

VALUABLE PARTNERSHIPS: THE REGIONAL BENEFITS OF,
INTERLOCAL CONTRACTS
FOR TEXAS
CITIES

by

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Abstract:

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Local governing units have long utilized interlocal contracts and agreements to create more effective and efficient provision of public goods and services by reducing costs, creating scalable economies, and eliminating service duplication. In fact, the practice among Texas municipalities dates back to 1857. Yet there is little in the way of empirical studies of the nature and benefits of contracting among Texas cities and towns since 1994. There is also a research gap analyzing how interlocal contracting encourages intergovernmental cooperation while also yielding the perceived benefits of regional government among participating jurisdictions. This mixed method study presents the results of a statewide online survey of Texas city managers that probes the contracting activity of their municipalities. The study also includes a case study utilizing open-ended interviews with selected respondents as well as an analysis of archived public documents to determine whether intergovernmental contractual activity truly saves local jurisdictions money. The research question asks whether interlocal contracting can yield the benefits of regional government for Texas cities and towns while also encouraging and facilitating regional

cooperation among local governing units. This study measures and analyzes the use, structure, and benefits of interlocal contracting as well as determining how the practice fosters horizontal intergovernmental cooperation.

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Chapter 1

Introduction

Background

Local governments face unprecedented fiscal challenges as municipalities must grapple with reduced federal and state support as well as an increasingly globalized economy that breeds fiscal uncertainty. Indeed, a recent survey of local officials found that 57.7 % of surveyed cities were planning reductions in staff benefits with 60.3% intending to freeze wages. In fact, 43.6% indicated staffing reductions “were almost certainly or likely” during that fiscal year (Baker-Tilly 2012). These emerging realities challenge the traditional modes of public service delivery while requiring local governments to discover innovative solutions that yield more effective and efficient service provisions and support services that reduce budgetary costs.

Challenges Facing Texas Cities Texas cities and towns are clearly not immune to this trend. Population growth alone will stretch the provision of local services. Various projections of Texas population trends identify an emerging explosion similar to the 1950s and 1960s. The U.S. Census Bureau projects the statewide population to increase from the current level of 25.6 million to 33 million by 2030, an increase of 28.9 percent (Gaines 2008; U.S. Census 2010). The Texas state demographer projects a population increase ranging between 9 million and 18 million with the variance dependent upon the rate of immigration (Gaines 2008). The demographer identified several target points for 2030 based on previous immigration trends (Gaines 2008; Texas State Data Center 2006). These projections easily outpace projected growth patterns for the country as a whole (U.S. Census 2010). Most analysts believe that the population increase will deliver increases in both employment and household income

Where is the growth occurring? The earlier population increases in central cities and urban areas easily outpaced statewide population growth in Texas. While growth will be widespread, the urban areas will experience more growth, particularly the Central Texas Triangle that includes the Dallas-Ft Worth-Arlington Metropolitan Statistical Area (MSA), the Houston MSA, and the San Antonio MSA. Therefore, urban spatial design and the provision of public goods and services will remain vital to urbanized regions (Gaines 2008).

How will these trends impact Texas local governments? A population increase naturally escalates demand for public goods and services. Transportation networks should experience increased congestion, school districts which rely heavily on local tax revenues will become increasingly overburdened, and local planning will become more critical and perhaps more politically charged. Additionally, several regions within the state could suffer from an inadequate water supply as well as experiencing increased costs for the provision of other utilities such as sewage service, natural gas, and electricity. These issues could adversely impact economic growth and quality of life for Texas residents (Gaines 2008).

The increasing complexity of local challenges mandate innovative solutions. Indeed, local governments increasingly face public issues that are multi-jurisdictional in nature (Frederickson 1999). These emerging issues weaken the sovereignty of local boundaries as individual municipalities lose the capacity to manage complex policy issues (Frederickson 1999; Thurmaier and Wood 2004). Therefore, city managers and public executives must leverage networks and alliances to nurture intergovernmental cooperation. The dominant debate within federalist and local government is whether the prevailing polycentric fragmented municipal model remains most effective and efficient in the provision of public goods and services or do regional jurisdictions provide a more optimal structure. Regional jurisdictions have various

structures with authority over smaller jurisdictions such as Metro in Portland or city-county consolidations such as Indianapolis or Louisville that replaced the polycentric map with one government. However, this discussion needs to consider whether intergovernmental cooperation efforts such as interlocal agreements or contracts can achieve the benefits of structured regional government while maintaining polycentricism. It remains feasible that municipalities and citizens can experience the best regionalism has to offer without experiencing the many challenges that complete structural transformation presents. However, while previous studies (Tees, Cole, and Searcy 1995) have examined interlocal contracting among Texas municipalities, research has yet to address whether the practice yields regional benefits and whether contracting cities prioritize intergovernmental cooperation.

Chapter 1 introduces the concept of cities cooperating via interlocal contracting partnerships to develop more efficient and effective government functions. The chapter provides a brief history of the development of interlocal cooperation and contracting in Texas, followed by articulating the study's problem statement and purpose. The chapter also includes the research framework and outlines the research questions and hypotheses.

Texas Cooperation: The Texas Interlocal Cooperation Act of 1971

Legislative Response to Local Challenges Texas local government has clearly embraced intergovernmental cooperation as opposed to structural consolidation. The state government identified functional cooperation as the proper tool to empower local governments as the Texas population exploded during the 1950s and 1960s. Historically, the Texas State Legislature addressed local municipal issues prior to 1970 with a piecemeal approach that involved passing separate legislation for each incident and intergovernmental issues were no exception. Indeed, the legislature approved in excess of 100 unique and limited interlocal

contracting agreements (Stanford and Tees 1972). This ad hoc approach created several new issues as the authorization process granted overlapping authority where some jurisdictions could legally provide the same service in multiple ways. These laws frequently presented contradictory authority where the same local unit might violate one act while executing a different law. This process eventually confused city managers and elected officials as well as stifling contracting activity as jurisdictions feared violating statutory language (Ray 1970; Stanford and Tees 1971).

While the Texas Legislature eventually noted the issues associated with addressing each local request or issue individually, the emerging Texas urban population added to the increasing urgency for reform. Texas urban regions experienced explosive growth in the 1950s and 1960s. This trend ran counter to nationwide trends as most American central cities and metropolitan statistical areas experienced population reductions. Central cities were hit particularly hard as urban dwellers fled to suburbs. In fact 75 percent of the nationwide population growth during the 1960s occurred in the suburbs (Harris 1970; U.S. Census 1970). While the country experienced 18.5 percent growth in the 1950s and 13.7 percent in the 1960s, eight of the nation's ten largest cities either experienced little to zero population increase or an actual population decrease. This urban migration trend diluted available tax revenue for metropolitan regions (Harris 1970).

Conversely, while the Texas statewide population grew by 24.2 percent during the 1950s and 14.7 percent during the 1960s, the urban population of the 1950s exploded at a rate of 38.9 percent only to increase by 21.8 percent during the 1960s. Additionally, the municipalities designated as central cities grew at a faster clip than their metropolitan statistical areas which indicated that Texas actually avoided the trend of middle class suburban outmigration that so plagued central cities from other states (Harris 1970; Ray 1970). In fact, 75 percent of the state

population still lived in central cities by 1970 (Ray 1970; 1970 U.S. Census). Please see Table *I-1* as it summarizes the migration trends.

Table 1-1 Population Growth for Texas SMSA's 1950-1970

	1950 Population	1960 Population	Change 1950-1960	1960 Growth %	1970 Population	Change 1960-1970	1970 Growth %
Composite SMSA	4,758,000	6,612,000	1,854,000	38.97%	8,052,000	1,440,000	21.8%
Central Cities	3,043,000	4,623,000	1580000	51.9%	5,268,000	645,000	13.95%
Remainder	1,715,000	1,989,000.00	274000	15.98%	2,784,000.00	795000	39.97%
Central City %	64.0%			69.9%			65.4%

Source: United States Census 1970/Jim Ray 1970

The unparalleled growth provided both opportunities and challenges for state lawmakers. The various urban regions within the state were socially, economically, and culturally diverse. The cities also had diverse problems which made centralized, homogenous policy ineffective (Ray 1970). Additionally, the state did not possess a mechanism for evaluating and insuring administrative efficiency. Previously, most local governments could manage their own problems and did not harbor concerns regarding service duplication among jurisdictions, overlapping tax bases, or underfunded services and resources (Harris 1970). The expansive topography sheltered Texas from this somewhat as population density and municipal overlap or encroachment did not exist like the rest of the country. However, Texas suddenly had 23 MSAs by 1965 which lead the nation. Urban growth created the need for reform and a modern, long-term approach to managing local resources and planning (Harris 1970).

Finally, policymakers and state leaders observed emerging regional issues that encompassed several jurisdictions. The population shift from rural areas to urban regions taxed resources of local governments in both categories. Rural residents migrated to the urban areas for opportunities flowing from enhanced economic development and improved provisions of public services. However, this merely reduced the revenue available for improving the plight of

rural jurisdictions. Additionally, the increasing urban population strained the urban infrastructure. The state struggled with providing adequate natural resources including water, air, and land. Living standards were also at risk as state leaders identified the urgency to upgrade educational opportunity, healthcare, inadequate housing, and mobility for the rapidly growing Texas population. These concerns created a need for long-range planning for managing these problems and avoiding the oncoming crises (Harris 1970).

The Texas Urban Development Commission These potential crises associated with increasing urban growth spurred community leaders to identify long-range solutions. Elected officials, city managers, and urban scholars developed strategies to manage and prepare for growth with the goal of mitigating emerging crises or unmanageable patterns of urban growth such as outmoded transportation networks, central city decay, and unsatisfactory housing options such as limited quality residential stock, and pressure on the environment (Harris 1970; Texas Urban Development Commission 1970). In 1970, Texas Governor Preston Smith created Texas Urban Development Commission via an executive order in response to the need for strategic research, analysis, and policy suggestions. The governor appointed Jim Ray as the executive director while Jay Stanford served as the Research Director (Ray 1970; Stanford 1970). The commission also included mayors, county judges, commissioners, and superintendents. The commission, tasked with studying urban development in the state, analyzed how effectively the many layers and institutions within Texas governments could manage urban growth as well as defined long-range development goals. Governor Smith's order directed the commission to submit an interim report by December, 1970 which included priority items for the 62nd Texas legislature which convened in 1971. The committee submitted a final report in Fall of 1971

which included a deeper analysis of a broader range of goals as well as long-term plans for achieving said goals (Harris 1970; Texas Urban Development Commission 1971).

The commission members determined that increasing urbanization of state combined with encroaching suburbanization and growing number of Metropolitan Statistical Areas (Harris 1970) required policy reform. Specifically, the commission determined that the legislature needed to empower local governments with greater legal, fiscal, and organizational authority. The members and staff identified regional cooperation as an effective tool for long-range planning and growth management. While it noted the benefits of special districts, summary reports indicated that members were concerned that an excessive use of special districts to manage multi-jurisdictional issues or opportunities would eventually dilute or usurp the authority of existing general purpose governments. Therefore, members identified regional cooperative opportunities such as interlocal contracts, council of governments, consolidation of contiguous counties, and even city-county consolidation as viable regional cooperation options that maintained the authority of general purpose jurisdictions (Harris 1970).

The commission eventually identified interlocal contracting as most effective tool for fostering regionalism and promoting cooperation (Harris 1970). Given the obvious benefits, lawmakers and government leaders concurred with the commission's suggestions. Additionally, Texas was hardly on the cutting edge at this point as well over half of the states had already passed and implemented interlocal contracting statutes granting general authority (Tees and Stanford 1972). However, mere legislative activity would prove incomplete. The urban reform leadership recognized very early that altering the business of Texas government required a constitutional amendment followed by the legislature passing an enabling statute. The Texas constitutional amendment process includes submitting a proposed amendment to registered

voters for ratification (Tannahill 2013). Fortunately, Texas voters had approved an amendment in 1968 that would authorize state lawmakers to pass such a statute that would allow the counties of El Paso and Tarrant to consolidate of offices and governmental functions (Vernons 1968). Article III, Section 63 included similar authorization for counties with a population of 1,200,000 or greater which was a bracket provision for Harris County (Tees and Stanford 1972). The 61st legislature simply passed House Joint Resolution extending the same language to all local governments which the voters ratified in November, 1970 (Tees and Stanford 1970; Vernons 1970). The 62nd Texas Legislature then wasted little time as legislators submitted identical bills in both houses that granted contracting and cooperation authority to all governing jurisdictions. Both houses passed H.B. 6363 with the addition of two friendly riders. The Interlocal Cooperation Act officially became law in May, 1971 (Tees and Stanford 1970; Vernons 4413).

Policy Impact Durable Partnerships The Interlocal Cooperation Act (Interlocal Cooperation Act of 1971; Tex Gov't Code 791; Vernons 1994) altered the structure of contracting and agreements by expanding the authority to contract. The constitutional amendment erased any concerns regarding constitutionality. Local leaders who were previously concerned about violating state law suddenly possessed legal authority. Most importantly, the statute shifted the power to create and structure agreements to the local jurisdictions. While this empowered local leaders, it also created a new era of innovation and idea sharing where jurisdictions could adapt successful examples from other regions. Municipalities developed and shared a social capital (Putnam 1995) of sorts related to interlocal contracting. Successful precedents suddenly existed that were ripe for replication. These activities created what literature refers to as interlocal coordination and collaboration where the sharing of resources also included the sharing of ideas and innovation. This enhanced collaboration also altered the

local government structure and performance. Local leaders increasingly understand the value of regional collaboration and quickly identify issues or problems best managed at a regional level. With that said, it is important to first quantify how the act increased cooperation and collaboration among local governments.

As expected, municipalities increased the frequency of interlocal contracting. The legislature passed roughly 100 statutes authorizing specific local governments with narrow agreement parameters (Tees and Stanford 1970). Conversely, 214 cities or towns and 80 counties reported participating in contracts by 1989 (Tees, Cole, and Searcy 1995). Additionally, cities with populations exceeding 25,000 had an average of 19.8 contracts in force by 1994. Indeed, towns and cities from several population levels participated in service agreements. The statute also increased the number of the public goods and services subject to interlocal contracts enforcement (Ray 1970).

Problem Statement

This study analyzes how Texas cities use interlocal contracts as well as the nature of contracting among these jurisdictions. Previous research (Mercer 2011; Tees, Cole, and Searcy, 1995) studied the frequency and nature of interlocal contracting among Texas municipalities of all levels as it pertained to the provision of public services. Additionally, recent research (Holzer, Sadeghi, and Schweiger, 2007; Thurmaier Wood 2004) analyzed the benefits local governing units experienced from participating in shared service agreements as well as how interlocal contract or agreements lead to developing regional cooperation among local government administrators. For example, Thurmaier and Wood (2004) studied how municipalities in the Kansas City, Missouri area utilized interlocal agreements to develop

intergovernmental communication, coordination, or collaboration as well as studying how these agreements developed social networks among city professionals.

While recent research evaluated the nature of interlocal contracting and the outcomes experienced by municipalities from various states, Texas local governments have not served as the subject of intergovernmental cooperation studies since 1994. Additionally, research has yet to measure and analyze whether interlocal contracts can achieve the perceived benefits of efficiency or effectiveness regional or consolidated governing structures presumably yield while also developing cooperative networks in Texas. Finally, research has yet to address whether specific contract partnerships reduced cost of provision while maintaining the same level of effectiveness.

Purpose The purpose of the mixed method study was to evaluate interlocal contracting among Texas cities. The researcher structure examined Texas city managers and sought to determine contracting: (a) participation, (b) effectiveness, (c) efficiency, (d) accountability to the public, (e) challenges, (f) government functions subject to contracting, (g) overall satisfaction levels, and (h) priorities as well as to determine if city manager responses varied according to (i) city type, (j) city median household income, (k) city population, and (l) city region. The city managers who served as survey respondents and interview subjects clearly understand their jurisdiction's contracting activity, priorities, satisfaction levels, and success.

The study included a survey of 187 Texas city managers composed of closed ended and open ended questions probing contracting participation, the nature of contracting activity, preferred jurisdictional partners, satisfaction, and priorities. The responding city managers were originally part of a pool of 631 city managers identified by the Texas City Managers Association

as the active city managers for Texas cities employing the council-manager structure. The mixed method study also involved a case study of evaluating the effectiveness, efficiency, transparency, accountability, and equitable capacity of a regional EMS provider that served 15 Tarrant County cities via an interlocal contract. The case study compared the provision of EMS services for 6 cities. Three experimental cities utilized an interlocal contract for EMS provision while three control received the service via a private contract or their own fire based bureau. The purpose of the case study was to evaluate whether the regional contract provided greater efficiency but also met industry benchmarks for effectiveness.

Literature Review/Theoretical Framework

The current American federalist structure operates via a fragmented approach where approximately 89,600 local units co-exist and even compete in many ways for citizens and tax revenue. Indeed, governing models (Tiebout 1956) extol the benefits of competition among municipalities for citizens and tax revenue. Additionally, federalism studies (Boadway and Shah 2009) argue that de-centralized governance creates the strongest platform for democracy since fragmentation dilutes authority and governing power while enhancing transparency.

Therefore, the debate over the future of American local government typically pits regional reform efforts where proponents espouse the merits of structural consolidation or regional metropolitan governments versus proponents of the prevailing fragmented structure who note the benefits of competition. However, these arguments often fail to consider the merits of intergovernmental cooperation tools such as interlocal contracts or agreements. These less formal structures could potentially help a region experience the benefits of regional government while preserving the autonomy of fragmentation.

The Tiebout Model and Fragmentation In his classic public choice theory article, "A Pure Theory of Local Expenditures," (1956), Charles Tiebout put forth a model for determining the optimum expenditure level for public goods. Tiebout's theory built on the rational/public choice model developed by Buchanan and Tullock (1962). The Buchanan and Tullock model rests on two assumptions. First, an individual is a self-interested utility maximizer who knows his or her goals, can rank them, and will choose the option or options expected to maximize individual benefits and minimize individual costs when faced with an opportunity to choose among preferences. Additionally, public choice rests on methodological individualism which posits that only individuals, not collectives, make choices. Therefore, public choice is not about public interest since collective decisions are merely an aggregation of individual choices. They developed the rational choice framework to explain the behavior of bureaucracies and bureaucrats with the added assumption that bureaucrats are self-interested utility maximizers who behave and make decisions accordingly. Tiebout's positions were similar to the public choice economic theories espoused by Buchanan and Tullock in that his model rested on the twin assumptions of self-interest and methodological individualism. However, Tiebout's analysis centered on the relationship between citizens and public agencies as producers of public goods as opposed to Buchanan and Tullock's analysis of the internal workings of a bureaucracy.

Benefits of Polycentric Government The Tiebout hypothesis suggests that fragmentation stimulates competition, creates incentives for efficiency and responsiveness, and should lower spending. According to Tiebout, mobility provides "the local public goods counterpart to the private market's shopping trip" (1956). If citizen-consumers shop for optimal tax-service packages that yield their preferences, competitive pressures force producers (local governments and public agencies) to respond. Tiebout argues there is a market of local governments where

mobile consumer citizens shop around for the communities that best fit their preferences. The competition among communities forces them to provide public goods at the most efficient level. Tiebout hypothesizes that many agencies competing horizontally (across jurisdictions) and vertically (within jurisdictions) will provide a higher-quality service at a lower price, and be more attuned to citizens' preferences, than large bureaucracies in centralized jurisdictions (Frederickson & Smith 2003; Tiebout 1956).

Model Assumptions Tiebout made several assumptions regarding individual actors in developing his model. According to the model, citizens are perfectly mobile and able to move from community to community. They are also highly informed about tax service packages across jurisdictions. While Tiebout did not seriously propose that these conditions existed in reality, he adopted them as necessary simplifying assumptions to make the model tractable. These assumptions and the model support the fragmented structure since more local government units means more options for citizens. He also argues that citizens in fragmented government settings will be more informed about public services than those in centralized government settings and are also more likely to exit if they are dissatisfied with the services. Finally, since citizens can make choices about tax-service packages, they will be more satisfied with the services they do receive. This market knowledge and mobility that allows citizens to act on that knowledge creates a competitive market that requires local jurisdictions to provide higher quality services with greater efficiency and at a competitive price.

Critiques of Tiebout/Regionalism Arguments However, the Tiebout model remains subject to critiques from numerous scholarly schools of thought. Critiques include, (a) competing explanations for the existence of fragmentation and outward spatial development that created suburbs, (b) social equity critiques (c) concerns that polycentric regions cannot address

regional issues such as economic development, transportation or mobility issues, and environmental concerns, and (d) efficiency and effectiveness critiques. This article summarizes and addresses the final two critiques which remain consistent with the paper's objectives.

Rusk (1999) notes that urban growth in Post-World War II America has proceeded horizontally rather than vertically with regions building out as opposed to up. Suburbs house over 60 percent of the urban population and a majority of the available jobs (Rusk 2003). Middle-class families frequently opt for a familiar bundle of a homogenous, quiet neighborhood of single-family residences with yards as well as a local school, and convenient shopping. According to this school of thought, suburban proliferation has fostered municipal proliferation as smaller cities and independently incorporated suburbs emerged due to the outer ring migration. This pattern also birthed additional jurisdictions such as counties and school districts. Residents expect their elected leadership to promote policies preserving those community characteristics that encouraged city dwellers to move in the first place. This fragmented reality exists today with voters expressing their preferences for the provision of public services and the cost for those services (Rusk 2003; Tiebout 1956).

However, regional scholars (Orfield 2002; Rusk 1993; Savitch et. al 1993; Voith, 1995) counter that polycentrism weakens entire regions. For example, Orfield (2002) argues that local governments should share the burden of regional responsibilities. Modern complex issues such as transportation, safety, and the environment clearly require cooperation, collaboration, and coordination among municipalities which allows regions to develop viable growth management policies (Carr and Feiock 2004; Leland and Thurmaier 2004; O'Sullivan 2007). Local governments increasingly encounter issues that are regional in nature such as transportation,

environmental sustainability, economic development, and the provision of utilities. The benefits of regional coordination and collaboration among local jurisdictions seem obvious.

Fragmentation critics ultimately hold the structure responsible for ineffective and inefficient local governments. For example, O'Sullivan (2007) found that that polycentric regions yield inefficient service delivery that fails to leverage economies of scale. Multiple governing units also provide their own government functions including public safety departments, public works, libraries, etc. This reality lead to inevitable duplication of services a regional entity could solely provide (Carr and Feiock 2004; Leland and Thurmaier 2004; O'Sullivan 2007). Rusk (1993) also notes that jurisdictions with reduced tax revenue face challenges in effectively providing many services including emergency services.

Additionally, Orfield (2002) notes that fragmentation driven competition forces municipalities to compete for affluent residents who contribute to tax revenue without increasing the need for social services. They are revenue positive net citizens in other words. This competitive, free market culture drives the economic development decisions toward affluent residential subdivisions, expensive office buildings, and luxury apartment complexes. Such projects satisfy short-term needs while potentially sacrificing long-term growth management initiatives as well as excluding lower-income residents and contributing to segregation patterns.

In summary, both fragmentation and the public choice model that argues for its existence face immense criticism. Fragmentation critics argue that polycentric regions promote inefficient service delivery that fails to leverage economies of scale while duplicating services that a regional jurisdiction could provide at a reduced cost. Additionally, several regionalism advocates note fragmentation's social impact. For example, sprawl driven fragmentation dilutes

tax revenue for central cities which contributes to urban decay. Fragmentation also damages social equity as poorer jurisdictions cannot adequately fund needed services. Critics have identified a stratified service provision problem in multiple policy arenas including utilities, public areas, economic development, and education. Finally, critics question whether competition among municipalities focused on their own budgetary crises creates the proper environment for cooperation and collaboration when addressing regional policy concerns such as economic development or transportation.

Given these concerns regarding polycentric regions, regional literature (Carr and Feiock 2004; Leland and Thurmaier 2004; Orfield 2002; O'Sullivan 2007; Rusk 2003) argues that local governments should share the burden of regional responsibilities. Local governments should exist in a structure that nurtures cooperation as opposed to competition. According to regional literature, this structure equalizes the quality of public services while reducing the cost of government, enhances economic development and regional marketing efforts, and promotes spatial equity (Soja 2010).

Thurmaier and Wood (2004) identify four levels of intergovernmental cooperation-- communication, coordination, collaboration, and consolidation. Communication involves activities normally associated with networking with a focus on information sharing and dialogue that supports successful interlocal initiatives. Municipalities practice coordination by sharing resources such as personnel, equipment, and engaging in joint efforts. Collaboration involves two or more governing units merging functions or one jurisdiction managing a function for one or more entities. Consolidation is the full merger of two or more municipalities. Local jurisdictions accomplish communication, coordination, and collaboration through formal or informal local agreements while consolidation requires either statutory authorization at the state

level and frequently must survive an initiative or referendum election. Very few consolidation efforts receive voter approval.

Overall, the proper regional strategy remains a complex question. Several metropolitan regions have adopted complete structural reform. For example, Metropolitan governments such as Portland, Oregon (Abbott 1991) and Toronto/Vancouver (Rose 1972) provide established, functioning examples of structured regional government. Metropolitan or regional governments are general purpose governments possessing all municipal powers codified by state law. Additionally, there are currently thirty-three consolidated municipalities in the United States where a region's central consolidated with the presiding county (Leland and Johnson 2004). The most recent consolidations occurred in Kentucky and Tennessee.

Conversely, many question whether structural reform is optimal or even feasible. Savitch and Vogel (2000) frame the options under a "government versus governance" distinction that contrasts complete, structural reform that converts polycentric regions to monocentric or consolidated entities with interlocal cooperation between governments that focuses on the process as opposed to the structure. Hamilton (2002) terms this "new regionalism" that focuses on the governing process as opposed to structural reform to achieve cooperation among governments. Hamilton noted during his case study of Chicago regimes (Stone 1989) that while the private sector often takes the lead role in local government and economic development, the process is ineffective absent cooperative coalitions among political leaders.

Interlocal Contracts Given these barriers, could interlocal agreements prove to be a more viable solution for multi-jurisdictional challenges? Interlocal agreements are agreements between two or more municipalities to partner in providing a good or service, managing support services,

and integrating technologies. The practice actually has several names in addition to interlocal agreements including shared services or interlocal contracts. Granted, a distinction exists between these terms since intergovernmental agreements or shared servicing can occur via formal or informal arrangements while an interlocal contract is a formal, legally binding agreement between jurisdictions (Tees, Cole, and Searcy 1995). While this project evaluates interlocal contracting activity among Texas cities and towns, a significant theoretical thread connects these practices whether municipalities partner formally or informally since research indicates that interlocal agreements encourage cooperative among jurisdictions as well as providing similar benefits whether they include a legally binding contract or remains an informal agreement.

The agreement or contracting process typically involves negotiations and agreements at the administrative level followed by ratification from elected officials. Some states require the latter step (Tees and Stanford 1971). In fact, state legislation is typically required to both authorize and provide structure to the practice (Thurmaier and Wood 2004). For example, the Texas Interlocal Cooperation Act (Texas Govt. Code, chapter 791, Vernons 1994) requires formal approval from authorized elected officials (Tees and Stanford 1971). The formal, contractual agreements establish three types of relationships among governing units: (1) Services of a jurisdiction provided for a fee, (2) Joint enterprise agreements where jurisdictions share resources or (3) Conditional stand-by arrangements where one jurisdiction pays a retainer to another jurisdiction. This final arrangement type is appropriate for emergency services such as police, fire, or disaster relief (Tees, Cole, and Searcy 1995). Fee based or retainer services would involve interlocal collaboration as described by Thurmaier and Wood (2004) while joint agreements involve their definition of coordination. The proliferation of this tool reflects the

inter-jurisdictional nature of problems local governments face. Issues such as crime, pollution, transportation as well as economic development often require a regional response. Interlocal contracts create niche opportunities for local officials to address these issues without sacrificing the benefits of fragmentation (Thurmaier and Wood 2004).

Studies indicate that these cooperative opportunities yield several benefits. Given that interlocal cooperation involves a transaction as opposed to wide-scale reform, greater efficiency and effectiveness in service provision as well as increasing the quality of products and services remains the primary objective for most municipalities. For example, Thurmaier and Wood (2004) found while interviewing municipal administrators in the Kansas City, Missouri region that “providing the public with better service and reducing the uncertainty of service delivery” remained higher priorities than even generating savings.

Additionally, Texas municipalities (Tees, Cole, and Searcy 1995) reported benefits of contracting including decreased service costs, duplication avoidance, and improved service quality. These are examples of regional benefits. Several jurisdictions also reported that contracts enabled the use of excess capacity such as unused equipment, excess water or sanitation services. Additionally, some managers noted that contracts yielded net earnings or profit. Likewise, Holzer, Sadeghi, and Schwester (2007) identified savings for fire and police service, bridge maintenance, and parks and recreational activities among New York and New Jersey municipalities. Thurmaier and Wood (2004) also found that interlocal agreements lead to more effective service delivery. Contracts also frequently provided needed resources including equipment, personnel, or expertise to jurisdictions that cannot afford them from their own operating budget. These include services that most citizens would consider basic or even vital

including safety, emergency services, utilities, hospitals, and sanitation (Tees, Cole, and Searcy 1995).

One of the stronger arguments for interlocal cooperation posits said agreements enhance regional cooperation and decision-making while preserving local autonomy. However, local governments increasingly grapple with policy issues that extend beyond the scope of their jurisdictional authority which mandates interlocal cooperation. Do interlocal contracts provide a structure for developing regional cooperation which nurtures intergovernmental problem-solving? While critics note that interlocal contracting remains an administrative solution driven by local administrators, this process may actually nurture intergovernmental relationships. According to Frederickson (1999), professional administrators are more likely to think regionally in building cooperative social networks among their peers than elected officials who still think jurisdictionally. Studies indicate that the interlocal agreements process supports such social networks. For example, Morgan and Hirlinger (1991) determined from their study of contracting activity for 615 American cities that those municipalities with a city manager were more likely to contract with other cities and at a greater frequency. Additionally, Thurmaier and Wood (2004) determined that contracting activity hinged on developed social networks between administrators. They also noted that interlocal agreements contributed to the development of norms of reciprocity among administrators while reducing the transaction costs of continued cooperation as part of their study of the Kansas City region. They also identified increased communication, collaboration, and coordination.

However, the practice does encounter critiques and challenges. The primary critique of interlocal agreement was the potential the lack of government accountability. This argument has both practical and theoretical implications. Specifically, the democratic process

provides a forum for citizens to express grievances over inadequate government service. Voters typically hold elected officials responsible for addressing and fixing such concerns who can initiate inquiries to identify who or what caused the problem. However, citizens subject to service provision from a different jurisdiction thanks to an interlocal contract cannot register a complaint or seek new representation. The response is left to elected officials or administrators who can terminate the relationship or perhaps pursue a higher level of consolidation (Thurmaier and Wood 2004).

In summary, the primary critiques of intergovernmental cooperation emerge from advocates of regionalism who argue that interlocal agreements remain an administrative process that addresses government efficiency issues as opposed to a political process that addresses structural issues from a regional viewpoint. Indeed, studies have determined that contracting yields greater public service delivery, efficiency, economies of scale, and reduces service duplication. Furthermore, the process enjoys widespread use by administrators who can execute contracts and agreements with minimal political cost compared to consolidation. However, cooperative activity requires active social networks and communication among administrators who are typically more likely to consider regional consequences than their elected counterparts. Additionally, contracts provide a tool for economic development programs. Therefore, interlocal contracts remain a viable tool for addressing regional policy problems and challenges.

Research Questions

Q1: Accounting for region, MHHI, and population, does a between city type difference exist for interlocal contracting participation?

H1: A difference does not exist once the model includes all independent variables.

Q2: Accounting for MHHI, population, and region, are Texas cities of all types satisfied overall with their contracting activity?

- H2:** *There is no difference in satisfaction based on variables. The null hypothesis states that the mean satisfaction levels for all three types are equal in other words.*
- Q3:** *Accounting for population, metropolitan type, and region, do Texas cities and towns of all sizes experience the benefits of regionalism via interlocal contracting?*
- H3:** *A difference in benefits experienced does not exist between city types.*
- Q4:** *Can interlocal contracting or cooperation create a more efficient model for the provision of emergency medical service (EMS) delivery?*
- H4:** *Regional authorities provide more efficient provision of essential government functions such as EMS.*
- Q5:** *Can government functions provided via interlocal contracting and regional cooperation meet industry level effectiveness standards?*
- H5:** *A regional EMS structure will meet important performance standards.*
- Q6:** *Can interlocal partnerships such as regional EMS authorities remain public transparency and democratic accountability to the citizens of participating municipalities?*
- H6:** *Regional EMS authorities do maintain transparency and remain accountable to citizens.*
- Q7:** *Can an interlocal contract provide government functions to partnering cities in an equitable or equalized manner?*
- H7:** *Citizens receive the same quality of service regardless of socioeconomic status.*

Nature of the Study/Methodology

The author chose a sequential explanatory design as the structure for this research project. The sequential explanatory design is a mixed method approach comprised of two research sequences. The first sequence typically involves quantitative methodology that informs and structures the qualitative stage. This approach allows for the collection of generalized data combined with qualitative data that provides context and an examination of process (Creswell 2009). The collection and examination of qualitative data contributes to the interpretation and explanation of the quantitative findings (Creswell 2009; Morse 1991). The purpose of this study

This project adapted that very sequence as the first phase involved a survey of 187 Texas city managers followed by a case study of 6 cities whose inclusion depended on their survey responses. The survey included 28 open and closed ended questions. The closed ended portion included several question types utilizing a binary structure, a Likert structure measuring the respondents' level of agreement, and questions that asked respondents to choose all applicable options. The researcher utilized Qualtrics, an online software service, to deliver the survey to potential respondents, and proceeded to download the results into the statistical software package SPSS 21.0 to generate cross-tabulation, means and measures of central tendency, logistic regression analysis, and ANOVA. Qualtrics also provided results that the author converted into percentages.

The qualitative stage included a case study evaluation of Medstar, a regional EMS authority that has provided ambulance services to 15 Tarrant County cities including Fort Worth since 1986 via an interlocal contract. While literature (Creswell 2009; Yin 2009) typically recognizes the case study as a qualitative methodology, this study had an outcome based approach that included analyzing quantitative data as well as qualitative. The study evaluated whether Medstar provided more efficient EMS at a reduced cost than fire based bureaus and private contractors by comparing the annual budgetary costs, utilization rates, unit rates, and elimination of service duplication of Medstar. Additionally, the study evaluated the effectiveness of Medstar services by determining whether its ambulance services met selected industry quality benchmarks identified by the International Association of Fire Fighters (IAFF 2008). Additionally, the author determined whether the regional structure created by the contract afforded a superior opportunity for developing innovative practices.

Study Significance

Local governments in Texas are facing reduced revenue streams coupled with increasing demands for public goods and services. Population projections call for potentially exponential growth that alters the demographic characteristics of the state (Gaines 2008; Potter 2006). This new paradigm mandates innovative approaches that lead to more efficient provision of public goods and services while not compromising effectiveness. Texas municipalities historically utilized several innovative structures to enhance the services they provide and reduce the service costs. Interlocal contracting remains a primary option practiced by a majority of jurisdictions.

With that said, recent research focused on the practice among Texas jurisdictions is limited. The study replicated previous studies (Tees, Cole, and Searcy 1994) and also examined how cities leveraged contracts to share new technologies, software, and communication. The study also provided new information regarding (a) contracting participation, (b) effectiveness, (c) efficiency, (d) accountability to the public, (e) challenges related to contracting, (f) government functions subject to contracting, (g) overall satisfaction levels, and (h) contracting priorities as well as to determine if city manager responses varied according to (i) city type, (j) city median household income, (k) city population, and (l) city region. The case study also provided the first opportunity to evaluate a regional governance model adapted via an interlocal contract. This policy evaluation determined whether the authority made service more efficient while maintaining industry level effectiveness. The overall study provided city managers evidence of contracting success, the contextual variables that contributed to said success as well as an example.

Summary

Municipalities face increasing levels of austerity. Several cities have opted to reduce staff or freeze hiring for the foreseeable future. However, citizens expect local governments to provide the same level of service even in the face of escalating population levels. This situation is particularly acute among Texas local governments as the state has the fastest growing population in the country. Additionally, the population is becoming increasingly diverse. These factors place ever increasing pressure on local government infrastructures with decreasing revenue sources. Therefore, local governments in Texas must develop more efficient operational procedures while maintaining optimal levels of effectiveness.

Local governments have several innovative options and structures for achieving greater efficiencies in service delivery. Texas municipalities have utilized interlocal contracts or contracts between local governments to reduce costs, provide more effective services, provide a service they could not otherwise afford, and avoid service duplication. While the practice has existed since 1857, the approach and structure was piecemeal and without guidance until the Texas State Legislature passed the Texas Interlocal Cooperation Act of 1971. Governor Lamar Smith commissioned the creation of the Texas Urban Development Commission which he tasked with developing responses to the increasing urbanization and population growth the state had experienced for several decades. The commission identified cooperation as the approach with the greatest potential for managing the challenges associated with a rapidly increasing population as opposed to structural consolidation. Additionally, the commission determined that interlocal contracts presented the optimal structure among the various cooperative options.

Jurisdictions of all population sizes and authority began contracting for essential government functions. In fact, 81% of respondents to a 1994 survey of local government officials indicated they were a party to at least one interlocal contract (Tees, Cole, and Searcy 1995). However, merely 63% of responding cities or towns was partners to a contract. Still, the study determined that a contract existed among Texas municipalities for every essential or tradition local government function.

This study evaluated how the practice of interlocal contracts achieves the benefits and structures of regional cooperation envisioned by the urban development commission over forty years ago. The study examines the existing fragmented structure of the American federalist system. The American map includes 89,000 local governments of various authorities. The research also identifies via literature several reform options to the fragmented structure that local leaders consider when pursuing innovative strategies that will yield greater efficiency and effectiveness. While these options include structural consolidation and regional governments, the study focuses on the “third way” intergovernmental reforms that require cooperation as opposed to fragmented autonomy or complete re-structuring of authority.

The study utilized a mixed methodology within a sequential explanatory structure. The quantitative section included a survey of 187 city managers probing contracting a) participation, (b) effectiveness, (c) efficiency, (d) accountability to the public, (e) challenges related to contracting, (f) government functions subject to contracting, (g) overall satisfaction levels, and (h) contracting priorities as well as to determine if city manager responses varied according to (i) city type, (j) city median household income, (k) city population, and (l) city region. This author proceeded to compare the findings to the Tees, Coles, and Searcy study of all municipal types from 1994 as well as to evaluate whether partnering cities experienced regional structure,

cooperation, and benefits. The qualitative section included a case study evaluation of a regional EMS authority that partnered with cities and towns via an interlocal contract. However, the case study adopted a mixed method approach as the research inquiry and framework probed whether the interlocal agreement provided ambulance services at a reduced cost to the partnering cities and with greater efficiency than cities that did not receive EMS via a contract. Additionally, the case study evaluated whether the regional authority met industry standard benchmarks for effectiveness while providing a less expensive service.

Chapter 2

Literature Review

Introduction

The ongoing debate regarding the proper structure for local governments remains dominated by proponents of consolidation or regionalism and public choice theorists who identify the benefits of the prevailing fragmented approach. The arguments focus on which structure creates the most efficient and effective local government system. Both schools of thought immediately encounter several problems. First, Staley et. al (2005) note while both schools have produced a large amount of scholarship, much of the investigations utilize methods that cannot be replicated while producing results that cannot be generalized. Additionally, it remains difficult for either school to avoid integrating deeply held biases into studies. Hawkins et. al. (1991) also posit that these arguments ignore that both structures are subject to degrees as opposed to pure fragmentation or consolidation. Finally, the results tend to be very context specific which again impacts the ability to generalize findings.

Additionally, these strident positions do not fully consider interlocal agreements or other intergovernmental cooperation options. The premise of this research project is built on the hypothesis that the political and governance environment typically favors interlocal contracting as opposed to government re-structuring demanded by regionalism. This is especially true given the individualistic culture (Elazar 1984) of Texas and citizen attitudes towards government encroachment, growth, and authority. This researcher further hypothesizes that jurisdictions and metropolitan regions can realize the benefits of regionalism or consolidation via interlocal agreements if properly structured and executed

Chapter 2 includes a review of the literature examining the schism between fragmentation that dominates American local government and the emerging advocates for regionalism. The review begins by defining fragmentation and discussing the arguments supporting the polycentric governing structure. This primarily involves a summary of the Tiebout model including its assumptions based on consumer preference and rational decision-making ability, empirical tests of the model, alternative explanations for fragmentation, and critiques of the model. The chapter then proceeds to a discussion of regional and interlocal activity while utilizing Thurmaier and Wood's (2004) four levels of intergovernmental relationships as a framework. The review explains regional governance, identifies and analyzes the various regional structures including the metropolitan regional model practiced by the Portland area, and city-county consolidation. This section considers the challenges and critiques of each structure while also addressing the challenges and critiques of regionalism in general. The chapter then proceeds to define explain the third way alternative involving voluntary cooperative arrangements between local units. This section includes an analysis of special districts and privatization. With that the said, the primary focus shifts to interlocla contracts as cooperative relationships. The review defines the contractual partnership, explains the process, and evaluates how these agreements can realize regional benefits without the political cost of structured consolidation or regional government.

Fragmentation/Tiebout

Definition Federalism structures American government as approximately 89,600 governments provide public goods and services to citizens (Harrison and Harris 2011). Fragmented metropolitan regions are polycentric and multi-layered with a vertical jurisdictional structure of independent counties, cities, and other local units such as special districts,

elementary and secondary school districts, and community college districts (Orfield 2002).

Furthermore, the jurisdictions possess some level of policy independence and are numerous with the number growing as citizens migrate from the central city to outer suburban rings. This local governing structure creates “government crowding” (Rusk 1990) as smaller municipalities exist on the outer, suburban fringe and surround the central city. According to Rusk (1990), the region becomes “inelastic” as the central city cannot grow beyond its boundaries which are hemmed in by the smaller suburban jurisdictions.

Measuring Fragmentation Studies (Orfield 2002; Rusk 1990) have measured the level of fragmentation for the largest U.S. metropolitan regions utilizing two indicators: the total number of government units per metropolitan area and the total number of units per 100,000 people. Based on these standards, the Midwest and the Northeast are the most fragmented regions while the west and southeast possess the least fragmented urban regions. For example, 80% of the metropolitan regions (Pittsburgh, Minneapolis-St. Paul, St. Louis, and Cincinnati) with at least ten local governments per 100,000 people reside in the Midwest. Conversely, the western region includes several metropolitan areas such as San Francisco (1.7 per 100,000 people), Los Angeles (1.2 per 100,000) and San Diego (.7 per 100,000) which are either monocentric or de facto monocentric regions (Orfield 2002).

The Tiebout Model of Local Competition In his classic public choice theory article, "A Pure Theory of Local Expenditures," (1956), Charles Tiebout put forth a model for determining the optimum expenditure level for public goods. Tiebout's theory built on the rational/public choice model developed by Buchanan and Tullock (1962) who wrote the founding work of rational choice theory. Their model rests on two assumptions. First, an individual is a self-interested utility maximizer who knows his or her goals, can rank them, and will choose the

option or options expected to maximize individual benefits and minimize individual costs when faced with an opportunity to choose among preferences. Additionally, public choice rests on methodological individualism which posits that only individuals, not collectives, make choices. Therefore, public choice rejects public interest since collective decisions are merely an aggregation of individual choices. Buchanan and Tullock developed the rational choice framework to explain the behavior of bureaucracies and bureaucrats with the added assumption that bureaucrats are self-interested utility maximizers who behave and make decisions accordingly. Tiebout's positions were similar to the public choice economic theories espoused by Buchanan and Tullock in that his model rested on the twin assumptions of self-interest and methodological individualism. However, Tiebout's analysis centered on the relationship between citizens and public agencies as producers of public goods as opposed to Buchanan and Tullock's analysis of the internal workings of a bureaucracy.

Benefits of Polycentric Government The Tiebout hypothesis suggests that fragmentation stimulates competition, creates incentives for efficiency and responsiveness, and should lower spending. According to Tiebout, mobility provides "the local public goods counterpart to the private market's shopping trip" (p. 422). If citizen-consumers shop around for preferred tax-service packages, competitive pressures force producers (local governments and public agencies) to respond to citizen preferences. He argues there is a market of local governments where mobile consumer citizens shop around for the communities that best fit their preferences. The competition among communities forces jurisdictions to provide public goods at the most efficient level. Tiebout hypothesizes that many agencies competing horizontally (across jurisdictions) and vertically (within jurisdictions) will provide a higher-quality service at a lower price, and be

more attuned to citizens' preferences, than large bureaucracies in centralized jurisdictions (Frederickson & Smith, 2003; Tiebout, 1956).

Model Assumptions Tiebout made several assumptions regarding individual actors in developing his model. According to the model, citizens are perfectly mobile and able to move from community to community. They are also highly informed about tax service packages across jurisdictions. While Tiebout did not seriously propose that these conditions existed in reality, he adopted them as necessary simplifying assumptions to make the model tractable. These assumptions and the model support the fragmented structure. Citizens in fragmented government settings will be more informed about public services than those in centralized government settings. They are also more likely to exit if they are dissatisfied with the services. Finally, since citizens can make choices about tax-service packages, they will be more satisfied with the services they do receive. This market knowledge and mobility that allows citizens to act on that knowledge creates a competitive market that requires local jurisdictions to provide higher quality services with greater efficiency and at a competitive price.

Empirical Studies Testing the Tiebout Hypothesis and Model

This framework and the resulting hypothesis have stimulated numerous empirical studies examining the impact of fragmentation on spending for public services (Frederickson & Smith 2003). A true winner has never emerged from empirical studies designed to test whether the perceived benefits of fragmentation truly exist. For example, Boyne (1998) conducted separate reports analyzing the impact of fragmentation on local government spending. The first report reviewed 14 studies examining the effects of fragmentation on spending by various forms of local government. The studies identified 25 variables used to measure fragmentation. From this

group, 16 variables were associated with lower spending by local units of government, 5 were associated with higher levels of spending, and the remaining variables were statistically insignificant. Therefore, the study indicated a slight edge to the Tiebout hypothesis. The second report reviewed fifteen studies in an effort to assess the impact of vertical and horizontal fragmentation. The studies produced findings for six out of twenty-three measures of fragmentation clearly associated with lower spending, four out of twenty-three with higher spending with the rest having insignificant or unstable results.

Conversely, empirical studies have challenged the belief that fragmentation driven competition yields higher quality public services more efficiently at a lower cost. Dolan (1990) conducted an empirical study of local governments in the Chicago area. The results indicated a significant positive relationship between fragmentation and rising cost for government services. Therefore, Dolan argued that a consolidated or regional government was more efficient structure that more ably addressed regional issues and better able to support economic development.

Additionally, studies have evaluated or challenged the public choice assumptions that citizens in polycentric regions possess greater levels of satisfaction with their governing entities as well as being more informed than citizens residing in monocentric regions. For example, Dehoog, Lowery, and Lyons (1990) examined these assumptions with a study that surveyed citizens served by the consolidated, city-county government of Lexington, Kentucky and citizens of the then jurisdictionally fragmented Louisville, Kentucky metropolitan region. The authors developed five research site categories with distinct socioeconomic characteristics and proceeded to match two neighborhoods from both metropolitan regions for each of the five categories. The process involved surveying residents within these ten neighborhoods and comparing the results

for each of the five matched neighborhood pairs. This theoretical framework provided a control for several socioeconomic and fiscal variables.

The study produced matched samples of residents in polycentric and monocentric metropolitan settings that flatly rejected the Tiebout assumptions regarding citizen knowledge and levels of satisfaction. The survey results indicated that people in polycentric settings were not particularly well informed. In fact, most people in fragmented regions seemed to have only a vague idea of what government agency provided which service. Conversely, residents in consolidated-government sites were far better informed. The results also produced no discernible difference in levels of satisfaction with public services between residents in consolidated and fragmented government. The study did produce limited evidence that residents in fragmented settings were more likely to be mobile than those in consolidated settings. However, the probability of moving was very low and the authors remained skeptical that such limited mobility was enough to create the competitive pressures envisioned by Tiebout.

While central disagreements over the Tiebout model persist, advocates of rational choice argue that, if constructed with care, something approaching a competitive market for public services can be created that will produce benefits for all. The competitive pressures of the market can provide public agencies with the incentives to be responsive to consumer-citizen preferences and to become efficient producers of public goods. It is important to note that the model helped drive numerous reforms in public agencies. The 1990s movement to reinvent government through decentralizing authority and encouraging competition – popularized the key Tiebout assumptions and sparked a raft of organizational reform in the public sector (Osborne and Gaebler 1993). For example many of the most controversial reforms attempted in the public

sector during the past two decades spring from Tiebout including school vouchers, Total Quality Management, privatization, and outsourcing or contracting.

Critiques of Fragmentation/Tiebout Model

However, the Tiebout model remains subject to critiques from numerous scholarly schools of thought. Critique include, (a) competing explanations for the existence of fragmentation and outward spatial development that created suburbs, (b) concerns that polycentric regions cannot address regional issues such as economic development, transportation or the environment, (c) social equity critiques, and (d) efficiency and effectiveness critiques.

Opponents of the individual rational choice model provide competing explanations for the existence of fragmentation. For example, critics argue public policy decisions at the federal and state levels provide the incentive and structure for polycentric regions as opposed to free market demand. Literature (Downs 1999; Jackson 1987; Mills and Hamilton 1994) argues that technology and public policy empowered fragmentation as opposed to individual choice. Specifically, the technological emergence of the automobile transformed and ultimately determined urban development. The Eisenhower Commission, spurred by the automotive lobby and construction interests, crafted the Federal Highway Act which eventually funded 46,000 miles of highway via a gasoline tax. Additionally, housing policy since the New Deal pillar Federal Housing Act (FHA) has encouraged outer ring development. For example, while the Home Owners Loan Corporation (HOLC) directly aided homeowners by helping those facing foreclosure refinance delinquent notes, it also provided an opportunity for the federal government to access and identify local populations. The HOLC eventually distinguished “good” homeowners that were homogenous and stable from potential homeowners who posed a greater financial risk. This tactic encouraged suburbanization while leading to redlining certain

inner city neighborhoods as not deserving of federal aid. These areas eventually became the impoverished slums of urban America. Additionally, the Federal Housing Association (FHA) made it cheaper to buy in suburbs than in city because of standards that conceptualized the idealized home.

Indeed, urban growth in Post-World War II America has proceeded horizontally rather than vertically with regions building out as opposed to up (Rusk 1998). Suburbs house over 60 percent of the urban population and a majority of the available jobs (Rusk 2003). Middle-class families frequently opt for familiar bundle of a homogenous, quiet neighborhood of single-family residences with yards as well as a local school, and convenient shopping. According to this school of thought, suburban proliferation has fostered municipal proliferation as smaller cities and independently incorporated suburbs emerged due to the outer ring migration. This pattern also birthed additional jurisdictions such as counties and school districts. Residents expect their elected leadership to promote policies preserving those community characteristics that encouraged city dwellers to move in the first place. This fragmented reality exists today with voters expressing their preferences for the provision of public services and the cost for those services (Rusk 2003; Tiebout 1956).

However, literature (Orfield 2002; Rusk 1990; 1993; Savitch et. al 1993; Voith 1995) counters that this isolationist mindset weakens entire regions. Additionally, regionalism advocates argue that local governments should share the burden of regional responsibilities. Modern complex issues such as transportation, safety, and the environment clearly require cooperation, collaboration, and coordination among municipalities which allows regions to develop viable growth management policies (Carr and Feiock 2004; Leland and Thurmaier 2004; O'Sullivan 2007). Local governments increasingly encounter issues that are regional in nature

such as transportation, environmental sustainability, economic development, and the provision of utilities. The benefits of regional coordination and collaboration among local jurisdictions seem obvious.

How does the loss of tax revenue and employment opportunities impact the central city and regional vitality in general? Social equity scholars argue that fragmentation promotes spatial injustice by diluting central city resources. Literature (Dolan 1990; Orfield 2002; Rusk 1999; 2003) posits that municipal fragmentation also legalizes racial segregation. Middle-class citizens leave the central city to discover cheaper housing or homogenous neighborhoods while depleting tax revenue (O'Sullivan 2007; Rusk 1993). Consequently, suburban municipalities pursue policies such as ordinances, zoning laws, and building regulations designed to codify exclusionary preferences that hinder mobility for inner city residents. Overall, social equity literature argues that fragmentation exacerbates urban sprawl which dilutes inner city resources leading to urban decay. This also exacerbates spatial mismatch (Kain 1968) issues and other consequences of sprawl that further separate inner-city dwellers from jobs and opportunity. Sprawl driven fragmentation dilutes tax revenue for central cities which contributes to urban decay. Fragmentation also damages social equity as poorer jurisdictions cannot adequately fund needed services. Finally, critics question whether competition among municipalities focused on their own budgetary crises creates the proper environment for cooperation and collaboration when addressing regional policy concerns such as economic development or transportation.

Finally, social equity scholars (Denton and Massey 1996; Orfield 2002; Rusk 1990; Wilson 1995) argue that exclusionary zoning and the Nimbyism driven fears (Downs 1999) of suburban residents foster racial segregation which contributes to fragmentation. Therefore, federal and state policy, suburban residents as well as suburban governments conspire to insulate

outer ring communities from the plight of inner cities. These entities and their citizens essentially assume that the health of the central city has little impact on their lives.

Fragmentation critics also argue that polycentric regions promote inefficient service delivery that fails to leverage economies of scale while duplicating services that a regional jurisdiction could provide at a reduced cost (Orfield 2002). Polycentricism also fails to fully leverage economies of scale according to critics (Carr and Feiock 2004; Leland and Thurmaier 2004; O'Sullivan 2007). Additionally, Orfield (2002) notes that fragmentation driven competition forces municipalities to compete for affluent residents who contribute to tax revenue without increasing the need for social services. They are positive net citizens in other words. This competitive, free market culture drives the economic development decisions toward affluent residential subdivisions, expensive office building and luxury apartment complexes. Such projects satisfy short-term needs while potentially sacrificing long-term growth management initiatives as well as excluding lower-income residents and contributing to segregation patterns.

In summary, both fragmentation and the public choice model that argues for its existence face immense criticism. Fragmentation critics argue that polycentric regions promote inefficient service delivery that fails to leverage economies of scale while duplicating services that a regional jurisdiction could provide at a reduced cost. Additionally, several regionalism advocates note fragmentation's social impact. For example, sprawl driven fragmentation dilutes tax revenue for central cities which contributes to urban decay. Fragmentation also damages social equity as poorer jurisdictions cannot adequately fund needed services. Critics have identified a stratified service provision problem in multiple policy arenas including utilities, public areas, economic development, and education. Finally, critics question whether competition among municipalities focused on their own budgetary crises creates the proper

environment for cooperation and collaboration when addressing regional policy concerns such as economic development or transportation.

Regionalism

Given these concerns regarding polycentric regions, regional literature (Carr and Feiock 2004; Leland and Thurmaier 2004; Orfield 2002; O’Sullivan 2007; Rusk 2003) argues that local governments should share the burden of regional responsibilities. Local governments should exist in a structure that nurtures cooperation as opposed to competition. According to regional literature, this structure equalizes the quality of public services while reducing the cost of government, enhances economic development and regional marketing efforts, and promotes spatial equity (Soja 2010)

With that said, the proper regional strategy remains a complex question. Savitch and Vogel (2000) frame the options under a “government versus governance” distinction that contrasts complete, structural reform that converts polycentric regions to monocentric or consolidated entities with interlocal cooperation between governments that focuses on the process as opposed to the structure. Hamilton (2002) terms this “new regionalism” that focuses on the governing process as opposed to structural reform to achieve cooperation among governments. Hamilton noted during his case study of Chicago regimes (Stone 1989) that while the private sector often takes the lead role in local government and economic development, the process is ineffective absent cooperative coalitions among political leaders.

Thurmaier and Wood (2004) identify four levels of intergovernmental cooperation-- communication, coordination, collaboration, and consolidation. Communication involves activities normally associated with networking with a focus on information sharing and dialogue

that supports successful interlocal initiatives. Municipalities practice coordination by sharing resources such as personnel, equipment, and engaging in joint efforts. Collaboration involves two or more governing units merging functions or one jurisdiction managing a function for one or more entities. Consolidation is the full merger of two or more municipalities. Local jurisdictions accomplish communication, coordination, and collaboration through formal or informal local agreements while consolidation requires either statutory authorization at the state level and frequently must survive an initiative or referendum election. Very few consolidation efforts receive voter approval as we will discuss in the consolidation section.

Regional and Consolidated Structures

Regional Governments: The Case of Portland Metropolitan governments such as Portland, Oregon (Abbott 1991) and Toronto/Vancouver (Fox 2010; Rose 1972) provide established, functioning examples of structured regional government. Metropolitan or regional governments are general purpose governments possessing all municipal powers codified by state law. While some regional or county governments enjoy limited powers, regionalism advocates argue that metropolitan jurisdictions should wield “exclusive” powers within the designated areas of responsibility. Additionally, Rusk (1993; 2003) notes that a metro government should control planning and zoning powers as well as develop and implement housing policy.

Metro, the elected regional government for Portland, Oregon, is currently the only elected regional government in the United States (Rusk 1999). Metro serves an area that includes the counties of Multnomah, Clackamas, and Washington as well as encompassing 25 municipalities including the city of Portland. The regional government provides the structure for integrating Oregon’s urban growth management laws in the region. The Oregon State Legislature originally

passed Senate Bill 100 creating the Land Conservation and Development Commission in 1973 to curb urban sprawl and manage urban land use with a primary focus of protecting agricultural land from sprawl. Senate Bill 101 created statewide protections for farmlands. The policy included 14 goals and objectives including the pivotal goal 14 which required metropolitan regions to establish and maintain an urban growth boundary that limited residential and commercial development. The policy authorized Oregon counties to implement the coordination effort for most regions within the state. However, elected officials and public administrators in the Portland metropolitan area coordinate their land use plans with Metro. The Oregon Land Conservation Development Commission possesses the authority to review all local land use plans for compliance with Senate Bill 101 (Rusk 1999).

While the Oregon land use legislation originally targeted the preservation of rural land for agricultural purposes, the state's moralist political culture (Elazar 1984) has consistently guided the goals and objectives of urban growth management to address progressive issues. For example, Metro utilizes land use authority to manage environmental, economic, and equity (Wheeler 2000) concerns. This includes land use policy issues such as transportation, housing affordability, urban density, and socioeconomic diversity. The regions "New Urbanist" (Duany, Plater-Zyberk, and Speck 2000) approach pursues spatial equity benchmarks such as public transportation, walkability, and urban compactness which reduce automotive dependency. Indeed, Metro prioritizes and quantifies walkability as part of its economic development strategy. This goal has driven several transit oriented development projects (Dill 2006; Metro 2007).

Overall, the Portland ideal involves equitable transportation solutions within a framework of spatial equity and democratic equality that dilutes elite regimes. However, The Portland model does not avoid critical analysis. Leo (1998) argues that a governance regime (Stone 1989)

comprised of environmentalists, commercial farmers, and business interests leveraged land management limitations to promote economic development by maximizing the environmental attractiveness. This analysis counters the moralistic, democratic ideal. Additionally, Song and Knaap (2004) found mixed results when measuring how effectively Portland managed sprawl. Their findings indicated that Oregon's land use regulations indeed increased pedestrian connectivity, urban density, walkability, and neighborhood connectivity. However, the overall region suffered from less external accessibility. According to Song and Knaap, progress remained elusive at a regional scale since economic and lifestyle demands of urban and suburban life require certain facilities in massive scale.

While the Portland regional model remains unique among American local governments, Vancouver pursues the same goals by utilizing a structure and approach consistent with Canadian political culture and policy. Canadian provinces and local government in general enjoy significant property and land use zoning powers compared to American municipalities. Literature (Fox 2010, Freilich 1999, Frierson 2005) contrasts the Canadian federal level approach to land use and property rights to American policy. For example, The "Takings" clause of the Fifth Amendment to the United States Constitution prohibits the government taking property from private ownership absent just compensation (U.S. Const. V.). Conversely, Canadian property owner do not possess such constitutional protections (Fox 2010). Additionally, an "ownership bias" exists within American Federal tax policies which allow homeowners to deduct mortgage interest while the Canadian tax code does not include this deduction (Boddy 2004; Fox 2010,).

The role of Canadian provinces and local governments in land use planning are also very distinct from American state and local jurisdictions. Provinces enjoy police power requiring

municipalities to enforce comprehensive plans. Comprehensive plans are binding law unlike American municipal plans which require voluntary cooperation from regional jurisdictions and private sector partners. The greater Vancouver Regional District has coordinated planning among local units since 1967 (Fox 2010, Oberlander 2010). The regional government pursues SMART growth planning (Griffith 2000, APA 2002). The Greater Vancouver government developed the Livable Region Strategic Plan in 1972 (Young 1995) which implemented SMART growth policies similar to the Portland model based on four guiding components: mass transit, compact, dense housing development, complete, multi-use communities, and an urban growth boundary (Fox 2010). These components are obviously designed to attack and eliminate urban sprawl (Boddy 2004; Fox 2010; Kushner 2004,).

City-County Consolidation

While the Portland model provides a regional structure with the authority over smaller jurisdictions in key policy areas, city-county consolidation absorbs smaller entities into one large countywide unit. American citizens concerned with local government encounter a matrix of governing layers and structures possessing overlapping responsibilities and authority. Consolidation literature (Abbott 1991; Carr and Feiock 2007; Frug 1999; Martin 1993; Nathan 1994; Owen and Wilbern 1985; Rose 1972; Rusk 1999) frequently advocates full-scale, structural consolidation as a remedy to this confusion or complexity. In fact, there have been thirteen successful city-county consolidations involving American cities with at least 100,000 citizens since 1947 (Thurmaier and Wood 2004). This list includes several large, heavily populated regions such as Unigov in Indianapolis, Indiana, Nashville-Davidson, Tennessee, Jacksonville, Florida, and Kansas City, Missouri. Advocates argue that city-county

consolidation solves polycentric driven confusion by combining municipal authorities into one single county-wide governmental structure (Leland and Thurmaier 2004).

The consolidation process includes merging the functions and structure of a city or numerous cities with the county-level government (Carr and Feiock 2004; Leland and Thurmaier 2004). As mentioned earlier, this process initially requires legislation that grants local jurisdictions the authority to consolidate as well as voter approval via an election that includes all voters who would become citizens of the consolidated jurisdiction in many cases. Unigov, the consolidated government serving Indianapolis, Indiana, is the only successful, large-scale consolidation that did not require voter approval (Leland and Thurmaier 2004; Staley 2005). Once successful, the new governing entity replaces the existing city and county as well as suburbs and smaller towns that opted in the consolidated government. Suburbs and municipalities on the fringe of the region are not required to join the consolidated unit and can choose to remain independent. This option can weaken the ability of consolidated units to provide expected benefits since it compromises the provision of uniform service quality and scale (Leland and Thurmaier 2004).

What do consolidated jurisdictions look like and how do they govern? An elected mayor and council lead the five major consolidations (PELSW 2007). Additionally, the new entities refer to themselves as “cities” while providing both city and county level services. Typically, the consolidated jurisdictions provide two-tiers of service. General Service Districts (GSD) include the entire consolidated region. Citizens pay the same tax base rate for the same public goods and services. Conversely, the Urban Service District (USD) includes the old central city. Citizens living in the USD receive a different basket of goods but also pay a higher tax rate. The process eliminates duplication of public goods and services as the new entity provides most of the

services that individual jurisdictions previously offered separately. However, case studies of the thirteen successful consolidations (Leland and Thurmaier 2004) determined that outlying suburbs could decide not to avoid consolidation. Schools districts and volunteer fire departments also avoided consolidation.

Benefits of Regionalism and Consolidation

What are the perceived benefits of the regional model and city county consolidation and what are the arguments advocates make for these structural reform options? The theoretical analysis and advocacy flows from four very distinct schools of thought. These schools of thought include: (a) the classical or reform school argument that consolidation yields greater government efficiency, (b) the metropolitan renewal/social equity advocates who envision city-county consolidation as the solution to inner city decay by controlling urban sprawl, (c) regional scholarship that argues consolidated governments provide a better structure for regional governance that can address regional issues, and (d) economic arguments that consolidation provides a stronger approach for promoting local business development and employment growth (cite schools of thought). In fact, Thurmaier and Wood (2004) found that economic development remained the top priority for elected officials, administrators, and citizens involved in a consolidation effort. Furthermore, Savitch and Vogel (2004) note that city-county consolidation re-structures power relations as it transforms relationships between actors, coalitions, and voters.

The governing efficiency school argues that merging two jurisdiction levels into one proves more efficient by eliminating served duplication, leveraging scalable economies, reducing the cost of the provision of public goods and services, and eliminating externalities.

Consolidation advocates note that jurisdictions engage in costly service duplication when providing services that one countywide entity could provide. Staley et al. (2005) indicates

consolidation reduces duplication of service since the county and the cities being consolidated provided the same service.

Additionally, literature (Carr and Feiock 2004; Leland and Thurmaier 2004; O'Sullivan 2007) extols how the structure facilitates economies of scale. Economies of scale exist when the unit cost or average cost of a good or service decreases as production increases (O'Sullivan 2007). According to literature (Boadway and Shah 2009; Carr and Feiock 2004; O'Sullivan, 2007), spreading the cost over a larger population arguably creates scalable efficiencies. For example, Carr and Feiock (2004) argue that consolidation reduces the cost for providing utilities. However, the findings for police and fire services are mixed. Finney (1997) found that a consolidation of 14 suburban police forces in the Los Angeles area actually resulted in an increased cost of production while Duncombe and Yinger (1993) found consolidating fire departments did not produce scalable results.

Consolidation advocates also note that a larger structure provides greater transparency with less opportunity for engaging in covert deal making or corruption. For example, Thurmaier and Wood (2004) found that the consolidation of Kansas City led to the development of a professional bureaucratic structure that highlighted accountability and efficiency. This shifted the personnel process from patronage to merit, thus reducing corruption (Leland and Thurmaier 2000).

However, studies indicate that structural consolidation has struggled to deliver on the promises of increased efficiency, economies of scale, and cost savings, enhanced democracy, and equity. Carr and Feiock (2004) argue that the results are mixed at best. Staley et al. (2005) posit that consolidated systems frequently fail to deliver efficacy or unified economic development

strategies. They also note that whether a consolidated government reaps the identified benefits depends heavily on the context of the regional situation. Therefore, it is imperative for regional leadership to analyze population and demographic trends. Finally, consolidation might look good on paper but the elected officials, employees and citizens affected might compromise the feasibility of the plan (Staley et al. 2005). McDavid (2002) cautioned that the degree of benefits varied according to the public good or service. For example, Staley et al. (2005) studied the impact of consolidating safety services such as police or fire units. The results indicated that consolidation often failed to create fiscal savings or economies of scale. Reducing police or fire departments merely increased the workload for the remaining officers. Additionally, both police and fire staff enjoy heavy union organization and support which often yields increased salaries which wounds the cost reduction argument.

Consolidation or regional government also finds support from social and spatial equity arguments including literature (Cisneros 1993; Dodge 1996; Dolan 1990; Downs 1994; Leland and Johnson 2004; Pierce 1993; Rusk 1995) addressing arguments that consolidation stimulates local democracy and social equity. According to Downs (1994) and Rusk (1990), city revitalization and equity cannot occur absent expansion of the tax base to include wealthy suburbs. Social equity supporters also note the fairness of taxing suburban dwellers since they currently enjoy the cultural and economic benefits of a central city without providing financial support to the central city. Additionally, one of the primary equity reasons used to justify merger is the elimination of fragmentation so the reformed government can equalize the quality of municipal services such as streets, safety, and sanitation across the newly consolidated territory. Of course, this goal directly counters the rational argument for competition. However, Orfield (2002) notes that these public services are considered essential for most citizens who have the

right to expect the responsible municipality to provide at a reasonable level of quality.

Therefore, a regional, consolidated entity represents the best option for ensuring a minimum level of quality for all citizens regardless their income status.

However, studies often find that structural government reform fails to yield spatially equitable results or equalized service provision. In fact, Leland and Thurmaier (2004) found that the thirteen major consolidations included separate service provisions districts for the central city and the outlying suburbs. These districts provided different services as well as a higher level of quality for certain services at a higher cost. Additionally, Savitch and Vogel (2004) noted that consolidated mergers often fail to provide equalized municipal services as part of their comprehensive case study of the Louisville-Jefferson County merger in 2003. Subsequent revisions to the original merger bill established “special taxing service districts.” The new legislation allowed the metro council to create separate service districts within the newly consolidated area to be managed by appointed boards. These districts would permit different levels of service within the county and were coupled to different taxation rates. Under this legislation, the former city of Louisville could be established as an “urban service district” whereas other areas of the county could petition their voters to establish “taxing districts” also to be managed by appointed boards. The merger may have actually increased service disparities by legitimizing differences in levels of service and taxation. Finally, most consolidation agreements do not mandate participation from suburbs (Staley 2005). Additionally, consolidated city government often cannot control land use and continued outward migration of middle class taxpayers seeking asylum from the central city (Rusk 1999).

Regionalism advocates argue that the consolidated or regional structure allows decision-makers to address regional issues more easily since they are freed from competing for citizens,

tax revenue, businesses, and development. For example, Carr and Feiock (2004) note that while fragmentation extols competition, consolidation prioritizes cooperation, scale and scope which contributes to managing issues on a regional scale. Indeed, Fleishman (2000) found that local leaders within monocentric, consolidated regions encountered less bickering among public officials and more “forward looking” thinking when addressing regional issues.

Finally, economic development remains one of the highest priorities for all regions including those with leaders considering consolidation. Advocates argue that structural consolidation provides the region a unified brand and development strategy as well as creating efficiencies and reducing externalities. In other words, the region can speak with a single, unified voice when recruiting companies (Savitch and Vogel 2002). Thurmaier and Wood (2004) found in their case studies of thirteen consolidations that an engaged civic class extolling the need for economic development was a common thread among consolidation efforts. Indeed, Rosentraub (2000) argues that the consolidation of Indianapolis fostered economic development and lead to a revitalization of the downtown area.

With that said, literature (Carr and Feiock 1999; Staley 2005) indicates mixed economic results with the impact being more distributive than developmental. Empirical studies (Carr and Feiock 1999; Foster 2000) also yield vague findings when assessing the impact on economic development. Carr and Feiock (1999) identify consolidated regions that experience economic growth. Indeed, they observe a correlation between the two. However, their research also determines that economic growth within the consolidated region rarely surpasses statewide levels of growth. In other words, consolidation merely relocates economic growth as opposed to fostering it.

Advocates for structural consolidation argue that that a centralized, monocentric region provides service equality, economic benefits and savings, and social equity. However, does consolidation keep its promises? Do empirical studies support these claims? Additionally, does consolidation truly maximize the democratic ideal? Does this structural reform represent a realistic alternative for most metropolitan regions?

First, literature (Blodgett 1996; Leland and Cannon 1997; Thurmaier and Wood 2004) stresses the overwhelming political barriers city-county consolidation faces. Voters frequently reject structural consolidation attempts. Leland and Cannon (1997) note that fewer than 15 percent of all consolidation efforts receive majority support during the first electoral effort. Blodgett (1996) indicates that voters have considered over one-hundred consolidation referendums and merely thirty-three consolidated governments currently function. In fact, most of the existing consolidated governments appeared due to legislative statute or executive order as opposed to popular referendum.

Additionally, consolidation critics opine that consolidation merely serves the purposes of elite actors and groups while facilitating the anti-democratic tools of centralization. The qualitative findings of Savitch and Vogel (2004) indicate that structural government reform has less to do with pursuing government efficiency and equity or managing intelligently managing urban growth and reducing sprawl. The better explanation for consolidated mergers flows from pragmatic logic that private developers and elected officials utilize reform to promote relationships with business and advances the political fortunes of allies.

In summarizing structured, full scale consolidation, Thurmaier and Wood (2004) argue that the primary barriers to efficient consolidation are political. The transformation to regional

government requires local officials to plan for large scale change while hoping that citizens can successfully adapt to this permanent governing reform.

Interlocal Contracts and Other Alternatives to Consolidation

According to research findings, structural consolidation remains a politically daunting option with a mixed track record of providing the benefits of regional cooperation. Additionally, the merger process often provides a policy window (Kingdon 2003) for elites to pursue their narrow priorities. With that said, the increasingly globalized economy and the multi-jurisdictional nature of the emerging policy challenges facing local entities mandates cooperation among jurisdictions and administrators. Again, Frederickson's (1999) disarticulation theory identifies the declining importance of jurisdictions and borders as local municipality struggle with managing complex social and economic policy problems unilaterally. This new public administration paradigm forces city managers and administrators to realize they are interdependent and must pursue innovative solutions that include intergovernmental communication, coordination, and collaboration as opposed to competition. Do interlocal agreements provide a viable solution for these multi-jurisdictional challenges? Prior to consideration of formal contracts, it is important to summarize other collaborative options and their benefits and challenges.

Special Districts Special districts have received the brunt of criticism based on equity concerns and accountability concerns. While special district authority varies by state, the structure remains consistent. Special districts are specific purpose jurisdictions that enjoy administrative and fiscal autonomy from other local governments. Elected or appointed special district boards provide governance that does not require approval from other local jurisdictions in

the region. Special districts enjoy the authority to create multiple revenue options including taxes, fees, and debt without approval from other impacted cities or counties. These entities actually possess greater administrative freedom in purchasing or personnel than most general purpose local governments.

Critics (Foster 1996; Foster 1997; Pearlman 1993) argue that this lack of voter accountability and transparency among special districts threatens participative democracy. This is especially true given the proliferation of special districts. The number of special districts has increased more rapidly than any other American government jurisdiction type (U.S. Census 1992). Additionally, local officials have formed special district for a large variety of purpose including service provisions normally carried out by general purpose local governments (McCabe 2004).

Additionally, the reasons for special district proliferation concerns critics as much as the actual growth itself. Perlman and Benton (2012) found that the number of special intergovernmental districts increased by 12% between 1987 and 1992. She identified several reasons why legislative bodies choose to create special districts: 1) they are a way of skirting state constitutional limits on taxation, spending, and borrowing, 2) they enable state and local governments to appear to be cutting their budgets while continuing to ensure service provision, 3) they are a tools for intergovernmental collaboration cutting across political boundaries to meet regional needs. However, due to the lack of direct public accountability, there is a high possibility of abuse such as nepotism, overpricing, and mismanagement. Therefore, special districts contribute to secretive governance, allows special interests to subvert state or constitutional law, and provide a structure for corruption.

Conversely, theoretical analysis also provides less nefarious explanations for special district proliferation. For example, Foster (1996) notes that special districts “enjoy the financial support, tax exempt status and quasi-monopolistic service-delivery advantage of public governments, together with the limited political visibility, internal management flexibility, and financial discretion of private corporations.” Foster utilized four alternative theoretical perspectives in attempting to explain why local officials rely so frequently on districts in local government service delivery: institutional reform, public choice, metropolitan ecology, and critical-political economy. Foster’s research identified several independent variables impacting special district use including population size, the number of legally enabled districts as well as legal and institutional issues. Overall, Foster found that the structure of local government played a significant role as regions with several small, conterminous municipalities were more likely to create special districts. Legal issues and citizen demand were important positive variables as state rules and geography impacts the use of districts.

Privatization/Outsourcing One of the primary alternative arrangements to interlocal contracting employed by local governments is outsourcing to a private contractor as opposed to another public entity. The practice is widespread and involves a broad scope of government functions much like interlocal contracting. For example, Baker-Tilly (2010) surveyed local government leaders from Midwestern states regarding budgetary issues. A significant majority of respondents (86.4%) indicated their government utilized private contractors at for at least one function. The municipal leaders identified twenty seven outsourced functions.

Privatization is best defined as a process that transfers government responsibilities to the private sector (Auger 1997; Featherstun, Thornton, and Correnti 2001). While the vast majority of privatization activity involves local jurisdictions outsourcing functions to private contractors

or “contracting out”, municipalities also transfer assets or develop managed competition. The best candidates among the array of government functions are those services which are private in nature such as debt collection or child support collection (GAO 1997). Governments have contracted out certain tasks as well as entire services (Auger 1997; Featherstun, Thornton, and Correnti 2001). With that said the government still retains responsibility to the public for providing the service effectively.

Local governments pursue outsourcing with the goal of achieving greater government efficiency and reduced cost of service delivery (Baker-Tilly 2010, Featherstun, Thornton, and Correnti 2001) as well as greater flexibility, improved quality, and innovation. Baker-Tilly (2010) also found that local leaders utilized outsourcing of ancillary functions to better focus on core service functions.

Conversely, there are several challenges to the privatization promises. Prager (1992) found the outsourcing process included several hidden costs as well as quality issues. Additionally, the same study as well as other reports (Zavadsky 2014) noted costs associated with monitoring contractor performance. Concerns also exist regarding transparency and legislative compliance (Dillingham 1996; Fruth 2000). Finally, the contractor performance remains a large issue for several governments who outsourced core functions (Matt 2014; Seals 2014).

In summary, special districts provide flexibility and multi-jurisdictional authority for special purpose initiatives such as light rail or economic development. However, special districts also centralize governing power in a virtually invisible, anti-democratic government entity with little transparency for accountability to residents and voters (Thurmaier and Wood 2004).

Special districts also increase number of governing units (Feiock and Carr 2004). Privatization or outsourcing of government functions typically yields greater efficiencies, innovations and reduced cost of delivery (Baker-Tilly 2010, Featherstun, Thornton, and Correnti 2001). However, the practice typically involves hidden costs (Prager 1992) and contractor effectiveness has frequently become a concern (Seals 2014; Zavadsky 2014).

Interlocal Contracting Interlocal cooperation is an arrangement between two or more governments designed to accomplish common goals, provide a service, or solve a mutual problem (Thurmaier and Wood 2004). Such cooperative, governance driven approaches present greater political viability in providing a pragmatic tool for establishing a regional mindset among stakeholders than regional or consolidated units. The mindset encourages inter-jurisdictional collaboration, cooperation, and coordination. Indeed, interlocal cooperation advocates argue that the functional approach yields the same benefits as structural consolidation without the political cost local government re-structuring would obviously create. However, consolidation advocates counter that such voluntary cooperative structures provide little more than patchwork solutions to local regional challenges. In fact, critics (Orfield 2002; Rusk 1990) argue that such agreements merely create another barrier to badly needed government consolidation or regional approaches since these alternatives agreements cannot yield the needed benefits of a structured regional or consolidated government in the areas of efficiency, equity, economies of scale, authority, and accountability. Finally, critics argue that functional consolidation agreements cannot create the environment necessary for cooperation among local jurisdictions (Morgan and Hirlinger 1991).

Conversely, literature (Holzer, Sadeghi, and Schwester 2007; Mercer 2011; Tees, Cole, and Searcy 1995; Thurmaier and Wood 2004) presents evidence that interlocal agreements (ILA) can indeed structure cooperative relationships that bolster communication, coordination, and

collaboration among governing units as well as achieve the benefits structural consolidation or regional governance presumably provide. The interlocal body of literature includes examples of agreements that eliminated service duplication, increased efficiency and service quality, and realized economies of scale. Additionally, these agreements created regional benefits absent the significant political and administrative costs required for re-structuring. Therefore, the structure represents an incremental (Lindblom and Woodhouse 1993) approach that municipalities can utilize more frequently with greater ease and less transactional cost (Thurmaier and Wood 2004) than consolidation. Additionally, the agreements can last as long as the parties need and there is greater margin for correcting contracting or negotiating errors.

Definition

Interlocal agreements are agreements between two or more municipalities to partner in providing a good or service, managing support services, and integrating technologies. The practice actually has several names in addition to interlocal agreements including shared services or interlocal contracts. Granted, a distinction exists between these terms since ILA or shared servicing can occur via formal or informal arrangements while an interlocal contract is a formal, legally binding agreement between jurisdictions (Tees, Cole, and Searcy, 1995). While this project evaluates interlocal contracting activity among Texas cities and towns, a significant theoretical thread connects these practices whether municipalities partner formally or informally since research (Thurmaier and Wood 2004) argues that interlocal agreements encourage cooperation among jurisdictions as well as providing similar benefits whether they include a legally binding contract or remains an informal agreement.

The agreement or contracting process typically involves negotiations and agreements at the administrative level followed by ratification from elected officials although some states merely require the latter step (Tees and Stanford 1971). In fact, state legislation is typically required to both authorize and provide structure to the practice (Thurmaier and Wood 2004). For example, the Texas Interlocal Cooperation Act (Texas Govt. Code, chapter 791, Vernons 1994) requires formal approval from authorized elected officials (Tees and Stanford 1971). The formal, contractual agreements establish three types of relationships among governing units: (1) Services of a jurisdiction provided for a fee, (2) Joint enterprise agreements where jurisdictions share resources or (3) Conditional stand-by arrangements where one jurisdiction pays a retainer to another jurisdiction (Tees, Cole, and Searcy 1995). This final arrangement type is appropriate for emergency services such as police, fire, or disaster relief (Tees, Cole, and Searcy 1995). Fee based or retainer services would involve interlocal collaboration as described by Thurmaier and Wood (2004) while joint agreements involve their definition of coordination. The proliferation of this tool reflects the inter-jurisdictional nature of problems local governments face. Issues such as crime, pollution, transportation as well as economic development often require a regional response (Orfield 2002) and these issues are proliferating. Interlocal contracts create niche opportunities for local officials to address these issues without sacrificing the benefits of fragmentation (Thurmaier and Wood 2004).

Benefits

Studies indicate that these cooperative opportunities yield several benefits. Given that interlocal cooperation involves a transaction as opposed to wide-scale reform, greater efficiency and effectiveness in service provision as well as increasing the quality of products and services remains the primary objective for most municipalities. The results of a survey of Texas local

jurisdictions at the city, county, and voluntary regional council levels by Tees, Cole, and Searcy (1995) found that a majority of jurisdictions identified economic or regional factors when agreeing to an interlocal contract. For example, 52% identified reducing the unit cost for services as a significant factor while nearly 57% identified avoiding costly service duplication and 58% also cited the need for additional personnel. Additionally, a positive correlation existed between the population size and the percentage of municipalities that considered efficiency factors. Conversely smaller jurisdictions were more likely to contract for needed additional personnel. Likewise, Thurmaier and Wood (2004) found while interviewing municipal administrators in the Kansas City, Missouri region that “providing the public with better service and reducing the uncertainty of service delivery (123)” remained higher priorities than even generating savings

Overall, several Texas municipalities reported benefits of contracting including decreased service costs, duplication avoidance, and improved service quality which are all examples of regional benefits. Several jurisdictions also reported that contracts enabled the use of excess capacity such as unused equipment, excess water, or sanitation services. Additionally, some managers noted that contracts yielded net earnings or profit (Tees, Cole, and Searcy 1995). Likewise, Holzer, Sadeghi, and Schwester (2007) identified savings for fire and police service, bridge maintenance, and parks and recreational activities among New York and New Jersey municipalities. Thurmaier and Wood (2004) also found that interlocal agreements lead to more effective service delivery (explain).

Since interlocal agreements are transactions negotiated by administrators, social equity issues typically fail to appear as priorities in the literature. Consolidation advocates fear that interlocal cooperation actually discourages needed consideration of underprivileged areas as

mentioned earlier in this paper. For example, Rusk (1999) argues that such agreements fail to address social and economic divisions within metropolitan areas such as housing, schools, and fiscal disparities. This remains a significant critique of fragmentation. However, contracts do frequently provide needed services, equipment, personnel, or expertise to jurisdictions that cannot afford them from their own operating budget. These include service that most citizens would consider basic or even vital including safety, emergency services, utilities, hospitals, and sanitation (Tees, Cole, and Searcy 1995).

Therefore, while contracting parties typically focus on efficiency and effectiveness, interlocal contracts are tools for providing badly needed services to areas that cannot afford them as well as reducing uncertainty of service delivery (Thurmaier and Wood 2004). While this approach may not address social and economic disparity, it does provide a practical, politically viable tool for addressing service equity issues.

One of the stronger arguments for interlocal cooperation posits said agreements enhance regional cooperation and decision-making while preserving local autonomy. However, local governments increasingly grapple with policy issues that extend beyond the scope of their jurisdictional authority which mandates interlocal cooperation. Do interlocal contracts provide a structure for developing regional cooperation that nurtures intergovernmental problem-solving? While critics note that interlocal contracting remains an administrative solution driven by local administrators, this process may actually nurture intergovernmental relationships. According to Federickson (1999), professional administrators are more likely to think regionally in building cooperative social networks among their peers than elected officials who still think jurisdictionally. Studies indicate that the interlocal agreements process supports such social networks. For example, Morgan and Hirlinger (1991) determined from their study of contracting

activity for 615 American cities that those municipalities with a city manager were more likely to contract with other cities and at a greater frequency. Additionally, Thurmaier and Wood (2002) determined that contracting activity hinged on developed social networks between administrators. They also noted that interlocal agreements contributed to the development of norms of reciprocity among administrators while reducing the transaction costs of continued cooperation as part of their study of the Kansas City region. They also identified increased communication, collaboration, and coordination.

Additionally, 57% of the administrators responding to the Texas survey conducted by Tees, Coles, and Searcy (1995) identified area-wide coordination as a reason for contracting with other entities. Their study also found that larger cities and governing levels with regional authority such as counties or voluntary regional councils were more likely to consider the benefits of coordination and collaboration. Indeed, the Texas Urban Commission originally identified interlocal contracts as the primary tool for developing regional governance among Texas municipalities. Indeed, the primary objective of the commission was identifying the optimal tool for developing cooperation among Texas local governments (Ray 1971).

Both advocates for regionalism and intergovernmental cooperation argue for the benefits of cooperation and consensus in developing programs for attracting corporations and enhancing regional employment opportunities. However, research evaluating interlocal contracting activity typically focused on government efficiency and addressing challenges at the administrative level. Therefore, studies dedicated to economic development agreements or contracts are limited. With that said, Ashbacher (2005) conducted a comparative case study of economic development agreements among rural counties in Iowa. The study found that the economic development networks developed trust among administrators as well as successful programs. However,

the case study was limited in its scope and it would prove difficult to replicate or generalize the findings to other regions.

Disadvantages/Critique

The primary critique of interlocal agreement remains was the potential the lack of government accountability. This argument has both practical and theoretical implications. Specifically, the democratic process provides a forum for citizens to express grievances over inadequate government service. Voters typically hold elected officials responsible for addressing and fixing such concerns who can either initiate inquiries to identify who or what caused the problem or face electoral backlash. However, citizens subject to service provision from a different jurisdiction thanks to an interlocal contract cannot register a complaint or seek new representation (Tees, Cole, and Searcy 1995; Thurmaier and Wood 2004). The response is left to elected officials or administrators who can terminate the relationship or perhaps pursue a higher level of consolidation (Thurmaier and Wood 2004).

Additionally, both regionalism (Orfield 2002, Rusk 1999) and consolidation advocates argue that interlocal cooperation prevents true needed reform. These groups view intergovernmental cooperation or functional consolidation as little more than piecemeal transactional agreements that blind leaders and citizen alike to problems facing fragmented local regions. The only solution remains structural reform that replaces competition with regional leadership that develops solutions to regional issues, provides equitable public goods and services, and most importantly spreads tax revenue evenly across metropolitan regions.

Additionally, critiques of intergovernmental cooperation emerge from advocates of regionalism who argue that interlocal agreements remain an administrative process that

addresses government efficiency issues as opposed to a political process that addresses structural issues from a regional viewpoint. Indeed, studies have determined that contracting yields greater public service delivery, efficiency, economies of scale, and reduces service duplication. Furthermore, the process enjoys widespread use by administrators who can execute contracts and agreements with minimal political cost compared to consolidation. However, cooperative activity requires active social networks and communication among administrators who are typically more likely to consider regional consequences than their elected counterparts. Additionally, contracts provide a tool for economic development programs. Therefore, interlocal contracts remain a viable tool for addressing regional policy problems and challenges.

Summary

The debate over fragmentation and regionalism rests on preferences for either competition or cooperation among local jurisdictions. The Tiebout (1956) model of fragmented competitive market for public services and jurisdictions arguably provided rational, utility maximizing citizens choices among various municipalities and their various basket of public goods and services which said citizens could choose based on personal preferences. This market required government to be more effective and efficient in service delivery as they competed for tax dollars. While scholars have challenged this model and its assumptions, regional scholars provided numerous cooperative models such as a regional government or city county consolidation as preferable solutions to the fragmented model that contributed along with the Federal Highway Act and federal tax policy to the development of sprawl and suburban America that siphoned needed tax revenue from struggling urban centers.

With that said the prevailing schools of thought fail to consider functional alternatives that nurture regional cooperation without the challenges associated with regional or consolidation reform. Local cooperative or reform options include special districts, annexation, and privatization. Each option carries benefits but also risks or problems. Special districts create cooperative structures but within a secretive cloak that compromises democratic transparency. Privatization presumably offers the efficiency and innovation of private markets but remains limited to tasks that private entities would handle normally as the profit mandate often weakens service effectiveness.

Interlocal contracting provides a cooperative opportunity that potentially avoids these challenges. Studies (Tees, Cole, & Searcy 1995; Thurmaier and Wood 2004) found that interlocal agreements yielded the presumed benefits of regionalism for contracting municipalities including reduced service cost, eliminating serviced duplication, providing services and expertise jurisdictions could not otherwise afford, Achieve economies of scale, and decreased uncertainty of service delivery. These same studies also found that the practice enhanced intergovernmental cooperation and networking. Overall, interlocal contracting has made local government more efficient, effective, and innovative in providing public goods and services to citizens. Conversely, critics of contracting argue that the practice compromises democratic transparency and accountability since citizens receive public services from officials and agencies outside their electoral control. Additionally, regionalism advocates argue that contracting blocks needed structural reform that only a regional or consolidated structure can provide.

Chapter 3

Research Method

Introduction summarizing research topic

Texas municipalities enjoy a long history of contracting for sharing of services. The first recorded contract dates back to 1857 (Tees and Stanford 1971). The Texas Urban Development Commission, tasked with developing regional planning to better manage multi-jurisdictional issues in the early 1970's, identified interlocal contracting as the proper tool for facilitating regional coordination among local governments. The commission drafted and advocated passage of the Texas Interlocal Cooperation Act of 1971 (Texas Gov't Code, Chapter 791) which the 62nd Texas State Legislature summarily approved as law. The process included amending the Texas Constitution to allow local governments to consolidate functions (Ray 1971). These statutory changes empowered local governments to contract on a broader scale (Tees, Cole, and Searcy 1995).

Research addressing interlocal contracting remains relatively sparse. Studies (Holzer, Sadeghi, and Schwester 2007; Thurmaier and Wood 2004) evaluated the ability of interlocal agreements to provide the benefits of regional cooperation in lieu of a regionally structured government. This research found that contracting saved municipalities money and improved the quality of public goods and services. Additionally, literature (Mercer 2011; Tees, Cole and Searcy 1995; Tees and Stanford 1971) focused on the effectiveness of interlocal contracting among Texas municipalities. However, the research studies have yet to determine whether contracting Texas cities and towns experience the expected benefits of a regional government structure without paying the political costs of structural consolidation.

The purpose of this mixed method study was to determine how Texas cities and towns of all population sizes and types utilize interlocal contracts for the provision of public goods and services as well as support services such as budgeting and technology integration to realize the benefits of functional consolidation and regionalism. The project included three layers of inquiry. First, the study measured and examined the scope of contracting activity among Texas municipalities by surveying 187 city managers in Texas. The author adapted the instrument from the 1989 and 1994 studies conducted by Tees, Cole, and Searcy which examined overall contract participation rates among Texas municipalities, contracting frequency, government functions subject to contracts as well as advantage and disadvantages. Both of the earlier studies surveyed each type of general purpose local government in Texas including cities, counties, and regional councils. While this study included a survey of city managers only, the first layer of inquiry was a descriptive and cross tabular comparison of the 2013 findings to the 1994 findings. Additionally, the study surveyed and measured (a) the breadth of contracting activity, (b) the contracting role for each responding jurisdiction, (c) The jurisdiction partners and whether the partnering structure models interlocal coordination or collaboration, (d) the contracting benefits and whether they include the benefits of regionalism, (e) challenge associated with contracting and, (f) barriers to contracting as the second line of inquiry. This quantitative analysis included utilizing logistic regression and ANOVA tests to measure the statistical significance of independent variables. Finally, a case study focused on a regional contract for Tarrant EMS provision developed via an interlocal contract provided quantitative outcomes and qualitative findings for the study. Chapter 3 outlines the research method and design. This explanation includes a restating of the research questions and hypotheses, a summary of the research structure, introduces the research instruments, identifies the participants, and defines the

operational variables. The chapter also explains the data collection process and data analysis. It concludes with research assumptions, potential limitations of the research project, as well as a summary of ethical assurances.

Restatement of Research Questions and Hypothesis

Texas city managers partner with other jurisdictions to realize cost savings and improved quality of service delivery. However, literature questions the ability of regional cooperation to maintain government accountability and transparency. Additionally, regional advocates argue that consolidation or regional structures enhance government efficiency and effectiveness while also developing an equitable governing system that equalizes service quality. With this scholarship in mind, the author developed the following research questions:

- Q1: Accounting for region, MHHI, and population, does a between city type difference exist for interlocal contracting participation?***
- H1: A difference does not exist once the model includes all independent variables.***
- Q2: Accounting for MHHI, population, and region, are Texas cities of all types satisfied overall with their contracting activity?***
- H2: There is no difference in satisfaction based on variables. The null hypothesis states that the mean satisfaction levels for all three types are equal in other words.***
- Q3: Accounting for population, metropolitan type, and region, do Texas cities and towns of all sizes experience the benefits of regionalism via interlocal contracting?***
- H3: A difference in benefits experienced does not exist between city types.***
- Q4: Can interlocal contracting or cooperation create a more efficient model for the provision of emergency medical service (EMS) delivery?***
- H4: Regional authorities provide more efficient provision of essential government functions such as EMS.***
- Q5: Can government functions provided via interlocal contracting and regional cooperation meet industry level effectiveness standards?***
- H5: A regional EMS structure will meet important performance standards.***

- Q6:** *Can interlocal partnerships such as regional EMS authorities remain public transparency and democratic accountability to the citizens of participating municipalities?*
- H6:** *Regional EMS authorities do maintain transparency and remain accountable to citizens.*
- Q7:** *Can an interlocal contract provide government functions to partnering cities in an equitable or equalized manner?*
- H7:** *Citizens receive the same quality of service regardless of socioeconomic status.*

Research Structure, Method, & Design

The study employed a mixed methods approach with a sequential explanatory design. The sequential explanatory approach requires the investigator to perform two data collection stages—one quantitative and one qualitative. This strategy remains preferable for mixed method studies that prioritize quantitative findings like this one. The quantitative section informs the instrument utilized for the secondary qualitative collection. The qualitative data essentially supports and adds detail to the quantitative findings (Creswell 2009). Additionally, the purpose of this study was to determine whether interlocal contracting provided the same benefits as regional governing structures while maintaining the same or better levels of effectiveness and accountability. The sequential explanatory structure afforded the opportunity to examine contracting participation, satisfaction, and benefits from generalized data collected via a survey of Texas city managers while also evaluating effectiveness and accountability outcomes within a case study built on a policy evaluation that compared a regional ambulance authority to other EMS provision models.

The author considered other research methods for this project. For example, the concurrent embedded strategy (Creswell 2009) involves one data collection phase involving both quantitative and qualitative data. The analysis and interpretation phase involves embedding one

set within the other which serves as the primary method. A good example would be a qualitative approach such as case studies that includes a survey. This is especially valuable when the study requires an analysis of different processes such as a study analyzing an organizational process that seeks the opinion of workers and executives.

However, the sequential explanatory provides a better fit for this study since the research objective requires the collection and analysis of data explaining the results of interlocal contracting. Researchers utilizing this design typically address a separate research question and hypothesis with each method although the secondary question flows from the primary question (Creswell 2003; Tashakkori and Teddlie 1998). The survey instrument for this examination addressed questions 1-3 which involved contracting participation, satisfaction, and regional benefits experienced among responding city managers while the case study addressed questions 4-7 which probed whether a specific contract achieved greater efficiency while also maintaining effectiveness levels, public accountability/transparency, and provided service equity or equalization. The quantitative section utilized a cross-sectional survey of closed ended questions submitted to all city managers in Texas that included questions addressing their interlocal contracting activity, priorities, contract structure, benefits, challenges, and experience. The instrument also asked open ended interviews of selected respondents depending on how they answered certain closed ended questions. The questions probed respondent perceptions regarding whether interlocal contracts reduced the cost of service delivery or government administration, yielded economies of scale, eliminated redundant provision or duplication of services, altered the structure of local government, provided professional expertise local governments could not otherwise afford, and provide government service more effectively than single jurisdictions. The case study involved six city managers chosen for participation based on

survey responses. The study evaluated Medstar, the regional ambulance authority of Tarrant County, based on the criteria identified by literature (Orfield 2002, Tees, Cole, And Searcy 1995) including efficiency, effectiveness, accountability, and equity. The researcher utilized budgetary data and utilization hour usage (UHU which is explained in chapter five) to evaluate efficiency. The author compared Medstar performance to industry benchmarks published by the International Association of Firefighters (IAFF) to determine effectiveness. Subject interviews of the public affairs officer for the authority and fire chiefs revealed whether the authority remained accountable to partnering cities and their citizens.

Therefore, the sequential explanatory structure utilizing a survey of city managers followed by a narrow case study proved most beneficial for answering the research questions for this project. Studies measuring and interpreting interlocal contracting or agreement activity frequently involve surveys or interviews of municipal personnel or administrators with a statewide or regional scope. For example, Thurmaier (2005) surveyed administrators representing 1,290 local governments of various jurisdictional types to determine the scope of contracting among municipalities in the state of Iowa as well identifying the management tools that yield successful partnerships. Thurmaier and Wood (2004) conducted informal interviews with chief administrative officers and chief financial officers for 150 local jurisdictions in the Kansas City metropolitan region to probe which public services involved contracts, the structure of the agreements, and whether interlocal cooperation increased social networking and communication among administrators. Cole, Tees, and Searcy (1995) surveyed 426 Texas municipalities as part of a longitudinal study to measure contracting activity among Texas local jurisdictions. Morgan and Hirlinger (1991) surveyed representatives for 615 cities across the United States rather than focusing on one state. Granted, interlocal agreements have also served

as subject of case study driven projects. Ashbacher (2005) studied economic development contracts among four counties in Iowa to determine whether the agreements served as viable tools for regional business development initiatives.

Participants

City Managers City managers serving participating Texas municipalities responded to a list of emailed questions designed to probe their perceptions regarding the benefits and success of their respective program. The questions also asked them to consider how the contract altered their public management process. Additionally, selected city managers served as interview subjects for the EMS case study. The interviews were conducted face-to-face, by phone, and e-mail. The instructor utilized online transcription service Casting Words to transcribe the conversations. Each interview subject received an interview summary prior to the interview that clearly stated that the conversation would be recorded and transcribed. The researcher reminded subject of the recording prior to the interview and noted that they were welcome to a copy of the transcript.

Texas Urban Development Commission Staff The history chapter included data from interviews with former staff members of the Texas Urban Development Commission. The interviews were conducted face-to-face, by phone, and e-mail. The interviews provided context to the written summaries of decisions and recommendations made by the commission. The interviews also provided detail regarding why interlocal contracting was the intergovernmental structure chosen by the commission to promote cooperation among local jurisdictions.

Fire Chiefs or EMS Bureau Chiefs Fire chiefs and EMS bureau chiefs served as interview subjects for the EMS case study. These individuals provided daily leadership for the government function in question and provided professional practitioner knowledge of the operational and

budgetary realities of EMS systems. Additionally, their positions provide a unique perspective regarding the challenges and change affecting the EMS industry. This category of interview subjects went through the same process as city managers. The interviews probed several areas including how the regional structure provided identified benefits, which effectiveness benchmarks are prioritized within the EMS industry, and the challenges every EMS delivery model faced in achieving operational efficiency and effective service delivery.

Medstar Public Affairs Officer Matt Zavadsky Matt Zavadsky served as the primary interview subject for understanding the history, structure, and activities of the regional ambulance authority, Medstar. The multiple interviews probed the operational approach of the regional authority, the benefits of the regional model, and the operational innovations Medstar integrated due to the regional structure.

Sampling Strategy

The research employed a stratified sampling strategy. This remains the preferred sampling approach with diverse subpopulations. Specifically, the stratified strategy ensured that all city or town sizes as well as metropolitan types were adequately represented in the survey results (Creswell 2003; Fowler 2009). Therefore, the respondent results closely mirrored the true percentage breakdown of the city types.

Research Materials/Instruments

Quantitative Instrument A survey comprised of open-ended and closed-ended questions served as the instrument for collecting generalized, quantitative data. A survey provides researchers the opportunity to generalize from a sample to an entire population so that inferences can be made regarding some characteristic, attitude, or behavior of the population (Babbie 1990; Creswell

2009). The purpose of this study was to evaluate if interlocal contracting by Texas cities and towns yields the benefits of regionalism by probing contracting activity characteristics including frequency, the categorical use of contracts (public services, support services, technology), public services and activities involved in contracts, factors contributing to decision to contract/goal of contracting, benefits experienced, challenges experienced, and the jurisdictions' contract role. Qualtrics.com hosted the web-based survey (Creswell 2009; Nesbary 2000; Sue & Ritter 2007). Qualtrics also provided reporting tools to generate results for data analysis. The survey modified the instrument utilized by Tees, Cole, and Searcy to analyze interlocal contracting in Texas and compare the practice to results from a 1989 study and a follow-up 1994 study. This instrument included additional questions that probed contracting activity for support services and technology as well as service provision the previous study analyzed. The instrument included a cover page with instructions and a waiver. The first question asked whether respondents understood and agreed to the conditions before proceeding with the survey. Respondents labeled the type for their city of employment while the author embedded the city population, median house-hold income, and Texas region in the Qualtrics system and the survey. The author included this information in a survey panel created within Excel and downloaded into Qualtrics. This panel also included the city name, city manager, and city manager email. The online survey software created a permanent identity for each of the 631 potential respondents which the author utilized to email the survey as well as link each respondent to his or her data.

Validity The research process included several actions designed to ensure the production of reliable and valid results. Each survey respondent and interview subject possessed firsthand knowledge of the contracting process. In fact, every participant either enjoyed direct involvement in a shared service agreement or managed the shared service departments as part of

their professional duties. The survey included succinct questions. Ordinal structured questions included a neutral response to eliminate the requirement that respondents agree or disagree with the statement (Babbie 1990, Creswell 2009, Fowler 2009, Gall et al 2007, Trochim 2006).

Qualitative Instrument Interlocal contracting has yielded numerous benefits for participating jurisdictions. However, the practice does carry democratic accountability and transparency concerns. Specifically, contractual agreements create relationships where people receive public service provision from a jurisdiction of which they are not citizens. Therefore, the relationship reduces the ability of said citizens to hold elected officials or public administrators accountable. Additionally, contracting units must develop benchmarks and processes for measuring the performance of partnering jurisdictions which literature has yet to evaluate. Previous literature has also yet to analyze and identify how a specific contract reduced the cost of the provision of a government function for the parties and their citizens. Finally, literature has not identified the equitable benefits of a contract. Research has yet to address these areas of concern in a quantitative or qualitative fashion.

This project utilized a case study to address these deficiencies by examining the budgetary and accountability impact of a specific interlocal contract on the participating cities. The study involved a cross-case analysis of one government function between a control group of cities and an experimental group of cities. The case study structure provides strong qualitative methodology for analyzing processes as well as the actors and activities vital to the process (Yin 2009). However, the case study method also provides a viable approach for quantitative analysis. Therefore, this study examined outcomes by securing both quantitative and qualitative data. The case study provides the preferred structure for the project given the need to combine

several data collection and analysis methods and the desire to supplement identified outcomes with contextual and process information.

The research framework for the case study adapted the research site structure utilized by Dehoog, Lyons and Lowery (1996) to examine five public choice theory (Tiebout 1956) propositions regarding the impact of government fragmentation on citizen perception and knowledge versus the same measures for citizens served by a consolidated structure. Their study surveyed citizens served by the consolidated, city-county government of Lexington, Kentucky and citizens of the then jurisdictionally fragmented Louisville, Kentucky metropolitan region. Lyons and Lowery developed five research site categories with distinct socioeconomic characteristics and proceeded to match two neighborhoods from both metropolitan regions for each of the five categories. They proceeded to conduct surveys within these ten neighborhoods and compare the results for each of the five matched neighborhood pairs. This theoretical framework provided a control for several socioeconomic and fiscal variables.

Likewise, this study evaluated the efficiency and cost savings for three cities that received EMS service from the Tarrant County Regional Ambulance Authority, Medstar by comparing an experimental city from each city type with a control city from each city type. The study compared budgetary costs for EMS units or service between the Medstar client cities or experimental cities and three control cities that funded and provided their own fire based EMS bureau or partnered with a private contractor. Additionally, the study measured effectiveness by comparing the Medstar benchmark results to industry standards identified by The International Association of Fire Fighters listed in chapter three of the EMS Handbook (IAFF 2008). The study examined transparency and accountability by reviewing archived public reports published by the authority. Finally, the study utilized cluster analysis to evaluate equity of service delivery.

. The case study structure can certainly yield rich, probing data when the theoretical analysis would benefit from a more holistic or in-depth analysis (Zainal 2007). This study benefitted from an analysis of the organizational process undertaken by contracting governments and how the approach addressed regional issues and benefitted contracting parties. In fact, this researcher considered the case study method for these characteristics. The method also has several other advantages including a proper format for explaining complex results or real-life procedures or situations that quantitative methodologies cannot (Yin 2009, Zainal 2007). This study probed the real benefits and regional nature of interlocal contracting which are real life outcomes as opposed to experimental. Therefore, while the survey directly asked city managers if contracting provided said benefits and regional cooperation, a narrow example built on outcome driven comparative data and interviews with EMS professionals helped determine how a contract yielded the benefits and also altered the structure of local government function service provision. Additionally, the method remains flexible enough to integrate both quantitative and qualitative data in one examination if the researchers determine that is needed to test a hypothesis (Block 1986; Hosenfeld 1984; Yin 2009; Zainal 2007). This study collected quantitative data to measure outcome based hypotheses of efficiency and effectiveness but also collected qualitative data to evaluate accountability. Additionally, the interviews of EMS professionals also informed the researcher regarding how to identify effective EMS services and why this remained vital to the discussion. Finally, evaluating one specific contract “within the context of its use” (Yin 1984; Zainal 2007) added a new dimension to testing the research questions and hypotheses guiding the project.

However, the case study method carried disadvantages like all other methods. The author carefully considered these criticisms during the process of developing the case study structure.

First, critics argue that the method fails to filter out biased researchers or inexact evidence that eventually guides the directions of research findings and conclusion (Yin 1984; Zainal 2007). This author sought to eradicate this weakness by establishing a strong, comparative framework built on previous literature as well as measuring quantitative outcomes against industry wide benchmarks. With that said, perhaps the most noted concern for scholarly purposes is that case studies often produce contextual data that is not easy to generalize to other situations. This weakens the instrument's value since the research design cannot be replicated (Yin 1984; Zainal 2007). However, the author prioritized developing replicable research instrument for the benefit of future studies or to develop a longitudinal analysis of interlocal contracting as well providing results that might prove beneficial to Texas municipalities.

Finally, the case study researcher enjoys several design options. Literature (Pyecha 1988; Stake 1995; Yin 2009; Zainal 2007) identifies five case study categories: exploratory, explanatory, descriptive, interpretive, and evaluative (Yin 2009). This author utilized an evaluative approach. The structure is similar to a policy evaluation (Dye 2001; Kraft and Furlong 2004) in that the author developed conceptual categories or criteria to interpret collected data and integrated personal judgment (Zainal 2007) to the findings. This process involved developing quantitative measures of policy impact based on three evaluation criteria categories: efficiency, effectiveness, and accountability (McDonough and McDonough 1997; Yin 2009; Zainal 2007).

Variables

The project measured several independent and dependent variables based on the theoretical foundations structuring the research and previous studies of interlocal contracting and regional cooperation. The study measured the dependent variables of (a) efficiency and (b)

effectiveness utilizing ordinal scale of 1 to 5 and 1 to 7 for the survey and informal interviews, public document, and archival data for the case study. Additionally, the survey measured (c) duplication of service, (d) economic development, (e) economies of scale, and (f) regional cooperation or coordination on an ordinal scale of 1 to 5 and 1 to 7. The only variable subject to a dichotomous scale was (g) participation and (h) accountability via informal interviews. The only independent variable serving as the subject of a survey questions was (a) city type while the author researched (a) population, (c) median household income, and (d) region.

Independent Variables

Metropolitan Type Respondents identified their employer or unit as the central city, suburb, or rural town in question 2 of the survey. Again, Tees, Cole, and Searcy (1995) included this question for comparing responses and analyzing findings.

City/Town Population The study examined city manager responses by city/town population. The author identified the current population for each city from the American Communities website (U.S. Census American Communities 2012) developed by the Census department. *Table 3-1* summarizes the breakdown for council manager municipalities in Texas.

Table 3-1 Population Categories for Texas Council Manager Cities

Category	Number	%
<i>Under 5000</i>	298	47%
<i>5000-24999</i>	226	36%
<i>25000-99999</i>	75	12%
<i>100000-249999</i>	24	4%
<i>250000+</i>	8	1%
Total	631	100%

Source: U.S. Census American Communities 2012

Region The study analyzed responses based on the region within the state of Texas. The author founds several sources that identified various Texas regions and determined that the membership regions for the Texas City Managers Association (TCMA). The TCMA separates association members and statewide jurisdictions into ten regions. This variable does not exist in any prior research study. However, Texas remains a unique state based on population size, geography, and demographic diversity. This variable provided an additional opportunity to compare how regional location might impact interlocal cooperation activity. The author chose the TCMA regional structure and combined ten regions into five when necessary for the ANOVA analytic test.

Median Household Income (MHHI) Literature (Orfield 2002; Rusk 1996) noted the socially stratified nature of the American fragmented governing structure. These scholars identify suburbanization and urban sprawl as the primary causes of the diminished tax revenue and resources available to the urban core and central cities. This is especially true of suburbs serving a population of upper middle class citizens. Therefore, the author included MHHI as an independent variable for examining contracting activity and cooperation. Findings consistent with literature would indicate a focus on cost savings as opposed to cooperation. The author found the MHHI for each city in the panel on the American Communities website.

Dependent Variables

The survey included questions designed to determine whether contracting provided the benefits of regionalism and created a cooperative environment. Therefore respondents identified contracting priorities, perceived benefits, public service categories subject to contracts, and the structure of the contracting relationships. They also provided examples of successful contracts and the realized benefits. The case study evaluated budgetary outcomes and service results to

determine whether the Medstar contract achieved greater operational efficiency, compared EMS industry standards for response time, staffing, and utilization to evaluate service effectiveness, reviewed annual reports for transparency and accountability, and performed a cluster analysis to analyze equity.

Government Efficiency Efficiency refers to the process for providing government services as opposed to the outcome or product citizens receive. The author defined the variable of efficiency based on whether findings indicated that contracting among cities reduced waste, reduced service delivery cost, enhanced operational use of resources or achieve the same quality of quantity of service reduced personnel or units. Therefore, the study evaluated efficiency based on the existence of reduced provision cost, streamlining service process, or maximizing resources. Efficiency is one of the options for respondents to choose as a priority or goal when pursuing contracting. Question 18, which asked respondents to identify contracting priorities, included several options that indicated prioritizing greater efficiency such as reduced cost, duplication avoidance, and economies of scale. Question 21 asked respondent if their city had experienced the benefits due to contracting. Additionally, the case study evaluated whether the Medstar regional ambulance authority provided a more efficient EMS system based on budgetary data and resource utilization which indicated whether Medstar reduced service costs to partnering cities, maximized operational use of resources, reduced cost per ambulance transport, and eliminated service duplication.

Government Effectiveness Effectiveness in general refers to providing expected outcomes or results. The author defined effectiveness for purposes of this study based on whether contracting yielded a higher quality of service provision or at least met industry defined standards of service quality and effectiveness. Government effectiveness refers to providing

higher quality goods and services to citizens. Respondents identified effectiveness or examples of effectiveness as a priority for question 18 while also listing it as a benefit while providing examples for questions 21-22. The case study included numerous benchmarks designed to measure whether ILC provided EMS services met industry effectiveness standards including ambulance response time, staffing productivity, and resource utilization.

Duplication of Service Duplication of service refers to two units providing the same service that one could provide at a reduced cost for both. The author defined elimination of service duplication based on whether contracting or a specific contract eliminated redundant agency or bureaus that provided the same service as the contracted partner. Respondents could identify elimination of service duplication as a priority for questions 18 and a benefit for questions 21 as well as providing examples for question 22. The case study finding for elimination of service duplication involved determining whether Medstar indeed provided full EMS facilities for partnering cities.

Economies of Scale Economies of scale exist when per unit cost to produce a good or services decreases as volume increases. Respondents could identify this as a priority for questions 18 and a benefit for questions 21 while providing examples.

Equity This study evaluates the ability of interlocal contracts to provide governing equity of service equalization (Orfield 2002; Rusk 1990). One of the primary critiques of cooperative structures is the inability to provide government functions on an equal level of quality to all jurisdictions regardless the tax capacity of municipalities participating in such agreements. Equity or equalization is a variable evaluated solely within the case study and is determined by

whether the regional authority serves partnering cities with low socioeconomic profiles and at essentially equal quality levels.

Accountability Like equity, accountability is evaluated solely within the case study. Literature (Tees, Cole, and Searcy 1995; Thurmaier and Wood 2004) includes arguments that compromising democratic accountability remains a concern with intergovernmental transactions. Accountability is determined by whether the regional EMS authority and its board remain subject to public scrutiny and accountable to citizens of the fifteen partnering cities.

Research Process (Data Collection, Analysis, & Interpretation)

Data Collection The researcher obtained approval from the IRB prior to initiating any data collection process. The IRB also approved two addendums to the research process that addressed the survey administration process and the case study. The survey instrument included an informed consent statement. The first questions asked if respondents had read and agreed to the statement.

The survey remained open for six weeks within a “four-phase administration process” (Creswell 2009) that included four messages sent to members of the survey panel. The four contacts as prescribed by (Salant and Dillman (1994) included: (1) advance notice via e-mail sent one week prior to the actual survey, (2) the actual survey link sent via e-mail, (3) follow-up sent to all sample possible respondents two weeks after the survey, and (4) a final message including the survey link targeting all non-respondents one month after sending the survey and two weeks prior to termination of the data collection cycle. Qualtrics, the online survey service, hosted the survey once the author downloaded the survey panel onto its site. Qualtrics produced a unique link for each potential respondent which the city managers received via e-mail that provided

access to the survey. The e-mail list source originated from the Texas City Managers Association Membership Directory for 2012-2013 (TCMA 2012) as well as the Texas State Directory (State Directory 2012) online directory. Both directories included contact information and a list of city managers organized by alphabetical listing of places as well as by population. The state directory proved to be the more accurate of the two sources as it provided more up-to-date information as well as including emails for all managers. Conversely, the TCMA directory was obviously not updated when managers left a city given that it was a pdf document and it only included emails when members chose to provide that contact information.

The data collection phase extended from August 14, 2013 through October 12, 2013. The process received 187 (N=187) responses and 110 complete responses. Overall, 31% of the city manager panel responded to the survey with 18% providing complete responses. The author proceeded to download collected data from Qualtrics into the statistical software package SPSS 21.0. The research did not require changing responses from alpha to numeric for the purpose of SPSS analysis as Qualtrics already pre-coded all response data.

The theoretical framework mandated that the interpretation of findings include several statistical types and methods. First, Qualtrics reports served as the tool for providing descriptive data needed to complete the longitudinal comparison between this study and the original studies conducted by Tees, Cole, and Searcy (1995). This section of the study required comparing contracting frequency, number, type, role, priorities, advantages, and disadvantages. Most of the categories included comparisons based on total participation, population, and city type. The process for this section produced percentage based comparisons and descriptive data. The author proceeded to run descriptive statistics for other questions including mean or average response and the standard deviation to determine score variability.

. The analytic section included two statistical tests, One-Way ANOVA and Logistic regression. The study required both tests as the survey included Likert scale questions with continuous variables which fit the rules for ANOVA (Yockey 2011). The test can measure variation within and between chosen variables as well as overall correlations. Conversely, logistic regression is available for binary questions and measures correlation of independent variables as well determining probability based on the integration of variables. The analytic phases included running logistic regression tests to determine if statistically significant difference existed between city types, regions, MHHI, and population. Additionally, the researcher ran ANOVA tests for the variables of satisfaction, efficiency, and effectiveness to examine means differences based on the independent variables city type, region, MHHI, and population as well as to measure variation and determines statistical significance.

Case Study Research Process

The survey determined participants for the case study. Specifically, city manager responses to question 14 (please see *Figure 3-1* on page 84) provided the two critical pieces of information for structuring the case study: the government function and eligible cities. The case study structure replicated the Dehoog, Lyons and Lowery (1996) structure which required identifying three respondents (one for each city type) that indicated provision via an interlocal contract and three respondents (one for each city type) that indicated no interlocal contract existed. The question revealed a match for ambulance/EMS services.

The research process included three data collection techniques. Interviewing city managers, fire chiefs, fire personnel, and the public affairs official for a regional authority served as the initial technique. The interview script included open ended questions with follow-up inquiries designed to determine the true nature of providing EMS services including the

challenges and opportunities faced by bureaus and agencies. The interviews provided context regarding how contracts or other efficiency efforts saved money, enhanced quality, and accountability. The case study also mandated accessing budgetary data for a three year period to compare costs and efficiency between the contracted service and fire bureau or private contract services. Finally, the process also involved identifying industry benchmarks from the EMS handbook and comparing those standards to Medstar results posted in its annual and monthly reports to determine whether the service remained effective.

	No contract (1)	Provide Service (2)	Receive Service (3)	Both provide and receive service (4)
Ambulance/EMS (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animal Control (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
911 Dispatch (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waste Collection (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waste Disposal (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inspection Services (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Libraries (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 3-1 Survey Question #14

Assumptions, Limitations of Study, and Delimitations

Assumptions The study rested on one major assumption. The author assumed that city managers would either possess a thorough, working knowledge of the practice of interlocal contracting by his or her city or access to an intergovernmental relations staff responsible for

managing interlocal contracts for the municipality. Each city had a centralized office that coordinated formal agreements with other local units and had access to the contracting data and records in other words. This seemed logical given that the practice of partnering with other local jurisdictions is a seasoned approach in Texas and all municipalities most municipalities should be well versed in the process. However, this assumption was not correct for the larger, major cities. In fact the practice is very de-centralized for most large, heavily populated cities with complex infrastructures frequently left the practice of interlocal contracting to each department or agency which meant an accurate summary of the contracting activity required sending surveys to each department. Indeed, the research benefitted from several city manager or intergovernmental relations offices that forwarded the survey questions to each department and actually compiled the reports into one survey response.

Limitations The research framework included limitation like any narrow research question. This study measured and analyzes how interlocal contracting activity in Texas achieved functional consolidation or regionalism by surveying city managers. Morgan and Hirlinger (1991) determined that the presence of city managers increases the probability of interlocal agreements and regional cooperation. While this theoretical finding holds research opportunities, this project strictly targeted city managers which eliminated this category as an independent variable. This study also faced the limitations of bias as findings rested on the experiences of responding city managers. With that said, this project could certainly benefit from diverse professional perspectives such as those of IGR staff employed by cities or elected officials such as mayors or city council members. However, the narrow approach provided an opportunity to evaluate cities utilizing the council-manager structure and focus on contracting

among professional administrators who possess leadership in managing public resources and assets for a jurisdiction.

Regarding diversity, Tees, Cole, and Searcy (1995) surveyed local government units at all levels including cities, counties, and regional councils or councils on government. Each jurisdictional level participates in contracting. This approach yielded rich data that compared contractual roles, priorities, and needs among the jurisdictional levels. However, the theoretical model of this study involved measuring how contracting yields regional cooperation. Counties and regional councils engage in regional coordination and collaboration as part of their structure and duties. Cities provide a lab for evaluating how contracts lead to regional cooperation.

Finally, the study developed a foundation for future studies that would have benefited this study. Specifically, a narrower focus on interlocal cooperation among Texas suburbs measuring the impact from a larger population of variables could provide valuable findings. Orfield (2002) considered the potential benefits of regional government for the 25 largest American metropolitan regions. He utilized cluster analysis to categorize suburbs based on socioeconomic data and tax burden capacity. This examination would certainly bolster the findings of this study.

Ethical Assurances Ethical researchers protect the rights of research participants. The Belmont Study provides a guide for ethical research principles (Creswell 2009; Yin 2009). Most importantly, the researcher must do everything possible to protect subjects from harm. The study included several forms of data. Two forms, survey responses and personal interviews, involved collecting subject opinions and thoughts regarding the business practices of their employers. The research process informed both survey respondents and interview subjects of the purpose and

process of the study as well as stressing that their participation was completely voluntary and they were freed to not answer any questions. Additionally, interview subjects received notice that their final report could include direct quotes attributable to them while survey responses were strictly confidential and anonymous.

Summary

Texas local governments enjoy a long history of interlocal contracting with the activity dating back to 1857. However, research probing the practice remains sparse and the literature focused on the practice in Texas is twenty years old. The purpose of this study involved examining whether contracting yielded the benefits of regionalism and cooperation for Texas cities. Additionally, the author evaluated the ability of a regional EMS/ambulance authority to provide partnering cities more efficient service while maintaining or enhancing effectiveness and accountability. Finally, the project also replicated and compared previous studies (Tees, Cole, and Searcy 1995).

The study employed a sequential explanatory structure which included a survey of Texas city managers followed by a case study. The survey included a question designed to identify the government function and participants for the case study. The author loaded the survey on Qualtrics which involved downloading the instrument and survey panel of 600 city managers. The quantitative data collection period lasted six weeks and included a four-phase process for contacting panel members. Overall, 187 city managers responded to the survey or 31%. Most of the respondents were either serving a rural town or a suburb. The data collection process also involved downloading data from Qualtrics to statistical software package SPSS 21.0. The analytic section included running cross tabulations for comparing the data to the 1994 study,

computing descriptive statistics and measures of central tendency and correlations, as well as determining ANOVA and logistic regression tests.

A case study followed the quantitative analysis. Question 14 of the survey identified EMS/ambulance services as the government function which served as the case study subject as well as the six participating cities. The six cities included three experimental cities or one city for each city type that received EMS via Medstar, the regional authority, and three control cities or one city for each type that received EMS via a different source. The study utilized a policy evaluation structure that examined both quantitative and qualitative data. Policy evaluation criteria included efficiency, effectiveness, and accountability. Three forms of data informed the study with subject interviews addressing all three criteria, budgetary data addressing efficiency, and public documents and archival data determining effectiveness measures and results.

Chapter 4

Quantitative Findings

The purpose of this study was determining whether cities with diverse characteristics experienced the benefits of regionalism via interlocal cooperation and contracting and also prioritized regional cooperation and coordination in their contracting activity. The survey of city managers included questions probing (a) participation, (b) number of contracts, (c) contracting role, (d) use of contracts, (e) jurisdictional partners, (f) government functions subject to contracts, (g) benefits, (h) overall satisfaction, (i) challenges, and (j) partnership accountability, including the effects of differences in (k) city type, (l) Texas region, (m) median household income, and (n) population . Chapter 4 includes a comparison of the longitudinal results of the author's 2013 interlocal contracting survey of Texas city managers and the 1994 survey of local government administrators by Tees, Cole, And Searcy which the 2013 replicated as well as quantitative analysis of the regional nature of contracting activity among Texas cities and towns. The findings examined whether participation, priorities, cooperation, satisfaction, challenges, and public accountability results vary according to city type, region, MHHI, and population.

Regional literature (Orfield 2002, Rusk 1990) frequently laments the isolationist nature of suburban governments. Orfield (2002) and Jackson (1984) argue that suburbs serve as an escape valve for white, middle-class families from inner city poverty and crime. However, Orfield found that incorporated cities that fit the description of this municipality type did not necessarily meet the affluent, lilywhite stereotype but rather included a diverse socioeconomic sample. Therefore, analyzing and identifying the causation of cooperative activity must utilize other variables. This study analyzes response results by utilizing city type as an independent variable but also includes region, MHHI, and population.

Cronbach's Alpha.

The researcher utilized two approaches in enhancing and determining the reliability of the survey instrument. First, the author reviewed the survey instrument with his committee chair, Dr. Richard Cole, to examine question flow and whether the instrument adequately addressed the research inquiries. This resulted in adding additional priorities for contracting including "utilize excess capacity" and "generate profit" as reasons for contracting. The question probing contract use morphed from a selection of all contracts utilized to a percentage breakdown.

Additionally, the author tested the instrument reliability given that the research involved the creation of a new survey instrument. Given this mandate, the researcher ran a Cronbach's alpha test for each dependent variable. Cronbach's alpha test measure the internal reliability of instruments utilizing a Likert scale. The test produces a reliability coefficient on a scale from 0 to 1.0 with 0 indicating low reliability and 1.0 indicating high reliability (Gall et al., 2007; Gay et. al 2006, Yockey 2011). In fact, the coefficient measure test produces a range of summarized in figure 1.

Granted, the coefficient alpha test cannot be utilized to measure all dependent variables since some variables such as participation and use did not involve a Likert scale. However, the five variable involving Likert scale analysis produced a reliability coefficient between .76 and .91 as summarized by

Table 4-1. These results indicate a relatively high internal reliability for the survey.

Table 4-1 Cronbach's Alpha Test

Variable	Alpha
Benefits	0.87
Challenges	0.91
Functions	0.76
Jurisdiction	0.76
Use	0.76

Overview

This analytic section examines survey responses to questions probing interlocal contracting participation, whether city managers prioritize and experience intergovernmental cooperation via interlocal contracting, overall satisfaction, and public accountability. These categories address the perceived benefits and challenges literature has identified as facing municipalities engaging in interlocal cooperation that falls short of structural consolidation. The survey instrument included a large variety of question types which require distinct forms of analytic tools and approaches. Therefore, each subsection will include a summary of the chosen approach with the scholarly definition and explanation. Additionally, the *Durable Partnerships* comparison includes descriptive results for many of the categories so this section only includes new information.

Results for Durable Partnerships Replication

Contracting Participation The survey results present a growing reliance on interlocal contracting. Current contracting participation by Texas cities exceeds historic levels. Chart 4-1 on the following page compares 2013 responses to the Tees, Cole, and Searcy studies from 1989 and 1994. The aggregate total has risen significantly as 86% of all respondents partner in at least one interlocal contract compared to 77% in both 1989 and 1994.

However, the growing participation story narrows when comparing cities by population. The increasing numbers remain directly attributable to the growing contracting activity of general law cities with populations of less than 5,000. The participation rate among smaller towns has increased significantly as 81% have at least one active contract compared to 66% in 1989 and 67% in 1994. Likewise, the participation rate of larger cities has increased to 97% compared to 94% for both of the previous studies. Conversely, medium sized cities with populations between 5,000 and 25,000 have seen an appreciable decrease in contracting participation as 85% of city managers serving cities of this size indicated participating in at least one active contract compared to 90% for 1989 and 91% for 1994.

The results initially seem reasonable as the larger population categories possessed minimal room for growth in the category. However, the broader participation of smaller towns merit attention and further examination. One should consider why the increase has occurred. Additionally, which priorities motivate this contracting activity? Is the growth related to increasing cooperation among local jurisdictions in Texas? Obviously, this category possessed the greatest capacity for increased participation. With that said, responses to future questions

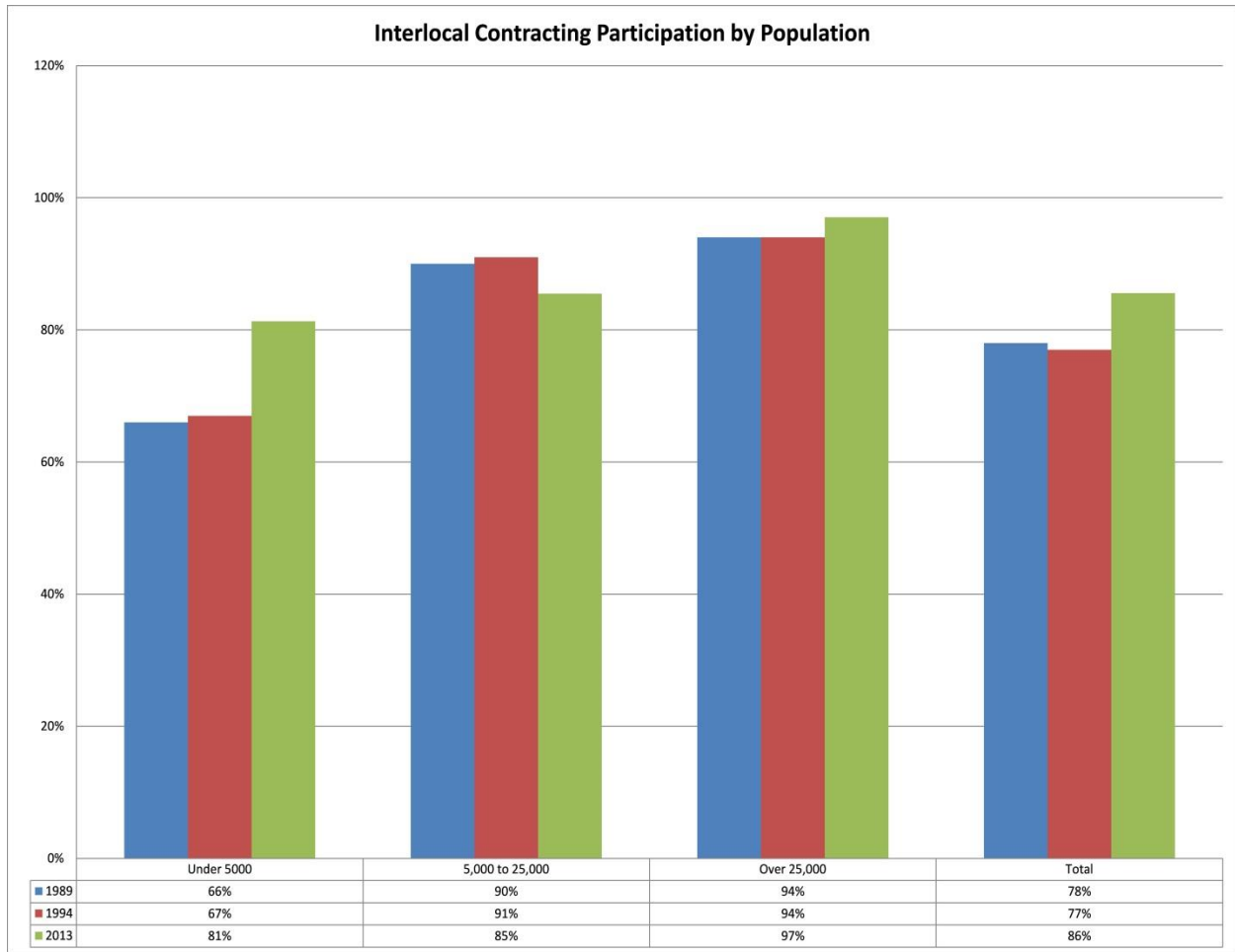


Chart 4-1 Contracting Participation by City Population

indicate the persuasiveness of networking as well as the growing challenges of funding public services in remote locations.

Average Number of Contracts in Force This subsection addresses the average number of active contracts in which each respondent is a party. The range of active contracts was broad as several municipalities had as few as one active contract while the city with the most contracts had 389 active formal agreements. Additionally, three units had over 100 agreements while one jurisdiction was a party to over 200 contracts. A majority (56.4%) of jurisdictions responding to this question were parties to five contracts or fewer. Therefore, the number of units with no

more than five active contracts remains consistent with the 1994 number of 54.9% (Tees, Cole, and Searcy 1994).

However, the average number of active contracts has risen significantly since 1994. Chart 4-2 on page 95 summarizes the overall average number as well as a comparison by population categories. The average for all cities increased from 5.7 in 1989 and 6.4 in 1994 to 17.8 in 2013. Additionally, this growth occurred across the population spectrum. Towns with fewer than 5000 residents experienced a 58% increase in active contracts as the average rose from 3 in 1994 to 5.09 in 1994. Cities or towns with population between 5000 and 25000 have also increased contracting activity with 10.3 contracts compared to 5 in 1989 and 6.8 in 1994. While this growth remains impressive, the largest increase occurred among cities with population in excess of 25000. The 2013 average for cities serving this population size exploded from 9.3 in 1989 and 19.8 in 1994 to 58.5 in 2013. Granted, the response rate for this survey question may skew the findings. Several respondents chose to not answer this question while many honestly noted that they did not know how many contracts their city currently participated in for providing public goods or services. Overall, this comparison rests on insufficient data because many respondents either could not recall the total number of contracts in force or their city was large and maintained a de-centralized process where each department partnered for contracts separately.

Use of Contracts While the study considered whether Texas cities currently partner with other jurisdictions for interlocal contracts, the study focused on the nature and purpose of said contracting activity to examine how formal agreements enhance regional cooperation. Given this objective, managers indicated how their city used interlocal contracting to achieve their contracting goals with the options including service provision, the use of a facility, the use of

personnel, the use of equipment, or the sharing of goods or commodities. Again, the researcher compared the results to previous studies as well as analyzing how population and city type altered the use of contracts.

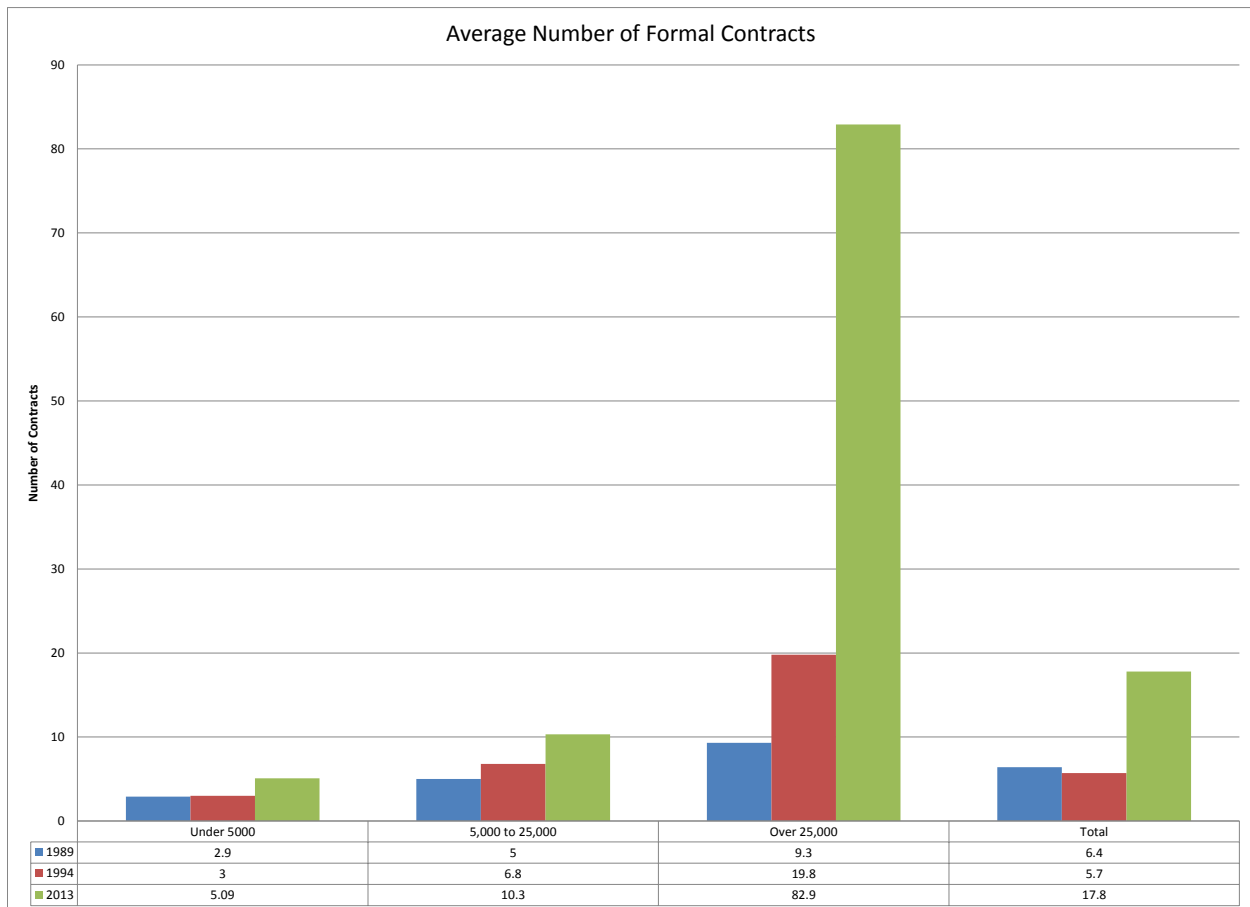


Chart 4-2 Average Number of Contracts by City Population

This subsection compares the results of this study to the 1994 results. However, this project went beyond probing whether cities participated in contracts for these purposes and asked how frequently cities utilized contracts for the listed options. Respondents could answer that they rarely use contracts for these goods or services, they infrequently contract for the

services or that they frequently contract for the service. Therefore, this structure yielded an additional layer of analysis which is included in the time comparison.

As Table 4-2 explains, the most common use of contracts among all cities is for service provision. Indeed, the mean results listed in tables 2 and 3 for service provision is 3.22 out of a 4 point scale which makes it the only use with a mean higher than 3. The use with the next highest mean is for sharing equipment with a mean of 2.81. Contracts for facility use had the lowest mean at 2.29.

Table 4-2 Mean Results for Contracting Use

Statistic	Service provision	Use of facility	Use of personnel	Use of equipment	Goods or commodities
Min Value	1	1	1	1	1
Max Value	4	4	4	4	4
Mean	3.22	2.29	2.53	2.81	2.50
Variance	1.06	1.35	1.17	1.05	1.41
Standard Deviation	1.03	1.16	1.08	1.02	1.19
Total Responses	125	115	117	120	118

The longitudinal analysis provided valuable and interesting results. Granted, the studies yielded different results given the emphasis in this study on the frequency that cities contract for the various uses or services. While this makes sense from a scholarly perspective given the presumption that municipalities have experienced an exponential increase in contracting activity for all services and government functions, this question structure required a decision regarding how to make an apple to apples comparison of how many cities were partners to a contract for each of the use categories. Therefore, the author decided to designate any city whose manager indicated that it even rarely contracted for a certain use as an affirmative participant.

Consequently, the participation by use figures in

Chart 4-3 on page 98 include cities that rarely, infrequently, or infrequently contract for the use in question based on the assumption that the unit has contracted for that use at some point. The chart includes the overall comparison as well as the cross-tabular breakdown by city type. Again, the most interesting result is the increase in the percentage (+27%) of cities contracting for the provision of public services. Granted, the percentage of cities partnering for each of the use categories increased significantly. For example, 64% of all cities contract for facility use compared to a little over one-third (38%) of 1994 respondents. Additionally, over three-fourths of all cities (78%) entered into contracts for shared personnel compared to less than half (49%) in 1994. The largest increase was for goods or commodities as nearly three-fourths (72%) partnered for these goods compared to a mere 13% in the 1994 study. The scope of contracting clearly expanded. The results by city type also revealed several trends. Each central city manager had at least one contract for every category save facility use (90%). Suburban city managers were most likely to contract for service provision (98%) and least likely to contract for facility use (77%). Otherwise, at least 80% of all suburbs were active partners to at least one contract for the other categories. Rural towns provided perhaps the starkest contrast. The most selected uses were service provision and equipment use (both at 85%). However, barely half (53%) of the responding rural administrators partnered for facility use and only 63% partnered for goods and commodities.

The percentage of cities contracting also increased for each use among all population categories as summarized by Chart 4-4 on page 99. With that said, the most significant development could be the increasing use of contracts by general law cities for a larger variety of government functions and services. For example, an increasing number of small or general law towns utilized interlocal contracts for all surveyed uses. The lowest increase was contracts for

facility uses (+25%) while contracts for goods and commodities increased by 46% for this type. This indicates a broader base of services involving contracts. Tees, Cole, and Searcy found no function category in 1994 where at least 50% of the surveyed smaller towns participated in a contract with the highest level of participation being contracts for service provision. However, well over half of the respondents on this population category participated in an active contract for each of the surveyed use categories save contracts involving the use of facilities with service provision again involving the highest participation rate at 88%.

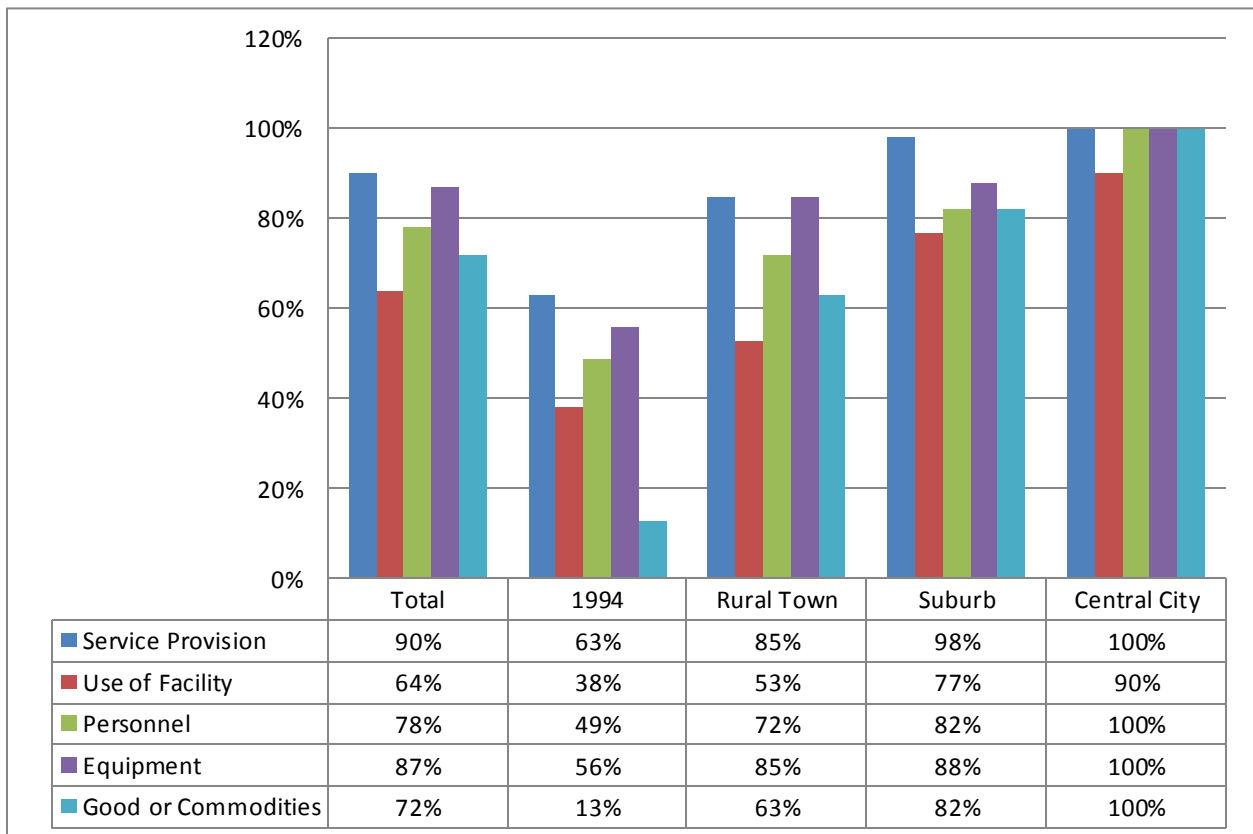


Chart 4-3 Contracting Use by Year and City Type

Finally, contracting participation among cities increased by at least 25% for all uses. The largest increase in contracting activity was for equipment and goods and commodities. Both

categories increased by well over 40%.

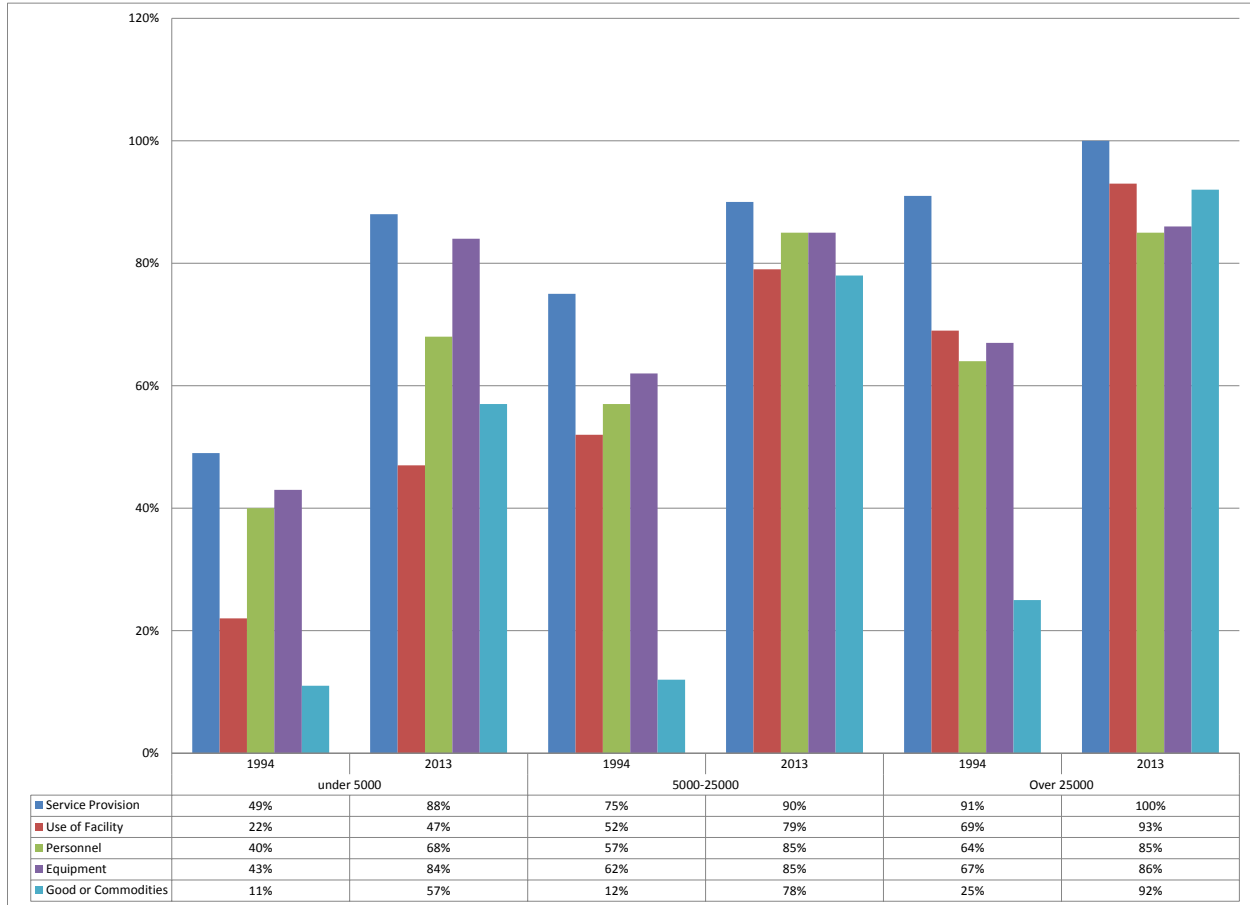


Chart 4-4 Contract Use by City Population

Priorities. The study also asked respondents to identify all priorities or goals considered when deciding whether or not to contract for a service. The priority options included reduce unit costs, obtain needed personnel, coordinate area-wide services, obtain emergency services, and avoid service duplication. Tees, Cole, and Searcy examined the results from this dependent variable by population and metropolitan or city type which affords the opportunity for a longitudinal analysis for both of these independent variables.

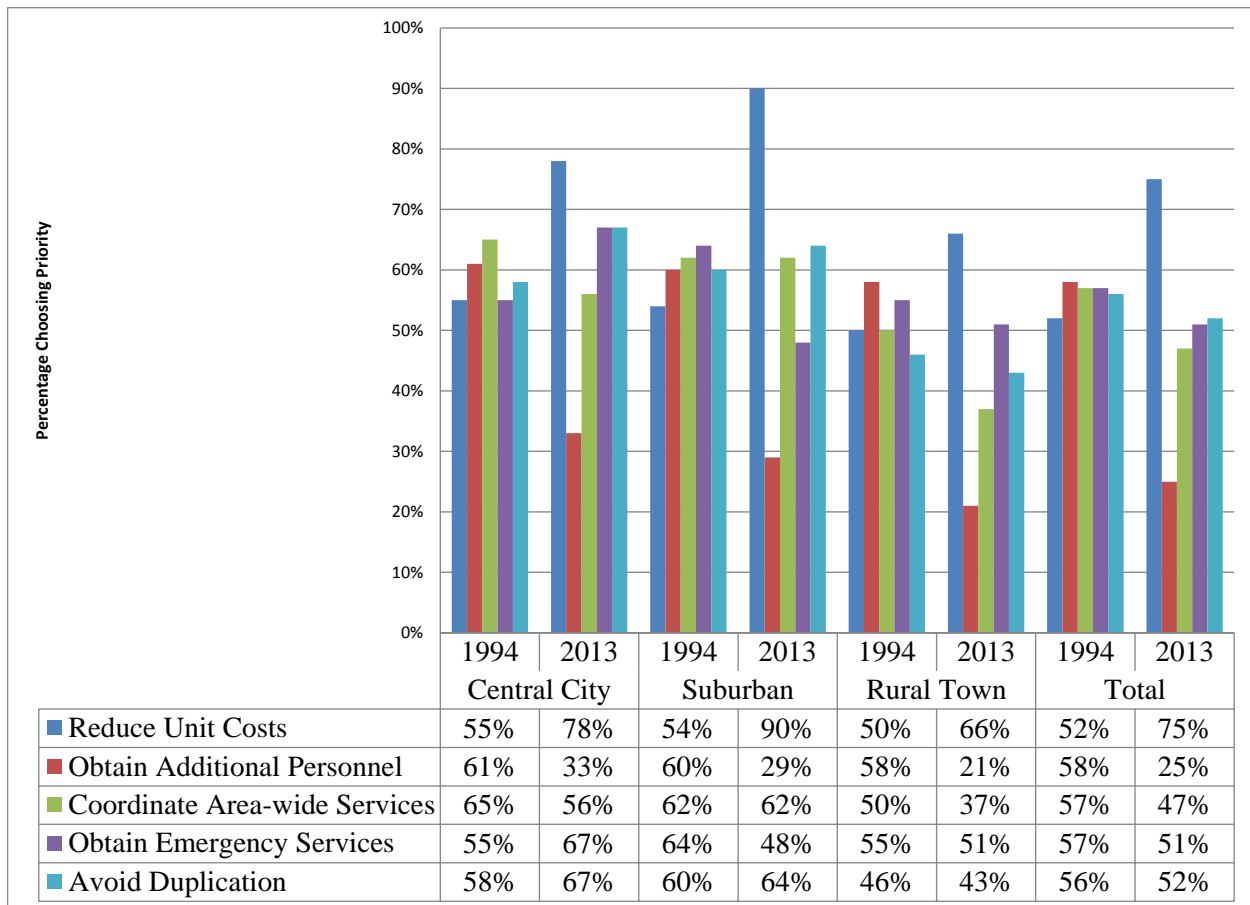


Chart 4-5 Priorities by City Type

Chart 4-5 provides the overall results as well as the responses by city type and Chart 4-6 on page 101 summarizes results by population. The total comparison support the argument made earlier that rising costs and decreasing revenue streams are driving municipal decisions and strategy. For example, perhaps the most striking finding is the decrease in cities contracting for needed personnel. In 1994, 58% of respondents contracted based on a need for additional personnel. This decrease in the demand for personnel remains consistent across all city types and sizes. Cities are also less focused on coordinating area-wide services as only 47% identified coordination as a priority compared to 57% from 1994. Does this result indicate that intergovernmental cooperation remains a low priority? Finally, the study noted a slight reduction

in the number of cities contracting for emergency services. Granted, over half of all responding cities still listed emergency services as a contracting priority.

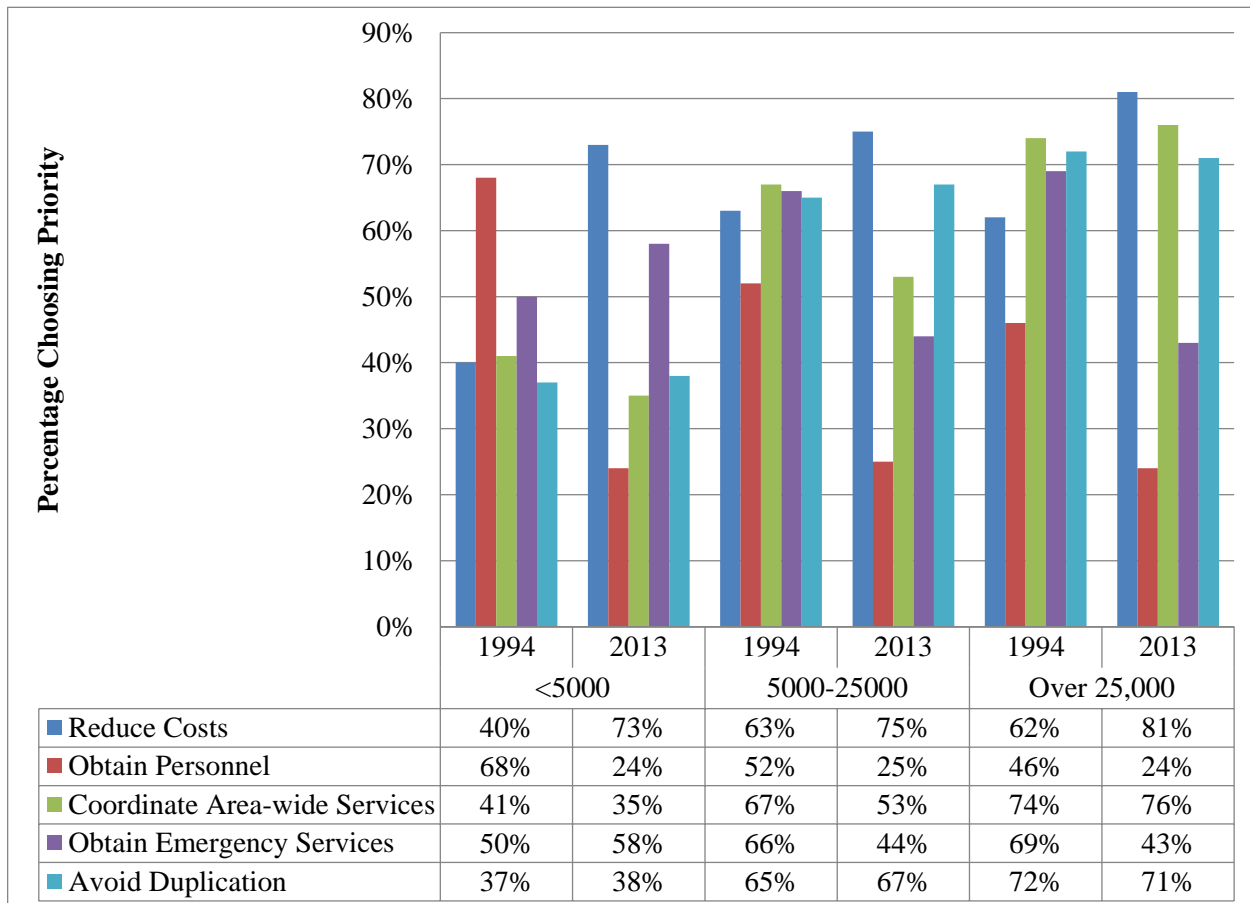


Chart 4-6 Contracting Priorities by Population

With that said, a growing number of Texas cities are targeting the cost of government when developing cooperative strategies. Three-fourths of city managers identified reducing unit costs as a contracting priority compared to 52% in 1994. Clearly, the rising costs and decreasing revenue streams mentioned in chapter 1 are driving contracting and perhaps interlocal activity. Additionally, the number of cities prioritizing the avoidance of service duplication increased from 52% to 56%. Clearly, cities and other municipal units must leverage innovations such as interlocal contracting with annual budgets in peril.

Challenges The final longitudinal variable is challenges city staff experience due to the contracting process. The 1994 study addressed five challenges or contracting drawbacks including uncertainty regarding legal authority, poor contractor performance, adverse political reactions, loss of independence, and difficulty in withdrawing. Tees, Cole, and Searcy categorized results by city type and population which provided the same opportunity for this study. This question from the 2013 study addressing this variable asked how frequently city managers in the same vein as the use variable question. Respondents had the following options: never, rarely, infrequently, frequently, and very frequently. The 1994 questions asked whether they had experienced the drawback or not so the author only counted frequently or very frequently as affirmative responses for the 2013 study.

Chart 4-7 on page 103 summarizes the overall findings for contracting challenges and challenges by city type. The 1994 study found very few jurisdictions reporting disadvantages or challenges associated with interlocal contracting in general. Slightly over 10% of respondents identified at least one challenge with 16% identifying loss of independence which was the highest response rate (please see graph 4.6). The option receiving the fewest responses was “Difficulty in Withdrawing” with fewer than 3% indicating they had experienced that challenge. The 2013 data was remarkably similar as “Loss of Independence” again proving to be the most consistent challenge for city managers as 15% identifying this challenge. However, the latter study produced two distinctive overall responses as merely 4% listed “Uncertainty Regarding Legal Authority” as a challenge compared to 12% from the 1994 study and 7% citing “Poor Contractor Performance” compared to 12% in 1994.

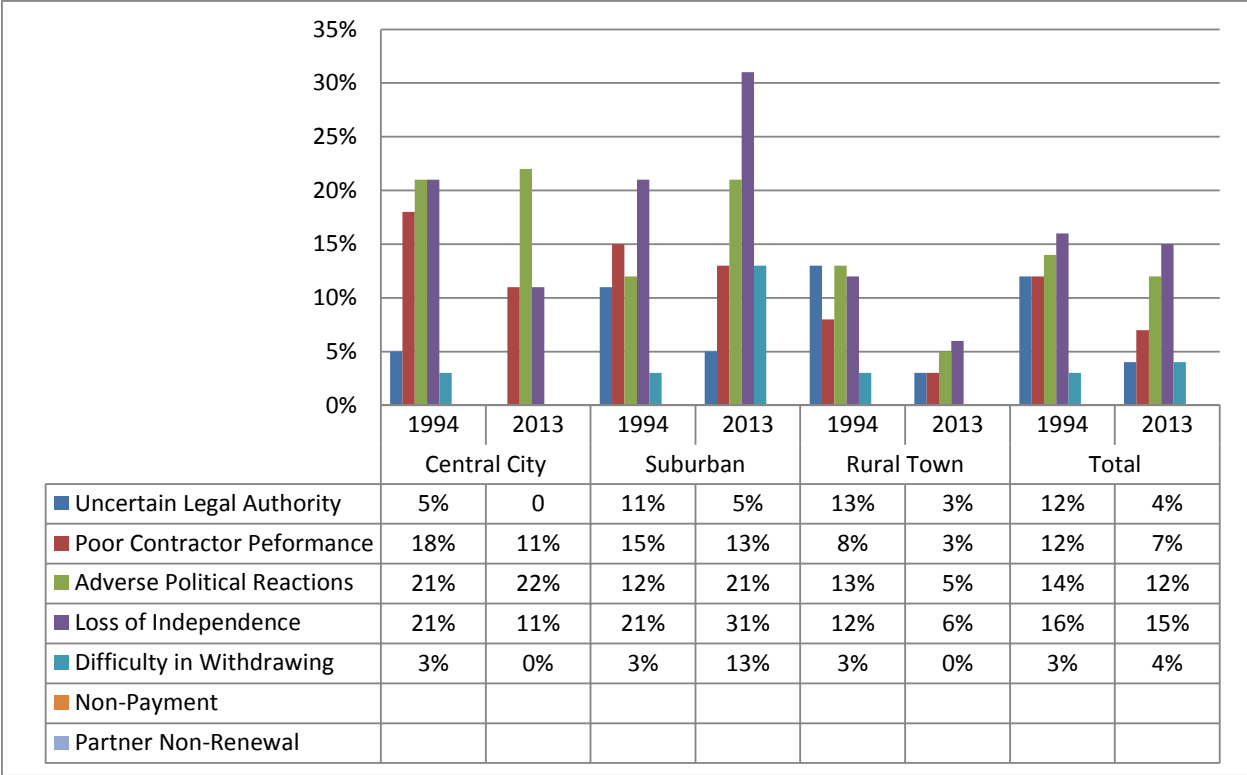


Chart 4-7 Contracting Challenges by City Type and Overall Results

Examining the data by city type produced additional distinctions between the studies. For example, no central city from the 2013 study identified “Uncertainty about Legal Authority” as a challenge compared to 5% from 1994. Additionally, merely 11% cited poor contractor performance as well as loss of independence compared to the 1994 results of 18% and 21% respectively. Conversely, 31% of the suburban city managers responding to the 2013 study indicated that loss of independence was an ongoing challenge compared to 21% from this category in 1994. Additionally, 13% of this group cited difficulty in withdrawing compared to 3% from 1994 with 21% noting adverse political reactions compared to 12% from the previous study. With that said, merely 5% noted consistent legal authority challenges compared to 11% for the 1994 group. Finally, rural towns responding to the 2013 study reported significantly fewer instances of each challenge.

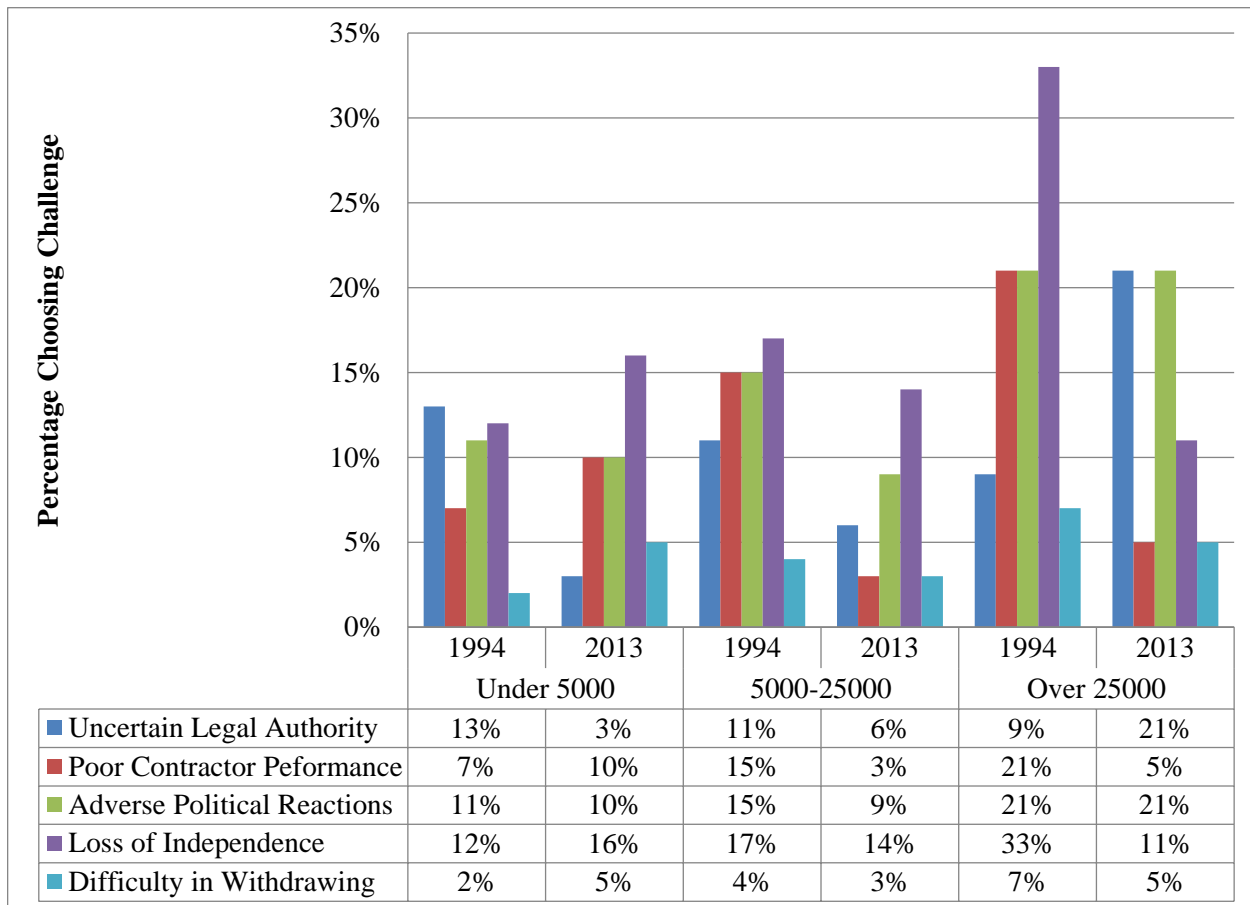


Chart 4-8 Contracting Challenges by City Population

The study also produced different challenges based on the variable of population as indicated by Chart 4-8. For example, merely 3% of all cities with populations under 5,000 people reported frequent occurrence of legal authority issues compared to 13% from 1994. Likewise, the percentage for towns with population between 5,000 and 25,000 dropped from 11% to 6%. However, 21% of all cities with populations exceeding 25,000 identified legal authority challenges which represented a significant increase from 1994 when 9% similar sized expressed concerns with legal authority. A significant decrease of cities experiencing poor contractor performance existed for both cities in the middle and larger population categories. In fact, merely 3% of all cities with more than 5,000 but less than 25,000 citizens reported issues

with contractor performance compared to 15% in the 1994 study while 5% of cities with populations in excess of 25,000 listed this category on the 2013 survey compared to 21% from 1994.

Regional Benefits This study entered new territory in examining regional benefits cities experience due to interlocal contracting activity. Table 4.3 summarizes mean results for each regional benefit. A mean average of 4 indicates that respondents were “satisfied” that interlocal contracting provided said benefit with 5 representing “very satisfied” that benefits occurred. The table includes the categories of efficiency and effectiveness while also summarizing mean results for benefits that fall under either category such as eliminating service duplication, achieving scalable economies, or decreasing uncertainty of service delivery. Cooperation is also a category.

Overall, respondents are satisfied that partnering for goods and services have provided regional benefits. The results indicate that Texas city managers agree that their city or town experiences said benefits via formal agreements save “decreased uncertainty of service delivery” with a mean at 3.77. Reducing unit costs had the highest overall mean at 4.17.

The suburban responses yielded interesting results. The overall interlocal contracting results for suburbs is not terribly distinct from the other city types and remains close to the average mean. The mean eclipses the satisfactory barrier in every category save eliminating duplication (3.97), decreasing uncertainty of service provision (3.62), and enhancing cooperation (3.97). Suburban city managers produced the lowest responses for these categories as well as the lowest overall mean for decreased uncertainty. Conversely, suburban city

managers had the highest response for reduced unit costs (4.27). Overall, suburban means fell below the average mean in 5 of 7 categories.

Table 4-3 Mean Results for Benefits

	Mean	Central Cities	Suburbs	Rural
Efficiency	4.09	4.55	4.07	4.04
Cost Reduction	4.17	4.22	4.27	4.11
Scale	4.02	4.22	4.02	3.98
Eliminate duplication	4.05	4.12	3.97	4.09
Effectiveness	4.1	4.55	4.05	4.08
Decreased Uncertainty	3.77	4.25	3.62	3.81
Cooperation	4.08	4.22	3.97	4.12

Analytic Findings

Research question one/hypothesis one Research question one probed contracting participation among Texas cities and towns. The researcher utilized logistic regression to examine the impact of the predictive/independent variables on contracting participation. Logistic regression provides a strong tool for measuring both correlation and probability for binary questions (Yockey 2011) such as the participation question. Given the scholarly focus on suburban distinctive, the analysis identified city type as a primary, intervening variable subject to an isolated logit analysis to determine statistical significance absent the impact of additional variables.

The classification and predictive capacity of the model is presented in Table 4-4. According to the table, the model accurately predicted every affirmative response but did not predict the “no” responses. The overall correct rate of prediction was 85.6%.

Table 4-4 Predictive Results for Participation

	Observed		Predicted		
			Participation		Percentage Correct
			Yes	No	
Step 0	Participation	Yes	160	0	100.0
		No	27	0	.0
	Overall Percentage				85.6

a. Constant is included in the model.

b. The cut value is .500

After examining data (see Table 4-5) for the variable participation and the fixed factor city type, the author observed that the p-value for the variable Type is .014. Since the value is less than .05, the test indicates that city type is a significant predictor of contracting participation for Texas cities and the null hypothesis is rejected. The odds ratio is 3.208 as expressed by Exp(B).

Table 4-5 Model Significance

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a Type	1.166	.472	6.087	1	.014	3.208
Constant	-4.883	1.335	13.382	1	.000	.008

a. Variable(s) entered on step 1: Type.

Full Model Participation

Research question one probed contracting participation among Texas cities and towns. The researcher sought to determine whether participation contracting varied based on the variables city type, region, or MHHI. The author utilized logit analysis to examine the impact of the independent variables on contracting participation. After examining logit data results (see Table 4-6), the author concluded that the significance levels were well above the statistically significant level of .05. Since the value for each variable exceeds .05, the test indicates that the

variable within this model are not significant predictors of contracting participation for Texas cities. The null hypothesis in contracting participation based on city type, region, or MHHI is not rejected.

Table 4-6 Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Type	.925	.491	3.547	1	.060	2.521
revisedregion	-.027	.170	.025	1	.874	.973
Step 1 ^a						
2						
MHHI	.000	.000	.896	1	.344	1.000
Constant	-3.604	1.777	4.112	1	.043	.027

Question two/hypothesis two Research question two probed whether Texas cities are satisfied with their contracting experience. Respondents answered a 7 point Likert scale question positing overall satisfaction of interlocal contracting activity. The 7 point scale afforded flexibility in determining which statistical analysis to compare satisfaction responses. The researcher adopted the same structure for analyzing participation in measuring each independent variable with the intervening variable city type. This structure provided the opportunity to compare independent variable affects as well as testing the hypothesis that the independent variable is statistically significant. The section focuses on the between subject effects for city type and median income level.

The researcher also tested the model for the effects between type and the TCMA (consolidated) regions and as well as between type and population. However, the eta2 for both models fell below the 10% correlation which indicates both models had minimal impact in interpreting satisfaction factors. Additionally the p-value for the individual variables as well as

the combined model exceeded .05. Therefore, the null hypothesis that the variables of city type, city regions, MHHI, and population do not impact contracting satisfactions is not rejected.

Overall, the relationship between city type and income produced the greatest statistical significance. The descriptive statistics for the relationship between median income and city type (see *Table 4-7* on the following page) indicated that the combinations highest satisfaction levels were suburbs with median incomes between \$75,000-\$99,000 and rural towns of the same income level. The one rural town with a median income \$100,000 or higher had the lowest satisfaction level of 1.00. With that said, low income rural towns (median income >\$30,000) had the lowest median satisfaction level. Indeed, the second lowest combination was rural towns with a median income in excess of \$100,000 at 5.3. Additionally, the means for the three city types varied as central city (6.00) and suburban (5.92) were well above satisfactory levels but the overall rural means were far lower (5.53).

Table 4-8 on page 111 summarizes the tests of between subject effects for this model. The eta² is 16.9 which represent greater interpretive impact compared to the other satisfaction models. With that said, between effects ANOVA affords the ability to determine the proportion of impact for reach variable as well as the interactive effect. The results for each variable are as follows:

$$\text{Type: } 4.137/160.730 = 2.4\%$$

$$\text{Median Income Group: } 5.896/160.730 = 3.6\%$$

$$\text{Interactive: } 17.206/160.730 = 10.5\%$$

Therefore, the interactive effect has the most significance.

Table 4-7 Descriptive Results for Type and Median Income

Dependent Variable: Overall satisfaction

Type	Median Income Group	Mean	Std. Deviation	N
Central city	>\$30,000	5.67	.577	3
	30,000-49,999	6.00	.707	5
	\$50,000-\$74,999	6.00	.	1
	Total	5.89	.601	9
Suburb	>\$30,000	6.00	.	1
	30,000-49,999	6.00	.000	2
	\$50,000-\$74,999	5.90	.968	20
	\$75,000-\$99,999	6.17	.753	6
	>\$100,000	5.78	1.641	9
	Total	5.92	1.075	38
Rural town	>\$30,000	5.22	1.394	9
	30,000-49,999	5.64	1.246	42
	\$50,000-\$74,999	5.69	.793	16
	>\$100,000	1.00	.	1
	Total	5.53	1.287	68
Total	>\$30,000	5.38	1.193	13
	30,000-49,999	5.69	1.176	49
	\$50,000-\$74,999	5.81	.877	37
	\$75,000-\$99,999	6.17	.753	6
	>\$100,000	5.30	2.163	10
	Total	5.69	1.187	115

Therefore, the interactive model determines a significant proportion of the probability or variability. Additionally, the p-value test for significance supports this analysis. The two variables separately possess p-values exceeding .05 as the value for city type is .208 and income is .343. However, the p-value for the combined model is .027 which indicates that the model is significant and the null hypothesis that there is no difference in contracting satisfaction among city types is rejected.

Table 4-8 Between Subject Effects for Satisfaction

Dependent Variable: Overall satisfaction

Source	Type I Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27.239 ^a	11	2.476	1.911	.046
Intercept	3719.270	1	3719.270	2869.732	.000
Type	4.137	2	2.069	1.596	.208
Median_Income_Group	5.896	4	1.474	1.137	.343
Type * Median_Income_Group	17.206	5	3.441	2.655	.027
Error	133.491	103	1.296		
Total	3880.000	115			
Corrected Total	160.730	114			

a. R Squared = .169 (Adjusted R Squared = .081)

Question 3/Hypothesis 3 The third question considered whether cities experienced specific benefits associated with regional government. The researcher examined the significance of the results by utilizing univariate ANOVA to measure variance created by the independent variables. Researchers utilize univariate or one-way ANOVA to measure differences between two or more independent groups (Yockey 2011). The groups for this project included city type and population. The analysis probed the results for the variables efficiency and effectiveness.

Effectiveness

Table 4-9 on the following page summarizes the descriptive statistics for effectiveness. While central cities of various populations reported very satisfactory scores of 5, these cells only included 1-2 cities. The highest combination among suburbs was those units with a population between 50,000-100,000 (4.33) people while the rural towns of the same size had the highest mean for that type (4.5). In fact, that was the highest mean for any combination. Conversely, general law rural towns (population <5,000) had the lowest mean (3.95).

Table 4-9 Descriptive Statistics for Effectiveness

Type	Population Group	Mean	Std. Deviation	N
Central city	<5000	4.33	.577	3
	5-25	5.00	.000	2
	25-50	5.00	.	1
	50-100	5.00	.	1
	100-249	4.00	.000	2
	Total	4.56	.527	9
Suburb	<5000	4.14	.864	14
	5-25	4.15	1.068	13
	25-50	4.00	.632	6
	50-100	4.33	.577	3
	100-249	1.00	.	1
	Total	4.05	.998	37
Rural town	<5000	4.13	.853	40
	5-25	3.95	.945	20
	Total	4.09	.868	64
Total	<5000	4.14	.833	57
	5-25	4.09	.981	35
	25-50	4.27	.647	11
	50-100	4.50	.577	4
	100-249	3.00	1.732	3
	Total	4.12	.896	110

Table 4-10 on the following page summarizes the between subject effects for the model. The model produced an eta² of 16.5. Population accounts for the highest proportion of the variance (8.3) with type accounting for the smallest (2.1) and the overall model accounting for 5.9. Additionally, each variable produced a (p-score) above .05 which indicates none were statistically significant.

Table 4-10 test of Between Subject Effects for Satisfaction

Source	Type I Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	14.399 ^a	12	1.200	1.593	.106
Intercept	1865.536	1	1865.536	2476.661	.000
Type	1.912	2	.956	1.269	.286
Population_Group	7.261	4	1.815	2.410	.054
Type *	5.225	6	.871	1.156	.336
Population_Group					
Error	73.065	97	.753		
Total	1953.000	110			
Corrected Total	87.464	109			

a. R Squared = .165 (Adjusted R Squared = .061)

Efficiency

Table 4-11 on the following page summarizes the descriptive results for efficiency. Again, the central city results are difficult to examine given the small cells. However, the results mimic the effectiveness numbers as most population categories had the highest mean of 5.00 although these cells only had 1-2 respondents each. Regarding the suburbs, every population group was satisfied contracting had enhanced efficiency of delivery of government services with units service a population between 50,000-100,000 citizens having the highest mean of all combinations (4.5). Interestingly, the mean for all rural towns was the lowest among city types (3.95) with rural towns with populations between 5000-25000 people have the lowest mean (3.85) among all combinations. The remaining population categories for that type slightly exceeded the satisfactory mean of 4.00.

Overall, while the test for effectiveness and efficiency revealed interesting variations based on city type and population, the effect between the subjects was not significant. The variable population carried the greatest significance.

Table 4-122 on page 115 summarizes the between subject effects for the model. The model produced an eta² of 14.7. Population accounts for the highest proportion of the variance (7.4) with type accounting for the smallest (2.8) and the overall model accounting for 4.5. Additionally, each variable produced a (p-score) above .05 which indicates none were statistically significant.

Table 4-11 Measure of Central Tendency for Efficiency

Type	Population Group	Mean	Std. Deviation	N
Central city	<5000	4.33	.577	3
	5-25	5.00	.000	2
	25-50	5.00	.	1
	50-100	5.00	.	1
	100-249	4.00	.000	2
	Total	4.56	.527	9
Suburb	<5000	4.07	.961	15
	5-25	4.15	1.068	13
	25-50	4.17	.753	6
	50-100	4.50	.577	4
	100-249	1.00	.	1
	Total	4.08	1.036	39
Rural town	<5000	4.00	.934	40
	5-25	3.85	1.040	20
	25-50	4.00	.816	4
	Total	3.95	.950	64
Total	<5000	4.03	.917	58
	5-25	4.03	1.043	35

Table 4-11 continued

25-50	4.18	.751	11
50-100	4.60	.548	5
100-249	3.00	1.732	3
Total	4.04	.962	112

Overall, while the test for effectiveness and efficiency revealed interesting variations based on city type and population, the effect between the subjects was not significant. The variable population carried the greatest significance.

Table 4-12 Between Subject Effect for Efficiency

Source	Type I Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15.101 ^a	12	1.258	1.421	.169
Intercept	1832.223	1	1832.223	2068.877	.000
Type	2.926	2	1.463	1.652	.197
Population_Group	7.594	4	1.898	2.144	.081
Type *	4.581	6	.764	.862	.526
Population_Group					
Error	87.676	99	.886		
Total	1935.000	112			
Corrected Total	102.777	111			

a. R Squared = .147 (Adjusted R Squared = .044)

Discussion/Evaluation of Findings

The examination of survey data identified historical trends among the comparative categories of data as well as numeric differences between the independent variables. The analytic interpretations produced varied results of variance and probability based on logistic regression and ANOVA tests. This section provides an evaluation of the findings and interpretations by consolidating the various levels of analysis for each variable.

Participation, contracting use, contracting priorities Contracting participation has risen since 1994. The activity has increased among general law towns or towns with fewer than 5,000 residents as well as cities with populations exceeding 25,000. An increasing number of cities utilize contracting for the provision of public goods and services with fewer cities contracting for use of facilities, personnel, equipment, and goods or commodities.

Most importantly, the most frequently chosen priority regardless the population or type of city was reducing costs for service provisions and government functions. Therefore, cities are targeting efficiency as the primary priority as opposed to increased effectiveness. This result remains consistent with recent concerns regarding local government resources but counters findings from Tees, Cole, and Searcy (1995) that smaller towns prioritized obtaining additional personnel and medium and larger towns the coordination of area-wide services. The results also refute Thurmaier and Wood's (2004) study that indicated city executives priorities cooperation and networking among municipal neighbors over saving money.

Satisfaction City managers were satisfied with their contracting experience. The formal partnerships have fulfilled contracting objectives and goals. Again, the prevailing priorities for most city managers targeted operational efficiency and reducing the cost of government service provision. Therefore, the results indicate that city administrators believe partnering for contracts leads to more efficient government functions.

While prior literature never broached the specific question of overall satisfaction, studies clearly examined whether the practice met the expectations and goals of local government administrators and officials. The results from this study are consistent with findings that local leadership was satisfied that formal partnerships met identified needs. Studies (Holzer,

Sadeghi, and Schwester 2007; Tees, Cole, and Searcy 1994; Thurmaier and Wood 2004) determined that contracts saved money or that officials were satisfied that agreements saved money as while some studies identified as enhancing service effectiveness (Thurmaier and Wood 2004) as a priority contracting satisfied. Additionally, respondents to studies (Tees, Cole and Searcy 1995; Thurmaier and Wood 2004) were satisfied that contracting had developed regional cooperation and created networking opportunities.

Benefits Overall, Texas city managers believe that formal contracts between local governments have yielded operational efficiencies while providing more effective government functions to the public. Respondents were satisfied that contracting developed operation efficiencies by reducing the cost of service provision, eliminating costly duplication, and leveraging economies of scale. Furthermore, the public experienced more effective service delivery as contracts reduced the uncertainty of service edelivery for cities facing that challenge as well as enhancing regional cooperation among jurisdictions. Administrators serving large suburbs were most likely to hold this opinion while managers for rural towns were less likely to identify these benefits.

Literature supports these findings as respondents to earlier studies (Holzer, Sadeghi, and Schwester 2007; Tees, Cole and Searcy 1995; Thurmaier and Wood 2004) identified benefits that lead to more efficient government and provided the public more effective services. Additionally, Thurmaier and Wood (2004) found that interlocal agreements developed needed cooperative relationships among jurisdictional neighbors.

Challenges Cities of all types and population levels were less likely to experience contracting related challenges compared to 1994. In fact, one third of all city managers

identified any challenges related to contracting which was comparable to previous studies. Central cities were most likely to face adverse political reactions while suburbs dealt with loss of independence. Both categories had the highest response totals in 1994 as well. Very few rural administrators identified any challenges. Overall, very few city managers identified more than one challenge.

Summary

Chapter 4 summarized the descriptive and analytic results of the study as well as an evaluation of these findings. The researcher modified the survey instrument sent to Texas local government managers for the 1994 study conducted by the Institute for Urban Studies at the University of Texas at Arlington. The survey was sent to 631 Texas city managers in August 2013 from Qualtrics, the online survey software program. The study concluded in October 2013 and the author proceeded to download 187 responses into SPSS version 21.0. The next phases involved running Cronbach's alpha test to measure internal reliability.

The chapter included a comparison of the longitudinal results of the author's 2013 interlocal contracting survey of Texas city managers with the 1994 survey of local government administrators conducted by Tees, Cole, and Searcy for the Institute of Urban Studies. The chapter presented the longitudinal comparison as well descriptive and analytic results for questions 1-3. The findings examined whether participation, priorities, cooperation, satisfaction, challenges, and public accountability results vary according to city type, region, MHHI, and population.

The section examining the longitudinal findings from this study to Durable Partnerships compared the two studies in six categories/variables: contracting participation, use, number,

priorities, challenges, and benefits. While participation was a binary question and the number of contracts required respondents merely indicating the total number of active contracts, the remaining questions asked city managers to choose all options applicable to their contracting experience. The author proceeded to tabulate the percentage of managers selecting each option. Therefore, the longitudinal section included the percentage of city managers selecting each option.

The longitudinal results revealed an increasing reliance among Texas cities on interlocal contracting as overall participation increased. General law towns with population under 5,000 had the largest percentage increase. Cities are also contracting more frequently as municipalities carry three times the number of agreements on average compared to 1994.

Additionally, an increasing percentage of cities are partnering for sharing of the provision of public goods and services compared to previous studies with fewer cities partnering for the sharing of facilities, personnel, or equipment. However, more cities are drafting contracts for goods and commodities. Cities are also contracting to achieve different goals compared to previous studies. The most frequently chosen contracting priority was “reduce unit costs” compared to “obtain additional personnel” from 1994. This was consistent regardless city type or population. In fact, the only other priorities chosen by more than half of respondents were “obtain emergency services” and “avoid duplication” which were both only slightly over 50%. Finally, while the most frequent challenge was “loss of independence”, only one out of six respondents indicated that their experience included one of the challenges related to contracting.

The examination of the research questions addressed the variables of contracting participation, satisfaction, and benefits. The author analyzed contracting participation for

variance and probability via logistic regression. The variable type was statistically significant but the model built with all four independent variables did was not statistically significant.

Overall, city managers found their contracting experience to be satisfactory regardless the type of city they served. Managers serving larger suburbs (50,000-100,000) were more likely to have a satisfactory experience. The research included univariate ANOVA test which found that the variable population to provide the greatest variation of results. City managers were also satisfied that contracting yielded benefits typically associated with regional structures. Cities from every type became more efficient and provided more effective provision of public service due to contracting according to managers responding to the survey. Again, the ANOVA test found population provided significant variation for both dependent variables effectiveness and efficiency.

Chapter 5

A Case Study Evaluating Medstar And The Benefits of an Interlocal Contract to Partnering Cities

Introduction

Cities face unprecedented challenges in providing services effectively and efficiently. Several cooperative models exist as well as public-private agreements or outsourcing government functions to private companies. Each option typically reduces the cost to municipalities and their taxpayers. However, the cities remain responsible for maintaining service effectiveness and meeting the needs of the community. Many of the alternative models struggle with maintaining a needed service level while keeping the cost of service delivery low. This is a significant barrier to successful service model delivery given that weakening government effectiveness in the name of reduced cost potentially compromises public safety and health.

This is especially true of emergency medical services (EMS). Like many local functions, the traditional EMS delivery model focused on a primary goal which eschewed an efficient business model. Of course, the primary goal of EMS services is and always has been saving lives in treating and transporting injured people to emergency care facilities in hospitals. The goal requires quick response and transport which means developing and maintaining a costly emergency infrastructure that often remains underutilized since no one can predict when emergencies happen (IAFF 2009; Seals 2014). The model would easily fail any efficiency metric due to excess capacity. The typical unit or bureau had excess ambulance and paramedic

personnel that rarely met utilization goals. The unit also had expensive 9-1-1 dispatch units. However, this inefficient model increased the probability that emergency response times would decrease given greater coverage.

Therefore, EMS/ambulance models provide a strong case to evaluate the benefits of regional cooperation and interlocal contracting. The research question is clear: can interlocal cooperation/contracts create an efficient model for EMS delivery while meeting effectiveness benchmarks? Also, how do cities receiving service via an agreement maintain accountability to the public? This analysis compares the contracting model to the fire based model where cities solely provide their services and to the private model where cities outsource EMS to private companies.

Goals/Purpose

Chapter five provides a case study that evaluates the efficiency, effectiveness, and public accountability of Medstar, a regional EMS authority. The chapter includes a brief review of literature, a restatement of the research questions related to the case study, a summary of the methodology, and a discussion of the EMS industry and Medstar. The findings section discusses the evaluation results by the selected criteria. The section discussing the evaluation of efficiency includes a service delivery cost comparison between three Medstar client cities and three control cities, a comparison of resource utilization between the same cities, a determination of whether the regional authority eliminated duplication of services, and an analysis of cost per transport. The effectiveness section evaluates whether the regional ambulance system achieved industry benchmark standards in the categories of response time and staffing productivity as well as resource utilization. The public accountability section examines Medstar's level of transparency and evaluates whether the authority remains accountable to citizens of the partnering cities.

Finally, the equity section adapts a cluster analysis performed by Orfield (2002) to evaluate whether the regional authority serves cities with low socioeconomic profiles and low levels of healthcare insurance coverage. The equity section also evaluates whether these cities receive effective EMS service.

Literature

Local governments in Texas have frequently utilized interlocal contracts as a tool for developing a more efficient and effective governing structure that reduces budgetary burdens. Cities partner with other municipalities to achieve various identified goals or outcomes (Tees, Cole, and Searcy, 1995). The survey results from chapter four indicated that 75% of responding managers targeted cost reduction as a primary goal, the highest chosen objective. Additionally, 84% indicated satisfaction that contracting reduced costs. This study and previous studies by Tees, Cole, and Searcy found that contracting jurisdictions experienced more effective delivery of government functions.

Indeed, interlocal contracting has yielded numerous benefits for participating jurisdictions. However, the practice of intergovernmental partnering does potentially compromise the democratic accountability facing local governments. Specifically, contractual agreements create relationships where people receive public service provision from a jurisdiction of which they are not citizens. Therefore, the relationship reduces the ability of said citizens to hold elected officials or public administrators accountable (Cole 2010). This accountability issues could logically include concerns that partnering governments would not prioritize operational transparency since municipalities responsible for service delivery answer to city officials as opposed to the public. Additionally, regional literature (Orfield 2002, Rusk 1990) has frequently questioned the ability of intergovernmental transactions to provide equitable

service delivery and equalize the quality of government functions regardless the socioeconomic levels of citizens.

Evaluation Process/Methodology

Previous literature has also yet to evaluate and determine whether a specific contract reduced the cost of the provision of a government function or if it achieved other operational efficiencies. Additionally, a study has yet to evaluate the effectiveness of service delivery for a specific contract. Finally, studies have yet to challenge the scholarly assumptions that intergovernmental agreements weaken public accountability local officials face and that said agreements cannot achieve equitable service delivery.

This case study addresses these deficiencies by examining the budgetary and accountability impact of specific interlocal contracts on the participating cities. The case study typically proves to be a strong qualitative methodology for analyzing processes as well as the actors and activities vital to the process (Yin 2009). However, the case study method also provides a viable approach for quantitative analysis. This study examined outcomes by securing both quantitative and qualitative data. The case study provides the preferred structure for the project given the need to combine several data collection and analysis methods and the desire to supplement identified outcomes with contextual and process information (Yin 2009).

The research framework for the case study adapts the research site structure utilized by Dehoog, Lyons and Lowery (1996) to examine five public choice theory (Tiebout 1956) propositions regarding the impact of government fragmentation on citizen perception and knowledge versus the same measures for citizens served by a consolidated structure. Their study surveyed citizens served by the consolidated, city-county government of Lexington, Kentucky

and citizens of the then jurisdictionally fragmented Louisville, Kentucky metropolitan region. Lyons and Lowery developed five research site categories with distinct socioeconomic characteristics and proceeded to match two neighborhoods from both metropolitan regions for each of the five categories. They proceeded to conduct surveys within these ten neighborhoods and compare the results for each of the five matched neighborhood pairs. This theoretical framework provided a control for several socioeconomic and fiscal variables.

Likewise, my research identified six cities which included a control city and an experimental city for each type (central city, suburb, and rural town) within what the TCMA identifies as the North Texas region or the Dallas-Fort Worth-Arlington MSA (U.S Census 2010). The study also controlled other independent variables by including cities with similar population & median household income levels. This developed controls for variations in region and income. The units of analysis included three cities receiving EMS services from Medstar, the regional EMS authority, as well as three control cities that either provide EMS actual interlocal contracts for citizens or receive the service via a private contractor.

The policy evaluation process initially involved selecting relevant criteria (Kraft and Furlong 2004). This analysis evaluated the effectiveness, efficiency, transparency, accountability, and equitable nature of Medstar, the regional ambulance authority. The evaluative process involved the following methods:

- 1) Informal interviews

The author conducted informal, open interviews by phone, e-mail, and in-person with city managers, fire chiefs, EMS bureau chiefs, budget analysts, finance managers, and public affairs officers. Interviews with personnel from experimental cities or Medstar officers probed

how regional cooperation and contracting contributed to the achievement and benchmarks, greater efficiency, and innovation while interviews with control group personnel included questions designed to identify how either fire based EMS or private contractors provide the same benefits. These interviews also addressed accountability concerns.

2) Archival Data/Public Documents

The project examined the following documents to identify effectiveness benchmarks and result, budgetary data, historical information, and contextual data:

- Annual budgets
- Monthly Reports
- Annual Reports
- 5 Year plans
- Manuals/Handbooks

Questions/Hypotheticals

Q4: Can interlocal contracting or cooperation create a more efficient model for the provision of emergency medical service (EMS) delivery?

H4: Regional authorities can provide more a efficient provision of EMS.

Q5: Can government functions provided via interlocal contracting and regional cooperation meet industry level effectiveness standards?

H5: A regional EMS structure will meet important performance standards.

Q6: Can regional EMS authorities remain accountable to the citizens of participating municipalities?

H6: Regional EMS authorities do remain accountable to citizens.

Q7: Can an interlocal contract provide government functions to partnering cities in an equitable or equalized manner?

H7: Citizens receive the same quality of service regardless of socioeconomic status.

Why EMS?

EMS provides a compelling case study subject for several reasons. First, the traditional fire based model remains inefficient. Granted, this might be intentional as the inefficiency may well yield more effective service delivery. Additionally, the American healthcare system is inefficient. Finally, the Patient Protection and Affordable Care Act of 2010 (PPACA) (Health and Human Services 2010) altered the EMS reimbursement process for government payments while also creating opportunities that could develop potential revenue streams for EMS agencies. This section explains these reasons and why they persist.

The fire based or traditional EMS model remains inefficient largely due to the objectives and goals these department face. EMS remains a pure government model built on service and saving lives in emergency events. This means funding vehicles, people, and materials beyond measurable need. In fact, one of major challenges involves creating measurable benchmarks for emergencies which are obviously unpredictable. This concern for geographic coverage capability stresses more effective performance in achieving response time benchmarks which could be crucial to savings lives and limiting injuries. EMS leaders traditionally believed that saturation was vital to being everywhere a possible emergency could occur. The only efficiency might be diverting resources in situations with high emergency potential such as rush hour. The unit hour utilization (UHU) could be very low on average or at least fluctuate since the goal required preparation for all contingencies so if EMS demand fell below supply that is okay as long as people are safe (Seals 2014; Zavadsky 2014).

The emergency apparatus also suffers from a legitimate “free-rider” problem endemic of public goods or goods that carry a reduced user cost or in many cases no cost. Citizens

frequently access 9-1-1 and request ambulance services in non-emergency situations. For example, the Dallas EMS bureau transported patients with sprained ankles and stubbed toes (Seals 2014). Additionally, this reality holds across socioeconomic spectrums for a variety of reasons. Families from lower socioeconomic categories often mistakenly treat the EMS system as their primary care medical option due to a lack of private insurance and understanding regarding the medical care process (Seals 2014; Zavadsky 2014). Middle income families with access to insurance will utilize EMS services since private insurance subsidizes the use and inoculates these families from the full cost of emergency transport.

This approach also permeates the health care industry that funds EMS systems. The healthcare insurance and facility industry obviously remain vital partners to the EMS industry. However, the payment model for the healthcare industry has become inefficient. Healthcare costs per capita in the United States have grown an average of 2.4% faster than GDP since 1970 (Dallas Fire-Rescue 2013; Kaiser Foundation 2012). Additionally, half of all healthcare spending treats merely 5% of population. These trends are likely to continue given increased life expectancy. Indeed, the population aged 65 and over will increase from 12.5% of population as of 2008 to 16% by 2020 and 21% by 2050. The Center for Disease control currently calculates healthcare cost per capita at \$8400 and Medicaid recipients will increase to 16 million over next decade (Dallas Fire-Rescue 2013).

The PPACA and the resulting congressional healthcare reform debate further altered the EMS reimbursement model and created both challenges and opportunities for the industry. The overall objective of the new law is to shift healthcare insurance coverage to a “value based” reimbursement model by 2016 based on patient outcomes. This objective includes mandates and quality measures including customer satisfaction surveys and patient follow-up. The law

also penalizes emergency department for patients returning within 30 days of release from a hospital. Medicare is also moving away from paying each provider individually for services delivered to reimbursing treating hospital which will in turn assume responsibility for distribution to all agencies involved including EMS. EMS agencies also experienced revenue loss from the sequestration legislation of February 2013 which resulted in a 2% decrease in Medicare reimbursement effective April 2013 (Dallas Fire Rescue 2013; HHS 2010; Seals 2014). Several EMS administrators expect additional cuts from Medicare (Seals 2014).

However, the PPACA does provide several opportunities for innovative agencies. Bureaus such as Dallas EMS are partnering via interlocal contracts with hospitals to provide follow-up for released patients to insure that they are following medical instructions. Dallas trains its paramedics to provide the patient follow-up. This service can include filling prescriptions, helping with rehabilitation, etc. This program could prove beneficial to all parties since the EMS system has a new revenue stream, hospitals can avoid penalties and repeat patients, and the patients themselves can heal (Dallas Fire-Rescue 2013; Seals 2014). Medstar recently launched a similar program (Zavadsky 2014).

Finally, several cities, especially municipalities with smaller populations, search for more efficient EMS delivery options. Most rural towns and many lower or middle income suburbs struggle with providing an effective EMS service absent a private contractor or regional cooperation (Stevens 2014). Indeed, both options are clearly more efficient and reduce or even eliminate taxpayer/budgetary cost by simply charging people who utilize EMS services like other medical services. Granted, cities often subsidize private providers when revenue is lower than expected but this would be the only line item dedicated to ambulance provision in the annual budget. Additionally, these entities frequently pursue innovative techniques for enhancing

efficiency and adopt many efficiency benchmarks such as utilization rate (UHU) that fire based units have co-opted (Seals 2014; Stevens 2014; Zavadsky 2014).

The regional or cooperative model should provide enough flexibility in resource deployment which in turn maximizes utility while limiting damages, injury, and replacement costs. Is this efficiency claim true and how can it be measured? The unit hour utilization rate (UHU) provides a metric for this operational efficiency concern. Private sector EMS providers developed the UHU to help determine whether their system efficiently delivered emergency services (Dallas Fire Rescue 2013) and if additional resources were needed. The UHU indicates the amount of time an ambulance unit is “active” or responding to an emergency and engaged in patient care activities over a 24 hour period. The quantitative benchmark produces a ratio between the two data pieces by dividing the total number of responses by the total number of hours in service. The formula assumes that transports last one hour on average although agencies can certainly alter that assumption. For example, a unit with a UHU of 50% spent twelve hours responding to calls over the course of a 24 hour period on average. Granted, agencies and contractors develop utilization results for the entire system. Therefore, an agency with 10 active ambulances on a particular day would divide the total number of transports by 240 to calculate the UHU rate for that day (Dallas-Fire Rescue 2013; Henry 2008; Seals 2014; Zavadsky 2014).

However, these reduced cost options cannot compromise the effectiveness of EMS provision given the purpose. Fire based units traditionally placed minimal priority for efficiency considerations in lieu of the need to prepare for emergencies and life threatening incidents. This focus extends to responders, paramedics, administrators, and elected officials. In fact, city council members mandate that their district include a fire house with EMS capability (Nguigi

2014). This “public service” model could understandably weaken under the private model. Of course, the private goal is profit based and the framework prioritizes revenue generation.

Benchmarks such as unit hour utilization (UHU) determine if resource use is efficient (UHU not too high or too low) or excessive (UR too low). This approach remains similar to the public model but the objective is developing a revenue generating model. This model calls for fewer resources and reliance on the client city’s fire department (Seals 2014; Zavadsky 2014).

Conversely, regional authorities are government entities that could ideally achieve both goals. The regional model provides a flexible asset use structure that deploys transport and paramedic services where needed at no cost to client cities. However, the regional model is relatively new and has yet to gain wide traction. Additionally, research has yet to evaluate the effectiveness of the regional model.

The History of EMS Services While ambulance and emergency systems have served citizens for well over a century, the modern EMS concept did not become formally established until the 1960’s. For example, funeral homes provided pre-hospital transport and services in Dallas for decades prior to the city creating the EMS bureau in 1972 (Dallas Fire-Rescue 2013). Additionally, most of the growth and innovations for EMS service have occurred over the past two decades. The landmark event heralding the modern EMS era was the National Academy of Sciences section of the National Research Council (NRC) releasing “Accidental Death and Disability” The Neglected Disease of Modern Society” in 1964 (National Research Council 1964). The NRC paper established goals and structure for fire based EMS and filled gaps of knowledge and need which created the modern EMS structure. The suggestions flowed from experts that implemented battlefield trauma lessons learned from their tours in the Korea and

Vietnam Wars. This model development eventually yielded future studies and funding for the current model (National Highway Traffic Safety Administration 1996).

The fire based model has remained consistent with the addition of several innovative techniques. This structure requires the city to engage in ambulance acquisition, paramedic hiring, certification, and training, 9-1-1 dispatch center and training staff, and infrastructure to accommodate all emergencies and mass casualty situations. The process also requires a medical director per Texas law who develops emergency protocols and monitors compliance. Additionally, EMS systems include an “online consult” apparatus for respondents, who need to consult doctors or nurses when an emergency requires breaking protocol. However, the traditional hospital based portion of service has only recognized value of EMS over past two decades (Dallas 2013).

Medstar and the Regional EMS Model

The experimental cities receive ambulance and much of the EMS services through Medstar. Medstar is a regional cooperative between 15 cities. All 15 cities signed an interlocal cooperative agreement that created the authority. The contract created a governmental body best described as a regional ambulance authority governed by a regional ambulance board comprised of members appointed by the member cities. The governing board enjoys policymaking authority in several areas. First, it sets the overall policy direction and standards for the emergency medical care system in those 15 cities. The policies are set as a region as opposed to distinct policies or exceptions for individual cities. The board also decided whether or not to contract for ambulance services or provide the ambulance services.

The history of Medstar begins in 1986. The 15 member cities within north central Texas and Tarrant County utilized an interlocal contract to form a regional cooperative under the (Texas Constitution and Texas Code statute> The Texas Interlocal Cooperation Act of 1971 (Interlocal Cooperation Act of 1971; Tex Gov't Code 791; Vernon 1994) which authorizes local governments to join together to form regional cooperatives. The authority delegated the ambulance operations component of the service delivery to a private contractor under a performance based contract primarily based on response time. The authority acted as a liaison between the authority and client cities. The authority maintained this structure for almost twenty years as it cycled through four contractors. The public-private relationship deteriorated to the point that in 2005 the authority decided to provide ambulance service directly to the cities.

Matt Zavadsky, Medstar Chief of Public Affairs, explained the decision:

In 2005, after a series of failed contractors, the authority decided that it's time to have our hand at doing this ourselves. The primary reasons for the contracting strategy in the beginning for this public utility model system, was that most of the brain trust for operations, on how to make the system efficient and clinically sound, rested in the private sector.

Over time, as these public utility model cooperatives, like we have in Fort Worth, became more mature, the former executives at the contractors that were providing some of these services, began to work for the authorities, instead of working for the contractor. The expertise that came along with that, came with them.

Interview with Matt Zavadsky, March 29, 2014

The Area Metropolitan Ambulance Authority made the decision to self-operate in 2005 with approval from all 15 member cities. Currently, all of the employees of the Medstar system as well as the ambulance component are assets of a public entity. Figure (1) summarizes the personnel and emergency apparatus assets owned by Medstar.

Transparency The regional authority and Medstar experiences all the benefits and responsibilities expected of a governmental entity. The authority and its employees are part of a public entity and remain subject to public transparency. Emails and other memos or communication remain subject to open record. The authority’s website, medstar911.org, includes the minutes from every board meeting including every report presented during said meetings. The minutes provide a detailed summary of Medstar operations including all discussion and decisions, budgetary and financial information, performance results, and any user comments or complaints. The authority prioritizes accountability and transparency. Finally, the governing board issues public notices and meeting agendas prior to the actual meetings.

Table 5-1 Medstar Field Resources and Coverage Region

Ambulances	54
RLS	
ALS	
FT EMT	100
FT paramedics	100
Coverage (Sq miles)	421
Residents	880,000
Square Mile ratio	7.8
Resident Ratio	16296.3

Source: Medstar Annual Report 2013

Table 5-1 provides a listing of the emergency resources for Medstar. The system utilizes 54 ambulances, 100 certified EMT and 100 certified paramedics. These assets and personnel

serve 880,000 citizens over an area of 421 square miles. Ambulance per capita and coverage per square miles are both valuable effectiveness benchmarks for determining whether an EMS provider provides adequate coverage. Medstar provides 1 ambulance for every 7.8 square miles and every 16,296 citizens. This report compares these results for each case study.

Services Provided Like private providers, Medstar leverages the fire station and first response resources of client cities. This reality can potentially render evaluations of efficiency and effectiveness suspect given the fire based wholly inclusive structure. However, Medstar does manage a comprehensive emergency apparatus with significant support staff. Medstar and the ambulance authority own the infrastructure. The authority, the governmental entity owned and owns the ambulances, the telephony, the 911 communications component, and the most importantly, the accounts receivable.

Therefore, while, Medstar provides ambulance service for any calls in the regions, the authority also bills for the service just like any health care provider. The ambulance transport or the treatment on scene and the release, are billed to either the patient or if the patient has insurance, health insurance or car insurance, to the insurance company. The patient and/or the insurance company pay the bill. The accounts receivable service is also property of the authority. The authority, for 20 years, used the accounts receivable to pay the contractor the monthly fee for employing the employees that operate the ambulances and to operate the 911 call center. The employees were limited to essentially the billing process. Every other employee and resource including the EMTs and the paramedics, the ambulances, the maintenance people, and the people who worked in the executive offices were private employees. Medstar has permanently altered that structure.

Evaluation Results

Both regional and consolidated literature argues that intergovernmental cooperation yields a more efficient and effective governing model (Orfield 2002; Rusk 1999). Larger regional units provide services at a reduced cost via scalability, eliminating duplication, or simply conducting a more efficient operation by leveraging greater professionalism or expertise. Given these potential fiscal benefits, administrators and citizens alike might be satisfied if performance benchmarks indicate that the regional cooperative structure merely provided services with the same level of effectiveness. However, Tees, Cole, and Searcy (1995) and this study identified a belief among Texas city managers that interlocal contracting and cooperation increased the effectiveness of the targeted service provision and created an environment that pursued and nurtured innovation in service delivery.

Therefore, the evaluation of regional benefits is two-fold. First, research should indicate that contracting units of all types experienced benefits in the evaluation criteria. Additionally, the study should connect the benefit to regionalism. The evaluation required determining whether the cooperative structure or activities was indeed the source of greater efficiency, effectiveness or innovation, and equity while maintaining accountability.

Evaluation Criteria-Comparing Effectiveness and Efficiency in an EMS Environment

The EMS profession has only recently identified best practices and developed benchmarks for measuring service quality. The International Association of Fire Fighters (IAFF) and the International Association of Fire Chiefs (IAFC) initiated the process for emergency response in general in 1997 with the publication of the IAFF/IAFC service quality manual (Dallas Fire Rescue 2013; IAFF 2008; Seals 2014). This joint effort produced the EMS Guidebook which published quality measures and benchmarks for emergency response services

outside of fire departments (IAFF 2008). This study utilizes selected benchmarks from this publication to identify criteria for comparing how effectively the selected agencies provide EMS to citizens as well as the efficiency levels of the system. Granted, the theoretical literature also provides measure such as cost reduction which the study also utilizes.

Question four/hypothesis four Question four probed whether an interlocal contract could create a more efficient model for emergency service delivery. This study evaluated the criteria of efficiency by determining whether Medstar achieved four benchmark of operation efficiency including reduced delivery cost, maximized resource utilization, reduced cost per unit of service, and elimination of service duplication. The unit for EMS agencies is ambulance transports. This section reviews the results for each benchmark.

Efficiency Benchmark #1-Cost Reduction

Interlocal cooperation and contracting studies (Orfield 2002; Tees, Cole, and Searcy 1995) have found that contracting cities increasingly prioritize reducing the cost of service provision. For example, Tees, Cole, and Searcy asked city managers to identify their contracting priorities or goals among five listed options: Reduce unit costs, obtain needed personnel, coordinate area-wide service, obtain emergency personnel, and avoid costly duplication. Respondents could choose all goals that applied to their city. While slightly over half (51.9%) of all respondents identified reducing unit costs as a priority, they chose the other four priorities with greater frequency. Conversely, this study included a question with the same structure but asked managers to identify priorities among 10 options. Three-fourths (75%) of the respondents identified reduced service costs as a priority which made it the most frequently chosen goal by a large margin. The 2014 study also probed whether interlocal contracts had yielded the listed benefits including reduced cost. A large majority (83.8%) of city managers indicated they were

satisfied that interlocal contracting had reduced the cost of service provision with 38% indicating they were very satisfied.

This project included an examination of budgetary cost comparison of EMS services between the experimental cities and the control cities within the north Texas region.

Conversely, the city of Dallas maintains an EMS bureau with fully staffed ambulances operating from each fire station in the city (Seals 2014). Likewise, Pilot Point maintains an internal EMS service (City of Pilot Point 2014). Waxahachie receives ambulance services through East Texas Medical Company (ETMC) (Stevens 2014) and is the only city utilizing a private contractor for ambulance services. The annual fiscal burden represents the subsidy Waxahachie paid to ETMC. This following is a comparison and discussion of the two jurisdictions within each city type.

Table 5-2 on page 139 briefly summarizes the EMS resources for each city under investigation. This process involved an analysis of budgetary costs over a three year fiscal period including the fiscal years of 2010-2011, 2011-2012, and 2012-2013. The researcher examined archival data and documents as well as interviewing city managers, public affairs specialists, fire chiefs and EMS bureau managers to determine budgetary costs for EMS agencies. Specifically, this involved a review of annual budgets for each city. The process varied according to the EMS source. Cities providing their own fire based agency would obviously include the costs as part of the annual budget. Cities contracting with private companies would not have line-item costs but frequently paid an annual formula-based subsidy to reduce user cost. Of course, each experimental city partnered with Medstar for the provision of EMS.

Cities partnering with Medstar did not pay for EMS services, infrastructure, or a subsidy as indicated by Table 5-3 on page 140. In fact, the 15 client cities have not paid a subsidy since 2009 which means that citizens from the 15 cities have not paid taxes toward maintaining the provision of ambulance service in over six years. The regional authority generates revenue via user fees and relies upon personal healthcare insurance, personal payments, government coverage, and subscriber fees to meet the operating budget

Conversely, the city of Dallas maintains an EMS bureau with fully staffed ambulances operating from each fire station in the city (Seals 2014). Likewise, Pilot Point maintains an internal EMS service (City of Pilot Point 2014). Waxahachie receives ambulance services through East Texas Medical Company (ETMC) (Stevens 2014) and is the only city utilizing a private contractor for ambulance services. The annual fiscal burden represents the subsidy Waxahachie paid to ETMC. This following is a comparison and discussion of the two jurisdictions within each city type.

Table 5-2 EMS Providers under Evaluation

Government	Population	Leadership/Fire Chief	EMS Provision	FT EMT	Paramedics	Ambulances
Medstar Central Cities	880,000	Matt Zavadsky		120	120	56
Dallas	1,241,000	Norman Seals	Fire Based	43	86	43
Fort Worth	741,000	Rudy Jackson	Interlocal contract	62	62	30
Suburbs						
Burleson	40,000	Gary Wisdom	Interlocal Contract			
Waxahachie	29,621	Ricky Boyd	Private contractor	3	6	2
Rural Towns						
Haslet	1301	Kirt Mays	Interlocal Contract			
Pilot Point	3856	Heath Hudson	Fire Based	2	4	2

. Central City Comparison

Dallas and Fort Worth are the largest cities in North Texas and serve as the county seat for their respective counties. However, the two cities engage in vastly different approaches to EMS provision. Dallas maintains its own taxpayer funded fire based EMS bureau model that is responsible for maintaining the emergency apparatus and providing service to its 1.2 million citizens and covering 386 square miles.

Conversely, Fort Worth is easily the largest client regional ambulance authority Medstar serves among its 15 clients. The relationship has existed since both parties agreed to an interlocal contract that initially established the Area Metropolitan Ambulance Authority as the liaison between municipal clients and private contractors vetted and approved by the authority and its board. The board formally altered the structure by severing the relationship with private contractors and creating Medstar.

Table 5-3 Budget Comparisons for EMS Service Delivery

Budgetary Comparison				
		2010-2011	2011-2012	2012-2013
Central City				
Dallas	\$	39,966,215.00	9,626,825.00	7,509,672.00
Fort Worth	\$	-	-	-
Suburb				
Waxahachie	\$	56,932.00	57,900.00	59,500.00
Burleson	\$	-	-	-
Pilot Point	\$	484,295.00	703,000.00	720,000.00
Haslet	\$	-	-	-

Sources: City of Dallas Annual Fiscal Budgets for 2010-2013; Medstar budgetary data from monthly reports; Interviews with Kirt Mays, Paul Stevens, Matt Zavadsky, and Gary Wisdom
Table 5-3 continued

Regarding the fiscal results, the budgetary data for 2013 proves particularly illuminating. The budget for Dallas Fire and Rescue (DFR) included \$39,966,000 in 2010-2011, \$9.6 million in 2011-2012, and \$7,800,000 for 2012-2013. The 2010-2011 fiscal year operating budget was significantly higher due to the bureau replacing four ambulances as well as hiring 6 full time emergency employees (City of Dallas 2010). The 2011-2012 fiscal year also included ambulance purchases but the 2012-2013 fiscal year provided a steep budgetary decrease as the city decided to finance fourteen new ambulances as opposed to cash purchase (Dallas Fire-Rescue 2013). Conversely, Medstar served Fort Worth without taxpayer subsidy. In fact, Fort Worth last contributed a \$2,000,000 subsidy to help fund EMS activities in 2009.

Dallas Fire-Rescue (DFR) bureau maintained an active service with nearly 200,000 responses annually and a high utilization which the next section explores further. While this utility level indicated that DFR does not possess excess or wasteful emergency apparatus and personnel, sustainability remains a major concern as this level will lead to an increase in maintenance and replacement costs. Private contractors consider acquiring additional ambulances once the UHU reaches 40%. However, this scenario creates one of the more expensive challenges fire based agencies address. Should the bureau merely replace or repair damaged ambulances and units in poor condition or should the fire department increase the ambulance inventory by invest in new units and staff which will reduce UHU to a manageable level? A new, fully equipped ALS unit costs \$207,000 while a BLS unit runs \$90,000. The replacement option should not require additional costs outside of these numbers. However, the

option for increasing the ambulance inventory includes those figures as well as \$833,426 to staff a rescue with two paramedics for one year and \$114,682 to train said staff (Dallas 2013).

Likewise, Fort Worth citizens needed and received a responsive EMS service in 2013. Medstar provided 96,548 transports to Fort Worth residents or accident victims. The regional structure provides flexible response options and a unit rotation that minimizes the need to replace or invest in new ambulances.

Suburban Comparison

Burleson and Waxahachie are similarly populated towns within the southern corridor of North Texas on the outer fringe of the region. Burleson straddles Johnson and Tarrant County while Waxahachie is the Ellis County seat. Both cities have experienced exponential growth like much of the regions since 2000. Burleson has nearly doubled in a decade and a half from an official population of 20,976 in 2000 to nearly 40,000 by 2012. The official population of Waxahachie grew by nearly 50% during the same period from 21,426 people in 2000 to 29,621 by the 2010 census (U.S. Census 2010; U.S. Census, American Communities 2012). However, population estimates predict continued population growth for both jurisdictions.

Both suburbs utilize outside entities to provide EMS services. Burleson contracted with the Medstar regional authority with fourteen other cities in 1986 while a private contractor, East Texas Medical Company, has served Waxahachie since 2009. These decisions certainly eased the financial burdens of emergency service provision for both jurisdictions. With that said Burleson taxpayers did not subsidize Medstar during the three year period from 2011-2013 while Waxahachie paid a subsidy every fiscal year as explained in table 5.2.

Gary Wisdom serves as the fire chief for Burleson. Chief Wisdom noted the efficiency and financial flexibility Medstar afforded smaller cities like Burleson. Like Waxahachie, Burleson has a remote location compared to the rest of the metropolitan region which makes mass casualty response options mutual aid agreements difficult. Additionally, the budget for Burleson Fire-Rescue would immediately double if the city decided to fund its own EMS system with the accompanying infrastructure. Additionally, Chief Wisdom stressed that the city could only afford to purchase, staff, and maintain three ambulances which a few simultaneous emergencies would tax. Finally, the chief noted that the entire region operated under the same protocols which is more efficient than relying upon a mutual aid partner with different medical protocols.

Rural Towns Comparison

Haslet is a small town in Tarrant County with 1,310 residents. The town has received services from Medstar since 1986. Pilot Point is slightly larger with 3,856 people and sits in the northeastern portion of the region in Denton County. Pilot Point provides its own EMS bureau. Again, table 5.2 provides cost comparison for the rural towns. Haslet paid no subsidy toward EMS services while Pilot Point budgeted \$484,000 for 2010-2011, \$703,000 for 2011-2012, and \$720,000 for 2012-2013.

The Medstar relationship benefits Haslet in numerous ways. While Haslet is relatively affluent, the small town would struggle to afford its own EMS unit. Chief Kirt Mays stressed during his interview that the city had determined the cost for providing its own bureau would be prohibitive. The annual cost to staff three shifts with two emergency personnel per shift would be \$300,000. Additionally, Haslet could only afford two ambulances which would cost \$200,000. The rural town would most likely face the same dire situation as Burleson with an

expensive EMS infrastructure that mass casualty situations could easily strain. However, Chief Mays noted that Haslet experienced limited emergencies annually which indicated that fire-based bureau ran the risk of under-utilization. Medstar provided response flexibility based on demand. Finally, the chief noted that Medstar response time performance has surpassed his expectations (Mays 2014).

Efficiency Benchmark #2-Unit Hour Utilization

As mentioned previously, the under-utilization of resources remains one of the primary efficiency challenges facing EMS agencies. The unpredictable nature of emergency response can force municipalities to purchase excess resources and personnel. Additionally, excess capacity potentially compromises clinical proficiency as it could leave paramedics and EMT personnel with limited field experience. This is especially true of suburban or rural agencies that experience fewer emergency situations (Zavadsky 2014).

Conversely, agencies with limited resources and the cities they serve face several unit availability risks. The most obvious risk stems from mass casualty or multiple emergency situations requiring a response where resources are perhaps inadequate absent mutual aid agreements. Additionally, limited resources are typically overused which increases maintenance and replacement costs (Seals 2014). Therefore, regional agreements could reduce uncertainty of service delivery.

As mentioned previously in this chapter, private contractors have long utilized unit hour utilization (UHU) as a vital tool for measuring operational efficiency. However, while the process for determining the UHU ratio is fairly straightforward, there is disagreement over the optimal ratio. Most literature (Myers, et.al 2008; Dallas Fire-Rescue 2013) identifies 30-35% as

the optimal UHU range while other literature (Henry 2008) argues that the UHU ratio should be as high as .45-.55 to maximize resources. The desired ratio typically depends on the provider type and priorities. Private companies seeking to maximize profits consider the higher range to be optimal and will not add resources until the ratio exceeds that benchmark. Conversely, fire based agencies consider the lower range of 30-35% optimal as it better guarantees that units remain available for answering emergency calls within mandated response times (Dallas Fire Rescue 2013). Additionally, a manageable workload could certainly extend the active life of ambulance units while reducing exposure to accidents. These results would obviously decrease maintenance and replacement costs. Given the various options, most active EMS providers (Seal 2014; Zavadsky 2014) identify .40 as the optimal UHU standard as a unit operating at that level clearly avoids resource under-utilization and is most likely not risking over-utilization that strains resources and personnel.

The study examined the UHU for the Medstar system and the three control cities for the two year period from 2012-2013. Table 5-4 on page 146 summarizes the results. The author compiled the annual number of system transports by reviewing EMS activity from reports of the monthly meetings of the Area Metropolitan Medical Authority Board of Directors and interviews with Matt Zavadsky, Public Affairs Officer for Medstar (AMAA 2013; Matt Zavadsky 2014). Overall, the Medstar system UHU was 40% for the two year period as well as both years individually. This utilization rate matches the optimal range for EMS units as the regional authority maximizes resources while minimizing costly events such as maintenance, accident, and personnel turnover that could be the consequences of a high utility rate.

Additionally, the Dallas bureau also achieved a cumulative UHU of 40% for the period studied which indicates optimal resource utilization. Large urban bureaus typically do not

struggle with under-utilization and Dallas is no exception as it dealt with nearly 200,000 calls per year (Seals 2014). The primary challenge is taxing of all resources and personnel which most likely not an issue at this rate. However, city projections based on call and transport trends forecast a UHU exceeding 47% if patterns hold. This would have several consequences depending on how city leadership responds. First, bureau effectiveness would suffer absent an increase in resources which would obviously compromise public safety. With that said, DFR prioritizes effective service which would mandate budget increases to maintain current service levels.

Conversely, suburban and especially rural units typically struggle with under-utilization absent an agreement with a private contractor which is very evident in the results for Pilot Point. However, contracting with a private service typically yields higher utilization rates as the private model prioritizes efficiency. Therefore, while the two year rate of 4% for Pilot Point is shockingly low, it remains consistent with industry norms. However, the two year rate for Waxahachie of 30% is an interesting result given their contract with ETMC as that rate is at the lower point of the acceptable range.

Table 5-4 Unit Hour Utilization by Government

Unit	2012	2013	Total
Medstar	40%	40%	40%
Dallas	38%	41%	40%
Waxahachie	30%	30%	30%
Pilot Point	5%	3%	4%

Sources: AMAA 2013; Boyd 2013; City of Pilot Point 2013; Dallas 2013; Zavadsky 2014

Efficiency Benchmark #3-Cost per Transport or Response

Measuring per-unit costs provided an examination of operational efficiency for governing units. The author identified cost per transport as a valuable tool for comparing operational efficiencies between EMS providers. With that said, two caveats must be addressed. First, Medstar enhances operational efficiency partially due to greater selectivity in ambulance deployment which means fire based units such as Dallas will have more transports. Additionally, Medstar is an independent governing unit that includes departments not directly related to ambulance delivery such as marketing, accounting, etc. These realities might help explain a higher cost per transport for Medstar.

Table 5-5 summarizes the unit costs for the Medstar authority, the control cities, and the experimental cities. While Dallas enjoys a lower cost per transport, it is important to note that Medstar actually netted positive revenue per transport for both fiscal years 2012-2013. The rate for Waxahachie was low (\$22.38) for both years thanks to its contract with ETMC. It paid heavily for 400 ambulance transports (1,807.50). Of course, the experimental cities did not contribute to the operational budget for EMS services via direct funding or a subsidy which was the case for all partnering cities.

Efficiency Benchmark #4- Service Duplication

Eliminating service duplication is a key efficiency that yields significant financial benefits. Smaller cities or even large cities with tight budgets will contract with the county, larger city, or regional authority/district to provide a service that benefits from a regional provision model. Emergency services clearly fit this model. Partnering with a regional authority

eliminated the need for the fifteen Medstar cities to fund and maintain an EMS unit. One regional unit replaced fifteen government agencies.

Table 5-5 Unit Cost per Ambulance Transport

Unit	2012			2013		
	Responses	Budget	Cost/Response	Responses	Budget	Cost/Response
Medstar	108089	\$ 36,000,000.00	\$ 333.06	111907	\$ 40,339,326.00	\$ 360.47
Revenue	108089	\$ 52,416,000.00	\$ 484.93		\$ 46,989,073.00	\$ 419.89
		Net per transport	\$ 151.87			\$ 59.42
Dallas	195071	\$ 7,509,672.00	\$ 38.50	195071	7509672	\$ 38.50
Waxahachie	2659	\$ 59,500.00	\$ 22.38	2659	59500	\$ 22.38
Pilot Point	400	\$ 723,000.00	\$ 1,807.50	400	723000	\$ 1,807.50
Fort Worth	94000		\$ -	93539		\$ -
Burleson	3472		\$ -	3690		\$ -
Haslet	104		\$ -	118		\$ -

Sources: AMAA 2012; 2013; City of Pilot Point 2012-2013; Dallas Fire Rescue 2013Mays 2014; Wisdom 2014; Zavadsky 2014

Question five/hypothesis five Question five probed the whether partnering cities experienced effective EMS service via the regional ambulance authority. Given the evaluation criteria of effectiveness, the process involved identifying EMS industry priorities and standard or benchmarks. Therefore, this section summarizes whether the Medstar authority met industry standards for ambulance response time, resource utilization, and staffing productivity.

Effectiveness Benchmark #1-Response Time

The EMS community has traditionally prioritized how quickly ambulances respond to emergency calls (IAFF 2008). This is typically defined as the moment the 9-1-1 dispatch receive a distress call until paramedics arrive at the patient’s side (Seals 2014). However, the entire response analysis can include other events involved in the response process such as how quickly 9-1-1 dispatch responds to the call and the turnout time of the ambulance. However, most

agencies simply measure the total response time unless benchmarks are missed over a significant time period (IAFF 2008; Seals 2014). The standard for second responder EMS units is an average 8:00 minute response time for all calls with the additional goal that this standard is met 90% of the time (Dallas Fire Rescue 2013, IAFF 2008).

The EMS Guidebook Identified EMS response time a core benchmark for measuring agency effectiveness. Clearly, EMS bureaus must prioritize timely response as a core objective. Emergency events demand a quick response and could mean the difference between the patients surviving the accident. However, the industry response standard is based on a 1978 study (Eisenberg 1979) that reviewed and prescribed how quickly emergency transports must respond to cardiac arrest cases (Dallas-Fire Rescue 2013). Given this narrow application, several studies (Blackwell and Kaufman 2001, Pons 2005) have questioned requiring agencies to meet the standard for patients experiencing heart attacks to all calls regardless the nature or severity. In fact, jurisdictions (Medstar 2012) have integrated sophisticated dispatch software that determines and categorizes call severity based on prompts provided by 9-1-1 callers. The emergency category determines the nature of the response and each level has a response time benchmark based on that severity. Several large agencies (Dallas Fire-Rescue 2013) are investigating this approach.

The author compiled response time results for a two year period from 2012-2013. This included identifying two measure-response time for all calls regardless severity (p1-p4) and the response time for P1 or red light calls only. As Table 5-6 on the following, The Medstar system exceeded the benchmark in every year and of course the combined total for the two year period. Likewise, the EMS service for Fort Worth met the 90% standard for both years. Additionally, the suburban results met industry standard as the response time for Burleson achieved the 90%

standard for the period under study. The only jurisdiction to experience response times below the industry standard was the rural unit Haslet. In fact, response time results fell well below (83%) industry standards for the two year period.

Table 5-6 Response Time Results 2012-2013

All Calls	2012			2013			2 year Total
	Calls	Met	Average	Calls	Met	Average	Average
Medstar Fort Worth	108089	99815	92%	111727	102482	92%	92%
Burleson	3472	3118	90%	3472	3118	90%	90%
Haslet	118	95	81%	104	89	86%	83%

Source: AMAA Monthly Board Meeting Agendas 2012-2013

The results for high priority calls were mixed compared to the overall effort as indicated in Table 5-7. Again, the region experienced timely response for 92% of all “red-light” calls as did Fort Worth residents. However, patients from both Burleson and Haslet experienced timely ambulance responses for 83% and 80% of high priority calls for the two year period respectively.

Table 5-7 Response Results for P1 Calls 2012-2013

Priority 1	2012			2013			2 year Total
	Calls	Met	Average	Calls	Met	Average	Average
Medstar Fort Worth	26173	23400	89%	21316	19418	91%	90%
Burleson	653	552	85%	685	559	82%	83%
Haslet	38	31	82%	43	34	79%	80%

Source: AMAA Monthly Board Meeting Agendas 2012-2013

Effectiveness Benchmark #2-Unit Hour Utilization

While private contractors developed UHU to measure service efficiency, it also serves as a tool for measuring effectiveness. Bureaus or services such as Pilot Point or Waxahachie clearly struggle with efficient deployment of EMS resources given their low UHU rate. However, systems experiencing high UHU rates (exceeding 45%) face opposite concerns such as response time performance, geographic coverage, staffing burnout as well as increased breakdown and maintenance of resources. These potentials issue scan stress EMS performance and assets

Given these concerns, Medstar's UHU rate for the two years under consideration indicated the regional authority maintained an effective system of EMS provision when included with the other effectiveness benchmarks. Granted, Dallas Fire-Rescue can certainly make the same claim as its UHU mirrored the Medstar system.

One final note regarding UHU as a measure for both efficiency and effectiveness must be noted. Several jurisdictions in this study adapted their call response by prioritizing the calls and ensuing response based on severity. This group obviously includes Medstar and its client as well as Waxahachie which utilized a three-tier category process. This process alteration clearly improves operational efficiency and effectiveness as it increases the probability that resources are deployed correctly and reduces the risk of overuse. However, the process also reduces the number of transports as EMS dispatch units determine whether a call requires on-scene help or if an alternative treatment exists. The problems stems from UHU calculation since the number of transports is the key variable. This means agencies that do not prioritize might yield a more efficient UHU rate given their indiscriminate approach to ambulance deployment. Granted,

Medstar does not have this problem as while it does not deploy as the same level as Dallas it also reduces ambulance coverage based on historical patterns of calls and activity.

Effectiveness Benchmark #3-staffing productivity and coverage

NFPA standard 1710 in the EMS Guidebook (2009) requires a level of preparedness built on both the quantity and quality of personnel. The standard calls for a minimum number of qualified personnel and resources available to ably manage call volume effectively and safely for patients and crew alike. With that said, the standard does not reference a quantitative benchmark to evaluate staffing effectiveness.

Medstar developed quantitative benchmarks built on historic demand trends. The regional authority determines call and transport volume based on the 20 year history of emergency activity. This data includes quantity as well as call severity and determines staffing and available resources for each hour. This creates a benchmark called “unit hour production” which is the level of support Medstar needs to meet emergency demand based on historic patterns plus two standard deviations. The system benchmark requires staffing needs are met for 90% of the unit hours. Additionally, Medstar measures a benchmark for personnel capacity which tracks whether the authority staffed the required paramedic and EMT personnel for active shifts. Again, the standard is 90% of all shifts experienced adequate staffing for these key, certified professionals. Granted, both benchmarks were developed internally as opposed to utilizing an industry standard. However, the measurements are sufficiently rigorous and would most likely meet or exceed the industry standard which remains in the developmental stage.

Table 5-8 on the following page summarizes unit hour production results for the 2012 and 2013 operational years. The regional authority exceeded overall staffing quantity standards

for shifts during both operational years. Again, Medstar determined staffing demand and needs based on hourly historical data. For example, predictive data indicated that Medstar would experience 230 transports for a 24 hour operation period reviewed by the author. The authority actually had 257 transports during that time frame but the system adapted by creating a production goal that included two standard deviations. This approach clearly deviates from standard urban fire based operations which staffs based on crisis level preparedness for each fire station.

Table 5-8 Medstar Unit Hour Production for 2012-2013

Results	2012	2013	Total
	Scheduled	Produced	Average
2012	209446	191887	92%
2013	218006	200149	92%
Total	427452	392036	92%

Question six/hypothesis six Question six probed whether met democratic accountability and transparency standards. Therefore, the evaluation included identifying which information categories are public and the forms of accountability and scrutiny Medstar officers potentially face. Medstar is a regional cooperative between 15 cities formally originated by an interlocal cooperative agreement. The chartered structure acts as a regional authority and a government jurisdiction lead by a board whose members are appointed by the partnering cities of the interlocal contract. The governing board performs several functions. First, it sets the overall policy direction and standards for the emergency medical care system as a region, not as individual cities. The board made the decision in 2004 to end the contract for ambulance services.

Overall, the Medstar governing model prioritizes transparency and accountability. A primary distinction between Medstar and other interlocal agreements is that the contract established a regional authority that actually remains directly accountable to the citizens it serves. Board meetings are open to the public and open with public comments. The authority posts the minutes for every meeting on the Medstar website (www.medstar911.org). The minutes include every aspect of the authorities' activities including policy decisions, monthly budget and financials, as well as operational activity with benchmarked results. Citizens and users have access to data and information needed to determine whether Medstar adequately serves their city and region (Zavadsky 2014). In fact, the transparency and information provided far exceeds the activities of other local governments in accessibility at the very least.

The monthly board report includes the following information:

Meetings/Decisions

The monthly reports highlight all decisions made by the governing board as well as how each member voted.

- Budget/Finance

Monthly reports include revenue and expense schedules itemized by accounts and sub-accounts but also including detailed information (including invoices and contracts) for large scale capital purchases such as equipment, vehicles, and software.

- Expenditures
- Revenue
- Performance/Operations

EMS performance based on industry accepted benchmarks are part of each report.

- Capital Plan
- Human Resources
- Service delivery quality

Question seven/hypothesis seven Question seven probed whether Medstar met equity standards by providing equalization of service delivery regardless the socioeconomic status of the partnering cities. This evaluation required the researcher to determine the overall socioeconomic status of the region and the cities under contract to determine whether the region included low income communities that would struggle with the provision of EMS services absent the Medstar partnership. The equity analysis modified the cluster analysis developed by Orfield (2002) to categorize American suburbs based on socioeconomic levels, tax capacity, and public revenue needs. Orfield's study placed the suburbs into five different clusters based on median income levels, property values, business valuations, school data, and crime statistics to argue that this municipality type was far more diverse than most people assumed. This reality supported Orfield's prevailing thesis that metropolitan regions must move toward some form of structural consolidation or regional governance to guarantee that all citizens receive quality government functions via shared tax revenue.

Table 5-9 Cluster Data for Medstar Cities

Jurisdiction	Population	Cluster	MHHI	Poverty	Health Care Coverage
United States	306,448,495		\$ 53,046	15.4%	85.0%
Texas	26,448,193		\$ 51,900	17.6%	77.2%
Tarrant County	1,809,034		\$ 56,853	15.2%	78.6%
Burleson	36,690	1	\$ 67,701.00	7.1%	86.8%
Edgecliff Village	2,776	1	\$ 67,045.00	10.1%	81.2%
Lakeside	1,307	1	\$ 76,328.00	3.7%	90.6%
Saginaw	19,806	1	\$ 73,696.00	6.3%	85.1%
Westover Hills	682	2	\$205,833.00	10.9%	94.7%
Haslet	1,517	3	\$ 93,188.00	2.7%	88.6%
Blue Mound	2,394	4	\$ 50,313.00	11.3%	76.7%
Forest Hill	12,355	4	\$ 42,685.00	22.9%	72.3%
Fort Worth	741,206	4	\$ 51,315.00	19.3%	76.0%
Haltom City	42,409	4	\$ 43,645.00	15.7%	70.0%
Lake Worth	4,584	4	\$ 46,913.00	7.9%	81.2%
River Oaks	7,427	4	\$ 45,768.00	15.0%	69.1%
Sansom Park	4,686	4	\$ 35,046.00	32.8%	62.4%
Westworth Village	2,472	4	\$ 48,036.00	12.5%	87.5%
White Settlement	16,116	4	\$ 38,244.00	23.1%	70.8%
Medstar Total	896,427				70.4%

Source: U.S. Census/American Communities 2014

Conversely, the purpose of creating a cluster analysis for this study was to determine whether voluntary regional cooperation could provide quality services to citizens from partnering cities regardless socioeconomic levels. The author created a new SPSS file comprised of the MHHI, poverty levels, and percentage of citizens with healthcare coverage for all fifteen Medstar partners. Table 5-9 on the previous page summarizes this data as well as the comparison of health care for each city compared to the average for the entire state of Texas. The overall health care coverage average for the Medstar region is 75.5% compared to 77.2%.

However, the regional structure provides balance as seven cities with significantly higher health care averages offset seven cities with low health care coverage. This is critical for the Medstar fiscal model as the authority relies strictly on user payments for revenue which replaces government funding or subsidies.

The process for question seven involved entering the data into SPSS 21.0 and running a cluster analysis by separating the group into three, four, and five clusters. The four cluster model provided the optimal separation given the number of partners. Thirteen of the cities were member of clusters 1 & 4 as Table 5-10 indicates. In fact, nine of the 15 partnering cities are members of cluster 4 which indicates the characteristics of these cities are most prominent in regional cooperative structure.

Table 5-10 Cases per Cluster

1	4.000
2	1.000
3	1.000
4	9.000
Valid	15.000

Table 5-11 on the following page summarizes the cluster membership for each city as well as the distance between clusters. Cluster one included Burleson, Edgecliff Village, Lakeside, and Saginaw. Westover Hills was the only member of cluster two while Haslet was the only city in cluster three. Cluster four was the largest cluster as mentioned previously and included Blue Mound, Forest Hill, Fort Worth, Haltom City, Lake Worth, River Oaks, Sansom Park, Westworth, and White Settlement.

Finally, Table 5-12 on the following page summarizes the average profile for each cluster based on the criteria categories. Cluster four, the cluster that includes nine of the partnering cities and 93% of the population Medstar services, is the only cluster where MHHI and health care coverage fall below the state average while also including a poverty level above the state average.

Table 5-11 Cluster Membership

Case Number	City	Cluster	Distance
1	Blue Mound	4	5650.222
2	Burleson	1	3491.500
3	EdgeCliff Village	1	4147.500
4	Forest Hill	4	1977.778
5	Fort Worth	4	6652.222
6	Haltom City	4	1017.778
7	Haslet	3	.000
8	Lakeside	1	5135.500
9	Lake Worth	4	2250.222
10	River Oaks	4	1105.222
11	Saginaw	1	2503.500
12	Sansom Park	4	9616.778
13	Westworth Village	4	3373.222
14	Westover Hills	2	.000
15	White Settlement	4	6418.778
16		.	.

The remaining six partners balance these deficits with the average for MHHI and coverage well above state average and poverty levels well below the state average of 17.5%. This profile of the partners reveals a balancing affect where cities with adequate or high tax capacity offset municipalities with low tax capacity. Additionally, the cluster results indicated

that a regional cooperative structure could maintain sustainability even when well over half of the partnering cities fell under lower-income categories.

Table 5-12 Final Cluster Centers

	Cluster			
	1	2	3	4
MHHI	71192.50	205833.00	93188.00	44662.78
Poverty	.07	.11	.03	.18
HealthCare	.86	.95	.89	.74

Do the cities with lower socioeconomic bases receive effective ambulance service?

Response times for the cities of Forest Hill, Fort Worth, and White Settlement were above the benchmark goal of 90% on-time calls while the response for remaining six cities fell below the standard as indicated by *Table 5-13*. The overall P1 response time average was 90% of all responses which met the exact benchmark.

Table 5-13 High Priority Response Times for Cluster Four

2013	Calls Met
Blue Mound	85.7%
Forest Hill	92.6%
Fort Worth	90.0%
Haltom City	84.1%
Lake Worth	84.3%
River Oaks	87.4%
Sansom Park	85.4%
Westworth Village	86.9%
White Settlement	92.3%

Total	89.8%
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Evaluation of Findings/Discussion

The case study measured quantitative outcomes for efficiency, effectiveness, and transparency/accountability. The results of the Medstar study indicate that partnering cities essentially experienced these benefits. This section evaluates the study findings as it relates to the literature while discussing how the regional authority's operational processes achieved identified benchmarks.

Efficiency The evaluation of EMS cost, process, and scale indicated that Medstar afforded clients greater efficiencies in EMS than each unit could experience individually regardless population or socioeconomic class of citizens. This brief summary of the findings for each measure addresses how and why the authority provided greater efficiency.

Cost Reduction The experimental cities partnering with Medstar enjoyed the provision of EMS at a significant cost reduction. Indeed, the taxpayers for each client city have not paid a subsidy or any contribution toward EMS services since 2009. Conversely, the control cities of Dallas and Pilot Point provided EMS bureaus with large budgets while Waxahachie paid a subsidy to a private contractor.

These results remained consistent with existing literature and previous studies. Local government leaders responding to the Tees, Cole, and Searcy (1989, 1995) studies identified costs savings as a primary efficiency that interlocal contracts yielded as did a large majority of city managers participating in the survey from this study. Holzer, Sadeghi, and Schwester (2007) determined that interlocal agreements reduced the cost to New Jersey cities for both

provision of public safety units and infrastructure projects such as bridges. Thurmaier and Wood (2004) also found savings due to intergovernmental contracts.

Process Efficiency Measures-UHU, Unit Cost, and duplication The case study included an evaluation of the efficiency levels achieved by the Medstar regional structure. This section focused on the regional authority solely as opposed to comparing the experimental and control jurisdictions for two reasons. First, while the participating cities that comprise the regional authority clearly experienced efficient EMS provision, the authority must leverage process efficiencies to maintain unsubsidized operations. Second, the literature clearly identified efficiency as both a regional and cooperative benefit. These sections utilized unit hour utilization, cost per transport/call, and duplication of service to measure and evaluate the efficiency question and test the hypothesis.

The unit hour utilization measures efficiency for EMS providers. The optimal rate falls within the 35-40% range. This level indicates the bureau or contractor receives an adequate amount of activity based on resources and is practicing efficient use of assets. However, this level also indicates that the service is not straining resources which could lead personnel and an increase in ambulance repairs and replacement. The Medstar system achieved a 40% UHU rate for the two year period from 2012-2013 which indicates optimal efficiency for that period.

Additionally, the analysis of cost per transport/call determined that Medstar achieved economies of scale based on reduced cost per unit of activity. This measure was difficult to compare with other EMS agencies or bureaus given Medstar's intuitive software that reduces transports and the operational status of the regional authority as a wholly operational business entity compared to bureaus whose sole function is EMS provision. With that said, the regional

authority actually produced positive revenue for 2012-2013 as well as reducing per unit costs compared to Dallas EMS.

Finally, the authority clearly eliminated service duplication. Medstar replaced EMS agencies for fifteen cities of various population and socioeconomic levels with one regional jurisdiction. This afforded partnering cities the opportunity to focus tax revenue and public resources on other priorities.

These findings are consistent with literature (Tees, Coles, and Searcy 1995, Thurmaier and Wood, 2004) that argues interlocal contracts provide more efficient provision of government goods and services. Tees, Cole, and Searcy found that contracting yielded greater efficiencies and eliminated service duplication as did the survey of City managers from this project. However, the 1995 study found a positive correlation between the population of a jurisdiction and efficiency as larger units were more likely to contract for efficiency goals and actually experience said goals. This study found cities of all population categories experienced more efficient operations. Additionally, regional literature (Boadway and Shah 2009; Carr and Feiock 2004; O'Sullivan 2007) posits that regional governments achieve greater operational efficiency by eliminating duplication and leveraging scalable assets. However, studies (Carr and Feiock 2007) have challenged the efficiency claims.

How does the regional structure contribute to Medstar's operational efficacy? The regional operation affords partnering cities flexibility in emergency response preparedness. For example, Medstar ambulances enjoy geographic flexibility as units are not limited by location like fire based department ambulances that remain parked in a fire station waiting for a call. Conversely, the Medstar response system, Marvilis (Zavadsky 2014), positions ambulances in

mall parking lots based on historic demand trends. The software package analyzes up to twenty years of emergency response data to determine optimal locations for timely response. Most importantly, the regional authority and its client cities enjoy the flexibility of maintain ambulance utility based on demand coverage. For example, the typical operational day involves deploying ambulances within the Fort Worth loop during work hours and moving coverage outside the loop during the heavy traffic hours after 5:00. This approach yields an efficient process that also prioritizes and achieves effectiveness goals. The traditional fire-based bureau model could not maintain these standards without increasing the number of fire stations which cost \$1 million to build while requiring additional staffing and training (Zavadsky 2014).

Most importantly, this operational approach effectively serves cities that either do not possess the resources to manage an EMS bureau or cannot effectively meet emergency response needs absent a mutual aid agreement. The regional approach develops a flexible response that deploys available ambulances to partnering cities experiencing emergency situations.

Additionally, Medstar can deploy adequate response as needed while maintaining an active fleet for pending emergencies. For example, the city of Burleson could afford to purchase and maintain three ALS units if it decided to create a fire based EMS bureau to serve citizens of Burleson. A significant, mass-casualty emergency could quickly deplete the bureau leaving citizens vulnerable if additional events occurred. Conversely, the regional cooperative model can deploy as needed with resources available for other emergencies.

Effectiveness-Response Time, UHU, and Staffing Productivity The effectiveness hypothesis held that Medstar could maintain effective EMS provision that met industry standards while operation with greater efficiency than fire based units or private contractors. Given this inquiry, the study utilized three measures to evaluate Medstar effectiveness. The EMS industry

and literature (cite) prioritizes the benchmarks of emergency response time, staffing productivity, and maximizing resources as measured by UHU to determine whether an EMS provider provides effective service.

Overall, response for the entire regional authority exceeded the industry standard for all calls and for high priority (P1) calls. Fort Worth, the central city for the study, experienced similar results as response time for all calls exceeded standards while high priority calls met the standard. However, results for the remaining experimental cities were mixed and high priority calls fell well below the industry standard.

With that said, the remaining effectiveness measures indicated operational effectiveness. The staffing productivity measure determined that Medstar met or surpassed its unit hour staffing standards (which exceed industry standard) while the UHU fell within the optimal range which indicated that Medstar staffed adequately to meet emergency demand while also limiting staff exposure to injury and burnout as well as reducing the likelihood of ambulance repair or replacement.

Like efficiency, these findings support contracting literature and studies that argue formal intergovernmental agreements enhance the effectiveness of public services. Texas municipalities reported that interlocal agreements increased service quality and effectiveness (Tees, Cole, and Searcy 1995, Sullivan 2014). Thurmaier and Wood (2004) also found that agreements increased effectiveness in their study of Kansas City jurisdictions. Again, the overall effectiveness flows from Medstar's ability to deploy resources based on historic response trends. The authority's system utilizes the trends to determine demand coverage. IAFF standards note that EMS providers should practice geographic coverage that positions ambulances to meet

response time standards of 9 minutes or better. This typically requires agencies to purchase more ambulances as well as hire and train additional personnel. Conversely, demand coverage positions ambulances within 7 minutes of historic “hot spots” based on previous data.

Granted, both regional and intergovernmental literature notes the efficiency and effectiveness benefits contracting yields. The scholarly critiques address the two remaining questions and hypotheses pairings. These question the equitable and democratic aspects of contracting.

Accountability/Transparency The democratic hypothesis held that Medstar and interlocal contracts would maintain democratic levels of transparency and public accountability. The authority clearly adheres to government transparency mandates. A regional authority is clearly distinct from a fire based EMS bureau where local elected officials maintain responsibility for service quality or hire the city manager with direct responsibility. However, Medstar does have two distinctions from this model. First, Medstar is a regional jurisdiction which includes partnering cities and their citizens geographically. Additionally, the board is comprised of city council members from each partner which means that officials whose electoral fortunes are tied to constituents within the city they represent play a direct role in Medstar governance.

With that said, does the Medstar regional structure eliminate accountability concerns? The literature (Cole 2010; Thurmaier and Wood 2004) specifically identifies the inability of voters to enjoy direct democratic control over a government outside of their jurisdiction that provides a service. This evaluation presents a mixed response to the hypothesis as citizens can directly impact the future of elected officials developing policy for the regional authority much like the council manager structure but the relationship could endure.

Equity/Equalization of Service Quality The final hypothesis countered regional literature by holding that interlocal cooperation yielded the equitable provision of public goods and services or equalization of government function quality. The study results found that cities comprised of a population with low socioeconomic standing (median income, poverty rate, and health care coverage) received the same EMS provision quality as cities with high socioeconomic standing. Indeed, cities with struggling populations such as Forest Hill, Sansom Park, and White Settlement received the same high quality ambulance response based on effectiveness benchmarks as higher income cities like Haslet, Lakeside, and Westover Hills. Additionally, citizens of Fort Worth, a major urban central city, received the same quality EMS service. Additionally, the regional structure provided EMS delivery to low socioeconomic, suburbs on the urban fringe, and rural towns. These municipal categories typically struggle with the provision of government functions that Orfield consider essential yet voluntary regional cooperation afforded these jurisdictions an effective, sustainable model.

These findings do not support established regional literature that critiques intergovernmental cooperation as a transactional strategy that masks equity and poverty issues that only structural reform can remedy (Rusk 1999). Orfield (2002) argues that urban MSA's include struggling central cities and aging, at-risk suburbs all struck by middle class flight to the metropolitan fringe. While this reality adheres to and supports the Tiebout (1956) competitive model of citizen mobility, middle class flight also strips these jurisdictions of tax dollars needed to fund essential and basic government functions that Orfield argues are basic to all people. Given the essential nature of services such as public safety, libraries, education, and infrastructure, regional literature (Rusk 1999, Savitch and Vogel 2004) argues that all citizens should enjoy a certain level of quality in all of these functions. Additionally, Orfield notes

lower class cities face additional challenges such as higher crime rates and failing school districts. Therefore, he prescribes a tax/revenue sharing structure like the Minneapolis-St Paul model or a regional structure where one metro government collects all tax revenue and provides essential government functions equally to all citizens regardless socioeconomic status.

While regional scholars consider cooperation to be a merely transactional, the Medstar structure equalizes EMS provision for all partnering cities regardless wealth or affluence levels. The formal relationship between the fifteen cities accomplishes the revenue sharing envisioned by Orfield. The regional authority provides effective ambulance to cities such as Forest Hill and Sansom Park that cannot generate sufficient tax revenue for the provision of their own fire based bureau.

Summary

Chapter five included a case study comprised of a policy evaluation of quantitative and qualitative criteria. The study tested the hypotheses developed for the variables of efficiency, effectiveness, accountability, and equity or equalization. This study contributed to the overall project by complementing the generalized findings of chapter 4 and the city manager survey with a narrow evaluation of the results of one interlocal contracting partnership.

The chosen agreement was Medstar, the regional ambulance authority in Tarrant County which provides ambulance service to fifteen partnering cities of various population sizes and socioeconomic levels. The chapter included a summary explaining why the researcher chose EMS, a brief history of EMS services in America as well as current challenges and opportunities facing the industry, and a summary of the Medstar system.

The study utilized two methodologies in data retrieval and evaluation. The quantitative evaluation developed from the analysis of public documents and archival data such as fiscal reports, budget reports, monthly reports, annual reports, and five year plans. The qualitative analysis and contextual foundation flowed from informal interviews of city managers, EMS bureau chiefs, public affairs officers, and budget officers.

The evaluation of each variable included measures of several sub-variables, an explanation of the measures, and the results. The evaluation of the efficiency of the Medstar system included a determination of whether the regional agreement reduced the cost of EMS provisions for experimental cities compared to control cities that either utilized a fire based bureau or an agreement with a private contractor. Additionally, the efficiency evaluation compared the cost per call between Medstar and the control cities as well determining whether the regional system met the optimal unit hour utilization as determined by industry standards. Medstar met or exceeded each standard.

The evaluation of effectiveness included a determination of whether Medstar met or exceeded response time standards for the entire system as well as the experimental cities established by the EMS industry. Additionally, this section included an evaluation of staffing productivity and unit hour utilization. The regional authority met or exceeded each standard save response time results for one city.

The accountability and transparency section included a more qualitative analysis of the open nature of information and data sharing by Medstar. The authority clearly practiced transparency but democratic accountability finding remained mixed. The equity/equalization section included a quantitative comparison of socioeconomic levels of the partnering cities. The

findings held that Medstar indeed equalized service quality regardless the socioeconomic status of a city.

These findings found mixed support from literature. Cooperative literature (Tees, Cole and Searcy 1995; Thurmaier and Wood 2004) has consistently found that intergovernmental agreements have yielded more efficient and effective government performance. However, literature critiques interlocal contracts as a structure that fails to provide government transparency and accountability (Cole 2010) as well as equity (Orfield 2002; Rusk 1999). The findings from chapter five somewhat countered the first critique while determining that an interlocal contract can indeed counter the second critique.

Chapter 6

Implications, Recommendations, And Conclusions

Introduction

Texas cities and local governments face increasing service provision demand due to a growing diverse population coupled with decreased funding. These realities mandate developing innovative solutions that create greater efficiencies while maintaining effective government functions. Additionally, many new challenges facing Texas cities and municipalities are regional in nature and require cooperative relationships among local jurisdictions. Interlocal contracting remains a prevalent example of regional cooperation and partnering practiced by Texas governments. The practice dates back well over a century (Ray 1970) and has grown significantly since the state legislature passed the Texas Cooperation Act of 1970 (Ray 1970; Tees, Cole and Searcy 1995). Previous research on interlocal contracting has examined the nature and frequency of contracting but has yet to examine whether the practice has yielded the benefits of regionalism and nurtured cooperative relationships for partnering cities.

The study employed a mixed method research methodology that included a survey of Texas city managers followed by a case study of the Medstar regional EMS system. While the case study is typically labeled as a qualitative methodology (Yin 2009), the case study for this project included an evaluation of quantitative data to determine service outcomes. The purpose of the survey was to compare results to the 1994 study of interlocal contracting behavior and results among Texas local jurisdictions by Tees, Cole, and Searcy (1994) as well as measure respondents perceptions regarding contracting (a) participation, (b) effectiveness, (c) efficiency, (d) accountability to the public, (e) challenges, (f) government functions subject to contracting,

(g) overall satisfaction levels, and (h) contracting priorities as well as to determine if city manager responses varied according to (i) city type, (j) city median household income, (k) city population, and (l) city region. The purpose of the case study was to evaluate whether the Medstar regional ambulance authority was a successful policy decision based on the following criteria: (a) efficiency, (b) effectiveness, (c) accountability/transparency, and (d) equity/equalization of services.

The research framework included limitation like any narrow research question. This study measured and analyzes how interlocal contracting activity in Texas achieved functional consolidation or regionalism by surveying city managers. Morgan and Hirlinger (1991) determined that the presence of city managers increases the probability of interlocal agreements and regional cooperation. While this theoretical finding holds research opportunities, this project strictly targeted city managers which eliminated this category as an independent variable. This study also faced the limitations of bias as findings rested on the experiences of responding city managers. With that said, this project could certainly benefit from diverse professional perspectives such as those of IGR staff employed by cities or elected officials such as mayors or city council members. However, the narrow approach provided an opportunity to evaluate cities utilizing the council-manager structure and focus on contracting among professional administrators who possess leadership in managing public resources and assets for a jurisdiction.

Regarding diversity, Tees, Cole, and Searcy (1995) surveyed local government units at all levels including cities, counties, and regional councils or councils on government. Each jurisdictional level participates in contracting. This approach yielded rich data that compared contractual roles, priorities, and needs among the jurisdictional levels. However, the theoretical

model of this study involved measuring how contracting yields regional cooperation. Counties and regional councils engage in regional coordination and collaboration as part of their structure and duties. Cities provide a lab for evaluating how contracts lead to regional cooperation.

Finally, the study developed a foundation for future studies that would have benefited this study. Specifically, a narrower focus on interlocal cooperation among Texas suburbs measuring the impact from a larger population of variables could provide valuable findings. Orfield (2002) considered the potential benefits of regional government for the 25 largest American metropolitan regions. He utilized cluster analysis to categorize suburbs based on socioeconomic data and tax burden capacity. This examination would certainly bolster the findings of this study.

Chapter 6 discusses the implications for the study as well as conclusions for each research question. The chapter proceeds to analyze the policy implications of the study for the participating cities and Texas local governments in general. Policy recommendations flow from the implications of the findings. The chapter concludes with a summary of the findings.

Implications

Research question one/hypothesis one Overall participation has risen significantly from 77% of all responding cities in 1994 to 86% in 2014. Smaller cities had a significant increase in contracting while medium sized dropped slightly and large cities were essentially stable. This speaks to the increasing attractiveness of the option but also perhaps to the increasing urbanization (Potter 2005, Gaines 2010) of Texas. Additionally, the councils of governments in Texas increasingly encourage and develop contracting relationships (Mercer 2011; Thurmaier and Wood 2004).

Contracting jurisdictions increasingly prioritize reducing provision costs which is summarized in question three. The majority of contracting cities are pursuing greater efficiency to better manage escalating costs and reduced revenue. The focus on saving money counters previous studies which identified broader goals (Tees, Cole, and Searcy 1995) or greater networking and cooperation as the primary objective (Thurmaier and Wood 2004).

The logistic regression of city type found that the variable was a significant predictor of contracting participation as the result of .014 was below the significant statistic level which would reject the null hypothesis. However, the full model found no statistical significance for any independent variable. Morgan and Hirlinger (1991) noted the importance of city managers to the furtherance contracting participation. Results indicated most Texas city managers contract although the study did not compare to mayor-council cities with no manager.

Research question two/hypothesis two City managers responding to the survey were satisfied with their contracting experience. The mean score calculated for satisfaction of 5.68 supported this conclusion. This section covers overall satisfaction only as question three addressed the benefits.

The satisfaction results included differences based on city type, population, income, and region. City managers for suburbs had the highest level of satisfaction at 5.92 while managers of central cities were next at 5.89. The satisfaction level for rural manager was 5.53. Regarding population, managers of cities with population rates above 100,000 was highest at 6.25 while cities between 50,000 and 100,000 were at 6. The managers of units with smaller populations had much lower levels of satisfaction with those serving cities with population between 25,000-49,999 having the lowest at 5.5 while those with populations between 5000-25000 was at 5.69

and those below 5000 at 5.6. While the findings included differences among means, the analytic Results model had little interactive effects a .054 and none of the variable were statistically significant.

Previous literature did not directly address overall contracting satisfaction. However, Thurmaier and Wood (2004) did find satisfaction among local officials in Kansas City that interlocal agreements had facilitated greater regional networking and cooperation. Additionally, Holzer, Sadeghi, and Schwester (2007) found administrators were satisfied that shared service arrangements had saved money.

Research question three/hypothesis three This study entered new territory in examining regional benefits cities experience due to interlocal contracting activity. Table 3 provides mean results for each regional benefit. A mean average of 4 indicates that respondents were “satisfied” that interlocal contracting provided said benefit with 5 representing “very satisfied” that benefits occurred. The table includes the categories of efficiency and effectiveness while also summarizing mean results for benefits that fall under either category such as eliminating service duplication, achieving scalable economies, or decreasing uncertainty of service delivery. Cooperation is also a category.

Overall, respondents are satisfied that partnering for goods and services have provided regional benefits. The results indicate that Texas city managers agree that their city or town experiences said benefits via formal agreements save “decreased uncertainty of service delivery” with a mean at 3.77. Reducing unit costs had the highest overall mean at 4.17.

The suburban responses yielded interesting results. The overall interlocal contracting results for suburbs is not terribly distinct from the other city types and remains close to the

average mean. The mean eclipses the satisfactory barrier in every category save eliminating duplication (3.97), decreasing uncertainty of service provision (3.62), and enhancing cooperation (3.97). Suburban city managers produced the lowest responses for these categories as well as the lowest overall mean for decreased uncertainty. Conversely, suburban city managers had the highest response for reduced unit costs (4.27). Overall, suburban means fell below the average mean in 5 of 7 categories.

Overall, the mean was above 4 in all categories save decreased uncertainty. Central city managers had the highest means for both efficiency and effectiveness both at 4.55 while the efficiency subcategories were between 4.12-4.22 and decreased uncertainty at 4.25. Rural town managers had lowest mean for efficiency, cost reduction, and scale.

Again, the survey of contracting benefits expanded beyond previous studies. The *Durable Partnerships* study found examples of the benefits such as reduced cost, elimination of service duplication, and effective service deliver. However, this inquiry flowed from open ended questions which asked administrator to provide examples as opposed to a Likert scale question. Additionally, both regional (Orfield 2002, Rusk 1999) and consolidated literature (Savitch and Vogel 2004) supports the existence of these benefits while there are challenges.

Research question four/hypothesis four The regional interlocal contract increased efficiency by eliminating the cost of EMS provision for partnering cities, maintaining an efficient operation based on UHU, removing service duplication, and reducing cost per transport while also generating a profit per transport. Cities partnering with the Medstar system had not contributed financially to the provision of the EMS system since 2009. This coupled with the elimination of service duplication removed the burden faced by these cities for developing and

maintaining effective emergency response. The fifteen cities can focus on other issues involving the provision of government functions.

Contracting and regional literature supports efficiency as cooperative benefit (Tees, Cole & Searcy 1994, Thurmaier and Wood 2004, Orfield 2002, Rusk 1999). Thurmaier and Wood (2004) found that most surveyed local officials believed the practice saved money while Holzer, Sadeghi, and Schwester (2007) provided infrastructure examples and Tees, Cole, and Searcy (1994) found several examples of savings from contracts for service provision. However, the complicating reality from these studies is that the studies utilized survey methodology to identify said findings while this study found quantitative data support claims of cost reduction.

Research question five/hypothesis five The evaluation criteria indicated contracted functions can meet or exceed effectiveness standards even when reducing service costs and achieving operational efficiencies. For example, response times for the entire region over the two year period from 2012-2013 exceeded industry standard as Medstar ambulance arrived within industry prescribed time for 92% of all calls and service for Fort Worth and Burleson met the standard. However, service for Haslet was at 83%. Reduced volume might explain this exception.

With that said, response times for red light or high priority (p1) calls had mixed results. Again, the system as a whole exceeded standards as did service to Fort Worth. However, high priority calls to Burleson met industry standard response times 83% of the time while Haslet was at 80%.

Additionally, UHU was also an effectiveness measure as agencies or bureaus exceeding 45% UHU increase the risk of emergency personnel injuries or burnout, resource depletion or

replacement, and excess strain that could damage the agencies' ability to operate effectively. Conversely, Medstar had a two year UHU standard of 40% which is optimal for maintaining operation effectiveness.

Medstar also met staffing effectiveness standards. The regional authority created staffing standards and policies exceeding industry standards. Medstar reporting indicated meeting or achieving staffing demands for the two year period from 2012-2013 for 92% of all scheduled shifts.

Like efficiency, literature (Tees, Cole & Searcy 1994; Thurmaier and Wood 2004; Orfield 2002; Rusk 1999) supports effectiveness as cooperative benefit. However, studies typically evaluate the money saving potential of contracting as opposed to enhancing service quality.

Research question six/hypothesis six The results found that Medstar prioritized and met transparency expectations. Interviews with Matt Zavadsky highlighted how the authority structure promoted transparency and the easy access citizens have to spending, financial, personnel, and performance standards for Medstar.

The regional structure developed via an interlocal agreement also elevates public accountability. City council members from each partnering city serve on Medstar's board. Therefore, citizens could directly remove Medstar leadership. Citizens can also appear before board meetings. However, the structure still lacks a direct democratic accountability.

This does not support literature which argues that interlocal contracting weakened accountability and transparency. Regional literature also argues that the regional model enhances transparency and reduces corruption (Rusk 1990).

Research question seven/hypothesis seven The regional authority provided equity and equalization of EMS services. This question separated the partnering cities by MHHI, poverty rate, and health care coverage. Seven cities had MHHI averages below state average, four had poverty rates above state average, and four had at risk health care coverage. Three cities fell into all three at-risk categories. The cluster analysis separated the cities into four groups with nine cities comprising the most economically challenged cluster. With that said, the six cities that served citizens with higher socioeconomic standing and a larger percentage of health care coverage clearly offset these deficits as the authority provided effective service at no cost to partnering cities. Additionally, all at-risk cities received same level of service as high socioeconomic cities including the urban center, Fort Worth.

Regional literature (Orfield 2002) clearly argues that cooperation is merely transactional and only masks the need for structural reform. This reform model is built on shared tax revenue across a metropolitan region which would achieve equalized service quality. However, Medstar achieved high quality services for all cities including those with at-risk populations. Indeed, the model integrates the revenue/resource sharing model espoused by Orfield as the agreement balances health care coverage for the region under service. This brings the percentage of population covered by health insurance in line with the state average which provides a much needed source of revenue for Medstar. The region now has a sufficient number of citizens with health insurance that can pay for ambulance services and can offset indigent or low income

patients. The at-risk cities would struggle with providing quality EMS care absent the regional model.

Policy Recommendations

The study results spurred the researcher to make policy recommendations for Texas cities and local jurisdictions. The policy recommendations address a) suggestions for Texas cities and towns in general, b) whether the regional cooperative approach should become more prevalent, and c) future research topics that build upon the findings from this study.

Texas cities and towns The study results clearly confirmed that the contracting experience for municipalities have been successful. Therefore, the author recommends continued contracting activity between local jurisdictions. Additionally, the scope, scale, and number of contracts have increased since 1994 so the recommendation would not necessarily include increasing the number of contracts or the service and functions subject to contracts. However, cities should include service delivery effectiveness as a priority on the same level as efficiency since study findings indicated that intergovernmental agreements contributed to higher quality government functions.

While an obvious suggestion would be to encourage cities without contracts to investigate the process, the primary explanation for lack of contracting activity was remoteness of location. Therefore, the primary barrier remains geography for these governing units. However, the COGs for regions with decreased population density such as west Texas and the panhandle have contracted with smaller towns in remote locations to provide professional services such as city management (Pitner 2011). One recommendation would involve investigating these arrangements further.

The Regional Contracting Model Given the research focus on regionalism, the question of whether regional structures such as the Tarrant County regional authority would be a preferable contracting model as opposed to agreements between two governments. Indeed, 47% of city managers responded that their county was the primary contracting partner with 43% indicating that the county was also their preferred partner (see Chart 6-1 **Most Frequent Contracting Partner**). In fact, 62% responded that a regional partner (county, COG, or special district) was the primary contracting partner with 54% listing a regional partner as the preferred option. Granted, these findings do not indicate if these relationships involved multiple contracting partners. Additionally, the Tarrant County EMS authority provided effective emergency response services to fifteen cities including nine municipalities with a struggling tax base.

Given these findings, should local jurisdictions pursue multi-partner regional relationships that adopted the Medstar model? According to the case study findings, the regional approach could yield regional benefits, solve equity issues by sharing service cost, eliminate transparency concerns created by special districts, and enhance networking among jurisdictional neighbors. The researcher opined that central cities should spearhead the discussion and process much like Fort Worth did for Medstar. Additionally, counties and COG's should increasingly consider and promote the regional structure.

How does the Medstar model prove instructive? The fifteen city EMS district created a socioeconomic balance between members. This is especially crucial since Medstar relies upon a user paid revenue approach. The partnership balances the needs of lower income cities. Could other urban regions in Texas replicate these results? Table 6-1 on page 182 provides a summary of the characteristics for the most populous Texas counties. Tarrant County has perhaps the

second most affluent profile behind only Travis County. It would be interesting to evaluate whether the other counties could find the right mix if partnering cities.

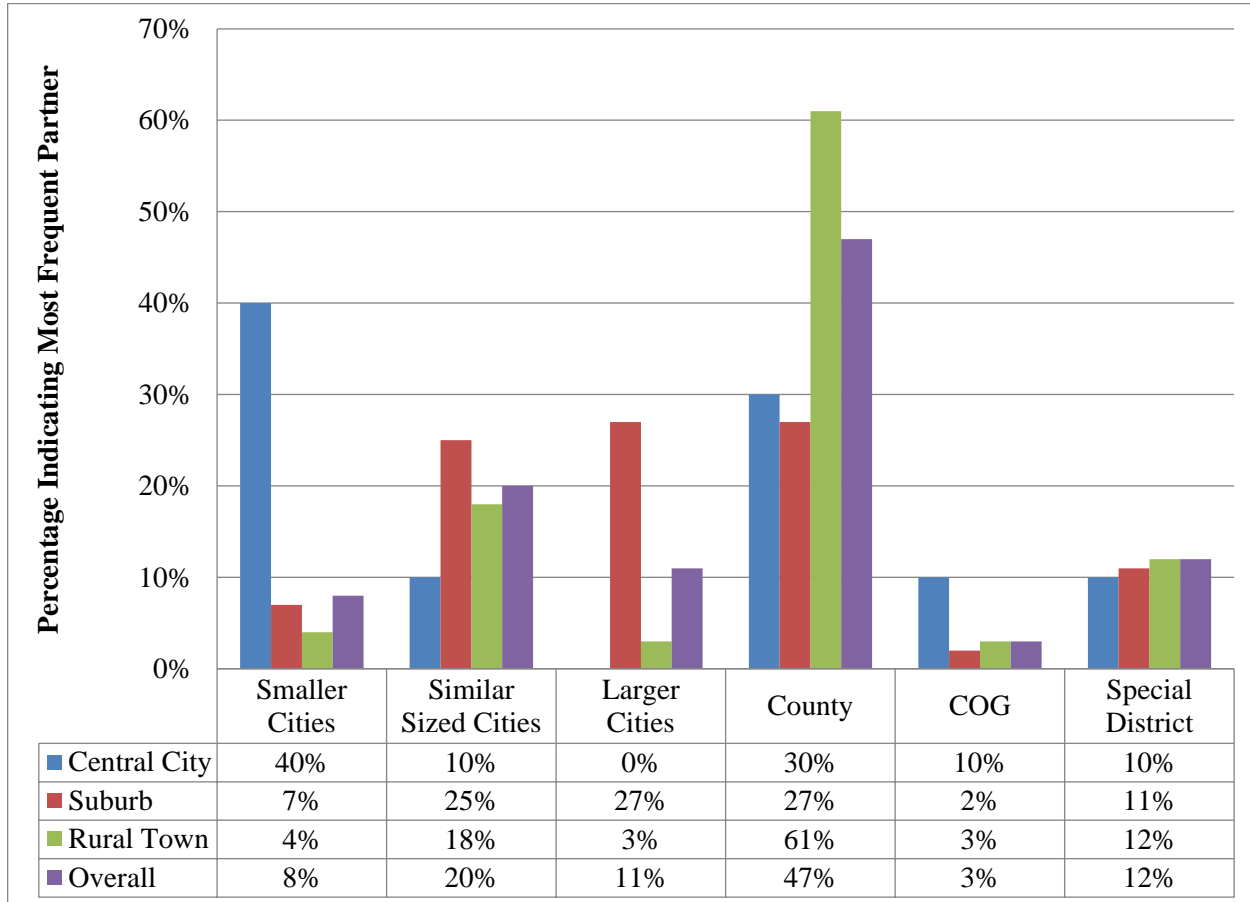


Chart 6-1 Most Frequent Contracting Partner

Finally, how can state and local leaders increase contracting frequency and improve the effectiveness of interlocal agreements and their implementation? What are the policy implications? The proper response may well reside in financial incentives. States such as New York and New Jersey initiated competitive grant programs that fund feasibility studies or defray implementation and start-up costs (Holzer, Sadeghi, and Schwester 2007). The state of Texas should analyze the long-term benefits of incentive policy.

The effective collection and dissemination of communication among local political subdivisions provides affordable shared service empowerment. Texas previously had a center dedicated to archiving active contracts, advising local administrators and elected officials, and monitoring performance (Tees 2011; Stanford 2011). Reviving this approach could benefit the state and save money. Local entities could benefit from cost/benefit analyses, modeling successful examples, and the development of a performance measurement tool that includes a citizen feedback and other efficiency measures. The National Center for Public Performance at Rutgers University provides these tools for New Jersey municipalities (Holzer, Sadeghi, and Schwester 2007).

Table 6-1 Socioeconomic Characteristics for Texas Counties

Jurisdiction	MHHI	Poverty	Health Care Coverage
United States	\$ 53,046.00	15.4%	85.0%
Texas	\$ 51,900.00	17.6%	77.2%
Dallas County	\$ 49,481.00	19.1%	72.2%
Harris County	\$ 53,137.00	18.5%	73.8%
Tarrant County	\$ 56,853.00	15.2%	78.6%
Travis County	\$ 58,025.00	17.4%	80.1%

Granted, Texas may well possess the network infrastructure in the form of groups such as the Texas Municipal league, the Texas Association of Regional Councils, the regional councils, and the Texas Association of Counties. These organizations and institutions exist to nurture cooperation and coordination among local governments. Additionally, contracting has become an accepted business model for numerous Texas governments. However, the opportunity for improving the process and sharing of ideas still exists.

Future Research The study findings developed a framework for future research in the area of regional cooperation. Some of the possibilities were mentioned in the paper. For example, this project surveyed city managers regarding the nature of interlocal contracting. A project examining the influence of the city manager by comparing contracting activity between Texas cities with the council manager form of municipal government to the mayor council form could measure the findings of Morgan and Hirlinger (1991). Of course, the model could easily be replicated in other states to develop a comparison of cooperative activity among local government from various states.

The study findings indicated that city managers were satisfied with contracting as a transaction for saving money and providing more effective service delivery. However, it would provide valuable to compare contracting use to other forms cooperation such as special districts, tax incremental financing, annexation, and consolidation. Furthermore, comparing the practice of contracting and perhaps the other forms of cooperation to the practice privatization could provide a beneficial analysis of the public/private options. The methodology and questions could be similar to this study in probing participation, frequency, priorities, benefits, etc.

Finally, research should focus on suburbs and their contracting activity. An evaluation of the large metropolitan regions utilizing the Orfield cluster model or the one developed for this study that clusters suburbs according to socioeconomic and other data would certainly yield valuable insights regarding the status of Texas suburbs, their contracting priorities, and the attitudes of officials and administrators regarding regional cooperation. Of course, this could develop a model for exploring the adaptability of regional models such as Medstar.

Conclusions

Chapter 6 included the policy and scholarly implications of the study findings, policy recommendations based on the findings, and future research built on this study. Texas cities face increasing demand for government functions with reduced revenue sources. Municipalities historically turned to cooperative and innovative options for increasing the efficiency of service provision and enhancing service quality. Interlocal contracting is a heavily utilized option among Texas cities and other local government jurisdictions. However, research of the practice in Texas was lacking over the past twenty years in the areas of contracting (a) participation, (b) effectiveness, (c) efficiency, (d) accountability to the public, (e) challenges, (f) government functions subject to contracting, (g) overall satisfaction levels, and (h) contracting priorities as well as to determine if city manager responses varied according to (i) city type, (j) city median household income, (k) city population, and (l) city region. Additionally, studies had yet to address the charge from regional literature () that cooperative agreements achieved equity/equalization of public services as well as democratic accountability and transparency. Finally, a study had yet to materialize that evaluated one ILC created regional authority via this criteria.

Contracting participation has increased among Texas cities since 1994 (Tees, Cole, and Searcy 1994). This study added to the research regarding contracting participation, use, and priorities. The findings were supported by literature that found contracting activity among cities (Tees, Cole, and Searcy 1994).

City managers were satisfied with their contracting activity. The study addressed overall satisfaction which did not have precedent in literature. The findings were supported by more specific examinations of satisfaction (Tees, Cole, and Searcy 1995; Holzer, Sadeghi, and Schwester 2007; Thurmaier and Wood 2004).

City managers were satisfied that contracting yielded the benefits of regionalism. The practice provided operation efficiency and more effective service delivery. This study added to the research regarding contracting benefits.

Case study evaluation findings indicated that a regional contract for EMS delivery delivered operational efficiency by reducing cost of provision among partnering cities, enhancing resource utilization, eliminating service duplication, and providing net profit per transport. This study added to the research regarding efficiency. Literature supported these findings.

The evaluation findings also indicated that the regional authority delivered effective service provision by maintaining industry standard response time, staffing, and resource utilization. This study added to the research regarding effectiveness and was supported by literature.

The evaluation findings also indicated that the regional authority maintained transparent and accountable operations. The authority also provided equity in service delivery. This study countered literature examining these aspects of contracting and cooperation. Interlocal contracting literature challenges the democratic transparency and accountability aspect of contracting while regional literature argues that cooperative agreements are merely transactional substitutes for needed structural reform.

The chapter concluded with policy recommendations and suggestions for future research. The researcher recommended that contracting continue between cities and other local jurisdictions. However, the suggestion included increased emphasis on service delivery effectiveness and investigating multi-party, regional partnerships.

Future research should focus on developing a model of Texas metropolitan regions and suburbs based on socioeconomic data. The model would categorize Texas cities and suburbs based on the criteria and determine contracting activity, feasibility of increased activity as well as the feasibility of developing a regional contracting model that replicates the Medstar model.

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