



## Patrol Staffing Assessment

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# Goals for the Assessment

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- Use CAD data to measure patrol workload.
- Identify opportunities to reduce workload and staffing requirements.
- Analyze time spent on by patrol officers handling calls for service by hour of day and day of week.
- Calculate a Shift Relief Factor and Vacancy rate taking into account training requirements that may be included in the City's agreement with the US Department of Justice.

# Goals for the Assessment

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- Determine staffing needed in patrol for implementation of Neighborhood Policing.
- Identify changes that need to be made to make better use of patrol staff time.
- Make recommendations on staffing issues outside patrol that will impact the implementation of Neighborhood Policing.

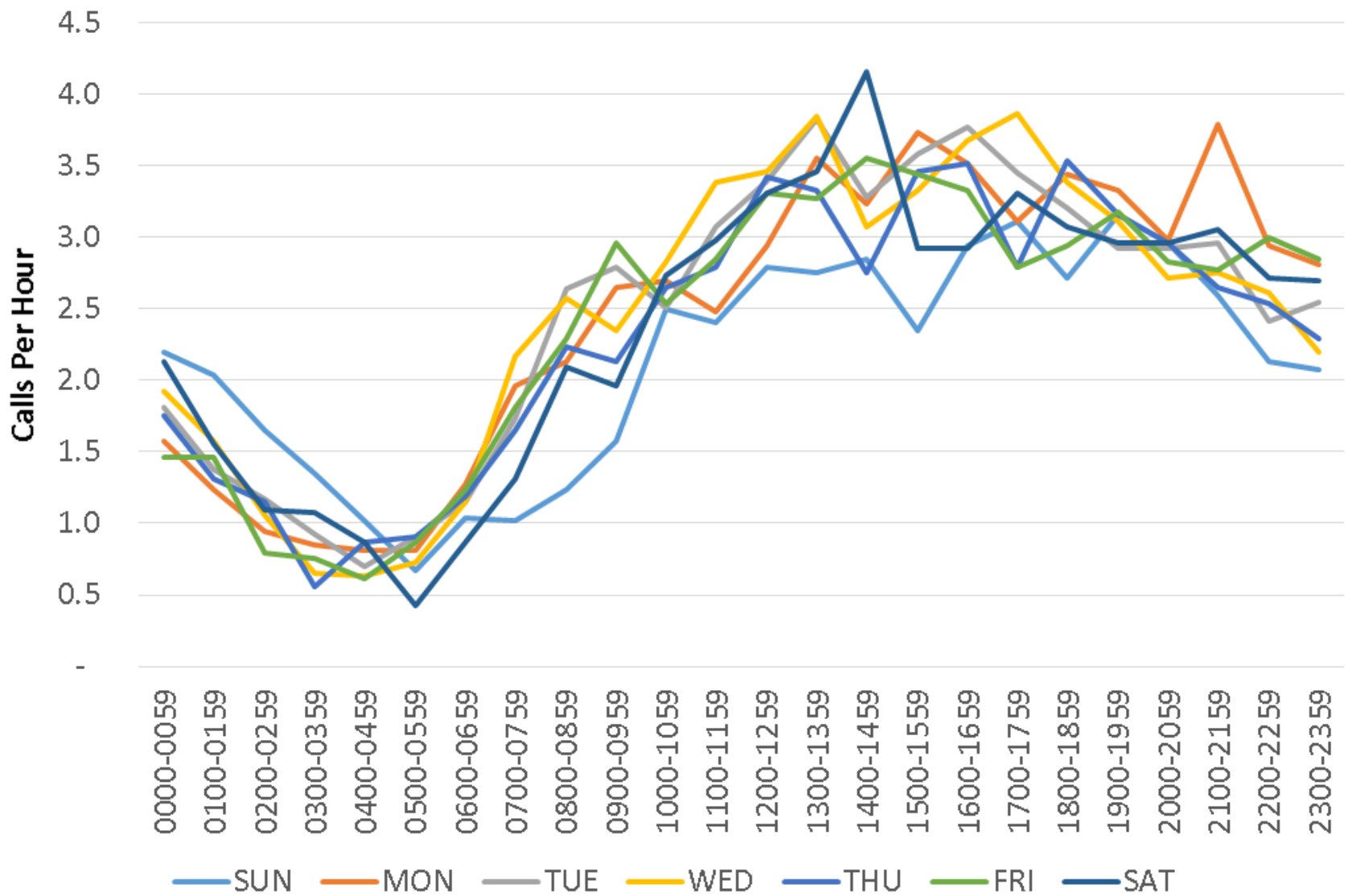
# Measuring Patrol Workload

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- Determine the current role of patrol in providing police service.
- Assess the level of proactive time needed by patrol officers to expand their role in service delivery as part of Neighborhood Policing.
- Evaluate the quality of data captured on calls for service, officer initiated activity and proactive patrol work.

# Figure 1: CFS Dispatched Per Hour

July 1, 2014 to June 30, 2015



# Prioritization of Calls For Service

July 1, 2014 to June 30, 2015

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<b>Code</b>	<b>Number</b>	<b>Percent</b>
Priority 1	8,767	44.6%
Priority 2	6,069	30.9%
Priority 3	4,374	22.2%
Priority 4	280	1.4%
Blank	169	0.9%

- Assigning priority to calls began in June of 2015.
- Too many calls are coded as emergencies which should be crimes against persons in progress or other threats to people.
- Because the vast majority of crimes in Ferguson involve property loss, not enough calls are coded as priority 4.

**Table 1: Top 50 Call Types By Priority - 2014**

Call Type	Priority 1	Priority 2	Priority 3	Priority 4	Total
7140 SICK CASE /	2656	0	0	0	2656
4230 DISTURBANCE	0	2246	0	0	2248
7100 ALARM /	2112	0	0	0	2115
2120 STEALING /	0	458	842	0	1300
7191 SUSP PERS /	1095	0	0	0	1096
7125 ACC NO INJ /	0	960	0	0	963
2120 STEALING /	0	0	842	0	842
7130 ANIMAL /	0	0	502	0	506
7193 SUSP VEH /	0	466	0	0	468
4260 PROP DMG /	0	0	445	0	446
2140 NOISE / IN	0	407	0	0	407
4210 WEAPON / IN	381	0	0	0	381
7180 JUVENILE /	0	0	370	0	371
2110 BURGLARY /	367	0	0	0	369
7160 ASSIST OTH /	0	361	0	0	363
2900 FIRE / IN	290	0	0	0	290
7198 CHECK THE	0	0	287	0	288
7145 LIFETHREAT /	265	0	0	0	265
7105	257	0	0	0	258
7224 MOTORIST	0	234	0	0	252
7170 HAZARD /	0	242	0	0	247
7240 MISSING /	0	205	0	0	206
2110 BURGLARY /	200	0	0	0	200
7229 911 VERIFY /	0	0	199	0	200
7141	0	177	0	0	177
4234 DOMESTIC /	175	1	0	0	176
7193 SUSP VEH /	173	0	0	0	173
7199 STAND BY TO	168	0	0	0	169
3120 FRAUD / NOT	0	0	164	0	164
1140 ASSAULT /	156	0	0	0	157
7121 ACC W/INJ /	155	0	0	0	155
1140 ASSAULT / IN	144	0	0	0	144

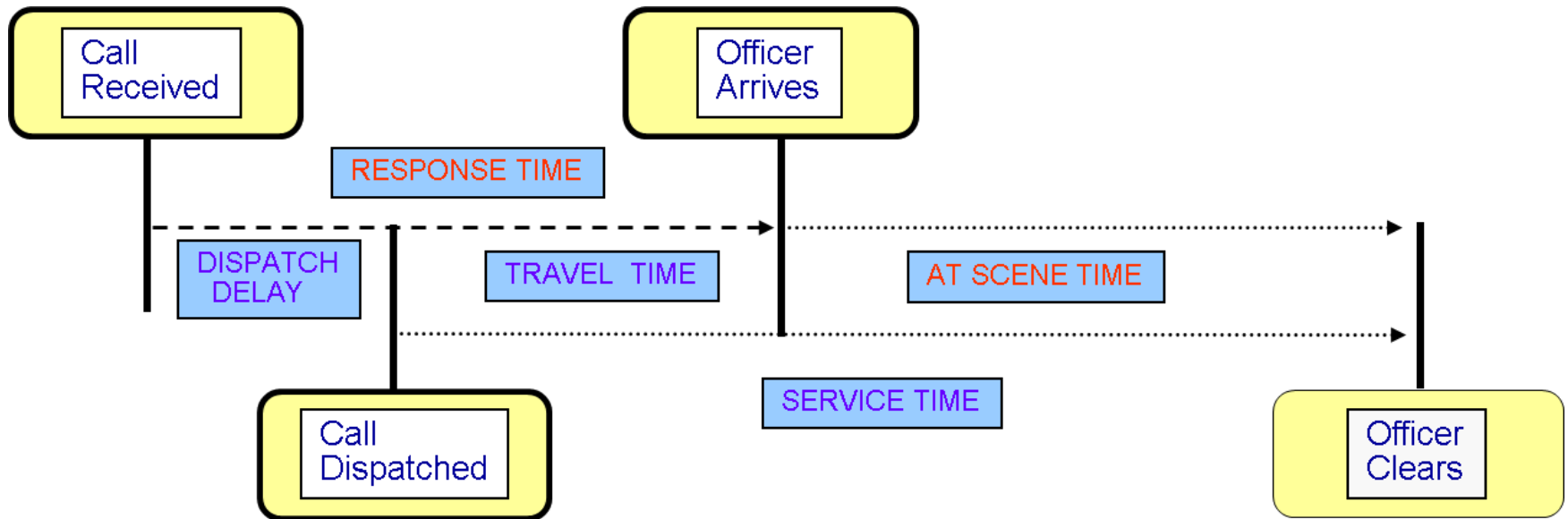
# Units Dispatched to CFS

Calls Dispatched Per Day								
Hour	SUN	MON	TUE	WED	THU	FRI	SAT	AVG
12M-4AM	7.2	4.6	5.3	5.2	4.8	4.5	5.9	5.3
4AM-8AM	3.8	4.8	4.5	4.7	4.6	4.5	3.5	4.3
8AM-!2N	7.7	10.0	11.0	11.1	9.8	10.6	9.8	10.0
12N-4PM	10.7	13.5	14.1	13.7	13.0	13.6	13.8	13.2
4PM-8PM	11.9	13.4	13.4	14.0	13.0	12.2	12.3	12.9
8PM-12M	9.8	12.5	10.8	10.3	10.4	11.4	11.4	11.0
Total	51.1	58.8	59.1	59.1	55.6	56.9	56.6	56.7
Units Dispatched to Calls for Service Per Day								
Hour	SUN	MON	TUE	WED	THU	FRI	SAT	AVG
12M-4AM	13.0	11.5	13.6	11.2	9.7	9.7	13.6	11.7
4AM-8AM	6.0	7.1	7.0	6.6	6.8	5.6	4.9	6.3
8AM-!2N	6.9	12.1	10.9	14.3	9.9	9.6	10.3	10.6
12N-4PM	11.9	13.5	15.9	17.8	14.2	14.2	14.1	14.5
4PM-8PM	20.2	21.2	19.2	21.0	19.7	19.4	18.5	19.9
8PM-12M	18.7	21.3	20.2	19.5	18.3	21.3	22.7	20.3
Total	76.6	86.7	86.8	90.5	78.6	79.8	84.2	83.3
Units Dispatcherd Per Call Per Day								
Hour	SUN	MON	TUE	WED	THU	FRI	SAT	AVG
12M-4AM	1.8	2.5	2.6	2.1	2.0	2.2	2.3	2.2
4AM-8AM	1.6	1.5	1.6	1.4	1.5	1.2	1.4	1.4
8AM-!2N	0.9	1.2	1.0	1.3	1.0	0.9	1.1	1.1
12N-4PM	1.1	1.0	1.1	1.3	1.1	1.0	1.0	1.1
4PM-8PM	1.7	1.6	1.4	1.5	1.5	1.6	1.5	1.5
8PM-12M	1.9	1.7	1.9	1.9	1.8	1.9	2.0	1.9
Total	1.5	1.5	1.5	1.5	1.4	1.4	1.5	1.5



# Measuring Service Time Per Call

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# Estimated FPD Service Time

Units Dispatched Per Call Per Day								
Hour	SUN	MON	TUE	WED	THU	FRI	SAT	AVG
12M-4AM	1.8	2.5	2.6	2.1	2.0	2.2	2.3	2.2
4AM-8AM	1.6	1.5	1.6	1.4	1.5	1.2	1.4	1.4
8AM-12N	0.9	1.2	1.0	1.3	1.0	0.9	1.1	1.1
12N-4PM	1.1	1.0	1.1	1.3	1.1	1.0	1.0	1.1
4PM-8PM	1.7	1.6	1.4	1.5	1.5	1.6	1.5	1.5
8PM-12M	1.9	1.7	1.9	1.9	1.8	1.9	2.0	1.9
Total	1.5	1.5	1.5	1.5	1.4	1.4	1.5	1.5
Elapsed Service Time Per Call Per Day								
Hour	SUN	MON	TUE	WED	THU	FRI	SAT	AVG
12M-4AM	34.0	33.1	32.5	37.5	47.3	35.1	24.0	34.8
4AM-8AM	38.2	32.3	46.6	38.7	38.0	40.6	38.7	39.0
8AM-12N	30.0	30.2	31.4	34.3	33.9	39.1	36.7	33.7
12N-4PM	30.3	31.6	38.2	34.8	34.0	32.2	35.7	33.8
4PM-8PM	28.7	37.9	39.4	38.6	33.7	32.7	28.3	34.2
8PM-12M	30.1	35.0	35.0	31.8	33.7	28.7	31.9	32.3
AVG	31.9	33.3	37.2	35.9	36.8	34.7	32.5	34.6
Service Time Per Call for All Units Dispatched								
Hour	SUN	MON	TUE	WED	THU	FRI	SAT	AVG
12M-4AM	61.0	82.8	83.5	80.2	96.3	76.2	55.6	76.4
4AM-8AM	60.8	47.0	72.9	54.8	55.6	50.3	54.8	56.4
8AM-12N	26.7	36.8	31.2	44.2	34.2	35.4	38.7	35.6
12N-4PM	33.6	31.8	43.0	45.2	37.3	33.7	36.4	37.2
4PM-8PM	48.8	59.8	56.6	57.7	51.0	51.7	42.7	52.7
8PM-12M	57.6	59.6	65.0	60.4	59.1	53.3	63.3	59.8
Total	47.8	49.2	54.6	55.1	51.9	48.7	48.3	50.8

# Analysis of Officer Availability for Duty

<b>Leave Type</b>	<b>Hours</b>	<b>Total Shifts</b>	<b>Shifts Per Officer</b>	<b>Hours Per Officer</b>
Vacation	2570.5	214.2	8.2	98.9
Light Duty	1688.0	211.0	8.1	97.4
Sick	1305.0	108.7	4.2	50.2
Comp Time Used	1159.3	96.6	3.7	44.6
Personal Leave	220.0	18.3	0.7	8.5
Bonus Leave	160.0	13.3	0.5	6.2
Acting Supervisor	60.0	5.0	0.2	2.3
Bereavement	48.0	4.0	0.2	1.8

1. Data on lost time collected from City time keeping system.
2. Information was analyzed for 26 police officers who worked for all 12 months in patrol.
3. Light duty is a significant factor in officer availability.
4. Sick time is reasonable but compensatory time used was almost as high as sick time.

**Table 4: FPD Shift Relief Factor (SRF)**

**1. Potential Staff Days Available**

26 personnel multiplied by 365 days 9,490

**2. Days Officers Unavailable**

Scheduled days off	4,745.0
Vacation	214.2
Light Duty	211.0
Sick	108.7
Training	225.0
Comp Time Paid	96.6
Personal Leave	18.3
Bonus Leave	13.3
Acting Supervisor	5.0
Bereavement	4.0
<b>Total Leave Days</b>	<b>5,641</b>

**3. Actual Staff Days Available**

Potential Days - Leave Days Taken = Actual Days Available  
 9,490 - 5,641 = 3,849

**4. Shift Relief Factor**

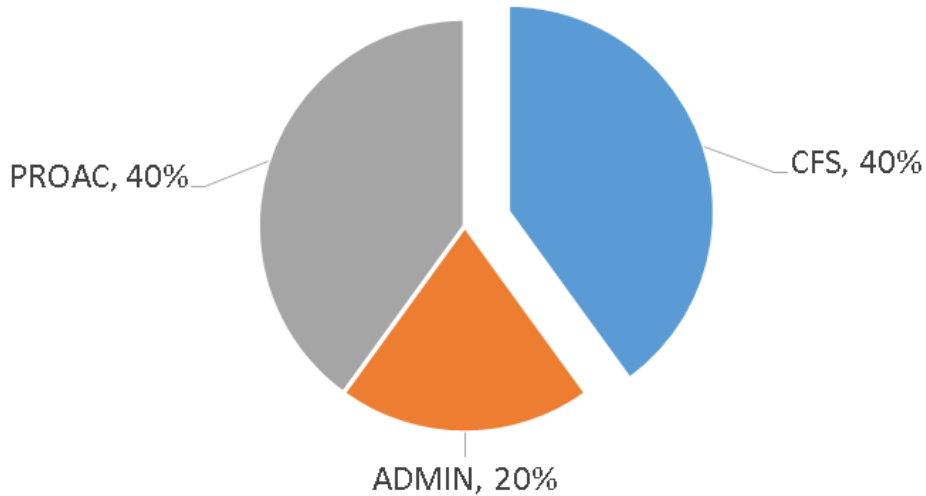
Potential Staff Days Available			
Divided By	Divided By	=	SRF
Actual Staff Days Available			
9,490			
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3,849			

**Table 5: Calculation of a Vacancy Rate**

<u>Field Operations</u>							
	1	Captain					
	2	Lieutenants					
	1	Acting Lieutenant					
	4	Sergeants (1 of these sergeants is currently on restricted (light) duty)					
	27	Police Officers (2 [of the 27] are currently in field training)					
	2	Pending lateral hires					
	1	Recruit in the police academy					
<u>Special Operations</u>							
	1	Captain					
	4	Detectives					
	1	Detective/Property & Evidence Manager					
<u>Administration</u>							
	1	Chief of Police					
	1	Lieutenant Colonel					
	1	Lieutenant					
	2	School Resources Officers (1 SRO is on restricted (light) duty)					
	49	Positions Filled					
	54	Authorized Commissioned Positions					
	5	Vacant Positions					
	9%	Vacancy Rate					



## Workload Goals for Staffing



				12 MID to 3 AM	3 AM to 6 AM	6 AM to 9 AM	9 AM to 12 Noon	12 Noon to 3 PM	3 PM to 6 PM	6 PM to 9 PM	9 PM to 12 MID	
				Fielded Officers	Fielded Officers	Fielded Officers	Fielded Officers	Fielded Officers	Fielded Officers	Fielded Officers	Fielded Officers	
<b>3. Staffing Policy Factors</b>				Percent								
	a. Calls for police service			40%	1.8	1.0	1.2	1.5	1.9	2.7	3.1	2.6
	b. Administrative tasks			20%	0.9	0.5	0.6	0.7	0.9	1.3	1.5	1.3
	c. Proactive time			40%	1.8	1.0	1.2	1.5	1.9	2.7	3.1	2.6
				100%	4.5	2.6	3.1	3.7	4.7	6.7	7.7	6.4
<b>4. Adding the Staff Availability Factor (SRF)</b>												
	Total Personnel Required Times	2.47	SRF Equals		11.2	6.3	7.6	9.2	11.5	16.4	19.0	15.8
			Shift Staffing		<b>AVG</b>			<b>8.6</b>	<b>AVG</b>			<b>15.7</b>
					<b>9.0</b>				<b>16.0</b>			<b>25.0</b>
<b>5. Adding Vacancy Rate</b>												
	Positions needed to generate personnel by adding a	10%	to		25	equals	2.5	<b>27.5</b>	or			<b>28</b>

(All results are rounded up because it is not possible to have a fraction of an officer or a position.)

# Conclusions

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- **Potential for Call Diversion** – Sick party and alarm calls represent 24% of calls for service dispatched in Ferguson. Policy changes could be made to reduce these calls by at least half which would have a significant impact on patrol workload and staffing needs.
- **Patrol Work Scheduling** – The current work schedule generates the same number of personnel on each shift. The results of the study show those shifts have different levels of workload and staffing needs.



# Conclusions

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- **Low Service Times Per Call** – Data on service time per call and interviews with FPD staff suggest that patrol officers need to spend more time on preliminary investigations. That time should be used to canvass neighborhoods, conduct interviews and collect evidence.
- **Funding Officer Training Time** – The SRF for staffing could be lowered by paying overtime for officer training. Ideally, overtime should be kept to a minimum because research has shown that excessive overtime can increase officer fatigue.

# Conclusions

- **Officer Safety** – Average free units is a measure used to support officer safety. The grayed out sections of the table below show that staffing at 40% provides at least two units free in 5 of the six time blocks in the analysis. Rounding of staffing calculations can generate one more unit to reach two free. An on duty supervisor would provide a third backup unit.

		12 Mid. to 4 AM	4 AM 8 AM	8 AM 12 Noon	12 Noon to 4 PM	4 PM to 8 PM	8 PM 12 Mid.
<b>Staffing for 30% Proactive Time</b>		Fielded	Fielded	Fielded	Fielded	Fielded	Fielded
	Percent	Officers	Officers	Officers	Officers	Officers	Officers
Calls for police service	50%	1.7	1.0	1.5	2.0	2.8	2.7
Administrative tasks	20%	0.7	0.4	0.6	0.8	1.1	1.1
Proactive time	30%	1.0	0.6	0.9	1.2	1.7	1.6
Total Personnel Required	100%	3.4	2.0	3.0	4.1	5.7	5.5
<b>Staffing for 35% Proactive Time</b>		Fielded	Fielded	Fielded	Fielded	Fielded	Fielded
	Percent	Officers	Officers	Officers	Officers	Officers	Officers
Calls for police service	45%	1.7	1.0	1.5	2.0	2.8	2.7
Administrative tasks	20%	0.8	0.5	0.7	0.9	1.3	1.2
Proactive time	35%	1.3	0.8	1.2	1.6	2.2	2.1
Total Personnel Required	100%	3.8	2.3	3.3	4.5	6.3	6.1
<b>Staffing for 40% Proactive Time</b>		Fielded	Fielded	Fielded	Fielded	Fielded	Fielded
	Percent	Officers	Officers	Officers	Officers	Officers	Officers
Calls for police service	40%	1.7	1.0	1.5	2.0	2.8	2.7
Administrative tasks	20%	0.9	0.5	0.7	1.0	1.4	1.4
Proactive time	40%	1.7	1.0	1.5	2.0	2.8	2.7
	100%	4.3	2.5	3.7	5.1	7.1	6.8

# Recommendations

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## 1. Resolve Staffing Issues in Communications

- Communications staff do not effectively screen calls, accurately enter data in the CAD system, and manage call stacking to try to keep officers in their assigned patrol areas.
- There is evidence that current staffing does not allow the FPD to staff call taking and dispatching separately.
- Dispatchers should be focusing attention on patrol unit activity, entering data in the CAD, providing information requested by patrol officers and should not answer 911 calls.

# Recommendations

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## 2. Improve CAD Data Quality

- To make the most of the City's investment in its CAD system, the police personal and communications center need to work together to improve the quality of data being collected.
- Measurable goals should be set for completeness and accuracy of CAD records.
- The implementation committee to be created to help implement Neighborhood Policing should take on this job.

# Recommendations

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## **3. Engage Employees and the Community to Improve Patrol Deployment and Staffing.**

- The Neighborhood Policing Steering Committee should use this report as part of the strategic planning process. Community input on alternative call handling and utilization of proactive time by patrol officers will be invaluable.
- The results of this study will impact the work of patrol officers. The Neighborhood Policing Employee Committee to be created will provide a mechanism for officer input. It should be made up of a cross section of all ranks and functions in the organization.

# Recommendations

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## **4. Improve Computer Programming Support**

- Programming support will be needed to generate useful CAD management reports on a monthly basis. These reports be used to clean up data by supervisors and managers in measuring the performance of patrol.
- The FPD needs to find resources to fund computer programming support. An effort should be made to make contacts with businesses, colleges and universities to obtain funding or in-kind assistance to provide computer programming support for implementation of Neighborhood Policing.
- About 60 days of programming time will be needed to build a management reporting system the FPD controls.