A regional approach: city-county consolidation as a method of local governmental reorganization

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AN ABSTRACT OF THE THESIS of Anthony Gene White for the
Master of Science in Political Science presented December 15, 1971.

Title: A Regional Scope: City-County Consolidation as a
Method of Local Governmental Reorganization.

APPROVED BY MEMBERS OF THE THESIS COMMITTEE:

Dr. Burton W. Onstine, Chairman

Merle G. Wright

Dr. London R. Musolf

Dr. Leonard D. Cain

City-county consolidated governments are examined to
isolate factors important to the success of the consolidation
process, and are measured against objective and subjective
criteria for the operation of such governments. Data are ob-
tained through survey techniques and statistical analysis of
demographic information. Results indicate that such success-
oriented consolidation factors inherent in city-county
governments do exist and can be interrelated in a mathemat-
cal model. Consolidated governments appear to improve their
ability to handle urban problems, and officials of consolida-
ted governments are more confident of their ability to handle
these problems than are officials of other metropolitan
governments reorganized in different manners.
A REGIONAL APPROACH: CITY-COUNTY CONSOLIDATION AS A
METHOD OF LOCAL GOVERNMENTAL REORGANIZATION

by

ANTHONY GENE WHITE

A thesis submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE
in
POLITICAL SCIENCE

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TO THE OFFICE OF GRADUATE STUDIES:

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CHAPTER I

INTRODUCTION

Since the time of the first incorporation of a city in the United States, a fragmentation and overlapping of jurisdictions on the part of local governments has taken place. This is due in part to the cultural heritage from European ancestors who came to America seeking looser government controls, and in part to an aversion on the part of Americans to centralized government - which slowed the development of a strong, resourceful state or federal level of government.1

Gradually, a patchwork of governments - state, county, municipal, and special districts - has covered the country. Many of these municipalities do not have home rule - the power to create and enforce their own ordinances and regulations. This lack of home rule has limited the control granted to the municipalities over potential areas of expansion. Moreover, the states have retained all regulatory powers not expressly given to the federal government under the Constitution, so that in many instances the states have chosen to act as a

second city council to the municipalities.

However, counterexamples to this trend of duplication, fragmentation and overlapping of jurisdictions have existed in America since almost a century prior to its declaration of independence from England. In 1695, the English governor of the Massachusetts Bay Colony ordered the town of Nantucket and the County of Nantucket to consolidate to form a regional government, under what is now called city-county consolidation. Over the next few centuries, some state legislators, coming to the view that regional control around an urbanizing area by that area's local government would be essential, pushed for legislation creating both complete and partial city-county consolidations.

New Orleans and Orleans Parish (1805), Philadelphia and Philadelphia County (1854), the five contiguous boroughs of New York City (1898), Denver and Denver County (1901), and Honolulu and Honolulu County (1907) are all examples of complete city-county consolidations existing by virtue of state legislation. Also in this time period, Boston and Suffolk County were partially consolidated in 1821, as was San Francisco and San Francisco County in 1854.

After 1907, there was a forty-two year lapse in success-

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3City and County of San Francisco, The Consolidated City and County of San Francisco (San Francisco: City and County of San Francisco, 1965).
fully completed consolidations. Municipal reformers succeeded in sponsoring not only the manager and commission forms of government structure, but home rule for cities as well. This newly-won power over their own destinies strengthened citizens' resistance to surrendering this power to a regional government. Between 1908 and 1950, more than ten consolidation attempts were defeated at the polls.

In 1949, voters in Philadelphia reaffirmed their faith in the consolidated approach to regional government by voting to restore the powers that had been eroded away over 95 years by the state and the courts to their consolidated government. In that same year, the first consolidation by referendum took place in Baton Rouge and Baton Rouge Parish, Louisiana.

Since 1949, ten more consolidations have taken place, nine of them by referenda. Hampton and Elizabeth City County, Virginia (1952), Newport News and Warwick County, Virginia (1958), Nashville and Davidson County, Tennessee (1962), Virginia Beach and Princess Ann County, Virginia (1963), South Norfolk and Norfolk County, Virginia (1963), Jacksonville and Duval County, Florida (1968), Carson City and Ormsby County, Nevada (1968), Juneau and Greater Juneau Borough, Alaska (1970), and Columbus and Muscogee County, Georgia (1971) have all been consolidated by referenda. In 1970, Indianapolis

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4Massachusetts Legislative Research Council, Regional Government, pp. 108-114.
58. J. Makielski, Jr., "City-County Consolidation in the U. S.," University of Virginia News Letter (Charlottesville; University of Virginia, 1969), p. 3.
and Marion County, Indiana were consolidated by the Indiana State Legislature, to become the only modern legislative-imposed consolidation of the last half-century. At the same time, 1950 through 1971, more than fifteen cities and their continuous counties rejected consolidation as a solution to their regional problems.6

Considering the full spectrum of alternatives available to local governments for solving regional problems - from annexation, informal agreements, special and metropolitan service districts through consolidation, merger, and federation (see Appendix I) - several questions arise that are worthy of investigation. Of these many forms of regional government available to urban governments, why do some choose - and some reject - city-county consolidation? Are there any readily distinguishable factors common to those successful consolidations that separate them from other urban areas and governments? Is the consolidated government successful enough in coping with metropolitan problems to attract the interest of other metropolitan areas facing the same problems? Are the government officials involved satisfied with consolidation as a tool for solution of their problems?

To answer these questions, a set of definitions and assumptions must first be agreed upon. A search of the literature is in order, to formulate hypotheses on the basis of

6Ibid., p. 3.
previous research. A test instrument must be designed, and data gathered and analyzed to verify or disprove the formulated hypotheses. If the data indicates significant differences among the variables, then a mathematical model can be constructed to (1) account for the empirical data and (2) offer predictive statements as to the probability of a successful referendum in a proposed city-county consolidation measure.

The purpose of this study is thus two-fold. The first is to determine whether or not cities which consolidate with their overlapping counties are in some sense different from cities which have sought alternative forms of reorganization. The second is to see how well consolidated city-counties have handled fiscal, social, and planning functions in comparison with cities which have not consolidated with their contiguous counties.
CHAPTER II

DESCRIPTION OF THE PROBLEM

I. DEFINITIONS AND ASSUMPTIONS

Several sources provide the definitions and assumptions behind this research, but the Bureau of the Census provides the bulk. For this research, "city" is taken to mean "a political subdivision of a State within a defined area over which a municipal corporation has been established to provide general local government for a specific population concentration."\(^7\) A county is "the primary division of a State, used for state administrative purposes."\(^8\) In Alaska, counties are called boroughs, and in Louisiana they are called parishes.

An urbanized area is defined to be:

The central city or cities plus:

1. Incorporated places with 2500 inhabitants or more;
2. Incorporated places with less than 2500 inhabitants, provided each has a closely settled area of 100 housing units or more;
3. Towns in New England States, townships in New Jersey and Pennsylvania, and counties elsewhere which are classified as urban;
4. Enumeration districts in unincorporated territory with a population density of 1000 inhabitants or more per square mile;
5. Other enumeration districts in unincorporated territory with lower population density provi-
ded that they serve one of the following purposes:

a. To eliminate enclaves;
b. To close indentations in the urbanized areas of one mile or less across the open end; and
c. To link outlying enumeration districts of qualifying density that were no more than one and one-half miles from the main body of the urbanized area.9

A standard metropolitan statistical area (SMSA), which is a statistical method used to examine the area around a central city, can be taken to be the contiguous counties (crossing state lines, if need be) circumscribing an urban area whose central city or cities has a population of 50,000 or more inhabitants, the labor force of which must consist of 75% or more non-agricultural workers. In addition, a county is included in the SMSA if there exists an integration of the work force within the economy of the central urbanized area.

Reorganization is the changing of the elements of an interdependent whole, in this case of a single or set of municipal corporations. A two-level approach can be taken to reorganization: (1) A change in structure (for example, a mayor-council to a city manager or commission); and (2) a change in scope from a local to a regional approach, which may or may not also include a change in structure.

More specifically, this study is concerned with city-county consolidation as a regional approach to reorganization.

9Ibid., p. xvi.
of local government. City-county consolidation involves the dissolution of a city and a county, in terms of their governing bodies, to form a new municipal corporation whose boundaries encompass the old county's borders. A total city-county consolidation will (1) have one and only one governing body remaining after the consolidation; and (2) will have county-type jurisdiction over any municipalities which choose to remain out of the new consolidated unit. Functional consolidation involves the consolidation of various departments in the city and county (such as police, health, water, etc.). Partial consolidations take place when only part of the county's territory is consolidated with the city, or when several departments remain under a separate government residual from the consolidation (such as the Mayor's Office and the County Commissioners of the City and County of San Francisco). Appendix I provides a glossary of reorganization terms which shows the spectrum of approaches local governments have available to them with respect to regional problems, and distinguishes between them.

Once a regional government is established, the test of time determines whether or not it retains vitality as a municipal corporation. Municipal vitality is defined to be:

... the administrative and financial capacity of each local governmental unit to carry out with reasonable efficiency and at reasonable costs, in a manner consistent with performance standards prescribed by law, the duties and activities entrusted to it by the state
constitution, state laws and its own local charter. 10

The following assumptions are presented as the basis for the subject selection for this study and for the determination of the hypotheses that follow: (1) It is possible to determine the need (or lack of need) for regional government as a solution to area-wide problems; 11 (2) City-county consolidation as a method of approach to regional government is of great enough significance to warrant an in-depth study; 12 (3) The data desired are obtainable, and the instruments de-

11The following criteria have been established for just this purpose. These criteria include: (1) the government jurisdiction responsible for providing any service should be large enough for the benefits from that service to be received primarily by its own population; (2) the unit of government should be large enough to realize economies of scale; (3) the unit of government carrying on a function should have a geographic area of jurisdiction adequate for effective performance, as illustrated by the desirability of a sewage disposal system's conformance to a natural drainage basin; (4) the unit of government should have the legal and administrative ability to perform the services assigned to it; (5) every unit of government should be responsible for a sufficient number of functions so that its governing processes involve a resolution of conflicting interests and a balancing of governmental needs and resources; (6) the performance of public functions should remain subject to public control...; and (7) functions should be assigned to a level of government that provides opportunities for active citizen participation, and still permits adequate performance. See Massachusetts Legislative Research Council, Regional Government, p. 42 and ACIR, Metropolitan America: Challenge to Federalism (Washington, D.C.: U.S. Government Printing Office, 1966), pp. 30-32.
12Of this there can really be no doubt. Nearly 1 of every 8 Americans (12.75%) is directly or indirectly influenced by a city-county consolidated government; he is either governed by one or is in the urbanized area of such a government. See "10 'Super Cities' - Home for 1 of Every 4 Americans," U.S. News and World Report, August 2, 1971, p. 79.
signed to collect such data do in fact collect the data in question; and (4) Given the same instruments and the same samples, any independent researcher could obtain the same data.

II. THE LITERATURE

The majority of the publications dealing with city-county consolidation consists of charter commission findings, pro- and anti-consolidation literature for specific consolidation attempts, and newspaper accounts following the progress of the consolidation movement.

There is, however, some scholarly literature in existence. The Committee for Economic Development13 and the Advisory Commission on Intergovernmental Relations14 have both published results of proceedings of their organizations dealing with the general problems of metropolitan reorganization. The Advisory Commission has isolated several factors relating to the success or failure of reorganization efforts in general.15 Listed as favorable factors are: cooperation on the

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15Advisory Commission on Intergovernmental Relations, Factors Affecting Voter Reactions, pp. 16-23.
part of state governments; use of local knowledgable individuals for staff and support; use of extensive public hearings; and recognition of problems and needs of specific areas and groups. Listed as unfavorable factors are: the absence of a critical situation to be remedied (emphasis added, A. W.); opposition by leading political figures; lack of vigor in pressing the reorganization campaign to its conclusion; and failure to allay fears of a dramatic tax increase.

The only general survey of consolidated units in the United States was published in 1941 by John Rush,¹⁶ one of the coauthors of the Denver consolidation bill. Rush chronicles the partial, functional, and complete consolidations prior to 1941 - which does not include, incidentally, any consolidations accomplished by referenda.

Hawkins¹⁷ has chronicled the history of the Nashville case, dwelling in particular upon the taxing and annexation policies of the city government as the key to consolidation. Martin's study of Jacksonville¹⁸ goes into great detail about the complexity of the structure of Jacksonville's government (both a city council and a city commission), the disaccreditation of the school system, and the Grand Jury

¹⁶John A. Rush, The City-County Consolidated (Los Angeles: By the Author, 1941).
indictments of public officials which finally led to a successful vote for consolidation.

Schmandt, Wendell and Steinbicker\textsuperscript{19} examine the failure of St. Louis to consolidate with its overlapping county, and conclude that the legal, traditional, and political separation between city and county, weak enabling legislation, and the lack of a critical situation were the key factors involved. McDill and Ridley\textsuperscript{20} conclude that Nashville's first failure was due to voter alienation among lower status citizens, while Lawrence and Turnbull\textsuperscript{21} examine the political motivations of Mayor Lugar's successful bid to consolidate Indianapolis and Marion County. Scott, on the other hand, constructed a continuum of the "radicalness of metropolitan governmental change" which shows that total consolidation is too radical, too far beyond the "threshold of voter acceptability" to be generally accepted by the voters.\textsuperscript{22}

State agencies have issued position papers on local and metropolitan problems and solutions. Colorado,\textsuperscript{23} North

\textsuperscript{22}Thomas M. Scott, "Metropolitan Governmental Reorganization Proposals," The Western Political Quarterly, XXI, (June 1968), pp. 252-261.
Dakota, and Massachusetts are among those states issuing such papers. The Massachusetts Legislative Research Council reviews some of the successful consolidation attempts, and then proceeds to point out the obstacles which make reorganization on a regional level difficult or almost impossible in Massachusetts (in spite of the Nantucket and Boston-Suffolk County examples): the provincialism of its citizens; fears of higher taxation and changes from the status quo; misconceptions about the nature and scope of regional governments; and the death-grip that the citizenry maintains on the concept of "home rule."

Other organizations which have endeavored to examine city-county consolidation include the Department of Agriculture, the League of Women Voters, and various local metropolitan study commissions. In its last annual report, the Portland Metropolitan Study Commission reviews its eight-year history, accomplishments, and recommends that machinery be created to permit a vote on city-county consolidation,

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26Ibid., pp. 111-113.
that county and metropolitan service districts be strengthened and broadened in scope,\textsuperscript{29} that the local Boundary Commission be given more power,\textsuperscript{30} and that a local governmental commission be established to act as watchdog over local intergovernmental relations.\textsuperscript{31}

A search of the literature, while dwelling in large part on the aspect of reasons for consolidation failure, does not explore favorable variables for consolidation referenda successes, nor does it attempt to question how well consolidated cities have handled functions entrusted to them. The task attempted here is to fill these gaps in the literature.

\textbf{III. THE HYPOTHESES}

Based on the preceding definitions and possible variables indicated by the literature, a formulation of hypotheses is now in order. In considering these hypotheses, it must be remembered that city-county consolidation is an approach to the scope of urban government, not necessarily an attempt to alter the structure of such governments (with the exception of the merger process itself).

\begin{itemize}
\item \textsuperscript{30}\textit{Ibid.}, p. 5.
\item \textsuperscript{31}\textit{Ibid.}, p. 6.
\end{itemize}
HYPOTHESIS 1: There are significant differences of certain variables, to be empirically determined, between city-county consolidated governments and other metropolitan governments which have sought alternative solutions to metropolitan problems.

If such variables can be shown to exist, then a mathematical theory can be developed to interrelate these variables to one another.

HYPOTHESIS 2: The vitality (i.e., flexibility, ability to develop, and responsiveness) of a municipal corporation is maintained under city-county consolidation.  

As a parallel line of investigation to the objective measurement of vitality, a subjective measurement of the opinions of the involved public officials can be of value. Indeed, if those directly involved in reorganization are not satisfied with the results of their reorganization efforts, this should serve as data for future reorganization attempts.

32 The test of this hypothesis involves the use of objective criteria developed by the Massachusetts Legislative Research Council in Voluntary Municipal Merger Procedures, p. 52. Such criteria involve measuring (a) the kinds of government functions which the municipality must perform; (b) the size, density, distribution, and characteristics of the population of the community, and its contrast with the optimum population for the efficient and economical administration of such functions; (c) the extent to which the area of the municipal corporation embraces or may be expanded to include...; (d) the responsiveness of the municipal government, organically and politically, to the challenges of urbanization and to public demands for more and better services; and (e) the fiscal capacity of the municipality in terms of the property and economic activity it may tax locally, its borrowing power, and the financial support extended by the state in municipal programs mandated by it.
HYPOTHESIS 3: In the views of the involved public officials, certain social control, fiscal, and planning functions are more easily performed under city-county consolidated governments than under metropolitan governments which have sought alternative solutions to metropolitan problems. Consequently, public officials of consolidated governments possess a more positive perception of their ability to deal with metropolitan problems than do public officials of metropolitan governments which have sought alternative solutions to metropolitan problems.

IV. EXPERIMENTAL DESIGN

As a search of the literature revealed, information concerning the existence of consolidated governments is both scanty and in many cases inaccurate and out of date. After determining the approximate spatial distribution of the consolidated governments, it was determined that the study would have to be made on a national basis. Due to the nature of the study and the cost/benefit ratio of the various methods available (personal, telephone, and mail interview), the test instrument settled upon was the mail-back questionnaire.\(^3\)

The test instruments were designed and screened for bias.\(^4\) The primary phase of the study involved sampling all


fifty states as to (1) presence of city-county consolidated units; (2) availability of legislation permitting consolidation; (3) awareness of any planned city-county consolidations; and (4) official sanction of the technique of city-county consolidation as a method of approaching metropolitan problems. Questionnaires were mailed first to the state-level department of local governments,\(^{35}\) and as a followup to those not responding a questionnaire was sent to the Office of the Governor of the state concerned. In this manner, a 100% response was obtained.

At this point, sets of total, partial, and functional consolidations between cities and counties were isolated. The secondary phase of the study involved sending questionnaires to these consolidated units. This portion of the study attempted to determine (1) reasons for consolidating; (2) legal status of the unit; (3) occurrence of social problems; (4) occurrence of fiscal changes; (5) effectiveness of the planning function under consolidation; and (6) perception of overall effectiveness of consolidation through recommendations to other governments considering it. These questionnaires were sent to the appropriate chief executive's office - either the mayor or the city manager. Repeated mailings to these offices brought about a 100% response.

As part of the secondary phase, a control group was

\(^{35}\text{HUD. State Urban Information and Technical Assistance Services - The First Six Months (Washington, D. C.: HUD Clearinghouse Service, 1959).}\)
selected so as to approximate the national distribution and median population of the consolidated (experimental) sample. Within these limitations, the control group was selected randomly. Nonrespondents were dropped from the sample, and others were chosen randomly to complete a control group of the same size as the experimental group. The same questions were asked.

A final phase was performed to determine what had defeated some consolidation measures in some cities. A questionnaire was mailed to those cities which had failed under referenda to consolidate since 1950.

Figure 1 diagramatically outlines the research design. The test instruments are reproduced in Appendix II.

Upon receipt of the returned questionnaires, the responses were scored. The questionnaire scores and statistical data were then subjected to statistical analysis, and the significant factors isolated.
SEARCH OF THE LITERATURE

SURVEY OF STATES

SURVEY OF CONSOLIDATED CITIES

FUNCTIONALLY CONSOLIDATED
GOVERNMENTALLY CONSOLIDATED

FAILURE GROUP

Q1 - Initial survey of states
Q2 - Survey of consolidated units
Q3 - Survey of consolidation failures
Q1' - Survey of control group
Q2' - Survey of consolidation failures

Figure 1. Research design.
CHAPTER III

THE RESULTS

I. A QUALITATIVE LOOK

In order to approach the data collected in this study, it is first of value to consider the qualitative history of each consolidation. In many cases, the available information is sketchy, but a feel for the development of consolidations can be attained through that which is available.

NANTUCKET, MASSACHUSETTS. The seafaring community of Nantucket, Massachusetts was incorporated as a town while under the jurisdiction of New York in 1687, and was ceded to Massachusetts Bay in 1692. In 1695, the General Court of Massachusetts recognized the island as a distinct county, but due to the small population political incumbents were permitted to combine city and county offices. Over the years the town and county governments have been integrated in terms of personnel and fiscal function by statute.36

NEW ORLEANS, LOUISIANA. New Orleans was settled by Frenchmen while Louisiana was still a French territory. Shortly after the Louisiana Purchase, the city of New Orleans was incorporated (in 1805). At the same time, the legislators

36Massachusetts Legislative Research Council, Voluntary Municipal Merger Procedures, pp. 93-94.
of the Louisiana Territory created parishes to act as county
governments, and Orleans Parish was placed under the same
government as the city. 37

PHILADELPHIA, PENNSYLVANIA. Philadelphia was the next
city to be consolidated. The Act of Consolidation of 1854
combined 28 of 29 political subdivisions of Philadelphia
County into the City and County of Philadelphia. The history
lists no reasons for the state legislature to create this Act.
The powers and consolidated departments were eroded away over
the years by the courts and succeeding state governments. In
1949, a Home Rule Act was adopted by the state which permitted
the voters of Philadelphia to reaffirm their faith in their
consolidated government. 38

NEW YORK CITY, NEW YORK. New York was in the grip of
"machine politics" in the 1890s. The population was a di-
verse, low-income mixture of nationalities, and the counties
contiguous to New York City were incapable of financing facil-
ities needed to perform urban services for the rapidly-grow-
ing neighborhoods. Part of the Bronx had been annexed in
1874, and the rest was annexed in 1895. The citizens of New
York City, under the Home Rule Charter of 1894, had voted to
consolidate with Brooklyn. However, the mayors of New York

38 George S. Blair, "Analyzing Governmental Structure
  in a Metropolitan Area with Particular Reference to the
  Philadelphia Area" in Metropolitan Analysis (Philadelphia:
and Brooklyn could not agree upon a consolidated charter which would satisfy the partisan groups in those cities. In May of 1897, a charter was agreed upon, but the effective date of the consolidation was postponed indefinitely. In 1898, the state legislators were pressured by a "machine boss" and municipal reformers who wanted Republican dominance in the city into enacting consolidation of New York City, Brooklyn, Richmond, Kings, and Queens into the city of Greater New York.39

DENVER, COLORADO. After a failure to consolidate with Arapahoe County, the city of Denver lobbied through John Rush at the Colorado State Legislature for creation of a county especially for future metropolitan expansion. In 1901, passage of an amendment to the State Constitution, Article XX, was assured which would carve out parts of Arapahoe and Adams Counties to form the County of Denver and consolidate it with the city of Denver. The amendment took effect in 1902, and since that time 170 annexations have added over 90 square miles to Denver's total area.40

HONOLULU, HAWAII. Following Hawaii's annexation to the United States in 1898, no local governments of any kind existed until 1905. In that year, the County of Oahu was established to govern the entire island of Oahu. The 1907 Territorial Legislature abolished the County of Oahu and created

the City and County of Honolulu, which encompasses the island. The Mayor-Board of Supervisors established in 1907 was finally altered to the Mayor-Council form in 1959.\textsuperscript{41}

Baton Rouge, Louisiana. In 1945, Baton Rouge had a population of 35,000 within an area of about 5 square miles. The last major improvement of public facilities had been made in the period 1924-1925. Totally unprepared for the post-war growth that hit many of the South's cities, Baton Rouge had doubled its population by 1948. The strain was too much for the system, and in order to eliminate outmoded governmental structures and attain the tax base necessary to survive, consolidation was proposed. The vote was a slim 51\% for consolidation, a margin of only some 300 votes in 13,717 cast.\textsuperscript{42}

Hampton, Virginia. Hampton was one of the 34 independent cities in Virginia that had chosen in the 1870s to separate from the counties surrounding them. In 1951, the city of Newport News had suggested a consolidation of Hampton, Newport News, and other surrounding jurisdictions which was rejected. At that point, Newport News was threatening to annex the territory surrounding Hampton under Virginia's annexation without representation law. As a consequence, Elizabeth

\textsuperscript{41}City and County of Honolulu, The City and County of Honolulu (Honolulu: City and County of Honolulu, 1969).

\textsuperscript{42}City and Parish of Baton Rouge, Our City-Parish Government: A Thumbnail Sketch (Baton Rouge: City and Parish of Baton Rouge, N. D.) and Richard J. Richardson, Orleans Parish Offices: Notes on City-Parish Consolidation (New Orleans: Bureau of Government Research, 1961).
City County, the town of Phoebus, and the City of Hampton voted in 1952 to consolidate, in order to avoid the higher tax rates of Newport News.43

NEWPORT NEWS, VIRGINIA. A 1956 referendum sought to consolidate Newport News, the consolidated City and County of Hampton, and Warwick (incorporated in the referendum of 1952, but for all practical purposes—politically, structurally, and fiscally—still a county). The referendum resulted in a 7 to 6 margin of defeat for consolidation, led by Hampton voters. In 1957 Newport News and Warwick voted to consolidate, effective in 1958.44

NASHVILLE, TENNESSEE. Nashville, Tennessee was caught in the same influx of population following World War II as most other United States cities. Many of these immigrants settled outside the city limits in Davidson County, thus overloading the antiquated facilities of the county. A 1951 report of the Tennessee Taxation Association recommended complete consolidation of the city and the county.45 A Tennessee statute enacted in 1955 permitted annexation without representation (no-consent), and a new city per year was incorporated in Davidson County in the period 1957-1959. In 1958, following a fight in the state legislature over an enabling

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44Ibid., pp. 14-21.
act to allow a consolidation vote, such a vote denied Nash-ville and Davidson County the right to consolidate by a 6 to 5 ratio.

In 1960, the mayor of Nashville instituted an annexation of 42 square miles, containing a population of 80,000 people, using the recently-passed no-consent annexation law. Understandably, some citizens were upset by this action, and consequently a new movement was begun to consolidate in order to oust the mayor and his council. A vote on the issue in 1962 resulted in a 4 to 3 decision to consolidate. Fifty percent more people voted in the 1962 election as had in the 1958 one.46

VIRGINIA BEACH, VIRGINIA. Using Virginia's annexation-without-representation law, Norfolk had, in 1959, annexed 13 square miles and 38,000 people. Fearful of being cut off from all possible expansion, and of being subjected to the higher tax rates of larger Norfolk, Virginia Beach voters and the voters of Princess Ann County moved to cut off Norfolk's expansion by voting in 1963 to consolidate.47

CHESAPEAKE, VIRGINIA. Cut off from expansion into Princess Ann County, Norfolk turned to Norfolk County for area

into which it could grow. The citizens of South Norfolk, not wanting to be cut off from room to grow themselves, convinced the voters of Norfolk County that tax rates in South Norfolk would remain considerably lower than in Norfolk. A 1962 vote authorized the consolidation of South Norfolk and Norfolk County, which became effective in January of 1963. The new city was named Chesapeake.48

JACKSONVILLE, FLORIDA. A 1956 study explored the possibilities of city-county consolidation in Florida, with particular reference to Miami and Jacksonville.49 A decline in central-city population coupled with a corresponding increase in population in the suburbs brought financial stress to the city of Jacksonville in the 1960s. Jacksonville had a mayor-council/city commission form of government, and publicly identified as problems duplication of services and fragmentation and overlapping of jurisdictions with Duval County. Against this background, Jacksonville's schools were disaccredited in 1965, and several government officials were brought before a grand jury on charges of corruption in 1966. In August, 1967 a referendum to consolidate Jacksonville and Duval County resulted in a 54,500 to 29,700 vote to consolidate. The new government legally took over in October, 1968.50

CARSON CITY NEVADA. The charter of Carson City, Nevada was amended in 1951 to combine the offices of Clerk, Auditor, Assessor, District Attorney, and Sheriff with the corresponding offices of Ormsby County. In the period 1964-1968 a functional consolidation of most of the other service departments took place. The city council and the County Commissioners of Ormsby County had long been in agreement that total consolidation was in order for a geographically small, isolated area, and would make stretching of available funds possible. A statewide election (due to provisions of the State of Nevada's Constitution) in 1968 approved the formal consolidation of the two units, and in that year their governments were legally combined.51

INDIANAPOLIS, INDIANA. The consolidation of Indianapolis and Marion County, Indiana is considered to be the work of one man - Mayor Richard Lugar. He came to power in 1967, the first Republican to hold the mayor's office in many decades. Indianapolis had many of the publicly-identified ills of other cities - decreasing central city population, racial tensions, declining purchasing power provided by a relatively static tax base, and inefficiency through duplication of services and overlapping of jurisdictions with Marion County. Using the power of his office, Mayor Lugar and the

51City of Carson City, Historical Data, Legal Requirements, Reasons and Effects of Consolidation of Carson City and Ormsby County into a New Entity - Carson City, Nevada (Carson City: City of Carson City, N. D.).
strong Marion County Republican Party convinced the State Legislature (also strongly Republican at the time) that consolidation was necessary for the continued operation of his city. The Legislature, which served as a second city council for Indianapolis, agreed with Mayor Lugar and approved a consolidation bill which was signed in March of 1969. The law had an emergency clause which made the consolidation effective in January of 1970, and which exempted from the consolidation the towns of Speedway, Beach Grove, and Lawrence.52

JUNEAU, ALASKA. Juneau, Alaska would seem to be an unlikely place to find municipal reformers pushing for consolidation. Founded as a gold-rush center in 1881, the City and Borough of Juneau has a population of only 13,000 spread out over some 3,000 square miles. Local officials considered it too expensive to support two sets of governmental services over a tax base of $130 million. Consolidation was approved in 1970, and the consolidated unit is considered to be both a city and a borough under Alaskan law.53

COLUMBUS, GEORGIA. The most recent consolidation has been that of Columbus and Muscogee County, Georgia. The school administrative services were merged in 1948, followed by water, sewer, and airport facilities in the 1950s and 1960s. A formal consolidation of the two governmental units

53State of Alaska, Alaskan Statutes, Title 29, Ch. 85, § 10-210, N. D.
was defeated in 1962. Nearly all council members and the mayor were replaced in 1964, and a study commission was authorized by the Georgia General Assembly in 1966 to draw up a new consolidation plan. A city-county building complex was proposed, to gain economies of scale in construction and to provide more visible access to governmental agencies.

With local leaders, the news media, and a steering committee behind the new consolidation attempt, an Enabling Act was passed by the Georgia Legislature in 1969. Following a highly active campaign to develop a "grass roots" movement for consolidation, a 1970 vote approved consolidation by 10,000 votes (15,000 votes cast out of a possible 53,000). The new charter became effective as of January 1, 1971.

One common thread which runs throughout most of these histories is the presence of a critical situation which needs to be remedied (a factor which the A.C.I.R. describes as favorable to the passage of a consolidation measure—see page 10). Nantucket, New Orleans, Denver, Honolulu, Carson City, and Columbus are the cities which apparently had no such situations - those legislatively consolidated, or functionally consolidated prior to the referendum.

Philadelphia faced the erosion of city powers by the state and the courts. New York's political "machine" was at odds with Brooklyn's, and negotiations for merger were at a

standstill when the legislature was forced to intervene.

Baton Rouge's service facilities were severely overtaxed with the influx of the post-World War II population. Hampton, Newport News, Virginia Beach, and Chesapeake were all faced with the involuntary annexation of territory surrounding their boundaries, thus cutting them off from future expansion and drawing the county territory into higher taxing areas.

Nashville's voters reacted to a massive involuntary annexation, and voted for consolidation as an expression of a lack of confidence in the city's mayor and council. Jacksonville had just faced the disaccreditation of its schools and the indictment of several public officials for corruption when the referendum took place.

Indianapolis was controlled by the state legislature, as a second city council. It needed the home rule provisions granted to counties in Indiana just to solve its everyday problems and to obtain the taxing authority necessary to maintain government services. Juneau simply could not afford to support two sets of government, and provide the urban services required by the area's citizens, on such a small tax base. The solution was either to reduce services or to reduce government, and the voters chose the latter measure.
II. THE QUANTITATIVE ASPECT

There are a total of seventeen city-county consolidated governments in the United States, of which ten were created through referenda. Naturally, some differences can be expected between legislatively-consolidated units, most of which are over 60 years old, and consolidated governments chosen by the voters, most of which are less than 20 years old.

To present an overall view of the spectrum of consolidated governments, tables I and II are constructed to give data from a constant time period, 1960-1970. Due to inaccuracies and a lack of controls on errors and variances, it is unwise to rely on data from time periods prior to 1900. This precludes comparison of such data as population, population changes, population density and other demographic information in the decades prior to and following the consolidations. For example, the populations of Philadelphia and New York must have had different education, median age, and other demographic characteristics 70 and 100 years ago which could have influenced the consolidation issue.

Potential variables were chosen on the basis of the literature and availability of statistical data, to include political economic, historic, and demographic aspects. Consideration of potential variables was limited to those for which data was available for at least two-thirds of the
<table>
<thead>
<tr>
<th>CITY-CONTY CONSOLIDATIONS IN THE UNITED STATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAC'TORS: Nantucket New Orleans Philadelphia New York Denver Honolulu Baton Rouge Jasper Newport News Nashville Virginia Beach Chesapeake Jackson-ville City Indianapolis Juneau Columbus</td>
</tr>
</tbody>
</table>
| Year of Incorporation: 1687 1805 1701 1624 1861 1907 1817 1849 1896 1784 1906 1913. 1821 1875 1847 1881 1928 Year of Consol- dation: 1695 1805 1854 1898 1901 1907 1949 1957 1958 1962 1963 1963 1968 1968 1969 1970 1971 Age at Consolidation: 8 - 53 274 40 - 132 103 32 178 57 44 147 93 122 89 143 Economic Function: T=Transportation; W=Wholesale; F=Finance; Pb=Public Administration; D=Diversified; - classified as to dominant economic function of urban area. Form of Local Government Structure: Ky-C=Mayor-Council/C Commission; Ky-C=Manager. Independent Departments: No Yes Yes No No No No No No No No Yes No No No Independent Cities: Yes No No No No No No No No No No No No No No No

1. Incorporated as South Norfolk in 1919. 2. Nelson, Howard J. "A Service Classification of American Cities" Economic Geography. Vol 31, (July 1959) pp. 180-210. Pa=Public Service; T=Transportation; W=Wholesale; F=Finance; Pb=Public Administration; D=Diversified; Ky-C=Manager - classified as to dominant economic function of urban area. 3. Ky-C=Mayor-Council/C Commission; Ky-C=Manager. 4. All portions of criminal-justice system (courts, sheriff, etc) except Baton Rouge (Port) and Indianapolis (Port, health, building). 5. Cities not included in the consolidation, but over which the city-county unit has county-power authority.
### TABLE II

**KEY CHARACTERISTICS OF CITY-COUNTY CONSOLIDATED UNITS**

| CITY:               | Nantucket | New Orleans | Philadelphia | New York | Denver | Honolulu | Baton Rouge | Hampton | Newport News | Nashville Beach | Chesapeake City | Jackson-Ville | Carson City | Indianopolis | Juneau | Columbus |
|---------------------|-----------|-------------|--------------|----------|--------|-----------|-------------|---------|--------------|-----------------|-----------------|---------------|------------|-------------|-----------|
| **Year of Consolidation** | 1856/1870 | 1856/1855   | 1856/1865    | 1856/1870| 1856/1870 | 1856/1870 | 1856/1870  | 1856/1870| 1856/1870    | 1856/1870       | 1856/1870      | 1856/1870    | 1856/1870  |
| **Population** | 4,360     | 5,981       | 6,272        | 7,770    | 516     | 3,000     | 7,000       | 1,500   | 7,000        | 4,000            | 8,000           | 5,000         | 2,000    |
| **Area (sq. mi.)** | 205       | 205         | 205          | 205      | 205     | 205       | 205         | 205     | 205          | 205             | 205            | 205          | 205       |
| **Density** | 210       | 210         | 210          | 210      | 210     | 210       | 210         | 210     | 210          | 210             | 210            | 210          | 210       |
| **Population Change (%)** | +42.9     | -6.7        | -6.7         | -6.7     | -6.7    | -6.7      | -6.7        | -6.7    | -6.7         | -6.7             | -6.7           | -6.7         | -6.7      |
| **Median Age** | 32.0       | 32.0        | 32.0          | 32.0     | 32.0    | 32.0       | 32.0         | 32.0    | 32.0         | 32.0             | 32.0           | 32.0         | 32.0      |
| **Median Education** | 9.0        | 9.0         | 9.0           | 9.0      | 9.0     | 9.0        | 9.0          | 9.0     | 9.0          | 9.0              | 9.0            | 9.0          | 9.0       |
| **Proportion of Population Employed** | 0.35      | 0.39        | 0.44          | 0.39     | 0.39    | 0.39       | 0.39         | 0.39    | 0.39         | 0.39             | 0.39           | 0.39         | 0.39     |
| **Expense/Revenue Ratio** | na        | 0.95        | 0.95          | 0.95     | 0.95    | 0.95       | 0.95         | 0.95    | 0.95         | 0.95             | 0.95           | 0.95         | 0.95     |
| **Taxes: City Income** | no        | no          | no            | no       | no      | no         | no           | no      | no           | no               | no             | no           | no        |
| **Sale** | yes        | yes         | yes           | yes      | yes     | yes        | yes          | yes     | yes          | yes              | yes            | yes          | yes       |
| **Property** | 20        | 98          | 1,352         | 28       | 6       | 8          | 36           | 7       | 8            | 36               | 7              | 8            | 36        |
cities.

As can be seen from Tables I and II, variables under consideration include (1) population, (2) density, (3) area, (4) population change over the period 1960-1970, (5) median age of the population, (6) median education of the population, (7) proportion of the population employed, (8) tax structure, (9) the general governmental expenses-to-revenues ratio, (10) age of the city at the time of change, (11) economic function, and (12) governmental structure.

In addition, the variables include the A.C.I.R.'s presence of a critical situation which requires remedial action (hereafter called an internal crisis), and the presence of a "red herring" situation (hereafter called an external crisis) which arises after the initiation of the consolidation issue and tends to detract from the consolidation issue itself.

In order to test the possibility that some of these variables might be interrelated (for example, the larger the population, the greater the density or area, and perhaps the older and less well-educated the members of the population), the cities were ranked low to high in terms of each of the 10 rankable variables (numbers 1 through 10), and a Spearman Rho\(^5\) test applied to the results. Table III, a portion of the overall 10-by-10 table, shows that the rankings all

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\(^5\)Spearman's Rho = \( \frac{6 \sum D^2}{n(n^2-1)} \) where D is the difference in ranking for one city on two variables, and n is the total number of cities.
yield Rho in non-significant ranges. The exception was area and density (not shown, but with a Rho of -.97). This is, of course due to the relationship: Density = Population/Area. As a consequence, area was dropped as a potential key variable, due to its redundancy.

TABLE III

CORRELATION MATRIX - SPEARMAN RHO

<table>
<thead>
<tr>
<th></th>
<th>δ₁</th>
<th>δ₂</th>
<th>δ₃</th>
<th>δ₄</th>
<th>δ₅</th>
<th>δ₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>δ₁</td>
<td>--</td>
<td>.276</td>
<td>-.610</td>
<td>.341</td>
<td>.055</td>
<td>.357</td>
</tr>
<tr>
<td>δ₂</td>
<td>--</td>
<td>.225</td>
<td>.632</td>
<td>-.158</td>
<td>.312</td>
<td></td>
</tr>
<tr>
<td>δ₃</td>
<td>--</td>
<td>.238</td>
<td>-.710</td>
<td>-.457</td>
<td></td>
<td></td>
</tr>
<tr>
<td>δ₄</td>
<td>--</td>
<td>-.304</td>
<td>.101</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>δ₅</td>
<td>--</td>
<td></td>
<td>.405</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>δ₆</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

δ₁ = Age of City
δ₂ = Population
δ₃ = Area
δ₄ = Median Age
δ₅ = Median Edu.
δ₆ = Expenses/Revenues

A series of product-moment statistics (rₓᵧ) was performed on a random sample of the 45 possible intercorrelations of 10 variables taken two at a time. The rₓᵧ did not give more than a 5%-10% variance from the Spearman Rho results in their respective measurements, thereby confirming the lack of intercorrelation of these variables.

As an indication of certain uniformities among consolidated units, it should be noted from the preceding tables that more than three-fourths of the consolidated governments are characterized by the mayor-council form of structure.
There are variations to account for school systems, state-appointed independent departments, and so forth. Figure 2 illustrates the typical table of organization for consolidated units. Of course, the departmental breakdown is by no means meant to be anything more than a generalized representation, indicative of the typical structure.

After determining the general size and distribution of the consolidated units, a control group was chosen randomly within size and distribution parameters to control for those variables. The distribution of the control group approximates the distribution of the consolidated group, and the mean and median populations are equal if New York City's population of nearly 8 million is ignored for the purposes of establishing those parameters. A chi-squared test of the spatial distribution of the consolidated and control groups (by region: North, South, Central, and West as established by the Census Bureau) accepts the null hypothesis on the .05 level. Likewise, ignoring New York City's contribution to the total population of the consolidated group, the populations of the consolidated and control groups are significantly similar on the .05 level.

56It is, of course, dangerous to ignore or deliberately alter data collected in any study for the purposes of "making things come out right". There are, however, no cities of comparable size to which one could pair off New York in the United States. As a consequence, some statistics performed here are done both with and without New York's influence. In performing T tests to determine differences in distribution means, both population size and population
Figure 2. Typical table of consolidated governmental organization.
The random control group chosen consists of the following cities: Atlanta, Georgia; Birmingham, Alabama; Cleveland, Ohio; Dallas, Texas; Des Moines, Iowa; Detroit, Michigan; East Hartford, Connecticut; Greenville, South Carolina; Hot Springs, Arkansas; Huntington, West Virginia; Lafayette, Louisiana; Lexington, Kentucky; Memphis, Tennessee; Phoenix, Arizona; San Jose, California; Tampa, Florida; and Union City, New Jersey. The same information as found in tables I and II were collected from the same sources for this control group, and the data is presented in table IV, page 39.

The generally-used arguments, both pro and con, are presented in table V. The opponents' arguments are used to provide the basis for determining the presence of an external crisis. Situations with primarily emotional impact which arise following the initiation of the consolidation issue, and which would detract from the rational, logical consideration of the strengths and weaknesses of consolidation are then defined to be external crises.

There is now a basis for comparison of the control and the consolidated groups. In the hopes of establishing significant differences between the two groups, the various variables isolated were compared under statistical tests. For those variables for which a mean and standard deviation increase showed marked differences in the statistic with and without New York's influence. Whenever this has been done, it is so noted and both cases are presented.
TABLE IV
CONTROL GROUP DATA

<table>
<thead>
<tr>
<th>CITY</th>
<th>YEAR</th>
<th>EC0.</th>
<th>GOV'T.</th>
<th>POP.</th>
<th>DENSITY</th>
<th>POP. CHANGE</th>
<th>MEDIAN AGE</th>
<th>MEDIAN EDU.</th>
<th>PROP. EXP./ TAi+</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATLANTA, GA.</td>
<td>1845</td>
<td>T</td>
<td>My-Ald.</td>
<td>487</td>
<td>3,600</td>
<td>47.1</td>
<td>29.3</td>
<td>10.5</td>
<td>0.41 1.27</td>
</tr>
<tr>
<td>BIRMINGHAM, AL.</td>
<td>1871</td>
<td>MiM</td>
<td>My-C</td>
<td>297</td>
<td>5,400</td>
<td>4.6</td>
<td>29.4</td>
<td>10.1</td>
<td>0.37 0.89</td>
</tr>
<tr>
<td>CLEVELAND, OH.</td>
<td>1796</td>
<td>M</td>
<td>My-C</td>
<td>739</td>
<td>11,500</td>
<td>-4.2</td>
<td>31.2</td>
<td>9.6</td>
<td>0.37 1.06</td>
</tr>
<tr>
<td>DALLAS, TX.</td>
<td>1856</td>
<td>TAg</td>
<td>Mn</td>
<td>836</td>
<td>2,700</td>
<td>56.4</td>
<td>29.3</td>
<td>11.8</td>
<td>0.40 1.15</td>
</tr>
<tr>
<td>DES MOINES, IA.</td>
<td>1857</td>
<td>TF</td>
<td>Mn</td>
<td>700</td>
<td>3,300</td>
<td>17.4</td>
<td>30.1</td>
<td>12.1</td>
<td>0.42 0.95</td>
</tr>
<tr>
<td>DETROIT, MI.</td>
<td>1802</td>
<td>M</td>
<td>My-C</td>
<td>1,500</td>
<td>12,100</td>
<td>-9.7</td>
<td>33.7</td>
<td>10.0</td>
<td>0.37 0.86</td>
</tr>
<tr>
<td>EAST HARTFORD, CT.</td>
<td>1783</td>
<td>M</td>
<td>My-C</td>
<td>57</td>
<td>9,400</td>
<td>-8.6</td>
<td>33.0</td>
<td>9.6</td>
<td>0.45 1.07</td>
</tr>
<tr>
<td>GREENVILLE, S.C.</td>
<td>1868</td>
<td>M</td>
<td>My-C</td>
<td>61</td>
<td>2,700</td>
<td>13.8</td>
<td>27.1</td>
<td>11.5</td>
<td>0.41 0.90</td>
</tr>
<tr>
<td>HOT SPRINGS, AK.</td>
<td>1891</td>
<td>To</td>
<td>My-C</td>
<td>35</td>
<td>3,200</td>
<td>-3.3</td>
<td>40.1</td>
<td>9.8</td>
<td>0.36 1.15</td>
</tr>
<tr>
<td>HUNTINGTON, W.V.</td>
<td>1871</td>
<td>MF</td>
<td>Mn</td>
<td>73</td>
<td>5,700</td>
<td>-3.2</td>
<td>32.9</td>
<td>10.7</td>
<td>0.36 1.05</td>
</tr>
<tr>
<td>LAFAYETTE, LA.</td>
<td>1836</td>
<td>TAg</td>
<td>Comm.</td>
<td>66</td>
<td>6,100</td>
<td>20.4</td>
<td>24.2</td>
<td>8.9</td>
<td>0.36 0.93</td>
</tr>
<tr>
<td>LEXINGTON, KY.</td>
<td>1832</td>
<td>TAg</td>
<td>My-Comm</td>
<td>108</td>
<td>5,200</td>
<td>13.1</td>
<td>28.4</td>
<td>9.8</td>
<td>0.38 0.96</td>
</tr>
<tr>
<td>MEMPHIS, TN.</td>
<td>1826</td>
<td>TAg</td>
<td>My-C</td>
<td>621</td>
<td>3,900</td>
<td>25.6</td>
<td>28.1</td>
<td>10.5</td>
<td>0.37 1.06</td>
</tr>
<tr>
<td>PHOENIX, AR.</td>
<td>1881</td>
<td>Mag</td>
<td>Mn</td>
<td>580</td>
<td>2,300</td>
<td>34.1</td>
<td>28.4</td>
<td>11.8</td>
<td>0.37 1.03</td>
</tr>
<tr>
<td>SAN JOSE, CA.</td>
<td>1850</td>
<td>TAg</td>
<td>Mn</td>
<td>436</td>
<td>3,600</td>
<td>114.2</td>
<td>26.5</td>
<td>12.1</td>
<td>0.36 1.11</td>
</tr>
<tr>
<td>TAMPA, FL.</td>
<td>1885</td>
<td>TM</td>
<td>My-Comm</td>
<td>274</td>
<td>4,000</td>
<td>120.0</td>
<td>32.2</td>
<td>10.2</td>
<td>0.37 1.37</td>
</tr>
<tr>
<td>UNION CITY, N.J.</td>
<td>1861</td>
<td>M</td>
<td>Comm</td>
<td>56</td>
<td>40,200</td>
<td>-6.0</td>
<td>35.7</td>
<td>8.8</td>
<td>0.43 0.96</td>
</tr>
</tbody>
</table>

1. Symbols as in Tables I and II. 2. M = Manufacturing, To = Tourism. 3. Ald = Board of Aldermen, Comm = Commission. 4. Tax structure similar to consolidated group's.
TABLE V
STRENGTHS AND WEAKNESSES OF CITY-COUNTY CONSOLIDATION

**STRENGTHS AND EXPECTATIONS BY PROONENTS**

1. Provides base for unified, coordinated program of services  
2. Increases visibility of responsible agencies and individuals  
3. Economies of administration and scale  
4. Adjusts political boundaries to geographic ones  
5. One government responsible to all  
6. Efficiency through elimination of duplication of services  
7. Elimination of intergovernmental conflicts  
8. Fiscal equity through taxing districts  
9. Spreads needed services - more for the money  
10. Broadens tax base of the government providing the services  
11. Eliminates outmoded and inadequate government structures  
12. Combines city and county resources  
13. Conveniences to individuals in receiving and using government services

**WEAKNESSES AND EXPECTATIONS BY OPPONENTS**

1. Limited in handling multi-county problems  
2. Lack of constitutional/legislative groundwork  
3. Needs separate voting majorities  
4. Resistance from those in office  
5. Inflexibility of boundaries  
6. More difficult to vary services by local areas and needs  
7. Tax inequities  
8. Proliferation of personnel, staff  
9. Imposition of "big-brother government" on rural areas - spreads suburbs  
10. Reduces local participation in local affairs  
11. Raises legal questions over federal, state grants  
12. Dilutes minority group voting strength  
13. General inertia of population to drastic change
could be determined, a T test for significant differences between the means was used (due to the population size involved, the mean can be considered approximately equal to the median through the normal distribution characteristics). For those variables involving a more qualitative aspect, the Chi-squared test was used. The results of these tests are included in table VI.

As the table shows, consolidated city-counties have significantly higher populations (when New York is included), lower population densities, younger populations, a greater preponderance of the mayor-council or mayor-commission form of government and of finance and public administration as the city's major economic function, and greater amounts of rebated property taxes than do the cities of the control group. The remaining variables did not show significant differences between the consolidated and control groups.

The available histories of the control group cities' changes (particularly those with mayor-to-manager or commission types of changes) indicates that the A.C.I.R.'s conclusion that critical situations are related to major changes (such as consolidation) is upheld.
### TABLE VI

**STATISTICAL TESTS OF VARIABLES**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>DESCRIPTION</th>
<th>CONSOLIDATED&lt;sup&gt;1&lt;/sup&gt;</th>
<th>CONTROL&lt;sup&gt;2&lt;/sup&gt;</th>
<th>STATISTIC AND LEVEL&lt;sup&gt;3&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\delta_1$</td>
<td>City age at change (yrs)</td>
<td>$97 \pm 72$</td>
<td>$135 \pm 61$</td>
<td>$T = 1.58$ $p &gt; .10$</td>
</tr>
<tr>
<td>$\delta_2$</td>
<td>Economic Function</td>
<td>Finance or Pub. Admin.</td>
<td>Agr., Tr. or Mfg.</td>
<td>$\chi^2 = 16.30$ $p &lt; .001$&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td>$\delta_3$</td>
<td>Government Structure</td>
<td>Mayor-Council</td>
<td>Mayor-Bd/Comm.</td>
<td>$\chi^2 = 4.02$ $p &lt; .05$</td>
</tr>
<tr>
<td>$\delta_4$</td>
<td>Population change (%) 1960-1970</td>
<td>$48 \pm 100$</td>
<td>$251^+ \pm 38$</td>
<td>$T = 0.89$ $p &gt; .10$</td>
</tr>
<tr>
<td>$\delta_5$</td>
<td>Median age (yrs)</td>
<td>$28.2 \pm 3.5$</td>
<td>$30.5 \pm 3.6$</td>
<td>$T = 1.98$ $p &lt; .05$</td>
</tr>
<tr>
<td>$\delta_6$</td>
<td>Median education (yrs)</td>
<td>$10.5 \pm 1.2$</td>
<td>$10.5 \pm 1.0$</td>
<td>$T = 0.00$ $p &gt; .10$</td>
</tr>
<tr>
<td>$\delta_7$</td>
<td>Proportion employed</td>
<td>$0.38 \pm 0.05$</td>
<td>$0.39 \pm 0.03$</td>
<td>$T = 0.67$ $p &gt; .10$</td>
</tr>
<tr>
<td>$\delta_8$</td>
<td>General governmental Expenses/Revenues</td>
<td>$1.05 \pm 0.13$</td>
<td>$1.05 \pm 0.13$</td>
<td>$T = 0.00$ $p &gt; .10$</td>
</tr>
<tr>
<td>$\delta_9$</td>
<td>Population (thousands)</td>
<td>$801 \pm 690^5$</td>
<td>$407 \pm 350$</td>
<td>$T = 2.11$ $p &lt; .05$</td>
</tr>
<tr>
<td>$\delta_{10}$</td>
<td>Density (people/sq. mi.)</td>
<td>$4080 \pm 3500^5$</td>
<td>$7347 \pm 4000$</td>
<td>$T = 2.51$ $p &lt; .05$</td>
</tr>
<tr>
<td>$\delta_{11}$</td>
<td>Taxes: Sales City Income Rebated property (in millions)</td>
<td>Yes No $123 \pm 116^5$</td>
<td>Yes No $17 \pm 13$</td>
<td>$\chi^2 = 0.05$ $p &gt; .10$</td>
</tr>
</tbody>
</table>

<sup>1</sup>N = 17.  <sup>2</sup>N = 13.  <sup>3</sup>Standard T test for significance of differences of means taken over whole population; level of significance set at $p = .05$ - computed levels indicated.  <sup>4</sup>Chi-squared by proportion method: 1 degree of freedom.  <sup>5</sup>Figures reflect New York City influence.  <sup>6</sup>Figures do not reflect New York City influence.
CHAPTER IV

SURVEY RESULTS

I. STATE, CONSOLIDATED, AND CONTROL GROUP RESULTS

The primary survey of states was begun in December of 1970 and concluded in February of 1971 (officials contacted and techniques used are discussed on page 17). The design of the primary questionnaire was so structured as to determine (1) where the consolidated units exist; (2) the legal requirements in the state legal system for presentation of the consolidation question to a referendum; (3) the existence of potential consolidation attempts; and (4) the presence or absence of approval of the consolidation concept at the state level. The results of this primary phase are listed in table VII, page 44, and these results are amplified upon by Appendix III.

As an aside to the first question, it should be noted that many of the state governments are unaware of functional consolidations that may exist within their boundaries. Two outstanding examples of this are Oregon and Wisconsin. Portland and Multnomah County, Oregon have consolidated their data processing departments, health departments, and
<table>
<thead>
<tr>
<th>QUESTION</th>
<th>RESPONSE:</th>
<th>YES</th>
<th>NO</th>
<th>NO RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Any city-county consolidated units in your state?</td>
<td>13 - Formal &amp; Functional</td>
<td>32</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 - Functional only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. Is legislation required in your state for city-county consolidation?</td>
<td>9 - Constitution &amp; Amendments</td>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11 - House &amp; Senate Bills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 - Yes but not listed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. Is action currently under way to create city-county consolidated units in your state?</td>
<td>6</td>
<td>43</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>IV. Does your state officially favor the creation of city-county consolidated units?</td>
<td>13</td>
<td>16</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>V. Additional comments?</td>
<td>17</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Legislation considered, passed, favored</td>
<td>(10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Not considered, passed, favored</td>
<td>(4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii. Studies under way</td>
<td>(3)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See Appendix III for listings of states responding positively to questions I-III.*
their printing operations.57 Milwaukee and Milwaukee County, Wisconsin have consolidated their sewer, water, park, and air pollution departments.58 Other examples of a negative response to question I include Kansas and Washington, both states failing to list functional consolidations within their boundaries (Dodge City-Ford County's Police Records Division and Seattle-King County's Health Department). A listing of functionally consolidated city-county units appears in table VIII on page 46.

Responses to the secondary survey (conducted between February, 1971 and May, 1971) were arranged on a proportional basis to facilitate testing of differences by chi-squared. The control group was narrowed to include only those cities which have experienced some change in scope or structure since incorporating. The results of this enumeration, designed to test for legal, social, fiscal, and planning vitality and satisfaction in the operation of the changed government, are found in table IX on page 47.

To further test for significant differences between the consolidated and control groups, the questions on the test instruments were scored and computed on the basis given in figure 3, page 48.

<table>
<thead>
<tr>
<th>CITY</th>
<th>COUNTY</th>
<th>STATE</th>
<th>DEPARTMENT(S)</th>
<th>SOURCE OF DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlanta</td>
<td>Fulton</td>
<td>Georgia</td>
<td>No Response</td>
<td>State Survey</td>
</tr>
<tr>
<td>Boise</td>
<td>Ada</td>
<td>Idaho</td>
<td>No Response</td>
<td>State Survey</td>
</tr>
<tr>
<td>Boston</td>
<td>Suffolk</td>
<td>Massachusetts</td>
<td>Finance, Admin.</td>
<td>City of Boston</td>
</tr>
<tr>
<td>Dodge City</td>
<td>Ford</td>
<td>Kansas</td>
<td>Police Records</td>
<td>Topeka Newspaper</td>
</tr>
<tr>
<td>Jonesboro</td>
<td>Craighead</td>
<td>Arkansas</td>
<td>Planning</td>
<td>State Survey</td>
</tr>
<tr>
<td>Lincoln</td>
<td>Lancaster</td>
<td>Nebraska</td>
<td>Planning</td>
<td>State Survey</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>Milwaukee</td>
<td>Wisconsin</td>
<td>Sewers, Parks, Air Pollution Control</td>
<td>Schmandt et al</td>
</tr>
<tr>
<td>Omaha</td>
<td>Douglas</td>
<td>Nebraska</td>
<td>Planning</td>
<td>State Survey</td>
</tr>
<tr>
<td>Eugene</td>
<td>Lane</td>
<td>Oregon</td>
<td>Jail Facilities Health, Data Processing, Printing</td>
<td>Eugene Newspaper</td>
</tr>
<tr>
<td>Portland</td>
<td>Multnomah</td>
<td>Oregon</td>
<td>Planning</td>
<td>Ongoing Research</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>Salt Lake City</td>
<td>Utah</td>
<td>No Response</td>
<td>State Survey</td>
</tr>
<tr>
<td>Seattle</td>
<td>King</td>
<td>Washington</td>
<td>Health</td>
<td>State Survey</td>
</tr>
<tr>
<td>Sioux Falls</td>
<td>6th Planning District*</td>
<td>South Dakota</td>
<td>Planning</td>
<td>State Planning Agency</td>
</tr>
</tbody>
</table>

*Planning Districts take place of County function throughout South Dakota. See South Dakota. South Dakota Planning and Development Districts. Sioux Falls, State of South Dakota, N. D.
<table>
<thead>
<tr>
<th>QUESTION</th>
<th>CONSOLIDATED*</th>
<th>CONTROL**</th>
<th>( \chi^2 ) LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Legally a city?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>1.00</td>
<td>1.00</td>
<td>( \chi^2 = 0.00 )</td>
</tr>
<tr>
<td>NO</td>
<td>0.00</td>
<td>0.00</td>
<td>( p &gt; .10 )</td>
</tr>
<tr>
<td>II. Social problems arisen?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>0.00</td>
<td>0.46</td>
<td>( \chi^2 = 8.98 )</td>
</tr>
<tr>
<td>NO</td>
<td>0.94</td>
<td>0.54</td>
<td>( p &lt; .01 )</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>0.06</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>III. Had to raise taxes?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>0.65</td>
<td>0.92</td>
<td>( \chi^2 = 4.88 )</td>
</tr>
<tr>
<td>NO</td>
<td>0.35</td>
<td>0.00</td>
<td>( p &lt; .05 )</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>0.00</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Institute service charges?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>0.35</td>
<td>0.62</td>
<td>( \chi^2 = 3.40 )</td>
</tr>
<tr>
<td>NO</td>
<td>0.59</td>
<td>0.23</td>
<td>( p &lt; .10 )</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>0.06</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>IV. Plan more effectively?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>0.71</td>
<td>0.70</td>
<td>( \chi^2 = 0.63 )</td>
</tr>
<tr>
<td>NO</td>
<td>0.06</td>
<td>0.15</td>
<td>( p &gt; .10 )</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>0.23</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>V. Recommend to others?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>0.71</td>
<td>0.38</td>
<td>( \chi^2 = 7.70 )</td>
</tr>
<tr>
<td>NO</td>
<td>0.00</td>
<td>0.38</td>
<td>( p &lt; .01 )</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>0.29</td>
<td>0.24</td>
<td></td>
</tr>
</tbody>
</table>

*\( N=17 \) **\( N=13 \)
Figure 3. Scoring chart for comparison of test instruments.

If a municipality retained its legal status after a major change, was able to handle social, fiscal, and planning functions well (in the perception of the officials involved), and officials were willing to recommend their form of government to others, then these factors were taken to be positive. If the opposite held for a factor, then it was considered to be negative. Assignment of numerical values in this case is of no significance and is adopted merely for computational ease, since any numerical values would preserve the relative relationship between the two groups.

The test instrument score, I, was then computed as:

\[ I_j = \sum_{i=1}^{6} a_i \quad j = 1, 2, \ldots, N \]
The means and standard deviations were then computed for each group (N=17 for the consolidated group, N=13 for the control group). The range of possible scores is then -5 to +5. The I score for the consolidated group is 3.1 ± 1.4 (a range of 1.7 to 4.5), and for the control group is 1.2 ± 2.2 (a range of -1.0 to 3.4). A T test yields a T of 2.79, showing significant differences between the two groups at the .05 level.

II. THE FAILURES: A KEY TO UNDERSTANDING

Since the turn of the century, when machinery was made available by state legislatures for referenda on city-county consolidation, a total of 28 attempts to consolidate have been defeated at the ballot box, with many more tabled and filed away in the various stages of the consolidation process. Table X lists the consolidation attempts rejected by referenda since 1921 (see page 50). It should be noted that the first ten rejections occurred prior to the first successful consolidation by referendum in Baton Rouge. Since that time, 18 rejections have occurred as opposed to 10 successes: a two-to-one ratio. It should also be noted that three

59In a more sophisticated situation, the factors a1 would be weighted to give the formula:

\[ I_j = \sum_{i=1}^{m} k_i a_i \]

where \( j = 1, 2, \ldots, N \)

with a total of m variables and a weight \( k_i \) assigned to each variable \( a_i \) on the basis of relative importance of the variable.

TABLE X
CONSOLIDATIONS REJECTED BY REFERENDA

<table>
<thead>
<tr>
<th>CITY</th>
<th>COUNTY</th>
<th>STATE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oakland</td>
<td>Alameda</td>
<td>California</td>
<td>1921</td>
</tr>
<tr>
<td>Butte</td>
<td>Silver Bow</td>
<td>Montana</td>
<td>1924</td>
</tr>
<tr>
<td>St. Louis</td>
<td>St. Louis</td>
<td>Missouri</td>
<td>1926</td>
</tr>
<tr>
<td>Portland</td>
<td>Multnomah</td>
<td>Oregon</td>
<td>1927</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>Allegheny</td>
<td>Pennsylvania</td>
<td>1929</td>
</tr>
<tr>
<td>Several cities</td>
<td>Ravalli</td>
<td>Montana</td>
<td>1932</td>
</tr>
<tr>
<td>Macon</td>
<td>Bibb</td>
<td>Georgia</td>
<td>1933</td>
</tr>
<tr>
<td>Cleveland</td>
<td>Cuyahoga</td>
<td>Ohio</td>
<td>1935</td>
</tr>
<tr>
<td>Jacksonville</td>
<td>Duval</td>
<td>Florida</td>
<td>1935</td>
</tr>
<tr>
<td>Miami*</td>
<td>Dade</td>
<td>Florida</td>
<td>1948</td>
</tr>
<tr>
<td>Newport News**</td>
<td>Warwick</td>
<td>Virginia</td>
<td>1950</td>
</tr>
<tr>
<td>Miami</td>
<td>Dade</td>
<td>Florida</td>
<td>1953</td>
</tr>
<tr>
<td>Nashville**</td>
<td>Davidson</td>
<td>Tennessee</td>
<td>1958</td>
</tr>
<tr>
<td>Albuquerque</td>
<td>Bernalillo</td>
<td>New Mexico</td>
<td>1959</td>
</tr>
<tr>
<td>Knoxville</td>
<td>Knox</td>
<td>Tennessee</td>
<td>1959</td>
</tr>
<tr>
<td>Macon</td>
<td>Bibb</td>
<td>Georgia</td>
<td>1960</td>
</tr>
<tr>
<td>Durham</td>
<td>Durham</td>
<td>North Carolina</td>
<td>1961</td>
</tr>
<tr>
<td>Richmond</td>
<td>Henrico</td>
<td>Virginia</td>
<td>1961</td>
</tr>
<tr>
<td>Columbus**</td>
<td>Muscogee</td>
<td>Georgia</td>
<td>1962</td>
</tr>
<tr>
<td>Memphis</td>
<td>Shelby</td>
<td>Tennessee</td>
<td>1962</td>
</tr>
<tr>
<td>St. Louis</td>
<td>St. Louis</td>
<td>Missouri</td>
<td>1962</td>
</tr>
<tr>
<td>Chattanooga</td>
<td>Hamilton</td>
<td>Tennessee</td>
<td>1964</td>
</tr>
<tr>
<td>Tampa</td>
<td>Hillsborough</td>
<td>Florida</td>
<td>1967</td>
</tr>
<tr>
<td>Athens</td>
<td>Clarke</td>
<td>Georgia</td>
<td>1969</td>
</tr>
<tr>
<td>Roanoke</td>
<td>Roanoke</td>
<td>Virginia</td>
<td>1969</td>
</tr>
<tr>
<td>Winchester</td>
<td>Frederick</td>
<td>Virginia</td>
<td>1970</td>
</tr>
<tr>
<td>Charlottesville</td>
<td>Albemarle</td>
<td>Virginia</td>
<td>1970</td>
</tr>
<tr>
<td>Bristol</td>
<td>Washington</td>
<td>Virginia</td>
<td>1970</td>
</tr>
</tbody>
</table>

* Later successfully formed urban county-federated system.
** Later successfully consolidated.

of the failures since 1950 have resubmitted the issue to the voters and have successfully consolidated, and St. Louis, Missouri, Macon, Georgia and Miami, Florida have all tried twice to consolidate and were unsuccessful.

In an attempt to determine why these cities failed to
consolidate with the counties around them, a final phase of the study was undertaken to administer a questionnaire to city officials (mayor's office or individual familiar with the consolidation attempt) of cities in which a consolidation attempt had failed within the last 20 years. This limitation was imposed to make this sample parallel the sample of successful consolidations submitted to a referendum, and included the 17 defeated attempts since Miami's in 1953. Of the 17 questionnaires sent out (see Appendix II), only 6 were returned. The results of this phase of the survey are found in table XI.

As can be seen by examining table XI, an attempt was made to determine an estimate of the causes of defeat (the covering letters directed the questionnaires to individuals who were in government or involved in the consolidation movement at the time); the types of education programs administered; the opposition groups which arose to defeat the consolidation attempt; and the aspect of consolidation most opposed by the voters.

Certain recurrent themes appear in each consolidation defeat: refusal of leaders to back or maintain backing to the consolidation issue; a fear of higher taxes; a fear of being lost in a big, unwieldy government; public apathy; and in the South a fear on the part of blacks that their vote would be diluted in the overall balance of power (as indeed happened in Nashville and Jacksonville).

One other factor appears throughout these failures.
### TABLE XI
**SURVEY RESULTS - REJECTED CONSOLIDATIONS**

<table>
<thead>
<tr>
<th>CITY AND YEAR</th>
<th>CAUSES</th>
<th>EDUCATION**</th>
<th>OPPOSITION</th>
<th>MOST OBJECTED TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nashville, Tn. 1958</td>
<td>Voter alienation</td>
<td>&quot;Good gov't&quot; groups</td>
<td>County Court, Police, Firemen</td>
<td>Big government, Higher taxes</td>
</tr>
<tr>
<td></td>
<td>Loss of confidence in leadership</td>
<td></td>
<td></td>
<td>Loss of localism</td>
</tr>
<tr>
<td>Albuquerque, N.M. 1959</td>
<td>Provincialism, Fear of higher taxes, city rule over county</td>
<td>League of Women Voters</td>
<td>Flood control &quot;antagonists&quot;</td>
<td>Land use control, Loss of local gov'tal jobs</td>
</tr>
<tr>
<td>Memphis, Tn. 1962</td>
<td>Racism</td>
<td>News media Speaker programs</td>
<td>Blacks, rural politicians</td>
<td>Big government, Loss of local gov'tal jobs</td>
</tr>
<tr>
<td></td>
<td>&quot;Misunderstanding on part of voters&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athens, Ga. 1969</td>
<td>Lack of concurrent majority</td>
<td>Open hearings News media</td>
<td>Blacks, rural politicians</td>
<td>Consolidation concept</td>
</tr>
<tr>
<td></td>
<td>Public apathy</td>
<td>Charter mailed to each voter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winchester, Va. 1969</td>
<td>Lack of leadership</td>
<td>Open hearings News media Pamphlet to each voter</td>
<td>Rural leaders Smaller towns Taxpayer's ass'n.</td>
<td>Big government, Higher taxes, Consolidation concept</td>
</tr>
<tr>
<td></td>
<td>Lack of &quot;understanding&quot; of issue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chattanooga, Tn. 1970</td>
<td>Reaction to taxation policies Racism</td>
<td>News media Leaflets tailored to each area</td>
<td>NAACP local chapter Small business men</td>
<td>Higher taxes, Dilution of minority vote</td>
</tr>
</tbody>
</table>

*In the opinions of the surveyed officials.*

**Kinds of Programs, groups active in education during campaign.*
In four of the six cases examined, opponents of consolidation attempted to introduce an external crisis that would detract from the issue of consolidation. In Albuquerque, the issue of flood control and land use control arose to help defeat the consolidation measure - issues that are emotionally important to the people of the region. In Memphis, Athens, and Chattanooga the race issue (in particular, bussing and the mixing of the races) was used to cloud the voters' opinions when the time came to vote. In a like manner, the contention was made in all of these cases that taxes would rise rapidly following consolidation, effectively drowning out proponents who admitted that taxes would rise, but at a much lower rate than the opponents contended. It can therefore be concluded that such an external crisis constitutes a negative influence upon the success of any consolidation attempt.
CHAPTER V

TOWARD A MATHEMATICAL THEORY

I. THEORETICAL CONSIDERATIONS

Several variables have been shown to yield significant differences between cities that are consolidated with the counties surrounding them and cities that have not performed such consolidations either through failure or through the seeking of alternate solutions to their problems. The city's economic function and governmental structure, the median age of the city's population, the total population and population density, portions of the local tax structure, the presence of an internal crisis that threatens the existence of prevailing order, and the presence (or absence) of external crises all seem to enter into the equation which determines success or failure for a consolidation attempt.

The task is then to construct such an equation, taking into account a total of $n$ possible variables and the possible weights assigned to each variable. In a natural sense, some factors will carry more weight than others - population pressure or willingness to accept change by a younger population might outweigh the sophistication (or lack thereof) brought about by the types of people living in a city of a specific economic function. To handle this task, a series
of definitions must first be introduced.

Definition 1: Positive variable: a variable which adds to, or enhances, the chances for success in a consolidation attempt as measured by its presence in the successful consolidation attempts and in being significantly different from the control group. Examples of positive variables are: size of city, as indicated by population and density; economic function; governmental structure of the city; median age of the population; the city's tax structure and taxing pressure placed upon the individual as indicated by property taxes; and the presence of an internal crisis which threatens the vitality or order of the city, in which the citizens feel that a positive change is necessary to maintain such vitality and order.

Definition 2: Negative variable: a variable which, if present, detracts from the consolidation issue through obscuring facts or arousing emotional side-issues (the "red herring" technique). If the negative variable is not present, then individual opinion is expressed through the media of letters to the editor, speaking at public forums, and so on and is not suppressed or out-shouted by more militant opponents. In this manner, by not detracting from the clarity of the issue, a positive value is implied. An example of a negative variable is the presence of an external crisis, either long-standing (race, bussing, etc.) or artificially created (land-use control opponents, political authorities
who stand to be displaced attempting to block a successful referendum, etc.

Definition 3: **Probability measure:** an association of a variable with a number between and possibly including 0 and 1, so that if there are \( n \) variables in a specific issue and \( n \) numbers associated on a 1-to-1 basis with the variables, then the sum of all the numbers will lie between and possibly including 0 and 1. In mathematical terms, given a variable \( X \) and a measure \( p(X) \) (read "p of X"), then:

\[
p(X) = y \text{ where } 0 \leq y \leq 1
\]

(2)

If there are \( n \) variables \( X_1, X_2 \) and so on up to \( X_n \) which relate to the issue, then the sum of the measures associated with the variables is:

\[
\sum_{i=1}^{n} p(X_i) = \sum_{i=1}^{n} y_i \text{ where}
\]

(3)

\[
\sum_{i=1}^{n} y_i \text{ lies between 0 and 1 and}
\]

\[
\sum_{i=1}^{n} y_i \text{ means } y_1 + y_2 + \ldots + y_n
\]

(4)

Definition 4: **Probability of success:** the sum of all the probability measures of the positive variables as defined in definition 1 \((p^+)\) plus the sum of all the probability measures of the negative variables as defined in definition 2 \((p^-)\). The probability of success \( P_s \) is:

\[
P_s = p^+ + p^- \text{ where } P_s = 0 \text{ if } p^+ + p^- < 0
\]

(5)

with, of course, the restriction that
0 ≤ P_s ≤ 1

Definition 5: **Weighting factor:** a constant $k_1$, empirically determined, associated with the variable $i$ which gives the variable greater, equal, or lesser influence than the other variables in determining the probability of success in a consolidation attempt. The constants $k_i$ are strictly between 0 and 1, and the sum of all of the $k_i$ ($i=1, 2, \ldots, n$) is 1:

$$\sum_{i=1}^{n} k_i = 1 \quad 0 < k_i < 1$$

Definition 6: **The White Epsilon $\varepsilon_i$:** for the purposes of this study, a variable which approximates the Kronecker delta$^{60}$ which can take on only the values 0 and 1. If $\delta_i$ is the $i$th variable for the consolidated group, and $\delta'_i$ is the $i$th variable for a test city under study (for example, if $\delta_i = \text{median age of consolidated group's population}$, then $\delta'_i = \text{median age of the test city's population}$), then $\varepsilon_i$ is defined as follows:

$$\varepsilon_i = \begin{cases} 
0 & \text{if } \delta'_i \text{ lies outside the range of } \mu_i - \sigma_i \text{ to } \mu_i + \sigma_i \\
1 & \text{if } \delta'_i \text{ lies between the range of } \mu_i - \sigma_i \text{ to } \mu_i + \sigma_i 
\end{cases}$$

(7)

where $\mu_i$ is the mean of the $i$th variable $\delta_i$ associated with the consolidated group and $\sigma_i$ is one standard deviation of

$^{60}$Kronecker delta $\delta_{ij} = 1$ if $i=j$ and $= 0$ if $i \neq j$ in an $n \times n$ matrix.
Using the preceding definitions, the following formulations can now be made:

\[ p^+ = \sum_{i=1}^{m} k_i \cdot \varepsilon_i \quad (3) \]
\[ p^- = \sum_{i=m+1}^{n} k_i \cdot (-1) \varepsilon_i \quad (9) \]

Equation 9 indicates that if the negative influence is present, then a \(-k_i\) is contributed, and if the negative influence is not present, a \(+k_i\) is contributed. From definition 4:

\[ P_s = p^+ + p^- = \sum_{i=1}^{m} k_i \cdot \varepsilon_i + \sum_{i=m+1}^{n} k_i \cdot (-1) \varepsilon_i \quad (10) \]

where \(n\) is the total number of variables, \(m\) is the number of positive variables, and \((n-m)\) is the number of negative variables.

In the absence of a weighting scale, which must be empirically determined, the \(k_i\) must be taken to be of equal weight, so that:

\[ k_1 = k_2 = k_3 = \ldots = k_n \quad (11) \]

This reduces to:

\[ k_i = 1/n \quad \text{for all } i = 1, 2, \ldots, n \quad (12) \]

and equation 10 then becomes:

\[ P_s = \sum_{i=1}^{m} \frac{\varepsilon_i}{n} + \sum_{i=m+1}^{n} \frac{(-1) \varepsilon_i}{n} \quad (13) \]

\[ ^{61}\text{As this process calls for normative judgments by qualified personnel, the author respectfully declines to attempt to make such judgments.} \]
As a corollary to equation 13, by observing that the probability of an event can be at most 1, then the probability of failure can readily be seen to be $1 - P_s$, or:

$$P_f = 1 - \left( \frac{\sum_{i=1}^{m} \epsilon_i}{n} + \frac{\sum_{i=m+1}^{n} (-1)^i \epsilon_i}{n} \right) \quad (14)$$

It is now possible to test equation 13 against the empirical data found in tables I, II, and VII. Equating the variables listed in definition 1 with $p^+$ and the variable listed in definition 2 with $p^-$, then $n = 8$. In this case, the number of positive variables is 7, and the number of negative variables is 1. Applying equation 13 to the data collected for the consolidated cities and the defeated consolidation attempts, table XII can be constructed and analyzed.

If $P_s$ falls in the range of 0.50 to 0.70, the results can be either success or failure. Below 0.50, failure appears to be certain (with the exceptions of Nantucket, which was legislatively consolidated, and Carson City, which was functionally consolidated). All cities with a $P_s$ above 0.70 were successfully consolidated.

Of course, many variables are not considered here. Support by the news media, support by leadership, the level of alienation felt by the voters, and the composition and

---

62ACIR, Factors Affecting Voter Reaction.
TABLE XII

RESULTS OF APPLICATION OF PROBABILITY MEASURE

\[ P_s = \sum_{i=1}^{m} \frac{\epsilon_i}{n} + \sum_{i=m+1}^{n} \frac{(-1)^i}{n} \]

<table>
<thead>
<tr>
<th>CITY (By Referenda)</th>
<th>PROBABILITY</th>
<th>CITY (By Referenda)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baton Rouge</td>
<td>0.88</td>
<td>Athens, GA</td>
</tr>
<tr>
<td>Hampton</td>
<td>0.88</td>
<td>Chattanooga, TN</td>
</tr>
<tr>
<td>Newport News</td>
<td>1.00</td>
<td>Memphis, TN</td>
</tr>
<tr>
<td>Nashville 1962</td>
<td>0.75</td>
<td>Nashville 1958</td>
</tr>
<tr>
<td>Virginia Beach</td>
<td>0.75</td>
<td>Albuquerque, NM</td>
</tr>
<tr>
<td>Chesapeake</td>
<td>0.62</td>
<td>Winchester, VA</td>
</tr>
<tr>
<td>Jacksonville</td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>Carson City</td>
<td>0.38</td>
<td></td>
</tr>
<tr>
<td>Juneau</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>Columbus</td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CITY (By Legislature)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nantucket</td>
<td>0.38</td>
<td></td>
</tr>
<tr>
<td>New Orleans</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>Philadelphia</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>Denver</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>Honolulu</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>Indianapolis</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

Predisposition of the charter commission members are just a few of the variables that would take several texts to determine quantitative scales for valid insertion into equation 13. (NOTE: At this point, the reader is advised to refer to Appendix VI for definitions used in this section.)
Assume that there are \( n \) possible variables which could affect the success or failure of an attempt of a city and county to consolidate. Also note that each of the variables listed in definitions 1 and 2, and those that could possibly fit in those definitions, will vary in value over time. In order to introduce a short-hand notation, then:

\[
x_1 = x_1(t), \ldots, x_n = x_n(t)
\]

(15)

will mean that the variable \( x_i(t) \), \( i = 1, 2, \ldots, n \), varies over time \( t \). As what is thought of as the "government of a city" develops over time, it describes a "path" in space and time which is called its world line. If it takes \( n \) independent variables\(^{64}\) to describe any given point on this path, then the path is called a curve in \( n + 1 \) - dimensional space, and this curve can be written in functional form as:

\[
R = f(x_1, x_2, \ldots, x_n)
\]

(16)

\[
= f(x_1(t), x_2(t), \ldots, x_n(t)
\]

(17)

where \( R \) is the name of the curve representing the world line of a particular city, as determined by the \( n \) independent variables. Here the variables could be manpower resource level, monetary resource level, legal flexibility, geographic flexibility, presence of crises, leadership and news media activity in governmental processes, and so forth.

If there are a total of \( m \) cities whose world lines are under scrutiny, then equation 16 may be written as:

\(^{64}\)See Appendix VI for definitions and theory of mathematical concepts.
The number \( n \) is taken to be the maximum number of variables necessary to describe the curve \( R_j \), even though for a particular city it may take fewer than \( n \) variables to describe its world line (the remaining variables are set equal to zero). Since the \( n \) variables are those which are needed to determine the success or failure of a city-county consolidation attempt (or, with an expansion or contraction of \( n \) to \( n' \), any governmental reorganization proposal), then \( R_j \) can be thought of as some measure of the level of regional government in the metropolitan area under consideration.

Each of the \( n \) variables \( x_i(t) \) can be thought of as a vector (magnitude plus direction - see Appendix VI) at any given time \( t \). Each of these vectors is trying to "pull" the world line \( R_j \) in a particular direction, and the resultant of these vectors determines in what direction \( R_j \) is headed at the time \( t \). Moreover, if the number of dimensions required to describe \( R_j \) is greater than three, it is impossible to intuitively view what the curve looks like or in which direction it is headed. It is possible, however, to observe what the projection (See appendix VI) of the curve \( R_j \) looks like in the two-dimensional plane of a piece of paper, as shown in figure 4:
Instead of projecting a three-dimensional curve into a two-dimensional one as in figures 4a and 4b, the projection process will involve projecting an n+1-dimensional curve into a two-dimensional one. Then the function $R_j$, which represents the interaction of all $n$ independent variables to determine the regional level of urban government, might appear as in figure 5:

$$R_j = F_j(x_1, x_2, \ldots, x_n)$$
The time axis $t$ is used to show the relationship of the $n$ variables to time, and the origin corresponds to time $t = 0$, when the city under study was first incorporated. In this manner, it is possible to compare two or more cities on the same graph.

From the very nature and size of metropolitan governments, it can be intuitively seen that there is a great deal of inertia which must be overcome in accomplishing metropolitan reorganization. Money must be authorized, studies made by committees and accountants, enabling legislation enacted, opponents heard from, elections arranged, and so forth. A city is trapped at a certain level of organization until a set of circumstances arises to jog the city out of one level and into another (a drastic change in the resultant of the $n$ variables). To the end of describing these levels of organization, a relationship is postulated between $R_j$ and $t$ (level of regional government versus time) that might set forth a set of standardized curves representing the levels that might be attained. Figure 6 shows one possible standardized graph of regional organizational level and $t$, and gives some of the levels $L$ that a city and county can form in terms of regional organization:
where $L_1$ represents no intergovernmental contacts; $L_2$ is intergovernmental cooperation (formal or informal); $L_3$ is contracting for services; $L_4$ is extraterritoriality; $L_5$ is functional consolidation; $L_6$ is the urban county; $L_7$ is partial consolidation; $L_8$ is the level of merger; $L_9$ is the level of city-county consolidation; $L_{10}$ represents the level of federation; and the area above $L_{10}$ is left for future city-county regional agreement-types. Of course, other arrangements and numbers of levels are possible. This is presented as merely one of a large number of possible schemes. Note that $L_1$ pertains not only to the city-annex- es-parts of the county relationship, but to city-county separation as well. A natural restriction to place on the width of the bands (levels) is that they be strictly increasing, so that if $t_2 - t_1$ is greater than 0, then $W_2(L_1) - W_1(L_1)$ is greater than 0, where $W$ is the width.
function of any level $L_1$. This corresponds to the inertia concept - the longer an organization is "set in its ways," the harder it is to achieve any degree of change.

Combining the concepts of figures 5 and 6, figure 7 represents the world line curves $R_1$ and $R_2$ for Hampton, Virginia and Carson City, Nevada respectively:

![World line curves for Hampton, Virginia and Carson City, Nevada.](image)

It should also be noted that this representation allows for cities and counties to be created consolidated, as was the case with New Orleans and Honolulu.

To briefly summarize this section, equation 13 yields positive results in relating several variables to determine the probability of success or failure in an attempt of a city and county to consolidate. Equation 18, along with the use of a potential standardized graph, gives a possible mathematical/geometric model that, with knowledge of the values of the n independent variables involved, could
determine the direction that the curve $R_y$ of a city's world line is heading. Both models can offer predictive measures of success or failure in a consolidation attempt.

II. A TEST OF THE THEORY

The city of Portland, Oregon unsuccessfully attempted to consolidate by referendum with Multnomah County in 1927. The League of Women Voters lists two other attempts in the 1930s which did not get as far as the ballot box.\textsuperscript{65}

In the late 1950s and through the 1960s, Portland experienced the same difficulties as most other metropolitan areas throughout the nation - racial strife, rising costs of government, the declining purchasing power of its revenues, and a citizenry whose ability and inclination to subject themselves to additional taxation diminished rapidly. It was not until 1966 that Multnomah County voted to accept home rule,\textsuperscript{66} which would permit its voters to consider consolidation as a solution to metropolitan problems.

The Oregon State Legislature submitted to a 1968 statewide referendum a constitutional amendment permitting the formation of city-county consolidated units. The amendment was passed by a comfortable margin.\textsuperscript{67} This amendment, plus

\textsuperscript{65}League of Women Voters, \textit{City-County Consolidation}, p. 3.

\textsuperscript{66}Multnomah County, \textit{Home Rule Charter, Multnomah County, Oregon} (Portland, Multnomah County, 1966).

enabling legislation passed in 1971 which created a commission to draw up a consolidated charter, would permit Multnomah County (the smallest county in the state) and Portland (the largest city in the state) to vote on acceptance of a consolidated city-county charter.

Portland and Multnomah County have shown a willingness in the past to seek economies through consolidation. In the 1960s, the health departments and the data processing departments of both governments were consolidated into city-county departments. A great deal of cooperative purchasing takes place, and plans are under consideration to consolidate portions of the police records division and the public works departments.

Under the assumption that such a charter will be available to vote on in November of 1974 (the charter commission is given two years to devise a charter), the following data is presented for analysis in equation 13:

\[ s_1 = \text{Economic function} = WF \ \epsilon_1 = +1; \frac{\epsilon_1}{8} = 1/8 \]
\[ s_2 = \text{Population} = \frac{\text{City} - 375,000}{\text{City-County} - 556,000} \ \epsilon_2 = +1; \frac{\epsilon_2}{8} = 1/8 \]
\[ s_3 = \text{Density} = \frac{\text{City} - 5600}{\text{City-County} - 1220} \ \epsilon_3 = +1; \frac{\epsilon_3}{8} = 1/8 \]

---

69 "City, County Agencies to Start Consolidation," The Oregonian, May 19, 1971.
\[ \delta_4 = \text{Median age of population} = 36.7 \quad \varepsilon_4 = 0; \frac{\varepsilon_4}{8} = 0 \]

\[ \delta_5 = \text{Governmental structure} = \text{Mayor-Council} \quad \varepsilon_5 = +1; \frac{\varepsilon_5}{8} = 1/8 \]

\[ \delta_6 = \text{Tax structure} = \text{No sales, No income, Rebated property} = 19.5 \text{ million} \quad \varepsilon_6 = +1; \frac{\varepsilon_6}{8} = 1/8 \]

\[ \delta_7 = \text{Presence of an internal crisis} = ? \]

\[ \delta_8 = \text{Presence of an external crisis} = ? \]

Since there is no way to know what \( \delta_7 \) and \( \delta_8 \) will be until the time of the referendum, all of the possible combinations listed in table XIII must be considered.

**TABLE XIII**

**POSSIBLE CRISES OUTCOMES**

<table>
<thead>
<tr>
<th>Internal Crisis</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \varepsilon )</td>
<td>+1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External Crisis</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>( (-1)\varepsilon )</td>
<td>-1</td>
<td>+1</td>
</tr>
</tbody>
</table>

Considering these possibilities in their fractional forms, then \( P_s \) for Portland is:

\[
P_s = \frac{5}{8} + \left\{ \begin{array}{c}
-\frac{1}{8} \\
0 \\
\frac{1}{8} \\
\frac{2}{8}
\end{array} \right\} = \left\{ \begin{array}{c}
\frac{4}{8} = 0.50 \\
\frac{5}{8} = 0.62 \\
\frac{6}{8} = 0.75 \\
\frac{7}{8} = 0.88
\end{array} \right\}
\]
Using the interpretations of the previous section, it can be readily seen that if there exists an external crisis at the time of the referendum for the consolidated charter, which would detract from the consolidation issue, then Portland-Multnomah County's chances for consolidation fall into the "maybe" range of 0.50 to 0.70. If no external crisis arises, then the chances of successful consolidation are increased to 0.75 or higher.

Assuming that these eight variables affect in some major way the world line R of Portland, and assuming that no major changes occur between the initiation of the Charter Commission in 1971 and the referendum on the consolidated charter in 1974, then a sketch of R would appear as in figure 8:

![Figure 8. World curve for Portland, Oregon.](image)

As can be seen from the curve R, Portland did not involve itself with other governments regionally until it was about 60 years old, when it started providing services under contract (water, sewage treatment, etc.). At age 110,
Portland and Multnomah County consolidated their health departments, and a few years later consolidated their data processing units.

In assessing probabilities, no guarantees can ever be made. However, if whatever groups arise to support the consolidation measure in Portland can suppress any external crisis that may arise, and point out (or perhaps even create the impression of) internal crises, the probability of success for Portland and Multnomah County in their consolidation attempt would be greatly increased.

If, on the other hand, opposing groups can expose or create external crises and minimize internal ones, then the probability of success could be decreased or at least maintained in the range where doubt concerning the outcome is strong.
CHAPTER VI

CONCLUSIONS

It is sometimes as difficult to come to clear, concise conclusions about research data as it is to devise clear, concise, and testable hypotheses. The boundary between what is causal and what is effect can be very indistinct, and it can often be impossible to distinguish which is which.

This ambiguity can sometimes be reduced through rigorous use of the scientific method and statistical inference. The preceding portions of this study have demonstrated the use of the scientific method, and have developed the use of generally accepted statistical techniques on the gathered empirical data. It is now time to examine the hypotheses and the data together, in order to draw some conclusions.

HYPOTHESIS 1. "There exists significant differences of certain variables, to be empirically determined, between city-county consolidated governments and other metropolitan governments which have sought alternative solutions to metropolitan problems." Table VI, page 42, lists six variables which show significant differences between the control and consolidated groups. The qualitative description of each consolidation (pages 20-29) indicates the presence of internal crises which through their critical nature require
remedial action (school disaccreditation, scandal among public officials, reactions to annexation policies - see pages 20 to 30). An analysis of table XI indicates the presence of external crises in the cases of the consolidation failures (and not evident in the majority of successful cases), which detracted from the consolidation issue and confused (and perhaps reduced voter participation in) the reorganization measure under consideration. CONCLUSION: Hypothesis 1 is apparently confirmed.

The eight variables listed in the analysis of Hypothesis 1 then form the basis for the probabilistic model $P_s$ (equation 13). Equation 13 offers a good fit to the data for both successes and failures in consolidation referenda. As more variables are isolated as being important to the consolidation process, the values of $P_s$ should provide a more refined forecast for future attempts at consolidation.

The world line curve $R_j$ offers a model of regional organization as a function of the variables $x_i(t)$, and provides a visualization of world lines as a projection of $n$ variables into the two-dimensional plane. It should be possible for continued research to expand upon and clarify the concept of a city's approach to regional organization as a combination of the many variables acting upon and within a city government.

**HYPOTHESIS 2.** "The vitality of a municipal corporation is retained or even strengthened under city-county
consolidation." The definition and criteria for measurement of vitality are listed on page 8.

(A) Certainly, city-county consolidated governments must perform all of the functions which the city and county did before it: indeed, it performs more functions than did either the city or county separately. It performs as a municipal corporation in most functions, and as a county for areas within itself which voted not to join the consolidation (for example, Jacksonville and Indianapolis).

(B) Viewed from the county level, the area, density, distribution and characteristics of the community's population remain basically unaltered, and as a municipal corporation the consolidated government lessens the contrast between actual and optimum populations for the efficient and economical administration of the functions of (A) through elimination of costly duplication of services.

(C) The area which the municipal corporation embraces has in most cases been greatly enlarged, and all consolidated cities have retained the legal status of a city (see table IX and appendix III), including annexation powers and the ability to initiate future consolidations. Therefore, consolidated units are not forever frozen to the boundaries established upon consolidation (with the exception of such island cities as Honolulu and Nantucket), and could at some future date choose to continue expansion of city limits.

(D) One of the major arguments for consolidation is
increased visibility of the segments of government responsible for various services. The U. S. Department of Agriculture study of Nashville suburbanite voters (see footnote 27, page 13) indicated a perception on the part of the voters of increased or at least stabilized satisfaction in the manner in which the metropolitan government was being run. The results listed in table IX also lend support to the view that consolidated governments can better meet the demands of urbanization and needs for more and expanded services.

(E) Many state programs (and federal programs) base decisions about amounts of money to be shared with urban areas on population - the greatest good of the greatest number. Through consolidation, the population under the jurisdiction of the urban government usually shows a dramatic enough increase to warrant increased state and federal aid. With an increase in area and taxable property bases, consolidated governments enjoy a greater fiscal capacity in terms of the property and economic activities they may tax than that of unconsolidated municipalities. Not one of the consolidated cities has had to impose a city income tax since those of Philadelphia and New York in the 1950s. Again, table IX shows that significantly fewer consolidated cities reportedly have had to raise taxes or impose service charges since consolidation than have those cities of the control group. CONCLUSION: Hypothesis 2 is apparently confirmed.

HYPOTHESIS 3. "In the views of the involved public
officials, certain social control, fiscal, and planning functions are more easily performed under city-county consolidated governments than under metropolitan governments which have sought alternative solutions to metropolitan problems. Consequently, public officials of consolidated governments possess a more positive perception of their ability to deal with metropolitan problems than do public officials of metropolitan governments which have sought alternative solutions to metropolitan problems."

With respect to the functions listed in the first part of the hypothesis, the social control and fiscal functions (as they relate to the individual citizen) appear to be significantly more easily performed under the consolidated governments, in the views of the involved officials. On the other hand, no significant difference appears with respect to the planning function. Table IX and appendices IV and V enumerate the perceptual differences between public officials of consolidated governments and public officials of other metropolitan governments.

As for the second part of the hypothesis, this is indicated both by the responses to the function-performance questions and by the willingness of the public officials to make recommendations about their form of government to other metropolitan governments. Of those officials of consolidated governments willing to make such a recommendation (12 of 17), all would recommend city-county consolidation with
varying degrees of enthusiasm and qualifications.

On the other hand, of those public officials in the control group cities, 6 of the 11 responding to the question were willing to recommend their form of metropolitan reorganization and 5 were willing to recommend against adoption of their form of metropolitan reorganization. If what these public officials are willing to put in writing is any reflection of the reality of the situation, then consolidated government officials as a whole do possess a more positive perception of their abilities to handle metropolitan problems than do public officials in the control group cities. CONCLUSION: Hypothesis 3 appears to be confirmed, with the exception that no significant difference appears between the two groups with respect to the planning function.

There is a question which naturally arises at this point: What do these conclusions mean? First of all, some cities are riper for city-county consolidation than others, depending on the city's governmental structure, the city's economic function, and several other factors.

Second, the consolidated city-county is able to meet administrative and fiscal demands (as reflected by the city's revenue collections from its citizens) imposed upon it by its citizenry. In addition, it does so without the costly duplication and overlapping of departments most often found between cities and their adjacent counties.

Third, in the opinion of public officials, control of
economic-social problems facing cities is more easily implemented under the expanded resources of the consolidated governments than under governments which have been reorganized in different manners. Additionally, there appears to be some greater degree of internal satisfaction with their governmental form on the part of those officials of consolidated units as opposed to officials of other metropolitan governments.

Finally, through the use of concepts from probability and mathematics, and based on the data collected and analyzed in this study, a predictive theory can be devised to account for past consolidation successes and failures as well as offering projected estimates for success in future consolidation attempts. As an application of this theory, the analysis of the up-coming consolidation attempt in Portland and Multnomah County, Oregon rates the chances for success as fair to good, depending on the actions of key pro and con groups over the next two years.

Before concluding, it is perhaps useful to look at a representative image of the city-county consolidated unit - a median of the seventeen cities that have approached their metropolitan problems with the tool of a consolidated government. The city is for the most part in a single county. It has been 20 to 160 years since it incorporated as a city. It has a young population (median age between 25 and 30), whose education level is 10.5 years and whose employment
level is between 35 and 40% of the overall population. The city as a whole stood to gain 40 to 50% in total population at the time of consolidation.

Politically, the former city had (and has retained) the mayor-council structure of government, and consolidation took place through a referendum. There will be no independent cities within the city-county's boundaries, but there will be one or perhaps two independent departments remaining as leftovers from the old governments - usually some part of the criminal justice system. There will have been some internal crisis at the time of consolidation which the positive vote resolved (or appeared to resolve), and there were no external crises which arose to detract from the consolidation issue (or if there were, they were successfully resolved or suppressed).

Fiscally, the city will have no city income tax, and the property tax will be about $200 lower on a $25,000 home than the national average.70 As in most American cities, general local governmental expenses will exceed general local governmental revenues. As its major economic function, the city will be either a finance center or a public administration center.

Of those groups supporting the consolidation issue, the most prominent will be the League of Women Voters, local

chambers of commerce, local "cosmopolitan" newspapers, and some city and county officials. Opponents will include smaller cities in the county to be consolidated, local "hometown" newspapers, rich suburbanites, farm bureaus and granges, and racial groups fearing a dilution of voting power.

What is needed now is more research into the quantification of heretofore qualitative variables. It is not proposed that such things as human emotions, ideals, or aspirations can ever be scaled from one to ten and be totally depersonalized for computer processing. However, if urban governments are to survive, then the scientists who study these governments need to acquire all available data which could pertain to planning for needed changes, planning to rectify social ills, and planning to chart the courses of world lines through the future. If it can be agreed upon at the national, state and local levels that the survival of the cities is desirable, then it is time for such research to begin.
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STATISTICAL DATA SOURCES


**APPENDIX I**

**GLOSSARY OF TERMS**

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
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<tbody>
<tr>
<td>City-County Separation</td>
<td>The withdrawal of a municipal corporation from the county surrounding it. The municipality in effect becomes its own county. The former county loses all jurisdiction within the city limits - the regional boundaries are the city limits. EXAMPLE: St. Louis, Missouri (1876); the &quot;independent cities&quot; of Virginia, circa 1870.</td>
</tr>
<tr>
<td>Consolidation</td>
<td>The complete dissolution of two or more governmental units to form a new, distinct governmental unit with jurisdiction over the former territory, and with responsibility for performing the former functions, of the dissolved units.</td>
</tr>
<tr>
<td><strong>A. City-city</strong></td>
<td>The consolidation of two or more cities to form a single municipal corporation. EXAMPLE: Oceanlake-Taft-Delake into Lincoln City, Oregon (1964).</td>
</tr>
<tr>
<td><strong>B. City-county</strong></td>
<td>The consolidation of a county with some or all of the municipalities within it.</td>
</tr>
</tbody>
</table>
EXAMPLE: Nashville-Davidson County, Tennessee (1962).

C. Functional. The consolidation of departments or service units between governmental bodies without the surrender of separate identities on the part of either governing body.
EXAMPLE: Seattle-King County, Washington's City-County Health Department.

D. Partial. The consolidation of part of one governmental unit with another whole or partial unit, or city-city or city-county consolidation which retains several major functions or some territory under portions of one of the former municipalities or the county.
EXAMPLES: Boston-Suffolk County, Massachusetts (1821); San Francisco-San Francisco County, California (1856).

"A multijurisdictional organization which involves more than one local government and encompasses a portion of a state or portions of contiguous states. It's prime purpose is increasing cooperation among local governments in meeting mutual challenges and problems in the area." - Massachusetts Legislative Research Council, Report Relative to Regional Government (Boston, Wright and
EXAMPLE: Portland, Oregon's four-county Columbia Region of Governments (CRAG).

**Extraterritorial Powers**

Those powers which a municipal corporation may exercise outside its corporate boundaries, as provided by regulation or by actual extension of a service function.

EXAMPLE: Elkhorn and Walworth County, Wisconsin - city has control over zoning for five miles outside its boundary within the county.

**Federation**

A two-tiered approach accomplished by establishing one level of government for the entire region and retaining the local municipalities to cope with local functions and to maintain visibility and accessibility. Very similar to the urban county approach.

EXAMPLE: Metro Toronto, Canada.

**Intergovernmental Cooperation**

A formal or informal cooperative agreement between two or more governmental units to aid one another, contract with one another, or transfer functions among one another to provide service on a regional basis.

**A. Functional Transfer**

The transfer of responsibility for performance of some service from one municipal corporation to some other unit of government.

EXAMPLE: Maintenance of urban freeways/toll...
roads in New York City by the Port Authority of New York.

B. "Lakewood Plan"

Performance of all major functions by a county for a municipality by contract.
EXAMPLE: Lakewood and Los Angeles County, California.

Merger

The absorption of one governmental unit by another, whereby the identity of the former is destroyed, and that of the latter is potentially strengthened politically and economically through the broadening of its economic and political bases.
EXAMPLE: The merger of Lauralhurst and Portland, Oregon.

Service Districts

A. Special

A limited-purpose, independent unit of government organized, usually by state law and without popular consent, to perform one (or a very few) function(s) throughout a portion of a metropolitan region.
EXAMPLE: Metropolitan Sewer District (partial) of Boston, Massachusetts.

B. Metropolitan

A special authority established to perform a number of services throughout a metropolitan region.
EXAMPLE: Metropolitan Service District of
Urban County

Portland, Oregon.

The strengthening of the county as a regional government, so that it provides urban-type services throughout the county in the same manner that a municipality might. Political subdivisions of the county retain their identities, but many services may be surrendered to the county by them. The county may set some county-wide standards as it sees fit, such as building, plumbing, and electrical codes.

EXAMPLE: Metropolitan Dade County (Miami), Florida.
APPENDIX II

TEST INSTRUMENTS

Reproduced on the following pages are the questionnaires used in the survey portion of this study. The state questionnaire is on page 113; the questionnaire to the consolidated cities is on page 114; the questionnaire to the control group is on page 115; and the questionnaire to the group of consolidation failures is on page 116.

Each questionnaire was directed to either the mayor's office or an office or individual identified in the literature (or in a previous portion of the survey process) as a focal point in reorganization efforts.
1. Does your state have any city-county consolidated/merged units?
   NO
   YES
   IF YES: A. Are they functional (service/departmental) or formal (governmental)?
   B. What is the major city involved? What is the county involved?

2. Is state legislation required in your state for city-county consolidation?
   NO
   YES
   IF YES: What is the major statute?

3. Do any cities in your state have firm plans or commitments for city-county consolidation?
   NO
   YES
   IF YES: Major City? County?

4. Does your state officially favor such consolidations?
   NO
   YES

5. Any additional comments on local government consolidation/reorganization?
1. What were your reasons for consolidating?

2. Are you legally considered (A) a city ____ or (B) an urban county ____?

3. Have problems of a social nature (welfare, race, etc.) arisen since or as a result of your consolidation? NO____ YES____

   IF YES: Please describe:

4. Have you had to (A) raise taxes (NO____ YES____) or (B) institute service charges (NO____ YES____) since consolidating?

   IF YES: Please describe how much or on which services:

5. Do you feel that you have been able to plan more effectively since consolidating? NO____ YES____

   How so or why not?

6. What advice would you give to other city/county governments concerning consolidation?
1. Has your city's governmental structure or scope ever been greatly altered ("reformed") since it was incorporated?
   NO
   YES

   IF YES: A. What form did the alteration take (mayor-to-manager; consolidation; reorganization of departments, etc.)?
   B. When did it take place?
   C. Have social problems (welfare, race, etc.) arisen since or as a result of that last alteration?
      NO
      YES

      IF YES: Please describe:

   D. Have you had to (A) raise taxes (NO YES) or (B) institute service charges (NO YES) since that last alteration?
      IF YES: Please describe how much or on which services:

   E. Do you feel that you have been able to plan more effectively since that last alteration?
      NO
      YES

      How so or why not?

   F. What advice would you give to other cities about this form of reorganization?

2. Are "good government" or other groups contemplating or lobbying for changes in your city's government structure?
   NO
   YES

   IF YES: What kind of changes?

   When would these changes become effective?

3. Any comments on government reorganization in cities in the United States?
1. What is your estimate of the cause(s) of failure to consolidate?

2. What kinds of groups arose in opposition to the consolidation?

3. What kind of education program was performed to acquaint the voters with the consolidation issue?

4. What was most objected to?
   - Big Government
   - Consolidation concept
   - Higher taxes
   - Loss of local governmental jobs
   - Reduction of local participation
   - Other:

5. Have other types of reorganization taken place in your city since the consolidation defeat?

6. Are there or have there been any attempts to resubmit the consolidation proposal to the voters?
APPENDIX III

RESULTS OF STATE SURVEY

QUESTIONS 1 - 3

1. Consolidated units in your state?

YES (Functional and Formal):

Alaska  Indiana  Pennsylvania
Colorado  Louisiana  Tennessee
Florida  Massachusetts  Virginia
Georgia  Nevada
Hawaii  New York

YES (Functional Only):

Arkansas  Nebraska  Utah
Idaho  South Dakota

2. Legislation required in your state for consolidation?

YES (Constitution plus Amendments):

Arkansas  Hawaii  Pennsylvania
Colorado  New York  Virginia
Georgia  Oregon  Washington

YES (House, Senate, Joint Bills):

Alaska  Michigan  Tennessee
Florida  Nebraska  Texas
Kentucky  Nevada  Vermont
Louisiana  South Dakota

YES (None Available or No Response):

Alabama  Kansas  New Hampshire
Arizona  Massachusetts  New Jersey
Delaware  Minnesota  North Carolina
Idaho  Missouri  South Carolina
Indiana  Montana  Wyoming
3. Actions currently under way to create consolidated units?

YES: Alaska  North Carolina  South Dakota
        Georgia  South Carolina  Virginia
APPENDIX IV

RESULTS OF CONSOLIDATED GROUP SURVEY

1. Major reasons for consolidating? See text.

2. Consolidated unit legally a city? YES for all 17.

3. Social problems arisen?
   YES: 0   NO: 16   NO RESPONSE: New Orleans

4. Had to raise taxes?
   YES: Nantucket  New Orleans  NO: Carson City
   Nashville  New York  Columbus
   Chesapeake  Virginia Beach  Juneau
   Hampton  Newport News  Indianapolis
   Denver  Philadelphia  Baton Rouge
   Honolulu  

   Had to institute service charges?
   YES: Denver  NO: Carson City  Nashville
   New York  Nantucket  Newport News
   New Orleans  Columbus  Chesapeake
   Jacksonville  Juneau  Baton Rouge
   Indianapolis  Hampton  
   Virginia Beach  Honolulu

   NO RESPONSE: Philadelphia

5. Been able to plan more effectively?
   YES: Denver  Carson City  NO: Baton Rouge
   Hampton  Virginia Beach
   Juneau  Newport News
   Columbus  Indianapolis
   Honolulu  Jacksonville
   Nashville  Philadelphia

   NO RESPONSE: Nantucket  New Orleans
   Chesapeake  New York
6. Advice to other governments on consolidation?

"(Consolidated government) is more economical because it eliminates duplication of government and services." - Honolulu.

"In some cases, city-county consolidation may be the answer to many problems." - Philadelphia.

"This system has worked very well for Denver." - Denver.

"Efforts to consolidate must take cognizance of political as well as internal governmental factors and problems." - Indianapolis.

"A great deal to offer, but not necessarily to all." - Carson City.

"For those contemplating it: be bold and do it." - Juneau.

"Proceed!" - Baton Rouge.
APPENDIX V

RESULTS OF CONTROL GROUP SURVEY

1. Governmental structure ever been greatly altered?

YES: 13  NO: Lexington  Hot Springs
        Atlanta  Tampa

(Question 2): Contemplating changes?

YES: Tampa - consolidation with Hillsborough Co.

NO: Lexington  Atlanta  Hot Springs

IF YES: A. What form has the alteration taken? (N = 13)

Mayor to manager: Des Moines  Dallas
    Huntington  Cleveland (back to mayor)

Weak manager/strong mayor to strong manager/weak mayor: Phoenix

Weak mayor to strong mayor: East Hartford

Commission to mayor-council: Birmingham  Memphis

Mayor-alderman to commission: Lafayette

Ward system to council-at-large: Detroit

Charter revision, strengthened manager: San Jose

Consolidation with another city: Union City

B. Social problems arisen?

YES: Phoenix  Dallas
    Memphis  Cleveland
    Detroit  Huntington
| (1.) | (B.) NO: East Hartford | San Jose |
|      | Birmingham            | Lafayette |
|      | Greenville            | Union City |
|      | Des Moines            |

### C. Had to raise taxes?

| YES: Huntington | Lafayette | Dallas |
| Birmingham      | Phoenix   | Cleveland |
| Greenville      | Memphis   | San Jose |
| Union City      | Detroit   | East Hartford |

| NO: 0           | NO RESPONSE: Des Moines |

### Had to institute service charges?

| YES: Greenville | Lafayette | NO: Dallas |
| Huntington      | Memphis   | Phoenix   |
| Union City      | Cleveland | Birmingham |
| Des Moines      | San Jose  |

| NO RESPONSE: Detroit | East Hartford |

### D. Been able to plan more effectively?

| YES: Birmingham | Dallas |
| Greenville      | Memphis |
| Huntington      | Phoenix |
| Des Moines      | East Hartford |
| Lafayette       |

| NO: Union City | NO RESPONSE: Cleveland |
| San Jose       | Detroit |

### E. Advice to other governments on this form of reorganization?

| WOULD RECOMMEND: Greenville | Des Moines |
| Huntington                 | East Hartford |
| Birmingham                 |

| RECOMMEND AGAINST: San Jose | Union City |
| Lafayette                   | Phoenix |
| Cleveland                   |

| NO RESPONSE: Dallas |
| Detroit |
| Memphis |
2. Contemplating changes?

YES: Cleveland - urban county
Des Moines - to commission structure
Union City - service/departmental consolidation
Birmingham - city-county consolidation
Memphis - city-county consolidation
Lafayette - commission to strong mayor
Greenville - regional government
Detroit - charter revision
San Jose - charter revision
Dallas - yes, but no response as to type

NO: East Hartford
Phoenix
Huntington

3. Any recommendations/comments?

"Change for change's sake alone is not good practice." - Dallas

"Need reversal in trend of tax dollars going to the federal government." - Huntington

"Local governments must gravitate towards metropolitan and area-wide approaches to solving mutual problems." - East Hartford

"Consolidation would help lower the costs of providing services." - Union City

"Some cities have apparently failed to prevent physical and social decay under the present system of regulations and controls - they may have to surrender home rule for more control from the federal government." - Cleveland
This appendix lists, in simple mathematical terms, several definitions which are necessary for a fuller understanding of the terminology used in the section on mathematical models. More rigorous definitions can be found (if references are not given) in most standard freshman and sophomore mathematics texts.

Definition 1: **Variable** - a symbol which can take on varying values, numerical or otherwise.

Definition 2: **Dependent variable** - a variable that depends on the value of another variable for its value.

Definition 3: **Independent variable** - a variable which does not depend on another variable for its value.

Definition 4: **Function** - a relationship between a dependent variable and one or more independent variables such that, as the independent variable(s) take(s) on different values \((x_i \neq x_j \text{ if } i \neq j)\), then there is one and only one value of the dependent variable determined. The notation is

\[ y = f(x) \]

read as "\(y\) equals a function of \(x\)." Here \(y\) is the dependent variable and \(x\) is the independent variable. Some examples of functions are:
(a) \( y = f(x) = 3x - 7 \)
(b) \( z = f(x,y) = x^2 - 2xy + 3 \)
(c) \( R = f(x_1, x_2, \ldots, x_n) = 3x_1 + x_2 - x_3 + \ldots - 9x_n \)

In example (a), there is one independent variable, \( x \). In example (b), both \( x \) and \( y \) are independent variables. In example (c), there are \( n \) independent variables which determine the value of the dependent variable, \( R \).

Definition 5: Curve - if it is agreed that a "flat" surface is a plane, then a curve is the intersection passing through of) any surface with a plane. Examples: a line is the intersection of two planes; a parabola is the intersection of a plane and a portion of a cone; a circle is the intersection of a plane with another portion of a cone (a cross-section).

Definition 6: Dimension - an extension into one direction of space. As represented in a function, the total number of dependent and independent variables. In definition 4, example (a) is two-dimensional; example (b) is three-dimensional; and example (c) is \( n + 1 \)-dimensional.

Definition 7: Graph - a point-by-point description of a curve in space. In two-dimensional space, consider two lines intersecting in a point, at right angles to one another (for ease of computation). Isolate an arbitrary point from the intersection, and that point will be associated with the number 1 (and the point of intersection with
the number 0). The segment of line from 0 to 1 is then the unit segment, and all other numbers of the real number system can be associated with points along both lines. By calling one line the \(x\)-axis, and the other the \(y\)-axis, then any point in this space can be described by an ordered pair \((x,y)\). Each point of a curve in this two-dimensional space is then described point-by-point in terms of \(x\) and \(y\), and a function devised to describe the relationship between the two. Thus these two lines marked off with the real numbers, and the collection of all the points \((x,y)\) associated with the points on the curve, are together called the graph of the curve. This process can be generalized to \(n\) dimensions, where each point is described by an \(n\)-tuple \((x_1, x_2, \ldots, x_n)\).

**Definition 8:** Vector - a directed portion of a line, \(\overrightarrow{AB}\), where the "magnitude" of \(\overrightarrow{AB}\) is the length of the segment and the direction of \(\overrightarrow{AB}\) is the direction from the base \(A\) to the head \(B\), with respect to some set of \(x\) and \(y\) axes. The notation for vectors from directed line segments is

\[
\overrightarrow{AB} = \vec{v}
\]

If the length of \(\vec{v}\) is to be determined (as well as its direction), then a coordinate system (\(x\) and \(y\) axes) must exist in which the line of which \(\overrightarrow{AB}\) is a segment of is a curve - its graph must exist. If the vector \(\vec{v}\) is thought of as having its base \(A\) at the intersection of the \(x\) and \(y\) axes, then the head \(B\) can be described by the \(n\)-tuple of numbers fixing the point \(B\) in space.
Definition 9: Projection - (see H.P. Manning's *Geometry of Four Dimensions* (New York, Dover Publications, 1914)) the construction of a perpendicular (line at a right angle) from an n-dimensional point $p$ to a plane of $n - 1$ or fewer dimensions. The projection of a curve involves the projection of each point of the curve into such a plane. If $z = f(x,y)$ then the projection of the curve $z$ into the $x$-$y$ plane is $y = F(x)$, where the function $f$ is projected into the function $F$ coordinate-by-coordinate.

Definition 10: World Line - the set of all points which offer a description of a body or object in the universe of $n$ dimensions through time. Herman Minkowski, a nineteenth century geometer, determined the four-dimensional world line of physical objects to be a continuous curve in four-dimensional space (length, width, breadth, and time) consisting of the coordinates that those objects had ever occupied (see Albert Einstein's *Relativity: The Special and General Theories* (New York, Crown Publishers, 1961), pp. 121ff. and Maurice Duquesne's *Matter and Antimatter* (New York, Collier Books, 1962), pp. 27ff.).