

INTER-GOVERNMENTAL CONTRACTING FOR POLICE
PATROL IN MICHIGAN: AN ECONOMIC ANALYSIS

Submitted to the Dept. of P.P.S.D.

MICHIGAN STATE UNIVERSITY

ALLEN PARK, MICHIGAN

1978

32856

ABSTRACT

✓ INTER GOVERNMENTAL CONTRACTING FOR POLICE
PATROL IN MICHIGAN: AN ECONOMIC ANALYSIS

By

William Allan Sinclair

Local officials in many rural areas experiencing rising demand for police patrol services face three institutional ways of obtaining their desired service level. The first is requesting more patrol service from the county sheriff or State police. The second is to start their own police department, and the third is to purchase, through contracting, more patrol service from the county sheriff. Each institutional alternative relates local officials to a supplier of patrol service in a different way, and this affects the type and level of service produced. The focus of this dissertation is contracting for patrol service between officials of local communities and their respective county sheriff.

A structure and conduct-performance marketing model has been used to analyse the contracting operations of different Michigan sheriffs. The critical structural variable used was the funding relationship between each sheriff and his county commissioners relative to the sheriff's desire to expand his patrol division. The conduct-performance variables used were cost per patrol hour, reporting to local officials, divisibility of patrol service sold, activities performed by contracted patrols, rotated versus permanently stationed deputies, revenue from liquor inspection, amount of time spent outside contracting community, and response time.

Each sheriff in Michigan which had some form of contracting with local communities was interviewed by phone. Of these sheriffs, eleven with the most extensive contracting operations were selected for more detailed study. Data on the structural and conduct-performance variables was obtained by personal interviews with each of these sheriffs and their officers. Because of the availability of response time data, one sheriff was chosen for more in depth analysis.

The major findings of this research are the following:

Finding Number One--Contracting for patrol services in Michigan between local communities and the county sheriff was widely practiced in 1974. Of Michigan's 83 county sheriffs, twenty-four of them had some type of contracting arrangement with a local unit of government. In addition six sheriffs contract with the U.S. Forest Service to provide patrol service to national parks within their county. Great variety exists among contracting operations.

Contracting is most extensive in those counties with a large percentage of urban residents. One reason for this is that the county boards in these counties are dominated by urban commissioners. These urban commissioners are unwilling to increase spending on the sheriff's road patrol, which mainly serves rural parts of the county. Their reasoning is that urban citizens pay an amount over county taxes for city police service, and citizens of villages and townships should do the same.

Finding Number Two--The conduct-performance variables mentioned earlier were useful in comparing the contracting operations of different sheriffs. A major finding was that not all sheriffs provided the same set of conduct-performance characteristics to contracting local communities.

Finding Number Three--Ten of the eleven sheriffs studied, priced their contract at less than variable costs. The percent of service costs which are not incorporated into the contract price range from a low of 10% to a high of 64%. This means that in most contracts, the county general fund is being used to meet part of the contract costs.

Finding Number Four--The sheriff of Genesee County experiences greater variable costs in the production of patrol service compared to 14 local police departments within Genesee County. The difference between a sheriff's patrol costs and those patrol costs met by local communities which have their own police department partially determine the amount of price concession the sheriff feels he must give in order to provide financial incentive for contracting.

Finding Number Five--The sheriff is capable of influencing the local officials' decision to contract with him through his areal allocation of his non-contract patrols. For the county studied in depth, it was found that the sheriff allocated patrols to minimize the county-wide response time which meant that the most populated portions of the county, the portions most likely to have their own police department, received the lower mean response time. The less populated portions of the county, those portions less likely to have their own police service, received a higher mean response time. This means that the less populated areas

wanting more patrol service either must contract or start their own local police department which creates a contracting opportunity for the sheriff. It also means that the sheriff's non-contract patrols are highly visible in communities with their own police department, and local officials and citizens become accustomed to dealing with the sheriff's personnel encouraging any change from a local police department to a contractual arrangement.

Finding Number Six--The structural relationship which the sheriff has with his county commissioners relative to the need which he feels to increase his patrol division affects his propensity to contract and to meet the conduct-performance objectives of local officials. From interviews, the eleven sheriffs studied were subjectively placed into one of two groups. Group one were sheriffs that felt little need to expand their patrol division and were able to obtain current and anticipated patrol funding from the county commissioners. Group two were sheriffs who want to expand their patrol division and have met or anticipate meeting funding resistance from county commissioners. The conclusion which I draw is that sheriffs in Group two are more inclined to contract with local communities and meet the conduct-performance objectives of local officials than sheriffs in Group one.

A more detail account of each finding can be found in Chapter VI which summarizes the entire study and can be read independently of Chapters I-V.

INTER GOVERNMENTAL CONTRACTING FOR POLICE
PATROL IN MICHIGAN: AN ECONOMIC ANALYSIS

by

William Allan Sinclair

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Agricultural Economics

1975

To Betty Jean: Whose Love
and Support I Needed

To my Mother and Father: Upon
Whose Foundation I have Built

ACKNOWLEDGMENTS

My gratitude and appreciation goes to Al Schmid, my major professor and friend, for his guidance and patience throughout my entire graduate program. His acceptance and careful direction allowed me to grow intellectually and emotionally while retaining my independence. He taught me, by example, lessons which will yield a stream of returns for years to come.

I am grateful to have experienced Les Manderscheid in my research and teaching efforts. My thanks goes to the other members of my committee, Larry Libby, Leanna Stiefel, and Al House, for their numerous thoughts and suggestions.

Special thanks is extended to the following Michigan Sheriffs and the officers who openly shared with me the data and information which made this research possible:

Clinton County:	Sheriff Anthony Hufnagel
Eaton County:	Sheriff Eugene Hoag Undersheriff Kennedy
Genesee County:	Sheriff John O'Brien Lt. Jim Neering
Huron County:	Sheriff Richard Stokan
Ingham County:	Sheriff Kenneth Preadmore
Kalamazoo County:	Sheriff Ronald Keim Chief Deputy Al Tuckey

Kent County:	Lt. Robert Hill Lt. Dave Price
Lenawee County:	Sheriff Richard Germond Undersheriff Art Kerr
Livingston County:	Sheriff Charles Hards Lt. Dave Teggerdine
Oakland County:	Sheriff Johannes Spreen Lt. Carl Matheny
St. Clair County:	Sheriff Norman Meharg Undersheriff Norman Lundy
Washtenaw County:	Sheriff Fred Postill Chief Deputy Robert Shaw
Wayne County:	Sheriff William Lucas Director Executive Division Frans Heideman

My thesis is dedicated to my wife, Betty, who encouraged and supported me during my entire graduate training.

Thanks is also expressed to Kent Cartwright for reading and editing parts of my thesis and to my typists Margaret Beaver, Virginia Getz, and Joyce Jones.

I am indebted to the Department of Agricultural Economics of Michigan State University for their financial support during my graduate program. My research has partially been funded under Grant Numbers 73-NI-99-1002 and 73-NI-99-1023 from the Law Enforcement Assistance Administration, U.S. Department of Justice. Researchers undertaking research under Government sponsorship are encouraged to express freely their professional judgement. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the U.S. Department of Justice.

TABLE OF CONTENTS

	<u>Page</u>
List of Tables	
List of Figures	
CHAPTER I: Structure and Conduct-Performance in the Provision of Patrol Services	1
Introduction	1
Research Goals	3
Principles of Marketing and the Provision of Public Services	5
Model Conditions	7
The Model	9
Structural Variables	12
Conduct-Performance Variables	17
Institutional Alternatives and the Costs of Transaction	20
The Model--So What?	27
Conclusion	28
CHAPTER II: Level of Patrol Services and Whose Preferences Count	30
Introduction	30
A Boundary Problem	30
The Consolidation Movement	34
The Cooperation Continuum	37
Voice and Exit	39
Overlapping Jurisdictions and the Optimal Amount of a Collective Good	41
The Overproduction Trap	47
Fiscal Equivalence	50
Potential Purchases of Incremental Output	53
Conclusions	58
CHAPTER III: The Bargain Institution for Patrol Services	61
Introduction	61
Contracting with U.S. Forest Service	67
Oakland County	70
Huron County	77
St. Clair County	82
Wayne County	85

TABLE OF CONTENTS (continued)

	<u>Page</u>
Clinton County	90
Kent County	94
Lenawee County	99
The County Sheriff	100
Private Police Supplier	102
Comparison of the Two Contracting Operations	107
Genesee County	109
Washtenaw County	115
Kalamazoo County	121
Eaton County	126
Other Contracting Arrangements	131
Conclusion	137
 CHAPTER IV: Whose Preferences Count?	 138
Introduction	138
Structural Differences Between County Sheriffs	139
Level of Contracting	143
Inter Sheriff Comparison of Conduct-Performance Characteristics	145
Price Charged By Different Sheriffs	156
Relation of Structure to Conduct-Performance Characteristics	168
Conclusion	178
 CHAPTER V: A Case Study of One Sheriff's Contracting Operations	 180
Introduction	180
Case Study County and Sheriff's Contracting Operations	181
Performance Measures	187
Area Distribution of Sheriff's Non-Contract Patrol	196
Allocation of Non-Contract Patrols and Price Concession	205
Percentage of Calls Answered Outside Contracting Community	205
Type of Patrol Services	207
Conclusion	222
 CHAPTER VI: Conclusion	 226
Research Goals	230
The Nature of the Product	231
Structure and Conduct-Performance	232
Research Findings	237
Policy Implications	250
Conclusion	253

TABLE OF CONTENTS (continued)

APPENDICES

Appendix A	255
Appendix B	294

BIBLIOGRAPHY	298
------------------------	-----

LIST OF TABLES

<u>Table</u>	<u>Page</u>
3-1. Number of hours sold to contracting communities and the price charged by the Oakland County sheriff in 1974	70
3-2. Comparison of resources used to the county estimate and the revenue received from contracting communities	75
3-3. Estimate of variable resources used, annual amount paid to sheriff and sheriff's cost estimate	94
3-4. Yearly hours contracted and received and price paid in 1974-75	103
3-5. Annual number of single and double patrol hours produced and price charged by the Genesee County sheriff	110
3-6. Estimate of variable resources used and estimated amount billed to each contracting community	114
3-7. Single and double patrol hours produced and price charged Washtenaw County sheriff in 1974	116
3-8. Comparison of resources used to contract price	119
3-9. Annual number of single and double patrol hours produced and price charged by the Eaton County sheriff	126
3-10. Comparison of patrol costs and contract price for the Eaton County sheriff	130
4-1. Percent of sheriff's single and double patrol hours financed by contracting	143
4-2. Population density and percent population classified as urban for counties in Group 1 and Group 2, 1970	144
4-3. Annual number and cost of single and double patrol hours for the Genesee County Sheriff's contracted patrols and selected local communities in 1974	161

LIST OF TABLES (continued)

	<u>Page</u>
4-4. Comparison of the per patrol hour (single and double) costs and price charged for the Genesee sheriff's contracted patrols	163
4-5. Comparison of annual contract price charged by Michigan sheriffs to the estimated total variable annual costs in 1974	164
4-6. Inter sheriff comparison of structural conditions and patrol performance objectives	177
5-1 Demographic Characteristics of Matched Communities . .	184
5-2 A Hypothetical Example Comparing the Means Calculated Using Raw Data to Means Using Data Transformed into Logs	186
5-3 Sheriff's Non-Contract Patrol Services to Communities of Varying Population Sizes	197
5-4 Correlation Between the Variables Population Size, Level of Complaints, Response Time, and Time Spent on Complaints	200
5-5 Comparison Between Sheriff's Non-Contract Patrols and Local Patrols	203
5-6 Complaint Classification	209
5-7 Mean Response Time by Complaint Categories, Type of Police Unit, and Community	210
5-8 Mean Time Spent by Complaint Category, Type of Police Unit, and Community	211
5-9 Complaint Categories Ranked According to Mean Response Time for Selected Communities and Responding Police Unit	212
5-10 Complaint categories ranked according to mean time spent on complaint for selected communities and responding police unit	213

LIST OF TABLES (continued)

	<u>Page</u>
5-11. Comparison of response time ranks for different complaint types for the sheriff's non-contract patrol, contracted patrols and local patrols	215
5-12. Comparison of time spent ranks for different complaint types for contracted, local and the sheriff's non-contract patrol	216
5-13. Response time ranking range of nine complaint categories for three contracted patrols, five local patrols and nine sheriff's non-contract patrols . .	218
5-14. Time spent ranking range of nine complaint categories for three contracted patrols, five local patrols and nine sheriff's non-contract patrols	219
5-15. Rank correlations of complaint categories for selected patrol operations with response time as the performance measure	221
A-1 Estimated Value of Resources Used in Each Contracting Operation in Oakland County	259
A-2 Comparison of Resources Used to the Oakland County Estimate and the Revenue Received from Contracting Communities	260
A-3 Comparison of Per Patrol Hour Price and Cost for Oakland County Contracts	262
A-4 Estimate of Variable Resources Used in the Five Township Contract with the Huron County Sheriff	264
A-5 Value of Salaries Used in the St. Clair County Sheriff's Contract with Yale City	266
A-6 Total Patrol Expenses for the Yale Contract with the St. Clair County Sheriff	267
A-7 Cost of a new Patrol unit, 1973-74 for the Wayne County Sheriff	269
A-8 Estimate of Variable Resources Used and Clinton County Sheriff's Cost Estimate	272
A-9 Estimate of Variable Resources Used, Annual Amount Paid to Clinton County and Sheriff's Cost Estimate	273

LIST OF TABLES (continued)

A-10	Actual Expenses Billed to the Contracting Townships in 1974 by the Kent County Sheriff	274
A-11	Estimate of Vehicle and Uniform Expense Absorbed by the Lenawee County Sheriff for Contracting Communities	276
A-12	Deviation of Salary Cost Per Man Hour for Lenawee County Sheriff Deputy	277
A-13	1974 Patrol Hour Costs for Single and Double Patrol Units Supplied to a Village or a Township by the Lenawee County Sheriff	278
A-14	Actual and 12-month Estimate and Expenditures Billed to Each Township by Genesee County Sheriff	280
A-15	Estimate of Annual Value of Variable Resources Used in Each Contract by Genesee County Sheriff	282
A-16	Estimate of Variable Resources Used and Estimated Amount Billed to Each Contracting Community by Genesee County Sheriff	283
A-17	Estimation of Value of Resources Used Per Patrol Hour for Different Contracts in 1974 for Washtenaw County Sheriff	286
A-18	Estimated Total Variable Resources Used by Each of the Washtenaw Sheriff's Contract Operations	287
A-19	Actual Police Expenses Incurred by Comstock Township in 1974 Broken Down by Expense Items	288
A-20	Eaton County Sheriff's Cost Estimate of Eaton Rapids Contract Compared to Value of Resources Used	290
A-21	Eaton County Sheriff's Cost Estimate of Delta Township Compared to Value of Resources Used	292
A-22	Comparison of Costs Between Eaton Rapids and Delta Township	293

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
2-1	Demand for Patrol Service To Serious Complaints	33
2-2	Production Relation Between Number of Patrol Hours and Minutes of Response Time	43
2-3	Production Possibility Curve and Indifference Map For a County Sheriff	45
2-4	Demands by Communities A and B for Patrol Hours	48
2-5	Demand for Patrol Hours in Community A by County and Community A	55
3-1	Counties with Contracting Operations	62

CHAPTER I

STRUCTURE AND CONDUCT-PERFORMANCE IN THE PROVISION OF PATROL SERVICES

INTRODUCTION

Many rural areas close to metropolitan centers have been experiencing rising demand for urban services from an increasing rural non-farm population. One urban service being demanded in increasing amounts is police patrol. Consequently, many small cities, villages, and townships have begun exploring alternative ways of securing more police service for their citizens.

Over the past 10 years national and state studies have been recommending that many different types of police operations be consolidated. Typical of this stance is the following quote:¹

"Formal cooperation or consolidation is an essential ingredient in improving the quality of law enforcement. Crime is not confined within artificially created political boundaries, but, rather, extends throughout the larger community. A workable program of formal cooperation or consolidation for law enforcement services within a 'common community of interests' is the desired goal for improving the quality of law enforcement at the local level."

The Office of Criminal Justice Planning in Michigan, which allocates federal criminal justice money, has indicated that the goal in Michigan is to have a minimum size police department of 20 persons or more and

¹The President's Commission on Law Enforcement and Administration of Justice, Task Force Report: The Police, U.S. Government Printing Office, Washington, D.C., 1967, p. 68.

will provide funding incentives to such departments.² This policy affects approximately 325 local police departments or about 75 percent of all local police agencies in Michigan.³ This research will concentrate on decisions facing rural (non-SMSA) local governmental units.

The argument of this consolidation/coordination policy is that the quantity and quality of police "output" will be enhanced if the average size of local police operations increase. In addition to the output improvement, proponents of consolidation assert that community resources can be saved.

But consolidators are meeting a wave of resistance from local officials reluctant to give up control over their police operations. These officials seem to be asking two basic questions which require extensive and objective analysis. First, how will police output change if police services are provided by another political jurisdiction? Second, what is the amount of community tax dollars saved if a system of consolidation or coordination is established with another political unit? The propensity of local officials to merge or contract is increased if they can be shown that the "output" will not change and that there will be 30 percent tax savings rather than having a sheriff or some state or federal official merely make a general declaration to that effect.

²Criminal Justice Goals and Standards for the State of Michigan, Michigan Advisory Commission on Criminal Justice, June, 1975, p. 198.

³Bruce T. Olson, A Quick Glance at How Michigan's Counties Rank in Staffing and Financing Law Enforcement, Institute for Community Development, Michigan State University, October, 1968, p. 3. This figure does not include 40 or 50 very small jurisdictions.

Currently in Michigan there are three major institutional structures which provide police patrol services to citizens. Associated with each structure is a different degree of control and possibly various kinds and levels of patrol service and cost.⁴

Type 1. Communities which have no police department and rely solely on the county sheriff and/or state police for services.

Type 2. Communities which contract with the sheriff, in verbal or written form, for some or all of their police services. There are many kinds of contractual arrangements, making this a very heterogeneous group.

Type 3. Communities which have their own police department.

Type 4. Communities which combine their resources and jointly produce police services.

RESEARCH GOALS

This research uses the marketing model of structure and conduct-performance to study contracting for patrol services between Michigan county sheriffs and local communities. Its goals are the following: (1) to provide information to sheriffs, local and county officials about the cost and benefits of different contracting arrangements; (2) to contrast contracting with local police departments; (3) to see how the structural conditions facing a county sheriff may affect the conduct-performance of his contracting operations; (4) to describe

⁴Type of patrol service refers to the particular set of conduct-performance characteristics associated with the patrol service sold by the sheriff or produced by a local police department. Throughout the thesis patrol preferences, patrol objectives and conduct-performance characteristics are used interchangeably.

and analyze the extent and variety of contracting for patrol services by Michigan sheriffs in 1974.

This dissertation has six chapters. Chapter I presents the structure and conduct-performance model and variables. These variables will be used in Chapters III and IV to describe, compare and contrast contracting operations of different sheriffs. Chapter II relates contracting to the boundary problems where the preferences of community A may or may not enter into the calculations of officials in community B. It also compares contracting to consolidation, another way of dealing with the boundary problem. Chapter III applies the structure and conduct-performance model and describes the contracting of eleven county sheriffs. Chapter IV is a continuation of Chapter III for it compares and contrasts the different sheriffs and attempts to assess structure's impact on conduct-performance. Chapter V takes a microscopic view of contracting operations of one county sheriff. Chapter VI summarizes the dissertation and can be read without reading the other five chapters.

The three primary groups affected by contracting are (1) the county sheriffs, (2) the contracting communities, and (3) the county commissioners representing both the contracting and non-contracting portions of the county. From the sheriff's perspective, what opportunities does contracting offer to expand his patrol division compared to requesting patrol appropriations from the county commissioners (Chapters III and IV)? What conduct-performance measures (patrol performance objectives) are desired by local officials (Chapter IV)? What transactions costs (costs incurred in reaching and/or maintaining an agreement) might the sheriff pay in contracting with a local

community (Chapter I)? From the viewpoint of contracting communities, how does the sheriff's contract price compare with costs if the local community wishes to produce its own patrol services (Chapter V)? How often do contracted patrols leave their contracting community compared to what might be expected if a local police department is formed (Chapter V)? Which of the patrol performance objectives will be met by different sheriffs in selling patrol services (Chapters III and IV)? From the perspective of the county commissioners, how does the contract price compare to the costs of meeting the contractual obligation (Chapters III and IV)? How do the non-contracting communities benefit from the contracting operations (Chapters III, IV and V)?

The research findings are organized in Chapter VI around the following questions: (1) How widely is contracting for patrol services practiced in Michigan? (2) Do the contracted patrol services differ between sheriffs, and how can this difference be described? (3) Does the sheriff price his contract close to costs of operation? (4) Does the structural relationship between the sheriff and his county commissioners affect his propensity to contract and to meet the patrol needs articulated by local officials? (5) Can a sheriff, through the allocation of his non-contract patrols, affect the propensity of local officials to contract with him? (6) Are economies of scale present in the production of patrol services and does its existence or non-existence affect the contract price.

PRINCIPLES OF MARKETING AND THE PROVISION OF PUBLIC SERVICES

People and groups demand a wide variety of goods and services. Some are provided in the private sector of the economy and some are publicly provided. The economic fields of marketing and industrial

organization study extensively the linkages between consumers and producers of privately provided goods and services. F. M. Schere states⁵

In the field of industrial organization, we try to determine how market processes direct the activities of producers in meeting consumer demands, how these processes may break down, and how they can be adjusted (i.e. through government intervention) to make actual performance conform more closely to the ideal.

There is no reason why the principles of marketing cannot be used to analyze the provision of public goods and services. This dissertation attempts to apply some marketing principles to analyze alternative systems of providing patrol services to rural communities. Allan Schmid and James Shaffer broadly define marketing systems as⁶

... the complex pattern of institutions and physical facilities which relate human beings and things in the transfer of goods and services.

The citizens of a given political jurisdiction are the consumers of a public service paying for the service with their taxes. The supplier is the organization which provides the service. For this dissertation the service is police patrol, and the different suppliers are the county sheriffs, state police and local police departments.

One reason why marketing principles have not been used extensively in analyzing public sector output is the absence of performance measures. How can alternative methods of providing patrol be compared if there are

⁵F. M. Schere, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE, Rand McNally and Company, Chicago, 1973, p. 2.

⁶Allan Schmid and James D. Shaffer, "Marketing in Social Perspective," in AGRICULTURAL MARKET ANALYSIS, edited by Vernon L. Sorenson, Bureau of Business and Economic Research, Michigan State University, East Lansing, Michigan, 1964, p. 16.

no measures for the comparison? Some of the performance concepts used by economists in marketing, such as level of output and price, product variety and suitability, production efficiency, etc., can be used in this research. The challenge lies in developing indicators which reflect these different performance concepts.

The main question of marketing analysis and the main question of this research is how do alternative market structures affect the conduct-performance of the marketing system. The section entitled "The Model" will present the structural and conduct-performance variables used to analyze the marketing system of police patrol.

MODEL CONDITIONS

Before delving into the model, several general limits must be set. Police agencies perform many activities, such as patrol, caller referral, detective, jail, traffic, etc. Patrol is the activity in focus, and it consists of some mix of responding to citizen complaints, traffic monitoring, cruising, performing community related errands, initiating a complaint (i.e. an officer witnessing a law infraction), and community service (speaking to civic organizations or consulting with a merchant on crime prevention).⁷

Patrol service has characteristics of incompatibility and joint impact. A service is incompatible when A's use denies B's use (i.e. A's use is incompatible with B's). A joint impact service is when A's use does not detract from B's use or A and B can both jointly enjoy the service at the same time. Patrol service, provided by some

⁷John A. Webster, The Realities of Police Work, Kendall/Hunt Publishing Company, Dubuque, Iowa, 1973, p. 12.

governmental unit, is available to all citizens within the boundary of the governmental unit. One citizen's option to call for patrol service does not affect another citizen's option. Also, if criminals are deterred from operating in an area, all citizens benefit. But when a citizen needs a patrol unit and that unit is dealing with another complaint, then one citizen will be denied (usually temporarily) this service; thus patrol service has incompatibility characteristics. Care is needed to know when the joint impact of patrol services are being emphasized and when incompatibility is most critical.

The political jurisdictions central to this research are villages, small cities, and townships (incorporated and unincorporated). Since the county is a producer of patrol services, it also is a part of the model and analysis.⁸ The perspective of the model is that of the local community. What are the different ways in which local communities can obtain patrol services?

The model actors are the articulators of demand for police services. It is assumed that a community citizenry has some demand for police service. Perceiving and articulating this demand for police service type and level are such people as the county sheriff, local police chiefs, state police post commanders, and elected officials who make public expenditure decisions. While elected officials may feel responsible for providing patrol services, they may choose not to produce them. This research deals with different ways local officials can provide their citizens with patrol services.

⁸The Michigan State Police also provide patrol services, but are not included in the model or analysis because they tend to concentrate on highway patrol and usually view themselves as servants of all state citizens rather than serving any given set of communities.

The condition which surrounds this model is one of change. It is assumed that elected local officials perceive the need for more police service or for the same level of service but for less money.

Another reason for not using marketing concepts to analyze the public sector is that the link between citizen preference and the provision of different public goods is unclear. What is observed is that citizens pay taxes and elect representatives who allocate the public funds to the production of a variety of public goods. For this research it is assumed that for local communities elected decision makers reflect citizens' preferences for level and type of patrol service. It is also assumed that the degree of homogeneity of patrol preferences is greater for local communities than an entire county.

Communities receive patrol services from their local or contracted patrols, the county sheriff, or the state police. If local officials want more patrol service, they can either start or expand their own local department, contract or increase their contract with the county sheriff, or approach the sheriff and/or state police requesting more service in return for county and/or state taxes. This study does not include in its analysis the state police.

THE MODEL

The model for this piece of institutional research borrows heavily from the marketing model of structure, conduct and performance.⁹

⁹Allan Schmid succinctly summarizes the marketing model in the following statement: "By structure, economists refer to barriers to entry to a certain line of production (... includes practices ... to drive out possible competitors as well as governmental barriers such as tariffs and licensing), the degree of competition usually focused on number of firms and market shares, and the degree of artificial (continued)

How do alternative structures of police service supply affect the behavior of police officials and the performance of police patrols?

Allan Schmid discusses three institutional alternatives for analyzing alternative methods available to communities to secure patrol services.¹⁰ An institutional alternative is a particular ordered relationship "among people which define their rights, exposure to the rights of others, privileges, and responsibilities".¹¹ The first in which people or groups of people can relate to each other is bargaining. In a bargaining relationship each party begins with an initial ownership of goods. Each is free not to enter into a particular transaction and thus withhold something of value to another party. If an exchange takes place, one party gives up the rights of something of mutual value in return for another set of rights and privileges of greater value to him. The exchange may benefit one party relatively more than another which then could affect future bargained exchanges; but both benefit enough to induce the exchange.

A second type of transaction is administrative where interacting parties do not have equal legal status. One party has some position of

⁹(continued) product differentiation (making homogeneous products appear different). Conduct refers to the behavior of firms such as pricing strategies and collusion. Performance variables include price, profits, and product innovation overtime." The Economics of Property, Power and Public Choice Consequences of Institutional Alternatives, A. Allan Schmid, unpublished manuscript, 1974, p. 31-32.

¹⁰The three institutional alternatives are borrowed from the work of A. Allan Schmid in his unpublished manuscript entitled The Economics of Property, Power and Public Choice.

¹¹A. Allan Schmid, "Analytical Institutional Economics: Challenging Problems in the Economics of Resources for a New Environment" in American Journal of Agricultural Economics, December, 1972, Vol. 54, No. 5, p. 893.

authority relative to the other party. Examples of administrative transactions would be a direct order from an employer to an employee or a legislative or judicial order. In each case the order is given to benefit a certain group which the ordering party wishes to favor. Behind each administrative transaction is the threat of some sanction (e.g., the threat of being fired or held in court contempt) for compliance failure; but usually the administrator uses a mix of threats and rewards. Administrative transactions do not exclude bargained transactions. Employees in a strong union, more so than non-union workers, have more of a bargained relationship with their employer. But once a union contract is signed, the employer can order union members to perform certain functions or risk dismissal. Associated with some administrative transactions are some element of prior bargaining.

The third transaction type is the status and grant. The status transaction, like administrative, is a one way movement without the order. A status transaction is consummated out of obligation with little individual calculation on the part of the giver about relative benefit. Offering a slight variation to the status transaction is the grant transaction where some thought is given by the benefactor to benefit. Someone may give to some charity out of a sense of obligation but by giving to charity A rather than B, they feel better off.

One differentiating element between the three institutional types is the degree of sanction.¹² The more powerless the local community, the more it will be in a grantee position being forced to receive from the sheriff whatever the sheriff chooses to give. High

¹²Sanctioning power is used to mean power to help or hurt others. The hurt can be withholding what others want but do not have.

density townships, which rely on the sheriff's patrols, can be in a stronger bargaining position with the sheriff. Taking it one further step, if the majority of the electorate reside in townships solely relying on sheriff patrols, an administrative transaction, rather than bargained or status and grant, may result. A grantee has no power of sanction over a grantor though social pressure is often applied. In a bargaining relationship the sanctioning power of each part is related to the power to withhold what the other wants but does not own. Finally, in the administrative institutional arrangement the sanctioning power is related to legal penalties and ultimately jail.

To obtain patrol services local officials will either enter into a bargaining relationship with the sheriff or they will have their own police department and interact with a local police chief through an administrative transaction. If they attempt to obtain more of the county-wide service, they will be in a grant transaction. Before any more is said about structure of patrol provision, the other components of the structure and conduct-performance model will be discussed.

STRUCTURAL VARIABLES

Within each institutional structure there are several structural variables which can affect conduct-performance. The structural variables for the patrol service market are the number of suppliers, degree of product differentiation, barriers to entry and relation between supplier and source of finance. From the perspective of a community's local officials, the number of suppliers is small enough for each supplier to know what the other is doing. The sheriff is aware of the number of patrols operated and the approximate costs facing local police departments, and local police chiefs are likely to have a similar

awareness. While the sheriff is the only seller of patrol services, local officials have the option to start their own police department and produce their own patrol services.

Product differentiation is another structural variable. If patrol service is a homogeneous product such that no variability is observed regardless of who provides the service, then from the perspective of meeting citizens preferences, who produces them matters little. But if there is high product variability, then it may take many different producers to meet the wide range of preferences. For those communities which have a unique preference set for patrol services, they have the option of starting their own department. For those communities whose patrol objectives are similar enough to the sheriff's, they can either contract with the sheriff or rely on the sheriff's general patrols for service. Product differentiation will be discussed again with patrol objectives.

In a traditional market where there are few sellers, each seller often attempts to differentiate his product from that of his competitors. Are the differences real or imagined? The same concern is present in the buying and selling of patrol service. The sheriff is likely to have a concept of what "good" patrol service is, and he is likely to try to sell his concept to local officials showing how they need his particular type of patrol service. One reason for not knowing if the differences are real or imagined is the absence of final performance measures. For example, how much is the welfare of a community increased (decreased) if patrols are staffed with officers who have graduated from college rather than with high school graduates?

The third structural variable is barriers to entry. What might prevent a local community from obtaining its desired type of level of patrol service? How might these barriers to entry vary across the different institutional structures? Potentially there are two major barriers. One is high fixed costs, and the second is the power to act as a police department. Each of these will be discussed for each of the three institutional structures. For the administrative structure, where local officials choose to hire a police chief and start their own department, an initial investment is required for such items as building, cars, police and office equipment, and a dispatching system. The most expensive item is dispatching. Until recently, federal funds were available to help finance this expense. But the federal government is attempting to discourage the formation and the continuation of police departments of 10-20 persons or less by refusing to grant funds to such departments. But for most local police operations, the county sheriff or local state police post is willing to provide the phone answering and dispatching service without charge. Many local police departments operate out of a portion of the township or village hall or even the local fire station which minimizes building expense. The cost of the remaining necessary inputs is not prohibitive for a local community from having its own police department as evidenced by the large number of small departments in Michigan. The legal authority to act as police can be granted by the governing body of the political jurisdiction. This power is given to local communities by state statute.¹³

¹³Police powers are given to state police in MSA 4.436, to the county sheriff in MSA 5.917, to township police in MSA 5.46(12), to village police in MSA 5.1328, and to city police in MSA 5.1330.

For a community choosing to use the institutional structure of grant in an attempt to secure its needed patrol service from the sheriff's general patrol, different barriers are met. The sheriff already has authority to enforce state and county statutes anywhere in the county and all the fixed costs needed to support any marginal increase in general patrol have probably already been paid. The barriers come from the sheriff being unwilling to re-allocate his existing stock of patrols and/or the county commissioner being unwilling to grant budget increases which would allow the sheriff to increase his general patrol service.

For the bargaining institutional structure, where local communities buy patrol service, what barriers exist? In most Michigan counties, there are no sellers of patrol service. In those counties where patrols are bought and sold, the sheriff is usually the only seller. Both of these observations indicate that substantial barriers do exist. The reasons are why many Michigan sheriffs do not sell patrol service are not known. Probably no demand exists at the local level. Many local communities historically have had their own police department and the inertia to retain the local department is quite strong. Also these sheriffs may not know how to sell patrol services (i.e., how to price the service or write the contract, etc.).

In those counties where contracting takes place, why is the sheriff the only seller? Why do not other political jurisdictions sell patrol service to neighboring communities? Why are there not more cooperative arrangements where two political jurisdictions, such as a city within a township, cooperatively provide for their own law enforcement? Finally,

why do not private security companies sell patrol services to local communities? No systematic study was done on these questions, but several responses can be suggested.

One possible reason for the relative absence of different political jurisdictions selling patrol service is the boundary of the political jurisdiction. The primary responsibility of a local police chief is to provide service to his local community; therefore, he has no incentive to solicit neighboring communities about either selling them patrol services or undertaking a joint police operation to supply patrol services to both local communities. The sheriff, on the other hand, has responsibility for service to the entire county and has incentive to increase his level of service especially if a local community is willing to pay an amount over its county taxes for the higher service level. Even if patrol hour unit cost should be lower if a joint operation were undertaken, the transaction costs, as discussed later in this chapter, may be too high to facilitate the formation and the maintenance of a cooperative police department.

Finally, private security companies, companies which sell security personnel to business establishments, could but at the present do not sell patrol service to local communities. There is no state statute which explicitly prohibits private security companies from selling patrol service to a local community; however, if they should enter the patrol service market, they would likely face a legal challenge over whether or not they have the right to hold police authority. My conclusion from examining Michigan State Statutes is that there is no legal reason why a local community could not give police authority to private security employees when the employees are working within

the boundary of the authorizing community. The legal environment is uncertain enough to be a substantial barrier to entry for a private security firm. It is questionable whether or not private security firms can make a profit in selling patrol services to local communities. Patrol is an activity where there is limited opportunity for control of variable resources (personnel, vehicles, etc.) to allow for profits to be made. The greatest expense in the production of a patrol hour (single or double) is salary. With a state law requiring that all law officers have 280 hours of police academy training, the supply of qualified police officers is restricted, and all entities wishing to hire police officers, must compete for them. In essence, any community which wants a security officer rather than an officer who has been through the police academy is unable to obtain one.

The fourth structural variable is the relation which the sheriff has with his county commissioners. Some sheriffs are able to obtain the patrol financing which they feel is necessary to provide adequate patrol service to their county while other sheriffs face county commissioners unwilling to fund patrol to meet the sheriff's standards. Contracting offers sheriffs a means of funding patrol independently of the county commissioners. The question asked in Chapter IV is are the sheriffs who face tight fisted commissioners more responsive to the patrol preference of contracting officials than those sheriffs who have commissioners who fund most of their patrol needs?

CONDUCT-PERFORMANCE VARIABLES

Local officials are interested in several conduct-performance

indicators.¹⁴ These indicators, listed and discussed below, make up the patrol performance objectives of sheriffs and local officials. The first deals with the product price while the remaining ones focus on nature of the product.

Cost per Patrol Hour. This indicator brings together two concepts of interest. The first is the number of patrol hours or the amount of coverage, and the second is the total cost. If the sheriff or local police chief decides that only double patrol units (two persons in the car) can be operated, the cost per patrol hour will tend to be higher than if single units are run. Decisions about the quality of the inputs (patrol personnel and patrol equipment) can greatly affect the price along with the presence or absence of a police union. One complicating factor is that the sheriff may choose to charge a price which is less than the cost of operation. This will be discussed further in later chapters. There are two issues present. First, what price does the sheriff choose to charge and how does this compare with actual costs. Second is an economies of scale question. Can the sheriff produce patrol services at a lower price than can small departments?

¹⁴The different types of institutional structure and the structural variables have been discussed. Institutional structures are important because they affect something for local officials. The two things of value are behavior of the police supplier (sheriff or local police chief) and performance of the police operation. Behavior and performance, along with structure, occupy different spots on a continuum which links inputs to final outputs (outputs which directly affect people's lives). The difference between conduct and performance is one of degree with performance being more of a final output than conduct which itself is more final than institutional structure. Some officials, local and county, are only interested in the local production or the centralized production of a service regardless of the performance and behavior implication of alternative institutional structures. The only insight which analysis can offer those who value a particular institutional structure is identify the opportunity cost of their value. As with any perceived benefit, there is an array of associated costs.

Reporting to Local Community Officials. How often will the sheriff or local police chief report to local officials about police operations? When local officials receive complaints about the police service, they are interested in responding and this means knowing about the service level and type.

Divisibility of Patrol Service. Can local officials obtain, either from the sheriff or through having their own department, the level of service they desire? Some small communities feel they need only patrols to work Friday and Saturday nights during the summer months. A sheriff may be unwilling to supply such a patrol operation; and it may be difficult for local officials to staff such an operation.

Activities Performed by the Patrols. A sheriff or local police chief may not feel that performing community related errands (e.g. taking board minutes around to local officials) is "proper" patrol activity. Local officials may feel it is. Other requests can be made concerning how patrols spend their time (e.g. monitoring traffic, serving as crossing guards, etc.). Local officials anticipated success of voicing their patrol objectives. The anticipated success of voicing their patrol objectives will affect their propensity to contract or have their own police department.

Rotating versus Permanently Stationing Deputies. Some local officials value having police officers that know their local community and local citizens. A sheriff may have a policy of rotating his deputies. A local police chief may have difficulty retaining the same officer for more than one or two years. Local officials would like to know under which structure are they most likely to obtain their preference.

Revenue from Liquor Inspection. When a contracted patrol performs a liquor inspection, does the revenue from the Michigan Liquor Commission go to the contracting community or into the county treasury?

Response Time and Time Spent on Complaints. Two indicators of interest to local officials are response time and time spent on complaints. First, officials are concerned about the level of each indicator. All else being equal, citizens are better off the lower the response time. And, the more time spent on complaints, the better off citizens are all else equal. Second, officials are also interested in complaints which receive top priority. If the most serious complaint which a local community has is breaking and entering (B & E) and they contract with a sheriff whose deputies do not feel B & E's are that critical compared to armed robberies and bar fights, the level of response time and time spent on B & E's may not be to their liking.

Amount of Patrol Time Spent Outside Local Community. Local officials want to know how much time will be spent outside their community if they contract with the sheriff and how this compares with what would result if they had their own police department. This conduct-performance variable along with response time and time spent on complaints will be used in Chapter V which is a case study of the contracting operations of one county sheriff.

INSTITUTIONAL ALTERNATIVES AND THE COSTS OF TRANSACTION

The cost of obtaining patrol services, regardless of the institutional alternative, has two components. One is the dollar cost of the patrol service (e.g., contract price paid to the sheriff or the patrol portion of the local police budget). This cost will be discussed later.

The other cost integral is transaction cost which is defined as those costs incurred in reaching or maintaining an agreement.¹⁵

Associated with each structural type is an array of transaction costs. Seldom are these costs made explicit or evaluated in dollar terms, but their direction and who bears them can be observed; and factors which affect their direction and relative magnitude can be suggested.

Bargaining Institutions.¹⁶ There are several transaction costs which occur when a community buys from the sheriff. One is the amount of time it takes local officials and the sheriff to arrive at an agreement. Much of this cost is information cost, but a portion of it may be spent in persuading. For the sheriff this may entail making cost estimates, writing letters and memos explaining the price and the service to be delivered, and attending meetings.¹⁷ Local officials will spend time understanding the sheriff's proposal, seek information from other communities who contract with the sheriff, attend meetings with the sheriff, and discuss among themselves whether or not the sheriff's proposal is acceptable. For those communities that do not have their own police department, officials may attempt to estimate costs of starting and maintaining their own department by talking to community officials experienced in the production of police services

¹⁵Schmid, op cite p. 105.

¹⁶Bargaining transactions can take place even if a local community has its own department. Local officials, as they try to decide the level and type of patrol service, might trade expenditure levels of other budget categories to secure their objective for police patrol.

¹⁷In many cases the sheriff will have a staff officer perform these functions.

as well as contacting suppliers of police equipment to obtain cost estimates.¹⁸

All else equal, the greater the difference between the sheriff's patrol objectives and those held by local officials and the closer the sheriff's price is to the price of having a local police department, the longer the period of negotiation. Haggling can take place over many points in the contract such as who pays for different costs (overtime, fringes, vehicle, etc.), can patrols be dispatched outside the contracting community, how often will the sheriff report to local officials, can local officials request patrol activities be done without going through the sheriff, and many others. The further away the two parties are on their patrol objectives, the more time it will take to reach a compromise. Likewise, if the sheriff's price is not very far below the cost of having a local department, officials will likely proceed with more caution than if substantial cost savings are realized.¹⁹

¹⁸It is legitimate to ask whether or not contracting with the sheriff will eventually lead to county-wide provision of police services by the sheriff. Several sheriffs do not like contracting and want eventually to have a set millage passed earmarked for their department. They feel that contracting is a means to this end. Once local officials become used to dealing with the sheriff through contracting, the next step to county-wide enforcement is a relatively small one.

As the number of large departments increases, police input suppliers concentrate on equipment for the large force and may choose to discontinue a broad price range of police equipment concentrating on the sophisticated inputs and thus the higher priced items. As this trend continues, small communities wanting to start their own department will find it increasingly expensive because the less sophisticated equipment will not be readily available.

¹⁹Realization of cost savings from contracting is a function of how much information local officials have about starting and operating their own department. If local officials have not inquired about costs of having their own department, they may not perceive any real potential savings.

Many of the information costs fall on the sheriff and thus the county taxpayer, because the sheriff will likely be required to supply information to local officials concerning his proposal and what it would cost them to start their own department. This cost will decline, however, for subsequent contracts providing that the service sold is similar to previous contracts. If local officials do not rely on the sheriff for all their information, they may spend substantial time in gathering their own information about costs of local departments as well as gathering other community satisfaction (dissatisfaction) with a sheriff's contract.²⁰ Additional time can be spent by local officials if there is disagreement among themselves on whether or not they should contract. This even may include informing and persuading their constituents about the pending arrangement with the sheriff.

The sheriff may choose to pass on to contracting communities only a portion of the costs to provide patrol services as an incentive to hesitant communities who want their own police department. This concession might also be made if the sheriff is unwilling to make any compromise on his patrol objectives. (Some sheriffs believe that it is good patrol procedure to rotate their patrolmen periodically, even though many local officials desire permanently stationed patrolmen.) Since any deficiency between the contract price and the actual cost is paid out of the county general fund, the sheriff may make a concession which falls on the non-contracting portion of the county.

²⁰This cost is so high (who to contact and what questions to ask) that for many officials the net return from generating their own information is less than the expected return from entering a contract with the sheriff using only the sheriff's information. Consequently, many local officials choose to bare the cost of uncertainty rather than the cost to obtain information.

The sheriff will tend to be held in check by county commissioners who actively participate in budget formulation and in contracting negotiation and who represent the non-contracting portion of the county.²¹

Once a contract between a sheriff and local officials is culminated, transaction costs for both parties do not end. The sheriff (or a liaison officer) will deal with local officials more on a daily basis dealing with dissatisfaction felt by local officials or their constituents. Monthly reports will likely be submitted and discussed with local officials. Even though it may have been agreed that patrols would perform any "reasonable" request made by local officials and that patrols would not be dispatched outside the contracting community except for "emergencies", there may be continual interaction on defining "reasonable" and "emergency".

Policing the agreements for local officials can be very costly. To know how many patrol hours actually worked requires relying upon the sheriff. Listening to a police scanner can give officials an indication of how much time is spent out of their community by contracted patrols and the types of complaints which drew them out. One method used by local officials to know if citizens are dissatisfied is the number of complaints they receive. While costs of policing a contract with the sheriff are high, there is no reason to believe that they would be any lower if officials had their own department.

²¹ Contractual agreements are really between three different parties-- the sheriff, the local community, and the county board of commissioners. The document, if written, will be signed by representatives of each party. Even though the county commissioners must ratify the agreement, they still may not know that the contract price may not cover expenses nor the magnitude of this difference. Some may not realize that the sheriff's budget will then increase in order for the terms of the contract to be fulfilled.

Administrative Institutions. One transaction cost of having a local police department is the cost of gathering information about the police services purchased by other similar communities. This is especially true at budget times when a local police chief contends that he needs a certain piece of equipment or that a certain service is imperative in order to provide "adequate" police protection. It would be of interest to local officials to know how many other similar communities found the service or equipment indispensable.

There is some reason to expect that a police chief will be more aggressive in arguing for increased police budgets than will a sheriff under contract. If both the sheriff and police chief desire to have a larger department, the sheriff has other sources of revenue (e.g. county general fund, federal and state grants, and other contracting communities) while the police chief has only one well from which to draw.²² Contributing to a large police budget under the administrative institutional alternative is that local officials do not know what police services can be obtained from the county or state without extra charge. The reason for this is that the police chief may want to perform all aspects of police work, such as detective, dispatching, etc., and will not use the detectives and dispatching of the sheriff and/or state police.

²²The hypothesis which would need to be tested is "Over a five year period local police budget increases will be greater than if the community has its own police department rather than contract." This will not be done in this study because many of the contracting operations have not been in operation five years. Another reason is to obtain police budget figures for local communities requires digging into the local community's accounting system to obtain all police costs. (Costs such as vehicle or fringes appear in a different part of the budget.)

There can be disagreement over patrol objectives with a local police chief just as there can with the sheriff. If the difference is too great, the chief may choose to quit or he can be dismissed. In either event, there can result a loss of morale among the other local officers, more administrative responsibility of the police department going to the elected officials, and the necessity to spend time in recruiting a replacement.

If a local police officer proves unsatisfactory to local officials, he can be dismissed, but this can create ill feelings in the community. In addition, there can be a loss of patrol coverage while a replacement is sought. Contrasting this with contracting, if a contracted deputy proves unsatisfactory, the sheriff has the potential to transfer the deputy to another activity or community and provide an immediate substitute.

Many local officials face a police union. Depending upon the aggressiveness of the local officers, much time can be spent by local officials in negotiating with a union representative. Most sheriffs also deal with a labor union but the transaction costs of labor relations do not change with an increase in the number of patrolmen through contracting.

Status and Grant Institutions. Local officials who attempt to secure higher levels of patrol services from the sheriff in return for county taxes already paid are in a grantee position taking what the sheriff chooses to give. The reason for this position is that they have no power to force a change or anything to trade. In order to move from the grantee position into a transaction type where local officials can exert more control (without increasing local tax dollars which both

the bargain and administrative alternatives require) is to organize other communities that have the same problem. If there is enough political strength the sheriff along with the county commissioners may choose to either reallocate patrols such that the complaining communities receive more or they may choose to increase patrol service to the entire county. The latter would be cheaper than contracting or starting a local department. Identifying and gathering together local officials of similar tastes within the county has high costs with an uncertain payoff even if it is done.

Even if the sheriff says that he will increase patrol service in a given community, policing such a promise is difficult. No sheriff to my knowledge sent to non-contracting officials a monthly report with a detailed breakdown of the activity in their particular community.

THE MODEL--SO WHAT?

The decision which is being informed is "What is the best institutional means for local officials to obtain a higher level of patrol services?" The model presented has been one of structure and conduct performance in a cost-benefit framework. Local officials will decide on the institutional alternative depending upon the relative costs and benefits of each. What price the sheriff chooses to charge relative to the cost of starting and maintaining a local department and other conduct-performance objectives of the sheriff relative to having a local department will be weighed.

No attempt will be made to identify the relative weight given to each patrol objective in an effort to predict when contracting will and will not result. What will be done is to obtain information about the variety of contracting in Michigan, the patrol objectives being reflected

in the existing contracts, and the procedures used by different sheriffs in estimating patrol costs and determining the contract price.

CONCLUSION

Many rural communities and counties are beginning to explore alternative institutional structures to provide them with the level and type of patrol service desired. Four structural institutions are open to local officials. They are bargain where local officials buy patrol services from the sheriff, administrative where local officials hire a police chief and start their own department, grant where local officials attempt to gain additional patrol services by having the sheriff give to them more general patrol, and a cooperative undertaking where local officials of two or more communities pool their resources and jointly produce police services for all the communities in the partnership. The last institutional structure was observed only rarely and will not be considered in this study. Administrative and grant transactions will be referred to throughout the study, but the primary focus is on bargain.

A market model of structure and conduct-performance was presented. The structure in the patrol service market has one supplier, the sheriff, and several potential suppliers such as communities starting their own department, communities jointly producing their own patrol services, local communities selling patrol services to other local communities,²³ and requesting the state police and sheriff for higher levels of general patrol service. Some product differentiation and significant barriers

²³Police chiefs of large cities feel no obligation to provide patrol services to surrounding communities. They seem more interested in increasing the patrols within the city rather than contracting with small adjacent communities. Also, small communities close to large cities may fear the threat of annexation more than the threat that the county will take over the local community.

to entry exist. Another structural dimension which can affect the cost-performance in the patrol service market is the monopsonistic structural relation between the sheriff and county commissioners since the commissioners are the only source (outside of contracting) of patrol funds. The conduct-performance variables, which will be used in Chapters III, IV and V to analyze the contracting operations of different sheriffs are cost per patrol hour, reporting to local officials, minimum level of service sold, activities performed by patrols, rotating versus permanently stationing deputies, revenue from liquor inspection, response time and time spent on complaints.

Transactions costs, the costs of reaching and maintaining an agreement, were discussed for bargaining, administrative, and grant transactions. No attempt was made to estimate under which institution these costs are higher.

One point needs to be emphasized. Local officials often assume that when they hire a police chief, they have more control over the type of patrol service their community receives and that transactions costs will be less under the administrative transaction than in dealing with the sheriff. But this is not necessarily the case. The local police chief is an articulator of demand for police services, and after some time in the local community, he can develop local support for his position and provide conflict with the local officials.

CHAPTER II

LEVEL OF PATROL SERVICES AND WHOSE PREFERENCES COUNT

INTRODUCTION

Three different institutional structures and their associated costs of transaction have been discussed. Central to these structures for local decision makers are the questions of whose preferences will most likely prevail, and of who can create costs for whom? This chapter explores these two questions further by examining the boundary problem and by discussing the pressure to consolidate small police departments which is one possible approach to a boundary problem. Other approaches to the boundary problem are discussed, followed by a section which shows how overproduction can occur from overlapping jurisdictions. The next section deals with fiscal equivalence or the interrelationship between who pays and who receives the service. The final section discusses different options facing a local community as it attempts to procure its optimal level of patrol service.

A BOUNDARY PROBLEM

A boundary problem exists whenever the areal incidence of costs and/or benefits of a joint impact good or service (with high exclusion costs) do not coincide with the boundary of the providing unit of government.¹ With this definition a boundary problem prevails because

¹The Public Economy of Metropolitan Areas, Robert L. Bish, Markham Publishing Co., Chicago, second printing, 1971, p. 55. I do not want to imply that any time an externality exists that there is a problem. Just because there is interdependence does not mean that the interdependent parties have a problem.

of the presence of externalities--no externality then no boundary problem. For this research an externality results (and a boundary problem exists) when the preferences of county A's decision makers political boundary of the governmental unit producing good or service is not the same as the boundary of the consuming unit. In police services externalities occur when police patrols respond to complaints outside their own community; when citizens travel outside their community and demand some level of police service; when one community increases its level of police service displacing certain types of crimes to neighboring communities; when a criminal, being pursued, flees into an adjoining political jurisdiction; and when organized crime is active in the area.

There are two consequences which flow from boundary problems. First, if exclusion is very costly and no inter-community cooperation results, then an underproduction of service is highly probable. Mancur Olson demonstrates theoretically that "the larger the group, the farther it will fall short of providing an optimal amount of a collective good." His model deals with independent entities of different sizes and he contends that if the collective good is to be provided at all that ...

"the largest member, the member who would on his own provide the largest amount of the collective good, bears a disproportionate share of the burden of providing the collective good. The smaller member by definition gets a smaller fraction of the benefit of any amount of the collective good he provides than a larger member, and therefore has less incentive to provide additional amounts of the collective good. Once a smaller member has the amount of the collective good he gets free from the largest member, he has more than he would have purchased for himself, and has no incentive to obtain any of the collective good at his own expense."²

²The Logic of Collective Action, Mancur Olson, Jr., Schocken Books, New York, third printing, 1970, p. 35.

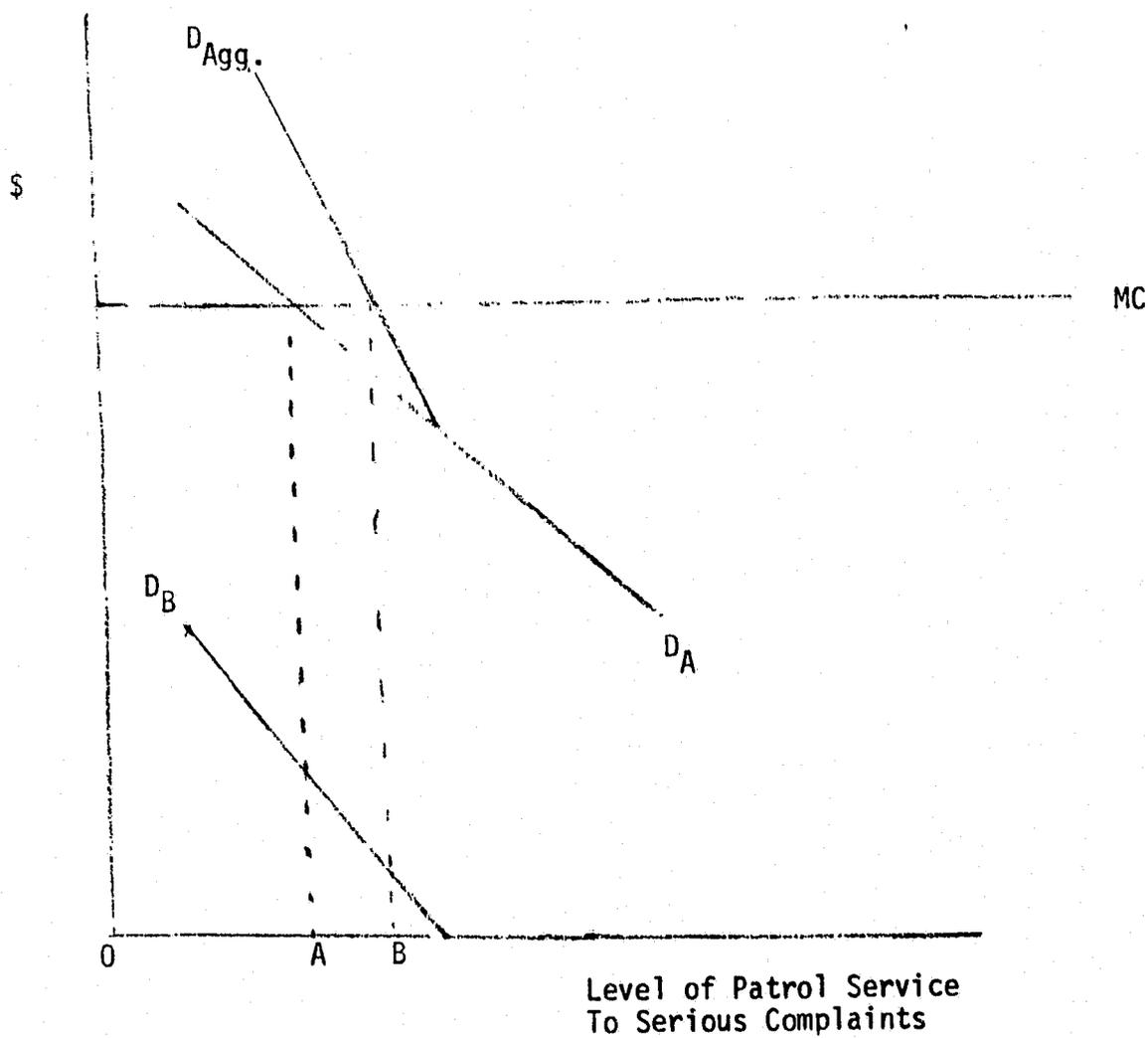
An example will apply Olson's point to this research. Consider two adjacent communities. Community A, due to size and/or tastes, provides patrol services while B, at the prevailing costs, does not. In many instances patrols will respond to serious complaints (robberies or serious personal injury auto accidents) outside their political boundary. Most of the time this is done in the name of humanity and no bill is sent to the other community. For serious complaints, the availability of patrol services is a common property good in that citizens of A and B have equal access.³

In Figure 1, with decision makers not considering the needs of B, it can be seen that output OA is produced. If A were able to collect from B the marginal amount which B was willing to pay, then OB could be produced. (The demand curves are added vertically because this type of patrol service is joint impact (collective goods). When the two communities are viewed as a single entity, the optimal output is OB. If no institutional mechanism is used by which A and B can cooperate, then an underproduction occurs due to the boundary problem.

A second effect of a boundary problem exists if, in an effort to internalize benefits and/or costs, a very heterogeneous community is created. Robert Bish demonstrates that the more heterogeneous the group, the more likely that certain group (those with extreme preferences) will not receive the level or type of service desired. While Olson speaks about an underproduction of the service to the entire area,

³A has more access than B if response time is the measure of the output rather than if the complaint was answered or not. The reason for this is that the patrols will be cruising in A when any serious complaint is received by the police department and response will be quicker to those in A than those in B.

Figure 2-1 Demand for Patrol Service To Serious Complaints



Bish looks at the level and type of service inadequacies which may result if the entire service area is internalized. Both effects will be explored more fully later in the chapter.

THE CONSOLIDATION MOVEMENT

One approach to the boundary problem is to centralize production of the good or service. The impetus for centralization is strong, and it entails more than the internalization of costs and benefits of all affected parties or achieving scale economies. Centralization often becomes an end in itself. Centralization is also an opportunity for different interest groups (e.g., criminal justice planners, sheriffs etc.) to define what police service ought to be. Robert Bish and Vincent Ostrom observe that the following three conclusions seem to emerge in many commission reports on police service provision:⁴

- (1) ... Departments must have relatively uniform responses which fall within guidelines set by courts and good police practices. Departments must have strong central control to achieve these objectives.
- (2) Fragmentation of police jurisdictions must be reduced. Many departments are too small and better coordination or integration is needed to police metropolitan areas. Criminals are not restrained by local government boundaries; police must not be either ...
- (3) State governments should enact minimum statewide standards for police services. Only in this way can the negative consequences from jurisdictions with inadequate police services be eliminated.

Referring to conclusion number three, one of the standards recently adopted by Michigan's Goals and Standards Committee is that federal

⁴Understanding Urban Government, Robert Bish and Vincent Ostrom, American Enterprise Institute for Public Policy Research, Washington, D.C., 1973, p. 42.

funds should not be allocated to communities with police departments of 20 persons or less.⁵

Elinor Ostrom summarizes below much of the reasoning used by advocates of police consolidation:⁶

Recommendations for consolidating urban police agencies are usually based on three underlying and little-examined assertions. First, proponents of consolidation assert that specialization and professionalization are necessary requisites for effective urban law enforcement. Second, they assert that large size is necessary for specialization and professionalization. Third, large-scale police agencies are thought to be more efficient (able to produce the same or higher levels of output at lower costs) than small departments. Consequently, it is asserted that: (1) small departments cannot provide the level and type of service needed in complex urban areas, and (2) small departments cannot produce services at costs as low as large departments. Smaller departments with lower per capita expenditure levels than larger departments are automatically assumed to be providing inferior services.

Bish and Vincent Ostrom conclude by saying that, "The recommendations are much more the product of a 'way of thinking' about the problem--the reform tradition supporting consolidated and integrated command structures headed by competent men and staffed by professionals--than an empirical analysis of problems and alternative solutions."⁷ They examined a study which was a reevaluation of the data used for the President's Commission, THE CHALLENGE OF CRIME IN A FREE SOCIETY.

⁵ Instead of the number of small departments falling, what may instead happen is that certain police functions such as dispatching and record keeping become centralized while patrol services and possibly even detective work remain decentralized. The former police activities are lumpy while the latter activities tend to be less lumpy and fairly labor intensive. The Office of Criminal Justice Planning administers LEAA funds in Michigan and will likely adhere to the goal. But local communities can probably still use federal revenue sharing funds for any police capital expenditures and CETA funds for the salaries of police personnel.

⁶ "Do We Really Want to Consolidate Urban Police Forces? A Reappraisal of Some Old Assertions," Elinor Ostrom, Roger Parks, Gordon Whitaker, PUBLIC ADMINISTRATION REVIEW, September/October, 1973, p. 423.

⁷ Bish and Ostrom, op. cit. p. 43.

The data did not support those advocating larger political jurisdictions. The conclusions from the data are:⁸

- (1) Crime rates are higher in larger jurisdictions.
- (2) Citizen evaluation of police services is higher in suburban and small jurisdictions.
- (3) For relatively similar levels of service, the cost of police services is higher in larger jurisdictions.
- (4) When the multiplicity of jurisdictions in a metropolitan area is measured by the number of municipalities per 100,000 population, the greater the number of municipalities to population, the lower are per capita costs when service levels are held constant.

Advocates of consolidation rely on the notion that since externalities exist, that total performance will be enhanced if decisions are made with an entire area in focus. These advocates usually do not ask the questions "Whose focus?" or "Whose tastes will count more and whose less after consolidation occurs?" Instead, consolidation tends to become an end in itself.

How does the boundary problem (the existence of externality) relate to the three institutional alternatives discussed in Chapter I? First, the boundary problem identifies areas where interdependence exists between different entities. Settling the boundary problem decides who has an opportunity to interact with whom, thus establishing the general contours of the transactions. But within any contour, there are still three institutional ways in which entities can relate to each other.

For example, consider consolidation which attempts to internalize most of the externalities and to offer the opportunity for each entity's

⁸ ibid, p. 43.

preferences to enter the decision making process. Assume for the moment that all police departments are consolidated with the county sheriff. Depending upon the degree of power each local community has relative to the sheriff, either an administrative, bargained or grant transaction will take place. A bargained relationship can exist, if the communities of similar tastes can affect the election of the sheriff or the hiring of the police professional. If member communities are powerless to affect the selection of the sheriff, a grant relationship exists where the central authority gives to the participating communities the level and type of service he feels they need. It is likely that some local units will have relatively more power than others, which allows some to have a bargaining potential while the rest must be satisfied with a grantee role.

THE COOPERATION CONTINUUM

In spite of the great pressure to force small police departments to consolidate, there are other possible institutional arrangements to handle the boundary problem. Any transaction (bargained, administrative, or status and grant) represents some degree of mutual dependence. This can be said for governmental units as well as individuals. A continuum of inter-governmental cooperation exists which has as one extreme complete independent action and as the other extreme complete consolidation or merger.⁹ The institutional alternative explored in this research is contracting (bargaining transactions).¹⁰

⁹Independent action attempts to internalize no externalities and merger attempts to internalize all externalities.

¹⁰Acts of cooperation can be between governmental units (villages, townships, etc.), between functional service units (police, fire, etc.) and between sub-functional service units (police dispatching).

There are two types of cooperative undertakings. One is a "horizontal" arrangement which is a cooperative venture of mutual aid.¹¹ All parties of a horizontal arrangement perceive a similar problem and advantages to acting jointly. Each party is able and willing to contribute an amount and receive service comparable to their contribution. An example of this type of an arrangement is the unwritten mutual aid agreement between the cities of Lansing and East Lansing, Michigan State University Department of Public Safety, and Ingham County. Each police agency within these political units provides manpower and equipment to the Metro Narcotic Squad. In addition, the mutual aid pact covers civil disorders similar to the one which occurred in East Lansing near Michigan State University in May, 1972.¹² The cost to police with this disorder has been estimated to be between \$250,000 and \$300,000 most of which was borne by the Michigan State Police.¹³

A second pattern of cooperation is a "vertical" system where communities are less like partners. Parties of a vertical arrangement often times are dealing with different problems; but through cooperation,

¹¹ Advisory Commission on Intergovernmental Relations (ACIR), A Handbook for Interlocal Agreements and Contract. U.S. Government Printing Office, Washington, D.C., March, 1967, p. 13.

¹² Mutual Aid Planning, John M. Baines et al., National Sheriff's Association, Washington, D.C. September, 1973, p. 69. There is an economic incentive for such an arrangement. Negative externalities from a civil disorder which could not be controlled by the local police force could spill over into surrounding communities. Consequently, the adjacent communities will derive a benefit from helping their neighboring community control the disorder.

¹³ Ibid. p. 71. The state police were not a part of the mutual aid pact.

each is able to move toward an acceptable solution. An example of this is the city of Stockbridge buying 40 hours of patrol services from the sheriff of Ingham County. The sheriff could be interested in expanding his patrol division while Stockbridge officials are likely to be interested in obtaining for their community a higher level of patrol services at a price which is less than what it would cost them to produce their own patrol hours. This dissertation deals exclusively with the vertical arrangement.

VOICE AND EXIT

Many local officials, when faced with a cooperative venture, fear a loss of local control. Another articulation of this concern is that local officials are afraid of receiving, for a cooperative venture, a set of undesirable, or less than desirable, outputs and be unable to alter the situation. What opportunities exist for local officials to articulate their preference once a cooperative undertaking commences?

Along the cooperation continuum there exist varying degrees of voice and exit options. If community officials choose to have their own department, they will have numerous chances to have constant input into the type of police activities performed and the way they are performed. If exercising their voice (command) option fails to achieve the desired output, they can exit from the situation by firing the police chief or any other department personnel. If community officials choose to participate in a complete consolidation of their police department (e.g., metropolitan police force such as operates in Toronto, Canada), they may still have occasion to exercise their voice option articulating their preferences. But under the merger arrangement, exit will be more difficult. Very little is known on how a community secedes

from a metropolitan police department to start its own department. Can it be done by the local officials of the seceding community passing a resolution or must the other communities in the metropolitan system also agree to it?¹⁴ Further, how effective is the voice option once the exit option is no longer available?

Contracting is a type of consolidation offering both the voice as well as the exit option. There are numerous examples of the effectiveness of the voice option. In Michigan, Genesee Township contracts with the Genesee County sheriff. After contracting had begun, the supervisor noticed traffic speeding along a given stretch of road. He mentioned it to the sheriff's lieutenant and the next day he noticed one of his contracted patrols monitoring traffic. In Los Angeles County, California, the sheriff preferred that only two-man patrol units should operate; but as the cost of contracted patrol service began to increase, he was forced by the contracting communities to begin supplying one-man patrol units.¹⁵

One thing which can make the voice option effective is for local officials to know what other sheriffs are willing to supply to contracting communities. It is easy for local officials, who must contract with their local sheriff, to be told that in the name of "good professional law enforcement" only a certain type of service is possible. Some voice leverage is gained when the contracting operations of other sheriffs are known.

¹⁴If a community is annexed into a larger community, how does it become unannexed?

¹⁵"The Impact of Contract Services Arrangements on the Los Angeles Sheriff's Department and Law-Enforcement Services in Los Angeles County", John J. Kirlin, Public Policy, Vol. XXI, Fall, 1973, p. 562.

Further, the voice option can be made more productive if there is a feasible exit option.¹⁶ For a local community the cost of exit, when cancelling the contract, is either starting a local department or contracting with another community. The exit cost for a community with its own department is firing the police chief and hiring a new chief or contracting with some entity for the desired police service. The exit cost from a merger can be prohibitive in that no exit option may exist.

Several things affect the cost of exit under each institutional arrangement.¹⁷ First is the cost of breaking the agreement which for firing a police chief might be unemployment compensation. For most contracting in Michigan, all that is required is thirty to sixty days advance notice plus the start up costs of some alternative. For merger, dissolving the consolidation is expensive. Plus, there is the potential for some loss of police coverage when cancelling a contract with the sheriff or looking for a new police chief.

OVERLAPPING JURISDICTIONS AND THE OPTIMAL AMOUNT OF A COLLECTIVE GOOD

Many communities in Michigan pay for patrol services from the state, the county, and their own local department. The question in focus is how might a local community not receive its optimum amount of

¹⁶In Exit, Voice and Loyalty, Albert O. Hirschman, (Harvard University Press, Cambridge, Massachusetts, 1970), a private market situation is described where consumers, discontented with the deterioration of a product, exit from the market rather than articulate to the producer their specific dissatisfaction. Hirschman deals with a pareto better move (i.e., no one likes a deteriorated product). But many times firms, as well as governments, make changes in order to acquire a different portion of the market. This change may in fact alienate another portion of the market. Voice, without the option of exit will, likely, fall on deaf ears.

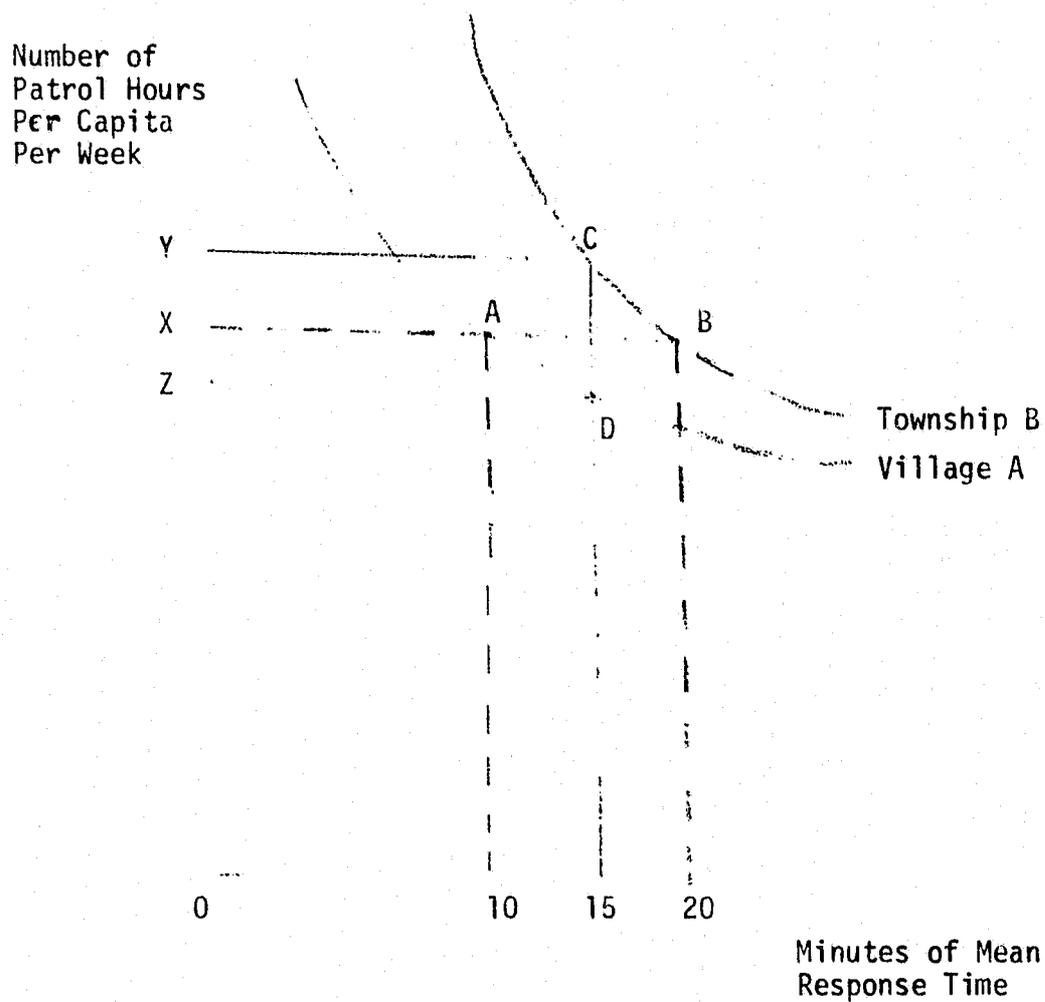
¹⁷For the community officials who had never before had their own department and found contracting unsatisfactory, they have a better idea of the type of police service they wish to provide their citizens. This information was gained without incurring the risk of investing in their own police department.

county patrol services even though an optimum amount is produced at the county level. Optimum amount is defined to be that level of output where the cost and benefit (as perceived by local officials) of the marginal unit are equal. For this analysis, the unit of output is minute of response time but the more intermediate output indicator, number of hours of patrol, could be used equally well.

When discussing optimal production it is critical to specify optimal for whom. This section will show that a county optimum may not be optimal for the communities which lie inside the county. Because of the distribution of the county-wide service, some communities may receive a surplus of the service (surplus relative to what the communities are willing to buy at prevailing costs), others will receive the optimal amount, and still others will receive a level which is intolerably low. The latter group of communities will attempt through contracting or having their own department to achieve their optimal amount. From the county perspective, this could mean an over-production of patrol services. This will be shown in the following analysis.

Consider a county with only two communities, village A and township B. Both communities desire low mean response time; and for each community there is an inverse relationship between the number of patrol hours and minutes of response time. Figure 2 shows the relationship between patrol hours and response time. Due to exogenous factors such as large geographical area, bad roads, etc., any level of patrol hours in B will produce a higher response time than in A. Given this situation, the county sheriff must allocate a given number of patrol hours to A and B.

Figure 2-2 Production Relation Between Number of Patrol Hours and Minutes of Response Time



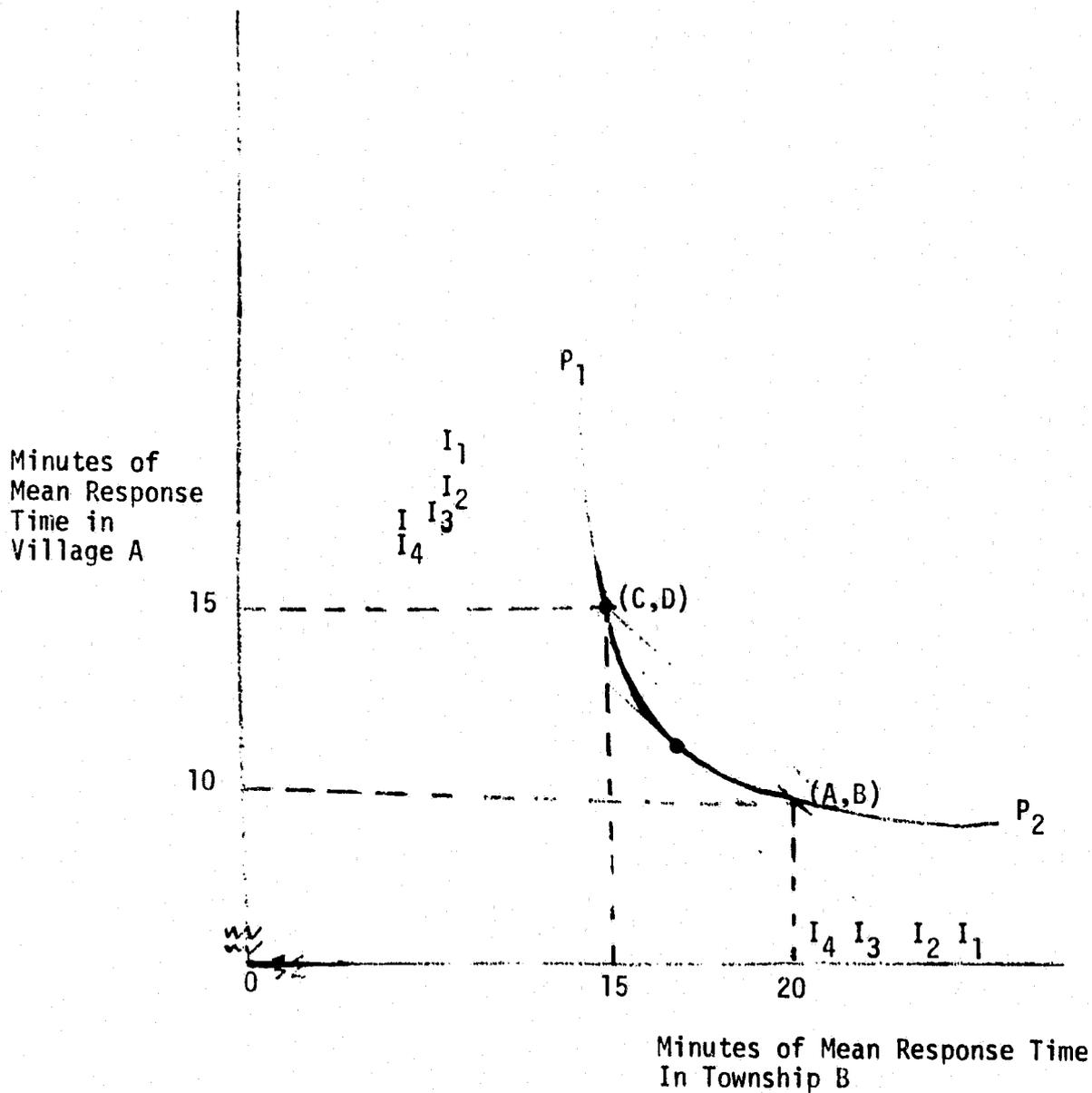
There are three possible decision rules the sheriff can use in allocating the stock of patrol hours. They are input equalization, output equalization, or county-wide minimization of response time.

Input equality says that each community will receive the same number of patrol hours. But if OX number of patrol hours are allocated to village A and township B, then A will have a mean response time of 10 minutes and B will have a 20 minute mean response time. Output equalization says that patrol hours will be allocated such that each community has the same mean response time. If 15 minutes was the goal for each community, more patrol hours (OY) will be required for B than for A (OZ).

Since the sheriff is a county elected official, he feels incentive to utilize the third allocative rule which is to minimize the county-wide mean response time. To illustrate this, it is helpful to use a production possibility curve which is shown in Figure 3 and is convex to the origin.¹⁸ The production possibility curve shows the different combinations of mean response times in A and B given the number of patrol hours available to be allocated. Also shown in Figure 3 are equal satisfaction curves (dissatisfaction curves). The satisfaction in this example is equal levels of county-wide mean response time, which means that the sheriff would be equally satisfied at any point on the same indifference curve. The closer the curves are to the origin, the lower the county-wide mean response time and thus the higher the level of satisfaction for the sheriff.¹⁹

¹⁸The production possibility curve is convex to the origin because if all patrol hours were allocated to A, A's response time would approach zero, but not reach it and B's response time would approach infinity. This production possibility curve also reflects diminishing marginal productivity. Response time in B falls by increasingly small amounts (continued)

Figure 2-3 Production Possibility Curve and Indifference Map For a County Sheriff



The output and input equality points of Figure 2 are identified on the production possibility curve P_1P_1 as (C,D) and (A,B), respectively. From the figure the marginal rate of substitution of one minute of response time in B is worth three minutes in A. Starting at point (C,D), if patrol resources are switched from B to A, that mean response time in A will fall by three minutes while response time in B will increase by only one minute. As long as the fall in response time in A is greater than the increase in response time in B, the county-wide mean will continue to fall and the sheriff will be able to reach successively higher levels of satisfaction (lower county-wide mean response times) by moving down the curve from point (C,D). The sheriff will stop reallocating his fixed number of patrol hours at the point of tangency between the indifference curve I_3 and the production possibility curve. Beyond this point transfer of patrol from B to A will cause response time in B to increase more than the fall in response time in A. In Chapter V the general patrol of a county sheriff will be examined to see which of the three allocative rules he employs and the impact it has on his opportunity to contract.

Several sheriffs have indicated they would prefer a flat county-wide millage earmarked for provision of county-wide (except large cities) patrol service rather than contracting with several local communities

¹⁸(Continued) as patrol hours are allocated from A to B.

¹⁹The equal satisfaction curves are straight lines because the county-wide mean response time is a linear combination of the response times in the two communities. The curves would be concave if the surface was not county-wide mean response time but instead political satisfaction to the sheriff. If the equal satisfaction curves were concave, this would reflect that the sheriff is more satisfied (dissatisfied) when the response time of one community decreases (increases) relative to the other community.

for the "extra" level of service.²⁰ Assume a local community were to pay an equal increment in county taxes under the sheriff's millage as they would pay to the sheriff under contract. With the contract they could specify when the patrols would be in their community and thus control response time. With the sheriff's millage, local officials have little control over which allocative decision rule is used by the sheriff. Even if they could control the decision rule, the information on how each rule would affect their community would be very costly to obtain.

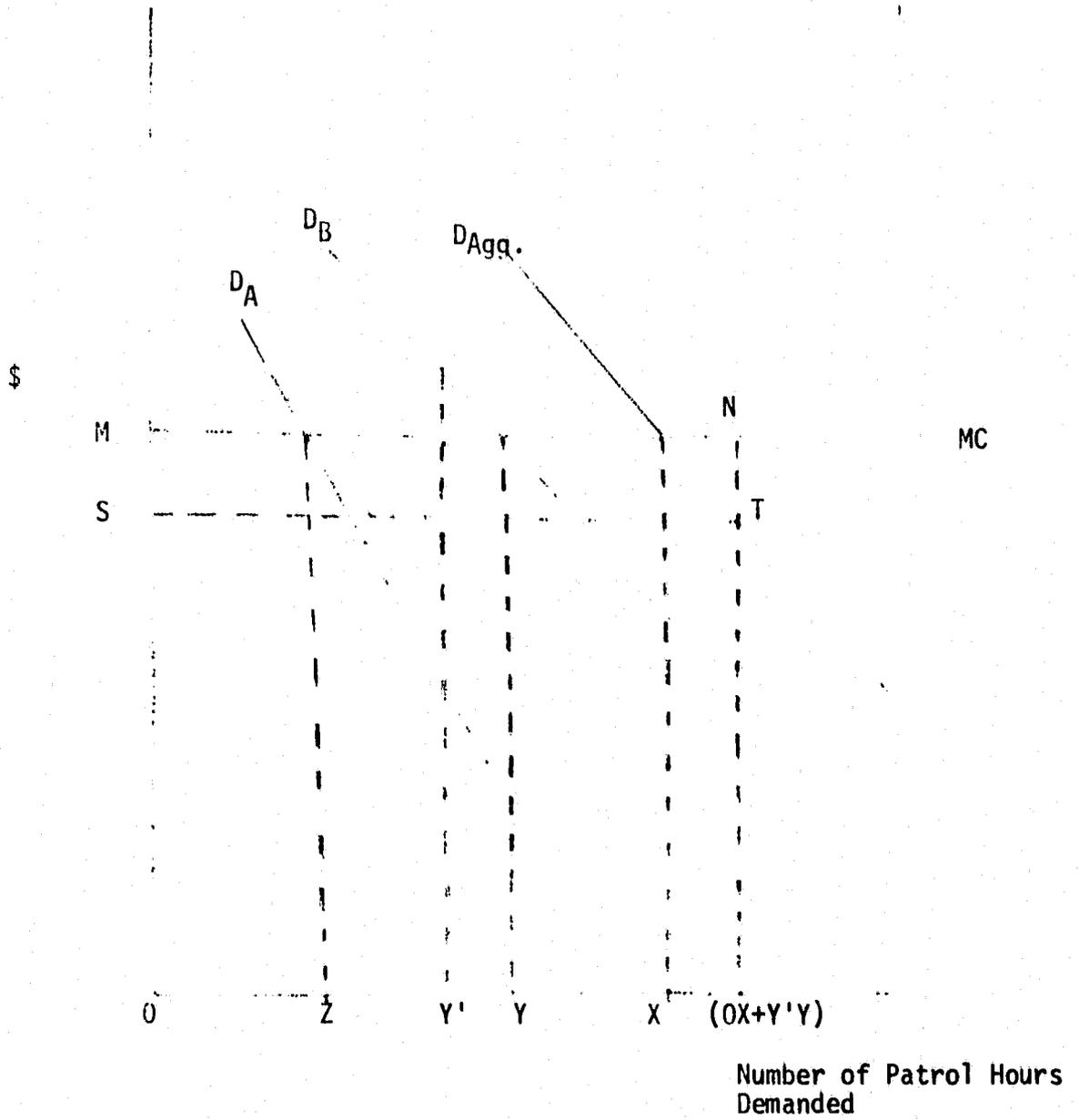
THE OVERPRODUCTION TRAP

Overproduction of patrol hours can result in the county even if the optimal amount had been originally produced. This can result because the sheriff does not distribute his patrol services such that marginal value of each increment of patrol service is equal in all the communities.

To show how overproduction can occur, we return to our two community county with each community having a demand for patrol services as seen in Figure 4. Since patrol hours are a good for which consumers can be excluded, we can add the two demand curves horizontally and construct a demand for patrol hours for the entire county. (The output on the horizontal axis is different than on Figure 1.) Assume that we are dealing with a constant cost industry and that both A and B choose not to have their own department or contract with the sheriff, but

²⁰One reason that some sheriffs would like a set millage for the operation of the sheriff's department is that they would become completely independent of the county commissioners for budgetary affairs. Another reason for the millage is their budget would grow automatically as the value of the property in their county appreciated.

Figure 2-4 Demands by Communities A and B for Patrol Hours



instead choose to rely upon the sheriff for their patrol hours. Through interacting with the county commissioners the sheriff is able to achieve a budget which allows for the production of OX number of patrol hours. Since the mechanism leading to the production of the county-wide optimal output is unknown, it should be assumed for this example that the optimal was produced.

The question facing the sheriff now is how to distribute output level OX . Assume that the sheriff distributes OY' to B and $Y'X$ to A which means that B receives less than its optimal and A receives more ($Y'X > OZ$). (We are assuming that the sheriff is able to perceive the county optimal level of output but is unable to know the optimal levels of each community.) If B's officials are unable to convince the sheriff that patrol hours should be reallocated from A to B, then they can either do without their optimal level, start their own department, or contract with the sheriff for a higher level. Assuming that B takes one of the latter two options, officials of B would be interested in obtaining $Y'Y$ more patrol hours. Once this happens the total amount of patrol service produced is OX plus $Y'Y$. Notice that B's demand curve for patrol hours has not changed and consequently the county aggregative demand curve does not change yet more than the optimal patrol hours is being produced. Total cost for the patrol level is $OMN(OX+Y'Y)$ while total benefit (if it could be measured in dollar amounts) would be $OST(OX+Y'Y)$. The overproduction becomes more serious if, as B obtains more patrol service through contracting or their own department, the sheriff reallocates patrol OY' away from B to A reasoning that since B now has its own coverage and the sheriff can give more attention to A where need is perceived to be greater.

Concluding, overproduction can result through the mal-distribution of the existing stock of patrol hours. This model does not completely explain why some communities receive patrol services from three different organizations (state, county and local). It is very conceivable that the sheriff was unable to obtain a budget from the county commissioners which enabled the production of OX patrol hours initially. In this event the priorities of the county commissioners were in conflict with those of local officials, and a local department would begin or contracting would exist to account for the deficiency between what the sheriff was able to produce and the aggregate county-wide demand for patrol services.²¹

The policy implication which this has for sheriffs is that they can do much to stem the growth of new departments if they in fact choose to allocate their patrols such that output equalization results (equal response time in all communities) rather than trying to minimize the county-wide mean response time.

FISCAL EQUIVALENCE

Consolidation and decentralization have one thing in common. Both the production and financial (provision) responsibilities are found at the same level of government. Contracting offers the opportunity for local levels to assume financial responsibility for providing patrol service with production remaining at a more aggregative level like the

²¹ Some people contend that not all patrol hours are homogeneous. A patrol hour can be different because of the level of education of the patrol officers. A patrol can also be different because there are two rather than one officer in the car or because some officers are more empathetic than others. Also, response time is only one output of a patrol hour. Some officials may feel that traffic monitoring should be given more weight relative to responding to complaints. If homogeneity of patrol hours is important, then aggregating along the horizontal axis as was done in Figure 4 is no longer possible.

county. It is relevant to examine how the boundary of the producing unit meshes with the unit responsible for financing.

Mancur Olson examines three possible relationships between the boundary of a joint impact good and the boundary of the governmental unit financing the good.²² First, the "collective good reaches beyond the boundaries of the government that provides it." In this case a positive externality exists which cannot be captured by the providing unit and "it tends to carry on its activity at a less than Pareto optimal level." As an example, Putnam Township in Livingston County decided not to sign a new contract with the county sheriff once the federal funds, which were used to finance the first contract, expired. Two reasons for this decision exist. First, local officials felt that increasing local taxes was politically an impossibility. Second, Hamburg Township, on its western border, was increasing the number of patrol hours purchased from the sheriff; and the village of Pickney, lying within Putnam Township, has its own police department. Both police operations respond to "emergencies" in Putnam Township. While some of Putnam's needs were met by the two communities, these needs were not considered when deciding the production level each was to produce. When all three units are considered in total, there is likely an under-production of the service.²³

²²"The Principle of 'Fiscal Equivalence': The Division of Responsibilities Among Different Levels of Government", Mancur Olson, Jr., American Economic Review, May, 1969, Vol. LIX, No. 2, pp. 482-485.

²³It is unknown what Putnam officials would be willing to pay for this service if they were forced to pay. (It is known that they were unwilling to raise \$10,000.) Assume that they were willing to pay each unit \$2,500 or lose the service; it is not known whether this \$5,000 amount would cause patrol service to increase. The elasticity of supply is dependent upon the lumpiness of patrol production and whether local officials of Putnam and Hamburg want to incrementally increase patrol production.

A second relationship is that "the collective good reaches only a part of the constituency that provides it."²⁴ This can occur when an effort is made to internalize all externalities through some type of consolidation. Consider the case where a sparsely populated portion of a county receives less than the level of patrol services it needs. Being unable to force the sheriff into increasing the road patrol service, it can either do without, start its own department, or contract for the needed service with the sheriff. This can lead to an over-production of patrol services if each unsatisfied local community is allowed to remedy its own situation. This was discussed in more detail in the previous section.

A third possibility is where "the boundaries of the collective good are the same as those of the jurisdiction that provides it." In this case, there is a match between those who pay for the good and those who receive the benefits. Olson calls this "fiscal equivalence." This is approached when a local community finances its own police department or if a community contracts with the sheriff. But in the case of contracting, the situation is not clear and definitive. If

²⁴Olson contends that if taxes used to finance the activity are raised throughout the entire unit, then "even a collective good, which brings gains much greater than its costs, will still create more losers than gainers." It is unclear what Olson means. If benefits exceed costs the GNP increases and there is a redistribution from those taxed to those who receive. If Olson means that the number of people paying is greater than the number benefited (ignoring the per capita cost and benefits) then his statement is incomplete. Consider a sparsely settled portion of a county receiving zero level of a county-wide service which it helped finance. The number of gainers can exceed the number of losers quite easily. A third interpretation is that the net benefits are not great enough to sufficiently compensate the losers for their net loss, but this outcome is far from obvious.

the sheriff charges a price which is less than the cost of patrols provided, the second relationship exists where the general county taxpayer pays for a portion of the contracted patrols received by a local community. This will be further examined when the sheriff's contract prices are compared to the costs of patrol production.

Fiscal equivalence is not necessarily the goal of the sheriff or local officials. The next section discusses the different possibilities as the sheriff and the local officials interact in attempting to meet county as well as local needs.

POTENTIAL PURCHASES OF INCREMENTAL OUTPUT

Local officials often speak about paying three times for patrol services (state, county and local). This implies that when local officials start their own police department or contract with the sheriff, that they lose rather than augment the patrol service supplied by the state and county sheriff. The question which will be explored in this section is if a community does not receive an adequate number of patrol hours from the sheriff, can it purchase the incremental amount needed to account for the deficiency between what they are receiving and what they wish to receive or do they lose what they were receiving and end up producing all their needed patrol hours?

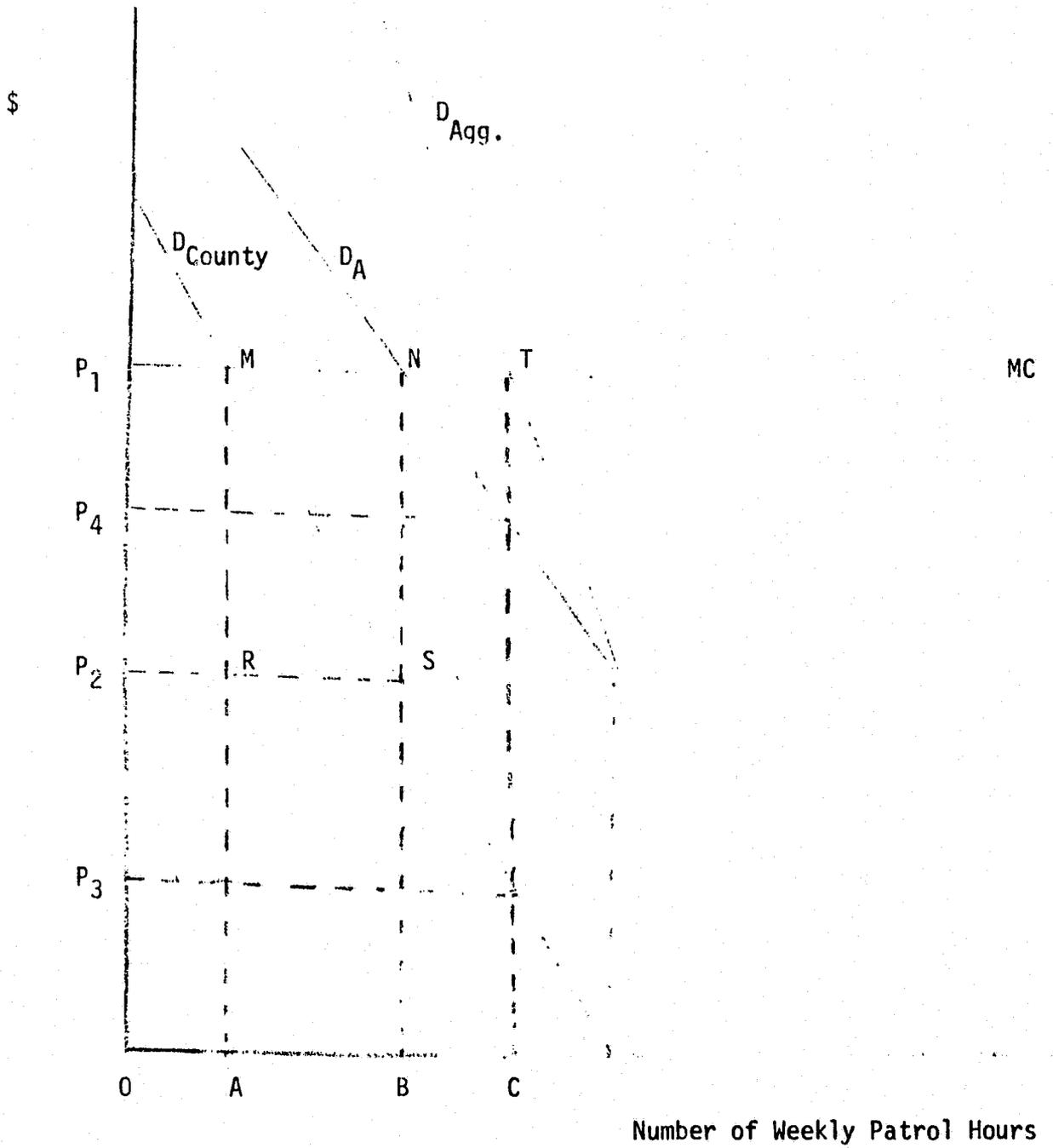
Patrol hours supplied by the sheriff are not entirely incompatible goods; they have joint impact characteristics. Citizens throughout the county, for instance, have some interest in patrol services in township A should they ever be needed when visiting or traveling through A. Citizens of township A also have demand for patrol hours; but since they live there, their demand is greater than the county-wide demand.

In Figure 5 the demand which the entire county has for sheriff patrol hours in township A is shown by D_{county} . The demand for patrol hours by township residents (D_a) is greater. The sheriff is willing to supply output level OA to the township and would supply more only if MC of patrol hours falls or if the county-wide demand curve increases. Township A desires output level OB. There are different strategies as township A attempts to obtain their optimal level of output. First, the township officials may contend that output level OB is owed to them because they are county taxpayers. Since the local officials probably do not know how OB per capita compares to the level received by other communities, the sheriff can say that he is giving them their "fair share" which is OA. If that fails to satisfy local officials, the sheriff can say that the county commissioners refused his budget request which would have allowed him to increase the amount of road patrol he could give them. Attempting to coerce the sheriff into providing more road patrol is not likely to succeed unless the local community organizes with other communities with similar problems or if the complaining community should happen to hold a majority of the electorate.²⁵

A second option is for the local community to start its own department in order to obtain an increase of AB in patrol service. There are several problems with this strategy. First, attempting to build on output level OA is difficult because local officials do not know when OA will be delivered. Many sheriffs have their general

²⁵A local community may not hold a majority of the electorate but may have some clout if the sheriff believes the local community contains the marginal votes necessary to win in a close election.

Figure 2-5 Demand for Patrol Hours in Community A by County And Community A



patrols randomly pass through different communities. Consequently, local officials may aim for producing all of OB and have some double coverage rather than run the risk of producing only AB and being without coverage for some portion of the day or night. A second problem is that local officials do not know, nor can they control, what the sheriff will do with output OA after a local community either starts its own department or contracts. The sheriff may decide that since the local community has some coverage, he will take OA and give it to another portion of the county.²⁶ For these two reasons local communities are likely to aim for producing OB levels rather than AB.

The third option is for the township to contract for the needed patrol services with the sheriff. The sheriff and the township officials enter into a bargained transaction and the outcome, in terms of price charged and quantity sold, is difficult to predict. Several of the possible combinations are listed below.

Combination 1: Sheriff refuses to sell output AB and instead offers to sell output OB to township A at price OP_1 . The township pays a total sum to the sheriff of OP_1NB ; and the sheriff takes patrols OA and redistributes them to another portion of the county. An example of this is the Wayne County sheriff contracting with the city of Romulus. When Romulus was a township, it received OA level of service from the sheriff but lost this when it became a city. After an abortive effort to have its own department, Romulus officials

²⁶One sheriff told a local community which was contemplating starting their own department that he would deny them any general patrol services unless they contracted with him.

contracted with the sheriff for the level of patrol services they needed which was OB. The sheriff charges them a price which approximates very closely the actual cost of operation.²⁷ The sheriff provides no general road patrol service (road patrol funded from the county general fund) because the Wayne County Commissioners have the policy that once a political unit becomes an incorporated city, they have responsibility for all road patrol service.

Combination 2: The sheriff sells to township A output level AC rather than AB.²⁸ This combination has the sheriff selling more than the additional amount to A because he sees an opportunity, through contracting, to provide higher levels of service to the non-contracting portion of the county; and he will use increment BC to provide this service level. The BC increment can be observed in contracting operations by the sheriff reserving the right to dispatch outside the contracting community and by having part of the time purchased by the contracting community be spent in transit to and from the sheriff's office. During the transit time non-contracting communities receive higher levels of patrol service.

If the county pays its marginal valuation, then it contributes OP_3 and A contributes P_3P_4 . But there are other pricing possibilities

²⁷The relationship between the actual costs of a contracting operation and the price the sheriff chooses to charge will be discussed more fully later on in the study for this and all other examples in this section.

²⁸A sheriff may refuse to sell some level of service because he may feel the level is too small to have any impact or because the level is so small that it is difficult for the sheriff to produce. Many sheriffs find it difficult to produce less than 40 hours of patrol service per week due to the difficulty of hiring part-time personnel. (This assumes that they are also unwilling to take from their general patrol in order to staff the contract.)

other than each unit of government paying its marginal valuation. For instance, if the county commissioners play an active role in the pricing, they may compel the sheriff to charge price OP_1 for output AB and P_4P_2 for output BC. On the other hand, if the sheriff is fairly powerful relative to the county commissioners, he may be able to get them to agree to charging P_3P_4 for output AC.

Combination 3: The sheriff sells output OB to A and charges P_1P_2 with the county general fund paying OP_2 . The sheriff justifies this by contending that the price break is due A because A pays county taxes. The critical question is what happens to general patrol service OA. If OA is redistributed to other parts of the county, then the county commissioners and local officials must decide if rectangle RMNS equals what the sheriff owes A due to A paying county taxes. If OA general patrol service is given to A, then trying to justify the below cost price, because A pays county taxes, carries less weight. Most contracting in Michigan seems to be similar to combination 3 with some sheriffs redistributing OA to other parts of the county and others continuing to give OA to the contracting community.²⁹

CONCLUSIONS

A boundary problem is central to the issue of which institutional alternative local officials utilize to obtain their desired level of patrol services. A boundary problem exists when the political boundary of a governmental unit producing a service is not the same as the boundary of the consuming unit. Several results may occur. First, there may be an underproduction of the good or service in

²⁹Combination 3 could have been done with output AC instead of AB and the discussion would remain essentially the same.

question (overproduction for a negative good). Second, if the benefits and costs are internalized in a very heterogeneous community, then groups internal to the community with preferences extreme from the mean of the community may not receive the type of service desired.

Contracting was placed in between independent action and complete consolidation on a cooperation continuum. The point was made that contracting was a type of vertical coordination which offers to all parties both the options of voice (command) and exit. If local officials, contracting with a sheriff, are unhappy about the police service they are receiving, they can exercise their voice (command option); and if it fails to provide the desired results, the local officials can cancel the contract and exit from the cooperative arrangement.

Three allocative decision rules which the sheriff could use in the areal distribution of general patrol services were discussed. The first was input equalization where each community receives the same level of patrol services; the second was output equalization where each community receives the same level of output (response time); and third is the minimization of the county-wide mean response time. If a community is unable to receive its optimum level of patrol service because the allocative decision rule does not favor them, then an opportunity exists for the sheriff to sell that particular community a higher level of service through contracting. This will be explored in detail in Chapter V.

Finally, the question of fiscal equivalence was raised and related to the sheriff's allocation of general patrol. Three combinations were discussed. First, the sheriff can charge a contract price equal to the costs of meeting the contractual obligation and provide

no general patrol to the contracting community. Second, the sheriff can charge a contract price which is less than costs and sell more than is desired by the contracting community using the extra patrol services to provide service to the non-contracting portion of the county. Third, the sheriff sells the total desired level of patrol service to the contracting community but at a price which is less than costs. The sheriff is likely to justify the price being less than costs stating that he owes the contracting community a price concession because of the county taxes they pay. The question then becomes what happens to the level of general patrol services which the community received before contracting. If it is allocated to non-contracting portions of the county, then the budgetary issue facing the county commissioners is whether or not the extra service going to the non-contracting portion of the county as a result of the contract is worth the difference between the contract price and the costs of operation. This will be dealt with in more detail in Chapter V.

CHAPTER III
THE BARGAIN INSTITUTION FOR PATROL SERVICES

INTRODUCTION

In Chapter I the three institutional structures of bargain, administrative, and grant were discussed. This chapter focuses entirely on bargain, and it along with Chapter IV apply the structure and conduct-performance model to analyze the contracting arrangements of different sheriffs.

In the state of Michigan in 1974, 30 of the 83 county sheriffs had some type of contracting arrangement with another unit of government. The map on the next page identifies the counties which contract. Great variety exists among the contracting operations even though the commodity most often traded via the contractual arrangement was patrol service. Six of the sheriffs contract with the U.S. Forest Service providing patrol service to National Parks. The remaining sheriffs have some type of contractual agreement with local communities. Of these, 20 are located in the southern half of the lower peninsula. In Cass County during 1974 the sheriff had no contracts but two local communities contracted together for police service.

To apply the structure and conduct-performance model, several of the structural conditions and conduct-performance characteristics need to be reiterated. One structural condition which affects a contracting sheriff's conduct-performance is that local officials

always have the option of continuing or starting a local police department, and this provides competition to the sheriff attempting to sell patrol services. Another structural relationship is the sheriff's relation to his county board of commissioners in acquiring funding for his patrol division. One might expect that the more miserly the commissioners, the more disposed the sheriff will be to sell the type and level of patrol services desired by local officials. Conversely, if the sheriff is modest and feels he has an adequately financed department, he may not be willing to sell any patrol services; or, if he does sell, he may not be willing to meet all the patrol needs felt by local officials.

I attempted to discover the relationship which each sheriff had with his county commissioners by listening to him describe the patrol needs he felt his county had and the relative success he met when requesting funds from the commissioners. Many times, this information would come in the form of what the sheriff planned to do, but in any event the conversations did reveal something about the relationship which the sheriff had with his county commissioners. If the sheriff was frustrated with his finding success from the commissioners, he might already have a high percentage of his patrol division funded through contracts or he might be planning to contract extensively in the future. In any case it was hypothesized that this kind of sheriff would be more responsive to the conduct-performance objectives of local officials than a sheriff who was satisfied with the size of his patrol division. This structural information for each sheriff appears under the subheading "Future Contracting Expectations".

The conduct-performance variables (i.e., the range over which the product can vary) are the divisibility of patrol service which can be purchased, the type and amount of reporting to local officials, control over daily patrol functions, rotated or permanently stationed deputies in the contracting community, and the price of the patrol service sold.¹ The following list of product features is what many local officials would like to purchase from the sheriff:

--Divisibility of patrol service--Local officials would like to buy whatever number of patrol hours they feel they need and can afford. This might mean, for some small communities, patrol service only on Friday and Saturday nights and perhaps only during the summer.

--Reporting to local officials--Local officials want information on the activities of their police. Reporting to local officials means a transaction cost for the sheriff; and the more information desired, the higher this particular transaction cost will be.

--Control over daily patrol function--Daily control over patrol functions refers to two things. The first is the scheduling of patrols and the second is whether patrol will be allowed to perform community errands. Local officials want their patrols to work when they feel the need is the greatest, and they also want their patrols to perform community related errands.

--Rotated versus permanently stationed deputies--Many local officials wish to have control over who is policing their community. Not only do they want to be able to select the personnel, but they want the

¹Three other conduct-performance variables will be discussed in Chapter V and they are amount of patrol time spent outside the contracting community, response time, and complaint priority.

same persons to permanently work in their community.²

--Liquor inspection revenue--Local officials prefer to receive the revenue received from the Michigan Liquor Commission as a result of liquor inspections performed by the contracted patrol.³

--Price--Local officials desire the lowest possible price for patrol service they purchase from the sheriff. Not only is the contract price reported for each sheriff but it is compared to the estimated variable costs (personnel, vehicle, etc.) of producing the contracted patrol. The appendix to Chapter III contains a discussion on how the cost estimation was done and the assumptions made for each sheriff's contracting operation.

By using the conduct-performance characteristics presented in Chapter I, two questions can be raised. First, do Michigan sheriffs who contract sell patrol services with different conduct-performance characteristics? (I.e., in the patrol service market, what product variety exists?) Second, whose patrol objectives are met -- the sheriff's or local officials'? This study did not attempt to systematically measure local officials' patrol objectives. However, some local officials do obtain a package of patrol service in one county that is not available in another. While it is possible that demand and availability always match up, this seems unlikely. From the knowledge of what some local officials obtain, we assemble a list of patrol service features

²Some local officials may value having patrol services performed by different patrol personnel who are not familiar with the community or its citizens.

³Liquor inspection revenue could go to the county and be returned to the contracting community in the form of a lower contracted price. But many local officials view this as a source of revenue and something which can be lost when contracting, and for them not to feel this loss would require that local officials see exactly how much they are being credited.

(performance categories) which are demanded. Then we can see which counties provide these features and which counties do not. In essence, local officials with a particular patrol objective would or would not obtain it from different sheriffs.

This chapter presents the results of interviews conducted with eleven sheriffs concerning their contracting arrangements with local communities while Chapter IV compares each sheriff according to the structural and conduct-performance variables. Actually, Chapter IV is a continuation of Chapter II, but I thought it would be useful for the reader to see the contracting operations of each sheriff before the sheriffs are compared and contrasted.

The first part of this chapter discusses contracting between county sheriffs and the U.S. Forest Service followed by a discussion of the contracting of 11 county sheriffs. The final section contains brief statements about the remaining contracting for police service in Michigan during 1974.

Throughout this and the next two chapters, single (one person patrol) and double (two persons patrol) patrol hours will be used as measures of output (what is purchased from the sheriff via a contract). They are considered different outputs because of the significant cost difference (double patrol hours cost almost twice as much as do single ones). The number of single and double patrol hours produced and sold by the sheriff are not the actual number of hours produced but estimates obtained from the sheriff's description of the patrol schedule which he tries to maintain.⁴

⁴No attempt was made to consult the daily logs of deputies to count the actual number of single and double patrol hours given by a sheriff to

CONTRACTING WITH U.S. FOREST SERVICE

Sheriffs in the six counties of Wexford, Schoolcraft, Alger, Iron, Gogebic and Ontonagon contract with the U.S. Forest Service to provide patrol service in the national parks located in their respective counties. Although the Forest Service can enforce federal laws inside these parks, Public Law 92-82, enacted in 1971, authorizes the Forest Service to enter into contractual agreements for the enforcement of state and county statutes on federal property. A primary reason for encouraging contracting with a local law enforcement agency is that a local court is usually closer to the park and has less case backlog than the nearest federal court. Consequently, it is more expedient for citizens and the Forest Service to process complaints and arrests through state courts rather than federal courts.

Alger County's sheriff has a contract which begins on May 1st and runs through Labor Day. During this period, the sheriff supplies four hours per evening of staggered patrol for five evenings per week. In return, the U.S. Forest Service pays \$4.00 an hour salaries and 15¢ per mile for use of the vehicle. The county absorbs the F.I.C.A. and any sick leave. The sheriff has been able in the past to hire a man especially for this detail, using him for snowmobile and marine duty during the remaining time. In 1975, the sheriff feels a double patrol is needed and will request the money to hire two men.

4(continued) a contracting community. The estimate of number of patrol hours sold was made from a description of the patrol schedule which the sheriff attempted to meet. For instance, if the sheriff attempted to supply 24 hour coverage of single patrol five days per week, then the number of yearly single patrol hours sold to this particular community was 6,240 (5 days/week x 24 hours/day x 52 weeks/year). Consequently, the number of single and double patrol hours sold could be inaccurate due to the following factors which could erode the patrol schedule: court appearance, sickness, vacation, and holidays.

Schoolcraft County has had a contract with the Forest Service for three years. From June 15th until September 15th the sheriff establishes a patrol schedule in conjunction with the local rangers. The sheriff supplies an average of 32 hours of double patrol each week. In return, the U.S. Forest Service pays \$2.88 per man hour and 12¢ per mile, and the county pays the F.I.C.A. The sheriff staffs this operation mostly with special deputies who are likely to be police officers of local communities working on their off duty time. If the sheriff's regular deputies should work the patrol, they receive time and a half (which is greater than the \$2.88), thus the sheriff has incentive not to use his own deputies. The officers, who are not deputies, are equipped with the sheriff's uniform and equipment paid for by the U.S. Forest Service. The U.S. Forest Service also equips the sheriff's cars with radios so that the deputies and rangers can communicate.

Iron County contains approximately 12 federal parks, several of which are quite remote. The sheriff provides patrol service from May 1 through November 30th, which also includes patrolling the lakes. The sheriff does not have to increase his staff to handle this contract because there is no set number of hours which the sheriff agrees to supply. During the contracting time period, the sheriff has his general patrols drive through the parks during the regular patrol time. The deputies keep track of the time they spend in the parks and record the mileage. The county is compensated \$4.00 per hour and 15¢ per mile for the time they spend in the parks. If they receive a call for assistance by a ranger or a request to investigate a special complaint, the same rates apply and mileage is kept from where the responding sheriff's patrol originates.

The sheriff of Wexford County contracts with the U.S. Forest Service to run two patrols on Friday, Saturday and one patrol on Sunday during the period May 1 through September 30. Each patrol takes approximately 4 hours and covers approximately 76 miles. The U.S. Forest Service agrees to pay \$4.00 per man hour and 11¢ per mile and provide for special radio equipment. The total payment by the Forest Service is not to exceed \$3,200 per year. The terms of the contract have remained unchanged since 1972.

The sheriff of Gogebic County contracts with the Forest Service from May 20th through September 10th. During this time, the sheriff consents to make an average of three patrols per week with each patrol occurring between 9 p.m. and 2 a.m. When possible, the patrols are done on Friday, Saturday and holiday evenings. At the end of each month, the sheriff sends to the Forest Service copies of the activity logs for the time spent on park patrol along with the total cost for that month. The Forest Service agrees to pay \$3.90 per hour of patrol plus 12¢ per mile. In 1974 the Forest Service paid a sum total of \$3,283.89 for 499-1/2 hours of patrol and 11,132 vehicle miles.

The Ontonagon County sheriff has almost an identical agreement with the Forest Service as does the Gogebic sheriff except the rates of reimbursement are different. While the Gogebic sheriff is paid \$3.90 per hour and 15¢ per mile, the Ontonagon sheriff receives \$3.00 per hour and 15¢ per mile. All other provisions of the contract are the same.

In summary, all six county sheriffs have contracts which cover the summer months. The hourly rates vary from \$2.88 to \$4.00 and the range of the vehicle charge is from 11¢ to 15¢ per mile. One sheriff hires a special person to handle the park patrol, another sheriff

uses part-time men who are police officers of surrounding local communities, and the remaining four sheriffs cover the park patrol as a part of the general county patrol.

OAKLAND COUNTY

The Oakland County sheriff views contracting as the "life blood" of his department. Since 1971 the county commissioners indicated additional budget requests for road patrol service would not be approved. Consequently, the only way the sheriff has been able to increase his patrol service has been through contracting. Evidence of this fact is that of the 97,600 single patrol hours produced by the sheriff in 1974, approximately 52% are supplied to contracting communities.

The sheriff contracted in 1974 with the following seven communities:

Table 3-1. Number of hours sold to contracting communities and the price charged by the Oakland County sheriff in 1974.

Community	Number of Single Patrol Hours	Total Amt. Paid by Townships	Price per Single Patrol Hour
Avon Township	11,680	\$89,350	\$7.64
Commerce Township	8,760	71,480	8.15
Highland Township	8,760	71,480	8.15
Oakland Township	2,080	17,870	8.59
Independence Township	8,760	71,480	8.15
Orion Township	8,760	71,480	8.15
Springfield Township	2,080	17,870	8.59

The townships contract for a specific number of men and vehicles. The price for a deputy and car for 40 hours of service per week for one year is \$17,870. Avon purchases five such units, while Commerce,

Highland, Independence and Orion each purchase four units; and Oakland and Springfield each purchase one unit. Sub-stations have been established in the townships of Avon, Highland, Commerce and Independence. The men report to the sub-stations with no loss of patrol time to the contracting community due to transit time to and from the sheriff's station.⁵

Future Contracting Expectations. Even though the sheriff is dependent on contracting, he does not actively recruit communities to buy patrol service from him although he does make his contracted services known through general announcements both verbal and written. He does not attempt to undermine local police departments by out-performing them. If a citizen in a community with a local police department calls the sheriff for service, the sheriff will refer the caller to their local department or contact the local department directly. (Only if a local police unit is unavailable or if the caller insists on seeing a sheriff's deputy, will a sheriff's deputy be dispatched.) One reason for this practice is that contracting with communities which have their own departments is more difficult than contracting with those who do not. Usually, the local officials want the sheriff to absorb their local department. The sheriff attempted this once; but local officers did not meet the sheriff's minimum standard for deputies; and the county commissioners would not allow the lateral insertion to take place. All of the contracts are with communities that did not have their own

⁵Oakland Township is a 30 minute one way drive from the sheriff's office, Orion is a 20 minute one way drive, and Springfield is a 15 minute one way drive. While this is time lost to the contracting community, it is time gained by the non-contracting portion of the county assuming the patrols travel through non-contracting communities. It should be added that a sub-station is planned for Orion in 1975.

police department but still wanted a higher level of service than was provided by the sheriff through county taxes.

The sheriff's contracting patrols will be expanded in 1975 through the use of Comprehensive Employment and Training Act (CETA) funds.⁶ The townships of Highland, Independence, and Springfield will pick up one additional man and Commerce will obtain 2 men.⁷ Avon in 1974 passed a local millage which earmarked funds for law enforcement and will allow them to increase the number of contracted deputies from 5 to 14 men.

Reporting to Local Community. The sheriff sends a monthly report to each contracting community showing the crime breakdown for that month. He also attempts to have one of his officers attend each annual meeting and one of his administrators will attend monthly meetings upon request.

Divisibility of Patrol Service. The sheriff is willing to supply any level of service to a local community as long as it adds up to one full man being employed. For instance, he would allow two townships each to buy 20 hours of weekly patrol service, but would not sell 20 hours of weekly patrol service just to one township. The reason given for this policy is that it is too difficult to procure and schedule a half of a man.

⁶CETA pays a maximum of \$12,500 for salary of a locally unemployed person. Any difference in this amount and the cost of a man and a car will be paid by the local community.

⁷One criticism of local officials spending federal funds is that they tend to spend the money on capital goods (vehicle, radio equipment, etc.). One reason cited for this is that if the money is used to employ an additional person, when the funds terminate the local community feels compelled to pick up the additional man either by raising taxes or cutting spending in other areas. Contracting offers a way that federal funds can be spent on additional employment because a larger unit, such as the sheriff's office, offers the opportunity to use additional people to replace personnel which have left the sheriff's department through normal attrition assuming the local community chooses not to continue to pay the salary out of local funds.

Specification of Patrol Schedule and Activities Performed. The patrolmen working in the contracting communities know that they are there to please the township trustees and supervisors as well as provide service to citizens. The deputies are encouraged to know the supervisors and maintain good working relationships with them. If the supervisor wants the deputies to perform community errands or enforce local ordinances, such as the junk car ordinance, the sheriff's lieutenant will try to explain that there are cheaper ways to obtain this service other than having the contracted deputy perform the function. But if the local official insists, the sheriff's deputies will usually perform the errands.⁸

Sub-stations allow township supervisors the opportunity to communicate directly with the contracted deputies and make any requests they might have. In those townships without sub-stations, local officials must first contact the sheriff's dispatcher and request that a deputy be sent to their office, making communication more difficult.

Rotating Versus Permanently Stationing Deputies. The sub-stations are designed to offer a point of reference and identity for local citizens. This is reinforced further by permanently assigning the same deputies to contracting communities which have sub-stations.⁹

⁸There is a limit to the range of activities which the sheriff will allow his deputies to perform. This limit cannot be easily expressed. As a general rule, however, the wishes of local officials carry a great deal of weight.

⁹A deputy who becomes too familiar with the community such that he begins to show favoritism, can become unsatisfactory to the sheriff. For instance, if the sheriff's administration notices that a deputy is giving all the wrecker business to one filling station, or is around a certain restaurant too much, they may transfer him.

Patrolmen for the other contracting communities are rotated between general patrol and the contracting operations. If any deputy is deemed unsatisfactory by local officials, and if the sheriff feels the complaints are justified, the sheriff will reassign a patrolman either to another contracting community or to general patrol.¹⁰ When possible, the sheriff likes to assign to the contracting community a deputy who lives there. In a further attempt to satisfy local officials, the sheriff stations his most experienced deputies in the contracting communities.

Liquor Inspection Revenue. The sheriff has a detective sergeant perform the liquor inspection for the contracting as well as the non-contracting portion of the county. If the local communities are aware of the revenue they could receive, it will be retained by them. If not, then the money coming from the Liquor Commission goes to the county treasury.

The Oakland County sheriff extends great effort to please local officials of contracting communities. For example, contracting communities receive priority over non-contracting communities. A sheriff's administrator indicated that if two complaints of the same type are received by the sheriff's dispatcher and the general patrol is equal distant from each and if one is in a contracting community and the other is in a non-contracting community, the contracting community will receive priority. Another example is the one township which cut the number of yearly patrol hours from 8760 to 2080 because

¹⁰ Many local communities adopt Act 78 which is the Civil Service Act which makes the firing of a local police officer difficult. Contracting is one way to eliminate an unpopular local police department.

federal funds which they were using expired. The sheriff told the community that he would float a general patrol into their community as often as possible.

Comparison of Patrol Costs to Contract Price. With the county commissioners unwilling to fund any general patrols, the sheriff felt an incentive to establish contracts with as many communities as he could if he wanted to expand his road patrol division. One way of doing this was to charge a low price for the contracted patrol service, and one way of charging a low price was not to pass all patrol costs on to the contracting community. Table 3-2 compares patrol costs to contract price.

Table 3-2. Comparison of resources used to the county estimate and the revenue received from contracting communities.

Community	Estimated Value of Variable Resources Used, 1974	County Contracted Revenue Received in 1974*	County Cost Estimate**
Avon	\$148,989	\$89,350	\$92,295
Commerce	114,003	71,480	74,196
Highland	112,751	71,480	74,196
Oakland	26,848	17,870	18,459
Independence	112,751	71,480	74,196
Orion	112,524	71,480	74,196
Springfield	27,216	17,870	18,459
TOTAL	\$655,082	\$411,010	\$425,997

*The rate charged by the sheriff including salaries, vehicle expense, and uniform costs was \$17,870 for each man purchased. Avon purchased five units and thus the revenue they send to the county in 1974 is 5 x \$17,870 or \$89,350. Highland, Independence, Commerce and Orion each purchase four units (4 x 17,870 = \$71,480) and Springfield and Oakland each purchased one unit.

**The county estimated the cost of one unit, a man, vehicle and uniform to cost \$18,459 per year per unit. Avon purchased 5 units; so the cost, according to the county, is (5 x \$18,459 = \$92,295).

The county budget office was actively involved in estimating patrol costs. It estimated the annual cost of a man and vehicle working 40 hours weekly to be \$18,459. The sheriff, through negotiation with the county commissioners, chose to charge \$17,870. The \$17,870 figure multiplied by the number of men desired by a community determined the total price paid by a community to the county. (Avon purchased 5 men and they paid in 1974 \$89,350 (5 x \$17,870)). In the appendix a comparison of the author's cost estimate is made to the cost estimate of the county. While it is known how the county arrived at the cost estimate of \$18,459, it is not known how the sheriff reached the figure of \$17,870. One possible explanation is that it is the lowest figure which the sheriff was able to get the commissioners to accept. This cost saving, which was given to the contracting communities, was never quantified either for the benefit of the contracting communities or the county commissioners.

What benefit does the non-contracting portion of the county receive from subsidizing the contracted patrols? Since the sheriff operates several sub-stations, transit time (patrol traveling time between the sheriff's office and the contracting community) is lost because patrols report directly to the sub-station. While the sheriff can dispatch the contracted patrols outside the contracting communities, it is not known how much time is spent in the non-contracting portion of the county. Generally the contracting communities will not be slighted in favor of the non-contracting communities.

HURON COUNTY

The sheriff of Huron County has two contracts. One is with the five contiguous townships of Caseville, Fairhaven, Lake, Hume, and McKinley. This predominantly resort area has Saginaw Bay as its northwest boundary. The five townships collectively pay the sheriff \$14,000 for 2544 man hours or 1272 hours of double patrol to be distributed through the five township area. Caseville pays \$4,000 because the sheriff estimates that relatively more time is spent there; while Hume, Lake, and Fairhaven each contribute \$3,000 and McKinley pays \$1,000. The contract runs from May 23, 1974, through March 31, 1975, at which time a new contract will probably be written for a 12 month period.¹¹

Several years ago, the officials of Caseville Township approached the sheriff about contracting for police services for the summer months. Caseville is a resort area and its officials felt that they were unable to obtain the level of service they needed from the village of Caseville, with whom they had contracted. They requested that the sheriff station a patrol in their township from Friday afternoon until 12 a.m. Sunday morning.¹² The next year the township supervisors of Lake and Hume, after talking with the Caseville officials, approached the sheriff about buying weekend patrol service for the summer months. That year the

¹¹The budget year for the townships begins on March 31st and runs 12 months. Consequently, the township officials wanted to sign a new contract at that time.

¹²The sheriff contends that one reason that the township officials perceived inadequate service was that the village was using an unmarked car. Even though the village was providing service, the citizens and officials had little perception of it. While the township was buying police services from the village, the weekends were peak periods for the village as well as the township and the village received priority.

sheriff had a two-man patrol operating in Caseville and another two-man patrol operating in Lake and Hume for the weekends during the summer months. The following year the sheriff took the initiative and approached McKinley and Fairhaven about joining the operation, which led to the current contract.

Under the current contract, Caseville, Hume, and Lake receive lower levels of patrol service during the summer month weekends (their peak period) than under the previous contract. Under the old contract, the three townships received two double patrols during the summer weekends, and under the present one they share one double unit with two additional townships. While they receive lower levels of service during summer weekends, they receive higher levels of service during non-summer weekend periods.

One distinctive feature about the Huron County sheriff's contracting with the five township areas is that he has never hired additional men. One problem encountered with offering a contract of less than 40 hours of weekly patrol service is that it is difficult to hire the necessary personnel and purchase the necessary equipment. The sheriff staffed the contract operation mostly with the trained part-time men and filled in with his deputies who wanted to work overtime. This method was economical for the townships because the base of the part-time men was less than the regular deputies (\$4.42 versus \$4.90 an hour).¹³

The second contract is with the village of Kinde which agrees to buy 24 single patrol hours of weekly service from July 3rd through

¹³Huron County pays regular base pay for any overtime worked, but because of a state law which becomes operative in 1975, all governments will be required to pay time and a half for any overtime worked.

December 31, 1974, for a sum of \$171.36 per week. This contract grew out of an expired Emergency Employment Act Grant which had allowed Kinde to hire a man to perform police services. The village purchased the car and the officer's equipment. When the grant ended, the village did not want to assume the man's salary so they sold their police vehicle and contracted with the sheriff who in turn hired the Kinde officer. The sheriff uses him for three shifts in Kinde and two shifts either on general patrol or in the other contract operation.

At present a small percentage of one and two man patrol hours produced by the sheriff are the result of contracting. On a yearly basis (adjusting the contract hours to annual estimates) the sheriff produces a total of 8,548 single patrol hours, of which 1248 (14.8%) annually goes to Kinde (24 hours/week x 52 weeks = 1248) the sheriff also produces 8,760 hours of double patrol of which 1460 hours (16.6%) goes to the five township contract operation.

The sheriff feels the non-contracting portion of the county benefits from contracting operations. Before the present contracting the sheriff split the county in half and had a general patrol assigned to each half. During the winter months of 1973 there was a rash of breaking and enterings in the Caseville, Lake and Hume area. He pulled the car from the east side of the county to help and noticed the breaking and entering moved to the east side. He is now able to handle the complaints during the winter months in the western townships without hurting the east portion of the county.

Future Contracting Expectations. The sheriff has no aspirations to contract with those communities which have their own departments of two and three men, although two communities with their own departments

have approached him. The sheriff does all the dispatching for fire, ambulance, and police for the entire county. If a police call is received from a community with its own department, the sheriff will either refer the caller to the local department or dispatch the local car. The sheriff will go in only if the local department is unavailable or if requested by the local department. The sheriff would prefer it if the county would levy a one mill tax earmarked for the sheriff's department rather than secure additional patrol through contracting.

Reporting to Local Officials. The sheriff attends some of the township board meetings as well as sends monthly reports to each of the contracting entities. These reports contain the number of hours worked, number of miles driven, and a breakdown of the complaints answered and arrests made. For the five township contracts, there is no specific information reported for each township.

Divisibility of Patrol Service. The sheriff is reluctant to supply less than 40 hours of service because of the difficulty in hiring a man for less than 40 hours. Although the sheriff does have his present five contract operation staffed with part-time deputies and regular deputies working overtime, he is reluctant to expand under such an arrangement. The Kinde contract was possible because the sheriff was able to persuade the county commissioners to pay the salary difference between the 24 hours worked and paid for by Kinde and the 40 hours work week.

Specification of Patrol Schedules and Activities Performed. The sheriff feels he is best qualified to say when patrols will be most effective. He bases his judgment on the times when the complaint load is the heaviest. But the sheriff seems willing to interact with local

officials and entertain any special requests that they might have. He also will allow his contracted officers to enforce local ordinances. The sheriff does not tolerate personal errands for local officials, although, if requested to deliver board minutes during regular patrol duty, he feels that this is service which can be rendered. The sheriff does reserve the right to dispatch the contracted patrols out of the contracting communities in case of emergency, and the contracting community is credited with the time spent outside the contract area.

Rotating versus Permanently Stationing Deputies. The sheriff's policy is to rotate his deputies. The exception to this policy is the Kinde contract.

Liquor Inspection Revenue. Liquor inspection revenue is retained by the contracting community.

Comparison of Patrol Cost to Contract Price. The sheriff revealed his patrol costs to the contracting communities and even to the county commissioners in a unique way. He included in the written contract with the five townships what it would cost the townships to produce the same number of double patrol hours which he was selling to them. What in fact the sheriff did was to estimate what it would cost him to produce the patrol service. The sheriff's estimate was \$16,000; this author's estimate was \$15,574, and the sheriff chose to charge a price of \$14,000.

The sheriff has a fairly antagonistic relationship with his county commissioners, but he also has little motivation to contract with additional communities. Thus, one is not surprised to find little difference between the patrol costs and the contract price.

ST. CLAIR COUNTY

The sheriff of St. Clair County has one contract with the city of Yale located in the northwest portion of the county. The city agrees to pay the county \$48,000 per year. In return the sheriff "agrees to provide the city complete law enforcement service, the amount of service to be determined from time to time by the sheriff with the advice of the city mayor."¹⁴ A unique feature of this agreement is that the contract does not specify the exact number of patrol hours the sheriff is to provide Yale. While the phrase "complete law enforcement service" is vague, the sheriff has verbally promised Yale officials that his department will respond to any and all complaints within 15 minutes.¹⁵

If the contracted car does not spend its time exclusively within city boundaries, then what does Yale receive for its money? Because of the contract, the sheriff stations a patrol car in the northwest portion of the county. In addition to covering Yale, it also responds to complaints and patrols in six surrounding townships. The Yale patrol (or the northwest patrol) consists of a single patrol during the first shift and one double patrol for the second and third shifts. This coverage is given seven days a week. Part of this time, however, is spent in transit to and from the contracting area which takes approximately one hour from each eight-hour shift. During this transit time other general patrols stay near the northwest portion to cover complaints.

¹⁴1974 contract between the city of Yale, the county of St. Clair and the St. Clair County sheriff.

¹⁵While the sheriff presently collects the data necessary to compute mean response time for complaints in Yale (the difference between the time a call is received and the time the sheriff's car arrives on the scene), he currently makes no such calculation.

The sheriff does not rely very heavily on contracting to provide for his road patrol services. In 1974 the sheriff produced an estimated total of 11,680 hours of single patrol of which approximately 15 percent was allocated to Yale. In the same year the sheriff also produced 12,553 hours of double patrol of which 17 percent was spent specifically in Yale.¹⁶

Future Contracting Expectations. Many contracts with a county sheriff begin after local officials decide that they need higher levels of service and the sheriff maintains he is unable to increase their service level because they already receive the county minimum owed to all communities. But the St. Clair County sheriff plans to approach several communities which he contends receive more than the county minimum and indicate to them that if they wish to retain this "higher" level of service, they must pay something extra. The sheriff plans to approach the townships of Port Huron, Kimball, and Fort Gratiot which surround the sheriff's office. Anytime a general or contracted patrol moves from the sheriff's office, it must pass through one of these townships. Consequently, they receive higher levels of service. The indicator which he plans to use to show the higher levels of service is percentage of complaints answered in the different communities.

¹⁶From monthly reports sent to Yale officials, hours spent in Yale are recorded allowing for these figures to be calculated. If the hours for the northwest patrol are used (reasoning that without the contract there would likely be no northwest patrol), the percentage of hours going to the entire northwest patrol is 39 percent of the double patrol hours and 33 percent of the single patrol hours.

Reporting to Local Community. Once a month the sheriff sends an activity report to Yale officials containing total hours spent in the community and a breakdown of the complaints answered and arrests made.

Divisibility of Patrol Service. The minimum level of service which the St. Clair County sheriff is willing to offer is 40 weekly hours due in part to the unfeasibility of hiring a man for something less than 40 hours per week. Yet, the contract which he is supplying to Yale is not in 40 weekly hour increments, and the reason for this is that the local officials are willing to trust the sheriff to supply them with what they want.

Specification of When Patrols Work and Activities They Perform. Since there are no set hours for the patrols to be in Yale, the patrols are there when there is a call for service. Any general patrolling which is done is at the discretion of the individual patrolmen. The sheriff seems flexible on performing community errands as long as they seem "reasonable".

Rotating versus Permanently Stationing Deputies. The sheriff's policy is to rotate his deputies. But the man which works the first shift on the northwest patrol is permanently stationed there and he has frequent contact with the city mayor. The sheriff requests all his deputies working the northwest patrol to visit the mayor regularly.

Liquor Inspection Revenue. Any revenue generated as a result of a liquor inspection in Yale goes to the county treasury.

Comparison of Patrol Costs to Contract Price. The sheriff charges a contract price of \$48,000 to the city of Yale. The estimated total variable cost is \$64,472. This difference was not known to the sheriff and thus unknown to the county commissioners.

For this contract it is difficult to sort out who is paying for what because the Yale contract is a part of the northwest patrol which supplies a total of 2,920 single and 5,840 double patrol hours to six townships and the city of Yale. Of these patrol hours, Yale receives 1,707 (58%) single and 2,129 (36%) double patrol hours. The non-contracting portion of the county receives nothing from the subsidy on the Yale contract, because the contract costs refer to time actually spent in Yale. Thus, while non-contracting communities benefit from contracted patrol being dispatched outside the contracting community, such cannot be said for the Yale contract.

In addition to Yale benefiting from the contract, another group which benefits is the six townships which receive the patrolling service of the northwest patrol. The total cost of the northwest patrol (including the Yale patrol hours) is approximately \$143,000. When the sheriff went to the county commissioners with the Yale contract, he realized that he was requesting more personnel and equipment than what Yale would receive. Thus, the six townships in the northwest receive a higher level of service financed by the entire county.

This author knows little about the relationship between the sheriff and the county commissioners. But the sheriff does desire to contract with the communities which surround the sheriff's office. This reflects the sheriff's concern that the county commissioners will not grant budget increases for road patrol.

WAYNE COUNTY

Of all Michigan county sheriffs, the Wayne County sheriff has the largest single contract in terms of patrol person hours and revenue received from the contract. The contract is with the city of Romulus

which pays \$880,000 to the sheriff in return for 11,680 single and 23,360 double patrol hours in 1974. To staff this operation requires 58,400 person patrol hours or approximately 32 full-time patrol persons.

In defining the role of the sheriff the Wayne County Board of Commissioners direct that he shall not provide patrol services to any incorporated city. As a township, Romulus previously was provided with sheriff patrol service even though they had their own police department; but this stopped once Romulus became an incorporated city. After approximately one year of having their own police department as a city, the Romulus police chief and several Romulus officials approached the sheriff for recommendations on how they might increase the size and quality of their department. The sheriff suggested that they contract with him, and this they did. A lateral insertion took place with those Romulus officers who stayed, becoming deputy sheriffs and obtaining a salary increase.

The Wayne County sheriff also has an unwritten contract with the Wayne County Road Commission, which owns the Metropolitan Airport, to supply approximately a 57 person force to the airport. Another part of the county government, seeing that it needed police services, decided to utilize the county sheriff rather than start its own special police service. The airport detail is a fairly independent operation with its own command structure and specialized units (e.g., detectives). They have their own budget which is incorporated into the sheriff's budget and then credited to the Road Commission. No analysis of this contract was done.

Future Contracting Expectations. Both the sheriff and county commissioners wish to do more contracting, but difficulty is encountered

with both groups of prospective contractees -- the townships and incorporated cities. At present, the sheriff's primary responsibility is to eight townships which do not have their own police department. These townships have a strong township association and refuse to contract with the sheriff contending the service is due them because of county taxes. Together these townships have a chance of receiving higher levels of service through county taxes rather than each paying an extra amount through contracting. If each township is able to receive the type and level of patrol service it desires through the sheriff's general patrol, it will be cheaper, even though each may pay higher county taxes than if each were to start its own department or contract with the sheriff. The reason is that if they are able to persuade the county to provide the incremental output needed for each to receive its optimum, all of the county helps pay for this increment, but with contracting each township pays for the entire increment.¹⁷

Because the County Board of Auditors sets the contract price, which attempts to include all patrol expenses, the sheriff's power is lessened to making contracting attractive through a price concession to communities which have their own police department. Further, the sheriff does not have the staff to compete with local departments; consequently, deputies only enter communities which have their own department when requested by the local departments.

One unique feature of Wayne County contracting with Romulus relative to other sheriffs' contracting is that the sheriff does not dispatch

¹⁷ Referring to Figure 2-4, the townships are attempting to have the D_{county} shift outward to the level of D_a .

these patrols outside Romulus for any emergency. The only time the patrols can be dispatched outside the city boundaries is if the mayor activates a mutual assistance plan which Romulus has with surrounding communities. The patrolmen report to a substation near Romulus, from which all sheriff patrols originate. Little time is lost in transit to and from Romulus.

The sheriff is not that dependent upon contracting for the patrol service he presently produces. The non-contracting portion of the county has benefited from the Romulus contract. The sheriff has, over the past several years, been able to increase the number of patrolmen by 32 (four units and eight patrol persons per unit). During the peak demand times, such as the World Food Conference held in Detroit last fall, the sheriff can put everyone on 12 hour shifts and allow him to cover the Romulus operation as well as assign more men to the conference.

Divisibility of Patrol Service. There is a minimum level of service. If a community wanted to buy 10 hours of weekly patrol service, the Wayne County Sheriff feels he is large enough to absorb the other 3/4 of a man. The question would be whether or not the Board of Commissioners would allow the budget to increase by 3/4 of a man if there is not enough slack in the manpower to free 1/4 of a man each week. This is probably possible given the size of the Wayne County Sheriff's Department.

Specification of Patrol Schedules and Activities Performed. Patrols are scheduled according to the number of units assigned. A patrol unit

is a single patrol during the first shift and double patrols during the second and third shifts. This is constant through the entire week.

The sheriff realized that he is there to serve not only the citizens of Romulus but also the elected officials of Romulus. Romulus officials appear to have fairly good control over the contracted police services. If the officials wanted a community-related errand performed, they can call the sheriff's dispatcher and request a car. An example of this occurred when the present city council was sworn in and the program brochure was taken to the printer by one of the contracted patrols. Romulus officials also have control over complaint priorities. Recently the city fathers felt that response time to breaking and enterings was too slow. Given the wide variety of complaints that the sheriff's dispatcher and deputies answer, B and E's are not very serious, but to Romulus officials they are. The dispatcher and the deputies working the Romulus operation received a directive indicating that B & E's were to command higher priority.

Rotating versus Permanently Stationing Deputies. The policy is to permanently station deputies in the city of Romulus unless the mayor or a city council member wants a particular deputy transferred out. The mayor does not have the right to specify who he wishes assigned to Romulus, although in a contract currently being negotiated for detectives, the mayor is requesting a particular person and will likely obtain him.

Liquor Inspection Revenue. Revenue generated from liquor inspections is retained by Romulus.

Comparison of Patrol Costs and Contract Price. No cost estimate was done of the sheriff's patrol. The method of determining the contract price suggested that all costs had been included so that the contract price was not less than costs. The price for 2920 single and 5840 double patrol hours is \$220,000.

Several comments can be offered about the costing procedure used. First, it must be remembered that contract pricing is done, not by the sheriff, but by the County Board of Auditors, a group elected and acting independently of the sheriff's office and the county commissioners. There is strong incentive, since they represent the entire county, which consists mostly of cities which have their own police department, or townships which rely on the sheriff's general patrols, to incorporate all costs into the contract price. One item which has not appeared in any of the other county costing procedures is an estimate for administrative overhead. After adding up the variable inputs (salaries, uniforms, and vehicle expense) they take 20% and add it. This is to defray any additional level of services, such as traffic bureau, detective bureau, etc. which may operate in the city of Romulus.¹⁹

CLINTON COUNTY

The Clinton County sheriff had four contracts in 1974.²⁰ Two were with the contiguous townships of Dallas and Lebanon and two were with

¹⁹ Gene Matkowski of the County Budget Department feels that this is too low. He estimates that 40% of all the complaints which the detective bureau handles comes from the city of Romulus.

²⁰ Contracting in Clinton County began with the former sheriff through the insistence of the current sheriff who at that time was a patrolman. The previous sheriff was not inclined to contract and refused when Dewitt Township requested a contract. Dewitt started its own police department and has grown to 9 full-time persons. When townships on the western portion of the county began experiencing higher complaint activity (which suggested the need for a higher level of service), the current sheriff approached them about contracting.

the villages of Fowler and Westphalia. Fowler is located in Dallas Township. Westphalia lies next to Lebanon Township. Each of the villages purchases 1200 hours of yearly patrol service while Dallas and Lebanon purchase each year 100 hours and 50 hours respectively. Since the sheriff's patrol would be in Fowler and Westphalia for 1200 additional hours each, these two townships also would be benefiting. To prevent the townships from being free riders, each was requested to purchase a token amount.²¹

Since all of the contracted amounts are small, the sheriff coordinates the hours spent in the four communities along with the general patrol schedule.²² The needs of the general county along with the needs of the contracting communities interact to determine how many cars will be near the contracting communities on any given patrol shift.

The sheriff charges \$5.85 per patrol hour. With this rate, Fowler and Westphalia each pay the sheriff \$7,020, Dallas pays \$585 and Lebanon pays \$292.

The sheriff does not depend upon contracting, at this time, to provide for his road patrol service. In 1974 the sheriff produced an estimated total of 19,136 single hours of which 2,500 or 13% went to

²¹The townships agreed to purchase the nominal amount even though the sheriff still would have dispatched the Fowler contracted patrol into Lebanon and Dallas regardless of whether they contracted or not. Many times to include a free rider in cost sharing requires cooperation on the part of the potential rider.

²²The sheriff hired additional personnel to staff the contracts. The increase of patrol hours purchased is less than 40 hours per week for each community. The sheriff feels it is better not to specify when the patrols will be in the contracted communities.

the four contracting communities. The sheriff also produced 2,496 two-man patrol hours.²³

Future Contracting Expectations. In 1975 the sheriff will sell to the township of Watertown 35 hours of patrol each week. The agreement is that the salaries will be paid through C.E.T.A. funds and the sheriff will provide vehicle and equipment, uniform and training for \$4.00 per hour. Outside of this contract, the sheriff does not anticipate contracting with other communities in the near future. The sheriff feels that if a community is able to afford a department of 8 to 10 full-time persons, there is enough professionalism present to serve its community.

Specification of When Patrols Work and Activities They Perform. Since the contracted amounts are so small, the sheriff coordinates the hours spent in the four communities along with the general patrol schedule. The needs of the general county along with the needs of the contracting communities largely determines how many cars will be near their communities on any given patrol shift. Regarding activities, the sheriff has the patrols perform mostly complaint answering activity. He indicated that if the contracts were larger he would entertain the notion of running community-related errands.

Reporting to Local Community. The sheriff does not have any regular system of reporting to local officials of the contracting

²³The sheriff does not specify whether the contracting communities will receive one or two-man patrol hours. Sometimes, a two-man unit will serve the contracting community. Since most of the patrol hours produced by the sheriff are single ones and since the contracts are fulfilled as a part of general county patrol, it has been assumed that only single patrol hours are supplied to the contracting communities.

communities due to the smallness of the contracts. The local officials have not questioned the hours actually spent in the community, and they seem satisfied with the level of service received.²⁴

Divisibility of Patrol Service. There is no minimum level of service which the sheriff would refuse to sell to a local community.

Rotating versus Permanently Stationing Deputies. The sheriff has the policy of rotating his people from one portion of the county to another.

Liquor Inspection Revenue. The village of Westphalia receives liquor inspection revenue, and the others do if they apply for it.

Comparison of Patrol Costs and Contract Price. The Clinton sheriff has little desire to contract with additional communities. Some sheriffs are motivated to contract to prevent or lessen the proliferation of small local departments, contending that good law enforcement service is not possible until the local department has 20 persons or more working in it. The Clinton sheriff feels that 8 to 10 persons is adequate to provide good service. The table below compares the contract price to the sheriff's and author's estimate of costs.

²⁴The benefit which local officials perceive from a small additional service level is that people are less likely to run the stop lights or speed or loiter in the center of town because there is a chance that a sheriff's car will be working in that particular community. The expected value of such activities decreases with the random assignment of patrol vehicles. In addition, they may also perceive a lower level of response time.

Table 3-3. Estimate of variable resources used, annual amount paid to sheriff and sheriff's cost estimate.

Community	Number of Annual One-Man Patrol Hours Purchased	Annual Amount Paid to Sheriff at \$5.85/hr	Sheriff's Annual Cost Estimate	Estimate of Resources Used Annually
Fowler village	1200	\$7,020	\$7,848	\$8,364
Westphalia village	1200	7,020	7,848	8,364
Dallas Twp.	100	585	849	892
Lebanon Twp.	50	292	424	446
TOTALS	2550	\$14,917	\$16,969	\$18,066

The sheriff does all the cost estimating for his four contracts. He has chosen to charge a price which is less than cost, justifying this action by saying that the difference is owed to the contracting communities because they pay county taxes. It is not known how much of the sheriff's other services go to the contracting communities nor how much general patrol (other than providing the agreed number of contract hours) enters the contracting communities. The contracts and amounts of money are relatively small, and little care is exerted to document such information.

KENT COUNTY

In 1974 the Kent County sheriff had contracts with seven different townships. To understand contracting in Kent County, the seven contracts must be treated as a package and not individually because the sheriff views them in this manner.

During the latter part of the 1960's the undersheriff engaged many township officials in numerous discussions about increasing the patrol service to the outlying areas. But there always remained the ubiquitous question of who should pay for the added service. The County Commission, dominated by urban commissioners, continually refused to increase patrol services, contending that if rural communities wanted more patrols, they should pay for the additional service load as do the cities. The township maintained that they did not possess the millage to finance a higher service load. In 1971 the Emergency Employment Act was passed which provided federal employment funds making possible contracts with nine different townships. The agreement was that EEA funds would be used for the salaries and that the townships would pay for the vehicles. A total of seven single patrols were put into nine contracting townships with each patrol providing 24 hour, seven day per week coverage. At the time of the original contracts, each local unit pledged to pick up the salaries once EEA funds expired.

When the EEA money ended, two of the townships indicated they could not assume responsibility for police salaries and the other seven indicated that they could not afford 24 hour coverage.²⁵ In negotiating the 1974 set of contracts, the Board of County Commissioners, the sheriff, and the townships, agreed that the county would provide all vehicle expense while the townships would pay for all the salaries. This would be done in providing five single patrol units, each providing

²⁵In one of the communities millage earmarked for police services failed to pass.

sixteen hours of coverage daily, 365 days per year to seven communities.²⁶ The actual amount billed to all the contracting communities was \$203,271 which is approximately \$6.96 per single patrol hour.

In 1974 the sheriff provided to the contracting townships 29,200 single patrol hours. The only thing which would erode this schedule was a man appearing in court during his regular tour of duty in the township. Also during 1974 the sheriff produced 99,280 hours of single patrol to the non-contracting portions of the county. These general patrol hours could be eroded by sickness, vacations, holidays or court time. If for some reason patrol personnel was lacking for a particular shift, the sheriff would fill the contracted patrols first and then staff the general patrols with the remaining persons. The sheriff is not that dependent upon contracting to provide patrol service. Of the total 128,480 single patrol hours produced by the sheriff in 1974, 23% went specifically to contracting townships.²⁷

²⁶ Five single patrol units can serve seven townships because four of the townships each receive one-half of a single patrol unit. In essence, each of the four townships receives eight hours of single patrol coverage - four hours during the first shift and four hours during the second shift, although the hours are staggered and given to the communities on a random basis and as calls for service warrant.

²⁷ At the expiration of EEA funds, the sheriff's general patrols increased as his department picked up those patrols which the townships would not purchase through contract. It is interesting to note that the county currently refuses to consider the request by the two townships, who previously discontinued the contract service, to use CETA funds to work a similar arrangement as was done with EEA funds. The reasoning is that once CETA funds stop, the townships would again be unable (unwilling) to pick up the salaries of the deputies and continue the service, meaning a larger county budget or the unemployment of the affected deputies.

Future Contracting Expectations. The sheriff expects to contract with other townships, especially the two which experienced a higher level of service in 1972 and 1973 but were unable to continue contracting in 1974. It has been the sheriff's thinking to encourage contracting in order to discourage the growth of small, locally operated police agencies. He has been fairly successful to date; there are no township police departments in Kent County.

Reporting to Local Communities. The sheriff gives a monthly report to each contracting township with a breakdown of the complaints and arrests. He also sends local officials the number of hours spent on different activities (traffic, report writing, etc.) along with the logs of every call answered in their respective community complete with address and nature of the complaint. For those townships which share a car, there is no aggregate reporting as to the number of hours each received during the month although they do receive the log of complaints for their respective community.²⁸

Divisibility of Patrol Service. The minimum package which the sheriff is willing to supply is 40 hours due to the problem of hiring part-time help and to his unwillingness to cut general road patrol to supply the fractional man. He is willing and encourages townships to combine their revenue and purchase a 40 hour weekly patrol package.

Specification of Patrol Schedules and Activities They Perform. Patrol schedules are set by the sheriff and are standard for all contracting townships--16 hours per day, 365 days per year. For those

²⁸Also in the log of complaints are those calls answered by general patrols so even if it is not possible to say how much time the general patrols spend in their community, they can tell if they have received any general patrol service during the month and the number of complaints answered by them.

townships which share a car, the sheriff tries to keep the car in the community which has the most complaints. For those times when both townships are equally busy, calls are answered on a first come basis.

Community relations are very important in the sheriff's provision of contracted law service. As a part of this, the sheriff allows community related errands to be done although there are not many requests for this service. The sheriff instructs each shift to visit the supervisor each day to see if there are any special complaints which need to be handled. This affords a convenient opportunity for the township officials to make a special request without calling the sheriff's dispatcher.

Rotating versus Permanently Stationing Deputies. The sheriff attempts to keep the same deputies working in a particular contracting community. This could be affected by sickness, vacation, holidays and normal attrition.

Liquor Inspection Revenue. No contracted deputy does any liquor inspection. The sheriff has two permanent people which perform this activity, and the revenue generated from liquor inspection goes to the county.²⁹

Comparison of Patrol Costs and Contract Price. The sheriff's goal has been to prevent the growth of township police departments. Contracting has helped achieve this goal. Urban commissioners dominate the county board and have taken the position that if higher levels of patrol service are desired by the rural portions of the county than

²⁹The county has a special budget for liquor inspection and it showed that the county pays more to provide the service than it receives from the Liquor Commission.

they should be financed with local rather than county taxes. The compromise situation is that the townships pay for the salaries and fringes which were \$203,271 and the county pays for the vehicle and uniform which were \$35,410. To insure that all personnel costs are passed on to the townships, the county has a special account from which they charge costs and bill the townships. In this county, the commissioners have agreed to the contracting knowing that the costs will not be covered by the contract price; however, they probably do not know the magnitude of the difference.

If the Kent County Board is dominated by urban commissioners, how were the townships able to obtain a price which is less than variable costs? The usual response to this question is that the county owes these communities something because of county taxes they pay. But the townships still receive a large number of patrol hours from the county general patrol. There are two possible reasons. First, if the townships refuse to contract when EEA money ended, the county would have been faced with either greatly expanding the sheriff's budget or dismissing a large number of men. Second, even though the commissioners are urban oriented, five of them are also Republican along with all of the Republican commissioners representing the townships. It appears that the rural Republicans were able to gain support from their urban counterparts.

LENAWEE COUNTY

Lenawee County is the only county where communities purchase patrol services from two different suppliers. One supplier is the Lenawee County sheriff and the other is Frank Becker, a private citizen

who for twenty years has had his own police department and sold police services to several villages and townships. First the sheriff's and then the private supplier contracting operation will be discussed.

The County Sheriff

Currently, the sheriff contracts with the villages of Deerfield and Clayton. Deerfield officials wanted a maximum of 20 hours per week coverage, especially during the summer months, although the contract does not specify any certain amount of time. Rather, it states that the sheriff ... "shall furnish police protection to ... the village" and "enforce all village ordinances on approval of the village attorney who shall provide all legal services in connection with all village ordinances..." For this service, the village pays to the sheriff a sum of \$5,200 for one year. Clayton has an almost identical contract and pays a yearly amount of \$1,200. The sheriff has not increased his staff, handling each contract with his general patrol.

Future Contracting Expectations. The sheriff has just this past year become involved in selling services to local communities. Although in the future he anticipates additional contracts, he does not actively solicit contracts. One reason for this is that if he is too aggressive, he could alienate local officials which could have political ramifications in the general election.

Reporting to Local Community. The sheriff sends a monthly report to Deerfield containing the total number of hours spent, arrests made, and complaints answered. No regular reporting is done for Clayton, although the undersheriff, when a complaint of a local ordinance violation is received, will send a copy of what was done on the complaint to Clayton officials.

Divisibility of Patrol Service. The sheriff demonstrates that he is willing to supply any level of service which a community desires. He is able to do this because in the contract the exact number of hours to be spent in the community is not specified. Because the exact number of hours is not specified, the sheriff does not find it necessary to increase his patrol staff. The extra service is provided during the regular general patrols. Prior to the contract, the sheriff responded to complaints and to some cruising in the villages, but he would not enforce local ordinances which he now does and which constitute the bulk of the extra level of service.

Specification of Patrol Schedule and Activities They Perform. Since the sheriff fulfills his contractual obligation during regular general patrol, the schedules are outside the control of local officials. If the sheriff had a contract large enough to have patrol personnel permanently assigned, he would not be opposed to having the contract patrols perform community related errands. In his present contract, he enforces local ordinances.

Rotating versus Permanently Stationing Deputies. The sheriff's policy is to rotate his patrolmen rather than have them permanently stationed.

Liquor Inspection Revenue. Revenue generated by liquor inspection goes to the villages.

Comparison of Patrol Costs and Contract Price. The sheriff has chosen to charge Deerfield an annual price of \$5,200. It is estimated that the sheriff's patrol will spend approximately 473 hours in Deerfield, and the cost of these hours is approximately \$6,073. Since the sheriff had not increased his staff to meet his contractual obligation,

the \$5,200 has been paid simply to re-allocate existing general patrols. This means that the non-contracting portion of the county receives fewer general patrols after the contract than before. No analysis was done for the Clayton contract, although much the same reasoning would apply.

The presence of a private supplier, who has considerable knowledge in the cost of producing patrol service in Lenawee County, helps keep the sheriff honest in reporting a contract price. During 1974, the sheriff reported that he could provide patrol service for a certain amount. The private supplier challenged him, contending that the only way he could charge such a low price was because the county treasury would make up the difference.

Private Police Supplier

In 1953, Frank Becker and his wife began providing police services to the village of Britton, Michigan. Becker, a resident of Britton, along with other village council members felt that he could provide the needed police service at a price which was affordable to Britton residents. By 1956, he was also supplying police services to the village of Deerfield and the townships of Macon and Ridgeway. Becker became a sworn deputy sheriff enabling him to enforce state and county statutes. He is also the sworn chief of police of each of the contracting communities, allowing him to enforce local ordinances.

In 1965, the village of Deerfield discontinued their contract because they needed the funds to finance a sewer project. In addition, there was some disenchantment by Deerfield officials who expected Becker to put in more hours than they were willing to purchase. In 1970, the village of Clinton contracted with Becker. This written contract along with the Macon, Ridgeway, and Britton written contracts, comprise the communities to which Frank Becker currently provides police services.

Frank Becker operates his police business out of his home in Britton. He provides 24 hour phone service to the citizens of Britton, Macon, and Ridgeway. When his wife is unable to answer the phone and dispatch a car, a switch is thrown, transferring all calls to his daughter, who then provides the phone answering service. When citizens of Clinton need police services, they call the Clinton State Police post who dispatch Becker's officers or handle the complaint if Becker's personnel are off duty. A spirit of cooperation between Becker and the State Police seems to prevail.

The table below lists the number of single patrol hours contracted for and received by contracting communities and the amount each pays in 1974-75.

Table 3-4. Yearly hours contracted and received and price paid in 1974-75.

Community	Yearly Hours of Single Patrol Contracted	Yearly Hours of Single Patrol Received	Price Paid
Clinton village	4000	4000	\$36,000
Ridgeway	480	1300	3,600
Macon		360	1,500
Britton			5,200

Macon and Britton do not contract for a set number of hours. Becker estimates that he puts in about 360 hours in Macon each year and that he puts in almost triple the hours which Ridgeway purchases through contract; no estimate was made for Britton. Since Becker hires men to

handle the Clinton operation, the hours placed in that community are carefully counted.³⁰ For special events Becker will hire extra personnel and bill the communities extra.

Becker hires two full-time men and a half-time person and makes use of four part-time men who live in Britton. The two full-time men exclusively work the Clinton contract while Becker does the majority of the complaint answering service for Britton, Macon and Ridgeway. If Becker is unavailable, his wife calls one of the part-time men to respond or requests the sheriff's department to respond.

Future Contracting Expectations. At this time Frank Becker has no desire to contract with any other communities. The four current contracts are all in contiguous communities, and he feels that it is not profitable to contract with any community that is not nearby. Deerfield was on the edge of his current contracting boundary and Becker found it difficult to handle all the requests for service.³¹

Britton was the only community which Becker approached concerning provision of police services. The other communities made overtures to him. The village of Clinton first requested to purchase a higher level of service from the State Police post in Clinton. The post

³⁰The Clinton hours do not include transit to and from Britton (approximately 25 miles per shift) and they include time spent in court and time spent assisting other police departments.

³¹Deerfield contracted for a set number of hours which would be serviced by Becker. But Deerfield citizens would have need for service when Becker was not in their community. Since Deerfield was approximately 19 miles away from Britton, it was costly for Becker to provide the service free and Deerfield was unwilling to pay any additional money. It is interesting to note that Becker works more hours in Britton, Macon, and Ridgeway than he is paid for; but since these communities are close to his residence and he is a citizen of Britton, he does it free of charge.

commander refused and referred Clinton officials to Becker. Several communities, which have their own police departments, have also approached Becker about taking over their police operation, but he has refused to contract with them because he senses that the elected officials will be too actively involved in the day to day police operation (e.g., specifying which tickets should be ignored and which ones enforced, etc.). Such a situation is not tolerable to Becker.

Currently the citizens of Clinton have indicated that they want their own department and are considering four options. First, Clinton could start its own department. Second, it could buy patrol services from the county sheriff. Third, Becker could continue to provide police services under the current contract. Fourth, Becker, who is already their police chief, could sign a different contract and establish and operate out of a police station located in Clinton.

Reporting to Local Community. Once a month Clinton village receives a report regarding the police activity in their community from Becker; the report has a breakdown of the complaints and arrests as well as the amount of time spent on patrol, answering complaints, court time and time assisting other police agencies. Becker sends to the three communities complaints and arrests broken down every 6 months.

Divisibility of Patrol Service. Becker has already demonstrated that he is willing to provide the amount of service a community feels it can afford. However, at this time Becker is unwilling to supply service to another community regardless of what they wish to buy.

Specification of When Patrols Work and Activities They Perform. Becker specifies when the patrols will work in Clinton. In the other three communities Becker responds to calls for service as he receives

them. Becker does allow his officers to perform community related errands but not personal errands.³²

Rotating versus Permananetly Stationing Deputies. The same two men work in Clinton village, and Becker is widely known by people in Britton, Macon, and Ridgeway.

Liquor Inspection Revenue. Revenue generated from Becker or one of his men performing a liquor inspection goes to the contracting community.

Comparison of Patrol Costs and Contract Price. Becker estimates his per hour cost at \$8.42 to supply Clinton with 4000 hours of single patrol. Incorporated into this price is the gross salary of the two men (vacation time of two weeks per man, fringes which include FICA and a life and health insurance policy, and double pay if they work holidays), vehicle³³ and uniform expenses, and rent for the office.

³²It is possible that local officials might be inhibited in requesting community related errands, especially when they must go through the sheriff's office for approval or even through the sheriff's dispatcher. Inhibitions could be lessened if local officials had direct contact with the contracted deputies or, as in Clinton County, local officials can call the State Police Post to request the car.

³³Becker estimated that it cost him approximately \$8,760 to operate the Clinton vehcile for 4000 hours. This expense includes all operating costs (gas, oil, and maintenance), vehicle depreciation which is half the purchase price (if we assumed that the car lasts two years, then no trade-in value is deducted; but if the car lasts only one year, then it is assumed that the trade-in would be approximately \$2,000 which is far more than Becker would likely get for a police car with 60,000 miles on it). During the 4000 hours, the car traveled approximately 57,000 miles which means the cost per mile is 15¢. [Per mile cost estimate for two of the sheriff's cars was done and the average was 10.5¢ per mile. This figure included the purchase price of the vehicle minus the expected trade-in of \$1200 per car, operating expenses, car insurance and depreciation and maintenance estiamtes for radio equipment. The difference in the cost per mile between the sheriff and Becker is due in part to difference in gas prices (sheriff pays approximately 25¢ per gal. while Becker pays 44¢) and the sheriff obtains fleet prices for car insurance.

If \$8.42 is an accurate reflection cost and since he charges \$9.00 per hour, his yearly profit on the Clinton contract is approximately \$2,000. But there are some costs which have probably not been included. If Becker spends any time in Clinton, this is not included in the price nor is an estimate for the time his wife gives through answering the phone and doing any dispatching for the Clinton area.

Other sources of revenue for Becker include \$500 from the Fire Department for answering fire calls and dispatching their fire trucks. Becker is also the Building Inspector, which is another source of revenue.

A unique feature which Becker has incorporated into the 1975-76 contract with Clinton will be quarterly re-assessment of cost. During 1974, Becker was caught with unexpected rising gas prices. To allow for any other unforeseen cost increases, he will re-evaluate his cost quarterly and be allowed to adjust his price accordingly. No county sheriff currently has such a stipulation in any of their contracts. This means that the county bears all risk of unforeseen expense. Those counties which come the closest to avoiding all the risk are those which bill the contracting with actual expenses.

Comparison of the Two Contracting Operations

Neither the sheriff nor Becker is actively attempting to increase the number of contracting operations. As evidence of this, when Clinton approached the sheriff prior to their 1974-75 contract with Becker, the sheriff was not prepared to quote them a price. Before Deerfield and Clayton contracted with the sheriff, neither one approached Becker for a price quote nor did Becker approach either community with an offer.

Both Becker and the sheriff are very similar in the service they are willing to provide. Both allow their officers to perform community related errands, enforce local ordinances, provide the level of service which best meets the community's willingness and ability to pay, report monthly to local officials, and allow liquor inspection revenue to go to the contracting community. The only apparent difference is that the sheriff is unwilling to station men permanently in a community (providing he had a contract which called for a certain level of personnel) while Becker is willing to do so. Both the sheriff and Becker attempt to use experienced men on patrol. Becker attempts to hire men with experience and who have already been through academy training. If the sheriff hires an inexperienced person, he will have him attend the police academy for at least 256 hours of training and then work in the office and jail until there is an opening on the road patrol.

While the services provided by Becker and the sheriff to their respective communities do not differ, the prices that they charge do differ. Becker charges \$9.00 for a single hour of patrol to Clinton village, and \$7.50 per hour to Ridgeway township. Becker says that he puts in 1,300 hours in Ridgeway, which would make the per hour price \$2.77 per hour. Even though no specific number of hours was specified in the Macon contract, Becker estimates that he spent about 360 hours last year which makes the per hour price \$4.17 for Macon.

The sheriff's price per hour to Deerfield officials is \$10.99. But it must be remembered that the sheriff supplies a double patrol while Becker provides single patrol coverage. While the sheriff charged \$10.99 per hour, it is estimated that the cost per hour was \$12.84. If the sheriff persisted in operating double patrols, then he would not

be able to provide the service cheaper than Becker. However, it appears that if the sheriff chose to run single patrols, and if Becker gave to contracting communities the number of hours he claims he gave, rather than the number of hours contracted, he would still be at a cost disadvantage.

Since it is not known how Becker arrived at the \$9.00 per hour price, a cost comparison cannot be done. It is possible that Becker included in his cost estimates some things which were not included in the sheriff's cost estimate. For example, Becker includes an item for rent of his office while no building depreciation was included in the sheriff's estimate. Overtime is another cost the sheriff has which was not included in his cost estimate because it is not clear how much, if any, overtime resulted from the Deerfield contract. No overtime results in Becker's operation.

GENESEE COUNTY

In 1974 the Genesee County sheriff contracted with three different communities. Table 3-5 shows the number of patrol hours, number of persons under contract, and the maximum price which the sheriff can charge for each contract. Contracting accounts for 50% of all single and 22% of all double patrol hours produced by the sheriff.

Two of the three contracts emerged from township officials' dissatisfaction with either the cost of the local department and/or the local police chief.³⁴ Prior to contracting, Genesee township had its own police department of 15 full-time officers. Some of the

³⁴The contracts actually begin during different months of 1974 and run to their respective months in 1975. Each township has indicated that they will renew their contracts with the sheriff.

Table 3-5. Annual number of single and double patrol hours produced and price charged by the Genesee County sheriff.

	Annual Number of Single Patrol Hours	Annual Number of Double Patrol Hours	Number of Persons Under Contract	Maximum Revenue to be Received from, Each Contract
General Patrol				
Genesee Township	5840	7920	11	\$195,501 ²
Vienna Township	2920	5840	5	77,000 ³
Fenton Township		2920	2	32,250
TOTAL			18	\$304,751

¹The county attempts to bill the townships for actual expenses incurred in providing the contracted patrols but it is agreed that the costs shall not exceed the reported amounts.

²Genesee Township agrees to pay for overtime, the amount not to exceed \$11,400.

³Vienna Township agrees to pay for overtime, but the maximum amount is not specified, although the sheriff agrees to keep it to a minimum.

officers were paid through a federal grant which was to expire, and conflict between the police officers and the township officials arose when it became known that several officers would be laid off once the grant ended. Local officials decided to contract with the sheriff for 11 men, providing the sheriff hired the Genesee Township officers. This he did. Vienna Township also had its own department before contracting with the sheriff. Conflict between the police chief and the township supervisor led to the firing of the chief and a contract with the sheriff. The Fenton Township contract is a continuation and an expansion of a contract which Fenton had with the sheriff's predecessor.

The sheriff specifies in his contract that the service level purchased by each contracting community is in addition to the general

level of patrol service produced in return for county taxes. Of all the calls answered in the contracting communities by the sheriff's department, between 57% and 60% were handled by the sheriff's general patrol.³⁵ Also specified in the contract is that the contracted patrols will respond to complaints outside the contracting communities. Of the calls answered by the contracted patrols in 1974, 11%, 8% and 23% were answered outside the townships of Vienna, Genesee and Fenton Townships, respectively.

Future Contracting Expectations. The sheriff hopes that communities with no police department begin contracting for higher service levels. The sheriff does not feel he should attempt to sell his service or undermine local departments because many local police departments currently feel threatened by him. Due to central dispatching, which has a policy of assigning the calls to the nearest police unit regardless of jurisdictional boundaries, the sheriff's patrols do respond to many calls in communities which have their own department.³⁶

Specification of Patrol Schedules and Activities Performed. Each contract has a set number of single and double patrols which operate seven days per week; consequently there are no scheduling issues to be resolved. The sheriff's policy is to provide the same type of police

³⁵From the sheriff's 1974 Annual Report, the general patrols handled 11,489 calls in Genesee, 8,898 calls in Vienna, and 1,521 calls in Fenton. The yearly estimate of calls handled by the contracted patrols were 8,949 for Genesee, 4,167 for Vienna, and 1,088 for Fenton.

³⁶The sheriff, state police, and all but two local police departments participate in the Genesee County central dispatching system. Calls for service are given to the closest police unit regardless of political jurisdiction. Since the sheriff has many general patrols operations, he is able to handle many calls in communities with their own police department.

service to which the local officials were accustomed with their own department.³⁷ This includes the performing of community related errands and the enforcement of local ordinances. To simulate a local department atmosphere, the sheriff has established sub-stations in Genesee and Vienna Townships which facilitates easy communication between township officials and deputies; and it also eliminates transit time between the sheriff's central headquarters and the contracting community.

The sheriff's policy is to staff the contracted patrols first before staffing the general patrols. Thus, the contracted patrol schedule will not be eroded due to vacation, sickness or holiday compensatory time.³⁸

Reporting to Local Communities. The sheriff prepares monthly reports for each of the contracting communities. The reports contain the number of calls for service received, number of arrests and accidents, number of patrol miles driven, number of calls answered out of the township. The sheriff also has a sergeant serve as a liaison officer for Genesee and Vienna Townships. The sergeant attends many of the monthly meetings, answering any questions about police activity in the communities.

³⁷ Shortly after the sheriff's contract began, the Genesee Township supervisor noticed speeding along a specific stretch of road. After he mentioned this to the sergeant, he noticed the next day that one of his contracted patrols was monitoring traffic along that same stretch of road.

³⁸ Little patrol time is lost due to court appearances. The court administrator has implemented a policy of thirty minute call-in. If an officer who is on patrol is needed, the court will call him off patrol. He then has 30 minutes to arrive at the court.

Divisibility of Patrol Service. The sheriff has had no requests for fractional levels of service. His predecessor had a contract with Fenton Township which provided patrol service only during the summer months. The sheriff encountered difficulty in securing the qualified part-time personnel to staff this contract.

Rotating versus Permanently Stationing Deputies. The sheriff's policy is to rotate his deputies.

Liquor Inspection Revenue. Revenue generated from liquor inspections is retained by the contracting community. The sheriff will also write traffic tickets under the Uniform Traffic Code providing the local community has adopted it.³⁹

Comparison of Patrol Costs and Contract Price. The Genesee sheriff tends to be very aggressive in providing patrol service to his county. Unofficially, he has stated that if he had the personnel, he would provide patrol service (answer complaints) inside the city of Flint. All this indicates the sheriff desires to have his patrol division grow.

Table 3-6 compares the costs being passed on to the contracting communities to the estimate of resources used.

The county controller plays an active role in pricing the contracts. An effort has been made to pass all costs on to the contracting communities; but an item which was forgotten was compensation for patrolmen time-off (vacations, holidays, etc.). To insure that all costs are passed on to the contracting communities, the county has

³⁹The Uniform Traffic Code allows traffic violations to be written under a local ordinance with 1/3 of the fine money being retained by the local community.

Table 3-6. Estimate of variable resources used and estimated amount billed to each contracting community.

	Annual Number of Single Patrol Hours	Annual Number of Double Patrol Hours	Estimated Value of Variable Resources Used in 1974	Estimate of Annual Amount of Variable Resources Billed by County	Difference
Genesee Twp.	5840	7920	\$242,260	\$204,509	\$37,751
Vienna Twp.	2920	5840	153,403	95,245	58,158
Fenton Twp.		2920	60,683	33,350	27,333
TOTAL	8760	15680	\$456,346	\$333,104	\$123,242

established a special account for each contract. But an item will not be placed on any of the contracted accounts until the sheriff sends a voucher to the county controller. This gives considerable power to the sheriff in deciding what costs are passed on to the contracting communities.⁴⁰

The approximate \$100,000 expenditure by the county general fund to finance the contract deficit does purchase service for the non-contracting portion of the county. First, 16%, 13% and 7% of the calls received by the Vienna, Genesee, and Fenton contracted patrols, respectively, are answered in the non-contracting communities. But the sheriff's general patrol answered 55%, 34% and 47% of all calls originating in Vienna, Genesee and Fenton, respectively. Second, because the sheriff controls scheduling of the contracted patrols and does

⁴⁰When the 1974 contracts ended and the sheriff was in the process of negotiating new contracts, the sheriff became an advocate to the controller to keep the costs as low as possible.

respond outside contracting communities, he has the opportunity to allocate his general patrols such that the non-contracting portion of the county receives higher levels of service. However, the large number of complaints answered in the contracting communities suggests that he has not done this.

WASHTENAW COUNTY

The Washtenaw County sheriff has a mixture of contracts ranging from a 17 deputy contract with Ypsilanti Township to a single deputy contract with Superior Township. In addition to patrol services, the sheriff sells 60 weekly hours of animal control to Ypsilanti Township. He has organized several local communities and together they pay the local contribution for a state traffic grant and an LEAA school liaison grant.⁴¹ The focus of this analysis is on the contracted road patrol services.

The sheriff's goal is to provide all police services to the entire county with the exclusion of Ann Arbor city. Table 3-7 shows the sheriff's dependency on contracting for the provision of road patrol service. In 1974, 31% of the single patrol hours and 53% of the double patrol hours are financed entirely from the general fund with the

⁴¹The Highway Safety Grant is from the Department of State Police and it provides 8 full-time deputies for traffic monitoring purposes. Six deputies go to Ypsilanti Township, one is split between the townships of Dexter and Scio, and the eighth deputy works in Pittsfield Township. The police support grant is from LEAA and provides 3 school liaison officers. The goal of the grant is to obtain referrals reported to the courts.

Table 3-7. Single and double patrol hours produced and price charged Washtenaw County sheriff in 1974.

	Single Patrol Hours	% of Total	Double Patrol Hours	% of Total	Number of Personnel Under Contract	Total Amount Paid to Sheriff
General Patrol ¹	7,648	31	14,600	53		
Ypsilanti Township ²	5,736	23	11,680	42	17	204,000
Northfield Township ³	1,664	7	1,248	5	1	16,000
Dexter Village ⁴	7,648	31			4	71,000
Superior Township	2,080	8			1	15,000
TOTAL	24,776	100	27,528	100	23	306,000

¹ Assumes that 4 single patrol positions open on first shift can be eroded due to vacation and sickness. Because of this it is assumed that each man working this shift provides 1,912 hours of single patrol coverage. (1,912 is the average number of hours worked during the year after allowing for vacations, sick days and weekends.)
(4 x 1,912 = 7,648)

² The same applies for the first shift in the Ypsilanti contract
(3 x 1,912 = 5,736).

³ Northfield purchased one deputy and the sheriff supplies an additional deputy. The usual weekly schedule is for 4 days each week a single unit operates and for 3 days a double unit operates.

⁴ Dexter village purchases one sergeant and three deputies from the sheriff. No attempt is made to cover vacation and days off. Consequently, the number of single patrol units is 4 x 1,912 = 7,648.

remainder provided under contract. Table 3-7 also shows the number of personnel under contract and the revenues the sheriff receives from each contract.

The history of the Dexter contract is of interest. After the last local election the Dexter city council did not agree with how the newly elected mayor intended to use the local police department. They proceeded to disband the local department and contract with the

sheriff.⁴² The mayor refused to sign the contract and contends that the agreement is illegal without her signature.

Patrol services to the non-contracting portion of the county have increased as a result of contracting. Because of contracting, the sheriff has been able to free a general patrol for the southern portion of the county which has tended, in the past, to receive lower levels of service due to sparcity of population. In addition, officials of York Township have told the sheriff that they receive higher levels of patrol service because the sheriff dispatches the contract cars into York for emergencies.

Future Contracting Expectations. The sheriff expects that as some of the older local chiefs of police retire, he will contract with their respective communities. He eventually sees the Ypsilanti contract doubling in size in the next couple of years. While the sheriff spends time speaking to local officials about the service he can provide and the price he is willing to charge, he does not attempt to undermine local departments. When a call comes from a citizen living in a community with its own department, the sheriff refers the call to the local department.

Divisibility of Patrol Service. The sheriff prefers to contract for 40 hours of service per week because this is the easiest unit to staff, although a community may contract for a portion of a 40 hour weekly unit providing another community can be found to buy the remaining portion. One community, however, purchases 30 hours of patrol service.

⁴²It is not clear whether the sheriff hired the deputies from the Dexter department to staff the contract or hired new deputies.

The sheriff has agreed to staff this operation with off-duty officers willing to work extra hours for \$6.00 per hour. The sheriff provides the vehicle and equipment at no charge to the community and the deputies are paid directly by the local community.

Reporting to Local Community. Monthly reports are submitted to each of the contracting communities. In Ypsilanti Township, there is a lieutenant in charge of that particular contract, and he attends most of the monthly township meetings.

Specification of Patrol Schedule and Activities Performed. The sheriff does the scheduling depending upon the heavy complaint times during the week. He also takes into consideration the scheduling of other contracted and general patrols. He does not want to schedule all his personnel during peak periods because service during non-peak periods would be inadequate.

The sheriff attempts to give local officials the service they want. He will allow community related errands to be performed by contracted patrols, although there has been very little of this activity.

Liquor Inspection Revenue. There are elected constables who perform the liquor inspection in each community and the local communities retain the revenue from these inspections. The sheriff has shown concern for the revenue generation of local communities. He feels that Ypsilanti Township should adopt the Uniform Traffic Code, because the volume of tickets is large enough such that if the tickets were written under this code, Ypsilanti would have a net source of revenue.⁴³

⁴³ Under the District Court System and by writing tickets under the Uniform Traffic Code, the township receives 1/3 of the fine money. If the volume of tickets is large enough, there will probably be enough revenue to more than cover any legal expenses of prosecuting the cases where the citizens plead not guilty.

Rotating versus Permanently Stationing Deputies. The sheriff permanently stations deputies in a particular contracting community. He attempts to place into the contracting communities those deputies who he feels will best get along with the citizens.

Comparison of Patrol Costs to Contract Price. The Washtenaw sheriff desires to expand his road patrol service and views contracting as one way of doing this. In fact, the sheriff has advanced the idea that all funding for the criminal justice system should be taken away from the county commissioners and handled by a county-wide millage which would allocate specific numbers of mills to the courts, sheriff, and prosecutor's office. With this desire to by-pass the commissioners, it is not surprising to see the contract price be less than patrol costs as displayed in the following table:

Table 3-8. Comparison of resources used to contract price.

	Estimated Value of Resource Used in the Contract	Contract Price	Difference Between Cost and Control Price
Ypsilanti Twp.	322,123	204,000	118,123
Dexter Village	88,716	71,000	17,716
Superior Twp.	24,148	15,000	9,148
Northfield Twp.	45,205	16,000	29,205

The procedure and assumptions used by the sheriff in determining the contract prices is unknown to the author, but the sheriff and county commissioners are aware that the costs do exceed the price although

they probably are not aware of the magnitude. The Ypsilanti contract specifies that the township agrees to pay \$204,000 and the county agrees to contribute \$102,000 toward the provision of road patrol service. The agreement with the Ypsilanti officials was that the county would provide them with six deputies if Ypsilanti financed 12. To the township officials the sheriff probably said, "You can obtain six free deputies if you finance twelve"; and to the county commissioners he probably said, "We can add twelve more deputies with no increase in county expenditure if the commissioners would fund six additional deputies."

There is a considerable difference between costs and prices of the Northfield contract. Northfield originally contracted for one deputy, but the sheriff decided that one deputy would do little good so he assigned additional personnel. The local officials told the sheriff that they could perceive a difference and were very satisfied with the arrangement. It is not known if the sheriff plans to keep the additional personnel in Northfield, but satisfied customers can pay tribute to contracting which will not hurt the sheriff in future contracting efforts. Plus, local officials may become so accustomed to the service that in several years they will be willing to pay for the higher level which now they enjoy without charge.

As a result of contracting, the sheriff has been able to assign a patrol car to the southern portion of the county which had a very low level of service prior to contracting.

For the remaining three contracts, no specific information was available to show how each price was determined. An interesting item in the Superior contract is that the patrol will be "...within the

Superior Township boundaries for eighty (80) percent of ... time...". It is not known how this affected the price charged.

KALAMAZOO COUNTY

Central to the theme of contracting is the sheriff's role in providing service to townships and cities in return for the payment of county taxes. No where is this more evident than in Kalamazoo County. Late in 1974 the county commissioners attempted to cut 17 men out of the sheriff's budget. The commissioners, prior to this, attempted to persuade those townships which were receiving the highest percentage of the sheriff's patrol time to contract for the 17 men. The townships refused, contending that they were owed their level of service as county taxpayers.⁴⁴

The sheriff has contracts with three communities. One contract which has been in existence for several years, is with the township of Comstock. In 1974, the sheriff supplied them with one single patrol daily, five days per week and one double patrol during the second shift five days per week.

There are several unique features about the Comstock arrangement. First, the contract does not specify the amount to be paid by Comstock. The reason for this is that each month the township is sent a bill for actual expense of providing service incurred by the county. The statement includes the salaries (base plus all the fringes) of the men

⁴⁴The issue is still not resolved. There will be a general millage vote at which time citizens will vote on a .5 mill which will be earmarked for the sheriff. If the millage fails, the sheriff may still be required to cut his budget although he will have the latitude to make the budget cuts where he wishes.

who actually worked and any equipment or supplies used in the Comstock operation. Second, Comstock purchases its own police vehicles, uniform and equipment even though some of the purchases are made through the sheriff's department. One reason for this is that they can control the quality and quantity of police supplies purchased;⁴⁵ and second, if they should terminate the contract, this equipment would be available immediately for use in their own police department. In addition to the patrols Comstock receives from the sheriff, they also hire the same deputies on their off-days to enforce local ordinances and perform normal patrol activities if the need arises. In the latter operation the township pays the regular hourly rate plus the township fringes which is only F.I.C.A. The expense of time and a half overtime can be avoided by Comstock through this procedure because the deputies have two employers, the sheriff and the township.

The other two contracts are worked in conjunction with each other. One is with the village of Climax and the other is with the township of Wakeshma. Climax began contracting with the sheriff during the first part of 1974. The village agrees to pay the sheriff \$6.00 per man hour of service plus 14.21% for fringes and 17¢ per mile driven within the village limits. The total sum each month, however, is not to exceed \$300. This averages out to be approximately 36 hours of

⁴⁵One township official indicated that it was more economical to buy a heavier car than what the sheriff was purchasing. Since they were going to be billed actual expenses, there is incentive to search out the most economical purchase. In addition, by controlling some vehicle purchases and repairs, they direct business to local establishments.

single patrol service each month.⁴⁶ Climax, which had never before had its own department, is a low complaint area; and the sheriff's general patrols were not visible enough to satisfy village officials. Now, on a random basis, a sheriff's car spends on the average 4 hours 9 times during the month. Climax officials feel this is sufficient to restrain people from running their single stop sign and to retard some of the teenage loitering.

Toward the end of 1974, the sheriff was approached by the officials of Wakeshma township about providing a higher level of service. They wanted to spend no more than \$100 per month. Since they are located adjacent to Climax, it was possible to schedule a patrol that would work Climax for about 4 hours and then spend an hour in Wakeshma. Without Climax the sheriff felt that he would have been unable to provide Wakeshma such a level of service due to difficulty in scheduling patrolmen for such short periods. Wakeshma pays \$6.00 per hour plus 14.21% fringes and 17¢ a mile driven within the township limits. The \$100 monthly limit provides for about 12 single patrol hours each month.

The sheriff is not that dependent upon contracting for road patrol service. Yearly he supplies a total of 47,696 hours of single patrol service with 576 hours going to Climax and Wakeshma, 6240 going to Comstock, and the remainder to general patrol. The sheriff also produces 4160 hours of double patrol service.

⁴⁶The contract has a provision for the sheriff going over \$300 one month but making up for it the next month. The 36 hour monthly average was arrived at by adding to the \$6.00 per hour 85¢ for fringes and \$1.36 for mileage (assuming driving an average of 8 miles per each hour of patrol multiplied by 17¢) and dividing this into \$300.

It is worth noting that Ross Township contracted with the previous sheriff. A disagreement occurred between the sheriff and the deputy who was working in Ross. Ross officials backed the patrolman and the contract was terminated. Ross Township purchased their own car and started their own police department. During the transition, Ross Township was never without police coverage because once the contract expired, the local department began. The sheriff currently handles all of the Ross Township's dispatching.

Future Contracting Expectations. In 1975, Comstock will add four more men to provide them with 24 hour single patrol service seven days a week. The village of Galesburg is in the process of contracting for 40 hours of weekly patrol service. Galesburg had their own department but found themselves without police coverage when their officers would resign. Village council members also disagreed on how to use the local police officers. Some council members wanted the officers to serve as crossing guards and others wanted them available at all times for city patrolling. The conflict still exists between how the officers should be used, but the council members find it easier to allow the sheriff to set priorities rather than have the conflict remain at the local level. In addition to Galesburg, seven other communities have explored contracting possibilities with the sheriff.

Reporting to Local Community. The sheriff sends monthly reports to Comstock officials which list activities, hours worked, miles driven and arrests made. To Climax and Wakeshma he sends each month the number of hours worked and miles driven and also uses this for billing purposes.

Divisibility of Patrol Service. There is no minimum level of service which the sheriff refuses to supply to a community, although the sheriff has had some difficulty over the past year staffing the Climax and Wakeshma operation because he relied on deputies to volunteer. Currently one man handles the entire Climax and Wakeshma operation.

Rotating versus Permanently Stationing Deputies. The patrolmen are permanently stationed in a contracting community, although local officials can request that a man be transferred if they find his performance unsatisfactory.

Specification of Patrol Schedules and Activities Performed. The Comstock Township official who is their police commissioner participates substantially in deciding when patrols work and what activities they perform. He places a higher priority on having the patrol respond to complaints than on monitoring traffic or preventive patrol. If Comstock officials want local ordinances enforced, they hire the men during their off duty. The scheduling for Climax and Wakeshma is worked out by the sheriff depending upon availability of personnel and the complaint load.

Liquor Inspection Revenue. Liquor inspection performed in the township of Comstock goes to Comstock and amounts to about \$3,500 per year. In the other two communities, the money goes to the county treasury.

Comparison of Patrol Costs and Contract Price. The county has a billing system designed to pass all costs on to the contracting community. But when deputies take vacation time, the sheriff provides another deputy. Compensation to the vacationing deputy was not being

paid by the contracting community. Every attempt was made to have the contracting community pay all variable cost; but compensation for time off was one cost item which was apparently overlooked. No cost estimation of the Kalamazoo patrol service was done.

EATON COUNTY

The Eaton County sheriff had two contracts in 1974. One was with Delta Township and the other was with the city of Eaton Rapids. Contracting operations account for a high percent of the single and double patrol hours produced. In 1974, it is estimated that the sheriff produced 35,445 single and 15,514 double patrol hours of which 61% and 39%, respectively, went to the contracting communities.⁴⁷ Table 3-9 below shows the number of patrol hours sold and the total price paid.

Table 3-9. Annual number of single and double patrol hours produced and price charged by the Eaton County sheriff.

	Annual Number of Single Patrol Hours	Annual Number of Double Patrol Hours	Number of Persons Under Contract	Total Revenue Received from Each Community
General	13,727	9,308		
Delta Twp.	15,513	3,103	15	\$230,863
Eaton Rapids	6,205	3,103	5	84,079
TOTAL	35,445	15,514	20	\$314,942

⁴⁷ Scheduled patrols for general and contracting communities are for 9.5 hours each, but one hour is taken out for lunch for which the men are not paid but are still on call. This was not included in the patrol hour estimate. For the contracting communities, 30 minutes was also deducted for transit time to and from the contracting communities. The 30 minutes was still included as part of the general patrol.

Delta Township is the largest of the two contracts consuming 15,513 hours of single patrol and 3,103 hours of double patrol. For several years Delta Township, which borders Lansing city, has been a rapidly growing township. Delta Township officials realized that they needed more police service than they could expect the sheriff to provide through their county taxes and explored different ways of securing a higher level of service. They asked the city of Lansing to provide them law enforcement service under contract, but found the price prohibitive. They then requested the Eaton County sheriff to deputize a local police department and provide their uniforms while the township provided the vehicles and a sub-station and paid the salaries directly to the men. The sheriff rejected this idea, contending that it would be too difficult to supervise the men and that the deputies would have two employers -- the sheriff and the township supervisors.⁴⁸ Finally the township agreed to buy the services of five men and two cars which operated out of the sheriff's office in Charlotte approximately 15 minutes away. A very small office is provided in Delta Township with a typewriter for report writing. The contract grew to a level of 15 men and 4 vehicles in 1974 and a total price of \$230,863.

Eaton Rapids has been contracting with the sheriff since 1968. Before contracting, Eaton Rapids had its own police department but found retaining a satisfactory chief of police difficult. The original contract was for five men and two vehicles, but for the safety of the men, the sheriff felt it was necessary to provide the

⁴⁸This proposal came from the knowledge that the sheriff of Ingham County has a similar arrangement with three of his townships.

community with six men, even though Eaton Rapids pays for only five.⁴⁹
Total price paid in 1974 was \$84,079.

Future Contracting Expectations. Vermontville village and township have made a joint request to the sheriff for patrol services. In 1975, they will pay the sheriff approximately \$10,000 for the purchase and maintenance of a vehicle and the equipping of two men. C.E.T.A. funds will be used to pay the salaries of the men. It is hoped that when the federal funds expire the community will perceive the benefits of the extra police service and pay for the men with local funds.

Specification of When Patrols Work and What Activities They Perform.
The sheriff's department decides when the patrols work based on complaint load. The sheriff will consider requests for specific activities but does not always consent. An example of this is the time when the Eaton Rapids city council approached the sheriff about not having the "no parking" ordinance between 2 a.m. and 5 a.m. enforced on a certain street where there were all night restaurants. The sheriff refused to do this and suggested that the ordinance be changed to exclude the one street. The latter course was taken. The sheriff granted a request to have the deputies turn on the Christmas tree lights and assist local officials during election day. Since the supervisor does not see the patrolmen regularly, requests must usually come through the sheriff.

⁴⁹With five men working the Eaton Rapids operation there was a single patrol during the evening shift. There were many complaints (fights, domestic trouble, etc.) where an Eaton County general car was required to back up the Eaton Rapids contract car. The sheriff felt it was cheaper to station another man in Eaton Rapids, allowing for a double unit on evenings, rather than continue to back up with a general car. Response to complaints where there was a probability of violence fell because a single patrol will often wait for back-up before responding. With a double patrol unit it would not be necessary to wait on a general car to travel to the complaint.

Reporting to Local Officials. Monthly reports are sent to each contracting community. In addition, a command officer attends each of the monthly board and council meetings to answer any questions.

Divisibility of Patrol Service. The criteria which the sheriff uses to decide if a request for service is too little is whether or not he feels the service level will make a difference. If there is not enough patrol hours being purchased to allow for a "good job" to be done, then the sheriff will refuse to supply the requested amount.⁵⁰

Rotating versus Permanently Stationing Deputies. The men are permanently stationed in their respective contracting operations although they can be transferred if they or the local community desires it.

Liquor Inspection Revenue. Liquor inspection revenue is retained by the contracting communities and credit is given for the salvage value of the vehicles. Since Eaton Rapids had their own department prior to contracting, the sheriff made use of some of their equipment. An inventory is included in the contract on the equipment which is owned by the city and currently used by the sheriff. This equipment goes to the city if the contract is terminated. They also will be paid the sum of \$2,000 which is the salvage value of the two police vehicles transferred to the sheriff's department when they first began contracting.

Comparison of Patrol Costs and Contract Price. For the Eaton County sheriff the contract price is very close to the sheriff's cost

⁵⁰ For the sheriff, a "good job" means satisfying the citizens of the contracted communities. If a citizen knows that they are buying extra service from the sheriff, even though it is only 2 hours a week, they are likely, according to the sheriff, to expect a lot more service than they are actually purchasing. To keep from such a situation developing, the sheriff attempts to determine if the service level purchased is enough to keep complaints of "no" service to a minimum.

estimate; the slight difference cannot be explained. For both contracts it appears that the contract price is less than the actual costs of operation. The decision by the sheriff to place a sixth deputy in Eaton Rapids accounts for the difference in that contract. The sheriff, in explaining this action, felt it was cheaper to station an extra deputy in Eaton Rapids rather than have the general county patrol provide continuous back-up service. Whether the sheriff will ever charge Eaton Rapids for the extra deputy or will continue to contend that the county owes the community this extra service is not known. Deciding what price to charge depends upon whether or not the sheriff thinks Eaton Rapids will pay.

Table 3-10. Comparison of patrol costs and contract price for the Eaton County sheriff.

	Contract Price	Sheriff's Cost Estimate	Author's Cost Estimate
Eaton Rapids	\$84,074	\$84,075	\$82,042 (5 patrolmen) 94,619 (6 patrolmen)
Delta Township	230,863	230,679	272,224

The Delta contract is very large, and it is difficult to know the actual number of deputies working it. The majority of the difference between costs and price occurred in vehicle expenses which resulted from two unanticipated costs -- rising fuel costs and the need for a fifth vehicle.

While the sheriff has made an attempt to identify most costs, he seems to realize that both communities, Eaton Rapids and Delta Township, would require a great deal of general patrol to provide adequate

services. This level of general patrol would probably not be funded by the county commissioners. Thus, the only way to provide the service is to keep the contract, and this means not allowing costs to rise too high.

OTHER CONTRACTING ARRANGEMENTS

The following contractual agreements were studied less intensively.

The sheriff of Sanilac County has one contract which is with Worth Township. Worth is a summer retreat for many Detroit citizens who are demanding higher levels of police service. The township trustees refuse to start a local police department, and because the Detroit citizens have voting residency in Detroit, the low level of police service never becomes an election issue for the trustees. In 1974 the sheriff provided Worth with single and double patrol coverage for the weekends from May 31st through October 30th. Worth pays to the county \$4.50 per deputy hour and 25¢ per mile with mileage being kept from the sheriff's office. The sheriff staffs this part-time operation with police officers from surrounding communities and his own off-duty deputies.

The sheriff of the sparsely populated Mackinac County has a single written contract which is with Clark Township. The sheriff agrees to station two single patrol units in the township and make them responsible for responding to complaints 24 hours per day seven days per week. In return, the county receives all liquor inspection revenue which would normally go to the township, approximately \$6,000 per year. This contract is congruent to the sheriff's method of supplying patrol

service to the county. With a four deputy force the sheriff has all deputies living in different parts of the county operating from where they live. This contract seems to have helped influence where the sheriff stations two of his deputies.

The Charlevoix County sheriff has a verbal contract with the two townships, St. James and Plean, of Beaver Island -- an island 32 miles from shore in Lake Michigan which is 6 miles wide and 18 miles long and has a population of 180. One deputy lives on the island the entire year. He receives the liquor inspection money from the two townships, which is approximately \$1,800 and \$4,325, from the county sheriff. The deputy operates out of his home and uses his own car. The sheriff contends that the county owes the island police service, and this is an efficient way to provide it.

The Missaukee County sheriff has had a verbal contract with the city of McBain for seven years. The sheriff's office is in Lake City which is a long distance phone call from McBain. McBain agrees to pay 25% of the undersheriff's salary, who lives in McBain. In return, McBain citizens can call the undersheriff at any hour. The undersheriff will either relay the call to the sheriff's office, respond immediately to the complaint if it is an emergency, or if he is off-duty and the complaint can be held, respond when on duty.

The Ionia County sheriff has one contract which is with Saranac village. In 1974 the village paid the sheriff \$12,000 for 8 hours of daily coverage seven days per week.

The sheriff of Iosco County has one contract which is with the city of Tawas, also the location of the sheriff's office. The sheriff was the former Tawas chief of police and after the election he offered

Tawas officials 24 hour coverage seven days a week for slightly more than they were currently paying for their two man department. The contract operation is run similar to Huron County where the contracted deputies patrol outside Tawas city limits. According to the sheriff, the contracted patrol is within a 10 minute response time to any part of the city at any time. In 1974 Tawas paid \$23,000 for this service.

The sheriff of Livingston County in 1974 had two contracts. One was with Hamburg Township and the other was with three contiguous townships. These contracts began in 1971 when EEA money was used to finance the majority of the cost.

The St. Joseph County sheriff has two contracts. One is with Mendon which pays \$11,000 per year and receives the services of one deputy. The second contract is with Centerville which pays \$8,000 and receives similar services as Mendon. The county pays for the fringe benefits of the deputies and all vehicle expense. The sheriff's deputies live in the two communities and decide their own work schedule in conjunction with local officials.

The sheriff of Lapeer County has a contract signed jointly by Marathan Township and by the villages of Otter Lake and Columbiaville which lie inside Marathan. For most of 1974 the communities received 80 single patrol hours per week provided by two full-time deputies. Columbia paid \$10,311; Otter Lake paid \$6,564; and Marathan paid \$13,125. The amounts differed because the patrols tend to work more in Marathan, and these were the prices that the buyers would bear.

Monroe County sheriff has three different contracts. One is with the city of Petersburg which prior to the contract had its own police department. Local citizens were dissatisfied with the way city officials

were using the police and began a petition to raise taxes to allow contracting with the sheriff. Under the contract Petersburg is billed regularly for all expenses incurred by the county. Petersburg purchases their own vehicles. A second contract is with Monroe County Community College which purchases two deputies. The college buys its own vehicle and is billed by the county for actual expenses. The third contract is with Monroe High School which had a contract with Monroe city police. The high school is relocating outside the city limits and desires a contract with the sheriff.⁵¹ The high school pays 2/3 of the deputy's salary and the county the remaining 1/3 using the deputy during the summer months to substitute for vacationing deputies. The sheriff anticipates contracts with other high schools.

The sheriff of Ingham County has two types of contracts. One is a partial control and the other is a full control contract. The sheriff has three verbal partial control contracts with the townships of Meridian, Lansing, and Delhi. The sheriff agrees to provide all the equipment (replacement and new) for the deputies and vehicles while the townships pay for the deputies' salaries and purchase and operation of the vehicles. A lieutenant is in charge of each operation and is responsible to his (respective) township officials. The lieutenants are also responsible to the sheriff, although the sheriff and lieutenants interact little concerning daily directives. The township officials select the personnel they want to work in their community, but the

⁵¹The Monroe city police reported that prior to their contract with the high school they made numerous calls to the high school to take larceny reports. They felt that it was very expedient to station an officer there full-time rather than continuing to respond to calls for service.

sheriff must approve before he deputizes them. For all purposes, the three townships have their own departments.⁵²

The second type of contract is a full control type which has the sheriff directly responsible for the daily actions of the contracted deputies. The village of Stockbridge contracts for a deputy for 40 hours of weekly service. The village provides the vehicle and paid the sheriff \$6.42 per hour to cover the salary of the deputy. The townships of Stockbridge and Onandaga and the village of Dansville each have a written contract with the sheriff. Each receives less than 30 hours of patrol service each week and each pays \$7.70 per hour which is to cover all personnel and vehicle expense.

The Calhoun County sheriff in 1974 had three contractual arrangements. One was with the village of Burlington in which the sheriff supplied a deputy for 20 hours of weekly patrol. The village paid the wage of the deputy while the county paid for the vehicle and deputy's fringe benefits. A second contract is with Clarence Township which buys weekend patrol service during deer season and the summer months. Both contracts are verbal and staffed with off-duty deputies. The hourly rate each community pays depends upon the rank of the deputy providing the

⁵²In August, 1975, Lansing Township will discontinue their verbal contract with the county sheriff. The decision to have their own independent police department will cost the township an estimated extra \$42,000 for the remainder of 1975. The township supervisor indicated in a phone conversation that the main reason for deciding to break with the sheriff was that Lansing Township officials did not have complete control over police operations. Two incidents were related. First, the lieutenant and the supervisor wanted to hire a police academy recruit but the sheriff would not deputize him because the recruit had been in prison for thirty days. Second, there was confusion on whose orders the deputies should follow--the sheriff's (since they were deputy sheriffs) or the township supervisor. For example, the Lansing deputies would arrest a prisoner and take him to the county jail only to have the jailer refuse to accept the prisoner. (The sheriff has not been contacted to check out the specifics of this example given by the Lansing supervisor.)

service. A third contract was negotiated with the village and township of Athans. C.E.T.A. funds are used to pay a resident deputy, and the county pays for the vehicle purchase and up-keep while the village pays for 25% of the vehicle operating expense (gas, oil, etc.). In 1975 the sheriff will have a contract with Albion College in which he will grant their security force the authority to arrest. The sheriff also plans to contract with Marsahll, a city of 5,000.

There are two types of contracting going on in Berrien County. One involves the sheriff and the other is a joint cooperative arrangement between a village and a township. The sheriff has informal agreements with two different police operations. One of the police operations involved the townships of Baroda and Lake and Baroda village. In 1974 these three communities jointly paid the salary and vehicle expense of one man who provided them with police services. The sheriff agreed to support services with the arraignment of prisoners, dispatching, record keeping, and detective work all without compensation. The sheriff has a similar agreement with the part-time police department of Lincoln Township. The sheriff realizes that each community does not possess the tax base to afford a complete contract with the sheriff, so the sheriff provides whatever assistance he can with no charge.

The second type of contract is between the township of Oronako and the village of Berrien Springs which lies inside the township. Together the two communities have a seven officer police force. The police chief is responsible to a joint police board comprised of two representatives from the village, two from the township, and the police chief himself. In 1974 each community contributed \$60,000 to finance the police operation. The police chief records the amount and type of

activity in each community. Even though the township is approximately three times as large as the village, the amount of time spent in each community is almost the same because of the commercial establishments and bars located in the village. In 1975 two additional persons will be hired using CETA funds.

A similar horizontal arrangement to the Oronako and Berrien Springs exists between Ontwa Township and the village of Edwardsburg which lies inside Ontwa. A police board made up of two representatives from the village and two from the township and one person elected at large is responsible for the joint police operation. Financially, the township paid in 1974 \$41,750; the village paid \$16,000 and approximately \$7,250 came from liquor inspection revenue, gas tax rebate, and fees from serving legal papers. The \$65,000 budget allowed for the employment of five full-time officers. In addition, the chief utilizes 7 reservists.

CONCLUSION

The summary and conclusion section to this chapter is actually Chapter IV. In Chapter III I have presented a description of the contracting operations of most Michigan sheriffs in 1974. The contracting of eleven sheriffs were described in more detail, focusing on the conduct-performance results of each sheriff along with the structural variable of how each sheriff views contracting as a means of funding his anticipated patrol needs compared to funding from the county commissioners. Chapter IV will compare the conduct-performance results of different sheriffs and relate the differences to the observed differences in the structural relationship each sheriff has with his county board of commissioners.

CHAPTER IV
WHOSE PREFERENCES COUNT?

INTRODUCTION

In a competitive market where tastes differ, we would expect to find a variety of products each offered at different prices if production costs differed. But under other market structures, the seller's preference may dominate and only a single product is made available. Local officials within a county can purchase patrol services from only one supplier--the county sheriff.¹ The sheriff, as a patrol service supplier, may have a different concept of what constitutes "good" patrol service than local officials. This chapter asks "Whose preferences count?--the sheriff's or local officials?"²

¹Local officials have the option of starting their own police department, but if they want to contract for patrol service, then there is only one supplier--the county sheriff.

²Local police chiefs are also suppliers of patrol service and will have a concept of what constitutes "good" patrol service. They are likely to advocate their type and level of patrol service even if it is in conflict with the concept of the local officials who hired them. Within some range, local officials may choose to compromise some of their conduct-performance objectives in dealing with a police chief. Given that patrol preferences of local officials differ from the county sheriff and a local police chief who they might hire, under which arrangement would local officials have the greatest chance of obtaining most of their patrol preferences? Local police departments were not studied; consequently, this question can not be answered.

Chapter III discussed the contracting operations of eleven county sheriffs. This chapter builds on Chapter III by comparing the contracting operations of the eleven sheriffs.³ The next section contrasts the structural relationships which the sheriffs have with their county commissioners followed by a comparison of the conduct-performances of the different sheriffs' contracts. The final portion of the chapter relates the structural differences to the conduct-performance differences.

STRUCTURAL DIFFERENCES BETWEEN COUNTY SHERIFFS

In Chapter I, a marketing model of structure and conduct-performance was presented. The four structural variables discussed were number of suppliers, product differentiation, barriers to entry, and relationship between the sheriff and his county commissioners. For the first three structural variables, Michigan sheriffs are fairly homogenous. Each sheriff selling patrol services faces competition from local communities who can start their own police department, attempts to differentiate his patrol services from what is produced by local police departments and meets no entry barriers into the patrol service market. The structural variability among sheriffs, occurs in the relationship each has with his county commissioners. Given the level of patrol the sheriff desires for his county, how successful is he in gaining patrol funding from the county commissioners. Does this structural variable affect the sheriff's tendency to contract

³All Michigan sheriffs who contracted for patrol service in 1974 were interviewed by phone. The eleven sheriffs studied were chosen because of their diversity in method and approach to contracting. I felt that little new information would be obtained by studying in depth any of the other sheriffs.

and his willingness to meet the patrol conduct-performance objectives of local officials. The hypothesis tested in this chapter is the following: Sheriffs unable to obtain the patrol funding they desire will do more contracting and better meet the conduct-performance objectives of local officials than sheriffs receiving the patrol funding they want.

The sheriff is a unique county officer. He is an official elected every four years and at the same time a bureaucrat heading and procuring funds for an agency. As an elected law enforcement officer, the sheriff is sensitive to the needs of his constituents. As a bureaucrat, the sheriff can be motivated by a desire to have a larger department which can mean a higher salary, more power, and greater public reputation. Constraining the sheriff are county commissioners, who also are elected and who fund the sheriff. Each commissioner represents constituents from a county precinct and is sensitive to the needs of his constituents. The reader should not find it surprising that the sheriff's perception of the county's road patrol needs differ from the perceptions held by the county commissioners. This is especially true in counties with large urban populations. Urban commissioners view road patrol as serving primarily the rural parts of the county. These urban commissioners reason that if rural areas want more patrol service, then the rural areas should pay for it like the cities do by starting their own police department. In predominantly rural counties, sheriffs and commissioners may be more in accord.

Thus, two groups of sheriffs can be formed. One group contains those sheriffs who want to expand their patrol division and meet funding resistance from the county commissioners. The second group are those sheriffs who obtain most of the road patrol funds they feel their county needs.⁴ If sheriffs in the first group want to expand their patrol division, they will have to do it independently of the county commissioners. Contracting with local communities offers these sheriffs an opportunity to increase their road patrol without going to their commissioners for funds. I expect that the sheriff in the first group will do more contracting than sheriffs in the second group.

The sheriff as a seller of patrol services is different than a private seller, and these differences need to be discussed. First, private sellers attempt to make a profit and will price their product accordingly.⁵ The sheriff, as a public official, is not likely to price his patrol service at a profit because of the stigma attached to public officials pricing for profit and because none of the profits can accrue to him.⁶ Second, private sellers take little interest in

⁴The reader should not infer that the sheriffs in the second group are completely satisfied with the level of their road patrol. But relative to the first group of sheriffs, the sheriffs in the second group are more satisfied.

⁵Another motivation of a private seller would be to price his product such that competition is driven from the market. The sheriff may in fact be doing this. Not because he wants eventually to reap monopoly level profits but because he wants his type of patrol service implemented in the county.

⁶The sheriff might price for profit if he could use the surplus money to fund a project which the commissioners refused to fund.

the type or quality of the product they sell as long as it is purchased by the consumer. Many sheriffs view themselves as professionals in the field of law enforcement and have a concept of what "good" patrol service is. They receive a certain amount of satisfaction from seeing their type of patrol service implemented in their county. This suggests that the sheriff may feel very strongly about the conduct-performance characteristics of the patrol service he sells, and he may refuse to sell patrol service with any other set of characteristics.

From interviews, I placed the eleven sheriffs into either group one or group two depending on whether I felt they were wanting to expand their road patrol and were meeting resistance from the county commissioners or not.⁷ Group one consisted of the sheriffs from the counties of Wayne, Oakland, Washtenaw, Eaton, Genesee, and Kent.⁸ Group two consisted of sheriffs from the counties of Clinton, Lenawee, Kalamazoo, Huron, and St. Clair.

⁷Interviews are subjective. From talking to each sheriff, I tried to hear whether they wanted to expand their road patrol and were meeting resistance from the county commissioners or were fairly satisfied at their present level of patrol. Then I looked at the level of contracting and whether or not they attempted to meet the conduct-performance objectives of local officials. One group of sheriffs not studied were those who had no contracting at all. It is not known if there exists in the group of sheriffs not contracting a group of sheriffs who want to expand patrol, meet resistance from county commissioners and do not, for some reason, attempt to expand their road patrol through contracting.

⁸From some of the counties such as Wayne and Oakland, placing them in group one was easy in both counties, the commissioners have a policy of not granting any funding increases to the sheriff for road patrol. Early in 1975, commissioners of Kalamazoo county attempted to cut the sheriff's road patrol. Kalamazoo is placed in group two because it was my impression that the sheriff, in 1974, was relatively satisfied with the level of road patrol. In fact, prior to 1975, the sheriff had had many communities approach him about contracting but little came of it.

LEVEL OF CONTRACTING

The indicator used to reflect the level of contracting is the percentage of single and double patrol hours produced by the sheriff which are funded by contracting. The hypothesis is that the sheriffs in group one, those sheriffs who want to expand patrol and meet resistance from county commissioners, will have a higher level of contracting than sheriffs in group two. Table 4-1 shows the percent of single and double patrol hours financed by contracting for nine of the eleven sheriffs studied.⁹

Table 4-1. Percent of sheriff's single and double patrol hours financed by contracting

Sheriff	Percent of Single Patrol Hours Financed by Contracting	Percent of Double Patrol Hours Financed by Contracting
<u>Group 1</u>		
Oakland	52%	
Genesee	58%	22%
Eaton	61%	39%
Washtenaw	69%	48%
Kent	23%	
<u>Group 2</u>		
Huron	15%	17%
Clinton	13%	
Kalamazoo	14%	
St. Clair	15%	

⁹Data was not readily available for computing the percentage of patrol hours financed by contracting for Wayne and Lenawee county sheriffs.

As can be seen from Table 4-1, all the county sheriffs in group one, with the exception of Kent county, have a considerably greater percent of single and double patrol hours funded through contracting than county sheriffs in the second group. It also happens that counties in the first group, with the exception of Eaton county, are more urban than counties in group two, with the exception of Kalamazoo county, as can be seen in Table 4-2. This tends to support the reasoning that urban commissioners are reluctant to fund the sheriff's road patrol causing the sheriff, if he wants to expand his patrol division, to contract with local communities.

Table 4-2. Population density and percent population classified as urban for counties in Group 1 and Group 2, 1970

	Population Per Square Mile	Percent Population Classified as Urban
<u>Group 1</u>		
Wayne	4,407	98
Oakland	1,047	90
Genesee	692	77
Kent	479	83
Washtenaw	329	78
Eaton	120	42
<u>Group 2</u>		
Kalamazoo	358	76
St. Clair	163	46
Lenawee	108	40
Clinton	85	21
Huron	41	46

Source: U.S. Bureau of the Census, U.S. Census Population: 1970, Number of Inhabitants, Final Report, Michigan.

INTER SHERIFF COMPARISON OF CONDUCT-PERFORMANCE CHARACTERISTICS

The eleven sheriffs studied will be compared according to the following conduct-performance characteristics: divisibility of patrol service sold, reporting to local officials, control over daily patrol functions, rotating versus permanently stationing deputies and liquor inspection revenue. Since price is a very important conduct-performance variable to local officials, it is treated separately in the next section.

Divisibility of Patrol Service Sold. It is assumed that local officials would like to buy whatever number of patrol hours they feel they need and can afford. This might mean, for some small communities, patrol service only on Friday and Saturday nights and perhaps only during the summer. Difficulty is encountered if local officials attempt to hire personnel on a full-time permanent basis to produce such a small level of output.

The sheriff can also meet obstacles in staffing a part-time police operation. Most sheriffs interviewed expressed a preference for a minimum contract of 40 hours of weekly patrol.¹⁰ The sheriff has several possible responses to requests for a contract of less than 40 hours of weekly patrol service. First, the sheriff could simply refuse to supply such an increment. The county sheriffs of Wayne, Kent, Genesee, and Eaton have this policy.¹¹ The Kent County

¹⁰ A community may want to buy 40 hours of weekly patrol but have round the clock patrol in their community using all patrol hours on the week-end. Due to the sheriff's size, this could be accommodated with the increase in staff of one person while a local department would need more than a one person department to staff such an operation.

¹¹ According to Dr. Al House, Michigan State University, a local community in Eaton county appropriated \$10,000 of local money to buy \$10,000 worth of patrol service. The sheriff refused to sell to them the requested level of service.

sheriff is reluctant to hire part-time deputies and is unwilling to cut general road patrol to supply the fractional personnel. Neither of the Eaton or Genesee sheriffs have been approached about a contract of less than forty hours of service. The Genesee sheriff remarked about staffing difficulties. The Eaton sheriff uses as his criteria of minimum service level whether or not the increment of service purchased will have any perceivable impact. If there are not enough patrol hours being purchased to allow for a "good job," then the Eaton sheriff will refuse to supply the requested amount. ¹²

Second, sheriffs could agree to supply less than forty weekly patrol hours but only if two or more communities combine such that the total is forty hours. The sheriffs of Livingston and Oakland Counties have this policy. The sheriff of St. Clair County indicated that his policy was not to sell in increments of less than 40 patrol hours per week but the Yale contract is so constructed that no set amount of time is placed in Yale. This was possible because the contracted patrol provided coverage to Yale and non-contract patrol service to six surrounding townships.

¹²For the sheriff, a "good job" means satisfying the citizens of the contracted communities. If a citizen knows that they are buying extra service from the sheriff, even though it is only 2 hours a week, they are likely, according to the sheriff, to expect a lot more service than they are actually purchasing. To keep from such a situation developing, the sheriff attempts to determine if the service level purchased is enough to keep complaints of "non" service to a minimum.

Third, the sheriff could agree to staff less than forty hours of weekly patrol service by utilizing off-duty officers, either deputy sheriffs or officers of local police departments. The Huron County sheriff has most of his contracts staffed with off-duty officers but is reluctant to expand his contracting under such an arrangement. The Washtenaw sheriff prefers 40 hour increments but has one contract for 30 hours staffed by an off-duty officer. The Kalamazoo sheriff has no minimum and has two contracts where one community buys 10 hours and another 40 hours per month. In the past he has had difficulty in obtaining volunteers to meet these two small contracts. Two of the U.S. Forest Service contracts also make use of off-duty officers.

Also, a sheriff could sell less than 40 weekly hours and meet the contract obligation by using general patrol. In this case the communities pay something extra to affect the geographical allocation of the patrols. Mackinac and Lenawee County sheriffs meet their contracts in this fashion. A fourth way would be to have the commissioners fund the portion of the man not covered by the contract. The Wayne County sheriff indicated that while he has never been approached about less than 40 hour increments, he would agree to provide the increment assuming the county commissioners funded the portion of a man not funded by the contract.

Reporting to Local Officials. Local officials want information on the activities of their police. They are likely to want reports at their monthly meetings as well as the presence of a police representative to answer questions. Reporting to local officials, either for the police chief or the sheriff, means a transaction cost. The more infor-

mation desired the higher this particular transaction cost will be.

Most sheriffs provide a monthly report and have some representative attend the monthly local board meetings. Sheriffs with small contracts (less than 40 hours) may not do this, such as the Clinton County sheriff. However, the Lenawee sheriff, with the small Deerfield contract, provides monthly reports and sends to Deerfield officials copies of any Deerfield ordinances enforced by the contracted patrol.

The difference between sheriffs is in the degree of detail and the items they choose to include in their monthly reports. The Genesee County sheriff, aided by the Genesee Central Dispatching System, breaks the monthly report down to include the number and type of calls for service (breaking and entering, missing child, etc.), number of arrests and accidents, number of miles driven, and number of calls answered outside the contracting township. Kent County goes further and sends to local officials the activity log of every complaint answered which provides local officials the names and addresses as well as the nature of each complaint. Local officials in Kent County can tell whether a contracted or a non-contract patrol responded to the call for service. The St. Clair sheriff has 18 different complaint categories listed and the number of complaints and arrests for each. He also has the total hours spent in the contracting community broken down by hours spent on patrol, on answering complaints and on supplementary investigations. The chief of the joint police effort of Berrien Springs village and Oranko township knows that the city fathers want to have regular property checks so the chief monitors the amount of time spent on this activity. He also reports the amount of time

spent in each community. It is interesting to note that those sheriffs which have contracts with two or more contiguous communities do not record the amount of time spent in each community.

Control Over Daily Patrol Functions. One hinderance to contracting cited by many sheriffs is that local officials fear losing local control. One interpretation of local control is that local officials want to have a feeling of power--the ability to tell someone what to do. Employees of their own local police department offer such an opportunity. Another interpretation is that officials want a set of patrol outputs sheriff is unwilling to produce. Conceptualizing conduct-performance involves an attempt to specify more exactly what is meant by local control.

One patrol objective is a voice in the scheduling of patrols and the range of activities they perform. It is assumed that local officials want patrols to work when they feel the patrols are most needed. It is further assumed that local officials want contracted patrols to perform community related errands (e.g. delivering reports to board members, raising the courthouse flag, etc.). Enforcing local ordinances is considered a community errand. Most officials require that these activities be performed during slack time, not in place of responding to a citizen's call for assistance. With a local police department, a policy directive can be issued, but with the sheriff no such directive can be issued. ¹³

It is not known how much say local officials have had in scheduling contracted patrols. But several contracting officials do not know when

¹³A police chief and/or local officers may refuse to perform community errands and will either quit or be discharged. Then local officials pay a transaction cost of discharging and/or finding replacements.

their contracted patrols will be in their community. This holds for the small contracts in Lenawee, Kalamazoo, and Clinton Counties. In Lenawee and Clinton, the contracting communities are covered as part of the general patrol while in Kalamazoo the part-time deputy decides when he will work in Climax and Wakeshma. In St. Clair County, the contracted car handles not only Yale but six other townships. Deciding when time is spent in Yale is up to the discretion of the patrolman operating the northwest patrol. A similar situation exists for those communities which jointly contract for a patrol. The three contiguous townships in Livingston County do not know when the patrol will be in their particular community. The same can be said for joint contracts in Kent County. Most of the time the car tends to handle complaints on a first come first served basis regardless of where they are located.

The contracts which the sheriffs of Gogebic, Iron, and Alger have with the U.S. Forest Service specify the time when the patrols should be operated on Friday, Saturday, and holiday evenings.

In larger contracts, local officials may know when the patrols operate in their community, but it is still not known how much input they had into the scheduling. Many of these contracts have a set number of hours of daily coverage seven days per week. In most cases, uniform service throughout the week is given. Whether local officials preferred more service on the weekends and less during the first part of the week is not known.

Most sheriffs indicated that scheduling was at their discretion and that it was based on when the complaint load was the heaviest. But many of these same sheriffs had uniform service throughout the week. The Washtenaw sheriff indicated that contracted patrols are scheduled

when complaint load tends to be the heaviest; but patrols are also scheduled in conjunction with non-contract patrols such that not all patrols work during peak periods, which would leave little or no coverage during slower times.

All sheriffs made the distinction between community errands and personal errands for local officials. Fixing a ticket at the request of a local official or transporting a local official were considered personal errands (favors) and were rejected by all the sheriffs. Most sheriffs indicated that they would entertain requests for the contracted deputies to perform community errands. The distinction between sheriffs is which ones seemed the more approachable.

The Clinton sheriff indicated his contracts were too small to entertain performing community errands; but he would examine such activities with larger contracts. The Eaton sheriff was requested by the contracting officials of Eaton Rapids not to enforce a "2 AM to 5 AM no parking" ordinance on a certain street. The sheriff refused to do this suggesting that the ordinance be changed to exclude the one street. Since the sheriff refused to comply with their request, the local officials were able to achieve the desired performance by changing the ordinance. This is a good example of which contracting party (the sheriff or the local officials) bear the transaction costs of making a change.

Sub-stations, located in the contracting community, provide convenient access for local officials and make it easier to request community errands than if the sheriff must first be contacted. An example of this is a contract which the Livingston County sheriff had with

Putnam township in 1973. The sheriff indicated that his policy was not to allow community errands. But the contracted deputy operated out of the township hall and according to Putnam officials would perform community errands. This likely would not have occurred if the deputy had not associated with Putnam officials.

Sub-stations are also operated in Genesee, Oakland and Washtenaw.¹⁴ In each of these counties the deputies are allowed to perform community errands. Oakland deserves special mention. The Oakland sheriff attempts to please local officials in every way possible. For instance, he stations his most experienced deputies in the communities and instructs them to regularly visit the local officials. When local officials request deputies to perform community errands or enforce local ordinance, the sheriff's lieutenant attempts to explain that there are cheaper ways to obtain this service other than having a contracted deputy perform them.¹⁵ In Kalamazoo County, the sheriff has encouraged the contracting officials of Comstock to hire the contracted deputies during their time off to enforce local ordinances. In Kent County, even though there are no sub-stations in the contracting communities,

¹⁴Eaton County sheriff had a sub-station for the Eaton Rapids city contract; but the sheriff felt that he was losing control of his deputies. For example, the sub-station had a transmitting radio and the sheriff could not tell if the contracted patrol was responding from inside the patrol car or from inside the sub-station.

¹⁵While the requests of local officials have great weight, a limit to the range of activities performed by the contracted deputies exists. If the deputies feel they are not doing enough "police work" they will complain to the sheriff and it then becomes a matter for discussion between the sheriff's administrator and local officials.

the sheriff requests that the contracted deputies visit the local officials regularly.

In summary, most sheriffs will consider most requests for special types of service. Some sheriffs are more approachable than others. Sub-stations or daily contact between contracted deputies and local officials makes it easier for local officials to request community-related errands. Another alternative is for local officials to stipulate in the contract the activities they want performed by the contracted patrols, but this was not observed in any of the Michigan contracts.

Rotating Versus Permanently Stationing Deputies. Many local officials wish to have control over who is policing their community. Not only do they want to be able to select the personnel but they want the same persons to work permanently in their community. The feeling is that the better the officers know the community and its citizens, the better citizens feel about interacting with the officers. Also, the officers will be more sensitive to what is abnormal if they know what is normal. Some sheriffs contend that the more familiar an officer becomes with the community the greater chance for corruption, for enforcing laws selectively over different people (giving person A a ticket and not B for the same offense), and for becoming less alert while on patrol. Since the range of complaints is limited in small contracting communities, deputies become bored and prefer to be transferred. It is assumed that local officials are willing to run the risk of corruption, selective enforcement, and officer boredom in order to have patrol persons permanently stationed in the community.

The only contractual arrangement where local officials have significant voices in who is hired to work in their community are the three contracts which the Ingham sheriff has with the three townships of Meridian, Delhi and Lansing. The lieutenant who is in charge of each contracting operation is hired by the local officials and in turn hires all other deputies. The Ingham sheriff must confirm all who are hired, but at least local officials or their representative have some voice in who will police their community. All other sheriffs make complete hiring decisions. If local officials are dissatisfied with a particular deputy, most sheriffs will transfer the deputy to another patrol operation.

The sheriffs in the counties of Huron, Genesee, Lenawee, Clinton, St. Clair, and Livingston all rotate their deputies between contracted and general patrols. Lenawee and Clinton do this because they provide the contracted patrol service with their non-contract patrols. Livingston sheriff has the policy of rotating his deputies, but in 1973 when officials of the Putnam contract desired the same deputy, the sheriff attempted to meet this request.

The county sheriffs of Washtenaw, Oakland, Kent, Wayne, and Eaton attempt to permanently assign deputies to different contracts. The Monroe County sheriff, in his contracts with the community college and the high schools, attempts to pick persons who will relate to the different communities and then permanently assign them those persons. For some of the smaller contracts in Oakland County, the sheriff rotates his men between general patrol and the contracting operations. The Oakland sheriff assigns his most experienced deputies to the

contracting communities and when possible attempts to assign to the contracting community a deputy who lives there.¹⁶

Liquor Inspection Revenue. Liquor inspection money is actually a part of the cost (negative) of having a police department, but since many local officials view the revenue generated by police separately from the costs, liquor inspection revenue is being signaled out as a performance dimension of contracting. The Michigan Liquor Control Commission sends money to local communities that employ a full-time police or ordinance enforcement department and perform liquor inspections within their political boundaries. Contracting operations are included in the definition of full-time police department. If a community contracts and if liquor inspections are performed within that community by the contracted deputies, then the local community is entitled to the money sent from Liquor Control Commission.

The sheriffs of the counties of Eaton, Washtenaw, Genesee, Wayne, Huron, and Lenawee allow the liquor inspection money to be retained by the contracting community. The sheriffs of Oakland and Kent have full-time deputies who do nothing else but perform liquor inspections. In these two counties the liquor inspection revenue goes to the county treasury. In Oakland county, if a local community were aware of the revenue it could receive, it could probably obtain it. In Kalamazoo, Comstock receives the liquor inspection revenue but the two smaller contracts do not. Likewise in Clinton County, only one contract

¹⁶A deputy who becomes so familiar with the community that he shows favoritism, can become unsatisfactory to the sheriff. For instance, if the sheriff's administration notices that a deputy is giving all the wrecker business to one filling station or is around a certain restaurant too much, they may transfer him.

receives the inspection money. In St. Clair county all revenue generated from liquor inspections is retained by the county treasury.

PRICE CHARGED BY DIFFERENT SHERIFFS

An important variable for local officials is the price charged by the sheriff for patrol services sold. Local officials want to compare the contract price to the costs met if they were to start and maintain their own department. There are really two questions here which must be addressed. First, how do the patrol costs met by the sheriff compare to the costs met by a local department? Second, what portion of the costs does the sheriff choose to pass on to the contracting community? A sheriff may experience similar or higher costs than a local department but not incorporate all the costs into the contract price in order to secure the contract. These questions will be handled by first comparing the sheriff's patrol costs to patrol costs experienced by local departments and second by comparing the sheriff's patrol costs to contract price.

Comparison of Sheriff's Costs to Costs of Local Department. No systematic analysis of patrol costs met by small police departments in Michigan was done, but the patrol costs of local departments in Genesee County were estimated and compared to the sheriff's patrol costs and contract price. Before the comparison is made, a brief discussion of why either the sheriff or small local departments might experience different patrol costs is useful along with a brief discussion of previous empirical attempts to test for the presence of economies of scale in police operations.

Many federal, State and even county officials who advocate the consolidation and or elimination of small police departments contend that large police departments have a cost advantage over smaller

departments. Their arguments are intuitive, for no empirical evidence is ever advanced. Their line of reasoning moves on several different tracks. First, consolidation advocates contend that small departments usually have a police chief, which is unnecessary administrative overhead. Second, large departments can purchase equipment in bulk, receiving a better price than small departments which purchase in small amounts. Third, there are certain specialized police functions, such as narcotic, detective, and juvenile which can not be afforded by small police departments. Consequently, small departments provide incomplete police service to their communities.

Counter arguments can be presented. Many local departments have a police chief who performs patrol duties. Second, it is questionable how much is saved by bulk purchasing by large departments. While larger departments may receive price concessions, this savings can be more than offset by larger departments wanting to buy the latest and most sophisticated equipment available. Small local departments have the option of buying more inexpensive equipment which meets their needs keeping equipment costs to a minimum.¹⁷ Finally, many small departments do not encounter drug problems and if they do they can turn to the larger departments (e.g. sheriffs and state police) for assistance. The individual patrolmen serve as detectives and juvenile

¹⁷From a price catalogue of one supplier of police equipment, the following price ranges were observed: revolvers from \$79.93 to \$183.76; belts from \$5.70 to \$14.70; revolver shells from 8¢ to 15¢ per shell; and holsters from \$7.11 to \$16.47. This demonstrates the great range in quality of some standard police inputs. There is a lot of equipment which some departments choose to have that others feel is unnecessary; and this further widens the potential cost gap of police equipment and supplies.

officers. Whether or not the local officers handle the detective and juvenile matters satisfactorily must be decided by local officials.

There have been several attempts to determine empirically the existence of economies of scale in production of police services. Werner Hirsch in one study and Harry Schmandt and Ross Stephen in another did not find a significant relationship between their scale variable (population of the community) and police expenditure per capita.¹⁸ But is police expenditure per capita a meaningful cost per unit output variable? Two communities of similar size may have different police expenditure per capita because of different community preferences (as reflected in different allocation of public funds). Thus, what is not being explained is the behavior of output costs as scale of operation increases. Norman Walzer suggest that these studies concentrate on spreading police expenditures over large numbers of residents.¹⁹

Norman Walzer, in another study, used an index of service which was a "composite of the number of offenses cleared, number of accidents investigated a number of miles driven."²⁰ Total police expenditures was divided by the service index to generate an average cost variable, and the service index served as the scale variable. Walzer's results

¹⁸Studies were reported in Werner Z. Hirsch, "The Supply of Urban Public Services," in Issues in Urban Economics, ed. by Harvey S. Perloff and Lowdon Wingo, The Johns Hopkins Press, 1968, pp. 504-505.

¹⁹Norman Walzer, "Economies of Scale and Municipal Police Services: The Illinois Experience," in Municipal Needs, Services and Financing: Readings on Municipal Expenditure, ed. by Patrick Beaton, Center for Urban Policy Research, Rutgers University, New Brunswick, New Jersey, p. 242.

²⁰Ibid, p. 243.

showed a statistically significant negative relationship between the scale variable (composite service index) and average cost. When police expenditure divided by population was used as the average cost measure and the community population was used as the scale variable, no statistically significant negative relationship existed using the same communities over the same time period. Walzer concludes that since the scale variable is so critical in testing for the presence or absence of scale economies, much more research is needed on the conceptualization and quantification police outputs.

The problem which haunted all three studies was specification of the output. In my study the intermediate output which is being purchased by a contracting community or being produced by a local police department is single and double patrol hours.

How do the sheriff's patrol costs and contract price compare with the patrol costs faced by local communities. Genesee County was used as a case study county. A cost estimate of single and double patrol hours was made for those local communities willing to cooperate and the Genesee County sheriff's department. Value estimates of variable inputs related to patrol (labor, vehicles, and equipment)

were made.²¹ Labor and equipment associated with dispatching were not included. While dispatching is a necessary support activity of patrol, it is an expense which local communities can avoid. Most sheriffs and state police posts are willing to perform this function without charge.

Are there economies of scale present in the production of single and double patrol hours in Genesee County? Table 4-3 compares the single and double patrol hour costs for selected local communities and the sheriff's three contract operations.²² No clear answer emerges; but for the sheriff, who has the largest scale of operation, the cost of single and double patrol hours for his three contracted patrols is

²¹The per patrol hour cost estimate for local police departments was done in the following manner. First a description of the patrol schedule was obtained to determine the number of single and double patrol hours per year each local department attempted to produce. The line item budget was taken and all items not related to the patrol activity were subtracted which created a patrol budget. If a community produced both double and single patrol hours, the total number of man patrol hours was calculated. This was done by multiplying the double patrol hours by two and adding the number of single patrol hours. (e.g. If a community produced 10 double and 10 single patrols then the number of man patrol hours is $30 = 10 \times 2 + 10$). The number of man patrol hours was divided into the patrol budget to estimate the cost of a single patrol hour. This was done to estimate the double patrol hour cost. Double counting results from including vehicle expense twice in the double patrol hour cost figure; consequently the double patrol hour costs are slightly high for local communities. For the sheriff's cost estimate for the three contract operations, the double counting has been eliminated by subtracting an estimate of vehicle expense per hour out of the double patrol hour cost estimate.

²²Of the 19 local communities (excluding Flint) which had their own police department, 13 provided the necessary patrol and cost information. Local department information was obtained over the phone and the cost figures were the proposed 1974-75 budget figures. Since the time of the phone survey was well into the fiscal year, the local police chief usually had an idea of how close he would come to spending different budgeted amounts. The concern was how close they would come to spending the patrol portion of the budget. No adjustments were needed. The cost figure for the sheriff were based on value estimates of variable inputs used in 1974-75.

Table 4-3 Annual number and cost of single and double patrol hours for the Genesee County Sheriff's contracted patrols and selected local communities in 1974.

Community	Number of Annual Patrol Hours Produced		Cost Per Patrol Hour	
	Single	Double	Single	Double
Mt. Morris Township		8,760		\$14.83
Mt. Morris City	2,920	8,760	4.95	9.89
Otisville*		832		18.63
Swartz Creek	11,994		9.37	18.73
Grand Blanc City	4,584	4,160	6.66	13.32
Flushing City	8,648	2,920	9.17	18.34
Goodrich		1,080		7.14
Flint Township	4,576	5,110	4.59	9.19
Montrose Village	8,736		4.00	8.00
Linden	8,320		5.26	10.52
Clio	1,352	5,840	3.20	6.40
Burton City	5,408	11,680	7.15	14.39
Davison Township	10,432		7.19	14.38
Genesee Sheriff				
Non-Contract Patrol	6,240	59,904		
Genesee Contract	5,840	7,920	11.17	21.09
Vienna Contract	2,920	5,840	10.51	19.49
Fenton Contract		2,920	10.39	18.98

* Otisville has a part-time police department with all the officers on call twenty-four hours per day. The number of hours shown are worked Friday and Saturday evenings.

higher than all the local departments examined.

There are several reasons why the sheriff may not experience any cost advantage but instead meets higher patrol costs than local departments. First, patrol is a very labor intensive activity. This means that any savings from bulk purchases may be lost in higher salaries. Why might the sheriff incur higher salaries than a local department? Most sheriff's departments are unionized, and the unions are likely to keep deputy salaries on a par with the highest police officer wages in the area. While many local departments are unionized, their unions tend to be less aggressive; although there is no empirical proof of this.²³ Second, as sheriffs' departments attempt to become more professional, they tend to recruit personnel with previous experience. One way of attracting and retaining experienced people is to provide a career track. Implementing the career track may require that patrolmen be paid enough to keep them as patrolmen until a supervisory position is available. The personnel in many local departments tend to be relatively transient due in part to the relatively low wages. Some local departments use volunteers to staff half of their double patrols or to be on call to provide back-up assistance.

²³Striking for higher salaries against citizens whom one knows is more difficult than against an anonymous population.

If the Genesee sheriff experiences patrol costs which are higher than those met by local departments, why do three communities choose to contract? The answer is that the Genesee sheriff does not pass on to the contracting communities all the patrol costs (variable costs). Table 4-4 compares the sheriff's costs to the contract price. As can be seen, the sheriff's contract prices are much more in line with costs met by local police departments. The patrol costs and contract price will be explored for other sheriffs in the next section.

Table 4-4. Comparison of the per patrol hour (single and double) costs and price charged for the Genesee sheriff's contracted patrols

Contract Operation	Number of Patrol Housing		Patrol Hour Costs		Contract Price Per Patrol Hour	
	Single	Double	Single	Double	Single	Double
Genesee Township	5,840	7,920	\$11.17	\$21.09	\$9.43	\$17.62
Vienna Township	2,920	5,840	10.51	19.49	6.52	11.51
Fenton Township		2,920	10.39	18.98	5.71	9.62

Comparison of Sheriff's Patrol Costs and Contract Price. The sheriff's ability to keep the contract price low provides incentive to local officials to contract. But if the price is less than costs, then the non-contracting portion of the county finances part of the contracting operation. Table 4-5 compares the contract price to patrol costs for the eleven sheriffs studied. Of the contracts examined the

Table 4-6. Inter sheriff comparison of structural conditions and patrol performance objectives

Sheriff	Percent of Patrol Hours funded by contracting		Number of contracts	Will the sheriff sell less than 40 weekly hours?	Does the sheriff rotate his deputies for contracted patrol?	Does the sheriff send liquor inspection revenue to contracting communities?	Does the sheriff report monthly to contracting community?	Does the sheriff allow community related errands	Percentage of contract costs financed by county general fund (average over major contracts)
	Single	Double							
Group 1:									
Oakland	52%		7	no	no	no	yes	yes	36%
Wayne			1	no	no	yes	yes	yes	10%
Kent	23%		7	no	no	no	yes	yes	15%
Genesee	58%	22%	3	no	yes	yes	yes	yes	33%
Washtenaw	69%	48%	4	maybe	no	yes	yes	yes	40%
Eaton	61%	39%	2	maybe	no	yes	yes	maybe	13%
Group 2:									
Clinton	13%		4	yes	yes	some	no	no	16%
Lenawee	NA		2	yes	yes	yes	yes	no	14%
Kalamazoo	14%		3	yes	no	some	yes	yes	NA
Huron	15%	17%	2	yes	some	yes	yes	yes	8%
St Clair	15%	17%	1	no	some	no	yes	yes	26%

Washtenaw sheriff's contract with Ypsilanti shows the greatest absolute difference between price and cost, and his contract with Northfield has the greatest percentage of the contract cost being funded by county taxes. The sheriffs of Eaton, Clinton, and Huron have the smallest percentage of the contract cost being funded from the county treasury (range for -2% to 16%)²⁴ while the sheriff of Oakland, St. Clair, and Washentaw have the higher percentage (range from 20% to 64%). Even though no cost estimate was done in Wayne county, it would fit into the first group of counties along with Kalamazoo County.

The differences in the percentage of contract costs financed from the county treasury within a sheriff's department reflect in part the price concessions the sheriff made to secure different contracts. While little specific information is known about the negotiations for each sheriffs' contract, one may suspect that the Washentaw sheriff realized that it was easier for the Ypsilanti officials to consider a police package costing \$204,000 than one costing \$322,000. In Genesee County, the Fenton contract is with a community that did not previously have a police department. The sheriff could feel that more of a price concession is needed for Fenton officials, who are not use to paying for a higher level of police service, than to Genesee and Vienna townships who prior to contracting had their own department.

²⁴The Clinton sheriff's contract with Dallas and Lebanon are not in the range because the absolute differences are very small even though the percentage differences are high. Because of the assumption which needed to be made in estimating the patrol cost, it is dangerous to conclude that the contract the sheriff has with the village of Kinde is generating a profit for the sheriff. However, it can be concluded that costs are very close to price.

The county commissioners, as representatives of the contracting and non-contracting communities, play varying roles in establishing the contract price. In the case of Oakland County, the commissioners, through the County Budget Office, are very active in estimating the cost, but they then bargain with the sheriff to determine what the contract price will be. In 1974, the sheriff was able to secure a contract price which was less than costs. A similar situation exists in Genesee County where the county plays a central role in determining contract price. To help insure all relevant costs are passed on to the contracting communities, a special budgeting account was established; but no item is billed to the sheriff retains considerable power in deciding what costs are passed on to the contracting communities.

The degree of awareness which county commissioners have concerning the contract price and cost varies. Some know that costs exceed prices and have an approximate idea of the amount. For example, the written contractual agreement, which the Washentaw sheriff has with Ypsilanti, indicates that \$102,000 will be contributed by the county to that particular contractual arrangement. The Oakland and Huron county commissioners know the approximate amount which the contract price is less than costs. Some county commissioners know the price is less than costs but do not know the magnitude of the difference. Kent County is an example of this where the commissioners know that they pay for all vehicle and uniform expense but do not know the amount of the deficit. Some county boards are not aware of whether the

contract price is greater than, less than or equal to contracted patrol costs.²⁵

Some of the difference between the cost and price comes from inexperience in estimating costs. One cost which was most consistently overlooked was deputy compensation for time-off. Another source of difference was in the choice of base salary. This difference stems not so much from inexperience but from deciding what is actually the cost to the county. For instance Oakland County used a beginning patrolman base rather than the base of the men who actually worked in the contracting communities. The reasoning was that the actual cost to the county as a result of the contract, was hiring a new deputy. Thus the county commissioners chose not to make the distinction that the contracting communities received more skilled deputies while non-contracting communities received rookies. In Wayne County, however, the County Board of Auditors chose to use the base salary of a fourth year deputy. An additional source of difference comes from unanticipated expenses such as rising fuel costs. The Genesee Sheriff's contracts have a written section which says that unanticipated expense, such as fuel costs or a union settlement for higher wages, will be passed on to the contracting community.

²⁵ Livingston County is a possible example of this latter case although no effort was made to poll the county commissioners to check their awareness. However, when the author asked the sheriff if the county commissioners realized how much money the county was spending to finance his contracting operation, he said that they had little or no knowledge of the contracting operation.

What motivations might a county board have in agreeing to a contract where price is less than costs? The sheriff and commissioners are both elected officials. When the sheriff is refused a budget for all the patrol he feels is necessary to provide adequate service, he can push the responsibility of service failure on to the county commissioners. This could have negative repercussions at election time. Agreeing to a price which is less than costs can be viewed as a compromise with a sheriff who has not received all of his patrol budget requests. Second, the non-contracting portion of the county can benefit from contracted patrols. Almost all sheriffs studied allowed for the contracted patrols to be dispatched outside the contracting communities to handle emergency situations. Also, some of the contracting communities paid for patrol time which was spent in transit between the sheriff's office and the contracting communities. The non-contracting communities, through which passed the contracted patrol, receive higher levels of patrol service. Finally, contracting allows the sheriff to have a larger patrol division and makes it possible for the sheriff to handle any large scale disturbance which might occur anywhere in the county (e.g. rock concert or natural disaster).

RELATION OF STRUCTURE TO CONDUCT-PERFORMANCE CHARACTERISTICS

Earlier in this chapter, it was shown that the county sheriffs in group one, those wanting to expand patrol and meeting resistance from county commissioners, had a greater percent of the single and double patrol hours funded through contracting than sheriffs in group

two who received most of the patrol funding they desired. The question asked in this section is do the sheriffs in group one attempt to meet the conduct-performance objectives of local officials more than sheriffs in group two. To answer this question, each of the sheriffs in both groups will be discussed relating the sheriff's approach to contracting to the conduct-performance characteristics of his existing contracts. Discussed first are the sheriffs in group one which are from the counties of Oakland, Wayne, Kent, Genesee, Washtenaw and Eaton.

The Oakland county commissioners have told the sheriff that they will not fund any more general patrol. Given this and the sheriff's desire to expand patrol service, he depends greatly on contracting to generate the necessary patrol funds. The sheriff will not sell less than 40 weekly hours of patrol service, is willing to and does permanently station deputies in contracting communities, reports monthly to local contracting officials, and does allow but attempts to discourage community related errands. The sheriff has been successful in obtaining a price concession (36%) for the contracting communities.²⁶ The sheriff stations his most experienced deputies in the contracting communities and encourages a close relationship between local officials and contracted deputies. The sheriff appears to make every attempt to meet as many local needs as possible.

²⁶If a sheriff charges a price which is less than costs, then this is a price concession to a contracting community. The difference between contract price and costs expressed as a percentage of the total costs of the contract is the amount of the price concession.

The Wayne County sheriff has been directed only to provide patrol services to the unincorporated portions of the county. Because of the urban orientation of the county board, obtaining patrol budget increases is difficult. The sheriff's contracting efforts are hindered by the unincorporated communities which have organized and which refuse to contract for a higher level of service contending that they are owed the higher level of service because of their county taxes. The sheriff is only able to sell less than 40 weekly hours of patrol service if the county commissioners are willing to fund the remaining portion. The sheriff permanently stations deputies in the contracting community, returns liquor inspection revenue to the contracting community, and allows community related errands. He even has allowed the contracting officials a voice in assigning complaint priorities.²⁷ Although I made no cost estimates, I concluded that the sheriff has been unable to obtain any price concession for the contracting community.

The Kent County sheriff is similar to the Wayne County sheriff in that his county board is dominated by urban oriented commissioners who refuse to fund higher levels of patrol service for rural parts

²⁷ Romulus officials expressed dissatisfaction with the response time going to breaking and entering complaints. The sheriff directed his dispatcher and deputies working the Romulus contract to give a higher priority to breaking and entering complaints.

of the county. Contracting for most of the patrol costs has been an agreeable way to the commissioners to increase the level of patrol services. The sheriff is strongly motivated to contract because he does not want township police departments to begin to grow in his county, and contracting is one way to prevent this. The sheriff is unwilling to sell less than 40 hours of weekly patrol service to a community unless two or more communities combine their revenue to purchase 40 hours of service. The sheriff permanently stations his deputies, reports to local officials each month, allows community related errands, and was able to obtain a 15% price concession for the contracting communities. The sheriff does not send revenue from liquor inspection to the contracting communities. Overall, the sheriff makes every attempt to please local officials and encourages the deputies working in the contracting communities to establish and maintain good working relations with the local contracting officials.

The Genesee sheriff has a great desire to expand his patrol service views contracting as one way of doing it. Through a county-wide central dispatching system, the sheriff responds to many complaints in communities which have their own departments. This offers an opportunity to show local officials that he can provide a higher quality service at less money than can a local department. The sheriff rotates his deputies and refuses to sell less than 40 hours of weekly patrol service. The sheriff does return liquor inspection revenue to contracting communities, allows contracted deputies to perform community errands, and reports to local contracting officials

monthly. The sheriff in general tries to perform the same type of police service to which local officials were accustomed with their own department. The sheriff has been able to obtain for the contracting communities an average 33% price concession.

The Washtenaw sheriff is similar to the Genesee sheriff in that he wants to increase his patrol service and views contracting as a mechanism within his means to achieve his goal. Not only does the sheriff aggressively pursue new contracts, but he advocates the growth of his current contracts. The sheriff prefers to contract for 40 hours of weekly patrol service but has agreed to supply one community with 30. The sheriff does not rotate his deputies in the contracting communities, reports monthly to local contracting officials, allows for community related errands, and allows the liquor inspection revenue to be retained by local communities. The sheriff attempts to give local contracting officials the type of service they want. The sheriff has been able to obtain an average of a 40% price concession for the contracting communities.

The Eaton County sheriff desires to expand his patrol division by contracting yet he has a set concept of the conduct-performance characteristics his contracted patrols should have. When officials of one contract wanted the deputies not to enforce a particular no parking ordinance, the sheriff refused to agree to it suggesting that the law be changed which the local officials did. The sheriff might sell less than 40 hours of weekly patrol service if he feels that an adequate job can be done with such a level of patrol service. The sheriff permanently stations his deputies in the contracting com-

munity, reports monthly to local contracting officials, allows liquor inspection revenue to be returned to the contracting community, and may allow community related errands. The sheriff has either been unable to obtain or unwilling to give a very large price concession (13%) to local communities.

The sheriffs in group two are from the counties of Clinton, Lenawee, Kalamazoo, Huron, and St. Clair. The sheriffs dealing with the U.S. Forest Service fall into group number two. They have been very accomodating in selling the level of service desired, but they have not met any of the other patrol performance objectives. It should not be inferred from this that the U.S. Forest Service is unhappy. On the contrary, since all the contracts have existed for more than one year, the U.S. Forest Service is satisfied enough to maintain the arrangement.

The Clinton sheriff does not have great motivation to contract. The sheriff has been willing to contract for less than 40 hours of weekly patrol. Because contracting is not that important to him at the present, the Clinton sheriff is not willing to bear any time expense to consider allowing community related errands, permanently stationing deputies or regularly reporting to local officials. The sheriff is willing to give the contracting communities some price concession by charging a price which is less than costs. But the difference between patrol costs and contract price is not as great as it is in other counties.

The Lenawee sheriff has just recently begun contracting and hopes to contract with additional communities in the future. In the past, the sheriff has not been very aggressive in approaching communities about contracting. When officials of Clinton Village, who contract with a private supplier, approached the sheriff about a contract, the sheriff made little effort to quote a price. The sheriff feels that an aggressive approach can lead to alienation of local officials and difficulty at election time. The sheriff has been willing to sell the level of service desired by local officials and to meet the contractual obligations by reallocating general patrols. The sheriff controls the patrol schedule and is not opposed to community related errands, although the general patrols serving the contracting communities do not perform any outside of enforcing local ordinances. The sheriff sends monthly reports to the Deerfield officials and copies of any local ordinance investigation and enforcement to Clayton officials. The sheriff gives a slight price concession to the contracting communities similar to what is given by the Clinton sheriff. In summary, while the Lenawee sheriff is similar to the Clinton sheriff in motivation to contract, the Lenawee sheriff tends to meet more patrol performance objectives than the Clinton sheriff. The sheriff does not seem affected by the presence of a private supplier of patrol services partially because the sheriff realizes that the private supplier is not interested in expanding his operation.

The Kalamazoo sheriff has just recently begun to have difficulties with the county board on the funding of road patrol service. In recent years, the sheriff has had many local communities approach him about

contracting but only one large and two very small contracts have resulted.²⁸ The sheriff has been willing to sell less than 40 weekly hours of patrol service. He permanently stations his deputies in the contracting communities, reports monthly to local officials, allows for community related errands and in general allows the local officials to have a large say as to the activities performed and even what equipment is purchased. No cost estimate was done, but the county is attempting to pass on all costs to the contracting communities. Thus, the sheriff, if he has tried, has not been successful in gaining any price concession for the contracting communities.

The Huron sheriff is not strongly motivated to increase his contracting operations and currently depends little on contracting for funding his road patrol service. The sheriff is willing to sell less than 40 hours of weekly patrol service, reports monthly to local contracting officials, sends liquor inspection revenue to contracting communities, allows community related errands to be performed, rotates his deputies in one contract operation and permanently stations his deputies in the other contract. The sheriff gave a slight price concession to one contract (10%) but priced the other contract slightly above costs.

The St. Clair sheriff has been able to secure one contract by getting local officials to agree to having their community served in conjunction with six townships and by getting the county commissioners

²⁸The specific reasons for no more than three contracts is not know.

to agree to increase the non-contract patrol to partially meet the needs of the northwest patrol. The sheriff desires to increase his contracting especially with communities currently receiving a high percentage of general patrol services. The sheriff reports monthly to local contracting officials, is unwilling to supply less than 40 hours of weekly patrol service, is agreeable to performing reasonable community related errands, rotates his deputies, and returns liquor inspection revenue to his contracting community. The sheriff has been able to gain a greater price concession (26%) than the other sheriffs in this group.

Table 4-6 can be used to compare the two groups of counties. With the exception of Wayne County, sheriffs in group one gave greater price concession to the contracting communities than sheriffs in group two. Sheriffs in group two were more willing to supply less than 40 hours of weekly patrol service than sheriffs in group one. The first group tended to permanently station deputies in contracting communities than the second group. Both groups tended to report monthly to local contracting officials, allow community related errands, and return liquor inspection revenue to local communities. It is the conclusion of this author that local officials in the first group of counties stand a better chance of buying the patrol services with the conduct-performance characteristics they desire than local officials in counties in the second group. The reason is that the sheriffs in the first group are more interested in selling patrol services because they want to expand patrol and meet resistance from their county commissioners. Consequently, they are more interested in meeting the specific needs of local officials than sheriffs in the second group.

Table 4-5. Comparison of annual contract price charged by Michigan sheriffs to the estimated total variable annual costs in 1974

Sheriff/Contract	(1) Annual Number of Patrol Hours Sold		(2) Total Annual Price Charged by Sheriff	(3) Estimate of Total Variable Annual Costs	(4) Difference Between Estimated Total Variable Costs and Annual Contract Price	(5) Percentage of Contract Price Funded by County General Fund
	Single	Double				
(Col. 3 - Col. 2)						(Col. 4 ÷ Col. 3)
<u>Oakland</u>						
Avon	11,680		\$ 39,350	\$148,989	\$ 59,639	40
Connerce	8,760		71,480	114,003	42,523	37
Highland	8,760		71,480	112,751	41,271	37
Oakland	2,080		17,670	26,848	8,978	33
Independence	8,760		71,480	112,751	41,271	37
Orion	8,760		71,480	112,524	41,044	36
Springfield	2,080		17,670	27,216	9,346	34
<u>Huron</u>						
Five Township Contract		1,212	14,000	15,574	1,574	10
Kinde		575	4,113	4,044	-69	-2
<u>St. Clair</u>						
Yale	1,707	2,129	18,000	64,472	16,472	26
<u>Wayne</u>						
Romulus	11,680	23,360	810,000	NA		
<u>Clinton</u>						
Fowler	1,200		7,020	8,364	1,344	16
Westphalia	1,200		7,020	8,364	1,344	16
Dallas	100		585	892	307	34
Lebanon	50		292	446	154	35
<u>Genesee</u>						
Genesee	5,840	7,920	214,509	242,260	37,751	16
Vienna	2,920	5,890	16,676	153,403	56,727	37
Fenton		2,920	33,377	60,683	27,309	45
<u>Washtenaw</u>						
Ypsilanti	5,736	11,680	214,000	322,123	118,123	37
Northfield	1,684	1,298	16,000	45,205	29,205	64
Dexter	7,648		71,000	18,716	17,716	20
Superior	2,080		15,000	24,148	9,148	38
<u>Kalamazoo</u>						
Comstock	6,240		45,286	NA		
Climax	432		3,600	NA		
Wakeshma	144		1,200	NA		
<u>Eaton</u>						
Delta	15,513	3,103	230,863	272,229	41,361	15
Eaton	6,205	3,103	84,079	94,619	10,540	11
<u>Lenawee</u>						
Deerfield	473		5,200	6,073	873	14
<u>Kent</u>						
All Contracts	29,200		233,271	238,700	35,418	15

CONCLUSION

The product (patrol services) sold varies from one sheriff to another as can be seen from Table IV-6. No matter what patrol performance is desired by local officials, they can point to one sheriff which provides it. This information should provide some market leverage to local officials negotiating a contract for patrol services with their sheriff.

One of the most important patrol performances of local officials is the price which the sheriff charges for his product. This price is affected by the patrol costs met by the sheriff and by the percentage of these costs which he is able to finance out of the county general fund. Does the sheriff have a cost advantage in the production of patrol services compared to smaller police departments? It was found, from looking at 13 local departments and three of the sheriff's contractual operations in Genesee County, that the sheriff's costs for single and double patrol hours were higher than the costs of the 13 local departments. But the price which the Genesee sheriff charged for patrol services was competitive to the costs met by the local departments. This meant that the county general fund was being used to pay for a portion of the contracted patrol services. All of the contracts, except for two (the Wayne contract with Romulus and the Huron contract with Kinde) of the eleven sheriffs studied had a price which was less than costs.

Sheriffs of the eleven counties studied were classified according to one of two groups. Group one contained all sheriffs who wanted to expand their patrol division and met funding resistance from their

county commissioners, and group two consisted of those sheriffs who received most, if not all, the patrol funding they desired. Sheriffs in group one were found to have a higher percentage of their single and double patrol hours funded through contracting than sheriffs in group two. I also conclude that the sheriffs in group one attempt to better meet the conduct-performance patrol objectives of local officials than sheriffs in group two.

CHAPTER V

A CASE STUDY OF ONE SHERIFF'S CONTRACTING OPERATIONS

INTRODUCTION

This chapter takes one of the eleven Michigan sheriffs studied and examines his contracting operations in depth dealing with several questions.¹ First, what is the area distribution of the sheriff's non-contract patrol and does it help or hinder the sheriff's efforts to contract? Second, how does the price concession given by the sheriff to the contracting communities relate to the level of non-contract patrol service going to the contracting community? How much time do the contracted patrols spend in the non-contracting portion of the county responding to calls for service? Fourth, does the type of patrol service, in terms of priorities assigned to different complaint categories (breaking and entering, larceny, etc.) differ if a local community contracts with the sheriff, has its own police department, or relies entirely on the sheriff's non-contract patrol?

¹This county was chosen for the case study because of the ready availability of response time data which is used to answer the questions of the chapter. In order to gain permission to use police unit response time information, it was agreed that the county and communities within the county will remain anonymous. The analysis and conclusions are not affected by the community names remaining unknown.

Two new performance measures will be used to probe these questions. One is response time which is the lapse of time between when a call is received by the dispatcher and a police unit arrives on the scene. The second is time spent on a complaint which is the lapse of time from when the police unit arrives on the scene until the unit is clear to respond to another complaint.

The next section contains a description of the case study county and the sheriff's contracting operations including the structural relationship that he has with his county board. This is followed by a discussion of the two new performance measures. Subsequent sections deal with the four questions of this chapter.

CASE STUDY COUNTY AND SHERIFF'S CONTRACTING OPERATIONS

The police production function is related to several characteristics of the area. To give some general bounds for these, but to avoid identifying the specific county, it can be noted that the geographic area is in the 600-700 square mile range and population in the 300,000-500,000 range. Within the county are approximately 30 local units of government, twenty-one of which have some form of local police force and an S.M.S.A. Running through the county are interstate highways with several state highways connecting many of the local communities.

This particular county sheriff desires to expand his patrol division but is meeting funding resistance from the county commissioners. In 1974, the sheriff had 58% of his single and 22% of his double patrol hours financed through contracting operations. The sheriff refuses to sell less than 40 hours of weekly patrol service, rotates his deputies, returns liquor inspection revenue to contracting communities, allows contracted

deputies to perform community errands, and monthly reports to local officials. In general, the sheriff attempts to provide the same type of police patrol service which local officials are accustomed to if they had their own police department.

The sheriff had three contracts in 1974. One was with a fairly urbanized township with a 1970 population range of 24,000-26,000. Prior to contracting, this community had its own department. The expiration of a federal grant resulted in the dismissal of several local police officers. Before the grant ended, the local police officers requested the sheriff contract with the community and the sheriff and local officials were agreeable to the idea. The sheriff provided this community with a 16% price concession.

The second contracting community is an urbanizing township with a 1970 population range of 8,000-10,000. It too had its own department prior to contracting. Conflict between the local police chief and local officials provided the main impetus for this community contracting with the sheriff. To this community the sheriff has given a 37% price concession. The sheriff operates substations out of both of these two communities.

The third contracting community has similar population to the second. It did not have its own department prior to contracting and receives a 45% price concession from the sheriff.

The case study county has a central dispatching operation. Citizens wanting a police patrol call the dispatching center which in turn dispatch

the unit.² This dispatching system produces on one card the following pieces of information: the nature of the complaint, the time when the call was received by the dispatching center, the time when a police unit was dispatched, the time the police unit arrived on the scene, the time when the unit was clear and ready for another complaint, the name of the community in which the complaint originated, and the name of the responding police unit.³ This information was available for 27 communities and 22 police departments.

²Several sheriffs do the dispatching for all police units; but they do not have a data system which has all the necessary information readily available. There is wide latitude in the type and quality of patrol data which is recorded by different police departments. To calculate response time for the vast majority of police operations requires the very time consuming process of going to the dispatcher's log for the time of complaint is received and then finding from the patrolman's log when he arrived on the scene. Some departments are more careful with this data than others. Some do not record when the complaint comes in but only the time when the complaint is dispatched. It would be possible to standardize the data generation by having all participating departments gather the same type of data for a period of time. Care would need to be exerted to identify and isolate any testing effect (e.g. patrolmen saying they were on the scene before actually arriving).

³The telephone operator takes a description of the complaint and then time stamps the complaint card indicating when the call was received and sends the card to the dispatcher. The dispatcher then broadcasts that there is a call at a certain address and waits for units in that part of the county to report with their location. The dispatcher then chooses the closest unit and dispatches that unit to the complaint. The dispatcher also informs the dispatched unit the nature of the call. This procedure was adopted to prevent rapid response to high publicity complaints (armed robbery, murder, etc.) and relatively slow response time to less glamorous complaints (e.g., breaking and entering report, noisy party, etc.). Dispatching the closest police unit was done not only to minimize response time but to prevent any individual dispatcher favoring one police department over another. Once a police unit has been dispatched, the complaint card is again time stamped two more times once for when the police unit arrives on the scene and the last for when the police unit is clear and ready for another assignment.

A twenty-one day sample of complaints was taken from the first six months in 1974 for all communities participating in the central dispatching operation. (An equal number of Mondays, Tuesdays... Sundays are contained in the sample.) An additional twenty-one days covering the same six month period (but including different days) was taken for the following communities: L-07, C-08, L-15, C-15, L-19, N-20, and C-27.⁴ The second sample was taken in an effort to increase the number of observations in some of the cells of a three dimensional matrix (community by police unit by type of complaint) which had 17,280 cells (27 X 22 X 30). For these seven communities listed, the number of days in the sample of complaints was 42 and not 21.

The communities chosen for the more intensive sample were matched according to population size, age composition, and racial makeup. Table 5-1 shows the demographic characteristics. Communities C-15, L-15, and L-19 comprise the first group; and C-27, C-08, N-20, and L-07 make up the second group of similar communities.

Table 5-1. Demographic characteristics of matched communities.

	C-15	L-15	L-19	C-27	C-08	N-20	L-07
Population (1970)*	25,600	25,600	29,300	9,400	8,900	8,000	8,300
% Under Age of 18	43.5	43.5	45.2	43.2	38.8	43.2	43.4
% Nonwhite	10%	10%	10.6%	.3%	.2%	.3%	1.1%

* Population is rounded to nearest hundred.

⁴The "C" before the community number indicates the community contracts with the sheriff; the "N" indicates no contract or local police department; and the "L" signifies that the community has its own local police department.

The same community is included as L-15 and C-15. For the first three months of 1974, this community had its own local police department; this accounts for the label L-15. For the next three months, the community contracted with the sheriff and purchased a similar number of weekly patrol hours to what was produced when the community had its own local department.⁵ Thus C-15 and L-15 are the same community at different points in time.

The response time data was transformed into logs from which means were calculated for different communities. The mean of the logs is a geometric mean and was used to give clearer representation of central tendency when the distribution has a few large observations and the distribution is truncated at zero. An example will illustrate the difference between the arithmetic and geometric means. Consider two communities with the same number of complaints. In Table 5-2 the response time for each complaint is given along with the log (to the base 10). Means using the raw data and the data transformed into logs are at the bottom of each column.

⁵Prior to contracting, community 15 had a Federal Traffic grant which funded an additional 120 weekly patrol hours. The conditions of the grant were to have the patrols spend the vast majority of their work on traffic related activities. According to the sheriff's department, the local police chief extensively used the traffic patrols to respond and hold the complaint until another local car could handle it. This was done in an effort to out perform the sheriff's general patrol.

Table 5-2. A hypothetical example comparing the means calculated using raw data to means using data transformed into logs.

	Community A		Community B	
	Response Time (Minutes)	Log of Response Time	Response Time (Minutes)	Log of Response Time
Complaint #1	8	.90	13	1.11
#2	9	.95	14	1.15
#3	10	1.00	15	1.17
#4	11	1.04	16	1.20
#5	12	1.08	17	1.23
#6	50	1.70	20	1.30
Mean	16.6	12.88	15.8	15.48

Notice that the response time of five of six complaints for Community A have a response time lower than any of Community B's mean. But one unusual complaint took 50 minutes, and this gives A a higher mean than B. When the data is transformed into logs, Community A has a mean less than B's. Is the arithmetic or the geometric mean more reflective of the actual data? In the case of Community A, more complaints are closer to a geometric mean of 13 minutes than to an arithmetic mean of 17 minutes. Community B's mean response time had little variation.

The following quote summarizes the difference between using the arithmetic versus the geometric mean.⁶

The value of the arithmetic mean is based on all the observations and this is affected by all the values of the variable. This may result at times in giving certain extreme values too much influence.

⁶Introduction to Business and Economic Statistics, John Stockton and Charles Clark, South-Western Publishing Company, Cincinnati, Ohio, 1971, pp. 157-158.

The geometric mean is based on all the observations, and thus is affected by all the values of the variable. However, it gives less weight to extremely large values than does the arithmetic mean.

For this data which has extreme values, the geometric mean provides more representative information.

One disadvantage of using complaint information from this central dispatching system was that citizen preference for one police unit versus another could not be determined. It was impossible to detect consistently whether a citizen called requesting a specific police department or merely requesting a police patrol regardless of police department.

PERFORMANCE MEASURES

Previous Attempts to Differentiate Police Patrols. The most common indicator used by citizens and elected officials to evaluate a police department is the local crime rate.⁷ But this indicator is very aggregative reflecting the movement of many variables, many of which cannot be affected by the police department.⁸ James Q. Wilson reviewed several studies which attempted to assess the impact of different levels

⁷The Uniform FBI Crime Index is usually used to indicate the local crime rate; and it comprises seven crimes said to represent a community's criminality. These seven crimes are criminal homicide, rape, robbery, aggravated assault, burglary, larceny and auto theft. These crimes are sometimes referred to as Part I crimes. Part II offenses include all other offences.

⁸The following works discuss the deficiencies of using the FBI Crime Index as a measure of the output of a police agency. See Albert D. Biderman, "Social Indicators and Goals" in Social Indicators ed. by Raymond A. Bauer (Cambridge, Mass: M.I.T. Press, 1966), pp. 117-118; James E. Price, "A Test of the Accuracy of Crime Statistics," Social Problems, 14 (Fall, 1966), pp. 214-221; President's Commission, The Challenge of Crime (Washington, D.C., 1965); and Marvin E. Wolfgang, "Uniform Crime Reports: A Critical Appraisal", University of Pennsylvania Law Review, 109 (April, 1963), pp. 708-738

and types of patrols (foot patrol, car patrol, etc.) on certain types of crimes. His conclusions follow:

First, a massive increase in police presence on foot in densely settled areas will probably lead to a reduction in those crimes, such as muggings and auto theft, that require perpetrators to use the city streets...No one can say...how long this reduction will persist...and how much crime is merely displaced to another location.

Second, substantial increases in random preventive patrol by police in marked cars do not appear to have any effect on crime rates nor do they tend to reassure the citizenry about their safety.

Third, the community-service model of neighborhood team policing appears, on the basis of preliminary results,...to be of some value in reducing burglaries even without massive increases in police manpower.

Wilson concludes his article by stating that "Our knowledge of how crime can be controlled is still surprisingly primitive".⁹

Several other attempts have been made to categorize police operations which do not use incidence of crime statistics. But most still deal with the two police functions--maintenance of order and enforcement of laws. Jerome Skolnick indicates:

If the police could maintain order without regard to legality, their short-run difficulties would be considerably diminished. However, they are inevitably concerned with interpreting legality because of their use of law as an instrument of order. The criminal law contains a set of rules for the maintenance of social order.¹⁰

⁹James Q. Wilson, "Do the Police Prevent Crime?", The New York Times Magazine, October 6, 1974.

¹⁰Jerome Skolnick, Justice Without Trial: Law Enforcement in Democratic Society, John Wiley & Sons, Inc., New York, 1966, pages 6-7.

The problem is further aggravated. Robert C. Trojanowics and Samuel L. Dixon indicate:

...most laws that municipal police are supposed to enforce have been enacted at state levels of government. The state laws often do not reflect variations that exist in the many local jurisdictions. The policeman can have difficulty applying the law to his particular community because of many factors including political pressure. 11

James Q. Wilson deals with the same continuum of order maintenance and law enforcement in his book Varieties of Police Behavior by describing three styles of police behavior. 12 Before presenting the three styles, Wilson spends considerable time discussing the great amount of patrolman discretion and the great difficulty in tight control of patrolmen actions through any sort of heirarchical command structure. The indicator used by Wilson to know when more or less of a certain style is achieved is the propensity of officers to arrest and ticket different groups in society.

Wilson's first style is called "watchman" which tends to emphasize order maintenance or keeping the peace. Deviation from the law is tolerated. Ticketing and arrests per capita tend to be low, but more blacks tend to be arrested than whites for similar offenses. This

¹¹Robert C. Trojanowics and Samuel L. Dixon, Criminal Justice and the Community, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1974, p. 125.

¹²James Q. Wilson, Varieties of Police Behavior, Harvard University Press, Cambridge, Massachusetts, 1968.

police style tends to be found in middle and lower class industrial areas. Officers are judged on how well they handled the situation rather than on the number of arrests made or tickets issued.

The "legalistic style" is Wilson's second style where there is greater propensity to ticket and arrest. The black arrest rate is similar to that for whites. Emphasis by patrolman is placed on how far people deviate from the law.

The "service type" is Wilson's third and is a mixture of legalistic and watchman styles. This type tends to be found in fairly homogenous communities. Equal attention is given to all requests for police service be they to enforce a law, restore peace, or perform a community errand.

Wilson uses the arrest and ticket tendencies to show how police services can differ. Elinor Ostrom et. al., use the following five areas to show differences between services received by portions of large metropolitan area and similar communities which have their own department: ¹³

- 1) How rapidly individuals thought police responded to calls in their neighborhood.
- 2) Whether they thought crime in their neighborhood was increasing.
- 3) Their evaluation of neighborhood police-citizen relationships.
- 4) Whether they thought police serving their neighborhood accepted bribes.
- 5) A general evaluation of the job police in their neighborhood were doing.

¹³Elinor Ostrom, et. al., Community Organization and the Provision of Police Services, Indiana University, Bloomington, Indiana, p. 42.

Wilson and Ostrom et. al. both focus on the patrolman with Wilson making and recording his perceptions of patrolmen's actions and Ostrom et. al. recording the perceptions of citizens. Since patrol hours is what purchased from the sheriff, patrol performance measures are needed for local officials.

Patrols perform a variety of activities. First they respond to calls for service, criminal as well as noncriminal. Second, they spend time on complaints. If the initial responding officer is in charge of the complaint from beginning to end, the officer might spend more time per complaint than in those departments where complaints are turned over to a detective bureau for closing. Third, patrols monitor traffic flow and enforce traffic laws. This consists of being visible on stretches of road where speeding is occurring, writing tickets, and giving verbal and written warnings. Fourth, patrols cruise different areas being visible checking doors and potentially suspicious situations. Fifth, patrols are at the disposal of police administrators and/or local officials to perform police support or community errands (distribute minutes of last board meeting to council members).¹⁴

¹⁴Local officials, contemplating contracting or starting their own department would find it informative to know what activities will be performed by their patrols. Local officials also like to know whether the type or the amount of activities performed would differ if they contracted or had their own department. To know more fully what is received from patrols, contracted or locally produced, a time analysis of different police operations could be done. Such a study could show the time distribution over traffic, preventative patrol, police support work, community errands, responding to complaints, and spending time on complaints. Due to resource limitations, such a study was not done.

Response Time and Time Spent on Complaints. Two of the patrol activities, responding to complaints and spending time on complaints, can be quantified. The two indicators which will be used are initial response time and initial amount of time spent on complaints.

Initial response time is defined to be the lapse in time between when a call is received by a police telephone operator and when an officer arrives at the site of the complaint. This indicator of performance has two characteristics worth noting. First, it is a performance measure of intermediate outputs which enter additional production functions. Within some limit of consistently low response time, there is greater probability of suspect apprehension, greater deterrence to certain crimes, and the lessening of some financial losses due to crime. A second characteristic is that initial response time can be linked conceptually to consumer welfare. A citizen perceives a greater loss of utility if he must wait 10 minutes for a policeman than if he must wait five minutes, all else remaining equal.¹⁵ The level of well being of citizens is a partial function of how long they must wait for a policeman.

Response time has two components which need to be recognized. The first is dispatching time (T_d) which is the time interval between when the call is received by the dispatching center and when a car is dispatched. The higher the complaint load and the fewer patrol units working, the greater the probability that patrol units will not be

¹⁵Utility received from response time is learned and might change if response time were regularly reported.

available when a complaint is made.¹⁶ The second component is traveling time (T_t) which is the amount of time between when the call is dispatched and when the car arrives on the scene. Affecting this time increment is the proximity of the car to the complaint and whether or not flasher lights and siren are used in proceeding to the complaint. A large patrolling district, heavy traffic, and not using lights and siren are variables which will make T_t large. Initial response (T_i) is the sum of the dispatching time and traveling time.

Time spent on complaints is a performance measure for much of the same reasoning used to explain response time. Time spent is an intermediate patrol output which enters other production functions. For certain complaints, the more time initially spent gathering information the greater the chances of apprehension or recovery of stolen property.¹⁷ Time spent can also be linked to consumer welfare. All else being equal a citizen is better off the more time and attention he receives.

The amount of time spent on each complaint is dependent upon the type of complaints, priority of other patrol activities, and the type of follow-up capabilities a department has. Certain complaint types tend to require more time, initially, than do others (e.g. murders and armed robberies versus noisy party or unfounded complaints). Deciding which

¹⁶Some police chiefs consider the only relevant response time to be the traveling time, but if this time is used, the critical component, dispatching time, which is sensitive to the number of patrols and the length of time spent on each complaint is missed.

¹⁷People's recall will be more accurate the shorter the time period between incident and interview.

complaints receive attention reflects in part the values of the community and in part standard police practices developed and disseminated in schools of criminal justice and police academies. The priority of other patrol activities can affect time spent in that a responding officer may be reluctant to spend too much time on any given complaint in light of other complaints which are waiting to be answered or traffic which needs monitoring. Finally, the initial investigating officer has complete responsibility for the closing of most complaints, more time may be spent initially on a complaint than in departments where most complaints are turned over to a detective bureau or a juvenile bureau for closing.

Type and Level of Patrol Service. Using the performance indicators of response time and time spent on complaints, I find it useful to differentiate between level and type of patrol service. Level of patrol services is reflected in the mean response time and the mean amount of time spent on complaints over all complaints answered. Within some range, the number of patrol hours purchased or produced by a local community will lower mean response time and/or increase mean amount of time spent on complaints.

The type of patrol service refers to the relative priority given to different complaint categories (e.g. breaking and entering, property destruction, auto accident, personal injury auto accident, etc.). The complaint priority held by the sheriff may not be the same as that held by local officials. If the most serious complaint experienced by a contracting community is B&E, it may not receive as much attention (low

response time and high amount of time spent on it) because the contracted sheriff's deputies may not feel it is that important relative to the "more serious" complaints (e.g. armed robberies, murders, etc).

Knowing complaint priority for the sheriff is difficult. The sheriff is not likely to have in written form his complaint priority. Because the individual patrol officer has much discretion, the sheriff may not honestly know the complaint priority for his department. Even more difficult to know is the process by which the complaint priority is established, which is important to know because if no process exists, then any observed complaint priority could merely be a random happening.

It is not known how much demand there is for such information by local officials. One example is worth noting. City officials of Romulus who contract with the Wayne County sheriff notified the sheriff that breaking and entering complaints were not receiving a low enough response time. A directive was sent from the sheriff to the contracted patrols operating in Romulus and to the dispatcher of those patrols that B&E complaints were to receive a higher priority.¹⁸ Other than this example, little discussion was heard from local officials about complaint priority. One reason for this is that such information is not readily available, and any directives tend to be informal.

¹⁸As explained by Frans Heideman, the sheriff's administrator, Romulus is a fairly heterogeneous community but the city fathers tend to be from suburbia where the most serious complaint is B&E and they wanted a lower response time to B&E even if it meant higher response time to a more serious complaint in the ghetto portion of Romulus.

AREA DISTRIBUTION OF SHERIFF'S NON-CONTRACT PATROL

In 1974, it is estimated that the sheriff produced 6,240 single and 59,904 double patrol hours. How does the sheriff allocate these general patrol hours to the communities in his county and how might this affect his contracting operations?

In Chapter II, three allocative decision rules were suggested. First, the sheriff could equalize inputs assigning an equal number of patrol hours to each community. The second rule is to equalize outputs with patrols being allocated such that each community has the same mean response time. The third is for the sheriff to allocate his patrols such that the county-wide mean response time is minimized.

From a description of the geographic assignment of the sheriff's general patrols, it is evident that the sheriff does not equalize inputs. Some general patrols have a patrol area of 4-1/2 townships while others confine themselves to a single township. When extra patrols are operated, they tend to be assigned to the patrolling districts which are on the fringe of the metropolitan area located in the center of the county.

Table 5-3 shows the sheriff's response time to different communities in the county. From this table it is clear that the sheriff does not attempt to equalize output for all communities in terms of equal response time, equal amounts of time spent on complaints, or equal percent of complaints answered.

The third allocative decision rule is to minimize the county-wide mean response time. What will be observed if the sheriff attempts to achieve this goal? First, the county-wide mean response time is the average response time of the local communities weighted by the number

Table 5-3. Sheriff's non-contract patrol services to communities of varying population sizes.

Community	Approximate 1970 Population	% of complaint answered by the sheriff	Mean response time (rounded to nearest minute)*	Mean time spent on complaints (rounded to nearest minute)*
L-01	2,900	35	25	10
L-02	3,100	50	23	20
L-03	32,500	35	9	10
L-04	2,400	9	6	13
N-05	5,300	51	23	15
L-06	5,300	5	63	15
L-07	8,300	10	15	14
C-08	8,900	49	20	14
L-09	29,900	40	11	14
L-10	7,200	18	11	18
N-11	7,000	58	17	15
N-12	3,300	60	16	31
L-13	5,100	16	10	13
L-14	19,200	15	9	11
C-15	25,600	31	10	10
L-15	25,600	37	8	10
N-16	3,400	47	23	17
L-17	700	50	11	5
L-18	1,100	16	22	5
L-19	29,400	52	9	10
N-20	8,000	79	14	13
L-21	1,500	35	11	12
N-22	6,500	79	20	14
L-23	700	33	25	24
L-24	5,500	50	15	15
L-25	4,900	18	7	10
N-26	6,000	71	21	13
C-27	9,400	18	11	11

* Mean times are geometric means.

of complaints. It can be expressed in the following equation:

$$T_c = \sum_{i=1}^n \frac{a_i T_i}{a_i}$$

Where:

T_c = county-wide mean response time

T_i = mean response time by sheriff's patrol
in community i

a_i = number of complaints answered by the
sheriff in community i

If the sheriff desires to minimize the overall county-wide response time, then he will tend to allocate his patrols in order to minimize the response time in high complaint communities. The following model and numerical example will help illustrate this.

Assume that there is a county with three communities and that driving conditions are identical on each of the three communities. Assume that no two complaints come in at the same time (i.e. response time is the same as driving time). The sheriff has only one patrol to allocate and he knows the production relation between cruising practices and a minute of response time.

First, consider that the three communities have the same number of complaints, ten; and that the sheriff has so instructed his patrol to cruise in such a manner that each community receives the same level of response time, ten minutes. This produces a county-wide mean response time of 10 minutes.

$$T_c = \frac{10 \text{ min.} \times 10 \text{ comp.} + 10 \text{ comp.} + 10 \text{ min.} \times 10}{30 \text{ complaints}} = 10 \text{ min.}$$

Suppose that the sheriff wants to give one community a one minute lower response time and assume this means a minute increase in another community. The county-wide mean remains unchanged.

$$T_c = \frac{11 \text{ min.} \times 10 \text{ comp.} + 10 \text{ min.} \times 10 \text{ comp.} + 9 \text{ min.} \times 10 \text{ comp.}}{30 \text{ complaints}} = 10 \text{ min.}$$

Consider the same county and sheriff but now assume the complaint load is unequal and that the sheriff has instructed his patrol to give each community the same mean response time. The county-wide mean remains 10 minutes.

$$T_c = \frac{10 \text{ min.} \times 15 \text{ comp.} + 10 \text{ min.} \times 10 \text{ comp.} + 10 \text{ min.} \times 5 \text{ comp.}}{30 \text{ complaints}} = 10 \text{ min.}$$

If the sheriff chooses to give the community with 15 complaints a one minute lower response time at the expense of a one minute higher response time in the 10 complaint community, the county-wide mean will now fall.

$$T_c = \frac{9 \text{ min.} \times 15 \text{ comp.} + 11 \text{ min.} \times 10 \text{ comp.} + 10 \text{ min.} \times 5 \text{ comp.}}{30 \text{ complaints}} = 9.8 \text{ min.}$$

The county-wide mean would fall even further 9.6 minutes, if the increase of one minute would occur in the community with only five complaints. This example shows how the county-wide mean will tend to fall if patrols are allocated away from low complaint areas to high complaint areas.

The Spearman rank correlation was used to test the relationship between community complaint load and the sheriff's response time.

Results are shown in Table 5-4.

Table 5-4. Correlation between the variables population size, level of complaints, response time and time spent on complaints.

Relationship examined	Correlation coefficient	Level at which correlation coefficient is statistically different from zero
Population size and level of complaints	+ .9	.001
Level of complaints and sheriff's response time	-.39	.05
Population size and sheriff's response time	-.36	.10
Time spent on complaints and level of complaints	-.20	.40

As hypothesized, there is a negative association between response time and level of complaints and population size.¹⁹ Also, a strong positive relationship exists between sheriff's complaint load and population size.

¹⁹ There is a reason why county-wide mean response time could increase with the sheriff's patrols operating in high complaint areas. Consider a high complaint township which has its own police department. During certain times of the day, a complaint can reach the dispatcher when all patrols (sheriff's non-contract and local patrols) in the area are occupied on other complaints. If the sheriff's patrol becomes available first it will receive the complaint. But, attached to the complaint is a waiting time. Consequently, even if the sheriff's non-contract patrol were very close to the complaint, a large response time could result due to the timing of the complaints. Although, there is no reason to expect that this would tend to happen more for the sheriff's non contract patrols compared to local police patrols.

The articulated goal of this particular sheriff is to respond to as many complaints as possible. But this goal is consistent with minimizing county-wide response time. The reason for this is that the central dispatching operation assigns complaints to the closest available patrol unit. In order to maximize the number of complaints serviced, the sheriff's patrol units need to be patrolling those areas where there is a high probability of a complaint occurring, and this tends to be the highly populated areas.

How might the sheriff's practice of allocating patrols away from low complaint areas to high complaint areas (either because he is attempting to minimize county-wide response time or maximize the number of complaints answered) contribute to his success at contracting. With the sheriff's policy to allocating patrols away from growing but still relatively low populated communities, local officials of such communities may not have their concept of present or future patrol needs (i.e. low response time) met by the sheriff's general patrol. If the local officials are unable to obtain higher levels of general patrol, then they face the decision of purchasing a higher level of service; and this offers a contracting opportunity to the sheriff.

In the highly urbanized communities, which likely have their own police department, the concentration of sheriff's non-contract patrols can accustom local citizens to seeing and dealing with sheriff's deputies and demonstrate to local officials the sheriff's willingness to provide high quality service. Both of these events tend to lessen resistance from local officials disbanding their local department and contracting with the sheriff. But resistance could also be offered especially

if the local police chief feels threatened by the concentration of sheriff's non-contract patrols and pushes local police officers to give prompt courteous service in order to out perform the sheriff.

Non-contract patrols tend to be allocated according to community size. But within similar size communities, does the institutional arrangement (administrative, bargained, or grant) used by local officials to secure higher levels of patrol service have any impact on the level of general patrol service? Table 5-5, pulls ten communities from Table 5-3 and groups the communities into two groups. The first group (L-03, L-09, L-14, C-15, L-15, and L-19) are the more urbanized communities with a 1970 population range of 19,200 to 32,500. The second group (L-07, C-08, N-20, and C-27) is the less urbanized group with a population range of 8,000 to 9,400.

For the urbanized group, the sheriff's response time in C-15 will be compared to L-03, L-09, L-14, L-15, and L-19. The differences in sheriff's response time is not statistically different from zero between L-03 and C-15, L-19 and C-15, and L-14 and C-15. While a significance test (at the .05 significance level) was not run for the comparison of L-09 to C-15, it appears the difference is greater than zero with a lower level of service going to L-09. The difference between

Table 5-5. Comparison between sheriff's non-contract patrols and local patrols.

Community	1970 Population	Percent of complaints answered by		Minutes of mean respond time		Minutes of time spent on complaints	
		Local or contracted patrols	Sheriff's non-contract patrol	Local or contracted patrols	Sheriff's non-contract patrol	Local or contracted patrols	Sheriff's non-contract patrol
		<u>Percent</u>					
L-03	32,500	61	35	8.2	9.1	11.3	9.5
L-09	29,900	40	40	11.7	11.4	14.0	13.8
L-14	19,200	78	15	6.2	8.8	9.6	10.9
C-15	25,600	63	31	10.8	9.5	9.1	9.5
L-15	25,600	59	37	8.7	8.16	10.6	8.2
L-19	29,300	38	52	8.4	9.1	10.3	10.3
L-07	8,300	83	10	11.6	14.7	12.2	13.6
C-08	8,900	54	49	15.3	19.6	14.3	14.1
N-20	8,000	N.A.	79	N.A.	13.9	N.A.	13.0
C-27	9,400	67	18	8.3	11.1	10.0	11.1

the sheriff's response time in C-15 compared to L-15 is statistically different from zero.²⁰

For the less urban group, C-08 receives statistically significantly higher response time from the sheriff than N-20, L-07, and C-27. C-27 receives about the same response time as N-20 and a lower response time than L-07. The conclusion which is drawn from all of this is that the sheriff tends not to discriminate against communities in the allocation of non-contract patrols on the basis of whether they contract (bargain) with him, have their own department (administrative), or take what they can get neither contracting nor having their own department (grant) like N-20. When both groups of communities are examined using the performance indicator time spent on complaints, the same conclusion is reached.

²⁰There is a statistically significant difference between C-15 and L-15 with C-15 having a higher response time than L-15. This suggests that the sheriff gives high service to out perform a local department, and once a contract is signed places non-contract patrols in a different portion of the county. This difference deserves special attention. It should not be inferred that higher response time from the general patrols is due to contracting. One explanation for the higher response time is that it was due to the warmer weather of spring and early summer. During the first three months of the sample (January through March) community 15 had its own police department; and for the last three months of the sample (April through June) community 15 contracted with the sheriff. During the warmer months, complaint load increases significantly meaning a longer waiting time for the complaints to be dispatched. When the response time from all complaints over all communities and police units are aggregated for the first three months and compared to the aggregation for the second three months, the second three months mean is one minute greater than the mean for the first three months. This difference is statistically significant. If the response time is adjusted for season, the response time difference between C-15 and L-15 is not statistically different from zero.

ALLOCATION OF NON-CONTRACT PATROLS AND PRICE CONCESSION

How the sheriff geographically allocates his patrols has implications concerning the price concession given to the contracting communities. Many sheriffs justify the contract price being less than costs by stating that the sheriff owes something to these communities since they pay county taxes. This justification is accurate if the sheriff takes some level of service away from the contracting community which it formerly received before contracting (e.g. reallocating non-contract patrols away from contracting communities to a low service area). Community 15 receives a 16 percent price concession on its contract while community 08 and 27 receive a 37 and 45 percent price concession respectively. The level of service going to these contracting communities is very close to the service going to similar sized communities which do not contract. The level of service received by community 15 from the sheriff's non-contract patrol was about the same as before as after contracting. While it is true that the sheriff could be withholding some other service from the contracting communities, it is highly unlikely. The price concessions appear to be given to contracting communities in return for their contracting with the sheriff and not as compensation for any loss of the sheriff's services given to county taxpayers.

PERCENTAGE OF CALLS ANSWERED OUTSIDE CONTRACTING COMMUNITY

One concern of contracting which local officials have is that the contracted patrols will spend too much time outside the contracting community. In most contracts the sheriff specifies that the contracted patrol will be dispatched outside the contracting community in cases

of emergency; and emergency is never defined.²¹ From Table (V-5), there is no clear pattern that contracted patrols spend more time outside the contracting community than local police departments. The highest percentage of calls answered outside the patrolling district is for C-08 which is located in a more sparsely populated portion of the county. Since the sheriff allocated more patrols to the more densely populated areas, it is not surprising to have the only available patrols in this portion of the county be the contracted ones which results in 23 percent of contracted patrol calls occurring outside C-08. There is little difference between C-27, L-07, and L-10. Patrols from L-07 leave their local community less than C-27 patrols leave their community, but L-10 patrols leave their community more than C-27 patrols leave their community. After community 15 began contracting, the contracted patrols left community 15 slightly less than the local patrols had done. For the larger communities, C-15 answered a higher percentage of calls outside community 15 than did local department 19, 9, and 3. Finally for all communities except C-27, the percentage of calls answered outside the local community is greater than the percentage of calls answered within the local community by other local departments.²²

²¹ Many local officials of contracting communities have radio police scanners which allow them to monitor where their patrols are.

²² The motivation to answer calls outside the local patrol district is probably not to encourage other local departments to respond to calls inside the local patrolling district. The percentage of calls answered outside local communities being greater than percentage of calls answered inside the local community by other local departments might better be explained by local patrols looking for something to do and going where the action is.

TYPE OF PATROL SERVICES

How might the type of patrol service differ if local officials should contract with the sheriff compared to having their own police department? One approach to this question is to compare the amount of time the patrols spend on complaint answering activity. The problem is that it is difficult to compare police operations as to the priority given to complaint answering activity relative to traffic, community errands, police support activities, etc., just by looking at mean response time and mean time spent on complaints. The reason is that mean response time can be low either because of a large number of patrol hours, a high priority given to complaint answering activity, or low level of complaints. For example, compare C-27 with a 1970 population of 9,400 to L-19 with a 1970 population of 29,400. Both communities receive 24 hours of daily patrol service and they both have identical mean response times and times spent on complaints. One might conclude that they give identical priority to complaint answering activity but L-19 answers almost 2.5 times as many complaints per day as does C-27. If the number of complaints in C-27 should increase, would response time rise or would the other activities performed by the contracted patrols decline to keep response time about where it is? The only way to know more about this would be to do a time analysis of different local departments and compare them to contracted patrols.

Another way to differentiate the sheriff's contracted patrols from local patrols is the weight assigned to different complaint types. Response time and time spent on complaints will differ for different complaints depending upon the importance assigned to particular complaint

types. Thirty complaint categories were used to classify all complaints. Nine complaint categories were chosen because of high frequency of occurrence. These complaint types are described in Table 5-6. All thirty complaint categories are described in the Appendix. Response time and time spent were recorded for each complaint type by different police units operating in different communities (see Tables 5-7 and 5-8).

Two questions are of concern. First, do complaint priorities differ from one police operation to another? Second, is there any pattern of priorities which emerge depending upon whether a community receives patrol service from the sheriff's non-contract patrol (grant), having its own department (administrative), or contracting (bargain)?

Tables 5-9 and 5-10 have the complaint categories ranked according to response time and time spent. Those complaints ranked first have the highest priority (i.e. the lowest relative response time and greatest amount of time spent on complaints). It can be seen from these latter two tables that priority of complaint types is not the same for the contracted patrols, local patrols, and the sheriff's non-contract patrols. Many police professionals when asked about the complaint priority contend that all complaints of the nonserious nature (i.e. complaints where there is no personal injury, threat of violence or chance of suspect apprehension) are all treated equally. Two complaint categories, B&E report and larceny report are two nonserious complaint types that have different priorities.²³ Using response

²³These complaint types are considered nonserious by many police professionals because these complaints are made after the crime had been committed and all that can be done by the responding officer is to take a report.

Table 5-6. Complaint classification.

Complaint Code	Complaint Type	Complaint Description
02	Property destruction accident	This complaint type is an auto accident with no personal injury. This group also contains hit and run property destruction accidents.
05	Breaking and Entering Report	A breaking and entering (B&E) is where there has been forcible entry into a residence or place of business. This complaint type is after the fact; and usually all that can be done is for the responding officer to take a report.
07	Larceny Report	A larceny is anything stolen which did not require a breaking and entering to get it. These are complaints after the fact. Any larcenies in progress were classified with breaking and entering in progress.
19	Trouble with ...	This is a very heterogenous group containing calls where two or more citizens are in conflict but the conflict is not likely to lead to violence. A caller might be bothered by a neighbor's barking dog or kids making noise or playing in the street.
21	Vandalism	This group might also include attempted breaking and entering or attempted larceny.
22	Alarms	This is responding to any alarm, bank, business, resident or car. Many of these alarms are false.
23	Fire	When people need an ambulance or there is a fire, they often times call the dispatching center and often times a police car is dispatched to the scene.
24	Public Assistance	This is a very heterogenous group containing such items as vehicle inspection, discussing a civil matter with a citizen or someone found some property and doesn't know what to do with it.
25	Traffic complaint	This is any complaint related to traffic such as loud cycles, parking, road hazard, squealing tires, etc.

Table 5-7. Mean response time by complaint categories, type of police unit, and community .

Community		#15		#15		#08		#27		#07		#19		#20	
Police Unit		C-15	Sheriff*	L-15	Sheriff*	C-08	Sheriff*	C-27	Sheriff*	L-07	Sheriff*	L-19	Sheriff*		Sheriff*
Complaint Type															
Overall Mean Response Time		10.8	9.5	8.7	8.2	15.3	19.6	8.3	11.1	11.6	14.7	8.4	9.1		13.7
Property Damage Accident		02 12.6	22.0	8.8	6.8	11.3	27.4	7.3	2.0	10.7		7.6	9.7		11.0
Breaking and Entering Report		05 22.1	14.5	8.0	12.1	17.8	35.6	11.8	40.0	11.1		11.3	16.3		24.2
Larceny Report		07 21.0	12.0	11.8	10.8	15.6	23.1	8.1	13.3	16.5	9.0	9.3	10.9		21.5
Trouble with Someone		19 10.4	9.9	9.1	10.6	17.7	9.1	9.6	8.6	18.0	11.5	10.1	10.2		16.3
Vandalism		21 17.5	20.0	8.9	10.8	12.0	34.5	12.4	15.8	17.2	13.3	12.2	12.4		14.0
Alarms		22 6.1	2.4	3.1	2.8		8.0	3.5	9.4	3.8		4.3	4.2		5.1
Fire or Medical		23 5.9	7.7	4.9	5.6	6.0	29.6	3.6	4.7	6.4	22.0	5.1	4.7		6.8
Public Assistance		24 9.2	13.1	12.8	9.3	21.6	41.4	11.3	17.0	9.8	15.0	10.5	8.8		20.7
Traffic Complaint		25 15.7	14.7	13.6	10.9	17.8	25.3	12.5	11.6	19.8	26.2	8.5	8.5		17.4

*Mean response time in this column is received from the sheriff's non-contract patrol.

Table 5-8. Mean time spent by complaint category, type of police unit, and community

Community		#15		#15		#08		#27		#07		#19		#20
Police Unit		C-15	Sheriff*	L-15	Sheriff*	C-08	Sheriff*	C-27	Sheriff*	L-07	Sheriff*	L-19	Sheriff*	Sheriff*
Complaint Type														
Overall Mean Time Spent on Complaint		9.1	9.6	10.6	9.8	14.3	14.1	10.0	11.1	12.2	13.7	10.3	10.3	13.0
Property Damage Accident	02	16.6	12.1	23.0	20.0	18.0	17.5	18.8	4.4	16.6		21.6	14.5	23.5
Breaking and Entering Report	05	18.6	12.2	19.5	14.1	17.9	20.1	14.5	19.0	32.1		12.0	15.2	22.0
Larceny Report	07	9.0	10.0	8.9	9.2	13.1	13.7	11.2	17.1	19.1	11.0	12.1	12.4	10.7
Trouble with Someone	19	8.7	6.9	8.5	8.6	16.1	19.5	9.5	9.0	14.6	8.4	7.1	5.6	4.7
Vandalism	21	11.6	9.5	12.9	8.5	6.0	10.3	10.0	14.6	8.5	14.8	9.6	7.9	13.3
Alarms	22	5.8	5.7	7.3	6.1		1.0	6.3	7.0	4.0		7.9	7.6	15.5
Fire or Medical	23	10.1	5.4	10.8	8.2	10.8	2.9	10.2		13.8	9.0	6.7	11.6	17.8
Public Assistance	24	4.2	8.2	8.2	9.8	9.6	4.2	6.2	13.7	10.1	34.0	7.2	10.2	12.5
Traffic Complaint	25	7.8	8.3	3.7	8.3	5.1	7.1	10.4	4.3	8.1	15.3	6.8	7.1	18.5

*Mean response time in this column is received from the sheriff's non-contract patrol.

Table 5-9. Complaint categories ranked according to mean response time for selected communities and responding police unit.

Community #15	Community #15	Community #08	Community #27	Community #07	Community #19	Community #20						
C-15	Sheriff*	L-15	Sheriff*	C-08	Sheriff*	C-27	Sheriff*	L-07	Sheriff*	L-19	Sheriff*	Sheriff*
23	22	22	22	23	22	23	02	22	07	22	22	22
22	23	23	23	02	19	22	23	23	19	23	23	23
24	19	05	02	21	07	02	19	24	21	02	25	02
19	07	02	24	07	25	07	22	02	24	25	24	21
02	24	21	19	19	02	19	25	05	23	07	02	19
25	05	19	07	25	23	24	07	07	25	19	19	25
21	25	07	21	05	21	05	21	21	(05)	24	07	24
07	21	24	25	24	05	21	24	19	(02)	05	21	07
05	02	25	05	(22)	24	25	(05)	25	(22)	21	05	05

*Ranking of complaint categories for sheriff's non-contract patrols in the different communities.

() Indicates that this complaint category did not occur for this community.

Table 5-10. Complaint categories ranked according to mean time spent on complaint for selected communities and responding police unit.

Community #15		Community #15		Community #08		Community #27		Community #19			Community N-20
C-15	Sheriff*	L-15	Sheriff*	C-08	Sheriff*	C-27	Sheriff*	L-07	L-19	Sheriff*	Sheriff*
05	05	02	02	23	05	02	05	02	02	05	02
02	02	05	05	02	19	05	07	05	07	02	05
21	07	21	24	05	02	07	21	07	05	07	25
23	21	23	07	19	07	25	24	19	21	23	23
overall	overall	overall	overall	overall	overall	overall	overall	overall	overall	overall	overall
07	25	07	19	07	21	23	19	23	22	24	22
19	24	19	21	24	25	21	22	24	24	21	21
25	19	24	25	21	24	19	02	21	19	22	24
22	22	22	23	25	23	22	25	25	25	25	07
24	23	25	22		22	24		22	23	19	19
				(22)			(23)				

*Ranking of complaint categories for sheriff's non-contract patrols in different communities.

() Indicates that this complaint category did not occur for this community.

time, B&E has a rank of three in some patrol operations and eight in others. While a different complaint priority can be observed, the critical question is whether or not the complaint priorities are random happenings (changing from day to day) or the result of some formal or informal police operating policy. This is a question for further research and will not be analyzed in any great depth.

What complaint priority differences exist overall police departments operating in the county and between the sheriff's non-contract patrols, contract patrols, and local patrols? Tables 5-11 and 5-12 show the ranking ranges and the mean ranks over all patrols as well as the mean rank for the contracted patrols, local patrols and sheriff's non-contract patrols.

From these tables it can be seen that complaint priorities for any particular type of patrol (i.e. sheriff's non-contract, contract, or local) are not consistent for response time and time spent. Mean rank overall patrol types of response time for fire (23) and alarms (22) are 1.6 and 2.1 respectively meaning a very high priority; but according to the time spent on complaints the same complaint types are ranked 8 and 5.8 respectively. For alarms this difference can be explained by the fact that a high percentage of the alarms are false. Patrols respond quickly thinking there is a crime in progress to find that a home owner or an employee has accidentally set off the alarm. Thus, little time is spent on the complaint once the patrol arrives.²⁴ Just the opposite occurs for property destruction accidents (02) and

²⁴It is not known if a similar explanation fits for fires.

Table 5-11. Comparison of response time ranks for different complaint types for the sheriff's non-contract patrol, contracted patrols and local patrols

Complaint types	Ranking range*	Mean rank for nine sheriff's non-contract patrols	Mean rank for contracted patrols	Mean rank for six local patrols
02	1-9	4	3.3	3.0
05	3-9	7.9	7.7	6.1
07	3-8	5.7	4.6	5.6
19	2-8	4.6	4.6	5.8
21	3-8	6.8	6.0	7.7
22	1-9	1.3	2	1
23	1-6	2.9	1	2
27	3-9	6.5	5.7	6.2
25	3-9	5.3	7.0	7.3

*This concept indicates the extreme rank of the given complaint type (i.e., complaint type 02 ranked first in at least one patrol and ninth for at least one other patrol. The average rank for all sheriff patrols was 4.)

Table 5-12. Comparison of time spent ranks for different complaint types for contracted, local and the sheriff's non-contract patrol

Complaint types	Ranking range for all patrols	Complaint types mean rank for nine sheriff's non-contract patrols	Mean rank for three contracting patrols	Mean rank for six local patrols
02	1-7	2.7	1.7	1
05	1-5	1.8	2	2.2
07	2-8	3.6	4.3	3.5
19	2-9	6.6	5.6	5.8
21	3-9	5.1	5.3	4.5
22	5-9	7.9	8.3	7.8
23	1-9	6.0	3.3	6.2
24	3-9	5.4	8	6.6
25	3-9	6.4	6.3	7.6

breaking and entering (05). Using response time again as the performance indicator, B&E has a relatively low priority but according to time spent a relatively high priority. The explanation of this is that patrols respond knowing that there is no probability of suspect apprehension. Once on the scene, B&E's take relatively more time than the other complaint types examined because a report is usually taken. On property destruction auto accident, there is no personal injury and thus no urgency to have a rapid response time. But once on the scene, reports are taken and interaction with the citizen occurs.

What difference seems to exist in complaint priorities for the contracted patrols, sheriff's non-contract patrols, and local patrols? Before dealing with this question, we need to ask whether or not the sheriff's non-contract patrols are homogenous enough to aggregate them together. The same question can be raised for the local patrols and the contracted patrols. Tables 5-13 and 5-14 show the ranking ranges for the three types of patrols. Notice for the sheriff's non-contract patrols the large ranking range (five or more ranks) for six complaint types (02, 07, 19, 21, 24, and 25). There is considerable diversity as to the priority given to the same complaint in the nine different communities observed. The ranking range is not as great for the contracted or local patrols with two complaint types for each group having a ranking range of five or greater. ²⁵

²⁵The ranking ranges for the contracted and for the local patrols could be tighter than the sheriff's general patrols because a fewer number of patrols of the former were chosen. Nine sheriff's non-contract patrols were being compared while six local and three contracted were used.

Table 5-13. Response time ranking range of nine complaint categories for three contracted patrols, five local patrols and nine sheriff's non-contract patrols.

Complaint type	Ranking range for nine sheriff's general patrols	Ranking range for three contracted patrols	Ranking range for six local patrols	Ranking range over all seventeen patrol operations
02	1-9	2-5	1-4	1-9
05	6-9	8-9	3-8	3-9
07	3-8	4-8	4.5-7	3-8
19	2-7	4-5	4-8	2-8
21	2-9	3-8	5-9	3-9
22	1-4	1-9	1-1	1-9
23	2-6	1-1	2-2	1-6
24	4-9	3-8	3-8	3-9
25	3-9	6-9	4-9	3-9

Table 5-14. Time spent ranking range of nine complaint categories for three contracted patrols, five local patrols and nine sheriff's non-contract patrols.

Complaint type	Ranking range for nine sheriff's non-contract patrols	Ranking range for three contracted patrols	Ranking range for six local patrols	Ranking range over all seventeen patrol operations
02	1-7	1-2	1-1	1-7
05	1-5	1-3	2-3	1-5
07	3-8	3-5	2-5	2-8
19	2-9	4-7	4-7	2-9
21	3-7	3-7	3-9	3-9
22	6-9	8-9	5-9	3-9
23	1-9	1-5	4-9	1-9
24	3-9	6-9	4-9	3-9
25	3-9	4-8	5-9	3-9

No patterns seem to emerge when comparing the mean ranks for the three groups of patrol operations. For some complaint categories, using response time, the sheriff's general patrols have a similar mean rank to the contracted patrols as in the case of B&E (7.9 and 7.7 respectively compared to 6.1 for contracted patrols). But for traffic complaint (#25) the contracted and local patrol means are similar and different from the sheriff's general patrol (7.0 and 7.3 respective compared to 5.3 for the sheriff's general patrol).

When the rank of the complaint types of each individual patrol operation were correlated with each other, no pattern was observed. The correlation coefficients and the level of statistical significance are shown in Table 5-15. The range of correlation coefficients range from .4 to .68 for the local patrols (L-07, L-15, and L-19); for the three contracted patrols the range is from -.03 to .61; and for the sheriff's general patrols the range is from 0.19 to .73.

If local officials wish to know what sort of complaint priority will be received if they contract with the sheriff, it will be difficult to answer them with the information currently available. Differences in complaint priority have been observed, but no model is in hand which can explain the differences. It was initially thought that since the sheriff's general patrols were under the same patrol administration, that more consistency in complaint priority would be observed relative to the groups of local patrols and the contracted patrols. But this was not the case. One explanation is that different communities have different complaint priority needs; and the sheriff, through this general patrols, attempts to meet them. While this is plausible, it is highly unlikely.

Table 5-15. Rank correlations of complaint categories for selected patrol operations with response time as the performance measure.

Patrols	C-15	C-15 01	L-15	L-15 01	C-08	C-08 01	L-07	07 01	L-19	19 01	N-20 01	C-27
C-15 01	.58 (.1)											
L-15	.31 (.4)	.38 (.3)										
L-15 01	.88 (.002)	.5 (.1)	.52 (.15)									
C-08	-.03 (.94)	-.27 (.47)	-.15 (.7)	-.08 (.83)								
C-08 01	.20 (.60)	.46 (.21)	.13 (.73)	.3 (.32)	-.12 (.77)							
L-07	.60 (.08)	.47 (.2)	.68 (.04)	.76 (.02)	-.10 (.8)	-.1 (.80)						
L-07 01	-.11 (.76)	.15 (.69)	-.53 (.15)	-.19 (.63)	.23 (.54)	.08 (.82)	-.44 (.24)					
L-19	.63 (.07)	.47 (.2)	.40 (.29)	.70 (.04)	.05 (.89)	.60 (.08)	.50 (.17)	-.39 (.3)				
L-19 01	.87 (.003)	.48 (.19)	.17 (.70)	.71 (.03)	-.06 (.86)	.28 (.46)	.48 (.18)	-.25 (.51)	.82 (.01)			
N-20 01	.73 (.03)	.28 (.46)	.58 (.10)	.82 (.01)	.24 (.53)	.40 (.29)	.47 (.21)	-.29 (.45)	.67 (.05)	.65 (.06)		
C-27	.61 (.07)	.61 (.07)	.67 (.05)	.85 .004	.15 (.7)	.45 (.23)	.77 (.02)	-.19 (.63)	.75 (.02)	.50 (.17)	.61 (.07)	
C-27 01	.57 (.11)	.17 (.7)	.30 (.43)	.64 (.06)	.5 (.17)	.55 (.14)	.17 (.7)	-.14 (.73)	.75 (.02)	.67 (.11)	.73 (.03)	.62 (.08)

The top number shows the correlation and the bottom number is the level of statistical significance.

C-15-01 refers to the sheriff's non-contract patrol operating in community 15 when community 15 was contracting.

L-15-01 refers to the sheriff's non-contract patrol operating in community 15 when community 15 had its own police department.

The sheriff regularly rotates his deputies from one general patrol to another and from the contracted patrols to the general patrols. To meet the unique complaint priorities of each community would require great amounts of time and effort to orient the patrols each month, and this was not observed.²⁶

CONCLUSIONS

This chapter has taken a microscopic view of the contracting operations of one sheriff. Two additional performance measures, response time and time spent on complaints, were presented and discussed. With the use of these indicators and available data, several questions could be analyzed for this county which could only be raised for other counties.

How does the area distribution of the sheriff's general patrols affect contracting operations? It was shown that this sheriff tends to allocate his patrols in such a way as to minimize the county-wide mean response time (maximize the number of complaints serviced). Since the sheriff is a county-wide elected official, this behavior is not all that surprising. This allocative rule is achieved by allocating patrols so that the high complaint areas (highly populated areas) tend to receive a lower mean response time from the sheriff's non-contract patrols than low complaint areas (low populated areas). This practice tends to contribute toward contracting in two ways. First, relatively low populated areas experiencing a rising demand for patrol services, but not

²⁶The correlation between the sheriff's non-contrat patrols operating in community 15 when 15 had its own department and the sheriff's general patrol when #15 contracted was .5. (15-01 correlated with 15-02). It is not likely that the community's demand for complaint priority changed, was reported to the sheriff who in turn communicated the change to the patrols operating in community 15.

wanting to start their own department, are not likely to have their needs met through a grant transaction by the sheriff reallocating to them more non-contract patrols. Second, since the sheriff's non-contract patrols are highly visible in highly populated areas, many of which have local police departments, local officials and citizens become accustomed to dealing with sheriff's personnel which tends to lessen the transition from a local department to a contractual arrangement. But resistance can be offered if the local police chief feels threatened and pushed his officers to out perform the sheriff's deputies.

Another issue which was examined was the claim made by many sheriffs that the reason that they gave a price concession to contracting communities was that they owed something to contracting communities because of the community's contribution to county taxes. This implied that the contracting communities were not receiving the same level of non-contract patrol services that the non-contracting portion of the county received. In terms of non-contract patrol services, the contracting communities in this particular county received similar levels of services as non-contracting communities of similar size. (Some received slightly more and some slightly less.) While it is not known what happens to the sheriff's other outputs to the contracting communities, it appears that the price concession goes to communities as an incentive to contract rather than as compensation for any loss of sheriff's services relative to other communities.

Several questions were raised in comparing contracted to local patrols. First, what priority was given to the complaint answering service relative to other patrol activities such as traffic monitoring

follow-up investigation etc.? In the absence of output measures for many of these activities, a time analysis must be done to provide local officials with such information. This was not attempted.

Second, do contracted patrols spend much time outside the contracting community? While percentage of total patrol time spent outside the local community was not measured, percentage of total complaints answered by contracted and local patrols outside their respective patrolling areas was recorded. Two of the contracted patrols answered about the same percentage of all their calls outside their respective contracting community as did local departments. One contracted patrol, which serves a more remote township, answered twice as high a percentage of its calls outside its contracting community than did any other local or contracted patrol. It is difficult to draw a conclusion from this information; but, two of the contracted patrols were not dissimilar from local departments. The one which was much higher could have been operating in a community which did not have a complaint load or other non-complaint answering activities to keep it busy.

Finally, was there a difference in the priority assigned to the same complaint type by the contracted, local, or sheriff's general patrols. While there are different weights given to the same complaint type by different patrols, it is not known whether these differences result from conscious design on the part of patrol administrators or merely a random happening. It was observed that the sheriff's general patrol, operating under one patrol administration and in different communities, had different weights assigned to the same complaint type.

If the sheriff's non-contract patrols are not homogenous enough to be considered as a single group, it is even more difficult to speak about a unique type of complaint priority coming from contracted or local patrol operations.

The conclusion about using complaint priorities to differentiate patrol operations suggests several things. First, patrol officers may have so much discretion that any institutional alternative has little or no affect on causing a uniform and consistent complaint priority system. For example, a police chief, sheriff, or local official may have a complaint priority system in mind but is unable to exert enough control over the patrol officers to enforce the priority system. Second, the complaint categories used may be sufficiently vague such that what is being reflected is the heterogeneity of the complaint categories rather than complaint priority of different police officials. However, some of the complaint priorities were tightly defined such as larceny report, and it still had a ranking range of 3-8 for the sheriff's non-contract patrol. More research though is needed if complaint priority is to be used to differentiate patrol operations.

CHAPTER VI

CONCLUSION

Local officials in many rural areas are encountering a rising demand for urban services such as police patrol. If they are unable to obtain higher levels of patrol service from the county sheriff or state police, a common course to follow is to start a local police department. But local police departments are expensive to begin and maintain and federal and state grants, to defray a portion of police costs, are becoming increasingly difficult to obtain. Consequently, local officials are examining alternative ways of procuring patrol service.

The three alternative institutional structures that can be used by local officials to provide higher levels of patrol service to their citizens are grant, administrative, and bargain. Each alternative relates local officials to a supplier of patrol service in a different way, and this affects the type and level of service produced. A grant relationship is one where the receiving party has no direct power over the giving party and must accept whatever the giver chooses to give. A grant transaction exists between local officials and sheriffs and state police. The sheriff is elected county-wide and has a patrol division funded by the county commissioners. The sheriff and county commissioners determine together the overall level of patrol service while the sheriff decides the areal distribution. The state police administration decides on how patrols will be allocated to what activities in what area of the state. State police post commanders then decide the area distribution of patrols assigned to their post. In each case

a local community receives from a sheriff or state police whatever level of service each chooses to give.¹

If local officials are dissatisfied with the level of patrol received from the sheriff and state police, they then have two transaction alternatives. One is administrative where local officials appropriate money for a local police department, hire a police chief, and produce their own patrol services. If the level of patrol is still unsatisfactory, local officials can appropriate more money; if the type of patrol service is unsatisfactory, they can communicate their dissatisfaction to the police chief. If this does not produce the desired results, the police chief may be dismissed and a new one hired.

The third transaction alternative is bargained, where local officials buy patrol services from another unit of government and have a voice in the type and level of patrol services supplied. The most common seller is the county sheriff. Another type of bargained transaction is where two or more local communities combine resources and jointly produce patrol services.

The focus of this research is contracting between local communities and the county sheriff. Contracting affects three different entities. They are the county sheriffs, the contracting communities and the county commissioners representing both the contracting and non-contracting communities. It is helpful to know how each group can be affected (positively and negatively) in order to be familiar with motivations each has for contracting.

¹For the county sheriff, an exception to this may exist for those local communities that can politically affect the sheriff at election time. Even with this circumstance a local community can only make known their general wishes rather than a specific demand for a certain level of service.

The sheriff is a bureaucrat--he heads an agency and attempts to procure funds for it--as well as an official elected every four years. The sheriff's interest in contracting reflects this dual role. The sheriff as seller of patrol services is different from a private seller. He has little incentive to make a profit from contracting (charging a price which is greater than costs).² But contracting offers the sheriff an opportunity to have a larger department, by having a larger patrol division financed independently of the county commissioner's appropriation process. With a larger department the sheriff can gain through salary, public reputation, power and patronage.³ Since the sheriff is an elected official, he feels incentive to please voters with the type and level of service. To the average citizen the patrol division is the most visible part of the sheriff's department, and such visibility is an incentive to have this division grow. Finally, many sheriffs view themselves as professional law officers with a concept of what "good" law enforcement is. Contracting offers the sheriff an opportunity to have his type of law enforcement implemented at the local level.⁴

Officials of contracting communities can benefit in numerous ways. First, they can obtain patrol service cheaper from the sheriff, depending upon the contract price, than if the patrols are produced locally. Second, for those officials who have never before had their own police

²The only incentive that he might have would be if he were able to take any profits from contracting to subsidize another activity.

³William A. Niskanen, Jr., Bureaucracy and Representative Government, Aldine-Atherton, Chicago, 1971, p. 38.

⁴This can be in contrast to the private supplier who may have little interest in the type of product demanded by consumers as long as there is profit in supplying it.

department, the sheriff immediately offers experience which could only be acquired after several years of having a local department. Third, local officials can avoid many administrative tasks by not having to interact regularly with a police chief. Any complaints about service can be referred to the sheriff. If there is dissatisfaction with a particular patrol deputy, the sheriff can transfer him out of the contracting community, avoiding the problem of dismissing him as would be the case with a local department. Many local police departments are unionized. Contracting offers the local officials the opportunity to avoid sometimes costly (in terms of settlement time and expense) labor negotiation. Local officials can lose from contracting if they do not receive from the sheriff the type of patrol service they desire. This will be discussed more specifically when dealing with the conduct performance measures, but it should be noted that this issue is not avoided with a local department. Local officials will have to interact with a police chief who has his own concept of what "good" patrol service is, and this concept can be at odds with what local officials want.

The county commissioners are elected like the sheriff, are charged with the responsibility of collecting and dispersing county funds, and usually have one of their representatives sign the contract along with the sheriff and a local official. The commissioners are interested in providing service to county residents and one activity which they have control over is the sheriff's department. That is why they are interested in the price charged by the sheriff and how the non-contracting portion of the county is affected by the contracted patrols. If the sheriff charges a price which is less than costs, the county general fund will

be used to pay the difference. If, in the eyes of the commissioners, the county as a whole benefits from the contracted patrols, then they will be willing to pay the difference. The contracted communities, as already mentioned, may benefit by receiving a price discount. The non-contracting communities may benefit by the sheriff dispatching the contracted patrols outside the contracting communities to respond to emergency calls. Also, commuting to and from the contracting communities, contracted patrols may travel through several non-contracting communities providing some additional coverage to these communities. Finally, with a higher level of manpower, the sheriff is better able to react to a large emergency, wherever it might occur, such as a natural disaster or a rock concert, riot or traffic jam.

RESEARCH GOALS

This research has attempted to accomplish several things. First, it has tried to differentiate, conceptually rather than empirically, the bargain institutional form from the administrative and grant transactions in providing of patrol service. Second, it has endeavored to present market information on price and different types of patrol service sold by Michigan sheriffs in 1974. To do this meant constructing performance categories which could be used to discern the contracting operations of one sheriff from those of another. Finally, this research has made an effort to see how structural conditions facing a county sheriff may affect the conduct-performance of his contracting operations.

The research findings are organized around the following questions:

- (1) How widely is contracting for patrol services practiced in Michigan?
- (2) Do the contracted patrol services differ between sheriffs, and how can this difference be described?
- (3) Does the sheriff price his

contract close to costs of operation? (4) Does the structural relationship between the sheriff and his county commissioners affect his propensity to contract and to meet the patrol needs articulated by local officials? (5) Can a sheriff, through the allocation of his non-contract patrols, affect the propensity of local officials to contract with him? (6) Are economies of scale present in the production of patrol services and how does this relate to the contract price charged by the sheriff?

THE NATURE OF THE PRODUCT

Often in research the product being studied is not explicitly defined. Local officials considering contracting or starting their own police department usually want more police service. But police service may involve many different specialities such as detectives, patrol, crime lab, narcotics unit, etc. The dominant activity for rural communities is patrol, and this is the product studied.⁵ It must be emphasized, however, that patrol service sold by one sheriff is likely to be dissimilar to that sold by another. The performance indicators, discussed in the next section, allow the contracted patrols of one sheriff to be differentiated from those of another.⁶

⁵Patrol consists of some mix of responding to citizen complaints, traffic monitoring, cruising, performing community errands, initiating a complaint (i.e., an officer witnessing a law infraction), and community service (speaking to civic organizations or consulting with a merchant on crime prevention).

⁶When discussing the pricing of the contracted patrols, it is helpful to know whether the good is a joint impact or incompatible. A service is incompatible when A's use denies B's use and it is a joint impact when A's use does not detract from B's use. Patrol service can be both a joint impact as well as an incompatible service depending upon the question being asked. It is a joint impact service in that the county sheriff and county citizens have a certain demand for patrol service in community A. Local citizens of community A also demand patrol (continued)

STRUCTURE AND CONDUCT-PERFORMANCE

A patrol service market exists for those local officials desiring to obtain additional patrol hours. There are two suppliers facing local officials--the county sheriff (bargain transaction) and a local police chief (administrative transaction). A structure and conduct-performance market model was used to study the contracting of Michigan sheriffs and contrast contracting with its closest competitor, which is starting a local police department.⁷ Discussed first are four structural variables followed by the conduct-performance variables.

The structural variables for the patrol service market are the number of suppliers, degree of product differentiation, barriers to entry and relation between supplier and source of finance. From the perspective of a community's local officials, the number of suppliers

⁶(continued) services in their own community. When the citizens of community A consume the patrol services of the county sheriff, the welfare of the county citizens is not affected. Patrol service is an incompatible service in that when patrols are serving one community, they are not available for service in another community. If it is possible to differentiate total demand for patrol services in community A into that demanded by the county and that demanded by citizens of the community, then the former demand could be funded out of the county general fund with the latter being financed from some user charge such as a contract price. (This assumes that decision makers do not want to redistribute resources toward community A.)

⁷Structure refers to the predetermined characteristics of a situation which constrains decision makers and determines their opportunity set. Conduct refers to all the choices, decisions, or strategies used by decision makers within the opportunity set established by the structure. And, performance refers to all the consequences (all benefits and costs) that result from the decision makers' choices. The difference between conduct and performance is one of degree with performance being closer to final consequences which affect people's welfare; consequently, an attempt was made to distinguish between conduct and performance.

is small enough for each supplier to know what the other is doing. The sheriff is aware of the number of patrols operated and the approximate costs facing local police departments; and, local police chiefs are likely to have a similar awareness.

Sheriffs and police chiefs attempt some product differentiation. A sheriff may claim that his patrols are superior to those produced locally while similar counter claims may be made by local police chiefs. The burden of knowing whether the differentiation is real or imagined falls to local officials.

Barriers to entry affect potential suppliers. The sheriff and local departments are the two most prevalent sources for local officials to obtain additional patrol hours, but the state police, a private security firm, a joint cooperative venture, or another local community are potential suppliers. The only barrier which faces the state police appears to be the state police administration's unwillingness to sell patrol hours under contract to local communities.⁸ A private security firm, which sells security services to private and public institutions, could face a legal barrier. Currently there is no state statute which explicitly prohibits private security companies from selling patrol service to a local community; however, if they should enter the patrol service market, they could likely face legal challenge over whether or not they have the right to hold police authority. The legal environment

⁸Several communities have in the past requested the Michigan State Police to contract with them for additional patrol hours, but the state police refuse contending their duty is to serve the entire state and not any single community. If they are to change their policy, it will probably be in response to direction provided by the state legislature.

is uncertain enough to be a substantial barrier to entry for a private security firm.⁹ It is not known why there are few joint community ventures or one community selling to another. It can be due possibly to a long history of adjacent communities not cooperating in the area of police service or maybe even to a political rivalry between adjacent communities, or to the absence of a catalyst to facilitate a cooperative arrangement. A local police chief has no responsibility for patrol needs outside his political jurisdiction and consequently has little incentive to solicit a neighboring community to either buy or cooperate in the production of patrol services. More study is needed on these alternative ways for local communities to obtain more patrol hours.

The conduct-performance variables used in this study and the preferences of local officials are presented below:

Cost per Patrol Hour--Local officials, like other consumers, want to receive the highest level of patrol service for the lowest possible price.

Reporting to Local Officials--Most local officials want information about the type of patrol service which their community receives. For instance, they want to know the type of complaints received, the overall complaint load, and the amount of time spent on preventive patrol.

Divisibility of Patrol Service--Can local officials obtain the

⁹It is questionable whether or not private security firms can make a profit in selling patrol services to local communities. Patrol is an activity where there is limited opportunity for control of variable resources (personnel, vehicles, etc.) to allow for profits to be made. The greatest expense in the production of a patrol hour (single or double) is salary. With a state law requiring that all law officers have 280 hours of police academy training, the supply of qualified police officers is restricted, and all entities wishing to hire police officers must compete for them. In essence, any community which wants a police department of security officers rather than officers who have been through the police academy is unable to obtain it.

level of service they desire? The minimum level sold by the sheriff may be greater than local officials care to buy.

Activities Performed by Contracted Patrols--Local officials want input into the choice of the activities performed by patrols (e.g., traffic monitoring, performing community errands, etc.).

Rotated versus Permanently Stationing Deputies--If local officials have their own department, their officers are permanently stationed in their community and are familiar with the community and its citizens. Many local officials value this.¹⁰

Revenue from Liquor Inspection--When patrols perform a liquor inspection, the Michigan Liquor Commission sends revenue to the funding community. Local officials want to receive this revenue.

Amount of Patrol Time Spent Outside Local Community--Local officials want to know how much time will be spent outside their community if they contract with the sheriff and how this compares with what would result if they had their own police department.

Response Time--All else being equal, citizens are better off if response time is low than if high. Response time will be high if there are few patrols working or if the patrols are performing non-complaint answering activity such as writing reports or monitoring traffic. Also of concern to local officials is the response time according to complaint priority. What is the response time to the complaint type "breaking and entering" compared to "destruction of property" complaint?

¹⁰It is conceivable that local officials will not want to have deputies permanently stationed in their community, believing that better patrol service can be rendered from patrol persons who do not know the individuals in the community.

One question which this research addresses is how do the structural variables facing the contracting sheriff affect his responsiveness in meeting the patrol preferences of local officials? Three of the four structural variables are similar for most sheriffs who sell patrol services. Each sheriff faces competition in that a local community always has the option of starting its own police department rather than continue contracting with the sheriff; most sheriffs attempt to differentiate their patrol service from what is produced by a local police department; and the sheriff has the legal authority, subject to approval by county commissioners, to produce patrol service for sale to local communities. The one structural condition which is variable among county sheriffs is the relation which the sheriff has with his county commissioners.¹¹ Some sheriffs are able to obtain the patrol financing which they feel is necessary to provide adequate patrol service to their county while other sheriffs face county commissioners unwilling to fund patrol to meet the sheriff's standards. Contracting offers sheriffs a means of funding patrol independently of the county commissioners.

This study examined the contracting operations of eleven Michigan sheriffs. From interviews each sheriff was placed into one of two groups. One group consists of those sheriffs who feel that many of their patrol needs were going unfunded, and the second group consisted of those sheriffs who tended to get most of their patrol needs funded

¹¹William Niskanen, in his book Bureaucracy and Representative Government, uses the analogy of a bilateral monopoly when describing the interaction between an agency and the legislature, its sole funding source. For the agency, there is only one "buyer" or source of funds, and for funding body there is only one "seller" or producer of the output desired by the funding body. PP. 24-25.

by the county commissioners. Are the sheriffs who face tight-fisted commissioners more responsive to the patrol preference of contracting local officials than those sheriffs who have commissioners who fund most of their patrol needs?

RESEARCH FINDINGS

Listed below are the major research findings followed by a brief discussion of each.

- Finding #1: Contracting for patrol services in Michigan between local communities and the county sheriff was widely practiced in 1974.
- Finding #2: Variety exists in the conduct-performance of different contracting sheriffs studied.
- Finding #3: Of the eleven sheriffs studied, ten price their contracted patrols at less than variable costs (personnel, vehicle and uniform).
- Finding #4: Comparison of the variable patrol costs of one county sheriff to the variable patrol costs of 14 local police departments in the same county reveals that the sheriff experiences greater patrol costs than do any of the local departments.
- Finding #5: The sheriff is capable of influencing local officials to contract with him through the deployment of his non-contracted patrols.
- Finding #6: The structural relationship which the sheriff has with his county commissioners affects his propensity to contract and his willingness to meet the conduct-performance preferences of contracting local officials.

Finding #1--In the state of Michigan in 1974, 24 of the 83 county sheriffs had some type of contracting arrangement with a local unit of government. Most of these sheriffs are found in the southern portion of the state. In addition, six sheriffs contract with the U.S. Forest Service to provide patrol service to national parks within their county.

Contracting is most extensive in those counties with a large percentage of urban residents. One reason for this is that the county boards

in these counties are dominated by urban commissioners. These urban commissioners are unwilling to increase spending on the sheriff's road patrol, which mainly services rural parts of the county. Their reasoning is that urban citizens pay an extra amount over county taxes for city police service, and citizens of villages and townships should do the same.

In most of the contractual arrangements the sheriff charges a local community a price which is paid out of local taxes. However, the sheriffs of Livingston, Eaton and Kent Counties have used federal employment money to provide incentive to local communities to contract with them.¹² The local communities may or may not pay any contracted patrol expenses not met by the federal grant. Usually the federal money only covered the salaries so the county would either absorb equipment, uniform and vehicle expense or bill the contracting community. It was often stated in these contracts that once the federal money ended, the local communities were responsible for hiring those persons that would become unemployed.

Some slightly different contractual arrangements must be mentioned. While a high percentage of contracts are between the county sheriff and a local community, the Monroe sheriff provides contracted deputies to a high school and to a community college. The sheriff of Ingham County has contracts with three townships in which he agrees to provide and maintain all vehicle and personnel equipment at no charge to the townships. In return, the sheriff has the right to have a voice in who is hired, and the officers use the sheriff's uniforms and vehicle markings.

¹²Two federal grants most often used were the Emergency Employment Act and the Comprehensive Employment Training Act.

Outside of the sheriff being able to take credit for a large patrol division, these three townships, for all purposes, have their own police department.¹³

In Lenawee County, in addition to the sheriff contracting with two communities, there is also a private supplier selling patrol services. For over 20 years a man and his wife have been providing police services to three different communities. He is deputized by the sheriff as well as the local communities in which he operates. He maintains a close working arrangement with the sheriff and the state police. The amount of profits is small, and much of the remuneration to this private supplier comes in the form of psychic reward in providing a community service.

Several communities have combined resources and jointly produce patrol services. In Berrien County the township of Oronako and the village of Berrien Springs, which lies inside the township, together have a seven person police force. The police chief is responsible to a joint police board comprised of two representatives from the village, two from the township, and the police chief himself. Each community contributes \$60,000 to finance the operation. A similar arrangement exists between Ontwa Township and the village of Edwardsburg which lies inside Ontwa in Cass County.

¹³In August, 1975, one of the townships ended their contractual arrangement with the Ingham sheriff to start their own police department completely independent of the sheriff. A police recruit, hired by the township and completing police academy training, was rejected by the sheriff. This incident of who had the authority to hire a township employee was a major factor in the decision to cancel the contract with the sheriff and start their own police department. The change from working with the sheriff to having their own department is estimated to cost the township an extra \$42,000.

Finding #2--The conduct-performance variables discussed earlier were useful in comparing the contracting operations of different sheriffs. A major finding was that not all sheriffs provided the same set of conduct-performance characteristics to local communities. This can be useful information to a local official contemplating contracting. For example, if an official wants his contracted deputies permanently stationed in his community but the sheriff, in the name of good patrol practice, has the policy of rotating deputies between contracted and non-contracted patrol, then the local official can point to another sheriff who does not rotate his contracted deputies. This may provide some leverage to help the local official obtain a particular conduct-performance characteristic. However, the sheriff may still refuse to sell patrol service with the desired conduct-performance characteristic.

Divisibility of patrol service sold--The sheriffs of Clinton, Lenawee, Kalamazoo, and Huron sell less than 40 hours of weekly patrol service while the sheriffs of St. Clair, Oakland, Wayne, Kent, and Genesee will not. The sheriff of Eaton did not sell less than 40 weekly hours but would consider it. The sheriff of Washtenaw had a policy of not selling less than 40 weekly hours of service but made an exception and arranged for 30 hours of service for one community.

The sheriff encounters some staffing difficulty when selling less than 40 hours of weekly patrol service. If the sheriff does not hire an extra person but instead meets his contractual obligation by assigning his general patrol to the contracting community, then the non-contracting communities lose because there is less general patrol for county-wide service. This is done by the Lenawee sheriff and some of the sheriffs who contract with the U.S. Forest Service. The sheriff can hire an

additional person, but then the county general fund pays for that portion of the salary not covered by the contracting community, and the sheriff must justify how he will use the fractional person. Some sheriffs sell less than 40 weekly hours to a community by having two or more go together to purchase 40 hours of service with each community paying for a portion of the contract price.

Reporting to local officials--Only the Clinton County sheriff does not report monthly to the officials of the contracting communities because there the sheriff handles the contracted patrols as part of his general patrol operations. The remaining sheriffs provide some form of monthly report which varies in type and amount of content. Some sheriffs augment their monthly report by sending a representative to each monthly meeting to answer questions which the local officials might have.

Activities performed by contracted patrols--Local officials fear loss of control over daily patrol activities if they should contract with the sheriff. Local officials want to know when the contracted patrols will be in their community and to be able to request that the patrols perform community errands. Officials of those communities that jointly contract with the sheriff for a portion of 40 weekly hours, plus some of the U.S. Forest contractees, and some of the contractees with the sheriffs of Lenawee, Huron, Kalamazoo, and Clinton do not know when the patrols operate in their jurisdictions. For the other contracting operations, local officials know when the patrols are serving their communities. All sheriffs, except those in Clinton and Lenawee Counties, currently allow the contracted patrols to perform community errands (e.g., raising the flag or distributing board minutes to local

officials), and all the sheriffs will consider any request for determining use of patrols. But there is a difference in the ease in which local officials can make their preferences known. In Oakland, Genesee and Washtenaw the sheriffs operate some of their contracted patrols out of sub-stations which allow the local officials an opportunity to communicate directly with the contracted deputies. The Kent County sheriff requests that his contracted patrols regularly visit local officials to see if there are any special needs. To make a special request to the contracted deputies in many of the other contracts requires local officials to first contact either the sheriff or the sheriff's dispatcher.

Patrol time spent outside the local community--One concern that local officials have about contracting is that the sheriff will send the contracted patrols outside the contracting community to handle county county business. Every sheriff, except the sheriff of Wayne County, has either a verbal or written understanding with contracting officials that the contracted patrols will be sent outside the contracting community in cases of emergency. But "emergency" is never defined.

The contracted patrols of one sheriff were studied to see what percentage of total complaints answered were answered outside the contracting community compared to local police departments of similar sized communities. For this one county, no clear pattern was observed of contracted patrols leaving their community any more than local police departments.¹⁴

¹⁴Three contracting operations were examined. The patrols of two of the contracting operations responded to a similar percentage of complaints outside their communities as did local police departments of similar sized communities. For one of the contracting operations the contracted patrols answered 23% of all their complaints (continued)

Rotated versus permanently stationed deputies--Many local officials wish to have control over who is policing their community. Not only do they want to be able to select the personnel but they want the same persons to work permanently in their community. The only contractual arrangement in which local officials have an active voice in deciding who is hired to serve in their communities are the contracts three townships have with the Ingham County sheriff. In all other contracts the sheriff decides who will work in a contracting community. Some sheriffs try to be selective in matching deputies to contracting operations. In Oakland County the sheriff assigns his most experienced men to work the contracted patrols, and the Monroe County sheriff assigns deputies who can relate to students to his contracts with the high school and community college. In most cases if a deputy is unsatisfactory to local officials, the sheriff will transfer him to another patrol. The deputies are rotated for the contracts in Clinton, Lenawee and Genesee and for some of the contracts in Huron and St. Clair; the remaining sheriffs attempt permanent assignments to contracting communities.

Liquor inspection revenue--Revenue is sent from the Michigan Liquor Control Commission to local communities that employ a full-time police or ordinance enforcement department and perform liquor inspections within

¹⁴(continued) outside the contracting community which was more than double any other local or contracted police operation. This particular contracting operation was in a sparsely populated community, and there may not have been the complaint load to keep this contracted patrol busy. Thus, when a call for service was received from a neighboring community, this patrol felt it could respond with no opportunity cost. What is not known is the number of complaints which had a higher response time because the contracted patrol was outside its local community.

their political boundaries. Contracting operations are included in the definition of a full-time police department. If a community contracts and if liquor inspections are performed within that community by the contracted deputies, then the local community is entitled to the money sent from the Commission. The sheriffs of Eaton, Washtenaw, Genesee, Wayne, Huron, and Lenawee allow the liquor inspection money to be retained by the contracting community. The sheriffs of Oakland and Kent have deputies who spend full-time inspecting liquor establishments and as a result the money goes to the county treasury. The same holds for smaller contracts in Clinton and Kalamazoo Counties and the contractee with the St. Clair County sheriff.

Finding #3--Most of the sheriffs in the sample price their contracts at less than variable costs.¹⁵ The exception to this was the Wayne County sheriff's contract with the city of Romulus: The contract price matches all variable costs and includes a charge for overhead expenses. The percent of service costs which are not incorporated into the contract price range from a low of 10% (the Eaton Rapids contract with the Eaton sheriff) to a high of 64% (the Northfield contract with the Washtenaw sheriff). This means that in most contracts, the county general fund is being used to meet part of the

¹⁵If a portion of overhead expenses such as dispatching and salaries of the sheriff and detectives, etc. had been included in the cost analysis, the price concession would have been much greater.

contract costs.¹⁶ As mentioned earlier, the county commissioners and the non-contracting portion of the county can benefit from the contracting operations. But it is my conclusion that while many county commissioners know a difference exists between costs and price, few if any know the amount of the difference. Further, none of the sheriffs or commissioners systematically associate this difference to benefits received by the non-contracting portion of the county.

One reason given by many sheriffs to justify price concessions was that the sheriffs owed something to the contracting communities because of county taxes. This implies that the contracting communities were not receiving the same level of non-contract patrol services that the non-contracting portion of the county received. The contracting communities in the case study county received levels of non-contracted patrol service similar to those of non-contracting communities of comparable size. While it is not known what happened to the sheriff's other outputs to the contracting communities, it appears that the price concession goes to the communities as an incentive to contract rather than as compensation for any loss of sheriff's services.

¹⁶It cannot be concluded that the county is providing a net subsidy to a particular area because the levels of other county services going to a particular community is not known. It is possible that a community receives less than its "fair share" (however, that might be defined) from the county health department and is making up for it by receiving more than its "fair share" by getting a large contract price concession. Another factor which prevents us from concluding that a sheriff is giving more than the "fair share" to a particular contracting community is that the sheriff may contend that a particular contracting community is a high crime area. Even if the community were not contracting, the sheriff would be sending non-contracted patrols into respond to complaints. Since the sheriff is an articulator of demand for patrol service in his county; he may contend that the county's demand for patrol services in a particular community is very high and he is attempting to meet that demand.

Finding #4--The sheriff of Genesee County experiences greater variable costs in the production of patrol service compared to 14 local police departments within Genesee County. The difference between a sheriff's patrol costs and those patrol costs met by communities which have their own police department partially determine the amount of price concession the sheriff feels he must give in order to provide financial incentive to local communities to contract with him. The patrol costs of the Genesee County sheriff's three contracts had a range of \$10.39 to \$11.17 for single and \$18.98 to \$21.09 for double patrol hours compared to the range for the 14 local departments of \$3.20 to \$9.37 for single and \$6.40 to \$18.73 for double patrol hours. The contract price charged by the sheriff was competitive to the local departments. The price range was \$5.71 to \$9.43 for a single and \$9.62 to \$17.62 for a double patrol hours.¹⁷ The patrol costs of other sheriffs need to be compared to their surrounding local departments before any conclusion can be made concerning resource savings accruing to local police departments.

Finding #5--The sheriff is capable of influencing the local officials' decision to contract with him through his areal allocation of his non-contract patrols. The output measure used to learn the

¹⁷The reader should not conclude that scale economies do not exist for some police functions. The only service examined in Genesee County was patrol service and only variable costs were estimated. One reason that larger departments do not experience cost saving in the production of patrol services is that patrol is a labor intensive activity. Patrolmen are professionals with a high degree of self-direction and discretion. This means that the production technology and resource combinations are limited. Another reason is that larger departments may face more powerful unions and be forced to pay higher wages than smaller police departments. Finally, larger departments tend to use the latest equipment which is expensive. All this more than offsets any savings which results from bulk purchases.

sheriff's areal allocation was response time which is the lapse in time from when a call for service is received until a police unit arrives on the scene. In Chapter II three allocative rules were presented. They were to equalize inputs (assign the same number of patrol units per capita to each section of the county), equalize outputs (assign patrol such that each portion of the county has the same mean response time), or minimize the county-wide response time. For the county studied in depth, it was found that the third allocative rule was used which meant that the most populated portions of the county, the portions most likely to have their own police department, received the lower mean response time and the less populated portions of the county, those portions less likely to have their own police service, received a higher mean response time. This practice tends to contribute toward contracting in two ways. First, less populated areas meeting a rising demand for patrol services but not wanting to start their own department are not likely to have their needs met through a grant transaction by the sheriff reallocating more non-contract patrol to them. Second, since the sheriff's non-contract patrols are highly visible in highly populated areas, many of which have local police departments, local officials and citizens become accustomed to dealing with sheriff's personnel, which tends to encourage any change from a local police department to a contractual arrangement. But the local police chief can resist if he feels threatened and push his officers to out-perform the sheriff's deputies.

Finding #6--The structural relationship which the sheriff has with his county commissioners relative to the need which he feels to increase his patrol division affects his propensity to contract and to meet the

conduct-performance objectives of local officials.¹⁸ From interviews, the eleven sheriffs studied were subjectively placed into one of two groups.¹⁹ Group #1 were sheriffs that felt little need to expand their patrol division and were able to obtain current and anticipated patrol funding from the county commissioners. Sheriffs in this group were Clinton, Lenawee, Kalamazoo, Huron and St. Clair.²⁰ The second group comprises sheriffs who want to expand their patrol division and have met or anticipate meeting funding resistance from county commissioners. Sheriffs in this group are from the counties of Oakland, Washtenaw, Kent, Genesee, Wayne and Eaton. The hypothesis is that the sheriffs in the second group have a greater propensity to contract and meet the conduct-performance objectives of local officials than sheriffs in the first group. It was found not surprisingly, that the percentage of patrol hours funded by contracting was greater for the second group of counties than the first.²¹

Several conduct-performance variables can be noted. Sheriffs in both groups report regularly to local officials. Sheriffs in the second

¹⁸The need felt by a sheriff to expand his patrol division is an aggregate of several things. One is the need for patrol service which he feel his county (his constituents) has. A second one is his own psychological need for a larger department, and third is his need to be re-elected.

¹⁹The subjective criteria used to group the sheriffs was how much the sheriff wanted to expand his patrol division and what success he had anticipated having with his county commissioners.

²⁰The Kalamazoo County sheriff situation was changing in 1975 when the interview was conducted. At the time of the interview, the Kalamazoo commissioners were attempting to cut the sheriff's patrol division. If the study were done for 1975, Kalamazoo would be in group #2.

²¹It should not be too surprising that sheriffs in the second group who want to expand patrol service meet funding resistance from their county commissioners. First, patrol service goes almost entirely to rural areas. Second, the counties in the second group, with the exception of Eaton County, have a large urban population which means that the county boards are dominated by urban commissioners who are likely to be reluctant to fund the sheriff's patrol division.

group grant greater price concessions than sheriffs in the first group. The exception to this is Wayne County where the County Board of Auditors price the contract and are careful, because of the county's urban orientation, to price the contract as close to actual costs as they can. The Wayne County sheriff has little control over setting the contract price. Sheriffs in the second group tend to make it easier for local officials to have a voice in patrol activities than sheriffs in the first group. All the sheriffs in the second group, with the exception of Genesee, permanently station deputies in the contract communities while four of the sheriffs in the first group rotate their deputies in either all or some of their contracts. There is no pattern regarding whether or not the sheriff allows contracting communities to retain liquor inspection revenue.

Concerning divisibility of patrol service sold, most of the sheriffs in the second group refuse to sell less than 40 hours of weekly patrol service while sheriffs in the first group were more accommodating in the level of service sold. Sheriffs in the second group tend to have large departments which already require much of their administrative time. The time cost of negotiating a small contract plus the difficulty in staffing it does not make it worth while for sheriffs in the second group.

The conclusion which I draw is that sheriffs in group two (those who want to expand their patrol division and meet funding resistance from their county commissioners) are more inclined to contract with local communities and meet the conduct-performance objectives of local officials than sheriffs in group one.

POLICY IMPLICATIONS

What policy implications flow from this study? First, the explicit formation and articulation of conduct-performance preferences by local officials and sheriffs is almost non-existent. Because of this, the patrol service market operates imperfectly. Rural local officials attempting to meet the rising demand for urban services need an independent information source.

Currently most local officials do not know how to clarify and rank their own values in the provision of patrol services to their citizens. One reason for this is the absence of conduct-performance categories, which makes it difficult for officials to know systematically what they want and to articulate it to a supplier. Local officials are not always aware of the different alternatives facing them in providing their community with patrol services and even if the alternatives are known, still less is known about the costs and benefits of each alternative. For example, in the contracting alternative the sheriff is the main and cheapest source of information. Because many local officials do not trust the sheriff (e.g., because he is of a different political party or because they distrust county officials in general), they may discount what the sheriff could provide them through contracting.

A clearinghouse of information and ideas on alternative ways of providing public services is needed. Cost and benefit data could be regularly gathered and monitored and any new innovations done by one community could be shared with officials of other communities facing

a similar problem.²² Monthly newsletters could be sent to local officials and evening and weekend seminars could be held in different parts of the state on issues of interest.

Increase the Number of Patrol Suppliers

It is not known how the conduct-performance in the patrol service market would change if the number of suppliers of patrol services should increase, but, as competition increases, one would expect the conduct-performance preferences of local officials to gain greater weight relative to the preferences of suppliers. The number of suppliers could be increased by encouraging private suppliers and the state police to begin contracting for patrol services with local communities.

Potential private suppliers of patrol services are private security firms. State laws are unclear on whether or not private security firms can sell patrol services to local communities. To lessen the legal risk, what is probably needed is a state law which allows private security firms to enter the patrol service market. Another law which needs to be modified is the one which requires that all police officers of departments of three persons or more must have at least 280 hours of police academy training. If this law were waived for a community wanting only security type police service, added incentive would be given to private security firms.

If the state police are to begin contracting, change must come within state police administration and from the state legislature. If

²² Within the institutional alternative of having a local police department, there are many different costs per patrol hour possible depending on the inputs used. For instance, local officials and police chiefs might be willing to bypass the expense of doing their own dispatching if they had some knowledge of the consequences of having state police or sheriffs do their dispatching.

the state legislature should decide that the state police should patrol only the expressways (as is done in several states) and not patrol in local communities, they might well cut back the current amount of state police patrol. If the state police administration wanted to retain patrols in local communities and were unable to obtain funding from the state, they would have to turn to contracting to finance that particular operation. Another option would be to have a state law passed directing the state police to sell patrol services to local communities.

Making the Sheriff a More Responsive Contractor

Local officials, wishing to contract but unable to obtain the conduct-performance characteristics they desire, can work through their county commissioners to obtain what they wish. They could encourage the commissioners to cut the sheriff's patrol funding making him more dependent on contracting if he wants to maintain the same size patrol division. With increased pressure to contract, the sheriff is likely to be more responsive to the needs of local officials. Opposition to this maneuver will likely be met from officials of communities who do not have their own departments, do not want to contract, and who receive adequate levels of non-contract patrol service from the sheriff. Support will be found from officials of urban areas who have their own police department and probably feel they pay twice for police service. Another option is to work for the election of a sheriff who is willing to meet the conduct-performance objectives of local officials. Where local officials have different interests, not everyone can be satisfied. Both of these options have high transaction costs and uncertain outcomes.

County-wide Millage to Fund Sheriff

Several sheriffs have advocated that their department be funded from a county-wide millage voted on in a popular election, taking the funding away from the county commissioners. How might this affect rural communities and prospective contracting communities? There is no reason to expect that each community in a county will receive its desired type or level of patrol service it wishes under this arrangement compared to having the county commissioners funding the sheriff. If the sheriff chooses to allocate patrols to minimize the county-wide mean response time, then there are likely to be some communities wanting a higher level of service.

If the sheriff agrees with a set of local officials who want a higher level of non-contract patrols, the sheriff may agree to go to the electorate and request a millage increase. If he refuses to do this, he may be willing to sell patrol services to the local community. If the price the sheriff chooses to charge is less than costs, the difference must be made up from within his budget which means that he will have to cut back one of his other services in order to increase patrol to the contracting community. This will provide incentive to price closer to costs and if the sheriff faces higher costs than local departments, the alternative of having a local police department could look better to local officials.

Conclusion

The contracting operations of eleven Michigan county sheriffs have been studied. It was found that there is variety in the patrol services sold through contracting in terms of divisibility of patrol service sold, contract price charged, price concession made, activities

performed, assignment of deputies, and revenue received from liquor inspection. It was also found that the structural relationship between the sheriff and his county commissioners affects his propensity to contract and meet the conduct-performance objectives of local officials given that the sheriff wants to expand his patrol division. Sheriffs facing tight-fisted commissioners tend to contract more and meet more of the conduct-performance objectives of local officials than sheriffs who receive from the commissioners the patrol funding they want.

APPENDICES

APPENDIX A

APPENDIX A

METHOD USED AND ASSUMPTIONS MADE IN

ESTIMATING VALUE OF RESOURCES USED IN CONTRACTED SERVICES

Where possible the sheriff's estimation of costs and the price he chooses to charge were compared to an estimate of the value of resources actually consumed in providing the contracted services in 1974. The method used to estimate the value of these resources is described below followed by the assumptions made for each of the eleven sheriffs studied in depth.

The method of estimating contracting costs focused only on variable patrol costs which included salary, vehicle, uniform and equipment. No attempt was made to estimate any overhead expenses because there are a variety of ways to defray such costs as the sheriff's office and salary, dispatching, detective, record keeping, etc. In most cases (excluding detectives) in order to accommodate the contract operation with these overhead services, it was probably not necessary to either expand them or cut such service to other parts of the county.

Each variable cost was broken down to an hourly rate. The hourly rate included gross salary (adjusted for time off due to vacation and sickness) vehicle and uniform expense. If the sheriff supplied double patrols (two persons in a car), then a double patrol hour cost was estimated which doubled the salary and uniform hourly and added the cost per hour for vehicle.

An estimate was made for the number of single and double patrol hours produced by the sheriff in 1974 for each contract operation. This was done by having the sheriff describe the patrol service supplied to each contract. For example, if the sheriff said that he gave 7 days per week coverage with single patrol during the first shift, then for that particular contract the total number of single patrol hours supplied in 1974 was $(8 \text{ hours/day} \times 7 \text{ days/week} \times 52 \text{ weeks} = 2192)$ 2192 hours. It must be emphasized that these hours are theoretical in that no attempt was made to measure the actual number of hours supplied to a contracting community unless the sheriff had such information.

To obtain total variable cost of the contract, the number of single patrol hours was multiplied by the single patrol hour cost and this was added to the product of the number of double patrol hours times the double patrol hour rate. To this is added an estimate of the amount paid in overtime and holidays. If compensation for overtime and holidays was made in time off, then these items were treated similarly to vacation and sick time which affect the number of hours paid for but not worked.

PERSONNEL

--Average Base Salary--If the patrolmen are rotated between the contracted communities and the non-contract patrol, then an average base for the entire department is used. If the men are permanently stationed, then the average base of the men working the contracted communities alone is used.

--Fringes--Some of the fringes such as F.I.C.A. and retirement are percentages of the base salary. Others are flat amounts such as false

arrest insurance and hospitalization. For Blue Cross there are different rates depending upon the type of plan each deputy has; for such cases an average is used.

--Vacation and Sick Leave--The average number of vacation days and sick leave taken is calculated and multiplied by 8 hours a day to estimate the number of hours paid but not worked. This figure is then subtracted from the yearly hours (2080 if 40 hours/week or 2184 if they work 42 hours/week). The number of hours actually worked is then divided into the gross salary to estimate a gross salary per hour.

--Overtime and Holidays--The average amount of overtime per patrolman is used if the actual overtime drawn by a contracting operation cannot be very accurately estimated. Those contracting communities which have light complaint loads will have their value of resources estimated too high. Holiday pay is tacked on after the hourly rate of single and double patrol hours is multiplied by the respective number of single and double patrol hours supplied.

VEHICLE

--Cost per Mile--To estimate cost per mile requires two estimates: one is total vehicle miles in 1974 and the other is the value of vehicle inputs consumed in 1974. Many sheriffs' departments measure and record total vehicle miles. For those that don't, an estimate of the number of miles driven in an 8 hour shift times the number of 8 hour shifts supplied in 1974 was made.

--Total Vehicle Cost--To estimate total vehicle cost all vehicle inputs are added, such as gas, oil, radio equipment, vehicle purchase, car insurance, etc. for 1974 and 1973. After 1973 has been inflated into 1974 values, the two are averaged and divided by the number of

miles in 1974. If the total vehicle miles are known for 1973, then a cost per mile for 1973 (inflated to 1974 values) is averaged with a cost per mile for 1974. The reason for this procedure is to obtain a better estimate for depreciation of vehicles. Many sheriffs' departments will have a two year budget cycle on vehicle purchases (i.e., it will be higher one year than another, meaning they tend to run their cars for more than one year). Some of the larger departments do have a one year cycle and for these no averaging is done. One problem is that the estimates may tend to underestimate the 1974 vehicle charge because it will spread the rising fuel costs over the years rather than leaving the total brunt to be felt in 1974. For those larger departments which have had the county controller estimate a cost per mile, their figure is used.

--Vehicle Cost per Hour is obtained by taking the cost per mile times the number of miles driven in a particular contract and dividing by the number of patrol hours (single and double). If miles for a particular contract are unknown, an estimate is made for an 8 hour shift, multiplied by the cost per mile and divided by 8 hours.

UNIFORMS

For most counties the union contract stipulates how much shall be paid to each deputy for clothing, cleaning, and maintenance. This figure is used in such cases and divided by the number of man hours.

The accounting procedures for each county are different; therefore, modifications of this method have been implemented where necessary.

The assumptions or differences are noted for each county.

OAKLAND COUNTY

The following table shows the estimated value of resources used in each of the contracting operations during 1974. The next table compares the value of resources used to the revenue received by the county from each contracting community and further compares the revenue received to the estimate of the costs done by the Oakland County Budget Office.

Table A-1. Estimated value of resources used in each contracting operation in Oakland County.

Community	Number of one-man Patrol Hrs.	Personnel Cost ¹	Vehicle Cost ²	Uniform Cost ³	Total Cost	Cost per Single Patrol Hr.
Avon	11,680	\$124,264	\$22,776	\$1,949	\$148,989	\$12.75
Commerce	8,760	95,459	17,082	1,462	114,003	13.01
Highland	8,760	94,207	17,082	1,462	112,751	12.87
Oakland	2,080	22,445	4,056	347	26,848	12.90
Independence	8,760	94,207	17,082	1,462	112,751	12.87
Orion	8,760	93,980	17,082	1,462	112,524	12.84
Springfield	2,080	22,813	4,056	347	27,216	13.08

¹Personnel costs include overtime. The average overtime paid per patrolman was \$2,600. Since Avon contracts for five men, five times \$2,600 was included in with gross salary estimates.

²To calculate vehicle cost, it was assumed that 150 miles was traveled per eight hour shift or 18.75 miles per hour. The 18.75 figure was then multiplied by the number of single patrol hours and further multiplied by \$.104/mile (which is the weighted average of \$.10/mile being used for the first 7 months of the year and \$.11/mile being used as the rate for the remaining five months. The cost per mile figures were obtained from the County Budget Office.

³The sheriff is billed \$100 per man per year which when divided by the actual number of hours worked by each man (1,868) gives an expense of \$.054 per hour times the number of single patrol hours. This figure is added to the estimate of equipment used up during the year of \$211 per man divided by actual hours worked (1,868) and multiplied by the number of single patrol hours.

Table A-2. Comparison of resources used to the Oakland County estimate and the revenue received from contracting communities.

Community	Estimated Value of Variable Resources Used, 1974	County Contracted Revenue Received in 1974 ¹	County Cost Estimate ²
Avon	\$148,989	\$89,350	\$92,295
Commerce	114,003	71,480	74,196
Highland	112,751	71,480	74,196
Oakland	26,848	17,870	18,459
Independence	112,751	71,480	74,196
Orion	112,524	71,480	74,196
Springfield	27,216	17,870	18,997
TOTAL	\$655,082	\$411,010	\$425,997

¹The rate charged by the sheriff including salaries, vehicle expense, and uniform costs was \$17,870 for each man purchased. Avon purchased five units and thus the revenue they send to the county in 1974 is $5 \times \$17,870$ or \$89,350. Highland, Independence, Commerce and Orion each purchased four units ($4 \times 17,870 = \$71,480$) and Springfield and Oakland each purchased one unit.

²The county estimated the cost of one unit, a man, vehicle and uniform to cost \$18,459 per year per unit. Avon purchased 5 units, so the cost according to the county is ($5 \times \$18,459 = \$92,295$).

The County Budget Office estimated the cost of a patrol unit, one man, a car, and equipment for 40 hours per week at \$18,459 per year. In arriving at this yearly figure, the county estimate of salary expense used an average base salary of \$13,000 while the average base of the men actually working in the contracting communities was \$14,280 with a range between contracts of \$14,182 to \$14,500.¹ Some fringes were

¹There is a rationale for using the \$13,000 base figure. The men hired as a result of the contract were new deputies brought in at a lower base than the contract mean of \$14,280. The reason for using the base

omitted by the county such as income protection insurance and time-off for vacation, holidays, and sick days. In addition, there was no estimate of overtime attempted.²

The county used 10¢ per mile and an average of 1,660 miles driven per patrolman per month. Dividing this figure by 20 days actually worked, yielding an average of 83 miles per eight hour shift. Estimates made by the sheriff's administrators put the mileage figure closer to 150 miles per eight hour shift. Not only is there a difference in the estimated number of miles per eight hour shift, but there is also some doubt as to the appropriate cost per mile figure. The sheriff leases his patrol cars from the county. During the first seven months the county billed the sheriff's department 10¢ per mile and for the remaining five months used 11¢ per mile. But the county did a study in 1974 and discovered the cost per mile was actually 12¢.³

Even though the county cost estimate was \$18,459 per unit, the unit price charged by the sheriff was \$17,870. This accounts for the

1 (continued) salary of men actually employed is based on the assumption that a more experienced man is more valuable to a community than a rookie. Consequently, the contracting communities were receiving more valuable resources than the non-contracting portion of the county.

²In the estimate of value of resources used part of holidays are included in the overtime estimate and part included in the number of hours paid for but not worked. It is estimated that the average patrolman works 2/3 of the holidays in which case he gets paid overtime and is part of the \$2,600 figure. The remaining 1/3 of the holidays are paid for in time-off and go into adjusting the figure of the actual number of hours worked. The men are paid for 2080 hours per year but after adjusting for vacations, holidays not worked, and the average number of sick days used per patrolman, 1868 hours are actually worked.

³The rate used in the estimated value of resources used was the weighted average of 10¢ for seven months and 11¢ for five months which was 10.4¢.

difference between the county cost estimate and the revenue received of approximately \$14,000. If most of the cost items which the county did not include in their cost estimate are included, total costs are \$655,082; and the difference between this and the revenue is about \$244,000.

Table A-1 shows that the sheriff does not charge the same per patrol hour price to each community. One possible explanation of this behavior is that the sheriff is reacting to cost differences. Table A-2 shows that the cost per patrol hour is not the same for each of the contracting communities. Most of the cost difference results from the degree of experience held by the deputies assigned to a particular contract area. Those communities with slightly less patrol hour cost have deputies with less experience than the communities which experience a higher patrol hour cost. Is the sheriff charging a higher price to communities with more experienced deputies?

The answer appears to be no. Table A-3 compares the per patrol price with the per patrol hour cost. Oakland and Springfield pay the

Table A-3. Comparison of per patrol hour price and cost for Oakland County contracts.

	Per Patrol Hour Cost	Per Patrol Hour Price
Avon	\$12.75	\$7.64
Commerce	13.01	8.15
Highland	12.87	8.15
Oakland	12.90	8.59
Independence	12.87	8.15
Orion	12.84	8.15
Springfield	13.08	8.59

highest price but Oakland does not have the same costs as does Springfield. Avon has the lowest cost and pays the lowest price. But when Avon is compared to Orion, the cost gap is 9¢ and the price gap is 51¢.

What can account for the price differences if it is not costs? Another possible answer is that the sheriff behaved as a discriminating monopolist charging the highest price which each buyer would tolerate. But from examining the sheriff's pricing procedure, this does not appear to have been done. The sheriff did not think in terms of patrol hours but instead he used a patrol unit which was a deputy and a car for 40 hours of service each week for one year; and the price he charged for this unit, to any who wished to buy, was \$17,870. It appears that the per patrol hour price and the cost differences between communities was not known by the sheriff because the contracting costs and price were never broken down by number of patrol hours for each contracting community.

HURON COUNTY

For the five township area, the contract period is from May 23, 1974, to March 31, 1975, and it contains 44.7 weeks or 313 days. During this time the sheriff agrees to supply the five townships with 2544 man hours or 1272 hours of double patrol. Per day, the average is approximately 4 hours or 28.5 patrol hours each week. At the time of this analysis, data was available for the period May 23 through September 30. During this 131 day period the sheriff should have spent 1064 man hours in the townships but actually spent 1045.

The five townships agreed to pay the sheriff at the end of the 313 day period a sum of \$14,000. If costs continue to behave as they did during the 131 day period from May 23 - September 30, the estimate of resources used is \$15,574.26. The Huron County sheriff estimated what

Table A-4. Estimate of variable resources used in the five township contract with the Huron County sheriff.

	Period of May 23 to October 1	Estimate for May 23 through March 31
Vehicle	(\$.093/mile x 14,693 miles) \$1,366.45	(\$10.41/day x 313 days) \$3,264.59
Salaries		
Part-time	4,021.16	9,607.54
Full-time	1,130.93	2,702.13
TOTAL	\$6,518.54	\$15,574.26

it would cost the townships if they were to produce the service themselves and included the following figures in their contract:

2544 hours (base salary)	\$12,491.04
Blue Cross	1,080.00
F.I.C.A.	730.72
Vehicle Expense	1,698.24
	<u>\$16,000.00</u>

The sheriff, in his estimate of costs, covered all expenses; but decided to charge a price less than actual cost.⁴

⁴Some of the differences in the way the sheriff estimated costs and the way the author did follows. The sheriff used an average base salary rate of \$4.90 and to this he included the fringes of Blue Cross and F.I.C.A. for the 131 day period, part-time men worked 84% of the contracted hours with an average base of \$4.49. The sheriff chose to use F.I.C.A. and Blue Cross as the fringes on all 2544 hours. But part-time personnel are not covered by Blue Cross but are covered under F.I.C.A. The author chose not to include any estimate for Blue Cross even for the full-time men because the rate would not change by much, if any, as a result of them working overtime on the contract operation. The item included for the men working overtime, which was not included in the sheriff's estimate was retirement which does vary by the number of hours worked. On the net, the sheriff was high on his estimate of wages and fringes but this was need to offset his low estimate of vehicle expense. It is not known how the sheriff arrived at the vehicle cost estimate. The author used cost data for individual cars operated by the sheriff and estimated a cost per mile and multiplied it by the number of miles driven. One reason for the sheriff using the \$4.90 base salary figure as his estimate was that he did not know what portion of the hours would be worked by part-time men and what portion worked by full-time deputies.

The Kinde contract is different than the township contract because it required the sheriff to hire an additional man. The sheriff's cost estimate, which is included in the Kinde contract, costs very accurately eight hours of patrol. For vehicle expense, the sheriff estimated that the car would drive an average of 75 miles for an eight hour shift. For three months of July, August and September, the average was 81 miles per eight hour shift. The sheriff priced the miles at \$.12 which was done at the direction of the county commissioners. For 1975, the price per mile will go to \$.15 again by order of county commissioners.

It is estimated that the 1974 cost of a single patrol hour to the village of Kinde is \$7.14. The estimated cost of a double patrol hour supplied to the five township area is \$12.24 (\$15,574 divided by 1272 double patrol hours). However, the sheriff charges \$11.00 per double patrol hour (\$14,000 divided by 1272 double patrol hours).

ST. CLAIR COUNTY

As a result of the contract the sheriff hired three men at starting wages. In pricing his contract he allowed for a gross salary of \$15,000 per man and \$3,000 for vehicle expenses. The \$15,000 gross salary figure used the base salary of a third year deputy and accounted for most, but not all, the fringes. The \$3,000 vehicle figure seemed to be a general estimate.

To measure resources used in the contracting operation a value estimate was made of the time actually spent in Yale. A mean gross hourly rate was used to evaluate the time spent by the second and third shift patrols, since these deputies were rotated. The actual gross hourly rate for the man permanently stationed during the first shift was also used.

Table A-5. Value of salaries used in the St. Clair County sheriff's contract with Yale City.

	Number of Single Patrols	Hrs.	Number of Double Patrol	Hrs.	Number of Man Hours	Gross Hourly Rate	Total Gross Salary
First Shift ¹	830				830	\$9.39	\$7,793.70
	455				455	8.53	3,881.15
Second Shift	422				422	8.53	3,599.66
			844		1,688	8.53	14,398.64
Third Shift			1,285		2,570	8.53	22,179.10
TOTAL	1,707		2,129		5,965		\$51,852.34

¹The man permanently assigned to the first shift is an 18-year veteran and receives more fringes including longevity pay than the other men, thus accounting for the higher hourly rate. The additional 455 hours are those worked by another patrolman when the permanent man is off duty.

Since the sheriff estimated \$15,000 per man and hired three men, total salary cost was \$45,000 compared to the estimate of \$51,852. Part of the under estimation of salaries by the sheriff resulted from five 2-1/2 percent cost of living increases gained by the patrolmen during 1974. In making the gross hourly rate estimates, only three of the cost of living increases were included and used as the average for all of 1974. The difference between three increases of cost of living wages and none is approximately \$1,100 per man. This, plus some fringes omitted by the sheriff, accounts for the salary difference.

The estimated cost of the extra level of service received by Yale is \$64,472 compared to the price charged to Yale of \$48,000. The difference in salary has already been mentioned. In addition, the sheriff did not include in his cost estimate any overtime or uniform

expense. Using the same cost figures, the cost estimate for a single patrol hour is \$10.97 and for a double patrol hour is \$19.01.

Table A-6. Total patrol expenses for the Yale contract with the St. Clair County sheriff.

Item	Analysis	Amount
Salaries	Already discussed.	\$51,852
Overtime	An estimate of \$34,000 was paid in 1974 to the entire northwest patrol but it was not known how much resulted from activity in Yale. Since Yale accounts for about 15 percent of the single and double patrol hours, 15 percent of the \$34,000 was used.	5,100
Vehicle ¹	To estimate the cost per mile figure of 9.6¢, actual vehicle budget expenditures were taken for 1973 (inflated into 1974 values) and averaged with the 1974 actual vehicle expenditures which were divided by the average number of vehicle miles for 1973 and 1974. It was assumed that 150 miles were traveled per eight-hour shift and there were approximately 481 eight-hour shifts actually spent in Yale. The vehicle estimate is (150 miles x 481 x .096)	6,920
Uniforms	The union contract calls for \$200 for all beginning patrolmen for the first year outfitting and \$150 per year after that for cleaning and maintenance. Since three deputies were hired, \$600 is used.	600
TOTAL COST		\$64,472

¹Vehicle cost estimate is probably high. When the patrols operate just within Yale city, they probably do not drive 150 miles but something less than this.

WAYNE COUNTY

The city of Romulus purchased from the sheriff four patrol units. A patrol unit consists of one single patrol during the first shift and a double patrol for each of the second and third shifts seven days per week. To staff one patrol unit requires 8 patrol persons which allows for time off due to sickness and annual leave. The sheriff guarantees Romulus that the scheduled patrols will not be eroded for any reason. When staffing patrols, if there should be a personnel shortage, the sheriff makes sure that all available personnel goes to Romulus and the residual goes to the county general patrols.

An estimate of the value of resources used in one patrol unit was not done because it was felt that the method used in determining the price of the patrol unit by the county was fairly accurate in identifying and valuing the resources used. The table below shows the costing methods used by the county.

Several comments can be offered about the costing procedure used. First, it must be remembered that contract pricing is done, not by the sheriff but by the County Board of Auditors, a group elected and acting independently of the sheriff's office and the county commissioners. There is strong incentive by the county auditors, since they represent the entire county which consists mostly of cities which have their own police departments or townships which rely on the sheriff's general patrols, to incorporate all costs into the contract price. One item which has not appeared in any of the other county costing procedures but does appear in Wayne County is an estimate for administrative overhead. After adding up the variable inputs (salaries, uniforms, and vehicle expense) they take 20% and add it. This is to defray any

Table A-7. Cost of a new patrol unit, 1973-74 for the Wayne County sheriff.

Item	Analysis	Amount ²
Base Salaries	8 men x \$14,236	\$113,890
Court Time ¹	8 men x \$731	5,845
Overtime ¹	8 men x \$625	5,000
Holiday Time	6 family holidays x 8 hours x five men x \$13.69/hr	3,285
Shift Differential	4 men x 8 hours x 365 days x .30 per hour	3,510
Saturday and Sunday	53 Sat. x 8 hours x .10/hr 52 Sun. x 8 hours x .15/hr	520
Fringe Benefits	31.1% of regular salary 18.23% of other salaries	38,635
Uniform Equipment	\$565 x 8 men	4,520
Uniform Allowance	\$250/man x 8 men	2,000
Automotive Cost	Cost of car and equipment is estimated to be \$6,260 and operating cost per miles is estimated to be \$.08/mile or \$4,000	10,260
Workmen's Compensation	1% of salaries	1,135
	TOTAL	\$188,600
Administrative Costs (20% of total)		37,720
	GRAND TOTAL	\$226,320

¹Based on average patrol person for sheriff's department.

²All amounts have been rounded.

additional level of services, such as traffic bureau, detective bureau, etc. which may operate in the city of Romulus.⁵

⁵Gene Matkowski of the County Budget Department feels that this is too low. He estimates that 40% of all the complaints which the detective bureau handles comes from the city of Romulus.

Other observations can be made. The base salary used per man is the top patrolmen base salary. The reason given for this is that the person working in Romulus is most likely to be at the top pay slot.⁶

Romulus pays \$220,000 for a patrol unit, not the \$226,320 which is the cost estimate of a new patrol unit. Part of the difference is due to the uniform expense (\$565 per man) which is only charged when a patrol unit is first purchased. Yearly uniform maintenance is \$250 per year per man. The difference between uniform maintenance and first year equipping of personnel for 8 patrol persons is \$3,024 (which includes the 20% administrative component). A portion of the remaining difference is accounted by first round vehicle expense such as siren, gun holder, radio, which totals \$2,352 (including 20% administrative component).⁷ The total of these two items is \$5,376. After making these two adjustments, a difference of \$944 remains between costs and what Romulus pays. What could account for the remaining difference is that in the vehicle estimate, no credit is given to Romulus for trade-in value of the patrol vehicle. Regardless of what accounts for the \$900 difference, the Wayne County cost procedure has Romulus paying for all variable costs and some administrative overhead.

⁶It is estimated that 90% of the patrolmen are at the top pay scale. Anyone hired in new to the sheriff's department rarely goes on the road but first works in the jail until there is an opening in the road patrol division. Under this system Romulus is unable to pay for a rookie patrol person.

⁷Some amount must be added to allow for depreciation of the vehicle equipment.

CLINTON COUNTY

The Clinton County sheriff has taken care to estimate the value of resources used in providing a single patrol hour of service. The sheriff feels that in any contractual arrangement, the county should match whatever the local contracting community pays which, in his eyes, is the county's obligation to the local community in return for their county taxes. He realizes that the contracting communities receive additional sheriff inputs such as administration, detective, traffic units, etc. other than those itemized in Table A-8.

The main differences between the sheriff's cost estimate and the estimate of resources used comes in the base salary used and in the number of hours actually worked. The sheriff used the average base salary of all patrolmen. But since sergeants also perform patrol activities, they should be included in the base salary. The higher base salary also affects many of the fringes. For holiday pay, the sheriff apparently estimated for eight holidays instead of the 10 for which the men were paid. In estimating the actual number of hours worked, the difference between the sheriff's estimate and the resources used is that the latter includes an allowance for vacation time and sick leave.

The sheriff charges \$5.85 for a single patrol hour of service. This price applies to the villages and the township. Table A-9 compares the revenue the sheriff receives from each of the contracting communities, the sheriff's estimate of the cost, and the estimate of the resources used. (For the villages, the village patrol estimate of costs is used; and for the township, the county patrol operation estimate is used.)

Table A-8. Estimate of variable resources used and Clinton County sheriff's cost estimate.

	Sheriff's Cost Estimate	Estimate of Resources Used
Average Base Salary	\$9,856	\$10,041
Social Security	505	587
Retirement ¹	259	418
Blue Cross	439	325
Health and Accident	137	137
Holiday Pay	371	442
Uniform, Equipment and Cleaning	588	500
Average Gross Wage ²	12,155	12,450
Number of hours worked ³	2,184	2,076
Average Gross Hourly Wage	\$5.56	\$5.99
Vehicle Charge per Hour ⁴		
County Patrol	2.93	2.93
Village Patrol	0.98	0.98
Average Hourly Rate for Single Patrol Hour of Service		
County Patrol	8.49	8.92
Village Patrol	6.54	6.97

¹The rate in January was \$211 per man, but in July a new plan was adopted which moved the rate to \$439. The average of the two rates was taken for the estimate of resources used while the higher rate was used in the sheriff's estimate.

²Little if any overtime was paid during 1974.

³The sheriff's deputies are paid for 42 hours per week or 2,184 hours per year. Thirteen and one-half days are paid for but not worked due to vacation and sick days. The sheriff estimates two such days per man per year.

⁴The sheriff took several vehicles and monitored the actual expenditure for equipment, repairs, gas, and oil and divided by the miles traveled during the year to generate an operating cost per mile. He also took several cars over a three year period and calculated a depreciation value per mile by subtracting the salvage value of the car from the purchase price and dividing by the number of miles traveled. For the first half of 1974 the rate was 11.7¢, but due to rising fuel costs it jumped to 14.7¢/mile. From spot checks of officers' daily logs, he estimated the average miles traveled during 8 hours for the county was 180 (22.5/hour) and 60 for the village (7.5/hour).

Table A-9. Estimate of variable resources used, annual amount paid to Clinton County sheriff's cost estimate.

Community	Number of Annual Single Patrol Hours Purchased	Annual Amount Paid to Sheriff at \$5.85/hr	Sheriff's Annual Cost Estimate	Estimate of Resources Used Annually
Fowler village	1200	\$7,020	\$7,848	\$8,364
Westphalia village	1200	7,020	7,848	8,364
Dallas Twp.	100	585	849	892
Lebanon Twp.	50	292	424	446
TOTAL	2550	\$14,917	\$16,969	\$18,066

Using the higher cost estimate the sheriff is giving to the contracting communities approximately \$3,000. Granted, there are other services which these communities receive which are not included in the cost estimates such as detectives and traffic units.⁸ But it is difficult, if not impossible, to factor out that portion of these county-wide services which go to the contracting communities as county taxpayers and the portion which goes to them because of their participation in the contract.

KENT COUNTY

According to the contract, the contracting townships pay for the salaries and fringes and uniforms of the patrol persons and the county

⁸Sometimes the contracting communities may receive a double patrol unit but they are billed as if it were a single unit.

pays for all vehicle expenses. The townships are to be billed for the actual salary expense each month and are to pay promptly. In 1974 the total gross salary expense for all seven contracting townships is \$203,271 and the townships have paid \$162,000 which means the townships are receiving an interest free loan. Since the seven contracting communities are treated as a unit, no attempt has been made to price the actual resources used in each of the contracting townships. The actual expense charged to the contracting townships as provided by the Kent County deputy controller are listed below:

Table A-10. Actual expenses billed to the contracting townships in 1974 by the Kent County sheriff.

Item	Amount
Wages	\$159,383
Overtime	5,845
Computer Services	102
FICA	9,663
Retirement	16,937
Hospitalization	6,213
Life Insurance	958
Insurance Bonds	4,219
TOTAL	\$203,271

It should be noted that in 1974 the county absorbed the uniform maintenance.

To staff 16 hours of patrol 365 days per year requires a little over three patrol persons which allows for vacation days, holidays, and an average five days of sick leave per man. Since there are five cars each supplying 16 hours of daily patrol service every day of the year, there is a need for fifteen plus patrol persons. The contracting communities are actually buying 16 and pay for the salaries of the men

who actually work in their communities. From all indications, the contracting communities pay for all costs related to personnel.

Billing of this total cost is done in tenths. Since there are five cars or 10 half cars which can be purchased, communities pay for the number of half cars they receive. Three communities receive a car each so they each are billed for 2/10th of the total cost. The other four townships receive a half a car and each pay 1/10th of the total cost.

It is instructive to estimate the amount of vehicle and uniform and equipment expenses absorbed by the county. Kent County has a motor pool that services 64 county cars, 25 of which are patrol vehicles. It was only through very broad guesstimating by sheriff and county officials regarding the number of cars used up by contracting communities in 1974 and number of miles driven in an eight hour shift, were the vehicle figures in the Table A-11 at all possible.

Total 1974 costs to the county to supply extra levels of patrol services to the contracting communities was approximately \$238,700. The cost of a single patrol hour of service was \$8.17. The amount to be paid by the contracting communities is \$203,271 or \$6.96 per hour.

LENAWEE COUNTY

Even though the sheriff does not have a contract which specifies the exact number of patrol hours, an estimate of value of resources used is still done in order to contrast with the expenses met by the private supplier. Table A-12 deals with salary and uniform components of a per patrol hour cost figure.

Table A-11. Estimate of vehicle and uniform expense absorbed by the Lenawee County sheriff for contracting communities.

Item	Analysis	Amount
Vehicle Purchase ¹	Average 1974 price of patrol car was \$3483 x 6.67 cars.	\$23,233
Gas	Price per gallon of gas @ 26¢. Assume average of 80 miles driven in an 8 hour shift for a total of 292,000 miles driven by all contract cars. Further assume cars get 7 miles per gallon so that total gallons of gas used is estimated at 41,714. (41,714 x .26)	10,845
Oil	Assume one quart of oil per 1000 miles or 292 quarts or 73 gallons of oil x 1.84 per gallon	134
Antifreeze	Assume each car uses 2.5 gallons times \$3.65 per gallon times 6.67 cars	60
Car Insurance	\$60 per car per year x 6.67 cars	400
Vehicle Repairs ²	Total amount budgeted for 1974 was \$41,050. There were 64 vehicles serviced by the motor pool of which 25 (.3) were patrol cars. Assuming that each vehicle receives the same amount of vehicle repair and operating supply .3 x 41,050 = \$12,315 and divided by 25 patrol cars gives average amount of \$492 per patrol car x 6.67 cars	3,282
	GROSS TOTAL	37,954
Trade-in	Assume trade-in of each car is 800 times 6.67 cars	- 5,336
Net Vehicle Expense		\$32,618
Uniform	Assume \$175 is required to handle the normal wear and tear of personnel uniforms and equipment each year times 16 persons	2,800
	TOTAL EXPENSE ABSORBED BY COUNTY	\$35,418

¹The county says that they like to trade their cars when they have 60,000 miles on them. If the assumption of 80 miles per 8 hour shift is correct, then 292,000 divided by 60,000 yields only 4.8 vehicles used up during 1974.

²The 6.67 cars used up in 1974 by contracting communities seems high. For vehicle repairs and operating supplies patrol cars receive more than the average for the cars serviced by motor pool, so this figure is probably low.

Table A-12. Deviation of salary cost per man hour for Lenawee County sheriff deputy.

Item	Analysis	Amount
Average Base Wage	The 1974 base salaries were added and divided by 26 patrolmen	\$10,632
F.I.C.A.	0.0585 of base salary (0.0585 x 10,632)	622
Retirement	Rates are \$6.00 per month per man	72
Longevity	One patrolman receives an extra \$400 per year for having worked more than 8 years and 11 patrolmen received each an extra \$200 per year for having worked more than 4 years. The average spread over 26 men in \$100.	100
Blue Cross	The monthly rate of \$40.89 is for coverage of two persons and is the one used. For those men who had family coverage, the rate is \$42.95 per month (12 x 40.89)	490.68
Life and False Arrest Insurance		112.
TOTAL GROSS SALARY		\$12,029
Uniform Cleaning	By union contract, the county pays to each man \$150 for uniform cleaning	150
Maintenance and Replacement	The cost to outfit a patrolman is \$570 and the sheriff estimates that it costs about \$105 per year to cover normal uniform depreciation	105
TOTAL UNIFORM EXPENSE		\$225

In 1974 the sheriff's deputies were paid for 42.5 hours per week or 2210 hours per year. But they were paid for 11 holidays, an average of 8 vacations and an average of 5 sick days.⁹ The total number of hours which the men were paid but did not work was 192. To calculate

⁹It was estimated that 20 patrolmen received 10 days vacation time and the average over 26 men is 8 days per man. The average number of sick days actually taken per man is estimated to be five by the sheriff's office.

the actual number of hours worked, 192 hours is taken from 2210 giving 2018 hours actually worked.¹⁰ The hourly wage per man hour is \$5.96 (12,029 divided by 2018). Cost of the uniform per hour is 13¢.

To estimate vehicle expense per hour cost per mile estimates were done to two of the sheriff's vehicles. An average of the two estimates, which was 10.8¢ per mile, was used.¹¹ The sheriff estimates that he would probably drive 100 miles per eight hour shift if the contract operation were a township and 50 miles per eight hour shift if a village was contracting.¹² Using these figures the vehicle cost per hour for a village contract would be \$.66 per hour and for a township \$1.31 per hour.

The table below estimates the per patrol hour cost for a single and a double patrol hour. Presently the sheriff operates only double patrol units but it is possible that he would provide a single if that is all a community could afford.

Table A-13. 1974 patrol hour costs for single and double patrol units supplied to a village or a township Lenawee County sheriff.

		Village	Township
Single Patrol Unit	Salary	\$5.96	\$5.96
	Vehicle	0.66	1.31
	Uniform	0.13	0.13
	TOTAL	\$6.75	\$7.40
Double Patrol Unit	Salary	\$11.92	\$11.92
	Vehicle	0.66	1.31
	Uniform	0.26	0.26
	TOTAL	\$12.84	\$13.49

¹⁰In 1975 the deputies will be paid for 40 hours per week. If the number of holidays, sick days and vacation days do not change, the number of hours actually worked will drop to 1888. Given the same gross salary, the hourly wage then becomes \$6.46.
(Continued on next page.)

GENESEE COUNTY

Genesee Township receives from the sheriff 5,840 single and 7,920 double patrol hours per year for an amount not to exceed \$195,501. Vienna Township receives 2,290 single and 5,840 double patrol hours per year for an amount not to exceed \$77,000, and Fenton received 2,920 double patrol hours for an amount not to exceed \$32,250. Each contract contains a paragraph which says that if costs increase during the year, that the contract will be amended to reflect the higher costs. For each township, overtime is not included in the cost figure. It is recorded by the county and billed to each township.

When the township contracts were signed, the union contract, setting new wage levels, had not been signed. Consequently, the estimate of value of resources used will not be compared to the price appearing in each contract. Instead, actual costs billed to each township were obtained from the time each contract began through December 1974. A 12-month estimate was obtained by dividing each amount by the number of months the contract had existed in 1974 and multiplying by 12. The results are shown in Table A-14 below.

The estimate of the value of variable resources used in the different contracts is shown in Table A-15 below.

Table A-16 compares the estimate of variable resources used to the yearly estimates of the amounts to be billed each township.

(Continued from previous page)

¹¹Total vehicle cost includes purchase price of \$4,500 minus \$1,200 for trade-in, operating expense (gas, oil, and maintenance), car insurance of \$305 and \$270 for radio depreciation and installation.

¹²For Frank Becker the number of miles driven for 4000 hours of service to the village of Clayton was approximately 57,000 or 14 miles per hour. It is unclear whether this mileage includes travel to and from court and to and from Becker's office.

Table A-14. Actual and 12-month estimate and expenditures billed to each township by Genesee County sheriff.

Billing Period for Most Cost Items	Genesee Township		Vienna Township		Fenton Township	
	Actual Expenditure for Billing Period	12-Month Estimate ¹	Actual Expenditure for Billing Period	12-Month Estimate ¹	Actual Expenditure for Billing Period	12-Month Estimate ¹
	5/3-12/27	5/3/74-5/3/75	3/8-12/27	3/8/74-3/8/75	4/5-12/27	4/5/74-4/5/75
Salaries	\$90,452	127,696	51,484	58,838	16,080	20,311
Shift Differential	4,598	6,491	2,397	2,739	954	1,205
F.I.C.A.	5,856	8,267	3,150	3,600	1,053	1,330
Hospitalization	7,734	10,918	3,594	4,107	1,272	1,606
Life and Health Insurance	1,585	2,237	1,038	1,186	370	467
Retirement	7,600	10,814	4,081	4,663	1,455	1,837
Workmen's Compensation	2,700	3,811	1,438	1,643	558	704
Gross Salary	120,525	170,234	67,182	76,776	21,742	27,460
Overtime	5,405	7,630	2,222	2,539	1,379	1,741
Cleaning	776	1,095	285	325	136	171
Uniforms	4,138	4,138	1,883	1,883	0	0
Vehicle Rental	15,167	21,412	11,963	13,672	3,171	4,005
Other ²			50	50		
False Arrest Insurance ³						
Total Variable Costs	146,071	204,509	83,535	95,245	26,428	33,377
Overhead Expenses						
Electricity ⁴			649	649		
Telephone			782	782		
Total Costs ⁵	146,071	204,509	84,966	96,676	26,428	33,377

¹The 12-month estimate for those expenses which change each month was obtained for Genesee Township by dividing by 8.5 and multiplying by 12; for Vienna Township by dividing by 10.5 and multiplying by 12 and for Fenton Township by dividing by 9.5 and multiplying by 12. Those items which were not increased for 12 months are uniform, electricity, telephone and other.

²Other is ammunition.

³ For Genesee Township, \$825 and for Vienna Township \$335 was budgeted for false arrest insurance but no expenditure was made during the billing period observed.

⁴ For Genesee Township \$600 was budgeted for electricity but none was expended during the billing period observed.

⁵ For Genesee and Vienna Townships the totals for actual expenditure do not agree with the controller computer printout. For Genesee Township the controller's total is \$149,108 and for Vienna the total is \$80,860. The reason for the difference is not known.

Table A-15. Estimate of annual value of variable resources used in each contract by Genesee County sheriff.

	Genesee	Vienna	Fenton
Salary			
First Shift ¹	5840 hrs x \$ 9.04 = \$ 52,793	2920 hrs x \$ 9.04 = \$26,396	
Second Shift ²	5840 hrs x \$18.98 = \$110,843	2920 hrs x \$18.98 = \$55,421	2920 hrs x \$18.98 = \$55,421
Third Shift	2920 hrs x \$19.28 = <u>\$ 56,297</u>	2920 hrs x \$19.28 = <u>\$56,297</u>	
Total Salary	\$219,933	\$138,114	\$55,421
Vehicle ³	165,353 x 11¢ = \$18,189	121,875 x 11¢ = \$13,406	47,843 x 11¢ = \$5,262
Uniform ⁴	\$4,138	\$1,883	--
TOTAL ⁵	\$242,260	\$153,403	\$60,683

¹Since the sheriff's policy is to rotate his patrolmen throughout the county, an estimated average base salary (\$13,244) over all patrolmen was used. (This base includes 1974 union adjustment.) Fringes were estimated using the base. To adjust for shift differential, 6% and 8% were used respectively for the second and third shift. (It is assumed that fringes are not increased by shift differential.)

²The hourly rate is doubled for double patrol hours.

³Monthly mileage is kept by the sheriff. Yearly estimates have been made from these statistics. Mileage rate of 11¢ per mile is used by the county for the leasing of the sheriff's cars from the county motor pool.

⁴The sheriff's estimate of uniform expenses is used.

⁵Total does not include false arrest insurance.

Table A-16. Estimate of variable resources used and estimated amount billed to each contracting community by Genesee County sheriff.

	Annual Number of Single Patrol Hrs	Annual Number of Double Patrol Hrs	Estimated Value of Variable Resources Used in 1974	Estimate of Annual Amount of Variable Resource Billed by County	Difference
Genesee Twp.	5840	7920	\$242,260	\$204,509	\$37,751
Vienna Twp.	2920	5840	153,403	95,245	58,158
Fenton Twp.		2920	60,683	33,350	27,333
Total	8760	16680	\$456,346	\$333,104	\$123,242

As shown in Table A-16 there is over \$100,000 difference between the amount which collectively will be billed the three townships and the estimated amount of resources used. This difference will be financed from the county general fund.

There are two reasons for such a difference between the sheriff's cost estimate and the estimate of actual resources used. First, the sheriff was trying to anticipate costs as well as establish a costing procedure for the first time. Second, the billing procedure does not pass on to the townships actual expenses. Instead, an estimate of salaries for the number of men to be purchased by each contract is made, which is 11 for Genesee, 5 for Vienna and 2 for Fenton.¹³ First

¹³ Before Vienna contracted with the sheriff, they had a budget of about \$100,000 for the services of 5 personnel in the department, the same number which is purchased from the sheriff. One reason Vienna was able to do it cheaper than the sheriff was the use of part-time personnel to cover vacation and other off-time. Another reason is the lower salary level of the officers.

step base pay was used for fringes and estimating salary cost. Approximately 1/12th of this amount is then billed to each township.¹⁴ But the sheriff rotates his patrolmen which means that a patrolman at a higher step could work in the contract community. To estimate resources used requires that an average base over all patrolmen be used.¹⁵ The difference in bases between a beginning deputy and the average base over all deputies is approximately \$2,300.¹⁶ Fringes further widen the gap. In the sheriff's estimate of the number of patrolmen needed to staff each contract operation, allowance was not made for time off. It is estimated that the average patrolman is paid for 2080 hours but works only 1800 hours.¹⁷ Total number of annual man hours to staff the Genesee contract is 21,680 or 12 men, 14,600 man hours or 8 men for Vienna and 3.25 men for Fenton.¹⁸

¹⁴An adjustment was made when the new union contract went into effect.

¹⁵The rationale which could be advanced justifying using beginning pay bases is that the men employed due to the contracted patrols began at the first pay step. But since the sheriff rotates his men, the non-contracting portion of the county receives the services of beginning deputies (many of whom, however, are experienced police officers).

¹⁶The overall base wage for patrolmen is estimated to be \$13,244 and the base for step A deputy is estimated to be \$10,908.

¹⁷From the county's perspective, the amount of unproductive time for the average patrolman is 120 hours (3 weeks) for vacation, 56 hours for personal days and 104 hours (13 days) for holiday compensatory time. Total number of hours paid for but not worked is 280 and subtracted from the 2080 hours paid for leaves 1800 hours actually worked per man.

¹⁸Total man-hours for each contract is divided by 1800 hours to calculate the number of men needed to staff the operation allowing for vacation time, personal days, and holidays.

In the Genesee contract the sheriff budgeted an amount of approximately \$7,000 for administrative overhead. However, no billing had been done for overhead items. An item will not be billed to the townships until the sheriff sends to the county controller a voucher for the specified amount. If the sheriff does not issue a voucher for overhead expense, then none will be charged to Genesee Township.

WASHTENAW COUNTY

The following two tables display the patrol cost estimation. The first table (Table A-17) derives the cost per single and double patrol hour and the second table (Table A-18) generates the total cost of each contract and compares it to the price. No discussion of the Washtenaw sheriff's pricing practices was held because the sheriff's budget personnel were extremely busy and could not take time to show the author how they estimated the prices of the different contract patrols.

KALAMAZOO COUNTY

To estimate actual costs incurred by Comstock for the higher level of patrol service, expenses received by the county and billed to the township must be added to the expenses billed directly to Comstock. Table A-19 below has this information. The total cost of securing 6,240 single patrol hours of service (excluding overtime) was \$52,591 or \$8.42 per patrol hour. Of the \$45,286 expenses incurred by the county, as of January 13, 1975, Comstock had transferred a sum of \$36,590 which means that the county was loaning Comstock approximately \$9,000 interest free. Comstock also paid to the contracted patrolmen in 1974, \$9,891 for 1800 hours of off duty work enforcing township ordinances.

Table A-17. Estimation of value of resources used per patrol hour for different contracts in 1974 for Washtenaw County sheriff.

	Ypsilanti Township	Dexter Village	Superior Township	Northfield Township
Average Base Salary	\$13,026 ¹	\$14,771	\$12,931 ²	\$12,976 ³
F.I.C.A. (0.0585 x Base)	762	864	756	759
Retirement (0.0713 x Base)	928	1,053	921	925
Hospitalization (\$36.00/month)	432	432	432	432
Workmen's Compensation (\$3.08 per \$100)	400	452	397	397
Life Insurance (\$5.76 per \$1000)	74	80	69	69
AVERAGE GROSS SALARY PER MAN	15,622	17,652	15,506	15,558
Average hourly wage per patrol hour (divide gross hourly wage by 1836 hours) ⁴	8.51	9.61	8.44	8.47
Uniform Maintenance and Replacement per Hour Worked ⁵	0.26	0.26	0.26	0.26
Vehicle Cost per Patrol Hour ⁶	1.54	0.98	2.91	2.91
Cost per Single Patrol Hour	10.31	10.85	11.61	11.64
Cost per Double Patrol Hour	19.08	20.72	20.31	20.37

¹This is the average base for 15 deputies assigned to Ypsilanti Township. It does not include the lieutenant or the sergeant's base wages.

²Superior Township had one person working the contract for two months and another one working it for 10 months. A weighted average was taken.

³Northfield Township was handled similarly to Superior.

⁴To obtain the number of hours actually worked, it is assumed that each deputy gets on the average of 12 days vacation and 12.5 holidays. This is 196 hours for which the deputies are compensated but do not work. It is estimated that the average patrolman also takes 6 sick days per year which are paid and add on an additional 48 hours. (2080 - 244 = 1836).

⁵In 1974, \$150 was spent for uniform replacement and \$325 for maintenance per hour per year on the average (425 ÷ 1836 = \$0.26/hour).

⁶It was estimated that the average cost per mile was 12¢. It was further estimated that the number of annual miles driven for Ypsilanti was 224,125; for Dexter it was 62,664; for Superior and Northfield each it was 650,508. (Mileage figures were estimated from calculating the number of miles driven in October and multiplying by 12.) Finally, the total number of patrol hours (single + double) is divided into the total vehicle cost (12¢ x mileage) to generate vehicle cost per patrol hour.

Table A-18. Estimated total variable resources used by each of the Washtenaw sheriff's contract operation.

	Ypsilanti Township	Dexter Village	Superior Township	Northfield Township
Total cost of single patrol hours	\$95,178 (5736 x \$10.31)	\$82,980 (7648 x \$10.85)	\$24,148 (2080 x \$11.61)	\$19,368 (1664 x \$11.64)
Total cost of double patrol hours	222,285 (11,680 x \$19.08)			25,421 (1248 x \$20.37)
Shift Differential ¹	2,336 (2336 x \$0.10)	573 (5736 x \$0.10)		416 (4160 x \$0.10)
Overtime Estimate				
Administrative Overhead ²	38,364			
Total Cost	\$322,123	\$88,716	\$24,148	\$45,205
Yearly Amount Received from Each Contract ³	204,000	71,000	15,000	16,000

¹The shift differential is 10¢ per man hour for any hours worked during the second and third shift.

²For the Ypsilanti contract, one lieutenant and sergeant are used for supervisors and administrator. There is also a clerk/typist who is paid out of federal funds but since this is not a cost to the county it is not included; however, this could become an expenses once federal funds end.

³The amounts were obtained from each contract.

Table A-19. Actual police expenses incurred by Comstock Township in 1974 broken down by expense items.

Expenses Billed Through County ¹	
Item	Amount
Salaries	\$31,091
F.I.C.A.	1,869
Retirement	1,733
Employee Insurance	2,154
Radio Maintenance	294
Vehicle Maintenance	3,222
Gas and Oil	1,804
Uniforms	675
	Subtotal
	\$42,842
Overtime	2,444
	Total
	\$45,286
Expenses Billed Directly to Comstock ²	
New Car	3,774
Radar and Radics	3,815
Miscellaneous (Uniform and Equipment)	2,160
	Total
	\$9,749

¹Source is the Kalamazoo County Controller

²Source is the Comstock Township Clerk

Initially it may look as if the county is passing all expenses on to Comstock; however, there are two costs which do not appear. One is an expenses for vacation time. If a Comstock deputy goes on vacation, the sheriff fills in with another deputy. While the salary of the fill-in deputy is billed to Comstock, the vacationing deputy's

salary is paid out of the general fund. With three deputies taking a total of 35 days, the yearly cost is \$1,677.¹⁹ Sick days, providing the sheriff used general patrol personnel to cover when a Comstock deputy is ill, needs also to be added.²⁰ Second, it is not clear if holiday pay and health and life insurance is included in the fringe benefits.

The Climax and Wakeshma contract operations pay a base rate of \$6.00 per hour which is above the average base rate of \$4.50 but less than the time and a half overtime rate. To this is added 14.21% for fringes as compared to the 24% which is normal county fringe markup. The reason for the difference is that the insurances have already been paid and no additional expense is incurred by the county in these items as a result of the contracts. The 17¢ per mile figure is an estimate by the county controller.

EATON COUNTY

The Eaton Rapids contract calls for five patrol persons and two vehicles. But to provide the contracted number of single and double patrol hours, requires 6 patrol persons due to the decision to run a

¹⁹(35 days x 8 hours/day x 5.99/hour). Hourly rate is the average for the three deputies who work the Comstock contract including fringes. The average base is \$10,110, F.I.C.A. (.0585 of base) is \$591, retirement (8% of base) is \$808, workmen's compensation (1% of base) is \$101, hospitalization (family) is \$711 per man, life insurance is approximately \$80 per man and liability insurance is about \$60 per man. Dividing by 2080 hours per year gives an hourly rate of \$5.99.

²⁰A total of 35 vacation days will be taken by the three men and if they each average 3 days sick leave, this is an additional 9 days salary expense.

double patrol during the evenings rather than a single patrol. In the contract the sheriff inserted the cost breakdown which is compared to the estimated value of the variable resources (personnel and equipment) used. This is done for 5 as well as 6 patrol persons.

Table A-20. Eaton County sheriff's cost estimate of Eaton Rapids contract compare to value of resources used.

	Sheriff's Cost Estimate	Value Estimate of Resources Used	
		Five Patrol Persons	Six Patrol Persons
Salaries	\$68,898	\$68,665 ¹	\$80,898 ²
Vehicle	14,102	11,750	11,750
Uniform Cleaning and Maintenance	875	1,625	1,950
Office Supplies	200		
TOTAL	84,075	82,040	94,619

¹The estimate of gross salary for the five patrol persons was gained by taking the mean gross salary (including holiday pay) and multiplying by five. Vacation and sick leave are accounted for by adding in the gross pay of the persons necessary to fill in for those on vacation or sick. The average vacation for the five is 8 days and 3 days is average sick leave used. (11 days x \$47/day x 5 men = \$2,580.)

²The mean gross hourly rate, which included vacation time (average 7 per patrol person, sick time (average 3 days per patrol person) and holidays (11 per patrol person), was multiplied by the number of patrol person hours needed to staff all of the single and double patrol hours produced in 1974.

The mean base salary used by the sheriff in his cost estimate was \$10,858 compared to \$10,362 used in my estimate. The sheriff's estimate does not include an estimate for replacement of patrol persons due to vacations and sick leave. If it had, his salary estimate would have been greater than the five patrol person salary estimate. Another difference exists on vehicle cost. The estimated number of miles

traveled by the Eaton Rapids contracted patrol was 94,000 miles which is about 10 miles per hour of patrol. It is likely that this mileage estimate is too low which accounts for much of the difference between the sheriff's and the author's estimates. The sheriff's cost estimate is for five persons and is approximately \$10,000 less than the estimate of resources used by the Eaton Rapids contract in 1974 which used six patrol persons rather than five.²¹

The Delta Township contract calls for 15 persons and four vehicles. These persons can be patrol detectives or whatever the sheriff chooses. For most of 1974, the sheriff chose to provide 12.5 persons doing patrol work, one sergeant who administered the program and did some patrol work (although he was not in the regular patrol schedule), one detective full-time, and 0.5 of a person who did follow-up work.²² The sheriff had a cost breakdown for the Delta contract (although it was not included in the contract).

²¹The sheriff did do a cost breakdown for six patrol persons in 1974 and the total was \$97,147. The average base for this cost estimate was \$10,721 compared to the one used in the author's estimate of \$10,142. This would account for most of the difference between the author's cost estimate of \$94,619 and the sheriff's estimate of \$97,147.

²²The sheriff has several other detectives on his force and they spend most of their time in Delta Township. They were not included in cost estimate because they were not a part of the contract.

Table A-21. Eaton County sheriff's cost estimate of Delta Township compared to value of resources used.

	Sheriff's Cost Estimate	Estimate of Value of Resources, Used
Gross Salaries	\$199,848	\$205,381
Overtime	28,206	12,000 ¹
Vehicle	28,206	49,968 ²
Uniform Cleaning and Maintenance	2,625	4,875 ³
TOTAL	230,679 ⁴	272,224

¹Overtime estimate was given by undersheriff.

²This figure includes five patrol vehicles plus the cars used by the detective and sergeant in 1974. The contract only calls for four cars upon which the sheriff's estimate is based. If four vehicles are used and no mileage included for the detective and sergeant, the figure is \$36,090.

³It is estimated that the county spends \$150 per man per year for cleaning and \$175 per man per year for uniform and equipment replacement. The sheriff's estimate does not include the cleaning estimate.

⁴The sheriff's total cost estimate differs from the contract price of \$230,683 because cents were not included when adding up the different line items.

The cost estimates used in basing a contract price are estimates of what costs will be. The estimate of value of resources used is closer to what actually happened during the year. The sheriff may not have been able to anticipate the need of five patrol vehicles in Delta Township just to fulfill the contract. This along with rising gas prices during 1974 accounts for the vehicle difference. Overtime was not included in the sheriff's estimate as well as the allowance for vacation and sick leave.

The cost of a single and double patrol hour are found in the table below. The main difference between the Eaton Rapids operation and the

Delta operation is that the sergeant is considered administration and is added into each patrol hour in Delta and Eaton Rapids. The other differences are in vehicle (Delta cars drive more miles than patrol cars do in Eaton Rapids) and in salaries (the mean base is higher for the officers in Delta than they are in Eaton Rapids).

Table A-22. Comparison of costs between Eaton Rapids and Delta Township.

	Village of Eaton Rapids		Delta Township	
	Single Patrol Hours	Double Patrol Hours	Single Patrol Hours	Double Patrol Hours
Salary	\$6.52	\$13.04	\$8.95	\$13.48
Administration			0.68	0.68
Vehicle	1.26	1.26	2.01	2.01
Uniform	0.21	0.42	0.20	0.40
TOTAL	7.99	14.72	9.63	16.57

APPENDIX B

APPENDIX B

COMPLAINT CLASSIFICATION

<u>Complaint Code</u>	<u>Complaint Name</u>	<u>Complaint Description</u>
01	Unknown Accident	This is an auto accident of unknown seriousness. The caller usually has driven past an accident and has limited information. Often times the officer treats this as a serious accident and proceeds with lights and siren.
02	Property destruction accident	An auto accident with no personal injury. This group also contains hit and run property destruction accident.
03	Personal injury accident	An auto accident where there is personal injury. This group also includes personal injury hit and run. Officers usually proceed with lights and siren.
04	Breaking and entering in progress	The caller is quite sure that someone is breaking and entering a home or business. This type of complaint, because it is an in progress complaint, receives a high priority and police usually respond with lights and siren.
05	Breaking and entering report	This complaint is a breaking and entering which is after the fact. Usually very little can be done other than take a report; consequently this complaint will tend to receive a low priority.
06	A possible breaking and entering in progress	Reasonable doubt exists that this is not a breaking and entering in progress. The caller may report a car in front of a home where the people have gone on vacation. This is usually a suspicious situation.

Complaint Code	Complaint Name	Complaint Description
07	Larceny report	This is anything stolen which did not require a breaking and entering. These complaints are after the fact. Any larcenies in progress found were classified also with breaking and entering in progress.
08	Missing person and run away	This complaint usually entails taking a report.
09	Missing child	The difference between child and person is the age 12. The response is usually quick for this type of complaint if the child is very young and if the weather is cold and if it is dark.
10	Robbery, armed and unarmed and attempted	This complaint has the thief confronting the victim. This complaint usually receives a high priority.
11	Prowler	This is usually someone up close to a house--either the caller's or someone else's.
12	Slumper	This is someone who is slumped over the steering wheel of the car. It is usually a drunk sleeping, but it could be someone who is ill.
13	Suspicious vehicle	This is a parked vehicle in some neighborhood and the caller is not use to seeing it.
14	Suspicious person	This is usually a person in a car either parked or driving around in the neighborhood.
15	Assults	This is another complaint which is after the fact. The assult has taken place, and the victim, or in a case of a fight, the one who has lost, wants to report it.

Complaint Code	Complaint Name	Complaint Description
16	Murder, rape, suicide, assault in progress, shooting, etc.	This is a very heterogeneous group containing those complaints which tend to be few in number but the most threatening to a person.
17	Shoplifting	This is really a larceny, but there were so many, that a special category was created.
18	Domestic	This category contained any family fight or any fight which would be called in. This complaint would usually receive a fairly high priority because there is often a high probability of personal injury.
19	Trouble with...	This is a very heterogeneous group containing calls where two or more citizens are in conflict but the conflict is not likely to lead to violence. A caller might be bothered by a barking dog of a neighbor; or, kids are making noise or playing in the street.
20	Trouble with...	Another very heterogeneous group containing calls where two or more are in conflict but in this group the conflicting parties are closer together physically thus enhancing the chance for violence. Some examples are a customer won't pay, or trouble with husband or son, or unwanted guest etc.
21	Vandalism	This group might also include attempted breaking and entering or attempted larceny.
22	Alarms	This is responding to any alarm, bank, business or resident or car.
23	Fire	When people need an ambulance or there is a fire, they often times call the center and often times a police car is dispatched to the scene.

Complaint Code	Complaint Name	Complaint Description
24	Public assistance	This is a very heterogenous group containing such items as vehicle inspection, discussing a civil matter with a citizen or someone found some property and doesn't know what to do with it.
25	Traffic complaint	This is any complaint related to traffic such as loud cycles, parking, road hazzard, squealing tires etc.
26	Abandoned vehicle	This is a car which has been abandoned.
27	Notification	This is the delivery of a message such as call home someone is ill or dying etc.
28	Animal complaint	Any complaint related to an animal such as shot dog, dog bites, lost cat, etc.
29	Officer in trouble	Sometimes citizens will see an officer who needs back up or assistance and will call in the complaint.
30	Follow-up work	Sometimes a citizen will call in with additional information or request to see the officer again regarding a previous complaint.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Advisory Commission on Intergovernmental Relations. A Handbook for Interlocal Agreements and Contracts. U.S. Governmental Printing Office, Washington, D.C. March, 1967.
- Baines, John M. et. al. Mutual Aid Planning. National Sheriff's Association. Washington, D.C. September, 1973.
- Bish, Robert L. The Public Economy of Metropolitan Areas. Chicago, Markham Publishing Company. Second Printing. 1971.
- Bish, Robert L. and Vincent Ostrom. Understanding Urban Government. Washington, D.C., American Enterprise Institute for Public Policy Research. 1973.
- Hirsch, Werner Z. The Economics of State and Local Government. New York, McGraw-Hill Book Company. 1970.
- Hirsch, Werner Z. "The Supply of Urban Public Services", in Issues in Urban Economics, Edited by Harvey S. Perloff and Lowdon Wingo. Baltimore, The Johns Hopkins Press, 1968.
- Hirschman, Albert O. Exit, Voice and Loyalty. Cambridge, Massachusetts. Harvard University Press. 1970.
- Kirlin, John J. "The Impact of Contract Services Arrangements on the Los Angeles Sheriff's Department and Law-Enforcement Services in Los Angeles County." Public Policy, Vol. XXI, Fall, 1973.
- Niskanen, William A. Jr. Bureaucracy and Representative Government. Chicago: Aldine-Atherton, 1971.
- Olson, Bruce T. A Quick Glance at How Michigan's Counties Rank in Staffing and Financing Law Enforcement. Institute for Community Development, Michigan State University, East Lansing, Michigan. 1968.
- Olson, Mancur, Jr. The Logic of Collective Action. New York. Schocken Books. Third Printing. 1970.
- Olson, Mancur Jr. "The Principle of 'Fiscal Equivalence': The Division of Responsibilities Among Different Levels of Government," American Economic Review, Vol. LIX, No. 2, May, 1969.
- Ostrom, Elinor, et. al. "Do We Really Want to Consolidate Urban Police Forces? A Reappraisal of Some Old Assertions," Public Administration Review, September/October, 1973.
- Ostrom, Elinor, et. al. Community Organization and the Provision of Police Services (Bloomington, Indiana: Indiana University Department of Political Science, Studies in Political Theory and Political Analysis, 1971).

- President's Commission on Law Enforcement and Administration of Justice.
Task Force Report: The Police. U.S. Government Printing Office.
Washington, D.C. 1967.
- Schere, F. M. Industrial Market Structure and Economic Performance.
Chicago. Rand McNally and Company. 1973.
- Schmid, A. Allan. "Analytical Institutional Economics: Challenging
Problems in the Economics of Resources for a New Environment,"
American Journal of Agricultural Economics, December, 1972,
Vol. 54, No. 5.
- Schmid, A. Alland and James D. Shaffer. "Marketing in Social Per-
spective," in Agricultural Market Analysis. Edited by Vernon
L. Soreson, East Lansing, Michigan. Bureau of Business and
Economic Research. Michigan State University. 1964.
- Schmid, A. Allan, "The Economics of Property, Power and Public Choice:
Consequences of Institutional Alternatives," Unpublished
Manuscript, Michigan State University, 1974.
- Shoup, Donald C. and Rosett, Arthur. "Fiscal Exploitation By Over-
lapping Governments," in Fiscal Pressure on the Central City.
Edited by Werner Hirsch, et. al. Special Studies Series.
Praeger, 1971.
- Skolnick, Jerome. Justice Without Trial: Law Enforcement in Demo-
cratic Society. New York. John Wiley and Sons, Inc. 1966.
- State of Michigan. Criminal Justice Goals and Standards for the
State of Michigan. Michigan Advisory Commission on Criminal
Justice. June, 1975.
- Stockton, John and Charles Clark. Introduction to Business and
Economic Statistics. Cincinnati, Ohio. South-Western
Publishing Company. 1971.
- Trojanowics, Robert C. and Samuel L. Dixon. Criminal Justice and
the Community. Englewood Cliffs, New Jersey. Prentice-Hall,
Inc. 1974.
- Walzer, Norman. "Economies of Scale and Municipal Police Services:
The Illinois Experience," in Municipal Needs, Services and
Financing: Readings on Municipal Expenditure. Edited by
Patrick Beaton. Center for Urban Policy Research, Rutgers
University, New Brunswick, New Jersey.

- Webster, John A. The Realities of Police Work. Dubuque, Iowa. Kendall/
Hunt Publishing Company. 1973.
- Wilson, James Q. Varieties of Police Behavior. Cambridge, Massachusetts.
Harvard University Press. 1968.
- Wilson James Q. "Do the Police Prevent Crime?" The New York Times
Magazine, October 6, 1974.