Additionally the ARU monitors, reviews, and as time is available, follows-up on hit and run accidents. In 2006, 4,648 hit and run accidents were reviewed, of which 8% were investigated based on seriousness and solvability potential. Finally, given the Unit staff's skills sets and accessibility to laser/GPS technologies, the Unit provides crime scene mapping services, or scale diagramming, on major incidents such as police shootings, high-profile shootings, and homicides.

The following graph provides workload outputs for the Accident Reconstruction Unit for 2006, the first six months of 2007, and estimated annualized data for 2007.



The following is noted regarding the information displayed.

- The Other Response for Fatal/Serious category represents the number of times the ARU assisted at the scene as opposed to taking over scene investigation as discussed previously. The Scene Response for Fatal/Serious category is those accidents in which the ARU became fully responsible.
- Annualized data suggest that the Unit will not be as busy supporting Fatal/Serious accidents in 2007 as in 2006. This, however, is only an estimate based on six months of information.
- Conversely, based on annualized data, the ARU appears busier in 2007 relative to hit and run accidents that are being investigated as well as scale diagramming efforts.

Although workload metrics, or counts of things accomplished, can represent Unit outputs, juxtaposing these metrics to hours worked by the Accident Reconstruction Unit can provide further operational information.

**(2.2) The Accident Reconstruction Unit Appears Appropriately Staffed Based on Workload Measures.**

As stated, the ARU currently has five officers. This was recently increased from three officers in April of 2007. Based on the workload outputs discussed thus far, the project team estimated workload for each officer in the Unit based on the maximum

actual/estimated annual workload in 2006 and 2007. The following table was developed based on this methodology.

**Accident Reconstruction Unit Estimated Weekly Outputs per Officer Assigned**

	<b>2006/07 Outputs</b>	<b>Annual Output Per Officer</b>	<b>Output Per Officer-Week Worked</b>
Other Response for Fatal/Serious	142	28.4	0.5
Scene Response for Fatal/Serious	44	8.8	0.2
Hit & Run Reviewed	4,648	929.6	17.9
Hit & Run Investigated	406	81.2	1.6
Scale Diagramming	50	10	0.2
<b>SUM OF UNIT OUTPUT TASKS:</b>	<b>5290.0</b>	<b>1058.0</b>	<b>20.3</b>

Based on information in the table, the following is noted.

- As a framework, based on net annual officer availability noted throughout this report, each officer can work approximately 26 hours per week performing core business functions.
- On average, each officer in the ARU assists in one fatal or serious accident every two weeks.
- On average, each officer in the ARU takes over and investigates one fatal or serious accident every five weeks.
- On average, each officer in the ARU reviews 18 hit and run reports per week, or three per day. Of these, the officer will actively investigate about 1-1/2 incidents per week or be assigned a new caseload of six H&R cases per month.
- On average, each officer in the ARU conducts scale diagramming services once every five weeks.
- In sum, based on net officer availability per year discussed throughout this report, each officer works on approximately 0.8 output tasks<sup>6</sup> per work hour.

As noted, these are just estimates based on existing workload and calculating derived averages. Workloads obviously fluctuate and can change throughout the year. Nevertheless, information portrayed in this manner can give a sense of the magnitude

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<sup>6</sup> 1,345 net hours/52 weeks = 25.9 available hours per week. 20.3 outputs/25.9 hours = 0.79.

of work performed based on the staffing size of the Unit. Unfortunately there are only a few comparative benchmarks available for the work performed by the ARU. By example, there is no independent benchmark to determine if scale diagramming work is currently overburdening the Unit, particularly in the context of the other tasks performed. One benchmark that is available is the number of hit and run cases that an average investigator carries. In units that are dedicated to property crime investigation (including H&R), each investigator can carry an active caseload of from 20-25 cases. This compares to the ARU's average cases per officer of approximately six per month. Clearly, if the ARU were solely focused on hit and runs they would not be considered "productive," yet in light of the other varied activities the Unit performs this cannot be concluded.

Based on the project team's evaluation, including interviews with supervision and a review of work practices, we believe the Accident Reconstruction Unit is appropriately staffed given the varied duties and responsibilities assigned.

**Recommendation: Maintain existing staffing of five (5) officers in the Accident Reconstruction Unit.**

**(2.3) The Accident Reconstruction Unit Should Implement Case Screening Best Practices.**

With the several thousand hit and run accidents that come through the ARU on an annual basis, the Unit should have a formal way in which to screen cases for investigation versus suspension/closure. Presently, the Unit does not have a formal protocol; The H&R's that are investigated are based on the seriousness of the accident (amount of damage or injury) and the solvability factors (witnesses, evidence left at the scene, etc.), yet there is no guideline or checklist under which these decisions are



made. Consequently, the ARU should develop formal guidelines and the attendant case-screening checklist that can be attached to each hit and run case reviewed. Not only will this formalize the screening process and ensure consistency among each investigator, but it will also provide readily available information to demonstrate to a victim, manager, etc., on how a decision, relative to the hit and run case, was made.

**Recommendation: Implement formal case screening for hit and run traffic accidents in the Accident Reconstruction Unit.**

### **(3) HARBOR PATROL UNIT**

This section of the chapter presents the project team's analysis of the MPD's Harbor Patrol Unit. Details regarding the Unit are provided in the Profile; however, the following summarizes major aspects of the Harbor Patrol Unit:

- The Harbor Patrol Unit is directly overseen by the Lieutenant who has oversight of the Harbor Patrol Unit, Accident Reconstruction Unit, Motorcycle Unit and Underwater Investigation Unit.
- The Harbor Patrol Unit is authorized two (2) full-time officers and ten (10) seasonal officers that are deployed from the Districts. The Unit is supervised on a day-to-day basis by the Patrol Support Division's desk sergeant.
- Harbor Patrol is deployed Monday-Sunday on a 5/2-4/2 schedule on Day and Early shifts during three different time periods: 0700-1500; 1500-2300; and 1600-2400 hours. During the season, typically running from 3/25-11/17, three boats are deployed with four personnel assigned to each, and a minimum staffing contingent of two officers per boat.
- The Underwater Investigation Unit is ostensibly an extension of the Harbor Patrol Unit and reports to the same sergeant. The Unit is staffed with twenty (20) sworn staff members, deployed from throughout the Department, who operate on call-out and as-needed basis. The Unit uses full dry-suit and SCUBA gear to perform body and evidence recovery in the lake and rivers.

The following sections will discuss these Unit operations.

**(3.1) The MPD Harbor Patrol Unit Provides Various Enforcement Services.**

The Harbor Patrol Unit cruises waterways (lake and rivers) and enforces maritime laws, particularly City ordinances. The Unit works in conjunction with the U.S. Coast Guard during approximately eight months of the year to provide water safety in the rivers and lake adjoining Milwaukee; this includes vessel escort, enforcement activities, search and rescues, etc., in the inner and outer harbor and landmasses of the port area. As noted by the following table, Milwaukee County, of which the city is a part, had the second largest number of registered boats in 2006 in the state of Wisconsin, exceeded only by Waukesha County.

**Registered Boats, State of Wisconsin, 2006**

<b>County</b>	<b># Registered Boats</b>	<b>% of Total Boats</b>	<b>Ranking In State</b>
Waukesha	37,524	6.0%	#1
Milwaukee	29,019	4.6%	#2
Dane	27,971	4.5%	#3
<b>STATE</b>	<b>626,740</b>	<b>100.0%</b>	

In the off-season, two full time officers perform various duties including patrol car cruising of fuel farms and other homeland security checkpoints, provide port security, and perform boat maintenance and seasonal preparation of equipment. During the season, ten additional officers are re-assigned from the District to operate the Harbor Patrol's boats. Historically most officers are re-assigned from Day shift to Harbor Patrol. In 2007, seven of ten (70%) of the officers came from Day shift.

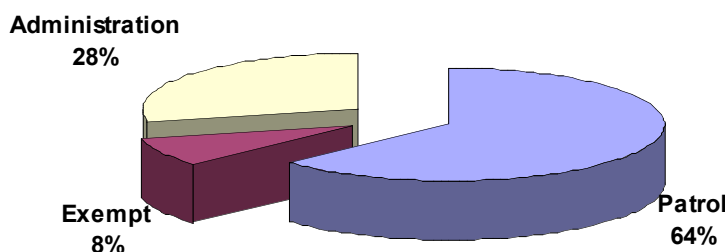
Quantifiable performance metrics tracked for the Harbor Patrol Unit indicate the following output metrics for 2006:

- 244 arrests;
- The 187 municipal boating violation citations;
- 61 search and rescues involving 170 citizens; and

- 128 Traffic Warning Cards (TWCs).

In addition to the above, the Harbor Patrol Unit spent 8,166 service hours allocated as shown in the following pie chart.

**Distribution of Harbor Patrol Hours - 2006**



The following is noted regarding the chart:

- Patrol hours, representing over 6 of every 10 hours of service provided and 5,176 hours for 2006, reflect most patrol-related services provided by the Unit, including citation generation, security checks, inner/outer harbor cruising, etc.
- Administration hours, representing approximately 3 of every 10 hours of service provided and 2,315 hours in 2006, reflect paperwork, court attendance, and largely boat maintenance typically performed by the two full-time positions.
- Exempt hours, representing less than 1 of every 10 hours of service and 675 hours in 2006, reflect an eclectic grouping of activities including training, search and rescue, teaching and accident investigations.

Given the work hours noted and net officer availability discussed elsewhere in this report, the average annual staffing of the Harbor Patrol Unit equates to approximately six (6) FTEs<sup>7</sup> throughout the year. Harbor Patrol Unit operations are further discussed in the following sections.

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<sup>7</sup> 8,166 service hours/1,345 net availability per officer = 6.07 FTEs.

**(3.2) The Harbor Patrol Unit Has a Few Opportunities for Operational Improvement.**

One methodology for evaluating a specialized law enforcement unit is comparing similar output performance measures from the unit to other specialized functions within the department. A comparison of different types of specialized law enforcement units should be viewed with caution as each has important and distinct functions. Nevertheless, the reported output metrics of many of these units are the same, are viewed as important, and thus can be juxtaposed. The table, which follows, illustrates data calculations based on workload metrics captured by the respective units noted.

**Comparative Workload Data for Various MPD Specialized Units, 2006**

	<b>Motorcycle Unit</b>	<b>Mounted Unit</b>	<b>Harbor Patrol Unit</b>
# of Citations	48,978	346	<b>187</b>
Citations per Field Deployment Hour	0.84	0.04	<b>0.04</b>
# of Arrest Charges	1,992	1,533	<b>244</b>
Arrests Charges Per Field Deployment Hour	0.03	0.19	<b>0.05</b>
Warning Cards	3,994	172	<b>128</b>
Warning Cards Per Field Deployment Hour	0.07	0.02	<b>0.02</b>

With the exception of citation production for the Motorcycle Unit and arrests per field hour for the Mounted Unit, production metrics can be construed as similar among the units noted. Considering these data, the project team believes the Harbor Patrol Unit performs within reasonable expectations compared to other functionally specialized units in the Department. Nevertheless, another measure to compare Harbor Patrol Unit productivity is to evaluate performance against other marine units within the state of Wisconsin. To accomplish this, data were abstracted from the 2006 Wisconsin Boating Program Report prepared by the Department of Natural Resources. Contained within that report are different jurisdiction's marine patrol hours and the number of citations

issued. The project team abstracted all entities with over 100 citations generated during the 2006 season and developed metrics shown in the following table.

**Comparative Citation Data, Various Wisconsin Marine Units, 2006**

<b>County/City</b>	<b>Patrol Hours</b>	<b>Citations</b>	<b>Cites/Hour</b>	<b>Hours/Cite</b>
Adams	422	112	0.27	3.8
Dane	2,361	278	0.12	8.5
<b>Milwaukee</b>	<b>5,176</b>	<b>182</b>	<b>0.04</b>	<b>28.4</b>
Oconomowoc	665	144	0.22	4.6
Pierce	1,132	101	0.09	11.2
Twin Lakes	1,024	106	0.10	9.7
Waupaca	1,058	110	0.10	9.6
Winnebago	1,257	207	0.16	6.1

As shown by the table, in comparison to other marine units throughout the state, the MPD Harbor Patrol Unit underperforms, and sometimes significantly, compared to counterparts in citation generation performance. Indeed, MPD ranks last in jurisdictions producing more than 100 citations per season, with the closest counterpart (Pierce County) producing over double the citations per patrol hour compared to MPD. According to the Department of Natural Resources Patrol Audit Report, it is expected that marine units produce at least one citation every 15 patrol hours, with a maximum ratio “allowed” of 24.4 hours to 1 citation. Given MPD exceeded this ratio, the Department was penalized over \$21,000 in possible reimbursement costs.

In sum, based on some important comparative output metrics, there is room for improvement related to the Harbor Patrol Unit’s production statistics, particularly with regard to citation generation. Consequently, the Department should re-emphasize the importance of enforcement tasks to the Harbor Patrol Unit, and expect higher levels of citation production that represents focused enforcement of waterway regulations

**Recommendation: Require the Harbor Patrol Unit to focus additional efforts on marine law enforcement as represented by an increase in citation production of at least double the 2006 citation output.**

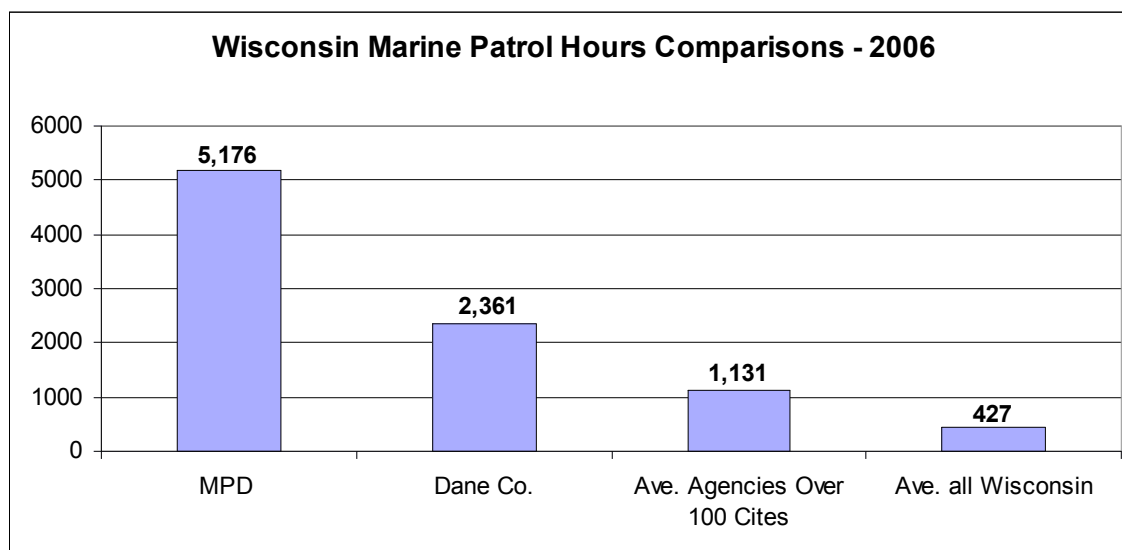
**(3.3) MPD Should Re-Visit Current Staffing Levels in the Harbor Patrol Unit.**

As noted previously, the Harbor Patrol Unit is staffed with two full-time officers and ten seasonal officers taken from the various Districts. When deploying twelve staff, they are typically assigned to three boats as follows:

- **Squad 311 Day Shift, operates 0700-1500 hours 3/25/07-11/17/07-** This unit typically operates in the outer harbor and landmasses of the port area with a minimum staffing of two officers during this shift.
- **Squad 311 Early Shift, operates 1600-0000 hours 5/6/07-11/17/07-** This unit typically operates in the outer harbor and landmasses of the port area with a minimum staffing of two officers during this shift.
- **Squad 312 Early Shift, operates 1500-2300 hours 5/6/07-9/22/07-** This unit typically operates in the inner harbor and landmasses of the port area with a minimum staffing of two officers during this shift.

This deployment schedule resulted in 5,176 Patrol Hours as noted previously.

This is compared to other agencies, including Dane County, Wisconsin, which had the second largest number of patrol hours in 2006, in the graph below.



Given the data from other marine units in Wisconsin and comparing the number of patrol hours provided, MPD significantly exceeds all other agencies in Wisconsin,

regardless of the different variables used to select them for comparison, by a considerable margin. Indeed, MPD provided 11.5% of all marine patrol hours in the state. Based on these hour comparisons, it is unclear why MPD has chosen to deploy the Harbor Patrol Unit during three shifts for the extensive number of hours required to service the shifts. Although the project team understands that the Unit conducts various duties during marine patrol, including homeland security checks, the extensive hours dedicated appear unnecessary, particularly given some duties, such as security duties, are performed in the off-season by land-based units. Furthermore, deploying two shifts during early evening and night hours is atypical in the project team's experience; marine units are generally deployed during daytime hours when most boaters are active. Finally, given the Coast Guard is also deployed in the area, the significant number of patrol hours by the Harbor Patrol Unit may be duplicative in various instances.

Another metric, though less relevant due to multiple variables, is to benchmark the size of MPD's harbor patrol unit against other law enforcement agencies that may possess one, given their proximity to waterways. Our research of various police departments in the region indicated the following information:

- Racine, Wisconsin has one (1) sergeant and two (2) officers assigned to their unit supported by ten (10) part-time college students who provide, when needed, boat handling and maintenance services. Two boats are used beginning in April and cruise through Labor Day. Additional service hours are provided during peak season—Memorial Day through Labor Day weekend.
- St. Louis, Missouri has no independent harbor unit. Services are provided by the Coast Guard.
- Kenosha, Wisconsin, the fourth-largest city in the state, has no independent harbor unit.
- Chicago, Illinois, in cooperation with Cook County, has one of the largest units in the country, exceeding even international ports such as Seattle. With one (1)

lieutenant, six (6) sergeants and fifty (50) officers assigned to their unit, they deploy year-around on three shifts 24/7 on six watercraft. Additionally, they have regular access to two helicopters for additional enforcement services.

The data suggest that various law enforcement agencies in the region have varied philosophical approaches to waterway enforcement. Clearly there is no “right” approach. As a harbor patrol unit is an important though largely support function, particularly if other resources (such as the Coast Guard) are available, staff resource needs within the unit should be juxtaposed against the needs of primary core-business operations such as patrol and investigative services.

Given these data, the project team recommends down-sizing the MPD Harbor Patrol Unit. Although the Department of Natural Resources reimburses approximately 60% of the Patrol-related operating costs, there are still City funds dedicated to the Harbor Patrol Unit, and there is further opportunity to use staff resources in the Patrol Districts from which most personnel came. Consequently, the Harbor Patrol Unit should continue to field two full-time officers, but downsize from ten (10) seasonal officers to six (6) seasonal officers operating two boats. The Patrol Support Division should re-visit the shift schedules and hours of operation to obtain the most utility from the Unit, and focus additional efforts on marine enforcement activities. For search and rescue operations, these can be performed on a call-out basis, as necessary.

**Recommendation: Reduce staffing in the Harbor Patrol Unit from twelve (12) positions during the boating season to eight (8) positions, fielding one boat on each of two shifts. This will include two (2) full-time officers and six (6) seasonal officers transferred from the Districts.**

**Recommendation: Revise the shift schedules to match recommended personnel resources. Consideration should be given to two overlapping shifts with emphasis placed on time periods of high boater activity.**



#### **(4) MOUNTED PATROL UNIT**

This section of the chapter presents the project team's analysis of the MPD's Mounted Patrol Unit. Details regarding the Unit are provided in the Profile; however, the following summarizes major aspects of the Mounted Patrol Unit:

- The Mounted Patrol Unit is directly overseen by the Lieutenant who has oversight of the Mounted Patrol Unit and Tactical Enforcement Unit.
- The Mounted Patrol Unit deploys Monday-Sunday on a 5/2-4/2 schedule on two shifts in the seasonal months (May-October): Day Shift, 0700-1500 and Early Shift, 1500-2300.
- The Mounted Patrol Unit deploys on regular basis to special events; downtown area; Mitchell Park; National Avenue; and Marquette University. The Unit is a major component of the Department's Major Incident Response Team (MIRT). The Unit is composed of six (6) officers and one (1) sergeant.

The following sections will discuss these Unit operations.

**(4.1) The Mounted Patrol Unit Provides Numerous Services and Particular Benefits for MPD.**

The Mounted Patrol Unit is currently authorized and staffed with one (1) Sergeant, and six (6) Officers while contracting out the lease of horses and stable services for \$106,000 per year to Milwaukee Coach & Carriage, LLC. The Mounted Patrol Unit deploys on horses in the spring through mid-fall whereby officers ride singularly or in pairs and are typically deployed to: special events, the downtown area, Mitchell Park; National Avenue, and Marquette University. As horses are not used below 15 degrees, in the winter months the Unit typically deploys on one shift 1100-1900 hours in squad cars. The Unit performs crowd control, traffic control, citation generation, periodic calls for service response and back-up activity, and public interface (e.g., FI cards, disorderly conduct control, etc.). The Unit regularly flexes its schedule dependent upon MPD resource needs.

In addition to mounted unit responsibilities, the sergeant also provides management of the Department's Major Incident Response Team (MIRT) including call-out coordination, training coordination, recruitment, etc. The Mounted Patrol Unit is frequently involved in MIRT call-outs.

A Mounted Patrol Unit is a specialized support unit designed to augment patrol services. As such, it has a similar mission to an air support unit, a bicycle squad, ATV-Quad Unit, a dedicated foot patrol, etc., with the primary difference being the mode of transportation in use. A mounted unit offers the following advantages:

- A mounted officer has the additional flexibility to proceed off-road and does not have the vehicular limitations associated with patrol cars. While deputies can leave patrol cars and proceed on foot, the mounted officer has the additional advantage of speed compared to foot-bound counterparts.

- Where a (mountain) bicycle patrol can go most places that a mounted unit can go, and at a less expensive unit cost, the mounted officer has not used significant personal energy while gaining the same, and in many cases, superior speed advantages.
- An officer sitting atop a horse has a certain height advantage compared to most other transportation modes, allowing generally unhindered views over walls, etc.
- A mounted unit has a public relations appeal superior to many other specialized units.

Despite these advantages, the benefits of a full-time mounted unit have been questioned over the last several years by many law enforcement agencies. For those agencies that have mounted units, a good proportion of them are part-time, volunteer only (e.g. Reserve Officers), funded exclusively through donations (e.g. Denver Police Department) or some combination thereof. Based on these alternative operational practices, decisions to field a mounted unit are largely based on an agency's unique demographics, serviced topography, political support, and funding availability. These variables should be strongly underscored by the availability of mounted unit performance outputs in support of law enforcement activities. These data are discussed for MPD's Mounted Patrol Unit in the following paragraphs.

**(4.2) The Mounted Patrol Unit Performs Well in Comparison to Important Law Enforcement Measures and to Other Jurisdictions.**

As indicated in the section on the Harbor Patrol Unit, a comparison of different types of specialized law enforcement units should be viewed with caution as each has important and distinct functions. Nevertheless, the output metrics of many of these units are the same and viewed as important, and thus can be compared. The table, which follows, is largely replicated from the Harbor Patrol Unit section and illustrates data calculations based on workload metrics captured by the respective units.

**Comparative Workload Data for Various MPD Specialized Units, 2006**

	<b>Motorcycle Unit</b>	<b>Harbor Patrol Unit</b>	<b>Mounted Unit</b>
# of "Moving" Citations	48,978	187	<b>346</b>
Citations per Field Deployment Hour	0.84	0.04	<b>0.04</b>
# of Arrest Charges	1,992	244	<b>1,533</b>
Arrests Charges Per Field Deployment Hour	0.03	0.05	<b>0.19</b>
Warning Cards	3,994	128	<b>172</b>
Warning Cards Per Field Deployment Hour	0.07	0.02	<b>0.02</b>
# Field Interviews	9,032	n/a	<b>2,188</b>
FI's Per Field Deployment Hour	0.15	n/a	<b>0.27</b>
# of Parking Citations	10,285	n/a	<b>441</b>
Parking Cites Per Field Deployment Hour	0.18	n/a	<b>0.05</b>

The following points summarize the information above and other data collected for the Mounted Patrol Unit:

- The Mounted Patrol Unit performs comparatively well to the other specialized units noted above, exceeding the Motorcycle Unit and/or Harbor Patrol Unit in such categories as Field Interview Cards generated per hour and arrests per hour.
- The Mounted Patrol Unit generates only a small percentage of the number of citations per officer compared to the Motorcycle Unit; however, this is not atypical given citation-generation is a core-business function of a dedicated traffic enforcement unit whereas it is not the major responsibility of a mounted unit.
- In addition to the performance metrics noted above, the Mounted Patrol Unit was involved in 144 MIRT deployments in 2006. MIRT is deployed when it is expected that there may be particular problems because of the number of people expected, the propensity for problems or violence, or the past history of the events. The Mounted Patrol Unit is an important part of the crowd management deployment and is critical for the purpose of event security.
- Additionally, the Mounted Patrol Unit addressed 508 drinking in public incidents in 2006 through citation or otherwise.

Based on these data, it appears the Mounted Patrol Unit is sufficiently busy performing numerous duties and responsibilities and performs appropriately compared to other specialized units within the Department.

In addition to internal comparisons, external comparisons are also practical. During the course of our comparative survey with other agencies, the following data were gathered:

**Comparative Mounted Unit Staffing Data for Various Law Enforcement Agencies**

<b>City</b>	<b>Number of Sworn Staff</b>	<b>Mounted Patrol Unit (# of staff)</b>	<b># Sworn Officers Per Mounted Officer</b>
Atlanta	1,264	9	140
Boston	1,554	20	78
Cincinnati	465	15	31
Memphis	1,395	4	349
<b>Milwaukee</b>	<b>1,104</b>	<b>7</b>	<b>158</b>
Minneapolis	657	10	66
St. Louis	920	14	66
<b>AVERAGE:</b>		<b>11</b>	<b>127</b>

As shown by the table, most other agencies contacted had mounted patrols deployed. When comparing the size of these mounted patrols to MPD, proportionally the Mounted Patrol Unit is slightly smaller than the average-sized counterpart and indeed is one of the smaller mounted units among those surveyed. Nevertheless, given the varied size of the units noted, the fact MPD is within the appropriate range is indicative that staffing levels would not be out of alignment significantly. This is further evidence that the Mounted Patrol Unit is organized effectively at MPD.

**(4.3) The Mounted Patrol Unit Has Implemented Important Best Management Practices.**

During the course of our review, the project team evaluated the Mounted Patrol Unit against some important best management practices and has found the Unit operates admirably. Best management practices implemented include:

- The Mounted Patrol Unit wears a mounted duty helmet that is required for patrol duties (as opposed to voluntary). A standard mounted helmet is issued by the Department and its required use is spelled out in the MPD Standard Operating Procedure for the Unit.

- The Department has leased both horses and stable services at a very reasonable cost of \$106,000 per annum as opposed to operating an in-house stable, owning horses, and having City-funded stable managers and/or grooms on the City payroll.
- The Department has effectively and fully integrated the Mounted Patrol Unit into a Major Incident Response Team concept.

Based on the performance metrics noted in this section and the best management practices that have been implemented, MPD can be recognized as fielding a well run Mounted Patrol Unit for which the Unit, Department and City can take credit.

**(4.4) Maintain Existing Staffing Levels and Deployment Practices in the Mounted Patrol Unit.**

The evidence noted throughout this section indicates the Mounted Patrol Unit is adequately staffed and deployed to perform the functions identified within this report. As a consequence, the project team recommends no staffing adjustments.

**Recommendation: Maintain existing staffing of one (1) sergeant and six (6) officers in the Mounted Patrol Unit.**

**(5) TACTICAL ENFORCEMENT UNIT**

This section of the chapter presents the project team's analysis of the MPD's Tactical Enforcement Unit. Details regarding the Unit are provided in the Profile; however, the following summarizes major aspects of the Tactical Enforcement Unit:

- The Tactical Enforcement Unit is directly overseen by the Lieutenant who has oversight of the Tactical Enforcement Unit and the Mounted Patrol Unit.
- The Tactical Enforcement Unit deploys Monday-Sunday on revised 5/2-4/2 schedule (split Friday and Monday off, generally bi-weekly) on two shifts: Day Shift, 0900-1700; Late Shift, 1900-0300.
- The Unit is currently composed of forty-six (46) officers and nine (9) sergeants. Authorized staffing is 47 officers and 10 sergeants.

The following sections will discuss these Unit operations.

**(5.1) The Tactical Enforcement Unit Provides Varied Police Services and All Staff Are SWAT Qualified.**

The Tactical Enforcement Unit (TEU) performs four primary functions and other ancillary duties such as event assistance, regular calls-for-service handling, etc.

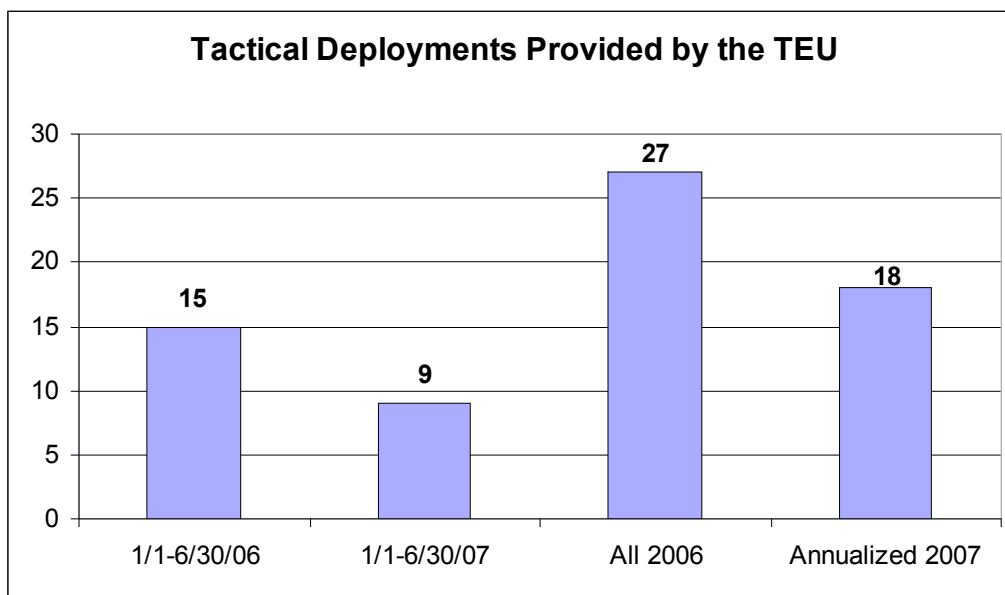
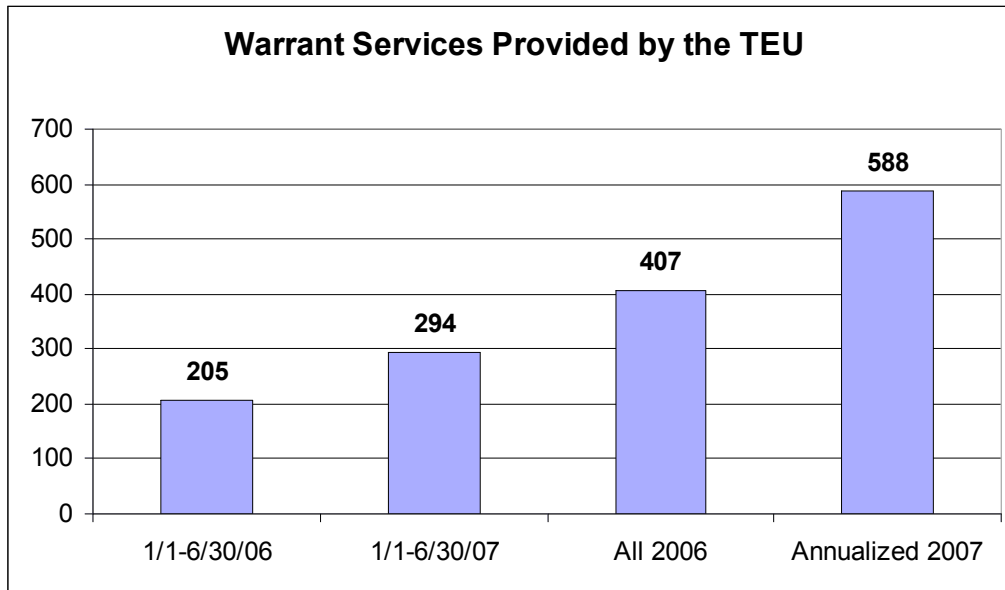
Primary functions include the following major activities:

- The TEU provides warrant “high-low” risk review for other units (e.g. CIB) serving search warrants. Additionally, the TEU provides stand-by service, as necessary, on low risk warrants and serves all high risk warrants on both shifts.
- The TEU provides directed and proactive major crime suppression patrol with squad units and are typically assigned to each District.
- All TEU members are all SWAT qualified and perform all specialized tactical deployments for the Department. Based on the project team’s review of numerous law enforcement agencies, the operational concepts employed are a best-in-class practice, whereby a specifically dedicated unit is fully SWAT qualified and has other dedicated duties and responsibilities to occupy them when not performing tactical engagements (e.g. warrant service, proactive patrol).
- TEU members perform regular SWAT training activities and provide unique in-service training to other sworn personnel in Department. By example, sergeants generally have training specialties that result in dedicated in-service training instruction.

These activities represent the bulk of duties performed by the TEU.

**(5.2) The Tactical Enforcement Unit Is Sufficiently Utilized Given Various Performance Metrics.**

Performance metrics available to determine outputs of the Tactical Enforcement Unit include search warrants and tactical (SWAT) deployments, whereas data regarding proactive patrol commitments or in-service training is not readily available. The following charts show various workload data captured for the TEU for calendar 2006 and the first half of 2007.



The following is noted regarding the data in the graphs as well as other performance metrics collected by the project team.

- Data from January through June of 2007 was annualized to provide a comparative performance base to calendar 2006.
- Based on the data, it appears the number of tactical deployments will be significantly less in 2007 compared to 2006. It should be noted that at the beginning of this study in the 1<sup>st</sup> quarter of 2007 the TEU had about 20%



vacancies whereas it is now nearly fully staffed. This is despite the apparent reduction in tactical deployment workload.

- Although tactical deployments are down in 2007, warrant services are significantly up in 2007, with an estimated end-of-year increase over the prior 2006 year of nearly 45%.
- In 2006 the TEU processed 5,016 arrest-related charges, wrote 16,857 field interview cards, and issued 3,002 uniform traffic citations. Unfortunately, there are no data readily available to capture how long such tasks took or during what duty assignment they occurred (e.g. during proactive patrol District assignments or special event services).

Based on interviews, the activity that occupies the greatest amount of time for the TEU are warrant services. Based on the significant increase in number of warrants served over the last year, it is reasonable to assume a need for the full authorized staffing contingent unless other significant workload, such as proactive patrol in the Districts, is allowed to significantly decline. However, without an understanding of how much time is dedicated by the TEU to these proactive functions, no fully informed decision can be made relative to adding time to, or subtracting time from, this type of duty assignment. This will be discussed further in a following section.

The outputs noted above can be compared to other agencies' similar metrics. Although the project team urges caution when comparing statistics among different law enforcement agencies due to the numerous operational vagaries between these entities, such comparisons can be enlightening when evaluated in a broader context. To that end, the following table is noted comparing MPD to two other agencies recently studied by the Matrix Consulting Group.

**Tactical Enforcement Unit Comparative and Representative Workload Measures**

	<b>Omaha PD</b>	<b>Orange County Sheriff (FL)</b>	<b>Milwaukee PD</b>
Authorized Sgt/Officers Deployed	22	40	<b>57</b>
Centralized or Decentralized SWAT contingent	Decentralized	Decentralized	<b>Centralized</b>
Annual Tactical Deployments (2006)	5	12	<b>27</b>
Approx. High Risk Warrants Served	47	Less than 200	<b>407-588</b>

As shown by the table, MPD’s Tactical Enforcement Unit compares favorably in size to the other two large agencies given the workload performed. Of note, although Omaha PD and the Orange County Sheriff have decentralized SWAT operations, whereby officers/deputies are deployed to their primary assignment (e.g. patrol) when not performing SWAT activities, the centralized TEU of Milwaukee PD conducts proactive patrol in the Districts as time is available. Despite these different operational approaches, it appears the TEU is well-utilized.

**(5.3) The Tactical Enforcement Unit Has Implemented Important Best Management Practices, But Has an Opportunity to Adopt Additional Best Practices.**

During the course of our review, the project team evaluated the TEU against some important best management practices and has found the Unit operates well in various areas. Best management practices the TEU has implemented include:

- The Tactical Enforcement Unit has all SWAT qualified officers and has distinct assignments beyond response to tactical deployments which include the serving of high-risk warrants and directed and proactive patrol activities in the various Districts. Based on our reviews of other agencies, this is a best-in-class practice.
- The TEU has a formal risk assessment sheet to help determine the nature of high risk warrant situations. These include evaluative factors in various categories such as location, suspect criminal history, weapons factors, and other general risk factors.

These practices represent examples of important operational protocols the Tactical Enforcement Unit has adopted. There are, however, some additional opportunities to implement other practices to improve operations and accountability.

These include:

- The TEU should be tracking the amount of proactive and directed time dedicated to assignments within the District, at a District-level of detail as present technology systems allow. Additionally, TEU output metrics such as calls for service responded to, number of arrests completed during proactive patrol, etc., should be considered important statistics that are captured and regularly reported. Without this information, the depth and breadth of services provided by the TEU cannot be reported completely, and place at risk decisions regarding TEU staffing levels. Without complete information regarding what the TEU accomplishes and how much effort is dedicated to primary tasks, the true levels of effort performed by the TEU remain somewhat unknown to managers and policy-makers.
- As shown by the following table, the Department and TEU must do a better job of budgeting and controlling “extension of duty” or overtime expenditures.

**Tactical Enforcement Unit Overtime Report – Hours by Calendar Year**

	<b>2006</b>	<b>2007 (1st 6 months)</b>
Budgeted	8,006	3,633
Actual	9,169	8,291
Difference	(1,163)	(4,658)

Clearly the amount of overtime expended has become a serious issue, particularly given the increase in staffing levels recently to near authorized levels. Despite the implementation of a Neighborhood Safety Initiative (NSI) from May through September of this year, performed by 9 members of the TEU, overtime budgeting and expense control needs to be better managed. By example, hours expended in the 1<sup>st</sup> half of 2007 alone represent nearly 3.5 net officers’ time, effectively adding an annualized seven officers to the Tactical Enforcement Unit’s staff contingent.

- The Department and City should adopt capital-related replacement cycles for important equipment such as those assigned to the TEU. Currently the Unit has aged equipment that is presently beyond its useful life. This includes an unmarked van over 16-years in age and MP-5 weapon systems averaging over 22-years in age. An appropriate replacement cycle should be developed for this capital equipment, and annual monies budgeted in a replacement fund to exchange such apparatus in a timely and cost-effective manner.

**Recommendation: Implement additional best management practices.**

**(5.4) Maintain Existing Staffing Levels and Deployment Practices in the Tactical Enforcement Unit.**

The data provided in this section indicate the TEU's authorized staffing level is appropriate given the duties and responsibilities performed. Without additional metrics relative to workload such as proactive patrol time dedicated to District operations, further staffing modifications would not be warranted. As a consequence of the information presented herein, the project team recommends no staffing adjustments.

**Recommendation: Maintain existing authorized staffing of ten (10) sergeants and forty-seven (47) officers in the Tactical Enforcement Unit.**

## **4. ANALYSIS OF OPTIMAL PATROL STAFFING**

This chapter presents the project team's analysis of patrol staffing needs within each patrol district in the City of Milwaukee. The Police Officer Manual (PAM) staffing model was utilized to evaluate patrol-staffing needs considering various service level objectives. The first section, which follows, discusses the PAM model.

### **1. THE POLICE ALLOCATION MANUAL (PAM) UTILIZES A NUMBER OF INNOVATIVE CONCEPTS IN EVALUATING PATROL STAFFING**

There are several general concepts that are important to understand in discussing the use of the PAM model to evaluate patrol officer staffing. The points, below, discuss each of these ideas:

- **Reactive Time:** Time spent by officers responding to calls for service. Reactive time includes several elements including: travel time, on-scene time, report writing time, follow-up investigation, reactive time by all units dispatched, assists to other agencies.
- **Administrative Time:** Time spent by officers for on-duty court time, training (less than one day), meals, auto maintenance, equipment maintenance, agency administrative duties, relay of equipment, roll call, briefings, and report writing (if not included in reactive time).
- **Proactive – Self-Initiated and Community Oriented Policing:** Time spent conducting traffic enforcement, field interrogations, motorist assists, or community oriented policing.
- **Proactive – Uncommitted Patrol:** Time available for uncommitted patrol. This is also the amount of time where a unit is available to immediately respond to emergency and non-emergency calls for service.

Each of the time components above is used in the PAM model to evaluate the optimal number of patrol officers. In addition, the model utilizes several performance objective targets and service level assumptions to identify staffing needs. The following points describe the service level targets incorporated into the model:

- **Proactive Time Targets:** The PAM model incorporates proactive time levels using two methods: one based on historical data and one based on a desired service level objective. Targets for both officer initiated and community policing activities are incorporated.
- **Uncommitted Patrol Time:** The PAM incorporates historical data or assumptions about how much time is available to officers for immediate response to emergency calls for service, patrol visibility, and response time targets. Decisions about each of these elements will have a major impact on the number of officers needed. For example, a targeted response time of 5 minutes to all emergency calls for service will require more resources than a target of 10 minutes.
- **Operational Decisions and Work Practices:** The PAM model also allows agencies to adjust the number of officers needed based on current or alternative approaches to patrol staffing. For example, the model makes adjustments for the use of 2 officer cars, special assignments, administrative time, and other issues which impact officer availability (e.g. training).

This chapter is organized around each of the critical elements of the patrol-staffing model utilized by the PAM. In addition, for those areas where service level assumptions are required, several options are presented with information on the trade off between different assumptions and the number of officers needed.

## **2. THE PROJECT TEAM DOCUMENTED KEY DATA REQUIRED FOR USE IN THE PAM MODEL.**

There are a number of data elements that are utilized by the PAM model to evaluate patrol-staffing needs. Many of these elements are similar to those utilized in the current capacity analysis of the Patrol Bureau. The table, below, describes each of the key inputs into the PAM and summarizes the results of the project team's analysis of available data sources for each element:

Data Element	Description and Results																																													
<p><b>Shift Data and Officer Availability</b></p>	<p>The project team documented the current shift schedule of 8 hour shifts / 40 hr. avg. work week.</p> <p>In addition, payroll data was analyzed to document the average amount of leave taken by officers. As shown in the current capacity report, an average of 416 hours of leave were taken by officers during 2006 for vacation, sick, military, disability, etc. An average of 72 hours were also spent by each officer for training. This results in net availability of 1,592 hours each year.</p>																																													
<p><b>Field Supervisors</b></p>	<p>Based on the current number of Sergeants and Police Officers assigned to the patrol districts, the average number of officers per supervisor is 8. The project team also estimated that field supervisors spend 50% of their time in the field.</p>																																													
<p><b>Road Miles and Patrol Speed</b></p>	<p>The project team utilized Geographic Information System (GIS) data to document the total number of road miles for 3 categories: arterials and major streets, connectors, and residential streets. The table, below, shows the number of miles by classification and patrol district:</p> <table border="1" data-bbox="732 1020 1435 1318"> <thead> <tr> <th>District</th> <th>Arterial</th> <th>Connector</th> <th>Local</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2.25</td> <td>3.96</td> <td>81.12</td> <td>87.33</td> </tr> <tr> <td>2</td> <td>-</td> <td>11.96</td> <td>224.83</td> <td>236.79</td> </tr> <tr> <td>3</td> <td>8.47</td> <td>5.01</td> <td>192.27</td> <td>205.75</td> </tr> <tr> <td>4</td> <td>3.98</td> <td>10.23</td> <td>263.43</td> <td>277.64</td> </tr> <tr> <td>5</td> <td>-</td> <td>6.93</td> <td>143.39</td> <td>150.32</td> </tr> <tr> <td>6</td> <td>0.61</td> <td>4.99</td> <td>246.48</td> <td>252.08</td> </tr> <tr> <td>7</td> <td>3.62</td> <td>11.64</td> <td>267.93</td> <td>283.19</td> </tr> <tr> <td><b>Total</b></td> <td><b>18.93</b></td> <td><b>54.72</b></td> <td><b>1,419.45</b></td> <td><b>1,493.10</b></td> </tr> </tbody> </table> <p>Note that the figures above reflect the proposed reorganization of district boundaries. In addition, interstate road miles are not included.</p>	District	Arterial	Connector	Local	Total	1	2.25	3.96	81.12	87.33	2	-	11.96	224.83	236.79	3	8.47	5.01	192.27	205.75	4	3.98	10.23	263.43	277.64	5	-	6.93	143.39	150.32	6	0.61	4.99	246.48	252.08	7	3.62	11.64	267.93	283.19	<b>Total</b>	<b>18.93</b>	<b>54.72</b>	<b>1,419.45</b>	<b>1,493.10</b>
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<p><b>Traffic Accidents and Other Call for Service Workload</b></p>	<p>The PAM model distinguishes between 2 types of patrol workload: traffic accidents and other calls for service. The project team collected data for 2006 to document these workload elements including total number of calls by district and call handling time (all time associated with the call including all units, report writing time, and arrest time). Note that these figures were adjusted for the proposed boundary changes.</p> <table border="1" data-bbox="732 541 1427 842"> <thead> <tr> <th>District</th> <th>Other CFS</th> <th>Accidents</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>28,128</td> <td>1,792</td> <td>29,920</td> </tr> <tr> <td>2</td> <td>36,330</td> <td>2,314</td> <td>38,645</td> </tr> <tr> <td>3</td> <td>46,256</td> <td>2,947</td> <td>49,202</td> </tr> <tr> <td>4</td> <td>38,721</td> <td>2,467</td> <td>41,188</td> </tr> <tr> <td>5</td> <td>43,021</td> <td>2,741</td> <td>45,761</td> </tr> <tr> <td>6</td> <td>30,819</td> <td>1,963</td> <td>32,782</td> </tr> <tr> <td>7</td> <td>43,122</td> <td>2,747</td> <td>45,869</td> </tr> <tr> <td><b>Total</b></td> <td><b>266,397</b></td> <td><b>16,970</b></td> <td><b>283,367</b></td> </tr> </tbody> </table> <p>The project team determined that the average traffic accident handling time was 1.69 hours. Other call for service handling time was determined to be 1.56 hours. This includes all primary unit time and back-up time, report writing time, arrest, and follow up time. Also note this assumes 1 officer per unit. A separate adjustment is made in PAM for 2 person units.</p>	District	Other CFS	Accidents	Total	1	28,128	1,792	29,920	2	36,330	2,314	38,645	3	46,256	2,947	49,202	4	38,721	2,467	41,188	5	43,021	2,741	45,761	6	30,819	1,963	32,782	7	43,122	2,747	45,869	<b>Total</b>	<b>266,397</b>	<b>16,970</b>	<b>283,367</b>
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<p><b>Pre-emptable Activity</b></p>	<p>The PAM model distinguishes between pre-emptable and non pre-emptable time. A percentage is utilized in the model to identify the fraction of administrative, reactive, and self-initiated/community oriented policing time that can be interrupted to respond to calls for service. The project team made the following assumptions regarding pre-emptable activities:</p> <p>Administrative time was assumed to be non-preemptable 90% of the time.</p> <p>Reactive call handling time was assumed to be non-preemptable 90% of the time.</p> <p>Self-initiated or community-oriented policing time was assumed to be non-preemptable 90% of the time.</p> <p>The assumptions above were developed based on the idea that the vast majority of time, officer workloads cannot be interrupted to respond to calls for service. However, under rare circumstances, these activities can be interrupted.</p>																																				



Data Element	Description and Results
<b>Administrative Time</b>	<p>The PAM model incorporates patrol officer time spent on administrative activities such as briefings, vehicle maintenance, non-call related reports, meals, and other time. As indicated in a previous report, the project team estimated this time to be approximately 249 hours each year. This figure is based on the assumption that 1.25 hours are spent per shift for briefings, vehicle maintenance, administrative reports, meals, and breaks. Based on shift time of 1,592 hours and 8-hour shifts, this results in 199 shifts per year worked.</p> <p>199 shifts * 1.25 hours per shift= 249 hours  249 hours / 1,592 = 15.6%  15.6% of 60 minutes = 9.36 minutes per hour</p>

In addition to the data elements discussed above, the PAM model incorporates various service level targets which impact patrol staffing needs. The points, below, discuss each of these service level options:

- **Proactive Time / Self-Initiated Officer Activity:** PAM allows the user to utilize historical data to document officer-initiated activities, community policing activities, and other proactive activities. The model also allows the user to specify a target for proactive/community-oriented policing time. While the Milwaukee Police Department’s computer aided dispatch system (CAD) tracks officer initiated activities, all proactive activities are not captured. In addition, the project team utilized different proactive time targets to show the impact on patrol staffing needs.
- **Uncommitted Proactive Time:** In addition to proactive time, which is used for self-initiated and community policing activities, the PAM model includes time which is utilized for quickly responding to calls for service or to maintain a certain level of patrol visibility. The points, below, discuss the various targets utilized in the PAM to factor in this time:
  - **Patrol Intervals by Road Classification:** The PAM model uses road miles and travel speeds for different road classifications to calculate the number of additional officers needed each day to meet patrol interval targets. The project team evaluated several alternative patrol intervals to show the impact on staffing needs.
  - **Immediate Response Targets:** The PAM model uses queuing theory, reactive time, administrative time, self-initiated and community oriented policing time, and an immediate response target to determine the chance that all units will be busy at one time. Using different immediate response

targets (e.g. 50% of calls will receive an immediate response), the additional number of police officers needed each day is calculated.

- **Response Time Targets for Emergency and Non-Emergency Calls:** The PAM model allows the user to set different response time targets for emergency and non-emergency calls for service and calculates the additional number of officers needed to achieve these response times.
- **Special Assignments:** The PAM model allows users to incorporate special assignments into total staffing estimates. However, the model does not evaluate the need for these assignments. The use of special assignments is discussed in this chapter but will be addressed more fully in the operational practices section.
- **Two-person units:** The PAM model also allows users to adjust staffing estimates by the percentage of time that 2 person units are used. However, the model does not evaluate the need for 2 person units. The use of 2-person units is addressed in this chapter, but is more fully discussed in the operational practices section.

The next section presents the results of the project team's analysis of patrol staffing needs.

## **2. THE NUMBER OF PATROL OFFICERS NEEDED WITHIN EACH PATROL DISTRICT IN THE CITY OF MILWAUKEE WAS EVALUATED.**

The analysis of patrol staffing needs is presented in this section. Each of the following sections presents staffing needs within each patrol district in the City of Milwaukee. Each section shows the number of officers needed for each time element calculated by the PAM model – reactive time, administrative time, self-initiated and community oriented policing time, and uncommitted patrol time based on different service level options. Each of these elements is adjusted at the end of each section to provide the total patrol staffing need.

**(2.1) The Project Team Calculated the Daily Number of Police Officers Needed For Reactive Workloads.**

The initial step in the PAM model is to calculate the average daily number of officers needed to handle reactive workloads. Reactive workloads include the time needed to handle traffic accidents and other calls for service including all unit time, report writing, arrest time, and follow-up. The table, below, shows the procedure utilized in the PAM to determine daily staffing needs:

<b>Element</b>	<b>Description</b>
Determine Avg. Daily Traffic Accidents	Use CAD data to identify total accidents
Determine Handling Time for Accidents	Use CAD data to determine handling time
Total Daily Accident Workload	Daily Traffic Accidents x Handling Time
Shift Length	Use Shift Length (8)
Daily Officers needed to handle accidents	Total Daily Accident Workload / Shift Length
Determine Avg. Daily Other CFS	Use CAD data to identify total other calls for service
Determine Handling Time for Accidents	Use CAD data to determine handling time
Total Daily Other CFS Workload	Daily Other CFS x Handling Time
Shift Length	Use Shift Length (8)
Daily Officers needed to handle other CFS	Total Other CFS Workload / Shift Length
Total Daily Reactive Officers Needed	= Total Officers (Accidents) + Total Officers (Other CFS)

Based on the information presented in the previous section, the project team calculated the total daily police officers needed for reactive workload within Milwaukee. In addition, the number of officers needed with administrative time requirements was calculated. This calculation adjusts the number of reactive officers by fraction of time spent on administrative assignments. The results are shown in the table below:

**Total Officers Needed Each Day for Reactive & Administrative Time by District**

<b>District</b>	<b>Reactive Time</b>	<b>Administrative Time</b>	<b>Total</b>
1	16.06	2.97	19.03
2	20.75	3.84	24.58
3	26.42	4.88	31.30
4	22.11	4.09	26.20
5	24.57	4.54	29.11
6	17.60	3.25	20.85
7	24.63	4.55	29.18
<b>Total</b>	<b>152.14</b>	<b>28.12</b>	<b>180.26</b>

The following points highlight the information above:

- As shown above, a total of 152 officers are needed each day to handle reactive workloads. The largest number of officers is needed in District 3 while the smallest number is needed in District 1. Note these figures reflect proposed changes to district boundaries.
- After considering time spent handling administrative duties, a total of 180 officers are needed each day to handle reactive workloads. A total of 31 officers are needed in District 3, the district with the largest number of officers needed each day, and 19 officers are needed in District 1, which requires the fewest officers each day. Note that this figure does not include a shift factor and represents daily staffing needs.

The next section discusses officers needed with proactive time requirements.

**(2.2) The Project Team Calculated the Total Daily Officer Needed Based on Different Proactive Time Targets.**

As discussed in the first report on the Patrol Bureau staffing, the availability and use of proactive time is a critical element of effective service delivery. Proactive time represents the time spent by officers conducting field interrogations, proactive patrols, community oriented policing, and other activities, which impact the incidence of crime. Proactive time has two components in the PAM model. The first is the time needed for self-initiated and community policing activities. The second component is related to the ability to quickly respond to calls for service and maintain a certain level of visibility. The first component is evaluated in this section.

The adjusted number of officers is based on a simple calculation and is shown below:

$$\text{Adjusted Daily Officers} = \frac{\text{(Total Daily Reactive Officers)}}{(1 - \text{fraction admin time} - \text{fraction proactive time})}$$

The table, below, shows the impact on daily staffing needs of various proactive time levels by patrol district:

**Daily Police Officer Staffing Needs – Reactive, Administrative & Proactive Time**

<b>District</b>	<b>35% Proactive</b>	<b>40% Proactive</b>	<b>45% Proactive</b>	<b>50% Proactive</b>
1	32.13	35.70	40.77	46.70
2	41.50	46.11	52.66	60.32
3	52.83	58.71	67.05	76.79
4	44.23	49.14	56.13	64.29
5	49.14	54.60	62.36	71.42
6	35.20	39.11	44.67	51.17
7	49.25	54.73	62.51	71.59
<b>Total</b>	<b>304.29</b>	<b>338.10</b>	<b>386.15</b>	<b>442.28</b>
<b>% Change</b>	<b>N/A</b>	<b>11%</b>	<b>14%</b>	<b>15%</b>

As shown above, a 35% proactive time level would require a total of 304 officers within the City each day. At 40%, an additional 34 officers, or 11%, are needed. At the 50% level, 45% or approximately 138 additional officers are needed. As discussed in the previous report, the project team generally recommends proactive time levels in the range of 40 to 50% for high service level communities. This level provides sufficient time for community policing efforts which impact crime. Given that the Department has a significant number of proactive enforcement units (e.g. anti-gang, violent crime reduction, community liaison officers, etc.), it is appropriate to target the 40% range for unit dedicated to patrol.

**(2.3) The Project Team Calculated Patrol Officer Requirements Based on Different Uncommitted Patrol Time Targets.**

This section identifies the impact of various service level targets on total patrol officer needs within the City of Milwaukee. Three tables are presented. The first shows the number of officers needed to meet an immediate response target. If a target of 50% were chosen, this would mean that at least one officer would be able to respond immediately to an emergency call for service, 50% of the time. The PAM model uses a queuing theory function which calculates the probability of all officers being busy at one time given reactive workloads, administrative time, proactive time (self-initiated and

COP), and the immediate response time target. The total number of additional officers needed each day based on different immediate response targets, is shown below:

**Total Additional Officers Needed Each Day by Immediate Response Targets  
Assuming 40% Proactive Time**

<b>District</b>	<b>50%</b>	<b>60%</b>	<b>70%</b>	<b>80%</b>	<b>90%</b>
1	2.26	3.94	6.25	9.36	14.87
2	1.77	3.55	6.22	9.68	15.46
3	1.51	3.68	6.44	9.99	16.30
4	2.26	3.80	6.30	9.77	15.65
5	1.48	3.44	6.01	9.48	15.70
6	2.08	3.86	6.43	9.54	15.05
7	1.67	3.72	6.39	9.96	16.11
<b>Total</b>	<b>13.03</b>	<b>25.99</b>	<b>44.04</b>	<b>67.78</b>	<b>109.14</b>

The following points highlight the information in the table, above:

- Using a target of a 50% immediate response rate, the MPD would need an additional 13 officers on duty each day. This figure increases significantly as the immediate response target increase to 26 officers each day at 60% and 109 officers each day at 90%.
- All districts would require additional officers to meet the 50% immediate response target. District 1 and District 4 would require the largest number of additional officers at 2.26 each.

The next table, below, shows the number of additional officers needed each day to meet various patrol interval targets. These calculations were developed based on the number of road miles for each classification and estimated patrol speeds of 30 mph for arterials and 25 mph for connectors and residential streets. For each road classification, the addition officers needed to patrol every 1, 2, 4, 6, or 8 hours is shown:

**Additional Officers Needed Each Day Based on Various Patrol Interval Targets**

District	Road Type	1 Hour	2 Hours	4 Hours	6 Hours	8 Hours
1	Arterial	0.23	0.11	0.06	0.04	0.03
	Connector	0.48	0.24	0.12	0.08	0.06
	Residential	9.82	4.86	2.43	1.62	1.22
	<b>Total</b>	<b>10.52</b>	<b>5.21</b>	<b>2.60</b>	<b>1.74</b>	<b>1.30</b>
2	Arterial	-	-	-	-	-
	Connector	1.40	0.71	0.35	0.23	0.17
	Residential	27.00	13.50	6.75	4.50	3.50
	<b>Total</b>	<b>28.40</b>	<b>14.21</b>	<b>7.10</b>	<b>4.73</b>	<b>3.67</b>
3	Arterial	0.85	0.42	0.21	0.14	0.11
	Connector	0.60	0.30	0.15	0.10	0.08
	Residential	23.07	11.54	5.77	3.85	2.88
	<b>Total</b>	<b>24.52</b>	<b>12.26</b>	<b>6.13</b>	<b>4.09</b>	<b>3.07</b>
4	Arterial	0.40	0.20	0.09	0.06	0.05
	Connector	1.22	0.61	0.30	0.20	0.15
	Residential	31.60	16.00	8.10	5.26	4.15
	<b>Total</b>	<b>33.22</b>	<b>16.81</b>	<b>8.49</b>	<b>5.52</b>	<b>4.35</b>
5	Arterial	-	-	-	-	-
	Connector	0.83	0.41	0.20	0.13	0.10
	Residential	17.20	8.60	4.30	2.86	2.15
	<b>Total</b>	<b>18.03</b>	<b>9.01</b>	<b>4.50</b>	<b>2.99</b>	<b>2.25</b>
6	Arterial	0.06	0.03	0.01	-	-
	Connector	0.60	0.30	0.15	0.10	0.07
	Residential	29.57	14.78	7.39	4.92	3.69
	<b>Total</b>	<b>30.23</b>	<b>15.11</b>	<b>7.55</b>	<b>5.02</b>	<b>3.76</b>
7	Arterial	0.36	0.18	0.09	0.06	0.04
	Connector	1.40	0.70	0.35	0.23	0.17
	Residential	32.14	16.07	8.03	5.35	4.01
	<b>Total</b>	<b>33.90</b>	<b>16.95</b>	<b>8.47</b>	<b>5.64</b>	<b>4.22</b>
<b>Total All Districts</b>	<b>Arterial</b>	<b>1.89</b>	<b>0.94</b>	<b>0.46</b>	<b>0.30</b>	<b>0.23</b>
	<b>Connector</b>	<b>6.53</b>	<b>3.27</b>	<b>1.62</b>	<b>1.07</b>	<b>0.79</b>
	<b>Residential</b>	<b>170.40</b>	<b>85.35</b>	<b>42.77</b>	<b>28.36</b>	<b>21.60</b>
<b>% Change</b>		<b>N/A</b>	<b>-50%</b>	<b>-50%</b>	<b>-34%</b>	<b>-24%</b>

As shown above, 179 officers each day would be needed to patrol all roads every 1 hour and 23 officers each day would be needed to patrol all roads every 8 hours or once per shift. Also note that a 2-hour target for arterials and connectors and an 8-hour target for residential streets would require 26 officers (0.94 + 3.27 + 21.60).

The final table in this section shows the additional officers needed to provide targeted response times to emergency and non-emergency calls for service. In selecting appropriate response time targets for the Milwaukee Police Department, the

project team examined current response times achieved by the MPD. The table, below, shows average response times for 2006 by call priority and patrol district:

District	Priority				Total
	1	2	3	4	
Unknown	11.22	19.53	17.30	18.86	18.37
1	5.01	7.87	7.84	11.86	8.11
2	6.40	8.48	10.62	10.87	9.27
3	6.62	9.05	11.25	13.42	9.64
4	7.42	9.65	11.74	12.22	10.34
5	5.88	8.11	9.83	10.67	8.54
6	5.61	7.67	9.75	9.94	8.43
7	7.30	9.45	11.78	11.77	10.01
<b>Total</b>	<b>6.66</b>	<b>8.89</b>	<b>10.88</b>	<b>11.70</b>	<b>9.48</b>
<b>Number</b>	<b>59,521</b>	<b>82,538</b>	<b>111,036</b>	<b>28,050</b>	<b>281,144</b>

As shown above, the average response time to priority 1 calls for service (from dispatch to arrival on scene) was 6.66 minutes in 2006. These calls represent approximately 21% of community-generated calls for service. Average response times for non-emergency calls for service, by priority, were 8.89 for priority 2, 10.88 for priority 3, and 11.70 for priority 4. Note that these response times include the time elapsed from dispatch to arrival on scene of an officer, not the total response time from call receipt to arrival on scene. The total response time is a function of officer availability, which is impacted by workload, and drive time to an incident.

The project team initially tested emergency response time targets of 3 minutes, 4 minutes, 5 minutes, and 6 minutes. Each calculation indicated that no additional officers (from the figure previously calculated) would be needed to meet the target. As a result, only non-emergency response time targets are shown. These calculations are based on estimated average travel speeds of 35 mph for emergency response and 27 mph for non-emergency response as well as the area of each patrol district.



District	Non - Emergency Response Time				
	10 min	12 min	14 min	15 min	20 min
1	0.28	0.19	0.14	0.13	0.07
2	1.07	0.74	0.10	-	-
3	0.80	0.55	0.40	0.35	0.20
4	1.93	1.34	0.98	0.85	0.48
5	0.53	0.36	0.27	0.23	0.13
6	0.95	0.65	0.48	0.42	0.23
7	0.92	0.64	0.47	0.41	0.23
<b>Total</b>	<b>6.48</b>	<b>4.47</b>	<b>2.84</b>	<b>2.39</b>	<b>1.34</b>

As shown above, a targeted response time of 10 minutes would require an additional 6.5 officers each day. A targeted response time of 20 minutes would require 1.34 additional officers each day. For non-emergency calls for service, an average response time of 15 to 20 minutes is within service levels observed by other medium to large departments throughout the United States.

As discussed above, the use of different performance targets for uncommitted patrol time has a significant impact on patrol staffing needs. While there are benefits to utilizing each of the service level targets shown above, the project team believes that some are more appropriate for communities like Milwaukee than others. For example, the use of targets for patrol visibility which ensure that a patrol car is seen every 1, 2, 3, 4, etc. hours is more appropriate for a rural or suburban/transitional community. This approach would be utilized by a sheriff's department, which had low reactive workload but wanted to ensure a certain level of coverage. In addition, there are certain areas of the city, and within each district that require more patrol or proactive time than others to address quality of life and crime issues. On the other hand, using proactive (self-initiated and community policing) time and response time targets are good ways to measure the resources available within patrol to respond to calls for service and

conduct proactive enforcement. The next section discusses the project team’s assessment of optimal service level targets for the MPD.

**(3.4) The Project Team Evaluated Total Patrol Staffing Needs Based on Optimal Service Level Targets**

This section evaluates overall patrol staffing needs based on optimal service level targets. As discussed above, some of the targets utilized in the PAM model are more appropriate for the City of Milwaukee than others. The table, below, describes each of the targets utilized by the project team and provides the reason each target was chosen:

Service Level Target	Target Used by Matrix	Discussion
Self-Initiated / Proactive Time	40%	The project team believes that the availability and use of proactive time is one of the most important considerations in determining patrol staffing needs. The project team typically recommends a target of 40% to 50% based upon the presence of specialized proactive enforcement units (e.g. street level crime enforcement, community policing units, etc.). Given the use of specialized enforcement in Milwaukee (AGU, VCR, and other units), a target of 40% is appropriate.
Uncommitted Patrol Time – Patrol Interval	N/A	The project team does not recommend use of this metric given the size, density and nature of the community. This metric is more appropriately used in large, rural and suburban/transitional communities where a minimum level of coverage is needed.

<b>Service Level Target</b>	<b>Target Used by Matrix</b>	<b>Discussion</b>
Uncommitted Patrol Time – Immediate Response Target	50%	The project team utilized a target of 50%. This means that 50% of the time, an emergency call will receive an immediate response by at least one officer.  Given that priority 1 calls represent approximately 21% of total calls for service, based on 2006 call for service data, the project team believes that a 50% target is appropriate.
Uncommitted Patrol Time – Emergency and Non-Emergency Response Times	Emergency – 4 Minutes Non-Emergency – 10 Minutes	The project team utilized a target of 4 minutes for average response to emergency calls for service. This is below the current average response time to priority 1 (emergency / in progress) calls for service of 7.42. The average non-emergency response time was 10.25 minutes (not including call holding time). An average response time of 10 minutes for non-emergency calls was utilized.

Based on the service level targets described above, the project team calculated the total number of patrol officers required each day for each district.

**Total Officers Required Each Day Based on Recommended Service Level Targets**

<b>District</b>	<b>Total Officers Each Day</b>
1	41.27
2	50.72
3	62.90
4	54.90
5	58.67
6	44.33
7	59.23
<b>Total</b>	<b>372.01</b>

As shown above, a total of 372 officers are needed each day for patrol duties. Note that this assumes units are staffed with 1 officer. The PAM model allows users to adjust the number of officers needed for the use of 2 person units. Currently, the MPD

deploys 2 person units approximately 36% of the time. To adjust the number of officers required each day, the PAM applies a factor of 1 plus the rate of 2 person unit deployment. Based on this adjustment, the total number of officers each day would be as follows:

**Total Officers Required Each Day Based on Recommended Service Level Targets and 2-Person Units**

<b>District</b>	<b>Total Officers Each Day</b>
1	56
2	69
3	86
4	75
5	80
6	60
7	81
<b>Total</b>	<b>506</b>

The table above shows that a total of 506 officers are needed each day based on the current utilization of 2-person units. In addition to adjusting for two-person units, the PAM model also makes adjustments for the number of officers needed to cover a shift 365 days a year as well as the proportion of time that a supervisor spends in the field responding to calls for service, providing back-up, or general on-scene assistance. The formula for determining the shift factor is shown below:

$$\frac{\text{Total Hours each year to cover one shift}}{(\text{Total schedule Hours per Officer}) - (\text{Leave Time}) - (\text{Temporary Special Assignments})}$$

The result of this calculation indicates that the shift factor is 1.83. This means that 1.83 officers are needed to cover each shift for one year. The next calculation, below, shows the adjustment for field supervisor time:

$$\frac{\text{Average \# of officers supervised by each field supervisor}}{(\text{average \# of officers supervised}) + (\% \text{ of time spent by supervisor in field})}$$

Based on the current ratio of 1 supervisor per 8 officers and assuming 50% of supervisor time spent in the field, the adjustment factor is 0.94.

Using the adjustment factors shown above, the project team calculated the total number of officers required in each district. In addition, the number of officers for each shift was determined. The results are shown below:

**Total Patrol Officers Needed With Shift Adjustment, Supervisor Adjustment,  
& Two-Person Unit Adjustment**

<b>District</b>	<b>Day (0800 to 1600)</b>	<b>Early (1600 to 0000)</b>	<b>Late (0000 to 0800)</b>	<b>Total</b>	<b>% by District</b>
1	34	38	25	97	11%
2	34	54	31	119	14%
3	46	66	35	147	17%
4	40	60	28	128	15%
5	41	59	37	137	16%
6	30	48	26	104	12%
7	42	64	33	139	16%
<b>Total</b>	<b>267</b>	<b>389</b>	<b>215</b>	<b>871</b>	<b>100%</b>
<b>% by Shift</b>	<b>31%</b>	<b>45%</b>	<b>25%</b>	<b>100%</b>	

The following points highlight the table above:

- As shown above, a total of 871 officers are needed to provide targeted service levels in the Patrol District. Note that this figure includes 2-person units, an adjustment for supervisor fieldwork, and a shift factor.
- By shift, a total of 267 officers are needed on Day shift, a total of 389 officers are needed on Early shift, and 215 officers are needed on Late shift.
- By district, a total of 97 officers are needed in District 1, 119 in District 2, 147 in District 3, 128 in District 4, 137 in District 5, 104 in District 6, and 139 in District 7.

Note that the figures above include the total number of officers needed for regular patrol services and call for service response. The Milwaukee Police Department utilizes a number of special assignment officers who provide proactive enforcement and community services in each district. These personnel are discussed in the next section.

**(3.5) The Current Use of Special Assignments Was Incorporated into Total Patrol Staffing Requirements.**

The MPD currently assigns a number of officers to special assignments in each of the patrol districts. The table, below, shows the total number of special assignments and provides a description of the purpose of each assignment:

Assignment	Description
<p><b>Anti-Gang Unit:</b>  District 1 – N/A  District 2 – 7  District 3 – 8 + 6 (VCR)  District 4 – 6  District 5 – 8  District 6 – 5  <u>District 7 – 8</u>  <b>Total: 48</b></p>	<p>Anti-Gang Unit personnel provide proactive enforcement of violent crime offenses, drug cases, and other issues within each of the patrol districts. AGU personnel also work closely with the community prosecutors assigned to each district to develop cases. These personnel are involved in warrant sweeps, drug buys, gun buys, surveillance, and other proactive activities to address crime issues.</p>
<p><b>Community Liaison Officer</b>  District 1: 2  District 2: 2  District 3: 2  District 4: 1  District 5: 1  District 6: 1  <u>District 7: 2</u>  <b>Total: 11</b></p>	<p>Community Liaison Officers work closely with the community and conduct regular meetings with community groups about crime issues. CLOs also work closely with District Commanders to identify crime trends in each District.</p>
<p><b>Walking Beat Officer</b>  District 1: N/A  District 2: 6  District 3: 4  District 4: N/A  District 5: N/A  District 6: N/A  <u>District 7: N/A</u>  <b>Total: 10</b></p>	<p>Walking beat officers perform foot patrol of high traffic areas to provide visibility, make contact with the public, and proactive enforcement of densely populated areas. Several of these positions are funded through Department of Justice grants, which require use of these funds for these purposes.</p>
<p><b>Booker</b>  District 1: 5 (Front Security)  District 2: 3  District 3: 3  District 4: 3  District 5: 3  District 6: 3  <u>District 7: 3</u>  <b>Total: 23</b></p>	<p>Bookers are assigned to each shift in each District, except for District 1, to handle booking of prisoners. This practice will be discussed in the operational practices section; however, these personnel will be included as special assignment personnel in this section.</p>

Assignment	Description
<p><b>Prisoner Transport</b>  District 1: N/A  District 2: 3  District 3: 3  District 4: 3  District 5: 3  District 6: 3  <u>District 7: 3</u>  <b>Total: 18</b></p>	<p>These personnel are assigned to provide prisoner conveyance to the Downtown jail and holding facilities from each of the patrol districts. Typically, 1 to 2 prisoner transport vehicles are utilized in each district for each shift. This practice will be discussed in the operational practices section, however, these personnel will be included as special assignment personnel in this section.</p>

As shown above a total of 110 specialty assignments are utilized within the patrol districts. The project team makes the following observations regarding these assignments:

- The AGU (and Violent Crime Reduction Units) are common special assignments within medium to large law enforcement agencies. These units provide an effective means to concentrate proactive resources on critical community problems. These personnel focus on serious crime issues in patrol district. The use of these units provides an opportunity for officers to conduct surveillance, warrant sweeps, covert operations, and other proactive enforcement activities, which require uninterrupted proactive time.
- The use of the Community Liaison Officers is also a common approach in similarly sized law enforcement agencies. Agencies, which utilize community-policing programs and involve community groups in problem identification and enforcement strategies typically encounter significant time demands for meetings and crime analysis efforts.
- The use of walking beat officers is also a common practice nationally and reflects an effort to change the enforcement approach in certain areas of communities which are densely populated or high traffic areas for pedestrians. As noted above, several of these positions are still grant funded by the Department of Justice.
- The use of a dedicated booker in communities the size of Milwaukee is uncommon. Given that the city is less than 100 square miles and maintains a central prisoner processing facility at police headquarters, this practice is not efficient. This issue will be discussed in the last chapter about operational practices, which can be modified to impact patrol staffing needs. However, they are included in this section to identify total staffing needs under the current approach to special assignments.
- Similar to the approach to maintaining one dedicated booker for each shift, the use of prisoner transport vehicles for a community the size of Milwaukee is

unusual. However, for the purposes of this section, these personnel are included in the total staffing estimate.

Based on the current approach to special assignments, the project team adjusted the total number of personnel needed in the patrol districts, as shown below:

**Total Patrol Officers Needed With Special Assignments**

<b>District</b>	<b>Total</b>
1	111
2	145
3	178
4	146
5	157
6	121
7	160
<b>Total</b>	<b>1,017</b>

As shown above, the use of special assignment increases the total number of officers needed from 871 to 1,017 or by 146 personnel.



## **5. ANALYSIS OF OPERATIONAL PRACTICES WHICH IMPACT STAFFING NEEDS**

The following chapter identifies and analyzes various policies and procedures currently in place at the Milwaukee Police Department, which impact Patrol Bureau staffing needs. The sections, which follow, discuss those business practices that impact field operations, with particular emphasis on those protocols that require staff time resources or those areas where, if modified, additional field time could be provided to patrol officers. Changing business practices in a large law enforcement agency can result in either unexpected benefits or unfortunate outcomes. By example, of the 946 authorized patrol officers assigned in the Districts to perform field services, changing a business practice that results in a *one-hour per year time savings* for these staff translates into over one-half of a full-time officer's time to perform other types of duties and responsibilities. Clearly, changing operational practices can result in "gaining" field officers. In any optimum staffing study, a review of operational practices is warranted, as the way in which the agency conducts business can add to, or detract from, the total number of staff hours that could potentially be dedicated to core business patrol services (e.g. call for service response, proactive patrol, etc.). Consequently, an analysis of relevant policies and procedures is an important step in optimizing services.

### **1. USE OF CIVILIANS IN FIELD SERVICES.**

The concept of "differential police response" is more than 30 years old in the United States. The overall premise behind the concept is that there may be multiple

(appropriate) ways to respond to a wide variety of call types. The history of evaluating and studying these options is summarized in the table, which follows:

Year	Development in Differential Police Response
1967	<b>President’s Commission on Law Enforcement and Administration of Justice</b> delivers a report that suggests that police need to work to be more responsive to community needs – a key aspect of which is through improved communication with the community.
1968	<b>National Advisory Commission of Civil Disorders</b> found that law enforcement agencies must provide comprehensive services and recommended that police re-examine the traditional police organizational structure and processes.
1972	<b>Kansas City Preventative Patrol Study</b> found that preventative patrol time is not only uncommitted time but that it is also unproductive time. Also found that isolating Police Officers in their cars and making them solely responsive to radio calls for service made them less responsive to the community and its needs.
1977	<b>Kansas City Response Time Study</b> found that a large proportion of the most serious (i.e., FBI Part 1) crimes are not susceptible to the impact of rapid police response. Further, the study found that for the majority of calls that could be impacted by rapid response, the rapidity of response was most often linked to how quickly the complainant called rather than how quickly the police department responded. Said in another way, the study found that very low response times did nothing to deter crime and did little to result in the immediate apprehension of criminals.
1977	<b>National Institute of Law Enforcement and Criminal Justice</b> (various field research projects) found that there is no universal deployment approach or tactic that can work equally well in all communities. Further, the studies showed that traditional deployment approaches allow police to intervene (typically after the fact) in incidents but do nothing to result in reduction of criminal activity or to improve the general quality of life in the community.
1980	<b>National Center for Community Police Research</b> found that the public is equally interested in police response to crimes and to police provision of order maintenance and assistance with quality of life issues.
1981	<b>National Institute of Justice’s Differential Police Response Study</b> examined approaches to reducing police response to non-emergency calls for service. The study found that a large number of calls could be handled over the phone, by non-sworn field personnel or by simply delaying the response to the call for service.
1985	<b>Police Executive Research Forum’s Studies in San Diego, Peoria and Rochester</b> found that the use of sophisticated technology and deployment strategies to reduce response times were well intentioned but generally misguided – fast response times neither addressed crime effectively nor enhanced citizen satisfaction with the police department.
1988	<b>Bureau of Justice Statistics</b> studies found that only 10% of a Police Officer’s time is spent on crime related activities. The remainder of the time is spent handling administrative functions, patrolling and other activities.

Year	Development in Differential Police Response
1990's / 2000's	A number of practical and local experiments have taken place to address the potential of various strategies in improving the ability of the police to respond effectively to the most critical issues while at the same time improving their operational efficiencies. These programs have included: self-reporting (gas drive offs, "beer runs" are examples); call-in reporting (misdemeanors, theft of property from a motor vehicle, etc.); and civilian field responders (minor accidents, misdemeanor reports, minor felony reports, evidence collection, traffic control).

The use of differential police response has taken on a number of forms in various communities around the United States (and the world). The most common approaches include the following:

Approach	Description of Key Elements
Call Queuing	<ul style="list-style-type: none"> <li>• Calls are grouped by type into different "priority" levels.</li> <li>• Calls of the highest priority are dispatched immediately (Deputies may even be broken away from on-going calls to respond).</li> <li>• Calls of a lower priority will be placed in a "queue" or "stacked" until an appropriate unit is available. This may mean holding the call for a unit specifically assigned to the beat where the call has originated, waiting for a special unit (vice, narcotics, youth), etc.</li> <li>• <b>This is used extensively by the MPD.</b></li> </ul>
Self Reporting	<ul style="list-style-type: none"> <li>• Offered for call types where the caller needs the police report primarily for insurance purposes – i.e., where there is little chance of apprehending the offender.</li> <li>• Most often used for call types such as: gas drive offs, "beer runs," and other minor thefts.</li> <li>• Reports are either mailed, faxed or made (in-person) by the complainant with no officer involvement.</li> <li>• <b>This approach is used by the MPD.</b></li> </ul>
Phone Report Taking	<ul style="list-style-type: none"> <li>• As with Call Queuing, this approach relies on the triage of calls for service before the fact.</li> <li>• Call takers are provided with a set of questions related to pre-determined protocols which leads to the ultimate decision regarding whether to send an officer or whether to take the report by phone.</li> <li>• To enhance the success of these programs, the call takers are encouraged to provide the caller with information regarding the response time of an officer (very long) compared to doing the report over the phone (immediate) and to take other steps to educate the public.</li> <li>• These steps taken by the call takers are often conducted in conjunction with other educational efforts by the department.</li> <li>• <b>The MPD uses civilian personnel to staff a phone reporting unit.</b></li> </ul>

Approach	Description of Key Elements
Civilian Field Report Taking	<ul style="list-style-type: none"> <li>• Departments will dispatch uniformed non-commissioned (non-sworn) positions to take reports from complainants in the field.</li> <li>• Some departments utilize these positions as a way of augmenting the approaches described, above.</li> <li>• Others use them as a way of handling calls that might have otherwise been taken over the phone (in another agency).</li> <li>• <b>This program is not utilized by the MPD.</b></li> </ul>
Field Civilians in Other Roles	<ul style="list-style-type: none"> <li>• An expansion of the above roles. This approach has uniformed non-sworn personnel responding to calls for service that have been determined to be of 1) lower risk, 2) higher priority than those calls taken over the phone and 3) to have the potential for requiring some follow-up – such as with evidence collection or photography.</li> <li>• Departments send these staff members to a wide range of call type.</li> <li>• Examples include: misdemeanors, traffic accidents, minor felonies, non-violent issues, civil matters, etc.</li> <li>• <b>The MPD does not utilize this approach.</b></li> </ul>
Verified Response	<ul style="list-style-type: none"> <li>• Eliminates police response to home burglary alarms without some form of preliminary verification. In some communities this has taken the form of civilian response by alarm company employees before the law enforcement agency will respond.</li> <li>• Significant reductions in police response can be obtained from avoiding response to false alarms.</li> <li>• <b>This approach has already been implemented in Milwaukee.</b></li> </ul>

The following subsections discuss the impact of the MPD current approach to differential response and opportunities to modify operations.

**(1) While Uncommon in the Upper Midwest and Northeastern United States, the MPD Can Make Better Use of Civilians to Handle Low Priority Calls for Service.**

Communities that have implemented community service officer (CSO) or public safety officer (PSO) programs have been able to divert as much as 10% of calls for service to these personnel. Civilian field responders handle low risk, low priority calls for service, which frees up patrol officers to handle more serious calls for service. Typical types of calls handled by civilian field personnel include: abandoned vehicles, “cold” burglary incidents, simple assaults, stolen property, and other calls where there is no danger posed to the responder and typically a simple report is taken. This approach is

common in many parts of the country (e.g., in California, Texas and Florida). Utilizing civilian resources for low priority calls for service is an effective way to focus highly skilled, trained sworn personnel on critical law enforcement functions.

While the number of field civilians employed would depend upon which call types are chosen as an appropriate call for a civilian response, the impact on sworn officer needs can be significant. Under conservative assumptions, diverting 10% of calls for service for civilian response would result in approximately 81 fewer police officer positions. Note that fewer field civilians would be needed since these personnel would not need proactive enforcement time or uncommitted patrol time. Approximately 43 civilian personnel could offset the need for 81 sworn officers. In addition, these personnel would be less expensive than a sworn officer. Civilian personnel can cost anywhere from 15% to 30% less than a sworn officer, depending on the salary scale utilized and the mix of benefits offered.

While there are opportunities to increase the Milwaukee Police Department’s use of civilians in patrol services, it has to be recognized that this approach is uncommon in the Upper Midwest and Northeastern United States. As shown in the table, below, none of the agencies surveyed by the project team utilize field civilians for call for service response:

	<b>Boston</b>	<b>Buffalo</b>	<b>Cincinnati</b>	<b>Memphis</b>	<b>Minneapolis</b>	<b>Pittsburg</b>	<b>St. Louis</b>
Does your agency utilize civilians to handle lower priority activities in the field?	No	No	Yes, parking enforcement.	No	No	No	No

One of the challenges of implementing a civilian response is changing the organizational culture. Utilizing field civilians would certainly be a big change in the Milwaukee Police Department, where civilian personnel are not integrated into many law enforcement services. However, while the use of field civilians is uncommon in similar communities, the City of Milwaukee should continue to explore options to get civilian personnel involved in field services. One approach should be to develop a pilot program for field civilian response. A target of 5% of calls for service could be developed, with a focus on low or no threat calls for service or 'quality of life' issues.

**Recommendation: The MPD should investigate options for including civilian personnel in field services. Approximately 5% of calls for service should be targeted for civilian response. This approach would require 41 fewer patrol officers, which could be replaced by 22 civilian personnel.**

**(1.2) Transfer of Calls to the Telephone Reporting Unit Can Be Revisited.**

The Milwaukee Police Department currently uses eleven (11) Police Aides assigned to various shifts to staff a Telephone Reporting Unit (TRU) – a best management practice. Staff takes various misdemeanor and “cold” felony type reports via the telephone so that an officer does not have to be dispatched to the scene. The following reports are taken by the TRU:

- Criminal damage to property - less than \$2500.
- Criminal damage to vehicle - less than \$2500.
- Theft from vehicle - less than \$2500 and theft of license plates.
- Lost property - less than \$2500.
- Other thefts - less than \$2500.
- Supplemental reports of serial numbers or of additional stolen items not reported to the original investigating officer.

- Harassing or obscene phone calls.

The majority of agencies compared to MPD also had telephone reporting capabilities. Based on data made available to the Project Team, the MPD Unit is very effective in processing reports assigned, averaging approximately 10-13 minutes per report and responding to 6.2% of the community generated calls for service in 2006<sup>8</sup>. The Telephone Reporting Unit (TRU) is an appropriate alternate response method for police services. There may, however, be additional opportunities to expand the use of the TRU through the addition of other incident types that can be transferred from Dispatch to the TRU. This will require an evaluation of the criteria used to determine what call types are transferred, and the reasoning behind these selections. By example, another major metropolitan area recently studied was able to transfer over 11% of the calls for service to their TRU. That agency, however, responded to approximately twenty different call types with their TRU as noted in the table below.

**Telephone Report Unit Report Types from Another Agency**

<b>Call Type</b>	<b>Telephone Report Taken for the Following General Circumstances</b>
Animal Bite	Injury report for reporting party.
Assault – Misdemeanor	No visible injuries to victim.
Attempted Stolen	Suspect apprehension unlikely.
Burglary	“Cold” burglary, no apparent evidence, limited/no suspect description.
Criminal Trespass	Suspect apprehension unlikely.
Destruction of Property	Suspect apprehension unlikely.
Domestic Violence – Violation of Protection Order	Unrelated to any injuries.
Embezzlement	Suspect apprehension unlikely.
Exposing – Sexual Misconduct	Suspect apprehension unlikely.
Extortion	Varied.
Fraud	Varied.
Gang Graffiti	Suspect apprehension unlikely.

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<sup>8</sup> 17,364 calls for service were transferred from Dispatch to the TRU.

Call Type	Telephone Report Taken for the Following General Circumstances
Harassment	Varied.
Litter	Suspect apprehension unlikely.
Missing Persons	Varied.
Missing Property	Varied.
Phone Harassment	Varied.
Robbery	"Cold" robbery, no apparent evidence, limited/no suspect's description.
Thefts	Depends on theft type and circumstances.

Potentially, emulating the above operation could have a significant positive impact on patrol staffing availability, proactive time, response time, etc., as these calls for service would be handled by the TRU as opposed to a field officer. Based on prior analysis in this report, an average response to a call for service takes 55 minutes and, as necessary, an additional 36 minutes for a report. This totals 91 minutes to potentially handle and report upon each of the listed call types noted above. Assuming that MPD Dispatch protocols can be changed such that calls for service transferred to the TRU increased from 6.2% to 9.3%<sup>9</sup>, an additional estimated 13,168 field hours could be saved at the District-level, resulting in approximately 9.8 net officers' time saved per annum. Although this field officer savings would have to be partially off-set by an estimated 4-5 additional Police Aide positions, the project team believes the resulting overall benefit to field services is worth this investment. A comprehensive evaluation of the specific operations of the Telephone Reporting Unit is beyond the scope of this project. However, consideration should be given to revising current criteria that determine which calls get assigned to the TRU. This will have an impact on the staffing

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<sup>9</sup> This is a 50% improvement and slightly less than the 10% benchmark we have noted for best-in-class telephone reporting units.



of the TRU and potentially can impact field operations significantly through the off-loading of additional workload.

**Recommendation: Revisit call classification transferred from Dispatch to the TRU. Moderate revision in TRU call-taking protocols could potentially result in up to 10 net officers' time saved in the Districts per annum. This will likely require an additional 4-5 Police Aides to be assigned to the TRU.**

## **2. USE OF TWO PERSON UNITS**

As shown in the first chapter of this report, the use of two-officer patrol units in the City of Milwaukee has a significant impact on overall staffing needs in the Patrol Bureau. Currently, a two-person unit is deployed approximately 36% of the time. As a result, approximately 36% additional officers are needed. The table, below, recalls the total patrol staffing needs with and without the current use of 2-person units:

<b>District</b>	<b>2-Person Units (@36%)</b>	<b>1-Person Units</b>
1	111	85
2	145	113
3	178	139
4	146	112
5	157	121
6	121	93
7	160	123
<b>Total</b>	<b>1,017</b>	<b>786</b>

As shown above, approximately 231 additional officers are needed based on the current approach to 2-person car deployment. The additional officers represent a significant commitment on the City's part to providing a high level of immediate back-up for patrol officers.

The project team collected data from the similarly sized agencies throughout the Midwest and Eastern United States regarding the deployment of 2-person units. The table, below, shows the response results from six respondents:

	<b>Boston</b>	<b>Cincinnati</b>	<b>Memphis</b>	<b>Minneapolis</b>	<b>Pittsburg</b>	<b>St. Louis</b>
Do you use 2 person patrol units (except for FTO situations)? % of units, 1 vs. 2 persons?	Yes, 30% are 2 person units.	Yes, 10-20% are 2 person units.	Utilize 1-person cars unless we are upgraded to a level-4 threat.	N/A	No	Goal is to staff one 2-person car for every 1-person car. Goal not always met.

As shown above, approximately half of respondents utilized two-officer cars in patrol. Boston, Cincinnati, and St. Louis use a mix of one-officer and two-officer cars in field services. The mix of two-person units ranges from 30% in Boston to 10 to 20% in Cincinnati. Note that Milwaukee is at the high end of the survey range at 36%.

Given the size and demographics of the City of Milwaukee, it is not unreasonable to utilize some two-person units in patrol. Certain areas of the City are certainly more dangerous than others and officers assigned to patrol clearly benefit from the availability of immediate back-up. While there is also a relationship between the level of violent crime and the need for immediate back-up, there are several factors to consider when making the decision to utilize two-person units including:

- How quickly a back-up unit will arrive to assist a single officer at the scene of an incident.
- The frequency of incidents which require immediate back-up and the geographic distribution of those incidents.
- The impact on other overall patrol units, given resource constraints, on the use of two-person units. For example, if optimal staffing levels are not available to the patrol bureau and two-person units are utilized, the availability of immediate back-up to some officers declines as resources are dedicated to two-person units. As a result, a one-person unit may have to wait longer for back-up since personnel are assigned to two-person units.

Overall, there are no clear criteria on which to base the use of 2-person units in field services. While there are areas of the city and times of day that are more

dangerous than others, the potential for a dangerous incident occurring is always present. The project team views the use of two-person units as a policy decision that must be made by the City and the Police Department. However, given the operational practices of other similarly situated law enforcement agencies, the current approach to officer deployment is reasonable.

**Recommendation: The City and the Police Department should set a service level target for the deployment of two-person units. Once a target is set, the impact on response times, proactive time, and availability of back up can be evaluated.**

### **3. USE OF SPECIALTY ASSIGNMENTS**

As discussed in the first chapter, the Patrol Bureau uses a number of special assignments, which have an impact on overall patrol staffing needs. The table, below, recalls the current use of special assignments in each of the districts:

<b>Assignment</b>	<b>Description</b>
<b>Anti-Gang Unit:</b> District 1 – N/A District 2 – 7 District 3 – 8 + 6 (VCR) District 4 – 6 District 5 – 8 District 6 – 5 District 7 – 8 <b>Total: 48</b>	Anti-Gang Unit personnel provide proactive enforcement of violent crime offenses, drug cases, and other issues within each of the patrol districts. AGU personnel also work closely with the community prosecutors assigned to each district to develop cases. These personnel are involved in warrant sweeps, drug buys, gun buys, surveillance, and other proactive activities to address crime issues.
<b>Community Liaison Officer</b> District 1: 2 District 2: 2 District 3: 2 District 4: 1 District 5: 1 District 6: 1 District 7: 2 <b>Total: 11</b>	Community Liaison Officers work closely with the community and conduct regular meetings with community groups about crime issues. CLOs also work closely with District Commanders to identify crime trends in each District.

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Assignment	Description
<p><b>Walking Beat Officer</b>  District 1: N/A  District 2: 6  District 3: 4  District 4: N/A  District 5: N/A  District 6: N/A  District 7: N/A  <b>Total: 10</b></p>	<p>Walking beat officers perform foot patrol of high traffic areas to provide visibility, make contact with the public, and proactive enforcement densely populated areas. Several of these positions are funded through Department of Justice grants, which require use of these funds for these purposes.</p>
<p><b>Booker</b>  District 1: 5 (Front Security)  District 2: 3  District 3: 3  District 4: 3  District 5: 3  District 6: 3  District 7: 3  <b>Total: 23</b></p>	<p>Bookers are assigned to each shift in each District, except for District 1, to handle booking of prisoners. This practice will be discussed in the operational practices section; however, these personnel will be included as special assignment personnel in this section.</p>
<p><b>Prisoner Transport</b>  District 1: N/A  District 2: 3  District 3: 3  District 4: 3  District 5: 3  District 6: 3  District 7: 3  <b>Total: 18</b></p>	<p>These personnel are assigned to provide prisoner conveyance to the Downtown jail and holding facilities from each of the patrol districts. Typically, 1 to 2 prisoner transport vehicles are utilized in each district for each shift. This practice will be discussed in the operational practices section, however, these personnel will be included as special assignment personnel in this section.</p>

As indicated earlier in this report, the project team believes that some of these assignments are appropriate including: Anti-Gang Units, Community Liaison Officers, and Walking Beat Officers. These functions represent service level commitments made by the Department and the City, which focus on crime incidence and quality of life issues. However, the use of dedicated personnel for these functions was evaluated by the project team to identify potential efficiencies to be gained.

The table, below, shows the total number of arrests made by the Milwaukee Police Department in 2006:

District	Adult	Juvenile	Total	Avg/Day
1	1,533	88	1,621	4.44
2	4,671	739	5,410	14.82
3	6,396	1,053	7,449	20.41
4	3,600	745	4,345	11.90
5	5,014	773	5,787	15.85
6	3,764	633	4,397	12.05
7	8,040	1,150	9,190	25.18
Other	329	24	353	0.97
<b>Total</b>	<b>33,347</b>	<b>5,205</b>	<b>38,552</b>	<b>105.62</b>

As shown above, 38,552 arrests were made in 2006 by the MPD. By district, the average daily number of arrests ranged from approximately 4 in District 1, to 25 in District 7. Note that District 1 does not dedicate a sworn officer for booking on each shift. However, this district uses a prisoner-processing unit to hold prisoners prior to booking them into the county jail. The table, below, shows the total number of bookings made by the prisoner-processing unit in 2006:

Month	Total Arrests	Avg/Day
Jan	1,099	35.45
Feb	939	33.54
March	1,133	36.55
April	912	30.40
May	1,170	37.74
June	1,249	41.63
July	1,370	44.19
Aug	1,398	45.10
Sept.	1,156	38.53
Oct.	1,145	36.94
Nov.	926	30.87
Dec.	741	23.90
<b>Total</b>	<b>13,238</b>	<b>36.27</b>

As shown above, a total of 13,238 prisoners were booked by the prisoner-processing unit in 2006, for an average of 36 bookings each day. As indicated by the tables above, the MPD handles a significant number of arrests each day.

While the workload associated with booking and transport of prisoners is clearly significant, the project team believes that the booking process can be made more

efficient. The processing and transportation of prisoners should be centralized in the prisoner-processing unit and resources should be dedicated handling this workload. Given the geography of the City of Milwaukee, the use of 8 to 14 transport units 24-hours each day (1-2 in districts 2, 3, 4, 5, 6, and 7 each shift + 2 in prisoner processing) appears excessive. While the number of prisoners booked each day is significant, the distance from many of the districts to the county jail or prisoner-processing unit is small. As a result, prisoners can be taken directly downtown by the arresting officer and booked at the county jail or prisoner processing unit (depending on capacity) or can be held and picked up by a transport unit from the prisoner processing unit.

If two additional units were deployed from the Prisoner Processing Section this would provide 4 units available at all times to convey prisoners. It is not uncommon in large agencies that are geographically much larger than Milwaukee to book prisoners downtown, or dedicate fewer transport units to prisoner conveyance. For example, the City of Jacksonville, Florida which is approximately 500 square miles and has a population over 800,000 does not have dedicated holding facilities in district stations or dedicate personnel to the booking of prisoners in patrol districts.

The next table shows the impact of assigning the booker to prisoner processing:

<b>Element</b>	<b>Number</b>
Booker per shift	6
Transport Units per shift	6
Total per shift	12
Shifts	3
Total	36
With Shift Factor	65.88
Additional Transport Units at PPS	2
Shifts	3
<b>Total</b>	<b>6</b>
With Shift Factor	10.98
<b>Difference</b>	<b>54.9</b>

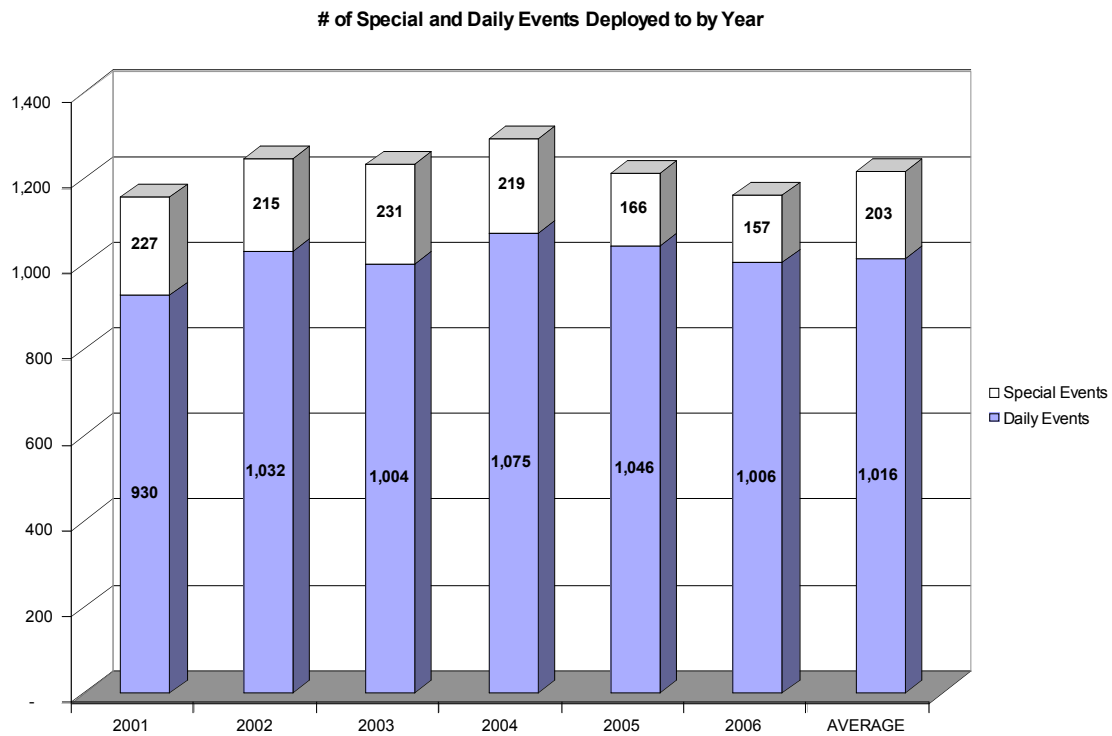
As shown above, approximately 55 police officer positions can be redeployed to patrol if this approach is utilized.

**Recommendation: The MPD should deploy personnel currently assigned to the Booker position in each of the districts to patrol. Prisoner conveyance and booking should be centrally operated out of the prisoner processing section. This approach would reduce the number of special assignment positions by 55 officers.**

#### **4. SPECIAL AND DAILY EVENT STAFFING ON REGULAR TIME.**

During the course of this study the project team has identified a policy that has a very significant impact on patrol officer time in MPD. Of importance, there are several alternative policies in existence in other law enforcement agencies that result in far less impact on patrol officer's time in the field.

Special events and daily events are staffed on regular time, generally by patrol and motors officers. A special event is a major occurrence such as a parade, a multi-day gathering at a park, a presidential visit, etc. A daily event is traffic control at a college game, smaller one-day park events, and the like. Over the past six years an average of 203 *special* events and 1,016 *daily* events have been staffed annually by MPD as shown in the graph below.



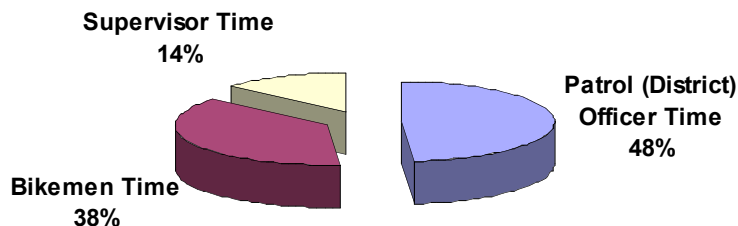
MPD is staffing approximately 1,200 events per year with over 34,700 regular patrol hours dedicated in 2006 alone.<sup>10</sup> Based on annual net officer availability calculations discussed throughout this report, *approximately 25.8 officers' and supervisors' time from patrol and the Motorcycle Unit were allocated to event services*, the allocation of which is shown in the following pie chart.

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<sup>10</sup> This excludes Auxiliary support and Planning Unit hours that were also dedicated.



**% Contribution of Hours Dedicated to All Events - 2006**



Based on these data, MPD has effectively lost the following number of positions throughout the year to event services.

**Net Positions Lost to Event Services – 2006**

<b>Position</b>	<b>Hours Lost</b>	<b>Net Positions Lost<sup>11</sup></b>
Patrol (District) Officer	16,891	12.6
Bikemen	13,135	9.7
Supervisors	4,703	3.5
<b>TOTAL</b>	<b>34,729</b>	<b>25.8</b>

The following additional details should be noted:

- As shown by the prior bar graph, 2006 is below the average number of event services that occur any given year. As a result, the net positions lost during an average year could be underestimated.
- As detailed in the Patrol Support chapter in the discussion of the Motorcycle Unit, event service requirements fluctuate throughout the year. Our analysis indicates significant fluctuations in hours dedicated to special events by sworn staff by shift and by season. Early shift is most impacted whereas Late shift is rarely impacted. Spring and summer months are particularly busy. Consequently, the yearly net loss shown above is an “average” among all shifts and all months. Clearly, more officers can be occupied during those busy periods than the numbers reflected above.
- Finally, periodically, literally dozens of sworn officers are deployed to handle particular special events, thereby significantly impacting officer, motor and

<sup>11</sup> Hours/1,345 net hours available per year = Net Positions Lost

mounted patrol officer availability in the field during those periods with particular need for these services in the spring and summer.

In sum, tens of thousands of hours annually are dedicated to special events and daily events by officers assigned to the field using regular time as opposed to off-duty overtime. Dependent upon the event, this can have a dramatic impact on officer availability, response times, and ultimately public safety. Use of field officers on regular time to staff special events is uncommon in many law enforcement agencies including examples such as San Diego (CA), Syracuse (NY), Nashville (TN), Pasadena (CA), Cincinnati (OH) and Austin (TX).

The City can continue to staff these events on regular time, which is becoming increasingly less common, or levy a partial or full-cost recovery special-event permit fee that pays for officers/traffic control on an over-time basis. This over-time approach is more common, and does not impact patrol officer availability as off-duty officers perform special event services; however, such a fee can be unpopular with certain special interests groups, particularly those that have come to expect such services without an additional fee. On the other hand, expecting all Milwaukee taxpayers to fund police services at various events at the expense of performing core business police duties is worth serious consideration. It should be noted that MPD supervisory staff have discussed special-event fees at length and supported such implementation in two different reports submitted October 2005 and January 2007. Our project team has collected data from various sources and includes the following brief examples of other agencies' special event services for comparison:

- Syracuse, New York charges officer time for event services for those events sponsored by a profit organization or an event that has an admission fee.

- Nashville, Tennessee charges all event service providers for off-duty officer time unless it is designated as having “great financial benefit to the city.” Rates charged by the police department include the following and are based on a minimum four hours of service:

<b>Police Rank:</b>	<b>Hourly Rate:</b>	<b>Holiday Hourly Rate:</b>
Officer	\$66.00	\$78.00
Sergeant	\$76.00	\$91.00
Lieutenant	\$82.00	\$98.00
Captain	\$91.00	\$116.00
<b>Vehicle Rates</b>	<b>Hourly Rate:</b>	<b>Holiday Hourly Rate:</b>
Automobile:	\$4.50	n/a
Motorcycle:	\$3.00	n/a

- Cincinnati, Ohio charges for event services with a minimum billed of two hours per officer. Vehicle charges are also incurred by the event provider. If using mounted unit resources, an additional \$25.00 per hour is charged with a four hour minimum. If arrests occur directly linked to the event, all arrest processing and court time are charged to the client.
- Austin, Texas charges for all event services save those that are politically-related. There is a two-hour minimum and a required supervisor to staff ratio of 1 sergeant for every four to six officers.
- Pasadena, California charges a host of event related services from barricades to sound monitors to a Fire stand-by officer, as necessary. The suite of possible event fees are located at: <http://www.ci.pasadena.ca.us/film/eventfees.asp>. The City allows co-sponsorship and partial or full waving of event fees whereby: 1) A non-profit with current 501 (c) 3 status that provides direct services or funds to residents and businesses in Pasadena in an amount equal to or greater than the dollar value of the fees waived; or 2) A for-profit organization proposing an event that will return profits in an amount equal or greater than the value of the fees waived.

Given the totality of data associated with event fees, this City policy decision should be revisited and thoroughly debated. It would be the project team’s recommendation that individual special events and daily events requiring more than 4 officers and/or more than 16 hours of sworn staff time be accomplished on over-time and fully reimbursed through a special-event fee. Based on available data, this special event fee would cover over 98% of the special events and less than the majority of daily events. However, given that the field hours dedicated to special events represent

nearly 85% of all time dedicated to event services, MPD providing a portion of daily event services on a pro-bono basis is not unreasonable.

**Recommendation: Individual special events and daily events requiring more than 4 officers and/or more than 16 hours of sworn staff time should be accomplished on over-time and fully reimbursed through a special-event fee implemented by the City.**

## **5. THE TRANSFER OF DISTRICT PATROL STAFF TO THE HARBOR PATROL UNIT.**

As discussed in detail in the Patrol Support chapter, the Harbor Patrol cruises waterways (lake and rivers) and enforces maritime laws, particularly City ordinances. In the on-season, running from approximately the end of March until Mid-November, twelve (12) officers are deployed, with ten (10) transferred from the patrol Districts. Historically most officers are re-assigned from Day shift to Harbor Patrol, with seven of ten (70%) of the officers coming from Day shift in 2007. The policy of transferring District patrol staff to the Harbor Patrol Unit certainly benefits maritime enforcement practices, but at the loss for nearly two-thirds of the year of several officers dedicated to field-related patrol services. As noted in the previous chapter, the project team recommends reducing the Harbor Patrol Unit contingent from twelve (12) to eight (8) officers, thereby alleviating the transfer of four (4) officers from the District. Alternately, although the project team has not analyzed the remainder of the Department to determine sworn staff availability for seasonal special assignments, MPD may wish to consider looking for other positions from other duty assignments to staff the Harbor Patrol Unit. In this way, District services will be even less impacted by Harbor Patrol seasonal workload.

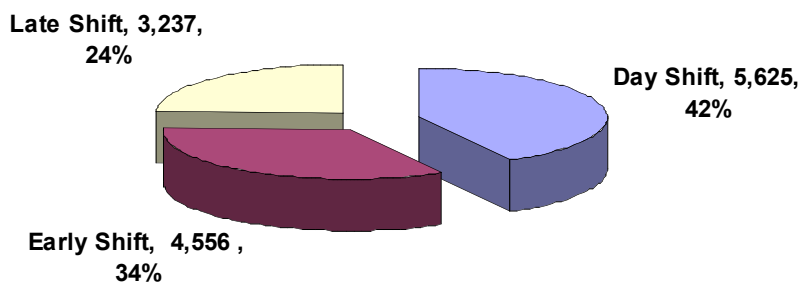
**Recommendation: As recommended in the Patrol Support Division chapter, reduce the number of District officers transferred to the Harbor Patrol Unit from**

ten (10) staff to six (6) staff. Consider re-deploying sworn staff located in other duty assignments to the Harbor Patrol Unit instead of using District officers.

**6. THE USE OF MOTORCYCLE BIKEMEN FOR MOST ACCIDENT INVESTIGATIONS.**

Similar to the Harbor Patrol Unit, several recommendations regarding Motorcycle Unit operations were made in the prior chapter. One observation noted by the project team included the use of bikemen for accident investigations. The Motorcycle Unit provides vehicular accident response and investigations, either as a primary (first on-scene) unit or as requested by a patrol squad. Motorcycle Unit staff typically perform these duties on Day and Early shifts whereas patrol officers accomplish this during Late shift. Of the 13,418 accidents in 2006, the following pie chart shows the accident distribution by shift, with three of every four accidents occurring on the two shifts in which the Motorcycle Unit is deployed.

**Vehicle Accidents Distributed by Shift - 2006**



Regarding accident investigation, given the magnitude of accidents occurring, the project team recommended that accident investigation be accomplished by District patrol on Day and Early shift (just as Patrol investigates nearly one-quarter of the

accidents on Late shift) to allow the Motorcycle Unit additional time for traffic enforcement activities which would predominantly focus on citation generation and warnings. This policy change could be readily argued; particularly given many motor units throughout the country do perform accident investigation services. It should be noted, however, that many units do not, and there is no clear best management practice relative to whether motorcycle units should respond regularly to accidents. What is clear is that in the vast majority of law enforcement agencies, accident investigation *is not* considered the primary duty and responsibility of the motor officer. Conversely, according to our interviews, MPD procedures are such that accident investigation is perceived as the focus of the Motorcycle Unit's operation.

As noted elsewhere in this report, accident investigation on Day and Early shift would require approximately 7.6 FTEs worth of staff time<sup>12</sup> to be performed in Patrol. Whereas accident investigation represents approximately one-quarter of the entire Motorcycle Unit's available time in the field, transferring these duties to the patrol Districts would only represent approximately 1% of District patrol officers' time. In sum, the impact of this workload on Patrol would be significantly less overall than the impact on the Motorcycle Unit. The project team believes that reduction of injury/fatal accidents through enhanced traffic enforcement is, in our opinion, as critical a public safety responsibility as patrol services that include timely calls for service response. To that end, we believe a transfer of accident investigation services to the patrol Districts is warranted. Optionally, transfer of accident investigation workload from the Motorcycle Unit to Patrol could occur only in the spring and summer months when approximately

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<sup>12</sup> An estimated 10,181 hours.

48% of the Day and Early shift accidents occur. This would allow the Motorcycle Unit to focus additional traffic enforcement efforts during the “busy seasonal period,” and free patrol officers from this responsibility during the autumn and winter months.

**Recommendation:** As recommended in the Patrol Support Division chapter, transfer accident investigations from the Motorcycle Unit to District Patrol. This can be done on a year-around or seasonal basis dependent upon MPD’s particular needs.

## **7. DISPATCH POLICIES AND PROCEDURES.**

Changes in the call priority system and/or call for service back-up procedures can have a significant impact on how patrol services are provided in the field. Modifications to each of these can procedures impact response times, proactive time available, officer safety, etc. The project team noted during the course of this project some issues relative to Dispatch deployment strategies. By example, deploying back-up unit(s) to a call for service based on the type of call is not framed by a written policy or procedure, and is exclusively based on dispatcher judgment. Without formal protocols, the back-up strategy can be inconsistent among the individual dispatchers and a call can be dispatched without the appropriate level of field resources as guided by policy. An additional deployment observation, call types requiring one or two-officer units are programmed directly into CAD and can, correctly, be overridden by the dispatcher. Nevertheless, it is not clear when such “CAD recommendations” should be overridden as there is no comprehensive guiding policy noting the circumstances under which an override is appropriate. Perhaps more importantly, the current one versus two-officer unit CAD recommendations are not regularly evaluated and thus may not be practical under current operating environments. These Dispatch-related deployment strategies should be reviewed periodically and formalized in policy, as they can have a

significant, though presently unquantifiable, impact on the ability to effectively deploy District field resources.

**Recommendation: MPD should formalize in written policy various dispatch protocols that impact deployment strategies including back-up policies and the assignment of one versus two-officer units based on call type.**

## **8. INVESTIGATIONS IMPACT ON PATROL OPERATIONS.**

The Milwaukee Police Department currently deploys detectives from the Criminal Investigations Bureau (CIB) to most felony calls for service. There are exceptions, but typically the following steps occur for felonies:

- The District patrol officer at scene contacts District watch commander (Lieutenant) and summarizes call for service circumstances;
- The District Lieutenant contacts the CIB Command Center Captain and shares circumstances;
- The CIB Captain determines if CIB detectives will respond;
- The CIB Captain interfaces with Dispatch to determine detective unit availability and deploys a unit, if determined necessary;
- CIB Detective(s) respond to scene and interface with awaiting patrol officer(s) to determine the crime scene circumstances;
- Detective(s) will then take over the call for service, using the original District patrol officer(s) at scene, as necessary, to conduct follow-up tasks;
- The Detective(s) subsequently authorize patrol officer(s) for call for service release based on scene needs; and
- The Detectives(s) write an incident report, periodically requiring patrol officer(s) to file supplementary report(s) based on investigative circumstances.

The immediate involvement of the CIB in the manner described above is atypical compared to most law enforcement agencies with which the project team has had experience. Although most felony calls for service benefit from the immediate expertise of detectives, the overall staff resource impact is significant, particularly given that patrol



officers must await the arrival of detective staff on-scene and stand-by until released. Detectives file the incident report when they respond to a call for service, and only periodically require a patrol officer to write a supplemental. Consequently, the administrative time associated with patrol officer report writing is minimized compared to many other law enforcement agencies. Nevertheless, this savings is impacted by the additional time on-scene interfacing with detective staff. In effect, most felony calls for service receive two responses: Patrol and Detectives, of which many of the activities performed are largely redundant (e.g. questioning victim).

There is a wide variety of policy and procedure approaches available to the Patrol and Investigations interface, from allowing patrol officers to conduct the entire preliminary investigation without detectives' assistance, to the current MPD operation. Modifying how the CIB operates with Patrol can have a significant impact on the resource availability and needs of both Bureaus. The project team typically recommends a more autonomous patrol operation whereby officers are involved in the preliminary investigation of most calls for service, report writing is performed by the officer, and the case is then transferred to Investigations for follow-up. Yet since this study did not include a comprehensive evaluation and analysis of the CIB, such a recommendation would be premature without understanding the unique circumstances related to MPD's patrol and investigative collaboration. Despite this, given our strong belief in the role of Patrol in preliminary investigations, corroborated by numerous law enforcement agencies successfully adopting such a model, we offer the following guidelines for a patrol-supported investigative function.

**(1) Patrol Preliminary Investigation Guiding Principles.**

The preliminary investigation is the single most important determinant to the successful conclusion of an investigation. Correct procedures for the protection and handling of evidence, along with a thorough knowledge of criminal statutes and constitutional law, are necessary when conducting a preliminary investigation.

The Patrol Officer is responsible for the preliminary investigation of all crimes and incidents which are assigned or reported to him/her, or which they discover. This includes, but is not limited to: 1) most traffic offenses, 2) misdemeanor and felony criminal activity, 3) civil disputes, 4) apprehension of wanted persons, and 5) requests for police assistance. A preliminary investigation consists of:

- Achieving the goal to identify and apprehend the suspect and recover any stolen property.
- A thorough and complete interview of all victims and witnesses.
- The attempt to locate potential witnesses (e.g. neighborhood canvassing).
- Ensuring the crime scene will be processed effectively by designated staff (e.g. CSI personnel).
- The filing of complete and accurate reports to be forwarded to investigative services.

In cases of serious or complex crimes, such as homicides or felonious assaults with significant injury, the preliminary investigation may be conducted by specialists within the department (i.e. a persons crime unit, child-victim unit, etc.). When this need is identified, coordination through the officer's supervisor and dispatch services should commence in order to successfully conclude the incident/crime.

Implementation of detailed procedures based on these broad guidelines can help mitigate the current investigative methods' impact on Patrol resources. This, however,

will not be a minor undertaking as it will require significant re-training and an organizational paradigm shift if implemented. The project team strongly recommends revisiting the Patrol Bureau and CIB operational relationships in the context of best practices at some future date.

**Recommendation: Revisit the Patrol Bureau and Criminal Investigations Bureau investigative relationship in the field. Compare and contract current operations to best management practices relative to investigative services and the respective allocation of appropriate duties and responsibilities.**

**9. BASED ON THE CURRENT NUMBER OF PERSONNEL ASSIGNED TO PATROL FUNCTIONS AND THE RECOMMENDED CHANGES TO MPD OPERATIONS, THE PATROL BUREAU IS APPROPRIATELY STAFFED.**

As discussed in the previous sections, there are a number of operational practices that the MPD can make to impact the number of patrol officers needed. The following points describe each of the recommended changes made by the project team:

- Continue with plans for the utilization of a pilot program for civilian field responders. A target of 5% of total calls for service should be utilized. This would require hiring 22 civilian field responders. This approach would reduce the need for 41 police officers. The estimated cost savings of this approach, assuming a 20% difference in total civilian vs. sworn police officer position, would be:

PO Salary	\$53,693
Benefits (@34%)	18,256
Total	\$71,948
Civilian Salary (@80% of PO)	\$42,954
Benefits (@34%)	14,604
Total	\$57,559
PO Needed	41
Civilians Needed	22
PO Cost	\$2,949,886
Civilian Cost	\$1,266,293
Difference	(1,683,594)

Note that the project team made the following assumptions in determining the number of Police Officer positions and CSO positions needed:

- Civilian responders do not need proactive time. As a result, the project team assumed an 80% utilization rate for civilian field responders. This has a major impact on the number of personnel needed, and results in fewer civilian personnel needed to handle workload than Police Officers.
- The project team assumed that civilian responders would still spend 15% of time handling administrative duties, similar to Police Officers.
- Civilian personnel would earn about 20% less than a Police Officer.

Note that 1 civilian responder can replace 1.86 Police Officer positions due to the difference in proactive time needed. If a 10% target were utilized, 43 civilian personnel could replace 80 Police Officer positions.

- Increase the utilization of the telephone reporting unit for low priority calls for service. The impact of the change is 10 officer positions.
- Redeploy booking and prisoner conveyance personnel back to patrol duty and utilize existing personnel within the Prisoner Processing Unit, and existing patrol officers, to handle bookings and prisoner conveyance. This change will require 11 additional officers in the PPS. However, it will result in a net number of 55 officer positions saved.
- Reduce the seasonal transfer of patrol personnel from 10 officers to 6 officers. Since this change was not included in the previous figure for patrol officers, this would require an additional 4.5 officers. However, this is a decrease from current practice.

The table, below, summarizes the impact of the operational changes recommended in this chapter on total police officer staffing needs.

<b>Operational Practice</b>	<b>No. of Officers</b>
Optimal Number of Police Officers – Ch. 1	1,017
Potential Use of Non-Sworn Civilians in Patrol (@ 5% of CFS)	- 41
Increase utilization of telephone reporting unit	-10
Redeploy Bookers & Prisoner Conveyance	- 55
Reduce seasonal harbor patrol staffing (6 seasonal from current 10)	+ 4.5
<b>Total</b>	<b>915</b>
<b>Total Needed with Turnover (@5%)</b>	<b>961</b>

The following points highlight the information in the table, above:

- As shown above, a total of 961 Police Officers are needed in the Patrol Districts to meet optimal service level targets.
- Note that a 5% turnover factor was applied to the total number required based on the actual turnover rate for sworn personnel experienced in 2004, 2005, and 2006. This assumes that it will take approximately 1 year to recruit and train a new employee before they are ready for patrol duties.
- Also, note that the 961 figure is higher than the current number of assigned patrol officers of 920, resulting in a net need of 41 new Officer positions. However, as previously noted, the Department has planned to hold two additional academy classes in September and December each consisting of 66 or more recruits.

The project team collected data from the Milwaukee Police Department to estimate the number of recruits needed to meet the optimum number of officers. Based on information collected from 1997 to 2006, approximately 8% of recruits did not make it through the police academy. In addition, very few Officers, once graduated, did not make it through the MPD's field training program. As a result, the project team assumed that a 10% attrition rate from the process of training new recruits. This means that the City should allocate 45 (41 Officers + 10% attrition) recruit positions to the next academy.

The project team next evaluated the potential costs / savings associated with the recommended staffing analysis above. Because personnel costs are budgeted based on total sworn personnel estimates for each fiscal year as well as the fact that our analysis only focused on Patrol Bureau staffing, we estimated the number of personnel budgeted within patrol to compare this figure with the recommended staffing number. The table, below, shows the estimated Police Officer staffing in Patrol, compared to the recommended number:

Assumed Sworn Strength FY07	1,975
Actual Average Strength (PP1 to PP20)	1,931
Funded Vacant Positions	44
Patrol PO Vacancies (@90%)	40
Recommended Patrol Pos	961
Actual as of 7/1/2007	920
Additional POs Needed	41

As shown above, the funds provided in the FY 2007 budget provide for a sworn strength of 1,975 positions. Based on Police Department report, the average actual sworn strength from pay period 1 to pay period 20 was 1,931 positions, and 44 funded positions, which are vacant. The project team assumed that 90% of these vacancies are carried in patrol. This assumption was made for several reasons:

- New officers are initially sent through field training within patrol after graduate from the academy. As a result, position funding is primarily utilized in patrol.
- Vacancies in other classifications and divisions (e.g., Investigations) will be covered by promoting from other part of the organization and primarily the Patrol Bureau either by direct promotion or movement to cover positions vacated in other divisions.

Based on these assumptions, use of current staffing and recommended operational changes, the MPD would be appropriately staffed to provide an optimal level of service. Stated differently, current staffing levels are sufficient to provide targeted service levels, if recommended operational changes are made, and there are sufficient vacant funded positions in the budget to cover turnover. However, \$1.266 million would be needed to fund the 22 civilian CSO positions. The addition and use of field civilians to handle lower priority workloads would reduce the need for 41 additional Officers which would cost an additional \$2.9 million to implement.

**Recommendation: The City of Milwaukee and the Police Department should make the operational changes recommended by the project team. If these changes are made, current budgeted Police Officer positions are sufficient to meet targeted service levels as well as provide coverage for turnover. However, an additional**

**\$1.266 million would need to be allocated to fund civilian CSO positions to provided recommended service levels. If a civilian force were not implemented as part of the optimization of field resources an additional 41 Police Officer positions would be required at an additional cost of \$2.9 million to achieve optimal levels of service. The project team strongly recommends this limited civilianization program because of its cost effectiveness as well as its ability to better utilize sworn personnel for higher priority workloads.**

**10. STAFFING AND OPERATIONAL CHANGES WILL LIKELY IMPACT CURRENT OVERTIME USAGE BY THE MPD.**

The project team collected data related to overtime usage in the patrol districts within the Milwaukee Police Department. The table, below, shows the total amount of overtime in 2006, in hours and dollars, compared to regular salaries in patrol (including regular time, holiday pay, sick pay, vacation, etc.).

**Police Officer Overtime, 2006  
Patrol Districts 1 through 7**

Total PO Overtime Hours	198,443
Total PO Overtime Dollars	\$7,899,045
Total PO Straight Hours	1,733,341
Total PO Straight Dollars	\$45,964,949
Ratio of Overtime/Straight Time Hours	11%
Ratio of Overtime/Straight Time Dollars	17%

The following points highlight the information above:

- As shown above, Police Officers assigned to Patrol Districts 1 through 7 worked a total of 198,443 overtime hours during 2006. The cost of this overtime was \$7.899 million.
- Police Officers assigned to Patrol Districts 1 through 7 worked a total of 1,733,341 “straight” time hours which includes all regular hours worked and paid time off (including compensatory time) for a total of \$45,964,949.
- The ratio of overtime spending to regular salary spending for Patrol Officers assigned to District 1 through 7 was 17%, if measured in dollars, and 11% if measured in hours. This is a very high ratio, based on the project team’s experience with other large law enforcement agencies. Typically, overtime expenditures, as a percentage of regular salary costs, are in the range of 7% to 10%. Milwaukee is well above the high end.

Given that some portion of the overtime dollars spent in patrol will be utilized to cover staffing shortages, the project team estimated the net reduction in overtime due to increased staffing at the optimal levels recommended in the previous section. However, performing this analysis is complicated by several factors including:

- The MPD uses over 125 different program codes for recording the purpose for overtime.
- Many of the descriptions are unclear as to the reason for overtime. For example, non-traffic, domestic violence, major crimes, safety, crimes against persons, crimes against property.
- As a result, it is difficult to evaluate which overtime hours were utilized due to staffing shortages and which were due to policy decisions about investigations, special assignments, etc.

As a result, the project team made some assumptions about the impact of additional patrol personnel on overtime usage:

- Overtime utilization impacted by staffing shortages or increases will largely be the time associated with handling calls for service. As a result, court time, special assignment time, special initiatives (e.g. neighborhood safety initiative), special events, etc., are not included in the estimate.
- Given the utilization of patrol personnel for a variety of tasks in the MPD, as well as policy decisions about payment of overtime for things like roll call, court time, and stand-by, the project team estimated that an overtime rate of 10-12% in patrol is within normal ranges. As a result, the project team estimated that 5% of salary costs could potentially be saved by increasing staffing levels.

Based on the analysis and recommended operational changes by the project team, approximately 5% of salary costs, or \$2.3 million in overtime could be saved per year through conversion of overtime hours to 'straight time' hours.

**Recommendation: The Milwaukee Police Department should reduce overtime to benchmark levels through implementation of the operational changes recommended in this report. A reduction equivalent to 5% of salaries would reduce these costs by a net of \$2.3 million per year.**



## **ATTACHMENT – POLICE DEPARTMENT COMPARATIVE SURVEY**

This Attachment provides the results of the comparative survey, which was distributed to several police departments throughout the United States. The survey was conducted to help assess the Milwaukee Police Department's patrol and other field-related services. The cities were chosen in order to draw comparisons of patrol service level targets, staffing and management.

The project team began with the identification of 15 potentially comparable communities in the selection process. The following table shows the cities that were included.

Atlanta, GA	Cleveland, OH	Newark, NJ
Baltimore, MD	Indianapolis, IN	Oakland, CA
Boston, MA	Kansas City, MO	Pittsburgh, PA
Buffalo, NY	Memphis, TN	St. Louis, MO
Cincinnati, OH	Minneapolis, MN	Toledo, OH

The project team chose several variables to determine which communities to include in the survey. The following variables were utilized:

- Population
- Land area
- Economic factors – household income, unemployment rate and the percentage of the population living in poverty.
- Crime rate

For these variables the project team developed a percentage range of deviation of 25% +/- from Milwaukee. The cities were then ranked against Milwaukee. The following table presents a summary of the variables and the rankings of the cities within

the range of 25% +/-). All the cities listed were ranked according to their deviation from Milwaukee (with 1 being the most similar).

City	Pop.	Area	Median Household Income	Current Unemp. Rate	Below Poverty Line	FBI Index	Total
Atlanta	4		7	11	7		5
Baltimore	2	1			9	6	5
Boston	1			8	10	2	5
Buffalo			1	2	7	5	5
Cincinnati		3	6	5	1		5
Cleveland	5	3		5			4
Indianapolis				8		4	2
Kansas City	6			2			2
Memphis	3		2	2	4		5
Minneapolis				7	11	7	3
Newark			4		1	1	3
Oakland				11			2
Pittsburgh			5	8	6	3	4
St. Louis			3	1	3		4
Toledo		1	1		5		3

After reviewing these comparative factors, the project team selected nine cities to survey based on the number of times they fell within 25% +/- range of comparative criteria. The table, below, lists the cities selected for comparison. The project team then developed a comparative survey instrument and contacted each of the police departments in those jurisdictions. The following table also provides the number of responses received.

City	Response Status
Atlanta	Received
Baltimore	No information received
Boston	Received
Buffalo	Received
Cincinnati	Received
Cleveland	No information received
Indianapolis	No information received
Memphis	Received
Pittsburgh	Received
St. Louis	Received

Out of nine distributed surveys, Matrix Consulting Group received a total of 7 completed surveys. The following sections present a summary of information gathered.

## **1. GENERAL INFORMATION ABOUT THE DEPARTMENTS**

The first section of the survey asked respondents to provide some general information such as total staff, sworn staff, and non-sworn staff. The project team also developed a ratio of sworn to non-sworn staff. The following table presents a summary of information gathered.

<b>City</b>	<b>Total Staff</b>	<b>Sworn Staff</b>	<b>Non-Sworn Staff</b>	<b>Ratio of Sworn to Non-Sworn Staff</b>
Atlanta	2,292	1,786	510	3.50:1
Boston	2,984	2,131	853	2.49:1
Buffalo	941	780	161	4.85:1
Cincinnati	1,338	1,057	281	3.76:1
Memphis	2,667	2,020	657	3.07:1
<b>Milwaukee</b>	<b>2,989</b>	<b>2,158</b>	<b>831</b>	<b>2.59:1</b>
Pittsburgh	860	836	*	*
St. Louis	1,909	1,399	510	2.74:1

\* Many administrative roles are part of Public Safety (the Police Bureau is part of Public Safety Department).

While there are variations, the comparative ratios of surveyed agencies are generally in relatively narrow bands. Milwaukee is at the higher end of the total staff as well as sworn and non-sworn staffing.

## **2. FIELD SERVICES**

The following sections of the survey provide a summary data regarding patrol calls for service, patrol shift schedules, staffing levels for field services, special operations and programs, organization of geographic commands, traffic enforcement, special events, and responsibility of detectives in the field. The exhibit at the end of the report presents a summary of data gathered.

## **(1) Staffing Levels**

The departments reported on the total number of sworn and non-sworn staff assigned to field services. The project team also developed the ratio of sworn to non-sworn personnel. The table below presents the summary of results.

<b>City</b>	<b>Number of Sworn Staff</b>	<b>Number of Non-Sworn Staff</b>	<b>Sworn to Non Sworn Ratio</b>
Atlanta	1,264	64	19.8:1
Boston	1,554	329	4.7:1
Buffalo	676	43	15.7:1
Cincinnati	465	36	12.9:1
Memphis	1,395	10	139.5:1
<b>Milwaukee</b>	<b>1,104</b>	<b>60</b>	<b>18.4:1</b>
St. Louis	920	40	23.0:1

The following points summarize the information above:

- The number of sworn staff assigned to field services ranged from a low of 465 in Cincinnati to a high of 1,554 in Boston. The average number of sworn staff is 1,004. Milwaukee is just above the average with 1,104 sworn personnel.
- The average number of non-sworn personnel is 82. Milwaukee is below the average value with 60 non-sworn staff in field services.
- The range of ratios of sworn to non-sworn staff varies significantly – Memphis has the highest ratio, indicating a lower number of non-sworn staff per sworn officer, at 140:1; the lowest is Boston at 59:1. The average number was estimated at 27:1. Milwaukee has a ratio of 18.4 sworn staff to non-sworn staff.

The Milwaukee PD is close with the comparison agencies in regards to sworn staffing levels, but at the low end for the use of non-sworn staff.

## **(2) Use of Civilians in the Field**

The comparison agencies were further questioned about utilization of civilians in the field to handle lower priority activities in the field. The table below presents the summary of results.

City	Civilians Handle Lower Priority Activities?
Atlanta	No
Boston	No
Buffalo	No
Cincinnati	Yes (parking enforcement)
Memphis	No
<b>Milwaukee</b>	<b>No</b>
Pittsburgh	No
St. Louis	No

According to the information presented above it can be seen that none of the surveyed agencies, except for Cincinnati, utilize civilians for lower priority field activities. Milwaukee also does not utilize civilians to handle lower priority activities in the field.

### **(3) Telephone Reporting Unit**

The surveyed communities were asked if they utilize “telephone reporting units” to handle very low priority calls not requiring any field response. Agencies were also asked how the telephone-reporting units were staffed and the number of shifts covered. The table below presents the summary of results.

City	Telephone Reporting Unit?	Sworn/Non Sworn Personnel	# Of Shifts Covered
Atlanta	Yes	Non-Sworn	2
Boston	Yes	Non-Sworn	3
Buffalo	No	N/A	N/A
Cincinnati	Yes	Sworn, Light Duty	1
Memphis	No	N/A	N/A
<b>Milwaukee</b>	<b>Yes</b>	<b>Non-Sworn</b>	<b>3</b>
Pittsburgh	Yes	Non-Sworn	2
St. Louis	Yes	Non-Sworn	3

The following points summarize the information above:

- All of the responding agencies except for Memphis and Buffalo have a telephone reporting unit. Milwaukee PD also has a telephone reporting unit.
- The Cincinnati PD staffs their telephone-reporting unit with sworn staff while Pittsburgh, St. Louis, Boston and Atlanta staff their units with non-sworn personnel. Milwaukee staffs their TRU with non-sworn staff, though light duty staff can also fulfill this function.

- The number of shifts covered ranged from a low of 1 in Cincinnati to a high of 3 in St. Louis and Boston. The Milwaukee PD also covers 3 shifts.

The Milwaukee PD is comparable to most of the surveyed agencies in the use of a telephone reporting unit.

**(4) Shift Schedule**

The following table provides a summary of patrol shift schedules in the surveyed agencies.

<b>City</b>	<b>Patrol Shift Schedule</b>
Atlanta	N/A
Boston	4/10
Buffalo	4/10
Cincinnati	6/8 rotates days off
Memphis	5/8
<b>Milwaukee</b>	<b>5/8</b>
Pittsburgh	5/8
St. Louis	5/8

The traditional 5/8-shift schedule is the most commonly utilized schedule among the surveyed communities. On the other hand Boston and Buffalo have adopted 4/10 shift schedules. The Milwaukee PD utilizes a 8 hour shift schedule.

**(5) Area Commands**

The communities were asked if their services are organized into area of commands. The following table presents a summary of responses gathered.

<b>City</b>	<b># Of Zones/Districts/Areas of Commands</b>	<b>Separate Facilities?</b>
Atlanta	7	Yes
Boston	3 zones (11 districts)	N/A
Buffalo	5	Yes
Cincinnati	9	Yes
Memphis	2 uniform patrol districts and 9 precincts	N/A
<b>Milwaukee</b>	<b>7</b>	<b>Yes</b>
Pittsburgh	5 plus 1 special deployment	N/A
St. Louis	3	Yes

The following points summarize the information above:

- All of the responding agencies are organized into area commands. Boston PD reports 3 zones and 11 districts, where Cincinnati and Memphis report having 9 districts. On the other hand Milwaukee has 7 areas of command as does Atlanta.
- Most of the surveyed agencies reported having separate facilities for all of their districts. The Milwaukee PD also has separate facilities for their seven districts.

All of the responding agencies reported having their field services organized into area of commands.

**(6) Approaches to Community Policing**

The surveyed agencies were questioned about the utilization of field personnel in community policing programs (as opposed to dedicated and specialized units). The following table presents a summary of the information gathered.

City	Field Personnel Involved in Community Policing?	# of Staff in Specialized Field COP Units
Atlanta	Yes	N/A
Boston	Yes	No special units
Buffalo	Yes	1-2 per district (5-10 total)
Cincinnati	Yes	4-7 per 5 districts (20-35 total)
Memphis	No	68
<b>Milwaukee</b>	<b>Yes</b>	<b>5 – 10 per district (35-70 total)</b>
Pittsburgh	No	5
St. Louis	Yes	N/A

The following points summarize the information above:

- All of the surveyed agencies except for Memphis and Pittsburgh have all of their field personnel involved in the community policing.
- The number of people involved in specialized COP units ranged from a low of 5 in Pittsburgh to a high of 68 in Memphis. In Milwaukee PD the number of people assigned to specialized units ranges anywhere 35 to 70.

The majority of surveyed communities utilize all of their field personnel in the provision of community policing services.

**(7) Traffic Enforcement Units**

Respondents were asked for the information about the traffic enforcement units.

The table below presents the summary of data gathered.

City	Number of Personnel Assigned to Traffic	Traffic Units Deployed on Nights and Weekends?	Investigation of Traffic Accidents	Non-Sworn Employees Handle Minor Traffic Accidents?
Atlanta	63	Yes	Yes	No
Boston	11-24 along with special operations	Yes	Yes	No
Buffalo	29	Yes	Yes	No
Cincinnati	24	Yes	Yes	No
Memphis	All uniformed patrol officers perform some enforcement	N/A	Yes	Yes
<b>Milwaukee</b>	<b>77</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>
Pittsburgh	20	Yes	Yes	No
St. Louis	28	Yes	Yes	No

The following points summarize the information above:

- Number of personnel assigned to traffic enforcement units ranged from a low of 11 in Boston in Pittsburgh to a high of 29 in Buffalo. Milwaukee PD reports the highest number of personnel assigned to traffic estimated at 77.
- All of the responding agencies except for Memphis reported deploying traffic units on night and weekends. The same holds true for Milwaukee which also deploys traffic units on nights and weekends.
- All surveyed agencies investigate traffic accidents.
- The Memphis PD was the only agency that reported having non-sworn employees handling minor traffic accidents.

According to the information presented above it can be seen that most of the surveyed agencies have similar attributes when it comes to traffic enforcement units.

**(8) Proactive Enforcement Units**

The project team surveyed selected agencies about having proactive enforcement units in the field services. The following table presents a summary of information gathered.



City	Proactive Enforcement Units	# of Personnel Assigned
Atlanta	No	N/A
Boston	Special Operations Field Support Division	N/A
Buffalo	Yes, they also handle routine calls	N/A
Cincinnati	Vortex unit (city unit) and violent crime squads (districts)	N/A
Memphis	No	N/A
<b>Milwaukee</b>	<b>Yes – special problem solving units – anti-gang unit officers, tavern cars, beat officers, captain’s cars.</b>	<b>Varies based on officer availability.</b>
Pittsburgh	Street Response Unit	20
St. Louis	Crime suppression unit	62

All of the responding agencies except for Memphis and Atlanta reported having some form of proactive enforcement units in their field services that do not handle calls for service. The Milwaukee PD also utilizes special problem solving units.

**(9) Specialized Units**

Respondents were asked for the information about other specialized units – K-9 units, air support units, and mounted patrol units. The table below presents the summary of data gathered.

City	K-9 (# of units)	Air Support (# of staff dedicated)	Air Support (# of units)	Mounted Patrol Unit (# of units)
Atlanta	9	12	3	9
Boston	15	3	1	20
Buffalo	2	N/A	N/A	N/A
Cincinnati	3	N/A	N/A	15
Memphis	17	12	3	4
<b>Milwaukee</b>				<b>7</b>
Pittsburgh	19	N/A	N/A	N/A
St. Louis	12	5	5	14

The following points summarize the information above:

- The number of specialized K-9 units ranged from a low of 2 in Buffalo to a high of 19 in Pittsburgh. The average number was estimated to be 12.
- Among surveyed police departments there were four agencies that reported having air support unit.

- Most of the surveyed agencies have mounted patrol unit. The number of personnel assigned ranged from a low of 4 officers in Memphis to a high of 20 in Boston. The average number was estimated to be 11. Milwaukee PD is below the average value with the staff of 7.

Most of the surveyed agencies have specialized K-9 units along with mounted patrol unit. On the other hand there are only three agencies reported having air support units.

**(10) Special Events**

The surveyed agencies were asked if they staff special events with on-duty or with overtime officers of both. The project team also asked respondents to provide some information about the cost recovery of special events. The table below presents the summary of data gathered.

City	On Duty/ Overtime	Cost Recovery Through Event Promoters
Atlanta	Both	Yes
Boston	Both	In some instances
Buffalo	Both	No
Cincinnati	Both	Yes
Memphis	Both	In some instances
<b>Milwaukee</b>	<b>Both</b>	<b>Yes (minimal)</b>
Pittsburgh	Both	Yes
St. Louis	On Duty	No

The following points summarize the information above:

- All of the responding agencies except for St. Louis use on duty personnel along with overtime to staff special events.
- The surveyed agencies were questioned about cost recovery of special events. There are three agencies (Atlanta, Pittsburgh and Cincinnati) that recover their costs through fees paid by promoters.

The Milwaukee PD uses on duty personnel as well as overtime to staff for special events.