

TRAVERSE CITY POLICE WORKLOAD ANALYSIS

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INTRODUCTION

In November 2010, Alexander Weiss Consulting was chosen to conduct a comprehensive assessment of the Traverse City Police. The scope of this study was defined as follows:

- Evaluate City police services by benchmarking against other communities our size
- Evaluate the overall management structure
- Evaluate the number of police officers required to provide law enforcement services
- Evaluate the police work schedule, including overtime to determine alternative schedules which may be more cost effective and productive
- Evaluate the Detective Division operations, efficiency and workload to determine whether there are operational efficiencies that can be achieved
- Evaluate the central records operations arrangement with Grand Traverse County
- Evaluate the various support services in the public safety area to determine operational efficiencies and potential services provided by civilians vs. sworn officers
- Evaluate cooperative police service delivery opportunities with adjacent government units
- Outline procedures for implementing proposed alternatives including public safety services
- Outline cost evaluations and savings of various alternatives.

This report is based on several sources of information including:

- Meetings with ad hoc advisory board
- Comprehensive review of department data
- Interviews with a range of departmental members including command staff and police officers
- Observations of field operations
- Meetings with representatives of employee groups
- Interview with the Sheriff of Grand Traverse County

Focus group with key community stakeholders

PATROL OPERATIONS

There are a number of different methods to conduct a police staffing analysis, so it is instructive to review some of the more popular methods. Among these methods are:

- Population-based rates
- Authorized Strength
- Minimum staffing
- Workload/Performance staffing

For many years communities have relied on officers per population rates as a method to estimate the appropriate numbers of police officers for a community. This approach was driven, in part, by the FBI, who a number of years ago began suggesting optimal rates for given-sized communities. These staffing benchmarks remain quite popular-they are often used by police executives to justify additional resources. While these population ratios are a commonly used tool, they are, we believe, of limited value.

An examination of the population ratios from around the country shows significant variation. First, the rates vary widely by region.¹

- Northeast 3.4 per 1000
- South 3.4
- Midwest 2.7
- West 2.4

Next we see that the size of the community affects the rates:²

Population	Full Time Officers Per 1,000 Residents
250,000 or more	2.5
100,000 to 249,999	1.9
50,000 to 99,000	1.8
25,000 to 49,999	1.8
10,000 to 24,999	2.0
2500 to 9,999	2.2
1,000 to 2499	2.6
All sizes	2.5

Table 1 Full Time Police Officers Per 1.000 Residents

¹ FBI. Crime in the United States 2009

² IACP, Police Officer to Population Ratios Bureau of Justice Statistics Data

Not only do these rates vary by community size, but also there is tremendous variation within the categories. Examine, for example, the rates for large cities with the highest rates³.

•	Washington DC	6.3
•	Newark	5.4
•	New York	5.1
•	Baltimore	4.7
•	Chicago	4.6
•	Philadelphia	4.6
•	Detroit	4.8
•	St. Louis	4.3
•	Cleveland	3.8
•	Boston	3.8
•	Atlanta	3.5
•	New Orleans	3.4
•	Milwaukee	3.6
•	Buffalo	3.2
•	Cincinnati	3.1

This list illustrates the inherent difficulties in using the population rate approach. First, we observe that the rate in Washington DC is nearly twice as high as cities like Buffalo and Cincinnati. Second, the list is notable because many large cities like Los Angeles, Oakland, and Denver have rates that are much lower than any of these.

The principal problem with the population based approach is that it only addresses the quantity of police officers not how officers spend their time, the quality of officer efforts, or community conditions, needs, and expectations.

To illustrate this better we have complied a list of all cities in Michigan that have populations between 10,000 and 20,000. We have excluded townships and cities that have combined police and fire (public safety) departments. The following figure illustrates those cities and the number of sworn officers in each.

³ FBI, Uniform Crime Report, 2000.

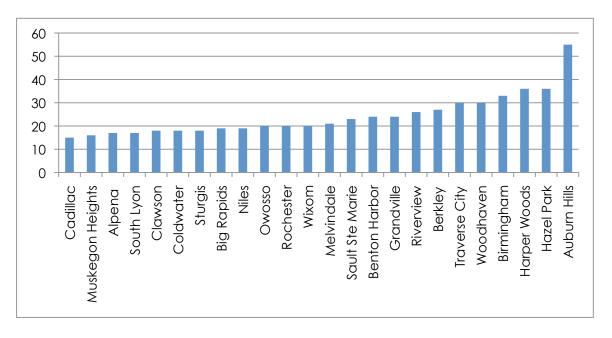


Figure 1 Number of Full Time Sworn Officers in Michigan Cities

Next we look at cities from this group in Northern Michigan. This table illustrates the number of sworn officers per 1,000 residents in each community, the total number of Part I (serious) offenses, and the Part I offense rate per 10,000 residents⁴. As we can see, there is very little relationship between the number of officers in a community and its crime rate. Owosso, for example, has the highest number of officers per capita, but its crime rate is considerable higher than Traverse City or Alpena.

		Officers Per		Offenses per
	Population	1,000	Part I Offenses	10,000
Cadillac	10005	1.49	642	642
Big Rapids	10401	1.73	386	371
Muskegon Heights	15713	1.27	1296	824
Sault Ste Marie	13272	1.96	938	706
Owosso	12530	2.39	778	621
Traverse City	14532	2.06	555	381
Alpena	10852	1.75	403	371

Table 2 Comparisons of Northern Michigan Cities

The International Association of Chiefs of Police (IACP) has taken a strong position on using population rates as a basis for police staffing. following is a quote from IACP's **Patrol Staffing and Deployment Study**

⁴ MICR: Michigan State Police

brochure: Ratios, such as officers-per-thousand population, are totally inappropriate as a basis for staffing decisions. Accordingly, they have no place in the IACP methodology. Defining patrol staffing allocation and deployment requirements is a complex endeavor, which requires consideration of an extensive series of factors and a sizable body of reliable, current data.

A second common approach to setting the number of police officers in a community is the "authorized strength", or the number of officers that are authorized in the community budget. For example, the budget for the city of Bloomington Minnesota has a table that displays the authorized strength of the department for the past ten years. 5

It may be problematic for an agency to use authorized strength as a benchmark for police staffing for several reasons. First, it can be challenging for a department to remain at their authorized strength. Given the time required for selection and training of new personnel it is often difficult to replace employees that resign or retire in a timely manner. As a result, departments will be below authorized strength.

Second, it can be difficult to determine what is meant by authorized strength. For example, in 2010 the Chicago Police Department offered an early retirement plan and simultaneously reduced new hiring of police officers. As a result the department at the end of 2010 the department was about 700 officers below its authorized strength of 13,500. However, in addition to these vacancies there are also over one thousand officers that are unavailable each day because of leave or other limited capacity. As a result, the media has repeatedly suggested that the department is operating with 2000 officers below its authorized strength. 6

Finally, when law enforcement executives and union officials openly bemoan the department operating below authorized strength is sends a message to the citizens that the community is not adequately funding public safety.

Another popular approach to police resource allocation is "minimum" staffing". In the minimum staffing approach, police departments define some minimum number of officers required to be on duty. If the number of

http://www.ci.bloomington.mn.us/cityhall/dept/police/po_support/po10y r.htm#strength

⁶ http://www.wgntv.com/wgntv-cpd-police-exam-dec11, 0,2568383.story

officers on duty falls below that value, the agency must fill that vacancy, typically through using an off-duty officer paid on overtime.

There are two key justifications for minimum staffing levels. First, in many communities they believe that there is a minimum that is needed to ensure public safety. This is particularly common in small communities where there are relatively few citizen generated demands for police service, but the community, nevertheless, feels that there must be at least two or three officers on duty at all times. The second justification for minimum staffing levels is police officer safety. Police officers are increasingly insisting (oftentimes through collective bargaining) that a minimum number of officers be on duty. In some communities the minimum staffing level is established by ordinance.⁷

These are both good reasons to maintain minimum staffing levels, but an agency adopting such an approach should understand the potential pitfalls.

First, minimum staffing levels are often only marginally related to demands for service. In fact, the minimum staffing level is typically higher than what would be warranted by the agency workload. Ironically, even though the minimum staffing is not workload based, it is not uncommon to hear police officers suggest that an increase in the agency's workload should warrant an increase in the minimum staffing level.

Second, the minimum staffing levels are sometimes set so high that it results in increasing demands for police overtime. It is not uncommon, for example, to see agencies that must "hire back" officers nearly every day because the number of officers assigned to the shifts is not enough to produce the minimum, given officer time off, vacations, sick leave, etc. Ironically, some agencies use a very narrow definition of available staffing. For example, they may hire back to fill a vacancy in patrol, even though there are a number of other officers on the street, including traffic, school resource, and supervisors.

Third, most police officers, given a choice, would prefer to have more officers on the street, and so for that reason, minimum staffing makes sense. However, it is important to acknowledge that increasing the minimum will not, in and of itself, improve the quality of agency performance, nor will it necessarily increase officer safety. In fact, when

⁷ http://thetimes-tribune.com/news/scranton-city-council-plan-for-policefire-staffing-level-raises-questions-1.1078163

agencies hire back police officers to work extra shifts they are likely to be fatigued, and their presence may actually increase the risk of injury to themselves or others.

Finally, in some agencies the minimum staffing level may become, by default, the optimal staffing level. Agencies often use the minimum level as a method to decide, for example, whether an officer can take a benefit day off. Others build work schedules so as to ensure that the minimum level is on duty, rather than optimizing the available resources.

The final aenerally used approach to police staffina workload/performance based. In this approach we estimate the number of police officers required by examining how officers spend their time. In other words, we base our determination of how many are needed, in large part, on what we want the officers to do.

There are six steps in the process to produce a staffing estimate:

- 1. Examine distribution of calls for service by hour of day, day of week, and month
- 2. Examine the nature of the calls
- 3. Estimate time consumed on calls for service
- 4. Calculate agency relief factor
- 5. Establish performance objectives
- 6. Provide staffing estimates

Police Calls for Service in Traverse City

The principal metric for this analysis is the citizen initiated call for service (CFS). A call for service describes those cases in which a citizen contacts the police (typically by phone) and a police officer(s) is dispatched to handle that call. This definition is very important in this type of analysis. Ironically, it can be very difficult to reliably measure the number of such calls in a community.

It is common for law enforcement executives to use information from their Computer Aided Dispatch System (CAD) as a basis for determining the number of calls for service in a given time period. Unfortunately this information can be very misleading Most computer-aided dispatch (CAD) systems organize their records systems around "events" or "incidents". But these events are not necessarily calls for service. In some communities, for example, every traffic stop is an event, or every time an officer comes to he station its is an incident. 8 In other cases, an event may start out as officer generated but wind up looking like a call for service. For example, the record of a traffic stop may look like a call for service, particularly if an arrest is made. The key consideration is that using CAD data without scrutiny may result in a gross exaggeration of the number of citizen generated calls.9

In spite of this classification issue it is often possible to obtain more reliable estimates of the number of calls for service by basing the query on the source of the call. That is, most systems will permit users to identify records that are generated by citizens rather than by officers or departmental sources.

Once we have determined the number of calls for service we can use that data to start building a staffing model. To begin we examine the distribution of those calls.

For this study we examined a one-year time period from October 1, 2009 to September 30, 2010. This approach allows us to account for seasonal variation. For this period of time the TCPD responded to 10,813 citizengenerated calls for service. This equates to about 30 calls per day, or slightly more than one per hour. The following figure illustrates the distribution of calls for service by hour of day.

⁹ It is not uncommon to find estimates of CFS that are three and four times greater than the actual number.

⁸ In the system used by the Chicago Police Department officer's meals are recorded as events.

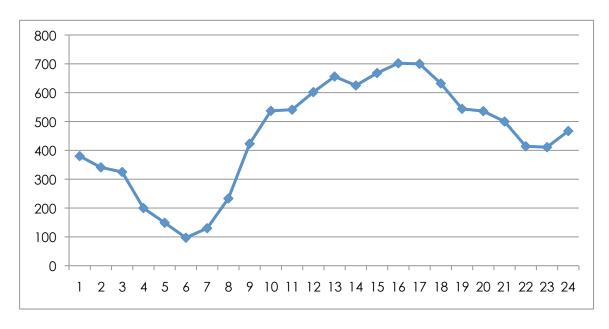


Figure 2 Calls for Service by Hour of Day

As we can see, over the course of a year, the department responds to about 400 calls from midnight to one AM, and that the peak demands time are in the later afternoon. This type of hourly distribution is very typical.

In the next figure we see the distribution of calls for service by day of week. In Traverse City there is relatively little variation by day of week, except that there are about 35% fewer calls on Sunday than on Friday.

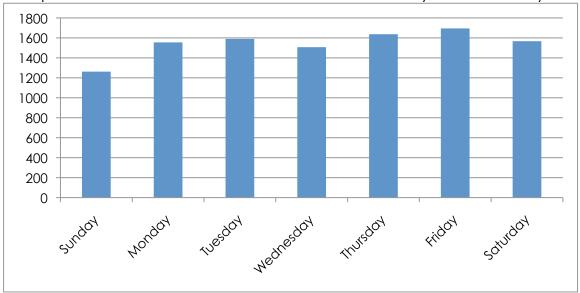


Figure 3 Calls for Service by Day of Week

Finally, we look at calls for service by month. Most communities experience higher call demands in the summer months, but the spike in Traverse City is quite significant. In fact the calls for service volume in July is over twice that of February.

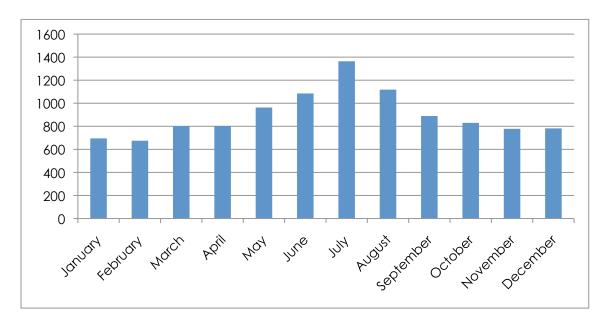


Figure 4 Calls for Service by Month

It can be instructive to examine the nature of citizen-generated calls for service. During the study period the vast majority of calls for service fell into five categories. They are described in Table 3.

Туре	Number
Assist	4040
C911 and E911 Hang-up	2623
EMS/Fire	2180
Traffic Accidents	1407
Alarms	465

Table 3 Top Calls for Service Categories

There are several important considerations related to this list. First, we observe that a substantial number of calls are classified as "assist". This category includes a wide range of activities that include things like motorist assists, assisting other law enforcement jurisdictions, or calls of a general nature. Unfortunately, the category also includes calls in which an officer was dispatched to a call (e.g. a disturbance at a bar) and because the officer took no formal action, the officer instructed the telecommunicator to re-classify the call as an assist. This action, we understand, obviates the need for the officer to complete an incident report. This practice causes several problems:

- It is very difficult for the department to understand the true nature of service requests
- It is very difficult to identify problem locations. That is, if the department sought to find out the number and nature of complaints at a particular bar, they would have to search individual incident records
- Best practices suggest that calls types should be classified by the dispatch center according to agreed upon procedures. If a call has been misclassified the officer can indicate that circumstance in the incident record.

Another aspect of this list that is problematic is the extraordinary number of 911 hang-up calls. These calls may involve significant police investigative efforts. Unintentional 911 calls occur when a person or phone inadvertently dials 911. This category includes phantom wireless calls, misdials and hang-up calls.¹⁰

Phantom calls typically occur when the wireless phone automatically dials 911. The National Emergency Number Association reports that phantom wireless calls account for between 25 and 70 percent of all 911 calls in some U.S. communities. The California Highway Patrol (currently the handler of nearly all California wireless 911 calls) estimates that between 1.8 million and 3.6 million of the 6 million wireless 911 calls it receives annually are phantom.

Misdials and hang-up calls are another 911 problem. Police suspect that many of these calls occur when callers misdial area codes similar to 911. Others result from misdialing of the international access number—011. In addition, business Centrex and fax users sometimes dial 9 to get an outside line, when their phone systems do not require doing so, if the caller then dials a number starting with 1 and depresses 1 again by accident, the system dials 911.

The city should work closely with Grand Traverse County to resolve this issue.

¹⁰ See: Misuse and Abuse of 911, Center for Problem-Oriented Policing.

Finally we observe that a large number of TCPD calls involve calls with the fire department.

Calls for Service Time

An important component of our analysis is the amount of time consumed on calls for service. We are interested in the time from when the called is dispatched until the time that the last officer clears the scene. The way in which time is recorded will tend to vary by community. straightforward approach is one in which an officer is dispatched to a call, and handles the call and the resulting administrative demands (e.g. reports, arrests) prior to clearing the call. In this case the total time consumed is easily defined and reliable. The necessary information should be readily available in the CAD database.

There are cases in which the measurement of time is more problematic. In some organizations an officer may respond to a call, and once they have completed their on-scene work they report to communications that the call is complete. In other cases the officer may complete the report for that call later in the shift, perhaps at the station. As a result, report preparation may not appear as CFS time. This potential problem can be addressed in two ways. First, an agency can determine the number of calls that require a report, and estimate the amount of time required. Second, if report writing will normally not be part of CFS time, it may be necessary to adjust for this when the agency establishes performance standards.

A final issue related to measuring time consumed is multiple-officer dispatching. Most CAD systems do not accurately capture the number of "back-up" officers dispatched to a call, nor do they capture the amount of time that the back-up officer spends on the call. In some communities officers "self-dispatch" to calls. That is, they respond to a call even though they have not been instructed to do so. There may or not be a record of their time on scene. We will describe alternative approaches to this issue in the section on building the staffing model.

In Traverse City, the average call takes 26 minutes from dispatch to clear. It appears that the vast majority of calls do not require a report, and that when they do; officers complete the reports at the station. We were not able to reliably determine the fraction of calls that require a back-up officer, so we will have to build our staffing model on estimated values.

Shift Relief Factor

The next component of out staffing model is the shift relief factor. The shift relief factor shows the relationship between the maximum number of days that an officer could work, and the number of days that they actually work. If we know the relief factor we can estimate the number of officers that should be assigned to a shift in order to ensure that the appropriate number is working each day. The shift relief factor will vary according to whether the officer is working eight, ten, or twelve hour shifts.

We begin by gathering data about benefit time off in the agency. There are two ways to approach this task. In some agencies it is possible to obtain the actual utilization of benefit time. That is, the agency can provide the actual number of hours of vacation taken by officers in a unit or on a shift. This can be very informative because, in general, officers with more seniority tend to have more benefit time off. Thus, we would expect a shift with senior officers would have a higher shift relief factor than one with more junior officers. Adjusting for this difference would make our model more reliable.

In the Traverse City Police Department, benefit time off varies according to seniority, and individual officer preferences. For example, some officers may opt to take compensatory time off, rather than receive overtime pay. These individual choices will affect the department's ability to staff. The following table illustrates our estimate of benefit time off for TCPD.

Category	Annual Hours Off
Regular Days Off	2184
Vacation	120
Holiday	80
Short Term Leave	56
Personal Days ¹¹	24
12 Hour Adjustment ¹²	104
Total	2568

Table 4 TCPD Benefit Time Off

Now we can calculate the shift relief factor.

Maximum Hours Available	4380
Benefit Time Off	2568
Hours Worked	1812
SRF 4380/1812	2.4

Table 5 TCPD Shift Relief Factor

This means that in Traverse City for each police unit the department deploys on a twelve-hour shift, it must assign 2.4 officers to that shift.

It is important to note that even though the shift relief factor for twelvehour shifts is quite high, the agency only has to staff two shifts. It is nominally the same as a department with eight-hour shifts.

Establishing Performance Standards

The final component of the staffing model is the performance objective. That is, we need to determine what fraction of an officer's shift should be devoted to calls for service and what portion to other activities. While there is no accepted standard for this allocation it can be instructive to explore how agencies have faced this challenge.

One of the earliest workload based models was developed by the IACP some thirty years ago. It suggested that officers should devote 1/3 of third time to calls for service, 1/3 for proactive (patrol) time, and 1/3 for

¹¹ At present TCPD Officers earn 12 hours of personal leave, but this will change to 24 in July 2011.

¹² Twelve-hour schedules will result in a 42-hour workweek. These extra hours are generally reduced from the schedule and are thus treated as time off.

administrative activity. This approach was superior to the officer to population rate, but it is rather simplistic. For most agencies, a careful analysis of calls for service would reveal that officers actually spend far less than 1/3 of their time on calls for service.

In our approach the estimate of officers required is based on the known community generated workload (calls for service), because it is easiest to measure and because it represents the best reflection of demand for police service. We believe that this approach is very reliable, because the other activity categories are often duplicative.

In our analysis we can accurately define the time consumed by community generated activities. The community, through policy-makers, must then determine what fraction of an officer's day should be available for other activities. Some communities might want officers to be available for patrol for half or more of their shift. Others devote considerable resources to specialized patrol units; as a result beat cars probably need less time available for officer-initiated activities. The key is that, once the community sets a performance objective, we can estimate the number of officers required. If that number is fewer than are available, the community can either add capacity or come to the realization that there are too few resources to meet the performance criteria.

To begin this portion of the analysis we first consider unit availability in Traverse City. From our earlier analysis we know that during our period of study there were 10,813 calls for service, averaging 26 minutes per call. Thus the total time consumed on calls is 4,685 hours. We also know that an average TCPD officer works 1812 hours per year. If we include the fourteen officers currently assigned to road patrol, this results in 25368 available hours. Thus officers currently spend about 18 percent of their available time on calls for service (4685/25368).

We now turn our attention to staffing estimates for the two road patrol shifts. The following table shows calls for service by shift.

Hours	CFS
Six am to six pm	6449
Six pm to six am	4364

Table 6 Calls for Service by Shift

Interestingly, although 60 percent of calls occur during the day shift, TCPD assigns about 40 percent of its road patrol resources to the day shift.13

1	2	3	4	5	6	7	8	9	10
			Minutes		Units	50%	RF	66%	
		ADJ	(26)	Hours	(4380)	DIS	2.4	Dis	RF 2.4
600-									
1800	6449	8061	209586	3493	0.8	1.6	4	2.4	6
1800-									
0600	4364	5455	141830	2364	0.54	1.1	3	1.62	4

Table 7 Staffing Estimates with 25 % Backup

1	2	3	4	5	6	7	8	9	10
			Minutes		Units	50%	RF	66%	
	CFS	ADJ	(26)	Hours	(4380)	DIS	2.4	Dis	RF2.4
0600-									
1800	6449	9673	251498	4192	0.96	1.92	5	2.9	7
1800-									
0600	4364	6546	170196	2837	0.65	1.3	4	1.95	5

Table 8 Staffing Estimates with 50% Backup

Tables 7 and 8 illustrate our staffing estimates for road patrol. Table 7 is based on the assumption that 25% of all calls require a backup unit and Table 8 assumes that 50% of calls require a backup. In the first column we have divided the day into two 12-hour shifts. You will note that the number of calls during each shift in column 2. In the third column we make the backup unit adjustments (adding 25 percent and 50% of calls respectively). This column, which includes the backup unit adjustment, is the basis for our analysis. In the fifth column we estimate the total time (minutes) consumed on calls by shift, and in column 5 we convert that to hours. In the next column we identify the number of units required to handle these calls if a unit worked every day and 365 days per year. This calculation is based on the total time consumed divided by 4380, the number of hours that an officer would work if they worked a 12-hour shift every day. The unit value is the number of officers that should be on duty if they only answered calls for their entire shift.

In column 7 we identify the number of on-duty units required if officers were to spend 50 percent of their time on calls for service and 50 percent on discretionary activities. Column 8 multiplies that value by the relief

¹³ There are additional resources, including sector officers, available on some days.

factor. This indicates the number of officers that should be assigned to a shift in order to ensure that a sufficient number are on duty to meet the performance objective.¹⁴ Columns 9 and 10 repeat this process, but this time we have a model in which officers spend one third of their time on calls for service and two thirds on discretionary activity.

Using these tables we can get a sense of the potential staffing requirements. If, for example, we assumed that 25% of calls require a backup unit and we want officers to have 50% available time (both quite reasonable assumptions) the department would need to assign 4 officers to the day shift and 3 to the night shift. We could, alternatively, assume that 25% of calls during the day shift require a backup and that during the night shift 50% require a backup. This would result in a deployment (50% CFS Time) of 4 on the day shift and 4 on the night shift.

	50% Obligated Time	33% Obligated Time
25% Backup	4	6
50% Backup	5	7

Table 9 Staffing Estimates for Day Shift

	50% Obligated Time	33% Obligated Time
25% Backup	3	4
50% Backup	4	5

Table 10 Staffing Estimates for Night Shift

The Traverse City Police Department currently assigns six officers and two sergeants to the day shift, and eight officers and two sergeants to the night shift.

It is important to note that while these models are quite robust, there are a few important considerations:

These models are based on averages. As a result, to the extent that the workload deviates significantly from the average by hour of day there may over or understaffing. The same goes for using the models to predict future staffing needs. To the extent future workload demand changes from that which occurred in 2009 and 2010, over or understaffing could occur.

¹⁴ Convention dictates that at this point we round the value up to the next whole number.

- Some events (such as a major crime or traffic accident) can create exceptional demands for police resources, far beyond that which can be expected from the study of daily activities.
- Our model focuses on officers assigned on the patrol teams, although it is the case that other officers including sector officers and school resource officers will handle some fraction of calls.
- When the amount of citizen generated work exceeds the performance objective (e.g. calls for service on a given day consume 75% of an officer's time) it will not necessarily impact response performance. It means that there will be less time for discretionary activities.

Given that Traverse City experiences a significant increase in workload in the summer months, we examined staffing under the assumption that the workload in July occurred in every month. That is, we took data from the busiest month of the year and built a staffing model that assumed that the number required for that month would be required every month. Assuming that the work was equal across both shifts, and that 25% of calls required a backup, we estimated that the department would require 5 officers on a shift at the 50% discretionary time level, and 8 officers on a shift at the 66% discretionary time level.

Work Schedule

The second component of patrol resource analysis is the work schedule. The work schedule is critical because it is a tool to ensure that resources are aligned with organizational objectives.

Police work schedules come in all shapes and sizes. Although each seems unique there is a methodology to apply so that we can compare work schedules. Among the important components of a work schedule are:

- Average work week
- Shift length
- Number of consecutive work days
- · Weekend time off
- Staffing by day of week.
- Percentage of officers on duty each day.

	М	T	W	T	F	S	S
1						Off	Off
2	Off	Off					
3		Off	Off				
4			Off	Off			
5				Off	Off		
6					Off	Off	
7	Off						Off
% On	71	71	71	71	71	71	71

Table 11 Example of a 5-2 Work Schedule

Table 11 illustrates a work schedule in which officers work a five-day on/ two-day off schedule with eight-hour days. We observe that the shift has unique properties:

- Fixed days off
- Three groups of officers have either a full or partial weekend day off
- Equal staffing by day of week
- Longest on duty cycle is five days.

Importantly, we observe that on every day 71 percent of the officers are assigned to be on duty, but that the number of officers on duty each day is the same. These are two very important criteria that can be used in evaluating a work schedule.

Table 12 shows how we can build a schedule that increases staffing on weekends. Let's say we have a workgroup with nine officers and we wish to provide staffing proportional to the daily workload. Each officer is assigned a day off group, but groups two and three each have two officers. This allows the reduction of staffing on some days, and the increase on others. This schedule is particularly attractive to employees that want fixed days off. It works well for officers that are going to school, and may be beneficial for those that assist in childcare. The disadvantage is that a substantial portion of employees never gets a weekend off.

	М	T	W	T	F	S	S
1						Off	Off
2 (2)	Off	Off					
3 (2)		Off	Off				
4			Off	Off			
5				Off	Off		
6					Off	Off	
7	Off						Off
On	6	5	6	7	7	7	7
Off	3	4	3	2	2	2	2
% On	66%	55%	66%	77%	77%	77%	77%

Table 12 Example of a 5-2 Work Schedule with Increased Weekend Staffing

Twelve-Hour Shifts

One of the most interesting recent changes in police work scheduling has been the widespread adoption of the 12-hour shift. Hundreds of agencies have adopted this approach, and the number of implementations continues to increase. Evidence, both anecdotal, and more systematic suggests that this approach can be highly effective¹⁵.

The twelve-hour schedule is relatively straightforward. It is a fourteen-day duty cycle. The pattern consists of: 2 days on, 2days off, 3 days on 2 days off, 2 days on, 3 days off. This schedule results in a 42-hour average workweek. Over the two-week cycle officers would earn four additional hours. All officers are assigned to one of two groups. The Traverse City work schedule is illustrated below.

	М	T	W	Th	F	Sa	Su
One			Off	Off			
Two	Off	Off			Off	Off	Off
% On	50	50	50	50	50	50	50

Table 13 TCPD 12-Hour Work Schedule

¹⁵ A Look at the 12-Hour Shift: The Lincoln Police Department Study. Captain Jon Sundermeier, Lincoln, Nebraska, Police Department. The Police Chief. March 2008.

As can be seen, officers have rotating days off during the duty cycle, but the pattern is repeated every two weeks. Thus, an officer could expect, for example, to have every other Monday and Tuesday off. Officers assigned to this pattern would have every other weekend off.

At first glance it looks like 12hour shifts actually reduce resource availability, but recall that the agency need only staff two shifts per day. Staffing 7 officers on 12 hour shifts is equivalent to staffing 10 eight hour officers.

Twelve-hour shifts, while growing in popularity, do have several disadvantages including:

- Officers engage in more outside activities
- Officers are more willing to live farther from the community
- The potential of more off-duty court time
- More difficult to schedule training
- Greater fatigue/ lower productivity
- Uniform staffing by day of week and by shift
- Fewer works days per officer per year
- More difficult to maintain communications

There are a number of advantages to this approach:

- Two shifts instead of three-easier to administer
- Fewer shift changes
- More days off per year
- More time for outside activities
- Fewer trips to and from work
- Less overtime
- Less sick leave
- Greater productivity
- Easier supervision
- Higher Morale

Agencies that adopt 12-hour work schedules are particularly concerned about fatigue. The evidence on this issue is mixed. On its face a 12-hour shift seems very long and one could easily predict an increase in accidents and injuries related to fatigue. However, the schedule does provide significant amounts of time off, and most agencies that adopted this approach have not experienced those anticipated increases. In fact, most agencies report that officers on 12-hour schedules use less sick time, and have lower levels of stress and illness.

The key to successful implementation is effective management of off duty time, particularly during the 12-hour break between consecutive days on duty. It is critical that officers get sufficient rest during their time off. For the department that means closely monitoring off-duty employment, court, and other obligations that may diminish the opportunity for sleep.

One of the issues that we identified during our study concerns the way in which the TCPD handles the 42-hour average workweek that results from the use of 12-hour shifts.

The city has entered into agreement with both the police officer and police sergeant employee organizations that addresses the work schedule. This agreement indicates that," The Police Department shall be scheduled to work a twelve (12) hour daily work schedule and an 84-hour tour of duty within a 14 day period." Moreover, it states that, "Overtime pay shall be one and one-half (1 ½) times the employee hourly rate for all hours worked in excess of 12 hours in any one day or in excess of eighty (80) hours in any one (1) pay period."

This is, in our view an unusual approach to this issue. Most police departments using 12-hour schedules will reduce the number of hours worked during the two-week cycle to maintain a 40-hour workweek. This can be done reducing staffing during off-peak hours, (e.g. between 3AM and 8 AM). Some agencies restructure their schedule so that all shifts on Sunday are eight-hour shifts.

The TCPD approach is particularly inefficient, particularly in light of the excess capacity in road patrol. Each week the eighteen members of the road patrol unit earn 36 hours at overtime rates. This results in 54 hours of straight time per week, or 2808 hours per year. Recall that a TCPD officer, on average works 1812 hours per year, so this overstaffing is the equivalent of 1.6 police officers. This would make more sense if there were a demonstrated need to staff at this level, but in the absence of such need this seems unnecessary. Even more importantly, officers that use compensatory time in lieu of overtime pay may be taking time off at times when it really does affect performance.

Sector Policing

About thirty years ago the police institution began a significant transformation. Many parts of the country were faced with steadily increasing crime rates, and in some cities relationships between communities and their police officers were very troubled. At the same time a new body of research about the police challenged some of the conventional wisdoms about how police should be deployed. Among these findings were:

- Routine, visible police patrol, did little to either prevent crime or make citizens feel safer,
- Most calls for service do not require a rapid response,
- The most important factor in determining whether a crime is ultimately solved is the quality of the information provided to the officer conducting the preliminary investigation.

There was widespread acknowledgement that the conventional approach to providing police services was not working. What emerged as an alternative approach has come to be known as community policing. While the nature of community policing has changed over time, there is aeneral agreement about what this strategy looks like.

"Community policing consists of two complementary core components, community partnership and problem solving. To develop community partnership, police must develop positive relationships with the community, must involve the community in the guest for better crime control and prevention, and must pool their resources with those of the community to address the most urgent concerns of community members. Problem solving is the process through which the specific concerns of communities are identified and through which the most appropriate remedies to abate these problems are found."16

One of the big challenges facing communities that want to adopt community policing is how to staff for it. Most proponents of

¹⁶ Understanding Community Policing: A Framework for Action. Bureau of Justice Assistance, 1994.

community policing have argued strenuously that community policing should be a "philosophy" of the department, rather than a special unit. In other words, everyone in the department should ascribe to the principles of community policing, rather than relying on a small number of officers to accomplish the task.

In spite of a significant body of research that suggests that the specialized approach is less effective, many departments have chosen to use this strategy. There are a number of reasons for this, includina:

- It is easier to manage this activity when it has been assigned to a relatively small number of officers
- Citizens may prefer having one officer to contact, rather than a system in which a group of officers is assigned to a given
- Some police officers are not interested or well suited for this approach to policing.

In the recent past TCPD staffed a community-policing unit called "sector policing". The unit included a sergeant and five police officers, each of which was assigned to one of five sectors. These officers were the principal point of contact between the department and the neighborhood associations. Moreover, these officers were assigned to work on problems in the sectors. They worked variable schedules in response to emerging issues.

In response to economic pressures Traverse City has decided to not fill vacancies in the police department. In order to fill positions in road patrol, the department has transferred positions form the sector-policing program. As a result, one sergeant and two police officers now staff the sector program.

In our discussions with community members it was clear that they thought that the sector officers were very valuable, and they believed that the program should be restored if feasible.

Based on our analysis we believe that there are a few alternatives approaches:

• It is clear that there is excess capacity in road patrol. If the department wished to keep sector policing they could fill those positions with existing resources. It is not clear that the city needs five sectors. In larger communities officers performing similar duties often serve areas in excess of 15,000.

- The department could eliminate the sector-policing unit, and assign its duties to patrol. Right now the department is organized and staffed by time of day. It could easily be organized geographically, with groups of supervisors and officers assigned responsibility for a section of the city. It might be advantageous to assign investigators to the teams.
- The department could maintain its temporal organization but adopt a "virtual" geographic approach. That is, every supervisor, in addition to directing his group of officers on a shift would be responsible for managing crime and disorder in a district. Working collaboratively, the supervisors could ensure that resources are directed throughout the city and throughout the day and night.

Enhancing Patrol Operations

One of the most important tasks for a law enforcement agency is the management and communication of information. Police agencies collect a great deal of information, but in some departments it is not well used. In our observations of TCPD we found that most of the staff thought about community problems was based on informal communication channels. Much of their knowledge was anecdotal or based on assumptions. As a result, they may not be focusing, at either the strategic or operational level, on the right things. For example, members of our focus group talked a great deal about traffic problems, and yet we found no department program or strategy to focus on high accident or high complaint areas. This is ironic, because officers seem interested in traffic enforcement. In the absence of a strategy, officers may write tickets in places where they are not as effective. Even though every officer we spoke with talked about the high number of calls involving alcohol, the department records system does not provide information about the location or nature of these types of calls.

The efficiency of TCPD operations is hampered without an effective analytical capacity. The TCPD would significantly benefit from a dedicated research and planning unit (perhaps to be shared with GTCSD), as it would leverage other existing resources. In a primer for law enforcement, the US Bureau of Justice Assistance summarized nine reasons law enforcement agencies need an analytical function:17

Helps solve criminal investigations.

17 http://www.iaca.net/Articles/analysts_9_steps.pdf

- Increases the ability to prosecute criminals,
- Supports the chief executive and the agency's mission,
- · Proactively informs law enforcement officers of crime trends and develops threat, vulnerability, and risk assessments,
- Trains law enforcement and other intelligence personnel,
- Assists in the development of computerized databases to organize information and intelligence,
- Fosters meaningful relationships with other law enforcement personnel,
- Ensures compliance with local, state, tribal, and federal laws and regulations, and
- Provides support to fusion centers.

To be sure, many agencies have recognized the value of a research and planning function. National surveys of local police and sheriff's offices indicate the percentage of agencies that have crime analysts ranges from 57% to 75% (the percentage is greater considering any personnel not just crime analysts—conducting analysis), 18 and the percentage is likely greater if one only considers large agencies. The Police Executive Research Forum (PERF) survey illustrates that only 11% of all agencies do not conduct any crime analysis at all. It also highlights the most prevalent activities of analysts:

- Identifying crime patterns (67%),
- Assisting first-line supervisors with crime analysis needs (62%),
- Working directly with detectives (61%),
- Assisting patrol officers with crime analysis needs (59%),
- Completing UCR reports (57%), and
- Conducting crime-mapping analysis (52%).

The PERF survey further finds that the analysis itself is most often used for:

- Determining whether the agency is effective in reducing crime and disorder (59%),
- Determining short-term deployment (e.g., patrol scheduling) (52%),
- Determining future personnel needs (51%), and
- Holding management and command staff accountable for crime reduction and prevention (47%).

¹⁸ Taylor, B, and Boba, R., "Integrating Crime Analysis into Patrol Work: A COPS Office Grant," presented at the 2009 Crime Mapping Research Conference, PERF, 2009; http://www.iaca.net/Articles/CAinAmerica.pdf

A research and planning unit could serve as an analytical and communication arm for the agency. It would make the deployment of TCPD resources more efficient by providing data-driven lessons about crime and traffic activities, and it would enhance accountability by illustrating the effectiveness of operations and strategies.

One of the most comprehensive new approaches to traffic safety is now being tested in several communities. Data-Driven Approach to Crime and Traffic Safety (DDACTS) National Initiative is a joint effort of NHTSA, BJA, NIJ, and partner organizations to encourage law enforcement agencies to implement a business model that uses highly visible traffic enforcement strategies to fight crime and reduce crashes at the local level by using geomapping techniques to identify Hot Spot areas, which support enhanced resource allocation. The initiative encourages using the full range of traditional and non-traditional partners to increase effectiveness.¹⁹

Another area that would improve performance would be a change in the way in which police officers complete reports. The TCPD uses a laborintensive system for completing case reports. Currently patrol officers and investigators dictate reports for subsequent transcription by non-sworn employees. This approach was a popular new technology in the 1970's, but has long since replaced by officers preparing reports on computers.²⁰ This approach would significantly reduce workload for non-sworn staff (allowing the city to reduce its contractual agreement with Grand Traverse County) with no reduction in quality. This approach will permit officers to remain on the road, rather than in the station.

Criminal Investigation

The criminal investigation functions of the TCPD are centered in the detective bureau. A police captain directs the bureau. The bureau staffing includes one detective sergeant, three detectives, a police

¹⁹ http://www.ojp.usdoj.gov/nij/topics/law-enforcement/trafficsafety/ddacts.htm

²⁰ The individuals that are transcribing the tapes are using the same input system that the officers could use.

officers assigned as school resource officer, and a police officer assigned to a regional drug enforcement task force.

Each of the three detectives is assigned responsibility for a broad category of offenses. These include:

- Violent Crimes
- White Collar Crimes
- Property Crimes

The department uses a rather unusual method of assigning cases for follow-up. After a police officer completes the preliminary investigation, he or she decides whether the case warrants assignment to the detective bureau. Their supervisor, who can override the officer's decision when indicated, reviews this decision. Each workday, detectives meet with GTSO detectives and review all of the cases that have been transcribed and entered into the record management system.²¹ During this review, detectives may decide to work on a case that had not been assigned for follow-up.

This process is problematic for a number of reasons:

- Police officers and sergeants may use different criteria to decide whether a case warrants follow-up
- The decision as to whether a case is assigned for follow-up should be based, in part, on workload in the detective bureau. This is information not readily available to the road patrol
- This approach makes performance evaluation very difficult. Agency performance should be based on the likelihood of a given case being solved, given that the offense was reported, not on whether or not it is assigned. We were unable to ascertain, for example, what percentage of cases investigated by patrol are actually assigned for follow-up.

Most police agencies use a more rigorous method of assigning cases. These methods examine the solvability (the likelihood that the cases will be solved) and the seriousness of the case. Many departments actually assign a "score" to each case and use these values as a way to prioritize cases.

²¹ We were told that for minor offenses it might take several days for a report to be transcribed.

In general, an agency bases its solvability score on the factors that tend to lead to case clearance in that agency. Nonetheless there are some factors that many agencies find to be good predictors of solvability:

- Can the identity of the suspect/s be established through:
 - -Useable fingerprints being discovered
 - -Significant physical evidence being located
 - -Victims/witness/informant information
 - -A license number of or a significant description of the vehicle used in the offense
- Is there serious physical harm or threat of serious physical harm to the victim?
- Did the suspect(s) utilize a deadly weapon?
- Is there a significant m.o. that will aid in the solution of the offense?
- Is it a sex offense in which the victim and suspect(s) had physical contact
- Can a suspect be named?
- Can a suspect be identified?
- Can a suspect be described?

As depicted in Figure 8, the Peoria (AZ) police department utilizes a relatively complex method for assigning scores to cases.²²

²²

PEORIA POLICE DEPARTMENT CRIMINAL INVESTIGATIONS BUREAU CASE SOLVABILITY FACTORS ASSIGNMENT FORM

DR#	OFFENSE
DETECTIVE ASSIGNED	DATE ASSIGNED
Death Investigation	20
	20
Kidnapping	20
Aggravated Assault (Major Felony = Weapon U	sed/Serious Injury)20
	s Injury) (w/o = 10 pts.)20
	20
	20
	20
	20
	05
	15
MISC. Sexual Offenses	
I. J. P	
Property Crimes	
	15
	10
Commercial Burglary 50K+	20
Commercial Burglary 25K – 50K	15
Commercial Burglary up to 25K	
Residential Burglary 25K	10
Residential Burglary 3-25K	
Residential Burglary up to 3K	
	04
	10
	05
	10
3	
Aggravated Criminal Damage Church or School	
verlicle burgiary	03
Case Decision	
Suspects Named	03
	02
	04
	10
Independent Witness to Offense	
	03
	07
	02
	03
	01
•	01
Review Regardless of Total	
Cases having 20 total points will be assigned to	a detective. TOTAL POINTS

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Using a system for solvability scoring allows the department to assign a case to one of several dispositions:

- The case can be sent back to patrol for further investigation or other action. This approach has been shown to be effective in that it enhances patrol officer responsibilities, and it tends to serve as an incentive for officers to prepare better preliminary investigations. That is, they are likely to do a better job if they think the case might come back, rather than simply be assigned to a detective.
- Assign the case for follow-up.
- Suspend the investigation, pending additional leads.

A second component of managing criminal investigations is the requirement that agencies insure that the correct amount of time is allocated to each case. In other words, it is important that scarce resources are allocated in a manner in which optimizes investigator time. The time component of investigations is critical for three reasons:

- In many investigations time is critical. If investigative activities are delayed it may reduce the likelihood that cases will eventually be solved.
- When an investigator is assigned many cases, it is logical to assume that he is making progress on all of them. That, in fact, might not be accurate.
- · Cases that remain open long after there is a reasonable chance of closing the case are inefficient.

At present, the TCPD uses an informal approach to determine whether cases are progressing satisfactorily. In general, once it has been assigned, it is the responsibility of the investigator to close the case.

The Police Executive Research Forum has provided a methodology to classify cases so as to make estimates of how much time should be spent on the case.²³ In this model UCR Part I Offenses are classified by category:

- Contact Cases: Cases with no follow-up or victim contact only,
- Less Complex Cases: Substantial solvability with little investigative effort.
- More Complex Cases: Limited solvability that require substantial effort, and
- Typical Cases: Cases with moderate solvability.

²³ Operational Study of The Fayetteville Police Department: Final Report, PERF February 2010

Drawing on this classification scheme PERF offers estimates of how much time might be consumed on these cases. This is a good approach to estimating how long cases investigation should take and how many investigators would be needed to handle the volume of cases. The use of such a scheme has several advantages over an informal system in terms of efficiency, accountability, and performance evaluation.

Sharing Police Services

Communities throughout the country are seeking ways to reduce the costs of providing services, and particularly public safety services which often constitute the largest component of their budget. This is occurring in all regions, and in all types and sizes of governments.

Among the range of cost-saving approaches there is great interest in sharing services among communities. Officials in Cincinnati, Ohio, for example, recently suspended their search for a new chief of police, so that they could explore opportunities to consolidate services with the Hamilton County Sheriff. 24 A law enforcement advisory panel appointed by Michigan Governor Rick Snyder will examine opportunities to share law enforcement services. 25

In spite of this significant interest in sharing services, relatively few communities have chosen this path. Understanding the context of this decision will help us understand why this has occurred.

For over fifty years policy-makers have examined ways to make the American policing system more efficient and effective. Their principal goal was to develop methods to share resources and to improve performance. There have been a number of different approaches to this sharing of services, including:

 Functional Consolidation: Two or more agencies combine functional units like communications, or crime lab, or SWAT team.

²⁴http://www.kypost.com/dpps/news/region central cincinnati/downtow n/Search-to-replace-police-chief-temporarily-suspended 6045585 ²⁵http://muskegonmicoc.weblinkconnect.com/CWT/External/WCPages/ WCNews/NewsArticleDisplay.aspx? ArticleID=229

- Public Safety Consolidation: Police, Fire and EMS are combined into one agency.
- Regionalization: A number of agencies combine to police a geographic area.
- Metropolitan: Two or more agencies serving overlapping jurisdictions join together.
- · City-County Consolidation: A city and county consolidate their entire governments.
- Contracting: Small and medium sized communities contract with a larger agency for police services.
- Local Merger: Two separate agencies form a single new entity.

There have been relatively few police agency consolidations, but the successes are worthy of mention:

- Police agencies have been very successful at functional consolidation for special weapons teams and major crime task forces.
- There are several very successful metropolitan law enforcement agencies includina Las Veaas/ Clark County, Charlotte/Mecklenburg County, North Carolina; Jacksonville, Duval County, Florida; and Nashville, Davidson County Tennessee.
- One of the first city-county consolidations, Indianapolis/Marion County, Indiana did not originally include the police and fire departments. Recently, the Indianapolis Police Department merged with the Marion County Sheriff. The city estimates that the annual savings from the consolidation exceeds \$8 million.
- Successful contracting arrangements are in place in King County (Seattle), Washington, as well as Los Angeles and San Diego Counties in California. The King County system is particularly effective because even though the officers assigned to each contract community are sheriff's deputies, each contract community's police vehicles have unique community markings, thus allowing the maintenance of a local "brand".

On its face, police agency consolidation would seem to make infinitely good sense. It appears that the possibilities for reducing costs are significant, and that the larger agencies would be better equipped to provide service. In spite of this, police agency consolidations are relatively infrequent. There are, we believe, four critical areas to consider.

First, most research suggests that citizens value local control over their police department. They like to know some or all of the officers, and many

think that as a resident they would receive favorable treatment. Ironically, for many years, the "professional" model of policing sought to minimize these personal relationships between officers and citizens in order to reduce opportunities for corruption. Community policing approaches put much greater emphasis on these personal relationships. Larger agencies adopting community-policing strategies have learned how to deliver neighborhood-based services.

Second, most police executives and officers are content with their organizations and see no particular benefit to consolidation. Beyond the expected resistance to change, many officers have real concerns that the nature of their jobs will change. Interestingly, one of the thorniest issues in police consolidations is the choice of who will be the chief executive of the new agency.

A third issue related to consolidation is that police organizations, even small ones, tend to place great emphasis on their unique identity. Police organizations learn new ideas typically through peer emulation. That is, they learn from each other.²⁶ Two agencies in the same geographic area would probably have very similar policy, procedure, and organizational structure. From the outside they would look remarkably similar. Nevertheless, every organization has attributes and symbols that are unique, and doing away with them can be problematic. Several years ago the Massachusetts Department of Motor Vehicle Registry Police became part of the larger Massachusetts Sate Police. There were a number of difficult issues in such a consolidation, but the greatest obstacle was the resistance that came from the state police troopers who thought that it was inappropriate to allow the motor vehicle registry officers to wear the highly distinctive state police uniform.

Finally, any assessment of consolidation must consider evidence from other communities that suggests that expected cost savings are often not realized. This can occur, in part because the initial costs of implementation are so high. The city of Athens, Georgia estimated that its costs for consolidation were nearly \$5 million. Most of theses costs were related to changes in logos, stationary, changing vehicle emblems,

²⁶Alexander Weiss, Informal Information Sharing Among Police Agencies. NIJ Research Preview National Institute of Justice, December 1998

equipment conversion, facilities and legal fees. ²⁷ Evidence from a study of Miami-Dade County suggests that, in general, consolidation does not offer community-wide economy of scale, but that it might add efficiency for specific services. Interestingly, their study suggests that policing is not among the services that benefit from consolidation.²⁸ Finally, the National Research Council concluded that," There is general agreement that consolidation has not reduced costs (as predicted by some reform advocates) and, in fact, may have even increased total expenditures".29

Sharing Services in Traverse City

As we examine possibilities for sharing services in the Traverse City region there are several factors that influence our range of options:

- The Traverse City Police Department and the Grand Traverse County Sheriff are already well integrated, sharing facilities, staff, communications, and the agencies, on occasion, work together on cases.
- The largest majority of Grand Traverse County residents live in the northern part of the county, and the Traverse City region includes parts of Leelanau County. The areas outside of Traverse City are growing in both population and use.
- Residents of Traverse City pay taxes to Grand Traverse County that are used to support sheriff's road patrol in areas outside of the city.
- The sheriff's office provides both county-funded road patrol and road patrol funded by contracts with several townships. The sheriff charges the townships for the direct costs of providing these services.
- Employees of the sheriff's office and the city police have different compensation and benefit packages.

²⁷ Sally Selden and Richard Campbell (2000), "The Expenditure Impacts of Unification in a Small Georgia County: A Contingency Perspective of City County Consolidation." Public Administration Quarterly, 24, 2.

²⁸ Fred Becker and Milan Dluhy, Eds. Solving Urban Problems in Urban Areas Characterized by Fragmentation and Divisiveness. Stamford CT JAI Press (1988)

²⁹ Alan Altshuler, William Morrill, Harold Wolman, and Faith Mitchell, Eds. "The Committee on Improving the Future of U.S. Cities, Governance and Opportunity in Metropolitan America". National Academy Press: Washington DC (1999) p.106.

A number of years ago a plan was implemented that would have created a unified law enforcement agency to serve Traverse City and Grand Traverse County. Although this plan was not finalized, the two agencies today have an unusually high degree of resource sharing. The two agencies share a facility, and the city contracts with the county for support services. Moreover, there is a significant interaction between investigators for the two departments. Each morning they meet together to review cases, and share information about crime and offenders. When a recent murder occurred in Traverse City, sheriff's investigators responded to the scene to assist.

There are, we believe, opportunities to build on this collaborative spirit. For example, even though road patrol officers from the two departments work in the same building, it appears that there is less interaction than that which occurs in investigations. We believe that it would be advantageous for the two departments to conduct road patrol briefings together. This would be difficult because of different work schedules, but if this hurdle could be overcome it could be quite productive. Another opportunity would be to "share" supervisors. At present, both agencies have supervisors working 24/7.30 Sometimes these two supervisors might each supervise two or three officers. It would seem that an agreement could be reached so that during off-peak hours one supervisor (from either agency) would be sufficient.

When one considers sharing of services in Traverse City it is important to think about the demographics of the region. It is clear that most of the residents of the county live in the Traverse City region, including the rapidly growing area around Garfield Township. Moreover, the Traverse City region really includes those areas around the east bay and in portions of Leelangu County. The implication of this is that any effort to define a regional or metropolitan police department must be comprehensive in nature. Moreover, these discussions should not be limited to conventional approaches. For example, from a strategic and resource perspective it would make sense for Traverse City to provide service (under contract) to the townships adjacent to the city given that an acceptable agreement could be reached.

Finally we examine the issue of funding for sheriff's road patrol. One commonly heard complaint during our study was that city residents pay taxes to support the sheriff's road patrol, but that city residents do not

³⁰ On occasion TCPD will use a police officer as a temporary substitute for a sergeant.

receive anything in return. At first glance this appears inequitable, but we believe that this is issue is more complex than it appears.

The role of the county sheriff varies widely across the United States. In the northeastern states, for example, the sheriff plays a modest role in law enforcement, because most duties in rural areas are assigned to the state police. By contrast, in the west, sheriffs are often large full-service agencies serving large populations in unincorporated areas, or under contract.

In Michigan there has been an ongoing debate about whether county sheriffs were obligated to provide road patrol in townships.³¹ The Michigan Court of Appeals, in Brownstown Twp v Wayne County, 68 Mich App 244, 251 (1976) stated: "Our review of the authorities leads us to hold that neither the common law nor Michigan statutory authority impose a duty on the sheriff to supply a full-time road patrol on all county roads and highways...All that is minimally required is that the sheriff exercise reasonable diligence to (1) keep abreast of those areas inadequately policed, which may require limited vigilance, (2) monitor criminal activity or unusual conditions in the county, and (3) respond professionally to calls for assistance from the citizenry.

The Michigan legislature subsequently identified those functions required to be performed by the Sheriff to the extent that the Sheriff obtains state funding for the additional services. These duties, found in MCL 51.76(2) are:

- (a) Patrolling and monitoring traffic violations;
- (b) Enforcing the criminal laws of this state, violations of which are observed by or brought to the attention of the sheriff's department while providing the patrolling and monitoring required by this subsection;
- (c) Investigating accidents involving motor vehicles;
- (d) Providing emergency assistance to persons on or near a highway or road patrolled and monitored as required by this subsection.³²

In spite of the finding that county sheriffs are not required to provide road patrol, most continue to do so, although a few only provide such service under contract. Grand Traverse County uses a mixed approach. Several years ago the county capped the size of the road patrol allocation. This allocation was designed to provide road patrol

³¹ Unlike many states, Michigan has no unincorporated areas.

³² "County Sheriff Road Patrol". Michigan Counties, July 2005.

everywhere in the county except Traverse City. Since that time any additional positions must be added through contracting, and currently six townships contract for additional services at a rate roughly equivalent to the direct costs for providing the deputy.

This contracting scheme can be viewed in two ways. The sheriff sees it as favorable in that the townships that contract get police service at a very attractive price, and since the number of county-funded deputies is capped the agency gets additional resources to provide services in an area that they would have to service anyway under the constrained allocation budget. In this sense the contracts are value-added.

We believe that there is another way to think about this situation. It is true that Traverse City residents are paying for sheriff services that they do not receive, but there are, in fact, externalities that are related to these services. In other words, it is in the interest of city residents for the sheriff to provide policing in the county, particularly in those areas contiguous to the city. It is not hard to imagine the consequences for Traverse City if crime and disorder were able to flourish in areas near the city. So even the city residents do not get sheriff's road patrol in their neighborhoods, they probably benefit from it nonetheless.

What is more problematic is the pricing scheme used for contracting. We think that the sheriff is not charging enough for these services. In order to understand this we have illustrated the costing model used by the Los Angeles County Sheriffs Office for contract policing. The table below illustrates the cost of providing a deputy for 40 hours per week. What we can see from this approach is that in a fully loaded cost (including all direct and direct costs) is at least twice as high as the direct cost for salary and benefits.

Salary	
Sworn personnel:	
Deputy, relief deputy	84,123
Watch Deputy	2,921
Investigator	7,486
Sergeants	10,823
Lieutenants	4,968
Captain	1,082
Civilian:	
Clerical, Desk Operations	9,771
Employee Benefits	
Sworn Personnel	60,300
Civilian Personnel	3,945
<u>Overtime</u>	
Sworn Personnel	3,001
Services and Supplies	
Auto (Maintenance & Replacement)	2,801
Other	1,920
General County Overhead	1,783
Department Indirect Support	14,997
Contract Law Enforcement Bureau	1,291
SERVICE UNIT COST	\$211,212

Table 14 LASO Contract Cost Analysis

It seems clear that the Grand Traverse Sheriff is offering police services at a price that is actually far below cost (entities that contract for police services through the Washtenaw County Sheriff's Department are currently paying \$161,000 per police services unit)33. As a result, county general funds (including those from residents of Traverse City) are being used in part to subsidize this service to the townships. We believe that while it may be reasonable for Traverse City residents to pay for a small portion of policing in the county, we do not think they should be asked to underwrite this county enterprise.

Finally, any consideration of consolidating the TCPD and GTSO must account for differences in compensation and benefits for employees. Of particular concern is the fact that recent hires in the sheriff's office participate in a defined contribution retirement plan. All others in the sheriff's office and all of the sworn officers in the police department participate in a defined benefits plan.

³³ http://www.annarbor.com/news/police-services-sidebar/

The Public Safety Option

In the face of extraordinary fiscal pressures, local governments are seeking ways of reducing operating expenses. Many communities have reduced services and staff. Until recently, these communities have been reluctant to cut public safety services, but, in fact, even these programs have seen dramatic cuts.

One increasingly popular option for reducing public safety costs is the consolidation of police and fire services and cross training of personnel. Often referred to as "public safety departments," consolidated organizations combine police and fire functions in terms of training, performance of duties, personnel management, and organizational control. Public safety consolidation has existed for decades, originating in the 1950's as a model for improving efficiency. Many communities have had considerable success with this format in ways that bolster both policing and firefighting, including increased access to staff and flexibility in their deployment and homeland security preparedness through enhanced communication, unity of command, and comprehensiveness of emergency response and planning.

To assess whether public safety consolidation makes sense it is important to understand how this model provides efficiency. Traditionally, police and fire departments have managed resource deployments differently. For most communities fire suppression response time is of critical importance. As a result, the typical approach to resource deployment is to strategically locate equipment and personnel, so as to ensure an optimal response. Ideally, at the moment that the alarm sounds the department wants to have its resources available.

The police take a different approach. In the 1950's police officers began to patrol primarily in cars. As communication systems made it easier to keep in contact with officers, police departments shifted their emphasis from "watching" to ensure community safety, to "waiting" to respond to calls for service. The widespread implementation of 9-1-1 emergency telephone systems has made it very difficulty for law enforcement agencies to manage demand for services. Even in communities with relatively few citizen-generated calls for service, officers still complain about going "from call to call".

Consolidation facilitates policing, because firefighters that would otherwise remain idle as they wait for a fire or other emergency can instead be deployed as police officers either on patrol or on some other assignment. Moreover, when fires occur communities are able to deploy personnel more quickly. This redeployment significantly leverages staff so that more personnel are routinely engaged and visible in the community.

The following table illustrates those cities in Michigan with populations between 10,000 and 20,000 persons that maintain fully integrated public safety departments.

City	Population	Sworn Public Safety Officers
East Grand Rapids	10763	29
Escanaba	13145	31
Grand Haven	11168	33
Fraser	15297	39
Ionia	11531	16
Grosse Point Woods	17080	38
Grosse Point Park	12443	43
Average	13061	32

Table 15 Public Safety Officers in Michigan Cities

We can see that, on average, these cities staff 32 cross-trained officers. In our group of Michigan cities of the same population range (see Figure number 1) the average population is 13,381, and the average number of police officers is 25. While the public safety group has a higher number of sworn officers it is important to recall that in the public safety communities these officers are performing police and fire duties. Traverse City, for example, employs 56 fire and police personnel, 43 % more than the average public safety department.

There are a number of factors to suggest that the public safety model will work well in Traverse City, including high levels of police availability, a modest fire suppression workload, and the availability of high quality emergency medical services through North Flight ambulance service.

According to data provided by the TCFD, during the period of January 2005, and November 2010 the department responded to 419 fires, and 275 false alarm calls. This equates (611 total calls) to roughly two fire calls per week. This workload could easily be absorbed by police officers that have been cross-trained as firefighters.

Of course, we know that fire suppression is a small fraction of the worked done by TCFD. Like most fire departments their principal activity is emergency medical service. Many communities in the country are rethinking how emergency services are delivered.

For much of the 20th century American fire departments were not involved in many services beyond fire protection. In the 1970's there was heightened interest in pre-hospital emergency medical care and transportation. EMS (emergency medical service) emerged as a new field to describe the services provided. New terms like emergency medical technician (EMT) and paramedic emerged. TCFD adopted this industrywide approach.

Like many fire departments, the Traverse City Fire Department performs basic and advanced life support role. They respond to medical calls and when necessary provide care to patients. In some cases they assist the North Flight ambulance service with treatment. North Flight transports patients.

As we have pointed out EMS calls constitute a significant portion of the fire department's work. In fact, while the number of fire calls continues to decline, the numbers of EMS calls has been increasing. The critical issue is that the fire department is primarily organized for firefighting, but its work is primarily EMS. Moreover, EMS work is being done well by Northflight at no expense to taxpayers.

Given these circumstances, we can consider three ways to approach this problem. First, the city could assume all responsibility for EMS in Traverse City, including response, patient care and transportation. Because insurance companies typically cover the cost of emergency transportation, the city could begin to collect that revenue³⁴. Even though there is a potential for revenue in this strategy, implementation costs could be very high because there would be a significant and long-term investment in training and equipment.

Another possible approach is to shift EMS first response duties to the police department. In this model police officers would be trained as Medical First Responders (MFR). Upon notification of a priority one or two EMS call, a police officer would respond and provide aid until the arrival of

³⁴ The percentage of patients that pay these bills tend to vary by community-it is largely a function of the percentage of patients with health insurance.

Northflight³⁵. There are a number of reasons to believe that this is a good approach:

- There are generally three or more officers on patrol in Traverse City. In most cases they could arrive more quickly than a fire truck, particularly given the time necessary to load the truck and maneuver through traffic.
- This option would modestly increase the police department's workload and there is enough excess capacity in the department to absorb this with no additional resources.
- EMS first response would be provided with a police vehicle, rather than a fire truck, thus reducing costs for vehicle wear and tear.

So if EMS responsibilities will be borne largely by the private sector, then what remains for the fire department is primarily fire prevention, inspection, heavy rescue, and fire suppression. Given the scope of that responsibility, there is strong evidence from communities throughout the state to suggest that the public safety approach warrants further examination, particularly when designed to include a cadre of volunteer or part-paid staff.

Conclusion and Recommendations

This report sought to provide a comprehensive review of the Traverse City Police Department, including an examination of alternative ways to provide public safety services in Traverse City. In this section we provide a summary of our findings and a set of recommendations.

To begin, we have observed that the Traverse City Police Department is a very fine organization. We were particularly impressed with the professionalism of the staff and their focused approach on keeping Traverse City a safe city. We are convinced, that as a result of these efforts, the TCPD is an asset to the community. Like any organization, however, there are things that it could do to be both more efficient and effective. They are detailed below.

Recommendation One: The TCPD should adopt a workload/performancebased approach to staffing the road patrol. At the present time the department uses a minimum staffing approach for road patrol. As we

³⁵ It appears that officers are already responding to the majority of these calls.

have illustrated this has resulted in excess capacity, and has resulted in a deployment that has placed more officers on the night shift in spite of the fact that the majority of calls occur on the day shift.

The workload-based analysis that we conducted produced a range of staffing recommendations based on alternative assumptions for the number of calls that require a backup unit and the percentage of time available for discretionary activities. Under the most generous assumption (50% of calls require a backup unit, and 66% of time is discretionary) the department should have three units on duty during the day shift, and two units on duty during the night shift. A more appropriate level (based on 25% of calls requiring backup on the day shift) would suggest a staffing level of two officers on day shift and two on night. If we account for the shift relief factor the TCPD will have to assign five officers to each shift to ensure that two officers are on duty each day. 36 lf, in addition to these officers, each shift includes a supervisor, we believe there will be adequate staffing to ensure quality service delivery and officer safety. In order to staff a supervisor on each shift the TCPD should assign five supervisors, four as the primary shift supervisors, and one to serve as backup. ³⁷ We also believe that officer safety can be enhanced through the use of reserve officers during peak demand times.

Recommendation Two: The TCPD should, as soon as possible end the practice of scheduling and paying officers and sergeants for a 42-hour work week. It is not clear whether such action would require negotiation with employee groups, but if so, it should be done. This practice is clearly not justified by our analysis of the workload.

Recommendation Three: The TCPD should re-examine the sector-policing **program.** In its present configuration the sector-policing program appears to be of marginal value. It seems, however, that the approaches used by these officers in the past (community outreach and problem-solving) are viewed favorably. We have outlined a few alternative approaches to providing these services. The city should engage the community in a dialogue as how to best structure and re-purpose this program.

³⁷ We believe that a supervisor should be on duty at all times and that the use of police officers as acting supervisors should be very limited.

³⁶ In this approach one of the five officers serves as a relief officer when one of the other four is on vacation or otherwise off duty. It may be necessary to assign six officers to each shift to meet scheduling constraints in the contract.

Recommendation Four: The TCPD should develop a strategy for the effective utilization of discretionary time. Our analysis has demonstrated that, in general, TCPD officers have a significant amount of discretionary time each shift. We observed that they seem eager to use this time productively. However, their actions seem not to be based on strategy or direction, in part, we believe because there is little or no analytical support for such activity.

Of particular concern is the lack of a comprehensive traffic safety program. That is, the department should identify a goal for its traffic program and then put in place the resources and systems to accomplish this goal.³⁸ We observed little or no evidence of such a strategic approach. The department does not provide traffic accident analysis, nor does it identify frequent accident locations. Given a choice, most police officers tend to conduct traffic enforcement where it is easy to do, rather than at the places where it may be most warranted.

Recommendation Five: The TCPD should change its procedures to require officers to input case reports directly into the department's management **information system.** The technology is readily available to allow officers to input case reports in their patrol cars or on other mobile devices. This would allow officers to remain on the street as well have access to the data they need to conduct a thorough preliminary investigation. Cases would be available for review and follow-up immediately. Importantly, adopting this approach will allow TCPD to eliminate contracted staff that transcribes reports. The city and county are in the process of acquiring the software that will facilitate this change in procedure. We recommend that it be implemented as soon as possible.

Recommendation Six: The TCPD should re-engineer its approach to **criminal investigation.** There are a number of opportunities that are available to improve efficiency of the criminal investigation process. First, from an organizational perspective it appears that the portfolio of the captain assigned to investigations is considerably smaller than that of the patrol captain. The span of control is more similar to that of a sergeant. Next, we think that if the level of resources in patrol remains at present levels, it may be advisable to shift the brunt of follow-up responsibilities to patrol. In this proposed model only the most serious cases, and those not well suited to patrol are assigned to the investigation unit. This will allow

^{38 2007} Weiss, A. and K. Morckel." Strategic and Tactical Approaches to Traffic Safety" The Police Chief (July): 20 – 23.

the department to assign fewer people to the detective unit, perhaps even contracting for investigative services with the sheriff. Third, the department should adopt a rigorous system for managing case assignment and implement systems to ensure that cases are handled expeditiously.

Recommendation Seven: Traverse City should explore opportunities to share services on a county and regional level. Michigan has historically provided mechanisms for local governments to share services. In the current environment it is likely that almost any ideas to share services will be viewed favorably. As we have described earlier there is a relatively high level of collaboration between the police and sheriff's departments. Given this high level of integration many people wonder why the departments don't complete the process and become one. The easiest way to accomplish this would be for the city to contract with the sheriff for road patrol and investigations. This contract would represent significant savings for the city because fewer police officers would be required. Even if the sheriff charged considerably more for contract services, it would still be advantageous to the city. It is not clear whether such an approach would be favorably viewed in Traverse City, and it seems to us that the sheriff might not view it favorably.

One model of service sharing that could be effective is the formation of a countywide police department. This approach is in use in many areas including St Louis County, Missouri, as well as several counties in Maryland. In this approach a new law enforcement agency would be formed to provide service throughout Grand Traverse County, including Traverse City. The new department could be managed by the county or through a special district. The agency would have an appointed chief of police. The sheriff would maintain responsibility for the jail, court security, and civil process.

Another approach, one, which makes sense from a strategic basis, is for the TCPD to become the anchor of a regional department that includes the city and townships in the area. Such a department could be organized as a special district, or under some other interagency agreement. This approach would capitalize on the advanced capabilities of the TCPD, and it will facilitate a more cohesive and integrated approach to policing the region. One significant obstacle to this idea is that most of the TCPD administrative infrastructure is linked to the sheriff. If that relationship was modified, and the city had to rebuild this capability from scratch, the costs to the city could be significant.

Should any of these options be of interest, additional information should be gathered among the community stakeholders and respective entities to assess the interest in and feasibility of the different options.

Recommendation Eight: Traverse City should seriously weigh the adoption of a public safety model of consolidated police and fire operations. One of the disadvantages associated with sharing services with other units of government is that it is subject to the vagaries of shifting political landscapes. That is, not only are negotiations difficult, but even when an agreement is in place, it can be changed later because one member of the alliance changes their mind. So, in some sense it is preferable to implement change within the same unit of government.

For this reason, a strategy that involves city departments will be easier. Of course, creating a department of public safety will not be easy. If history is any guide, the city can expect significant resistance from employee groups. Moreover, the start-up costs can be high. Nonetheless, we believe that this approach is extremely well suited to Traverse City.

Cost Analysis

We have provided policy makers with a set of policy and procedural recommendations. In assessing the potential cost of these initiatives it is helpful, we believe, to think of them in three categories:

- Enhancing efficiency and performance in the Traverse City Police Department,
- Sharing public safety services, and
- Creating a department of public safety.

Enhancing efficiency and performance in the Traverse City Police **Department**

One of the objectives of this study was to determine whether the TCPD had the appropriate number of officers. In our view that is a complex question based in part on community expectations. deployment options to consider. They are described below. For simplicity we are using a base estimate of \$100,000.00 per sworn police officer position (salary and benefits).

Option One. Reduce the Size of The TCPD Road Patrol.

We have suggested that the road patrol program could be reduced to 10 police officers (four assigned to teams and two to provide relief) and five sergeants. At present the staffing is 14 officers and four sergeants. Thus the net effect is a reduction of three positions, or \$300,000.

Option Two. Redesign the Sector Policing Program.

The sector policing in its present configuration appears to be of limited value. The community faces a choice as to how to proceed. One approach would be to transfer some or all of the excess resources from road patrol into the sector program. It is important that to note that if that option is chosen the unit should be well defined and data-driven. An alternative to creating a special unit is to use some or all of the excess capacity in road patrol to do community policing and problem solving as part of a shift. Shift sergeants would assume responsibility for managing the community-policing program.

Option Three. Eliminate the 42-Hour Work Week.

The potential savings from this action is \$70,200.00 (2808 hours X \$25.00 per hour)

Option Four. Eliminate Report Transcription

TCPD contracts with Grand Traverse County for administrative support. All of the personnel assigned to records perform transcription services among other tasks, but it would seem that ending transcription services could eliminate at least two positions. This represents a potential savings in salary of \$70,000. One of these positions could be repurposed to provide crime analysis for one or both departments.

Option Five. Restructure the Detective Division

The Traverse City has an experienced group of investigators who perform their jobs effectively. Earlier in this report we described the need to introduce better methods for managing case assignments. These steps will enhance investigator productivity. There are other potential efficiencies to consider.

The TCPD has "outsourced" almost all of its administrative support activities, but, nonetheless, still requires administrative oversight. As a result the department has two large divisions: patrol and investigations, and the investigations captain spends about two thirds of his time on administrative matters. In the present organization structure the patrol captain directs 21 sworn officers and supervisors, while the detective captain directs six.

An alternative approach would be to keep the road patrol at its current size and assign the brunt of criminal investigations to patrol. We believe that they could handle this workload with their current resources, and that it would enhance their job. In this model only the most serious cases³⁹ would be assigned to detectives for follow-up, and thus the unit could be reduced from four to two investigators. This represents a potential savings of \$200,000.00,40 or perhaps more if these two positions could be provided under contract with the sheriff. Under this approach the department should re-assess whether it is necessary to assign a captain to manage the administrative function.

We have no recommendation about the detective assigned to a regional drug enforcement group; however, we believe that in keeping with best practices the school resource officer should be a uniformed position. 41

³⁹ During 2009 TCPD reported 8 sexual assaults, 5 robberies, and 16 agaravated felonious assaults.

⁴⁰ Salary and benefits for one detective and one sergeant.

⁴¹ http://www.ncdijdp.org/cpsv/sro/job description.html

Sharing Services

Assessing the costs of sharing services is difficult because they depend, in great part, on their structure and governance. The most straightforward model would be one in which the city contracted with the sheriff for all police services. It is not clear whether the sheriff would welcome such a relationship or how this would affect the costing structure. Let us assume that the sheriff could provide policing in Traverse City with 20 sworn officers and supervisors.⁴² At the cost of \$75,000 per position the total contract would be \$1,500,000. The Traverse City FY2010/2011 budget includes cost for salary and benefits in the police department of \$2,639,200.43 One significant hurdle to contracting is that the city charter requires the city to "have a police department." In addition, if the city were to abandon its police department and subsequently decided that it was unhappy with contracting, the costs to re-start the department would be enormous.

Public Safety Department

As part of our project we were asked to examine the feasibility of adopting the public safety approach in Traverse City. We believe that it is a good idea, one that has significant potential. In assessing the costs of such a plan it is necessary to examine both short and long term costs.

The biggest costs for this model would be related to training. The city would be required to certify all the current police officers firefighter (I and II), and, in addition, would be required to obtain police officer certification for 26 firefighters.

There are many institutions in Michigan that provide police certification training. A typical program lasts 16 weeks and costs approximately \$5800.00. A typical fire academy program lasts 10 weeks and costs \$3500.00. Thus the cost for the training alone (excluding time lost and

⁴² The sheriff provides contract services for Garfield Township with 10 officers, one detective and one Lieutenant.

⁴³ Does not include pension costs of \$647,427.

possible overtime) is \$105,000 to certify the police as firefighters and \$150,800 to certify the firefighters as police officers. 44

We can also anticipate a number of expenses incidental to the implementation including:

- Equipment
- Uniforms
- New Branding
- · Integration of record keeping
- Potential litigation

The real cost savings from this form of consolidation come over the long term. Because all public safety officers are trained as firefighters it is not necessary to assign as many people to fire stations. After full implementation one or two public safety officers would staff the fire stations. After full implementation the size of the public safety department could be between 35 and 40 officers as compared with 56 now.

Implementation

Traverse City, like many other communities is looking for ways to provide high-quality public safety services at lower cost. We have provided several alternatives to consider as it faces this challenge. There are three implementation approaches recommended.

First, if the city chooses to focus on efficiency within the department it will require significant effort from the department's senior leadership. We would recommend establishing a working group to create a strategic plan and to assess options. This group may include department staff, city staff and representatives of labor organizations. Discussions about sector policing should include neighborhood associations.

With respect to sharing of services the principal goal is to begin a dialogue with representatives of the entities in the region to discuss alternative approaches. There probably never has been a better climate for such deliberations as right now.

⁴⁴ This assumes, of course, that everyone would seek to participate in the consolidated department.

Finally, if the city chooses to pursue the public safety model, city staff should work to integrate the police and fire studies in order to produce a comprehensive assessment of consolidation and produce an action plan.