CLUSTER PLANNING AND CLUSTER STRATEGY IN REGIONAL ECONOMIC DEVELOPMENT ORGANIZATIONS

BY

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DISSERTATION

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ABSTRACT

Paper 1:

The changing landscape of regional economic development practice: Findings from a survey of regional economic development organizations in US metropolitan areas

Regional-scale economic development practice has evolved considerably in the past few decades. The change has been influenced by trends in regional governance of many policy spheres, particularly the expanding role of the private sector. It has also been driven by federal support for a private sector voice in regional organizations in economic development and related fields like workforce development. As a result, regional economic development policy is shaped by organizations that differ considerably from the regional councils and regional planning districts that characterized the organizational landscape a few decades ago. Because this new generation of organizations, whose members are variously called "regional partnerships for economic development" or "regional marketing partnerships," was created outside of formal government, no systematic national census of them exists.

This paper presents the results of a census and survey of such organizations, only the second of its kind and the first in over a decade. The data show that the number of such organizations continues to grow, to the point where they exist in nearly every metropolitan area over a certain size. The data also show that while their focus remains marketing and attraction efforts, the organizations engage in a wide range of activities including workforce development, local policy advocacy, business retention, and various collaborative efforts with other regional partners. It also shows that the organizations take widely varying forms involving different relationships between the public and private sector, and that their association with a particular geographic scope, and sometimes their very existence, is fluid and for some continuously negotiated.

Though only a first look at regional economic development organizations, this paper makes several important contributions. First, it proposes and implements a method of identifying the organizations that might be repeated at specific intervals in order to track the existence of them over time and by place. Second, it presents an updated picture of such organizations in terms of basic factors like size, budget, and frequency. Third, it shows that considering the organizations only as "regional

marketing partnerships" suggests on overly narrow view of them given the many activities in which they engage and their expanding role in regional economic development policy.

Paper 2:

Equal parts location quotients and press releases: the results of a cross-sectional survey of cluster-based regional economic development efforts in the US

In a much cited article from 1990, Levy distinguished between rational model and sales activities in local economic development practice. More recently, the debate around cluster-based economic development practice has broken along similar lines. Clusters are understood as either a critically important object of analysis or an updated form of industrial targeting. This paper, which presents the findings from a national survey of regional economic development organizations in the US, shows that the sharp distinction made by Levy and those in the cluster debate may be a poor lens through which to understand cluster policy and practice, and economic development policy more generally.

The survey was sent to 234 regional economic development t organizations in the US, and yielded 104 responses, for a response rate of 44%. The findings show that nearly every organization claimed to have identified clusters in its region though the clusters vary in sophistication. The prevalence of "advanced manufacturing" and "green tech" clusters suggests that criticism of cluster practice is well founded, but seemingly more sophisticated clusters were common. Furthermore, individual organizations often had a mix of what might be termed "real" and "aspirational" clusters, and the level of analytical sophistication in different efforts did not explain the variation in cluster types. Instead, the findings suggest that cluster-based economic development practice is more complicated than simply identifying and targeting certain clusters. The survey findings show that while targeting and marketing activities were the main motivation for cluster identification efforts, small business development and workforce development were also important. Respondents also reported that the outputs of cluster analysis affected not only recruiting efforts but also organizational budgets and strategic plans, as well as outreach to local firms.

The general picture that emerges from the findings is one in which cluster practice involves the application of "rational" type findings to building local relationships, and where successful local relationships are valued jointly for the increased capacity for action they create and as a powerful tool in

successful marketing campaigns. This complicated mix of sales and rational activity that comprises cluster-based economic development practice shows Levy's distinction to be somewhat artificial. Cluster-based economic development practice is shown to involve significant parts reasoned decisions and unrealistic aspirations, and seems well-suited to encouraging a dual focus on firms currently in the region and those which might locate there. This last finding is likely to be one of the enduring strengths of cluster policy, in that it forces economic development organizations to take the concerns of local firms seriously while allowing a large role for traditional marketing and recruitment.

Paper 3:

All Planning, No Strategy:
Explaining Cluster Policy Decisions of Regional Economic Development Organizations

The widespread adoption of cluster-based economic development strategies by regional economic development organizations has generated excitement and derision in equal measure. Cluster enthusiasts point to the concept's potential for encouraging locally-focused development around agglomeration economies, and for increasing understanding of regional economies more generally. Critics argue that the concept fails to introduce new ideas in to practice, and that it serves merely to cloak traditional business attraction efforts in more sophisticated language. At the heart of this debate is the question that this research attempts to address: does the use of a cluster-based approach add anything of value to economic development practice, and if so how?

Through a set of four case studies of decisions in two different regional economic development organizations, this research attempts to understand how cluster analysis and the cluster concept itself informs major decisions by the organizations. In order to do so, the research rejects the rational comprehensive model that dominates much of economic development planning literature and that entails multiple unrealistic assumptions about the environment in which economic development policy evolves. It relies instead on a conception of the policy process that assumes neither agreement nor cooperation as a precursor to planning, and the idea that plans inform rather than control decisions. By constructing each case from interviews with key informants and reviews of relevant studies, plans, and progress reports, the research works backward from each decision to identify how and where the cluster concept and cluster analysis informed them.

The study finds that cluster analysis and the cluster concept do inform major economic development policy decisions in important ways. However, the outputs of a traditional cluster identification analysis were never sufficient to suggest concrete policy proposals. Instead, such analysis served as the beginning of an extended, multi-year process that involved further research on specific clusters and outreach to specific cluster firms. The final decisions were affected more by information and relationships that arose during that process than by the initial analysis. The eventual decisions all embodied the cluster concept to some degree. In particular, the concept helped organizations identify sets of firms that were potential collaborators, understand connections between local forms and those in nearby regions, and prioritize limited organizational resources. In sum, the research shows that cluster-based economic development planning approaches can usefully inform economic development practice, but that analytical techniques to "identify" clusters contribute only a small part of that value.

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PREFACE

If one were to read in a newspaper that the Smith Valley Regional Development Partnership (not a real organization) had engaged in an effort to identify the industry clusters that were present in its region, it would likely not come as a surprise. Similarly named organizations around the US have engaged in such efforts many times over the past two decades. Regional economic development and cluster studies have become a mainstay of economic development practice in the US and around the world. The real surprise is that our understanding of what such organizations do, and how something like a cluster study does or does not help them do that, is considerably more limited.

Economic development policy is practiced at multiple scales: neighborhood, city, county, region, state, nation, and internationally. Dissatisfaction with local economic development policy, in particular its reliance on arbitrary political boundaries that slice through labor markets and metropolitan areas, has led to calls for economic development policy to be made at a regional scale. Such calls have been answered, at least in part, by a proliferation of regional economic development organizations in the US. These organizations, which are different from the councils of governments and regional planning councils, focus exclusively on economic development activity. Because they operate at a scale that lacks general purpose government in the US, regional economic development organizations are primarily the creation of local public and private sector leaders.

Despite the proliferation of such organizations, they have not been the subject of much research. Part of the reason for this lies with the fact that no definitive listing of them exists. This is an oversight that this dissertation begins to remedy, though it represents only a beginning. Regional economic development organizations touch on many issues that are of great interest to academics and practitioners alike. First, as organizations composed of public and private sector members, they are potentially more lasting than partnerships organized around individual projects. Second, as organizations closely involved with making economic development policy at what is widely recognized as a critical spatial scale – that of the region – they warrant much more study than they have received.

One of the most dominant ideas of regional economic development of the past few decades is that of industry clusters. The concept, which is not entirely new, has been the focus of extensive research. However, much of that research has been of two types. First, there is a great deal of theory about how clusters function and what sorts of relationships might drive them. Though only some of this theory has been empirically verified, it nevertheless has produced a great deal of insightful work on

regional economies. Second, there have been a great number of case studies of cluster initiatives. These accounts are often purely descriptive case studies that fail to produce generalizable findings.

Clusters as economic units are one thing, and cluster policy is another. From a policy standpoint, it would be important to know whether or not the cluster idea has led to better policy and if so how. Such questions cannot be answered through theoretical work on clusters or by case studies of cherry picked success stories. Instead, it is important to look at cross-sectional data of organizations to see how clusters and cluster analysis inform their decisions and policies. Case studies can also serve a purpose, but they must be case studies that address how economic development practitioners think about and use clusters to make decisions, allocate resources, and make sense of their regional economy.

This dissertation is organized into three papers. They are presented here both in the order in which the research was conducted and in what is the most logical flow. The first two present data from a survey of regional economic development organizations, and the third presents the findings from a set of case studies of such organizations. They are summarized briefly below.

The first paper presents an analysis of the current state of regional economic development organizations in the US. After a review of the history of regional planning and regional organizations in the United States, the paper reviews the compelling arguments for coordinating some economic development functions at the regional scale. It then uses the results of a national survey of regional economic development organizations to evaluate to what degree they are meeting the call for multifaceted regional economic development activity. Overall, the data show that the organizations are somewhat small and primarily focused on attraction, marketing, and recruitment. The data also show that, with a few exceptions, the organizations to be almost entirely creations of the local public and private sector leaders, with little involvement from state or federal economic development programs. Finally the paper argues that such organizations areas of operation do not match up with certain accepted regional definitions such as commuter sheds. This last point may have real implications for such organization's ability to coordinate economic development at the regional scale. The second paper turns to the issue of clusters specifically. It examines how regional economic development organizations work with clusters including their motivations to do so, specific programs that have been designed around clusters, and the nature of the more than 600 clusters reported by respondents. The findings indicate that clusters involve a complicated mix of attraction-focused and locally-focused activity. As used by these organizations, clusters cannot be reduced to simple attraction targets or as the results of cluster analysis. Instead, sets of clusters are composed of "actual" and "aspirational"

clusters that are the result of a combination of objective analysis, strategic behavior, and wishful thinking. In a rejection of some of the charges of cluster cynics, the findings indicate that cluster practice consists of a great deal of interaction with local firms as well as traditional marketing.

The third paper looks more closely at how the organizations use clusters to actually make decisions. Drawing on the findings of a set of case studies of decisions, this paper uses interviews, archival research, and reviews of documents to construct a narrative showing how cluster analysis shapes and informs important decisions by such organizations, often outside the scope of a focused "cluster program." The cases are interpreted in light of discussions from planning theory about how planning behaviors affect decisions, and the paper presents a compelling argument for abandoning the widely accepted rational and strategic planning models in economic development. The cases show clearly that decisions never followed directly from, much less occurred within, formal planning processes. Instead, piecemeal instances of analytical work, meetings and discussions among organization staff led over time to decisions about clusters that had significant implications for the organizations and the region. The link between cluster analysis and cluster policy is shown to involve continual reflection and experimentation, some of which may provide real revelations that have concrete effects on policy.

CHAPTER 1

The changing landscape of regional economic development practice:

Findings from a survey of regional economic development organizations in US metropolitan areas

1. Introduction

Over the last several decades, planning and urban policy scholars have called for policy issues to be addressed at a regional rather than a municipal scale (Rusk 2003). Arguments for coordinating regional economic development policy include the limited capacity of individual municipalities, particularly inner cities (Savitch and Vogel 2000), the need for policy interventions to cover functional economic units (Beauregard 1995), and the increase in regional-scale economic competition (Barnes and Ledebur 1998). The United States lacks general purpose governments at the regional scale that might coordinate such policy, states being a poor substitute due to their arbitrary borders. For some policy areas, such as transportation, the federal government has mandated the existence of a regional organization in metropolitan areas over a certain size (Gerber and Gibson 2009). No such requirement exists in economic development policy.

As a result, a patchwork of regional economic development organizations (REDOs) has evolved to address economic development regionally. With the exception of those in the few states that have coordinated the process, most REDOs are partnerships between the local public and private sectors. Despite the significant role played by REDOs in regional economic development policy, they have not been the subject of much empirical research. The first and only national survey of REDOs found 191 of them in the US over a decade ago (Olberding 2002a). Over a decade later, there is still no authoritative census of REDOs, and as a result we still know relatively little about their structure and operation.

This paper makes several contributions. First it includes a complete census of REDOs currently operating in US metropolitan areas with populations between 150,000 and 4,000,000 people. Second, it shows that those organizations are primarily concerned with marketing and recruitment and less so with other areas of economic development policy. Third, it shows that REDOs are largely creations of local

public and private sector elites. The picture that emerges is one of organizations that are not particularly well-suited to oversee multifaceted economic development work.

The paper is organized as follows. The next section addresses the historical and theoretical context of regional economic development organizations in the United States. The third section introduces the definitions and method used to identify REDOs and implement the census of REDOs. The fourth section describes the resulting census of REDOs that constituted the survey frame. The fifth section presents the results of the survey. The sixth section contains a discussion of the findings in light of prior research. The seventh section concludes with a brief discussion and presents avenues for future research.

2. Background

2.1 The rationale for and criticism of regional approaches to economic development

In recent decades, arguments in favor of addressing economic development at the regional scale have involved several different rationales that fall into two groups. The first starts from the premise that the region, loosely defined, represents a functional economic unit. It is therefore more appropriate, the logic goes, to make policy for the entirety of the unit, rather than for individual parts of it or for groups of several units together. The second group of arguments addresses concerns of efficiency and equity that arise when making economic policy at sub-regional – usually county or municipal – scales. Each is reviewed below.

The first argument is that regions are more likely than smaller areas to constitute an integrated, functional economic unit. With the growth of suburban cities in the mid-Twentieth Century, metropolitan areas became agglomerations of adjacent municipalities which varied in their "function" vis-à-vis the metropolitan area. Each municipality was thus only a small part, such as a bedroom community or a job center, of a more cohesive whole. Economic policy, according to proponents of this view, ought to be made at a scale that takes account of all of the relevant functioning parts of a relatively coherent economic unit (Beauregard 1995). This logic is the centerpiece of the US Office of Management and Budget's (OMB) method of defining core-based statistical areas on commuter flows. The idea of regions as functional economic units has been bolstered by newer theories of economic

growth and development that give a large role to spatially rooted knowledge and relationships (Storper 1997; Cooke and Morgan 1998; Porter 1990).

A second, and related, argument sees regions as fundamental units not of production but of competition. It proponents argue that regions, as opposed to nation states, are now the fundamental unit of competition (Barnes and Ledebur 1998). The logic goes that as barriers to trade across national borders fall, national policy and identity will play less of a role in determining the economic prospects of individual regions. Instead, regions will compete directly with each other within and across national boundaries. Though focused on inter-regional rather than intra-regional forces, this argument also suggests a role for economic policy at a regional scale.

The next set of arguments address equity and efficiency concerns with making policy at sub-regional scales. Individual municipalities, particularly inner cities, have experienced population and capital flight. Particularly in declining industrial areas, this has left central cities without the resources necessary to combat their decline (Savitch and Vogel 2000). Because the fates of suburbs and central cities are tied together to some degree, this decline is of concern to the entire region. A regional approach to policy, in this view, presents an opportunity to pool resources and bring the capacity of the entire region to bear on problems throughout the region, rather than leaving each municipality to its own devices.

The fourth argument in favor of regional economic policy posits it as a cure for competition between local governments for jobs and capital investment. Regional economic policy is seen as a way to minimize such competition (Basolo 2003). Policies such as tax abatement incentives have been shown to be of questionable benefit to communities (Bartik 1991). They persist due to a range of causes including the self-interest of local elected officials and the prisoners' dilemma faced by individual cities (Dewar 1998). The latter problem in particular is difficult to address except through coordination at a regional scale. One version of this argument places the private sector in a leading role, since members of that sector may have less of an attachment to a particular locality within a region (Gainsborough 2003; Hamilton 2004).

Proponents of regional economic development policy are not without their critics. Imbroscio (2006) claimed that proponents of regionalism, particularly Rusk (2003), underestimated the potential of locally-based community development policies to improve the lot of declining areas. Regionalism thus had the potential to further marginalize citizens within declining areas, many of whom were already

marginalized by their racial or socioeconomic status. This could happen if regional policy results in the interests of less politically powerful parts of the region being eclipsed by those of more powerful arts (Turok 2009). Even its proponents warn that regional policy offers only the potential to provide novel solutions to economic development problems, and that there is nothing inherently more equitable in approaching economic policy at a regional scale (Swanstrom 2006).

2.2 Antecedents to regional economic development organizations in the US

For the purpose of this research, a regional economic development organization (REDO) is an organization, with dedicated staff and a budget, whose main objective is the economic development of a metropolitan region. A metropolitan region is defined as comprising one or more urbanized areas along with the suburban areas associated with them through commuting patterns. As such, REDOS are organizations dedicated to working on the economic development of a relatively coherent economic unit. As the following section makes clear, such organizations are a relatively recent phenomenon in the US.

The idea of addressing economic development at a regional scale is not new. Efforts to address planning problems at the regional scale can be traced back to the work of the Regional Planning Association of America (RPAA). Started in 1923, the RPAA worked on a variety of projects, such as the Appalachian Trail, that spanned multiple political jurisdictions (Parsons 1994). In 1929, the Regional Plan Association of New York developed the first in a series of regional plans for the New York City metropolitan area (Johnson 1995).

More recently, the growth in REDOs in the US is due to intersecting trends in economic development practice and regional governance in the US (Olberding 2002a). The US has never had federally mandated general purpose regional government. As a result, much regional policy-making is the result of a process initiated at the local level (Wallis 1993; Norris 2001; Markusen 1996a). There have been several approaches to creating general purpose regional government in the US (Wallis 1994). One such approach, consolidation, involved the merging of central city and county governments. Though seen in a number of cities such as Indianapolis, Indiana, consolidation is more the exception than the rule. Even where it has been carried out, consolidation on its own rarely results in metropolitan scale government since metropolitan areas in most of the US span multiple counties. A second wave of attempts to create regional government resulted in the establishment in many places of Regional Planning Commissions and Councils of Governments. RPCs and COGs dealt with a range of

policy areas including economic development. For the most part, however, they had limited resources to start with, only a small portion of which were dedicated to economic development.

Early attempts at general purpose regional government showed reluctance on the part of the local public sector to cede real power to a regional authority. True consolidation was rare, and the powers of the more common Regional Planning Commissions and Councils of Governments were restricted to advisory roles (Rothblatt 1994). In part, the reluctance of the local public sector to cede power to a regional authority reflects the differing interests and priorities of municipalities within the same region (Counsell and Haughton 2003; Turok 2009). Collaboration between local governments is also made difficult by continuing competition for development activity (Katz 2000; Savitch and Vogel 2000; Swanstrom 2001). A further barrier to regional government has been a reluctance on the part of states to authorize it, or to grant it very limited authority (Rothblatt 1994).

A third wave of attempts at regional government looks beyond the public sector (Savitch and Vogel 2000). A central theme of these efforts has been the distinction between government and governance, where the latter includes the full set of actors and institutions involved in governing. Regional governance, in this understanding, is something carried out by networks of public and private actors involved in voluntary coalitions that act in ways to influence the objects of policy rather than control them (Savitch and Vogel 2000; B. G. Peters 1998). Thus by the 1990's, there was considerable support for the idea that regional policy could and should be made by organizations that were not entirely creations of the public sector. The resulting organizations are largely voluntary and extremely reliant on building and maintaining cooperation between members.

Though general-purpose regional government is rare in the US, the federal government had created regional programs focused on economic development several times in the 20th Century such as the Tennessee Valley Authority, the Appalachian Regional Commission, and the Delta Regional Commission (Cumberland 1971). These were singular programs focused on areas that faced extreme underdevelopment, however, and not models intended to be widely replicated. Some states have also attempted to create regional economic development organizations, notably North Carolina, but these were also more the exception than the rule. The main Federal program specifically designed to effect economic development policy at the regional scale is the Economic Development Administration's (EDA) Economic Development District (EDD) program. However, unlike the federal transportation programs that mandated the creation of Metropolitan Planning Organizations as a condition of securing federal transportation dollars, the legislation that created EDDs does not require the creation of a regional

organization. Instead, an organization, new or existing, may be designated a "District Organization" (13 US CFR 304.2) As a result, EDDs are managed by a range of public and public-private organizations that in many cases engage on a wide range of issues but dedicate scant resources to economic development. Hall (2008) found that some organizations managing EDDs exist primarily to secure federal infrastructure funds but otherwise keep a low profile. The Comprehensive Economic Development Strategies (CEDS) that must be prepared in order for an EDD to receive funds are only updated every five years, and there is no requirement that an organization devote resources to economic development in the interim. In many cases EDDs are managed by organizations with little resources to engage in economic development, but who control the EDD as a means of controlling access to a particular stream of federal funds.

The result of these early efforts was that in 1980 most US metropolitan regions lacked REDOs (Olberding 2002a). At the same time approaches to regional government were changing, the practice of local economic development was also evolving. Local economic development practice has been described as consisting of three distinct waves (Clarke and Gaile 1992; Bradshaw and Blakely 1999). The first such wave took place in an environment of high federal funding for local development. Somewhat assured of federal support for large projects, local economic development consisted largely of business attraction (Clarke and Gaile 1992). The second wave occurred in response to declining federal support for local development projects in the 1970s and was characterized by a more entrepreneurial attitude on the part of local actors (Clarke and Gaile 1992; Bradshaw and Blakely 1999; Eisinger 1988). Though attraction efforts persisted, they were joined by revolving loan funds and small business development centers, among other initiatives.

The third wave of economic development practice reflected similar concerns as those found in approaches to regionalism. Specifically, third wave economic development policy included an emphasis on partnerships of public and private sector actors working through quasi-autonomous organizations. Being located outside of formal government hierarchies, such organizations could take advantage of other organizational forms including non-profit organizations. The funding and leadership of such organizations might be from the public and private sectors, in proportions that varied from place to place. The private sector was imagined by some to be more willing to collaborate at the regional scale since members were less likely than public sector officials to be tied to specific municipalities (Kanter 2000). Empirical work on regional partnerships has supported this claim to some degree (Hamilton 2004; Olberding 2002a). The central role of partnerships reflected emerging ideas in governance, but

also the emerging theories of economic development that gave a central role to regional networks of public and private sector actors and non-hierarchical arrangements (Cooke and Morgan 1998; Porter 2003; Amin 1999). The close association between third wave policies and the practice of cluster-based economic development underscores this point (Bradshaw and Blakely 1999). The late twentieth century saw the proliferation of REDOS that reflected emerging trends in regional government and governance and economic development theory and practice (Olberding 2002a).

2.3 Research on REDOS in the US

Beginning in the 1980's the number of REDOs grew quickly in the US (Olberding 2002a). These organizations were largely voluntary and included a mix of public and private sector actors. Despite their growth in number, up to 191 by 2002, only a single large sample study of them exists. That study found that they have engaged in a wider set of activities than those commonly associated with EDDs including information gathering and analysis, regional marketing, lobbying government for infrastructure, and developing strategic plans for the region (Olberding 2002a). Governing board members for the organizations included representatives from the public and private sectors, but the data indicated that, in contrast to the largely public sector led RPCs and COGs, guidance of the organizations was heavily skewed in favor of the private sector. Though it gathered fairly general characteristics about the organizations, Olberding's (2002a) study clearly showed the emergence of a new type of economic development organization.

Olberding called the organizations in her study "Regional Partnerships for Economic Development," which she defined as a, "group or alliance formed by local governments, often with the help of private sector firms and nonprofit organizations, that has a mission of enhancing the economy of a multijurisdictional area." There are several problems with this definition. First, it could be applied to older forms of regional government, including RPCs and COGs, which are not really part of the "third wave" that Olberding describes. Some such organizations did find their way into Olberding's survey frame, including the Southwest Georgia Regional Development Center (SWGRDC) (Olberding 2002a). The SWGRDC was founded in 1989 as part of an act by the state of Georgia to create regional development authorities (Southwest Georgia Regional Commission 2013). Though founded later than some RPCs, the SWGRDC works on a range of issues including land use planning and GIS in addition to development (Southwest Georgia Regional Commission 2013). In the time since its founding the state of Georgia changed the names of its Regional Development Centers to Regional Commissions, perhaps reflecting their more general purpose. Furthermore, the staff listed on the organization's website

includes multiple people with “planner” or “GIS” in their title but none with “economic” or “development.” Though somewhat anecdotal, this paints a picture of an organization modeled more closely on the RPC model than on the more recent wave of economic development organizations described by Bradshaw and Blakely (1999) that place an emphasis on private sector involvement and a focus on economic development.

Contrast the Southwest Georgia Regional Commission with the Quad Cities Development Group (QCDG), an organization located in the Quad Cities of Iowa and Illinois that was included within Olberding’s (2002a) list. The QCDG was founded in 1969 as the Iowa-Illinois Industrial Development Group. It began as a purely private sector organization, but its members sought public sector membership in 1986, and it eventually received about half of its funding from the public sector (Allemeier 2013). The QCDC works primarily on economic development through expansion and retention of local business, regional marketing, and as an advocate for businesses in the region (Allemeier 2013). The QCDG was different from an RPC in two important ways. One, it was led by the private sector, even if it eventually created a role for the public sector. Two, it focused exclusively on economic development issues. Like an RPC or COG, it could be called a partnership, but the nature of the partnership is different than in an RPC due to the much larger degree of control by the private sector. This brief comparison shows that the word partnership is of little use in distinguishing between these two different types of organizations. For that reason, I do not use it here.

A second problem with Olberding’s definition is the inclusion of the term “formed by local governments.” One of the critical differences between older and more recent models of both regional governance and economic development is the prominent role of the private sector. Hamilton (2004) described several cases where the private sector played a leading role in regional collaboration. Any definition of newer regional economic development organizations should not be restricted to those formed by local governments. As organizations created outside of government hierarchies, REDOs can take advantage of a variety of legal forms including non-profit corporations and 501(c) organizations that enable a high degree of variation in the roles of the public and private sector within them. As Federal funds for regional economic development have shrunk through the years, it is only natural that the character of regional economic development organizations would adapt.

This paper adopts the term “regional economic development organization” because it captures the primary focus REDOs bring to regional economic development activity and because it allows for organizations of varying forms of public and private sector involvement. Even though some RPCs have

led a drive to have their region designated as an EDD, Hall's (2008) findings suggest that this does not necessarily signify an enhanced focus on economic development within those organizations. An EDD designation is not sufficient to turn an RPC into a REDO as defined here. I do not include explicit reference to the private sector in the definition for the following reason. Although Olberding's (2002a) work showed a dominant role for the private sector, the distinction between "private sector led" and "public sector led" is not a clear one. Funding and directors often come from both, and the very nature of regional governance suggests that leadership does not lie solidly on either side. Olberding's work provided an important first look at REDOs, but the data are now over ten years old. It seems likely that the number of REDOs has grown since then, given their growth in the period immediately prior to 2002, but their current number is unknown. One likely reason for the lack of research on REDOs is the lack of a centralized listing of them. As organizations led by a mix of public and private sector actors that varies from place to place, they do not belong to any single larger association such as the National Association of Development Organizations (NADO), which counts public sector organizations like Regional Planning Commissions and Councils of Governments among its members. Olberding published her listing of organizations from 2002, but their status as organizations chartered outside of the public sector hierarchy means that they may also change their names or even their structures more rapidly than other regional economic development organizations. The QCDG, mentioned above, is an example of this trend. In 2009, it changed its name and structure to become Quad Cities First (Allemeier 2013). This study develops and implements an improved means of identifying REDOs, an important first step in tracing their growth and development in the US.

3. Developing a census of REDOs

The first challenge in conducting a cross-sectional analysis of REDOs is that no authoritative census of them exists. This research began by developing a method of identifying them. The method was designed to identify candidate organizations in US metropolitan areas and then determine whether or not the organization satisfied certain criteria with respect to being regional and focused on economic development. Given the many ways in which each of these terms is used, no single definition is likely to be universally accepted. The method developed here is the first attempt of its kind, and is presented clearly so that it can be assessed and improved upon in succeeding research.

Prior attempts to identify REDOs used a combination of partial lists of economic development organizations from magazines and trade associations, along with internet searches and conversations with state economic development officials (Olberding 2002a). I adopted similar approach, though without calls to state officials. I also focus on metropolitan areas. As such it leaves out some places that have regional organizations. The metropolitan focus allowed for the use of Metropolitan Statistical Areas in the search process, which brought consistency and a degree of comprehensiveness to the process. The method began with a list of metropolitan areas in the US, specifically the OMBs December, 2009, MSA definitions. The list was limited in two ways to make the work more manageable. First, I did not include metropolitan areas with more than four million people. The reason for this is that such areas are so large that the organizational landscape might be too difficult to understand clearly, which would make it difficult to determine the purpose and role of any one organization. This left out 14 MSAs. I also used a lower cutoff for MSA population of 150,000. This was done to limit the list in size somewhat. The resulting list included 251 MSAs that in 2010 had a population of 149,075,947, or about 48.3 percent of the US population. The largest is Seattle-Tacoma-Bellevue, WA, MSA with about 3.4 million residents, and the smallest is Madera-Chowchilla, CA, MSA with just over 150,000.

The second step was to search within each MSA for REDOS. This was done for each MSA on the list by conducting internet searches using key terms including the name of the region, its largest city, and the state along with terms like "regional economic development." The central role of internet searches in this approach might strike some as suspicious, but there is good reason to believe that a better data source would be hard to find. REDOs are economic development organizations that often see marketing as a central part of their work (Levy 1996). This central role of marketing makes it likely that REDOs would not miss the potential communication opportunities presented by the internet. Olberding's (2002a) findings corroborate this. 75% of organizations that responded to her survey reported having a website, and that was in 1998. A REDO without a website is difficult to imagine today. In addition to internet searches, the results for each MSA were cross-referenced with the list of economic development organizations maintained by *Site Selection* magazine (Site Selection Magazine 2013).

Once an organization was identified, it was necessary for it to pass through four filters in order to be included in the list of REDOs. These filters were designed to identify only those organizations that make economic development their main focus, that dedicate staff and resources to that end, that provide a full range of economic development approaches, and that are truly regional in scope. In short,

these filters were designed to ensure that the eventual list of REDOs would contain only those types of organizations that conform to the notions of third wave regional economic development organizations described in the prior section. The information used to make each determination was from the website of the organization itself or from online media reports. To determine whether or not an organization had economic development as its main focus was fairly straightforward. The organization's website made the purpose of the organization clear in most cases. Organizations that were included mentioned economic development prominently. Those that included multiple policy areas other than economic development such as environmental conservation or transportation planning were excluded. This filter also ruled out organizations whose websites claimed that they focused on economic development but whose staff suggested otherwise. Some of the RPC-type organizations have begun to tout the importance of their work to economic development, likely in response to what Beauregard (1993) refers to as the privileged status of "economic" issues in public discourse. In these cases, the titles of the staff made the actual purpose of the orientation clear. For example, an organization that claimed to focus on economic development but whose staff all had titles like "GIS Analyst," "Planner II," and "Aging Services Coordinator" would not be included in the list. As a result of this filter, many of the RPCs and COGs were eliminated from consideration.

The second and third filters were more straightforward. To determine if an organization dedicated staff and resources toward its mission was also straightforward, since in most cases lists of staff were available on the organization's website. This filter was important because it filtered out regional marketing efforts that existed only in website form, without actual staff. The websites of such marketing efforts often resemble those of actual organizations. However, the absence of staff, or directing potential communication to individual county governments, was an indication that there was no actual organization in such cases. The third filter was to determine whether or not the organization engaged in a wide range of economic development activities. The purpose of this filter was to eliminate organizations that performed only a single economic development related function such as preparing a CEDS for an EDD. For the most part, organizations that were eliminated by this filter were also eliminated through the first filter.

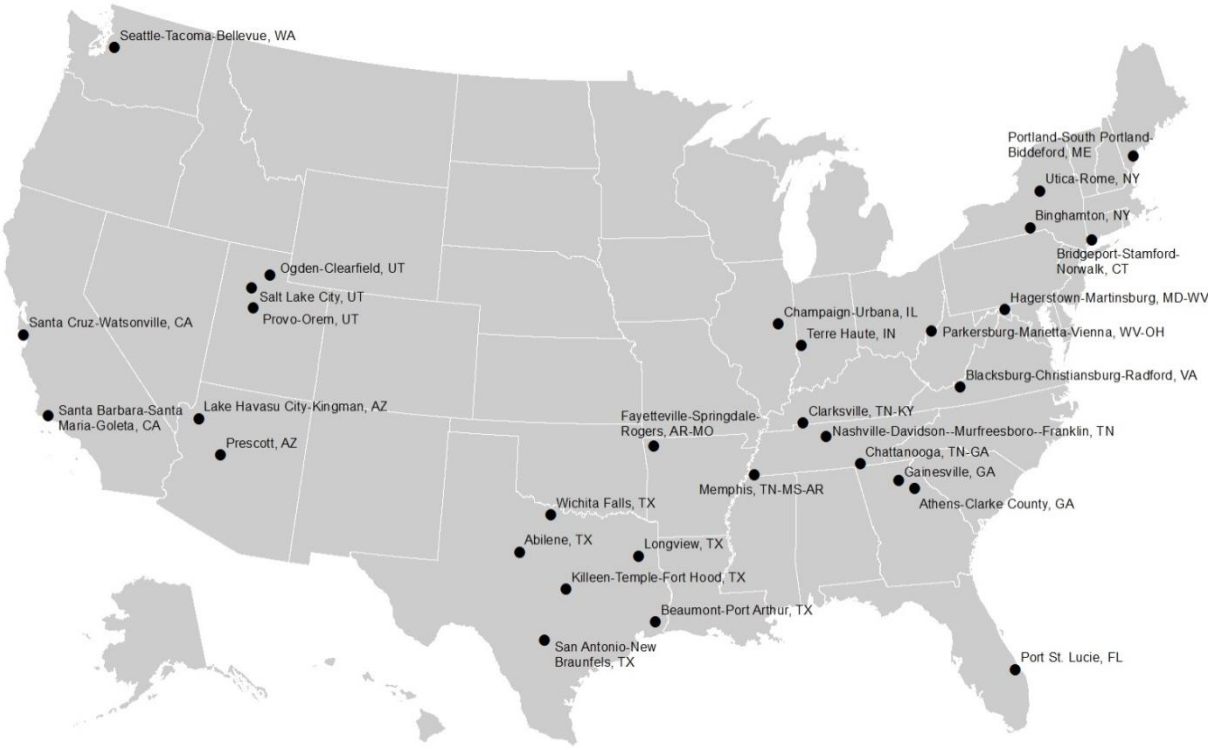
After the first three filters narrowed the list of organizations to economic development organizations that were focused on economic development, performed multiple economic development functions, and had staff, the fourth filter was designed to determine those organizations that were truly regional in scope. This was no easy task, since the term regional is applied in so many different contexts.

Olberding (2002a) did not specify the means by which she determined whether an organization was regional. One possibility, defining a regional organization as one that covered an entire county, too easily allowed for sub-regional organizations, since metropolitan areas in much of the US often comprise multiple counties. At the same time, it seemed somewhat arbitrary to insist that an organization cover an entire MSA in order to be considered regional since MSAs can be quite large, and because their boundaries can change every few years. As a compromise, I came to the following solution. For organizations in MSAs that were composed of a single county, the organization merely had to cover that county. This could potentially undercount the organizations west of the Rocky Mountains, where some counties are so large that one could argue that portions of them are still larger than multi-county units in the Midwest. But, it was necessary to use consistent measures. For organizations in multi-county MSAs, the organization had to cover at least two counties, one of which had to be a core county identified in the MSA definition. In addition to ensuring that the organizations were sufficiently regional, it also eliminated organizations that covered part of an outer edge of the MSA but that were not centered on the metropolitan area. This filter ended up eliminating many county level organizations such as EDCs in regions that were multi-county. It also meant that in the western US, such organizations were more likely to be counted, since the counties there are often large enough to comprise an entire MSA. This filter is imperfect, but it meaningfully differentiates between county level and true regional organizations, while still taking account of the fact that in some regions the two are one and the same. As with the other filters, the determination of where an organization worked was discovered by looking on its website.

4. The census shows that most MSAs have a REDO

A thorough search through all 251 MSAs produced a list of 234 REDOs. These are listed in Appendix 1. In 12.4% (31) of the MSAs, my method failed to find a REDO. The locations of these MSAs are shown in Figure 1.1. Slightly over 11 percent (28) of all MSAs had two REDOs operating within them. In the remaining 77% (192) of the MSAs, the method detected a single REDO. The list of REDOs shows that the vast majority of metropolitan areas (87.6%) examined in this study have a REDO working within them. REDOs were found in 48 states. The method did not find REDOs in two states, Utah and Wyoming, for different reasons. Both MSAs in Wyoming, Caspar and Cheyenne have total populations of less than 100,000 and so were not include in the analysis. In Utah, none of the three MSAs had a REDO.

Figure 1.1 – MSAs with no REDO



The method did detect more than one REDO in 34 of the MSAs. This included some instances where two organizations operated in the same geographic space. In some cases, this was because different organizations operated in the same space. For example, the Toledo, OH, MSA includes four counties. All four are represented by the 13 county Northwest Ohio Regional Economic Development Association, a non-profit partnership between the public and private sector that engages in marketing, advocacy at the state level, and serves as a forum for discussion between the public and private sectors about economic development issues (NORED 2013). In addition, the Regional Growth Partnership is a fully private sector funded organization that works on a variety of economic development issues including marketing, innovation in partnership with the University of Toledo, and international trade (Regional Growth Partnership 2013). Since the Regional Growth Partnership lacks public sector members, the spatial extent of the area represented by it is less defined. However, its investors include members from several counties in the region, and the organization itself defines the region as "northwest Ohio and southeast Michigan" (Regional Growth Partnership 2013).

A different case of multiple organizations within a single MSA is Hickory-Lenoir-Morganton, NC. Two of four counties in the MSA are affiliated with Advantage West, a public-private partnership that represents 23 counties in western North Carolina. The other two counties in the MSA are affiliated with the Charlotte Regional Partnership, a similar organization that serves the Charlotte, NC, region. The situation with the Hickory-Lenoir-Morganton, NC, MSA may be due in part to the role that the state of North Carolina played in the creation of a statewide system of regional partnerships in North Carolina, but this was only one of several examples.

Since this study did not adopt the same method as that used by Olberding, direct comparison of the two lists is not entirely appropriate. However, these findings confirm the widespread existence of REDOs. This method, which searched more systematically through a set of MSAs, identified more than 25% more organizations. The different methods prevent one from concluding that the higher number represents growth in the number of organizations, but the earlier work identified a growth trend with which these results would fit well.

5. Survey – a snapshot of REDOs in the metropolitan US

5.1 Survey implementation

The survey, included as Appendix 2, was sent in early 2012 to the Executive Director or CEO of each organization through standard mail, along with a letter directing them to an online version. Following Dillman (2000), the implementation consisted of four contacts. The first three were sent via standard US Postal Service and included a pre-notice, the survey itself, and a reminder postcard. Each of these three mailings also included directions for completing the survey online. The fourth contact was a phone call to organizations who had not yet responded in which the respondent or their administrative staff were reminded the survey and offered either an additional hard copy or an email with an embedded link to the online survey. The contacts yielded 104 valid responses, for a response rate of 44%.

5.2 Most REDOs are small organizations

The survey instrument included several sets of questions, one of which was designed to gather information about the size, structure, origins, and activities of the organizations. The respondents

indicated that most REDOs were small operations. The majority had fewer than ten employees and a budget of less than five million dollars (Figures 1.2 and 1.3).

Figure 1.2 – Distribution of REDO size

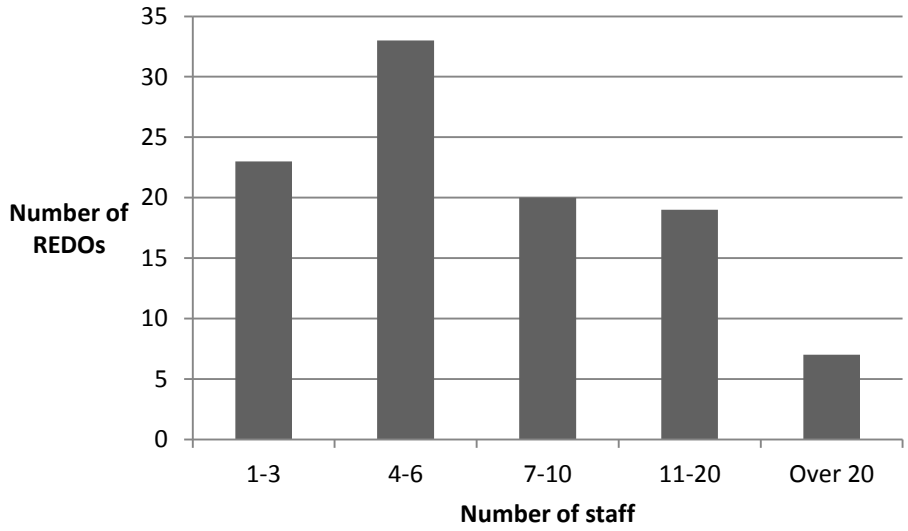
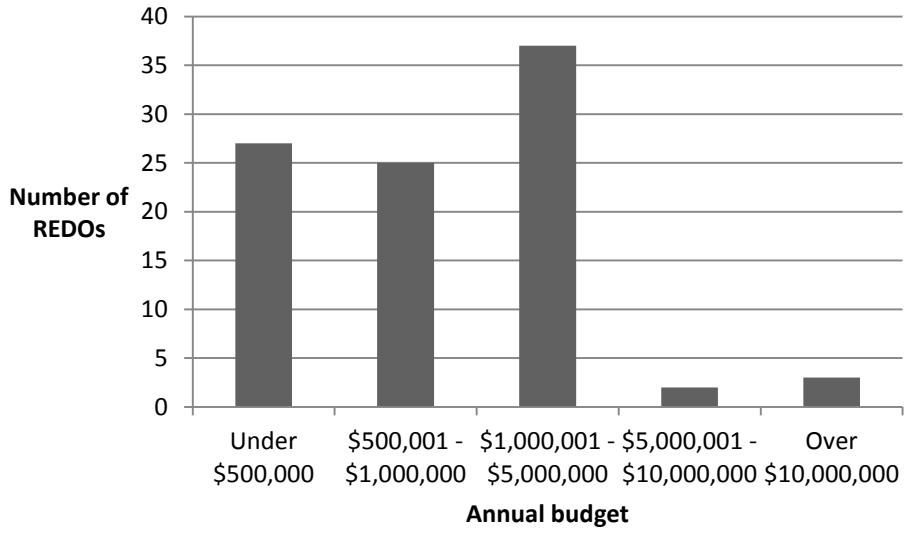


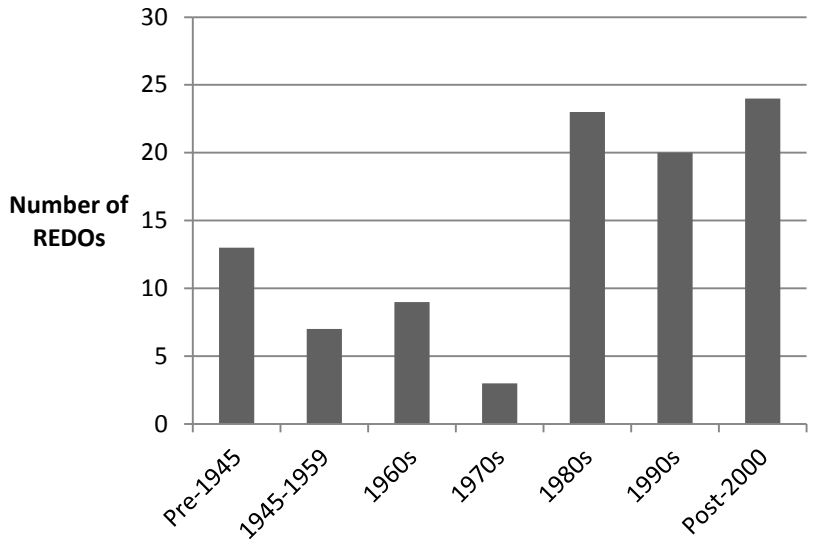
Figure 1.3 – Distribution of REDO annual budget



5.3 Most REDOs are relatively new

The results of the survey support earlier research that suggested that the formation of REDOs accelerated in the 1980s and continued through the 1990s. It also shows that such growth continued in the first decade of this century (Figure 1.4). The information in Figure 1.4 is best understood in light of information that arose during the compiling of the census of REDOs. In contrast to established formal governments, some REDOs have short life spans. This volatility likely arises from several factors. One, most REDOs are voluntary organizations whose existence is not mandated by a higher level of government. If their supporters withdraw support, the organization can cease to exist. As independent organizations, REDOs derive much of their funding from voluntary contributions of public and private sector organizations whose willingness to contribute may fluctuate over time. As a result, the organization may change over time. Some of the changes are superficial. As regional branding becomes central to the mission of REDOs, organizations may change their names to reflect evolving regional brands.[1] In other cases, the organization may be remade entirely, either through turnover in key supporters or a decision by them to withdraw support for one organization in favor of an alternative one. A third possibility is that organizations might split off from each other or merge.

Figure 1.4 – Date when REDOs were founded



[1] . In some cases this can be done through the use of a "trade name". The law in most states allows incorporated entities to distinguish between a "trade name" (variously termed a "fictitious business name" or a "trade style") under which it operated publicly and a legal name so long as both are on file in the public record.

This research turned up several examples of organizational turnover. A number of organizations identified by Olberding in the late 1990s were no longer in existence at the time of this research. For example, Lexington United, formed in 1983 as a stand-alone partnership focused on development in Lexington, KY. In 2004, the organization merge with several others to form Commerce Lexington, a regional entity engaged in a wider set of activities (Kelly 2011). In a separate example in Northeast Indiana, regional leaders over time withdrew their support of one organization, Indiana Northeast Development, in favor of a new organization with a greater role for the private sector. In addition, between the time that the research was started and completed at least one organization identified in the census, the Heart of Florida Regional Coalition, ceased to exist. In light of this, the founding dates reported by survey respondents, particularly those before 1950, may reflect the founding date of the earliest organization to which the current one may trace its history.

5.4 Most REDOs were founded jointly by the public and private sector

The respondents were also asked about the role of the public and private sector in the founding and current operation of the organization. The most important finding is that the private sector played a role in the founding of 84% of responding REDOs (Figure 1.5). The public sector, though, was involved in the founding of 71% of responding REDOs. This supports the notion that third wave economic development organizations are characterized by a greater role for the private sector. That 29% of respondents were founded without the involvement of the public sector indicates how different current RDOs are form the earlier generation of publicly sponsored RPCs and COGs. This result shows that anecdotal findings about the central role of the private sector such as those of Hamilton (Hamilton 2002) are not isolated examples. Though 55% of REDOs were founded jointly by the public and private sectors, nearly half were founded by only one or the other. This shows the limited use of the term "partnership" as applied to REDOs, since it can imply partnerships across various geographies, sectors, or both.

Within each major sector – public and private – survey respondents indicated participation by various elements of each (Figure 1.6). In particular, local governments and chambers of commerce were the most common participants in founding REDOs, but trade associations, the wider business community, and higher levels of government also played roles in different regions. Though not specifically included as response items in the survey, respondents reported the involvement of utilities, foundations, community colleges, and universities.

Figure 1.5 – Composition of founders of REDOs

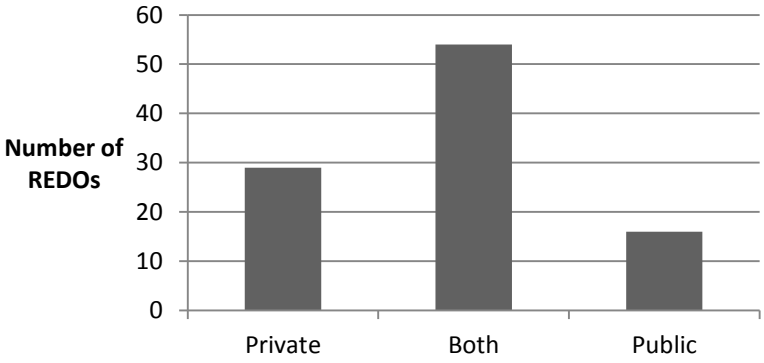
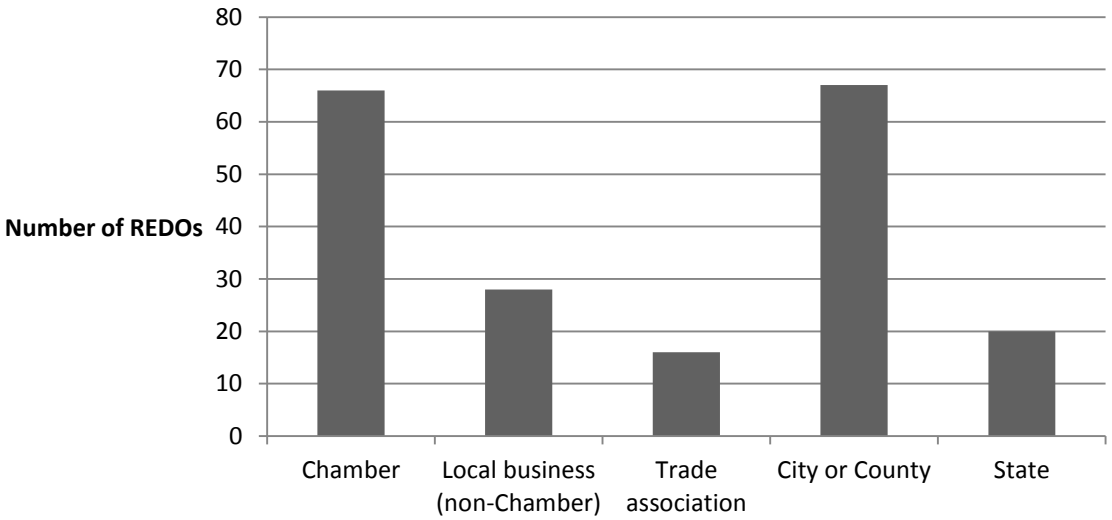


Figure 1.6 – Involvement by various groups in founding REDOs



Though nearly half of the REDOs were founded by the public or private sector alone, without the help of the other, their operation at the time of the survey was likely to involve both. 80% of respondents reported that their board currently contained both public and private members, and the same proportion reported that their budget included funding from both sectors. This suggests that even when one or the other sector takes the lead in founding a REDO, in many cases the organization eventually came to involve both. However, though the relationship was not a strong one, the responses suggest that those organizations that were founded by the public or private sector alone were slightly less likely than those founded by both to have board members from each (Table 1.1). In addition, those

REDOs founded without the involvement of the private sector were slightly less likely to receive funding from that sector once the organization was up and running. These findings suggest that while joint public and private involvement at an early stage is not a prerequisite for later joint support, the former makes the latter more likely.

Table 1.1 – Relationship of founding parties to current support in REDO respondents

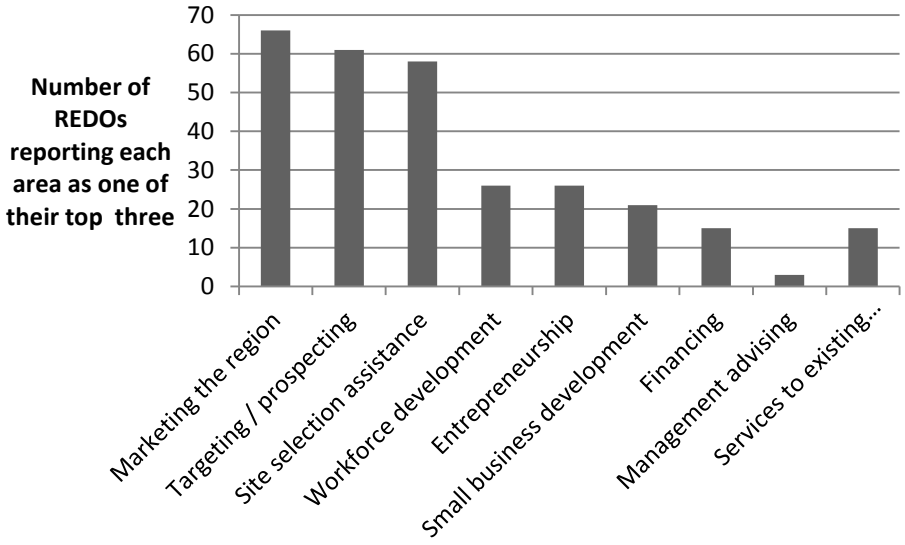
	Public-Private Board		Public-Private Funding	
Founded by	**Yes**	**No**	**Yes**	**No**
Exclusively public	11	5	8	8
Both	48	6	48	6
Exclusively private	20	9	22	7
Total	79	20	78	21

In many REDOs, the private sector involvement comes primarily through local or regional chambers of commerce. Of the 104 REDOs responding to the survey, 13 were actual chambers of commerce. An additional 17 were formally a part of a chamber, often through an arrangement where the CEO of the REDO was also the Executive VP of Economic Development for the chamber. Of the remaining 76 organizations, 10 received funding from a Chamber, 7 shared office space with the chamber, and 3 shared staff. These results indicate that a significant minority of REDOs maintain a formal relationship with a local chamber.

5.5 REDOs are primarily but not exclusively marketing organizations

A final set of questions examined the sort of activities REDOs on which REDOs spent time and resources. Of a set of choices, respondents were asked to pick the three on which their organization spent the most time and resources (Figure **1.**7). By far the most common activities were regional marketing, targeting and prospecting for new businesses that might locate in the region, and site selection assistance. However, a significant number were also involved in workforce development, entrepreneurship, and small business development. This shows that far from being exclusively focused on regional marketing, REDOs are engaged in a wide range of economic development policy approaches.

Figure 1.7 – Activities of REDOs



As might be expected from a set of third wave organizations that arose, for the most part, after federal funding for local economic development had declined from its mid-twentieth century peak, REDOs responding to the survey were for the most part not involved with the EDA. Only 20% (21) were responsible for preparing a CEDS for an EDD. This does not mean that they are not communicating with the federal government, as 40% (42) REDOs indicated that they communicated with the federal government at least several times each month. Respondents indicated that they communicated with state government even more frequently, and 62% (64) indicated that they communicated with state officials several times a week. These findings suggest that REDOs are oriented much more toward state government than federal, perhaps reflecting the growing role that states are playing in economic development noted by Eisinger (1988). It also suggests that REDOs may play an important role as an intermediary between local governments and states.

6. Discussion

6.1 Identifying REDOs is surprisingly difficult in practice

Despite widespread support for regional economic development policy, and the prevalence of organizations claiming to engage in it, there is a great deal that remains unknown about them. Despite adopting a more rigorous definition of a REDO than those found elsewhere, the findings of this research

show considerable variety in the organizations described by the term. In this section, I discuss several of those findings in more detail in light of the regional economic development literature reviewed in section two.

This definition of REDOs developed and adopted in this research reflects my intention to recognizes the changes that have taken place in regional economic development organizations over the past few decades, yet limit what type of organizations truly constitutes a REDO. This was not a straightforward task. Both the term "regional" and the term "economic development organization" proved difficult to define in practice. In both cases, the definition used here was a fairly narrow one. The idea of the "region' has been the subject of extensive consideration elsewhere in the literature. In conducting the REDO census, two issues arose that are relevant to those discussions.

First, the particular geography covered by REDOs often was not coterminous with MSAs. One example of this is the Heartland Regional partnership centered in Peoria, IL, which operated in four of the five counties in the Peoria, IL MSA as well as one that was not included in it. This is a minor mismatch, and small enough that the Heartland Partnership was still included in the REDO census. A more common phenomenon is that of regional organizations that cover only one county of a multi-county MSA. In smaller regions, such organizations might cover most or all of a functional economic unit, thus many of them were included in the REDO census. In contrast, such organizations operating in larger MSAs were much less likely to have a true regional focus.

Clearly, one's definition of a region will have a large effect on determining regional organizations, and my justification for using MSAs is covered in an earlier section. It can, however lead to surprising results. For example, in the northwest corner of South Carolina, Spartanburg County comprises a single MSA. The Economic Futures Group of Spartanburg County, a REDO that operates throughout the county, was included in the list since it passed all the filters including that of covering the entirety of a single-county MSA. One county over, the Greenville Area Development Corporation operates in Greenville County, one of three in the Greenville-Maudlin-Easley, SC MSA. Though both are county-level organizations, only one was included in the REDO census since they operate in MSA of very different sizes. Furthermore, both MSAs are included within the larger Greenville-Spartanburg-Anderson Combined Statistical Area. This latter point further underscores the difficulty of identifying a single definition for a region. As metropolitan areas grow larger and more complex, the OMB has moved from a single-level definition of a region to one that contains multiple levels including Metropolitan and Micropolitan Statistical Areas, Combined Statistical Areas, and Metropolitan Divisions.

The organizations listed in Appendix 1 are thus to some degree a byproduct of my definition of a region, but that should not obscure the more fundamental point that in many places, REDOs cover only a part of the region as defined as a functional economic unit. This finding has implications for the potential effectiveness of REDOs. Following Beauregard's (1995) argument presented in section two, one important justifications for engaging in regional economic development efforts and not just local ones is that the region is an "appropriate scale" for addressing economic development policy. If the organizations that are attempting to meet this policy need are not actually operating at the scale of a functional economic unit, then it is not clear that they are serving the purpose that many imagine for them.

Regional economic development is also proposed as a potential solution to competition for large employers by local jurisdictions. As noted above, 28 of the regions examined had more than one REDO operating within them. Though regional organizations often lack the direct control over tax incentives that serve to make competition between cities and counties so rampant, they are not likely to be totally immune to the pressures that drive competition at the local level. In these 28 regions, REDOs may be contributors to local competition rather than solutions to it.

One relevant consideration to this discussion is that regions change over time. Counties that were once rural become suburbs, and linked with metropolitan areas in ways that they once were not. Since one of the justifications for addressing economic development policy at the regional scale is to focus on the entirety of a functional unit, the scale at which problems are addressed ought to change over time. This method allows for that variability to be taken into account. There will be lags in organizational development as the local political culture in a place becomes aware of the need to address problems at different scales, but a definition of "regional" that takes such temporal change into account is superior to one that does not. This should not be seen as an argument for defining regions as MSAs in all cases. In other policy areas, such as environmental policy, different definitions such as watersheds might be more appropriate. Given the functional economic argument that underlies MSAs, however, they are a reasonable definition for those organizations working on economic development.

The nature of REDOs allows them to be more responsive to changes in a regional structure over time. Specifically, their voluntary nature allows for additional areas to "join" the region, since doing so may only require that a prospective member city or county invest a certain amount of funding in the organization. One of the organizations in the census, the Northeast Indiana Regional Partnership, did see several suburban counties join and drop out of the region over the past ten years (Green,

forthcoming). Such a structure might allow for REDOs to be more responsive to changing economic structures than general purpose governments whose mandates are derived from legislation. On a darker note, it might also keep cities or counties with fewer resources from being able to access the benefits provided by the regional organization. Finally, without the mandate of official government, REDOs are reliant upon the continued support of their investors.

An even more intriguing prospect is raised by the one out of five organizations that lack public involvement in their leadership. Such organizations would not necessarily be tied to a particular territory, since their investors lack the territorial mandates of true government. These regional organizations, while centering their efforts on a metropolitan area, might avoid specific decisions about whether they "represent" a particular county. In the case of the Toledo Regional Growth Partnership, the absence of public sector involvement allowed the organization to describe its geographic mandate rather loosely as northwest Ohio and southeast Michigan. Though such flexibility is advantageous in the face of changing regions, it must to a degree dilute the ability of the organization to speak for an entire region or to engage in certain forms of long-range regional planning.

Determining what constituted an 'economic development" organization was also difficult. As noted in section 3, this research defined economic development organizations as those that made economic development their main focus and dedicated staff and resources to that end. In the course of the research, it became clear that there were organizations, such as regional planning commissions, that did engage in some economic development related activity. However, these organizations usually engaged in a wider set of policy issues, and rarely had more than a single staff person (and sometimes less) to economic development. That such organizations were not included in the census should not be taken as a dismissal of their efforts. It is, rather, a reflection of how little such organizations have in common with the idealized regional organizations described in the economic development literature. The role that such organizations can or ought to play in regional economic development policy was not addressed in this research.

6.2 What is new about REDOs?

This study has shown that REDOs are nearly ubiquitous in US metropolitan areas. The growth in their number that began in the 1980's, as identified in prior studies, has continued through the first decade of this century. In light of the discussion comparing them to earlier types of regional organizations, it is fair to ask what exactly is new about REDOs. The findings presented here provide

several answers. First, the private sector has played a considerably larger role in REDOs than it did in earlier regional efforts. This is reflected in the 84% of REDOs that the private sector had a hand in starting and the 80% or so of them that currently operate with private sector finding or direction. At the same time, the public sector has still played a considerable role in their formation and operation. REDOs organization outside of traditional government, while not new or unique to them, certainly facilitated the larger role the private sector has played.

The participation of both the public and private sectors in REDOs makes it tempting to refer to them all as "public-private partnerships" and leave it at that. Though it wasn't the main focus of this research, some of the findings as well as several bits of anecdotal evidence indicate considerable variation among REDOs with respect to the participation of each sector. The results of the survey suggest that while the private sector is nearly always engaged with REDOs in some way, this participation is not of the same character from place to place. The most notable different is in the role of the local chamber of commerce. This relationship varied from one in which REDOs were officially part of the chamber to one in which the chamber was not affiliated in any official aspect. This variation is important because of the easily forgotten fact that the private sector is not homogenous in its interests, even within a single region (Curran, Rutherfoord, and Smith 2000; Peck and Tickell 1995). An examination of the boards of directors of several REDOs indicated considerable variation in the relative power of the public and private sector. All of this variation suggests that terms like "partnership" may mask important variation among REDOs.

A second aspect of REDOs that is novel is the degree to which they reflect changes in federal funding for regional economic development. First and foremost, this is reflected in their shift away from Economic Development Administration programs such as Economic Development Districts that provide relatively meager funding. This might be contrasted with something like the metropolitan planning organizations, which were designed originally to address transportation issues, and which still funnel considerable federal transportation dollars to metropolitan areas. On the other hand, a significant number of REDOs listed "workforce development" as one of their top three activities. This is likely a response to the comparatively greater funding available through federal workforce programs. Furthermore, the requirement that regional workforce efforts include a large role for the private sector suits REDOs well.

This research shows that REDOs merit more careful consideration than they have received to this point. The findings indicate that REDOs represent a new type of organization whose numbers

continue to grow in the US. They are characterized by a much greater role for the private sector, as well as a new organizational structure that makes that role easier. The relative influence of the public and private sectors within REDOs seems to vary considerably from place to place. The findings also show that in many places REDOs fall short of the hope for regional economic development organizations that serve functional economic units. Certain aspects of their organization make them more adaptable to changes in a region when compared to earlier generations of economic development organizations, though whether this will be an asset or a liability remains to be seen.

7. Conclusion

This study developed and implemented a method of identifying REDOs in the US, and then presented the findings of a survey of organization on that list. This work is novel in that it is the first of its kind that looks to identify REDOs without a bias toward the public sector. As economic development practice evolves at the regional scale, tracking such organizations will be a necessary foundation for cross-sectional or longitudinal studies of them. As was noted in the discussion, the shelf life of any such list will be limited by the volatility inherent in the REDO organizational landscape. Methods such as the one developed here are useful in part because a census of REDOs will be necessary every few years in order to maintain a current list.

The definitions of regions and organizations adopted here are not likely to satisfy all interested parties. The purpose in presenting them was to make clear how necessary such a definition was in order to bring clarity to organizations that have thus far not been the subject of much research. Several of the organizations included in this research cover areas larger than some states, yet our definition of regional includes them as well as single county organizations in small regions. This research will not be the last word on the subject, and a wider discussion about the differences between city, county, multi-county, and private economic development organizations would be a benefit to the field.

The results of the survey answer several basic questions about REDOs including how they were formed and in what sorts of activities they engage. However, it leaves a number of questions unanswered. Two of these deserve particular mention. First, the proliferation of regional organizations adds a layer to an already complicated organizational field of city and county organizations. In the ideal case, these various organizations would allocate the various economic development needs of the region among them, with each taking the lead on the most appropriate policy areas. Done well, such a division

of efforts could yield the benefits of regional cooperation while preserving a voice for smaller jurisdictions within the region to address needs specific to them. On the other hand, it might be the case that the overlapping responsibilities lead to confusion, turf battles, or the inefficient duplication of efforts. Additional research will be necessary to fully understand the relationships between economic development organizations operating at different sub-state scales.

Second, REDOs bring together the resources of the public and private sectors, though in different proportions and with the involvement of different players. It remains to be seen whether and how the variation in public and private sector involvement in REDOs affects organizations' behavior and capacity to act. The growing role of the private sector could represent a co-opting of economic development policy organizations by a small set of actors that use them to pursue limited self-interest. It could also be seen as a necessary palliative to intransigent infighting and competition between local governments. In either case, the ability of regional economic development organizations to affect regional economies is unknown.

This research has laid the groundwork necessary to begin to answer questions such as these. The organizations in Appendix 1 are a benchmark against which changes in the REDO landscape in the coming years may be measured. In addition, it has presented an updated snapshot of REDO activity in the US. Though it raises as many questions as it answers, it will hopefully serve to bring clarity and understanding to what has thus far been a rarely examined corner of economic development practice.

CHAPTER 2

Equal parts location quotients and press releases: the results of a cross-sectional survey of cluster-based regional economic development efforts in the US

1. Introduction

In a much cited article, Levy (1996) drew a distinction between rational model and sales activities in local economic development practice. More recently, the debate around cluster-based economic development practice has broken along similar lines. To some, clusters are a critically important object of sophisticated analytical techniques and a crucial determinant of regional economic competitiveness. To others, they are merely an updated form of industrial recruiting, prone to all of the worst abuses of that approach. This paper, which presents the findings from a national survey of regional economic development organizations in the US, calls Levy's stark distinction into question through an analysis of cluster practice by regional economic development organization in the US.

Though clusters have been popular for several decades in economic development, there are few cross sectional studies of the practice. Most literature is in the form of case studies. While many of these are illuminating, they suffer from a lack of generalizability and as a whole they depict far more success stories than failures despite anecdotal evidence that the latter are more common. Furthermore, this research attempts to understand not individual cluster initiatives, but rather how organizations do cluster-based economic development. This is an important distinction. Since regional economic development organizations often claim the presence of multiple clusters in a region, it is reasonable to approach cluster based practice from the perspective of an organization working with multiple clusters rather than through a single (successful) cluster initiative.

The focus on clusters is timely, but this research was also motivated by a desire to revisit Levy's distinction between selling and rational activities after several decades and in a slightly different context. Clusters are by definition linked to a particular place. They involve spatially circumscribed processes that lend advantages to particular firms. As such, working with clusters implies at least some activity that would not fall within what Levy called sales activities. On the other hand, the proliferation of cluster analysis techniques and cluster consultants has given rise to a cottage industry of cluster

identification studies that, while they vary in sophistication, are an example of what Levy termed rational activity. This paper sheds light on current cluster practice and uses the findings as a way to reexamine Levy's seminal paper.

The paper is organized as follows. The second section reviews the literature on the use of clusters in economic development practice, and reviews the distinction between marketing and rational activities in economic development. The third section describes the design and implementation of the survey. The fourth section presents the findings of the research. The fifth section discusses the findings and how cluster practice fits into established notions of economic development practice. The sixth section concludes the paper.

2. Background

2.1 The somewhat murky cluster concept

The concept of clusters has been a popular one in regional economic development for the past few decades. Popularized in the US by Michael Porter (1990) as an explanation of national economic success, the regional variant of the concept is an elaboration upon older concepts such as agglomeration economics, industrial districts, and innovative milieu (Bergman and Feser 1999). Though specific definitions vary somewhat, regional clusters are generally described as spatially proximate firms and related institutions that generate mutually beneficial synergies in the form of increased productivity or innovative capacity. Exactly how firms in clusters gain advantages over those that are not in clusters remains the subject of research and debate, and one that is made more difficult by the many forms that clusters themselves can take (Markusen 1996b; Bergman and Feser 1999; Martin and Sunley 2003). Thus far, studies have produced only limited evidence of a connection between clusters and higher productivity and new firm formation (Porter 2003; Feser, Renski, and Goldstein 2008).

2.2 The role of clusters in regional economic development policy

The persistent questions about the link between clusters and economic growth and development have not stopped the spread of the idea in policy circles (Sölvell, Lindqvist, and Ketels 2003). Cluster policy discussions wrestle with two related questions. The first concerns the proper role for cluster-based policies in economic development practice. There is wide agreement that no single type of cluster-based policy will be appropriate in all situations because specific clusters vary with

respect to their industrial sector, the size and number of firms, and their sources of productivity and innovative advantage, among other differences (Bergman and Feser 1999). Clusters are also dynamic, and young and old clusters require different policy responses (Atherton 2003; Maskell and Malmberg 2007). The idea that there is no "one size fits all cluster policy" is expressed most clearly in the idea that clusters represent a way of thinking about a regional economy, rather than as a magic bullet for regional economic development (Feser and Luger 2003; Feser 2009).

In light of this last idea, it should come as no surprise that the specific policy actions recommended by cluster experts do not sound particularly revolutionary on their surface. An early guide to cluster policy initiatives at the state level classified them according to four broad aims: organize service delivery, target investments, strengthen networking opportunities, and develop human resources (Rosenfeld 2002). A later version added innovation, entrepreneurship, and global trade (Rosenfeld 2007). There are all established policy areas of economic development, and the critical recommendation is that the policies be organized and oriented toward particular clusters. At their heart, all of the recommended policies are oriented toward strengthening the relationships within clusters that do or have potential to yield advantages in productivity or innovation.

The above recommendations make only brief mention of the role of clusters in business attraction programs. Rosenfeld (2002) notes that attraction and marketing are still the main reason states expend resources to identify clusters. Research on cluster initiatives in other countries have also found this to be the case (Sölvell, Lindqvist, and Ketels 2003). The reluctance to make attraction efforts a centerpiece of cluster policy recommendations is in part a reflection of the cluster concept itself, which makes firms that are already in the region the primary focus of policy interest, but it is also a reflection of the larger controversy over attraction efforts in general. Attraction efforts, particularly when they involve large subsidies, often fail to provide real benefits in terms of economic growth or development (LeRoy 2005; A. Peters and Fisher 2004).

The role of clusters in attraction policy is of particular interest for many reasons. Attraction efforts still constitute a major emphasis of economic development efforts, so it is reasonable to examine whether or not the cluster concept is affecting that policy area. This is particularly true at the regional scale, where economic development organizations are often created with regional marketing as their main purpose (Olberding 2002a). Critics of the role of clusters in economic development policy have argued that by providing a veneer of respectability to attraction efforts, the concept provides cover for the worst behavior of less scrupulous economic development officials (Martin and Sunley 2003).

Anticipating this critique, Porter (1996) argued that clusters should not be used to promote smokestack chasing.

On the other hand, there are two arguments in favor of using clusters to inform attraction efforts. One, many of the tools that economic development officials already possess are oriented around attraction (Rosenfeld 2002). Shifting those tools toward supporting and growing clusters might be easier than creating new policy tools from scratch. Two, attraction by itself is not necessarily a bad thing, though excessive subsidies provided without guarantees are. Firms may at times move because some new location offers real locational advantages. Knowing something about what clusters exist in a region may help economic development officials evaluate different choices in attraction policy (Woodward and Guimaraes 2009). Furthermore, if a potential new firm is part of an existing cluster, then the benefits of its move to the local region may, as a result of agglomeration economies, be greater than the benefit to the local firm. In such a scenario, reasonable location incentives may be good policy. This has led some to argue that clusters may play a useful role in attraction efforts (Woodward and Guimaraes 2009; Goetz, Deller, and Harris 2009).

2.3 The relationship between attraction and other economic development policies

The entire argument about the role of clusters in attraction policy presumes that attraction activities are different and separate from other economic development policies. That notion is made popular by the widely used acronym ACRE (for attraction, creation, retention, and expansion) to classify economic development efforts. It was also popularized in Levy's (1996) article that distinguished between what he called rational model activities and sales activities. Through a survey of local economic development practitioners, Levy showed that sales-related activities consumed more of the time of and were more highly valued by economic development officials than were so-called rational activities like economic analysis. The sales activities Levy described were not exclusively related to attraction, and he rightly noted the need for economic developers to publicize their work in their own area. Nevertheless the findings of the survey supported the notion that in economic development sales and marketing were a distinct aspect of practice.

More recent work on economic developments calls into question the usefulness of the distinction between sales and rational, and by extension attraction and other activities. Levy himself noted that the type of information necessary for rational planning was not necessarily different than that necessary for sales activities, and thus that some forms of data collection might serve both

processes. In addition, the rational model itself has been criticized for decades as being a poor description of how policies are made (Lindblom 1959; Mintzberg 1994). Regional economic development is widely understood to be shaped by public and private actors, and the institutions produced by the interactions between the two (Amin 1999; Cooke and Morgan 1998). These notions imply that practice cannot assume the level of control over the economy that the rational model implies, and that sufficient information for creating policy is not apt to be produced simply by the location quotients so derided by Levy. Instead, knowledge about the regional economy, whether it is to be used for attraction, business development, or workforce training, must come from interaction between economic developers and the many different parts of the regional economy. This idea is central to the cluster concept, which places not simply local firms but local interactions as the focus of policy.

2.4 Can clusters bridge attraction with other forms of economic development practice?

The cluster concept and its related analytical techniques can certainly provide information that is useful to marketing campaigns. However, secondary data sources offer only limited information about clusters, and those that offer more are so technically sophisticated as to be out of reach for many economic development organizations. To address this, cluster policy entails interaction with the cluster itself to produce basic information and policy proposals. This interactive form of data gathering does not fit well within either piece of Levy's sales versus rational model distinction, nor does it clearly fall under attraction or locally-focused policy. It could easily serve both. As one example, canvassing local industry for "success stories" to be used in a marketing campaign might produce conversations about poor infrastructure, a lack of trained workers, or other issues. The survey results reported below begin to shed some light on whether or not this is in fact happening in regional clusters initiatives in the US.

Whether used with an inward or outward looking focus, the focus of cluster efforts may be extant or potential clusters. As mentioned above, there is some consensus that clusters in the short term cannot be grown by attracting a few new firms to a region. However, the variety in types of agglomeration economies and the difficulty of observing them in practice leave a fair amount of room for policy experimentation. In other words, certain types of attraction may be justified in support of clusters. Given the dominance of attraction-focused activity in economic development, this leaves a great deal of room for using the possible presence of a potential cluster, or the difficult to disprove existence of a loosely-defined one, as a justification for all sorts of marketing and recruitment activities.

As a sort of shorthand description of a regional economy, clusters may also be useful in regional

branding efforts. The brands may serve as a signal to those within and outside the region about the economy, and more importantly about what local leaders imagine or hope the economy to be. Such signals would be useful in coordinating activity within and between regions. Additionally, they may serve as signals to those who control important resources such as grants. From a public policy perspective, whether used in outright attraction or as a signal the degree to which a named cluster is present in a region may not be the most important issue to consider. It may be more important to determine whether or not the act of naming that cluster yield positive benefits to the regional economy in the form or greater capacity through coordination or the provision of additional investment. The caveat to this understanding of clusters in public policy is that the people and organizations that use the cluster concept as described here need to be aware that they are doing so. This may not always be the case, particularly when cluster analysis prepared by consultants is used uncritically by regional organizations.

3. Survey design and implementation

3.1 Research Design

This research employed a cross-sectional design operationalized by a survey of 231 REDOs operating in US metropolitan areas. Because of the relatively small size of the population, the survey was sent to all organizations. The survey instrument was used to collect data on whether organizations were familiar with clusters in their region, as well as how those clusters were identified and with what if any purpose in mind. In addition, for those organizations that were closely involved with a cluster identification effort, the instrument collected data on the ways in which that process affected the activities of the organization. The research was designed to explore the proposition that clusters might usefully inform both attraction activities and locally-focused initiatives.

3.2 Survey Instrument

The survey instrument, included as Appendix 1, consisted of 55 questions designed to collect data on the experiences of each organization with respect to cluster-based economic development policy along with general information about the basic characteristics and functioning of the organization. Most questions were closed-ended, though they did allow respondents to choose multiple answers. Following Dillman's (2000) advice, cognitive interviews were conducted prior to the pilot test

with several economic development professionals with significant knowledge and experience with cluster-based economic development policy. Such cognitive interviews help check for comprehension and meaning of individual survey questions, as well as logical flow throughout the survey instrument.

3.3 Survey Implementation

The survey was pilot tested in late 2011. The full survey was sent in early 2012 to the executive director or CEO of each organization through standard mail, along with a letter directing that individual to an online version. Following Dillman (2000), the implementation consisted of four contacts. The first three were sent via standard US Postal Service and included a pre-notice, the survey itself, and a reminder postcard. Each of these three mailings also included directions for completing the survey online. The fourth contact was a phone call to organizations who had not yet responded in which the respondent or their administrative staff were reminded the survey and offered either an additional hard copy or an email with an embedded link to the online survey. The contacts yielded 104 valid responses, for a response rate of 44%.

3.4 Representativeness of the survey

The 44 percent response rate was modest, but not unreasonable for a survey of organizations. Because the survey was sent to the entire population, the response data may reflect sample bias. For this reason, inferential statistics were not used in the analysis. Nevertheless, the respondents are widely representative geographically and by organization size.

4. Findings

The survey responses yielded data on the motivations to engage in cluster analysis, the sorts of activities in which the organizations engaged with respect to clusters, and the names of specific clusters. For those respondents who were involved in a cluster identification effort, the survey data include information on specific analytical methods. All 104 of the respondents claimed to be aware of clusters within their respective regions. Of those 104, 94 of the respondent organizations had been involved in an effort to identify clusters in their region.

4.1 Motivations to engage in cluster identification efforts

The survey data show that engaging in cluster identification efforts is in general motivated by a desire to know more about the regional economy, as opposed to in response to pressure from funders or partner organizations (Table 2.1). However, when asked if the cluster identification effort was designed to inform a particular program, 91 of 94 organizations answered in the affirmative. When asked to indicate which programs in particular, respondents chose attraction-related programs like marketing and site selection at higher rates than most other programs (Table 2.2). The one exception to this was workforce development, which was identified as often as the attraction related programs.

Table 2.1 – Share of respondents answering in the affirmative to the question "Which, if any, of the following was a motivation for the cluster identification effort?" (n=94)

Motivation	**Percent**
A desire to better understand the regional economy	92.6
A planned revision to previously identified clusters	47.9
Inception of a new program by the organization	58.5
It was part of a grant application	22.3
A partner organization wanted to identify clusters	37.2
Other similar organizations were identifying clusters in their regions	23.4

Table 2.2 – Share of respondents answering in the affirmative to the question "Which program(s) was the cluster identification effort designed to inform or support?" (n=91)

Program	**Percent**
Site selection assistance	80.2
Recruitment	94.5
Financing for firms new to the region	28.6
Financing for expanding or relocating firms already in the region	34.1
Management expertise and advising	37.4
Small business development	46.2
Workforce development	89.0

4.2 The number and type of clusters reported

Respondents were asked to name the specific clusters in their region. Though all respondents reported clusters in their region, the number of clusters reported ranged from 1 to 10, the latter being the highest allowed by the survey instrument (Figure 2.1). About half of respondents reported five or six clusters. There was no connection between the size of a metro area and the number of clusters reported. The total number of clusters for all 104 respondents was 675.

Since there is no unique standard way to describe clusters, the reported cluster names are open to some degree of interpretation. As described above, the degree to which named clusters represent extant cluster in a region is often an unresolved issue. The survey asked respondents to "list the clusters [their] organization was aware of in [their] region." Though this suggest a preference for extant clusters, it is not known if repondents interpreted it as such, or if they would be able to make such a determination about each of "their" clusters without assistance. The clusters reported by respondents reflect their own understandings of the term. The names may serve as signals to as much as a means of describing the firms in area. In spite of the necessary interpretation, it was possible to compare clusters from different regions. There were 436 unique cluster names. The clusters themselves were a mix of general and specific. The most frequently reported cluster was "Advanced Manufacturing" which was reported by 21 respondents. "Health Care" (or "Healthcare") was a close second, with 20 reported clusters by that name.

Such clusters appear to be quite loosely-defined, but there were many more clusters that were defined more narrowly. Levy (1996) evaluated the specificity of different targets by the number of digits in the NAICS code, such that a 3-digit target was considered to be more narrow than a two-digit target. A similar technique was used with the clusters, though it involved more interpretation. All of the 675 clusters were coded into three groups. The first group consisted of those that were less-specific. These were clusters that closely matched a two-digit NAICS category. An example would be the "health care" and "advanced manufacturing" clusters mentioned above, which closely resemble NAICS codes 62 Health Care and Social Assistance and 31-33 Manufacturing. The second group consisted of those that were more specific, such as "electrical equipment and appliances" and "food packaging." The third group included a number of clusters that lacked specificity but seemed designed to reflect popular targets for attraction and investment, specifically those oriented toward "high technology," the "green economy," and "creative fields." The numbers of clusters in each group are shown in Table 2.3.

Figure 2.1 – Variation in the number of clusters reported

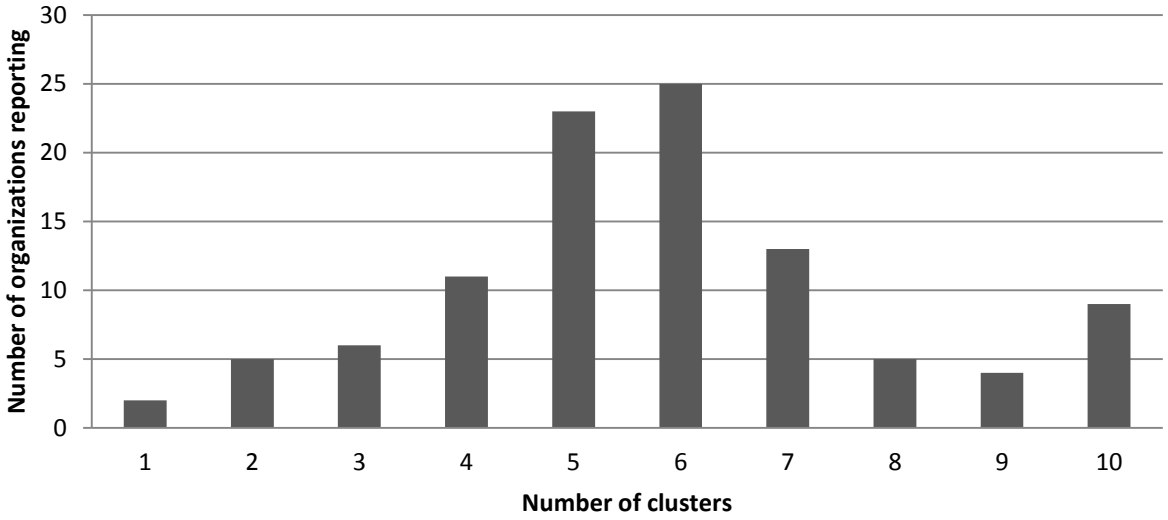


Table 2.3 – Number of clusters by specificity level and type

Specificity		Number
More specific (similar to three-digit NAICS)		281
Less specific (similar to two-digit NAICS)		132
Less specific, and oriented toward popular targets	High Technology	5
	Green Economy	15
	Creative	3

Individual organizations did not tend to have a preponderance of either specific or less specific clusters. Instead, most organizations had a mix of both. For those 91 organizations reporting four or more clusters in their region, the average share of more specific clusters was 62 percent, and the distribution was not bimodal. The specificity of clusters varied within most organizations.

4.3 Cluster identification methods

The 94 respondents whose organization had participated in a cluster identification effort were asked whether or not they have been personally involved with the cluster identification effort. Seventy-eight reported that they were, and from these the survey instrument collected data on analytical methods and the process of identifying clusters. Respondents were asked about which sources of

information and analytical approaches were used, and the results are shown in Tables 2.4 and 2.5. The choices provided in Table 2.5 are the result of feedback received while developing the instrument. The question was designed to include choices that would be relevant to respondents with varying degrees of familiarity with industry cluster analysis while still capturing important differences.

Table 2.4 – Share of respondents answering in the affirmative to the question "Which, if any, of the following provided information used to identify clusters?" (n=78)

Information source	Percent
A systematic analysis of the regional economy	96.2
Discussions among organization's staff	89.7
Discussions with experts on the regional economy outside of the organization	84.6
Discussions with political leaders in the region	70.5
Advocacy from members of the clusters themselves	67.9

Tables 2.4 and 2.5 suggest that most cluster analysis involved multiple methods. Quantitative analysis of industry and occupational data was cited by nearly all respondents, but discussions with staff, local experts, and political leaders were all common. Supply chain linkages were cited by two-thirds of respondents, though the survey did not attempt to ascertain the specific details of any particular method. Unsurprisingly, social network analysis was not cited by many despite its relevance in cluster theory. Though many possibilities were explored, no significant connection between the data sources, analytical methods and the types of clusters emerged.

All 94 organizations that had been involved in cluster identification efforts were asked who else had been involved in the effort. The results, shown in Table 2.6, show that both the private sector and individual firms were closely involved with most identification efforts. Local governments were also major players.

Table 2.5 – Share of respondents answering in the affirmative to the question "Which, if any, of the following analytical methods were used to identify clusters?" (n=78)

Analytical method / approach	Percent
Quantitative analysis of regional occupational data	94.9
Quantitative analysis of regional industry data	96.2
Analysis of supply chain linkages between local industries	60.3
Analysis of social and professional connections between firms in the region	32.1
Location quotients	75.6
Bubble charts	44.9

Table 2.6 – Share of respondents answering in the affirmative to the question "Were any of the following people or groups involved in the cluster identification effort?" (n=94)

Other organization	Percent
External contractor or consultant hired by your organization	72.3
Local government representatives	66.0
State government representatives	52.1
Representatives of individual firms	73.4
Trade associations	34.0

4.4 Ways of working with clusters

Though respondents cited attraction-related programs as a key motivator for cluster identification efforts, the respondents reported doing more than just marketing the clusters. For example, respondents reported that working with representatives of the cluster in about the same frequency as they reported advertising clusters on their website (Table 2.7). While the survey did not ask the nature of the working group, the formation of such a group has the potential to produce information useful in attraction programs and in those focused on local firms. About half of respondents also reported that their organizational resources were allocated, at least in part, to specific clusters (Table 2.8). The respondents also reported tracking results by cluster, and the results included

not only things like jobs created and leads generated, but also the number of meetings held with cluster firms (Table 2.9).

Table 2.7 – Share of respondents answering in the affirmative to the question "Has your organization worked with clusters in any of the following ways?" (n=104)

Engaged in the following	Percent
Advertised or marketed clusters on its website	74.0
Designed specific programs to meet the needs of individual clusters	76.0
Formed a working group with representatives of a cluster to address the needs of that cluster	81.7
Worked with state officials to address the needs of a particular cluster	79.8

Table 2.8 – Share of respondents answering in the affirmative to the question "Does your organization coordinate its operations around the clusters in any of the following ways?" (n=104)

Coordination type	Percent
Specific staff are assigned to focus on specific clusters	51.0
Specific funds are allocated toward specific clusters	45.2

Table 2.9 – Share of respondents answering in the affirmative to the question "Does your organization track any of the following metrics by specific cluster?" (n=104)

Tracked by Cluster	Percent
Leads / potential prospects generated	70.2
Jobs created in region	79.8
Direct or leveraged financing for attraction, expansion and relocation	47.1
Meetings held with cluster representatives	61.5

In addition to the general questions reported in Tables 2.7 and 2.8, the 94 respondents whose organizations had participated in a cluster identification effort were asked if and how the process of identifying clusters affected their organizations' operations. The difference between these and the data

reported in Tables 2.7 and 2.8 is that these questions ask specifically about the result of conducting cluster analysis. The results, shown in Table 2.10, support the notion that cluster practice is about more than just attraction, though that certainly is an important part. The activity that was most usefully informed by the cluster identification was attempts to reach out to local firms. Branding and recruiting were a close second.

Table 2.10 – Respondents' responses about how output of cluster analysis was used (n=94)

Did the output of your analysis inform . . .	Not much (Score=1)	Somewhat (Score=2)	A great deal (Score=3)	Average score
Your last three major recruiting efforts	17	25	37	2.25
Your last effort to reach out to local firms	8	27	46	2.47
Your last three small business trainings	22	16	6	1.64
Your last effort to brand your organization	20	27	25	2.07
Your last budget planning meeting	16	30	28	2.16
Your last effort to brand your region	15	27	33	2.24
Your last review of progress toward your goals	13	38	30	2.21

5. Discussion

5.1 Clusters involve more than just marketing and attraction

The survey data provide some support for the idea that economic development organizations are using the cluster concept for more than just attraction. Efforts to identify clusters in a region are motivated by a desire to learn about the economy, and specifically a desire to inform attraction and workforce development activity. These two policy areas were cited by the vast majority of respondents, but small business development was cited by nearly half of them. Clusters seem to be of interest beyond simply as a means of targeting attraction efforts.

The popularity of workforce development as a motivation was somewhat surprising, but might be explained in several ways. On the one hand, it may still be all about attraction, and the organization may simply be interested in collecting information about regional labor skills and training programs that they could use in marketing campaigns. On the other hand, the relationship between workforce and economic development has been the focus of a great deal of policy interest over the past few years (Renski 2009; Harper-Anderson 2008). The interest of the respondents may reflect this trend. However,

this small number of respondents that cited a grant application as a motivation for identifying clusters indicates that the popularity of workforce as a motivation is all about chasing grant money. Finally, it may be some combination of the two that truly does use the cluster idea to bridge attraction and selling with locally-focused "rational" efforts. For example, the organizations may be partnering with local workforce boards to develop training programs that meet the needs of certain local firms and at the same time using the existence of such programs to promote the region.

The type and number of clusters reported also suggests that cluster-based policy is a hybrid of rational and sales activities. Most regions claimed to know of five or six clusters. There is no particular reason why such a number would be the average number of clusters in any given region, especially given the many different analytical approaches that were used by respondents. Furthermore, one would expect that larger, more complex economies would yield more clusters, and this was not the case. On the other hand, many respondents used the clusters to allocate staff and financial resources, in which case five or six seems like a workable number for a small organization. Fifteen clusters would demand too much time and attention, and one would be a case of placing all of ones eggs in a single basket.

The fact that individual regions had a mix of narrowly and less narrowly defined clusters also suggests that in any region, some of the clusters reflect significant, specific local concentrations of activity, whereas other clusters serve to round out the cluster list and perhaps attract flashy new industries like green energy. Such cluster lists would likely be the result of a mix of objective cluster analysis and a range of operational, political, or other concerns. The prevalence of more narrowly-defined clusters supports Levy's argument that not all sales activities are a waste of time, since they may introduce information into the notoriously imperfect market for industrial sites. Clusters do seem well-suited to this purpose. Here again, cluster practice bridges rational and sales type activities, as well as the attraction versus local focus.

5.2 The importance of local firms in cluster policy

As Levy noted, sales activities can be locally focused. Economic development organizations, particularly regional organizations that rely on voluntary contributions, must publicize their work within their region to maintain support. This is clearly the case with cluster policy. Contact with local firms was cited as the area most informed by cluster identification efforts. Furthermore, more respondents had formed a working group with cluster members than had advertised clusters on their websites. While

recruitment and attraction may be the main motivation to engage with clusters, in practice cluster efforts involve a great deal of interaction with local firms.

As with the case of workforce development, it may be that all of the effort that goes into contacting local firms is geared toward collecting information for marketing campaigns. The data gained through the survey cannot help answer this question. Even if that were the intent of those who formed the working group, it seems unlikely that economic development officials would be able to control the process. Conversations between local firms and economic development officials might lead to all sorts of policy proposals and collaborative efforts. Furthermore, it seems unlikely that the private sector would agree to participate in a group that was only focused on attracting new firms to the region. Though cluster theory suggests that local firms might benefit from successful attraction efforts through external agglomeration economies, that fact may not be apparent to the private sector. Such benefits are notoriously diffuse and difficult to trace, and it seems unlikely that they would provide sufficient motivation to work with the economic development community. Presumably, the private sector would demand that additional topics be addressed if their participation is wanted. The importance of the local private sector in cluster efforts is another indication that such efforts are not simply about sales or attraction, even if they are initially motivated by them.

6. Conclusion

The data presented here come from the first large survey of cluster-based efforts by regional economic development organizations in the US. They show that while most economic development officials initially see clusters as a way to inform marketing and attraction efforts, workforce development and even small business development programs are also imagined beneficiaries. Furthermore, once organizations begin to work with clusters, most of them form some sort of ongoing collaboration with local firms that likely informs both attraction and more locally-focused efforts.

Clusters reported by the respondents seem to be the result of a mix of objective analysis and more pragmatic concerns. Furthermore, most organizations have settled on around five or six clusters, suggesting that the importance of clusters is as much in their use in operations as in their ability to reveal information about the regional economy. Finally, while “advanced manufacturing” and similarly obtuse clusters were common, most clusters were more narrowly defined.

Such narrowly defined clusters are perhaps the best example of how cluster-based economic development bridges the divide described by Levy. Narrowly-defined clusters are likely the result of some analysis, though the methods used may vary. This would place their identification squarely within the "rational" side of Levy's divide. However, the motivation for the rational activity is to improve sales activities. As mentioned, Levy noted that certain types of data were necessary for rational and sales activities, but cluster-based economic development is shown here to be about more than just data collection. Interactions with the local private sector are not likely to remain limited to discussions about attraction.

Levy's main argument was that the rational model was a poor description of how economic developers conducted their work, but in juxtaposing rational activities with sales he set up a straw man argument. The fact that the rational model does not explain economic development practice does not lead to the conclusion that practice is all about sales. Selling the region and the organization are an important part of economic development practice, but practice cannot be entirely understood through that lens. Clusters are a perfect example of why this is so. Clusters (hopefully) involve at least some "rational" analysis. The results of that are then used to sell the region to potential cluster firms not yet located there, but they are also used to build relationships with particular sets of local firms. This, too, is a type of selling, but it is oriented toward collaboration. That collaboration may also yield information that is useful in external sales, but it may also lead to discussions of local policy. Levy's criticism of the idea that economic development is dominated by rational model type activities is well-founded, but in collapsing the rest of economic development into the somewhat simplistic notion of sales one misses the way in which the two types of activity are interrelated.

6.1 Limitations of the research

The survey data presented here are all self-reported, and as such should be understood to reflect some degree of bias on the part of respondents. In addition, the 44% response rate, which is not low for organizational surveys of this type, introduces response bias as well. The work is also limited in that it takes an explicitly organizational focus. Regional economic development in the US involves multiple organizations including metropolitan planning organizations, economic development districts, and counties. This reflects only the understanding of regional organizations with a specific economic development focus.

While limiting the generalizability of the research, the focus on regional economic development organizations actually makes the results more surprising. Such organizations are in many cases primarily marketing organizations. The fact that they are using the clusters to inform locally-focused efforts suggests that the practice is not unique. If the organizations in the survey use clusters to inform locally-focused efforts, then other organizations with less of a marketing focus are even more likely to do so.

Finally, the research was limited by the difficulty of drawing conclusions about the nature of a cluster from its name. This is a poor way to understand clusters, but the variety of analytical methods available for identifying clusters and the lack of a widely accepted unique way of defining them makes it the only available option. The problem is made more difficult by the fact that the survey respondent was the CEO, and not the research director of the organization, or the hired consultant who defined the clusters. For this reason, only very general distinctions such as less and more defined were applied to the identified clusters.

6.2 Future research

This research has shown that cluster-based economic development practice is more than a cover for attraction, as some critics have argued. However, it leaves many questions unanswered. First, the working groups that most organizations set up remain a mystery. It remains to be seen if such groups end up producing lasting collaborations or providing the capacity to address different economic development challenges. The focus on only a single type of organization also leaves open the question of how organizations devoted to infrastructure planning or open space preservation work with clusters, or if they do at all. Lastly, because the data were collected though a survey, a great deal of nuance in how the organizations actually worked with clusters remains elusive. More qualitative research on how organizations use clusters would likely shed light on the practice.

CHAPTER 3:

All Planning, No Strategy:

Explaining Cluster Policy Decisions of Regional Economic Development Organizations

1. Introduction

In the past two decades, regional economic development organizations (REDOs) have expended considerable time and resources pursuing cluster-based approaches to regional economic development. This research aimed to determine if and how the cluster concept and cluster analysis informed decisions though a set of four case studies on decisions made by REDOs. Proponents of the cluster concept have made a compelling case for its potential to guide regional economic development policy. On the other hand, critics have pointed to persistent ambiguities and unresolved conflict over analytical practices to argue that the concept has limited utility in practice. Despite the popularity of the concept, there is relatively little research that specifically addresses what if any contributions the cluster concept makes to practice.

A central argument on which this research is based is that some of the criticism of how the cluster concept is applied in practice is driven by adherence to faulty conceptions of planning that remain in wide circulation in economic development practice. The main culprits are the rational and strategic planning models, both of which it will be argued are poorly suited to the institutional constraints faced by REDOs. In place of the strategic planning model, the research relies on developing notions of planning that posit a looser connection between planning and decisions, acknowledge the limits of formal analytical methods, and yet preserve a role for intentional planning behaviors rather than taking the route of attributing all decisions to the bugbear of "political forces.".

In doing so, the research is better able to appraise the real role that the cluster concept offers to REDOs. The research is significant for three reasons. First, it shows that the cluster concept does, in some cases, provide information and understanding relevant to the decisions of REDOs. Second, it demonstrates how improved conceptions of planning are useful in making sense of how ideas like the cluster concept inform regional economic development practice. Third, the research documents the behavior of an increasingly popular locus of economic development policy making – quasi-public

regional economic development organizations. These findings contribute specifically to the literature on clusters as well as to the wider literature on economic development practice.

The chapter is organized as follows. Section two presents a review of the concept of clusters. Section three presents a critical appraisal of models of planning in economic development and discusses the implications of improved models for our understanding of the cluster concept in practice. Section four covers the research design, the method of identifying cases, and data collection. Section five introduces the cases themselves. Section six presents the findings of the research. The final section concludes the paper.

2. The troubling application of the cluster concept

The cluster concept as theorized by Porter builds on the concept of industrial districts that dates back to the work of Alfred Marshall (Bergman and Feser 1999; Harrison 1992). Porter's initial idea was that firms in national industries with available productive factors, robust demand for their products, the presence of related industries, and multiple competing firms were likely to be more competitive than their counterparts in other areas (Porter 1990). This "diamond" of competitiveness, along with a competent government and a little luck, would lead firms to be more innovative and more productive than their counterparts in other countries. Though some of the ideas Porter expressed were not entirely new, he expressed them in the language of business strategy rather than pure economics (Feser and Luger 2003). Due, at least in part, to the accessibility of the concept, clusters have become one of the most popular economic development ideas in the US and around the world at the regional as well as national scale (Green, in review; Sölvell, Lindqvist, and Ketels 2003)

Despite its popularity, the application of the cluster concept and the analytical techniques associated with it has been difficult for several reasons. The concept itself, especially when applied at a regional scale, contains unresolved ambiguities. The ambitiousness of the concept – a comprehensive explanation of why some sets of firms succeed while others fail – and the limited availability of data have conspired to make the process of cluster identification quite difficult in practice. These problems have raised serious doubts about the potential for the cluster concept and cluster analysis to inform policy decisions (Martin and Sunley 2003). A review of both the concept and its application shows that real insights are possible, though the means by which that insight shapes decisions is best understood

through a conception of planning, covered in the following section, which has yet to gain widespread acceptance in the economic development literature.

2.1 Lingering uncertainties about the cluster concept

The simplicity of the diamond of competitiveness is somewhat misleading. Several of its corners allude to entire constellations of complex ideas without taking a position as to which are more or less relevant. For example, the importance of related and supporting industries is widely appreciated, but there are a great number of potential relationships between firms and industries. Without specifying which are the most important, this merely rehashes the argument for the importance of agglomeration economies including the localization economies of Marshall and the urbanization economies of Jacobs and others. Within each of these ideas, there has been a great deal of debate about what relationships – shared labor pools, scale economies in purchasing, access to specialized services, or others – are most important (Parr 2002; Feser 2002). Initially, Porter used the strategy, structure, and rivalry corner of the diamond to highlight the important role competition within an industry played in spurring productivity and innovation (Porter 1990). In subsequent work, he expanded his conception of industry dynamics to recognize the importance of cooperation between firms in clusters (Porter 1998). The great number and type of factors that underlie the four corners of the competitiveness diamond have made attempts to apply the cluster concept to policy decisions considerably more difficult.

Porter's original conception of clusters described national industries. Despite its affinity with the concept of industrial districts, the application of the cluster concept to the regional scale is not without problems. Several of the explanations for national competitiveness do not translate cleanly to the regional scale. For example, at the national scale the links between the main cluster industry and its related and supporting industries do not presume spatial proximity of those industries within the nation. Following the logic of agglomeration economies, clusters at the regional scale are often assumed to benefit from links that are explicitly spatial. Bergman and Feser (1999) distinguish between regional concentration in national industry clusters, which do not explicitly rely on regional agglomeration economies for their competitiveness, and true "regional industry clusters" that do. Further complicating the picture is the fact that different sources of agglomeration economies – knowledge spillovers, labor markets, and inter-firm trade relationships – operate at different geographic scales (Feser 2002). The potential for cluster forces in a particular region is thus dependent on the entire gamut of agglomeration economies, but also on the linkages between firms within the region and larger nationally competitive clusters (Bergman and Feser 1999).

One other unresolved issue that arises from a shift from a national to a regional perspective is the role of competition within an industry. Porter (1990) argued that national clusters benefit from competition between firms within them. Whether such competition is necessary for regional clusters to be competitive has not been entirely resolved. On the one hand, one or two large firms may benefit from their location in a region with related and supporting industries and a productive labor force. On the other hand, there is some evidence that small firms in regions with a highly concentrated industrial structure are less able to capture the benefits of agglomeration economies (Drucker and Feser 2012; Chinitz 1961).

As with the forces in the diamond, the term competitiveness masks considerable ambiguity. Porter defines competitive firms as those who are more productive and more innovative than others (Porter 1990). Both productivity and innovation are important drivers of firm success, but pursuit of one may at times come at a cost to the other. New industries require considerable product innovation until products become homogenized, at which point process innovation, and the productivity gains it brings, becomes more critical. As product life cycles come to an end, product innovation again plays a major role in firm success (Klepper 1996; Schumpeter 1947; Vernon 1966). Porter (2003) argues that industries that sell outside the region are the most important for regional growth, since they often have higher productivity and generate more patents than other industries. This reduces the issue of competitiveness to the much simpler one of export base. This makes the problem of identifying competitive (i.e. exporting) industries much simpler, but it conflates important issues. A positive regional balance of trade is a good thing, but the long term health of the region might benefit from the actions of small, innovative firms that do not yet export their products.

The number and variety of sources of competitiveness, as well as the different ways firms can be competitive, has resulted in the proliferation of industrial groups identified as clusters. Various scholars have attempted to bring order to the concept with limited success. Markusen (1996b) attempted to distinguish between the different types of clusters based on industry structure and ownership and proposed a four-part typology of clusters, but it has not been widely adopted. Other scholars have attempted to narrow the idea to a particular feature such as knowledge creation (Malmberg and Maskell 2002). At the same time, others are working to expand the concept even further to take account of more recent concepts such as social networks (Motoyama 2008).

Porter's original contention was that clusters were responsible for national level competitiveness because they produced advantages to the firms within a particular cluster. There is

very little work on whether clusters, broadly defined, result in positive economic outcomes at the regional scale, but there are a few studies that examine the relationship using a more limited definition of a cluster. Porter found that regions with a higher share of employment in exporting clusters had higher average wages, suggesting that there is a link between exporting clusters and productivity (Porter 2003). A separate study found a relationship between the presence of clusters that used advanced technology and new business formation (Feser, Renski, and Goldstein 2008; Feser and Koo 2000). The latter study found no connection between the clusters and regional employment growth. This limited research on the relationship between clusters and regional economic outcomes indicates that while clusters may drive new business formation and higher productivity, these do not necessarily lead to regional employment growth. Furthermore, each study examined the relationship for only one type of cluster which leaves unresolved the question of whether clusters, in the general sense, have any connection with regional economic success.

The simplicity of the cluster concept is misleading. It relies upon a great variety of causal mechanisms to explain competitiveness without doing much to adjudicate which ones are more important. The application of the concept to the regional scale raises additional unresolved issues, specifically how and at what scale advantageous inter-firm relationships operate. Finally, the proposed result of clusters – more competitive firms – equivocates between several desirable but conflicting properties. Perhaps as a result of this lack of definition, empirical verification of the link between clusters and regional economic performance has been elusive. As the next section shows, the looseness of the concept has created considerable problems for its application to economic development practice.

2.2 The challenges of identifying clusters in practice

The popularity of the cluster concept with policy makers may result in part from outsized claims about them, but the important role that external agglomeration economies play in producing regional clusters provides a solid rationale for public intervention. The benefits of such economies constitute a good which is to some degree non-excludable and non-rival. Such goods are not likely to be provided efficiently through market mechanisms (Bartik 1990; Moore 1978). The cost to a region of a clustered firm leaving the region may be greater than the loss of the production associated with the firm itself because its loss would also lower the productivity of other firms in the cluster. Such a result could happen if the exit of the firm decreases the local supply of some labor skill (through migration or job switching) thus increasing the costs to other firms of locating workers with that skill. Because of this potential, public intervention might be warranted to preserve regional clusters. In similar fashion, the

potential gain from recruiting an additional cluster member, whether a firm or other supporting element, might be greater than the set of activities provided directly by the newcomer.

The difficulty in applying the cluster concept to regional economic development boils down to two issues. The first is the challenge of identifying which if any particular competitiveness forces or agglomeration economies exist in a particular region at a particular time. Practitioners have attempted to meet this need through cluster analysis. The second is the challenge of building the capacity to take meaningful action. While these are conceptually distinct, in practice they blur together. The remainder of this section deals with issues of cluster analysis, while issues of the capacity to act are addressed in section 3 below.

There is a great deal of debate surrounding methods of cluster analysis. Ideally, regional cluster analysis would identify spatially proximate sets of firms that were more innovative or more productive as a result of one or more of the competitiveness forces identified above. Thus far, most if not all methods of cluster analysis fail to reach this standard. While spatial proximity is simple to establish, the competitiveness forces are more difficult to establish empirically. Connections between the latter and productivity and innovation in a particular locale are quite difficult to establish, in no small part because they imply a causal connection that requires difficult to obtain counterfactual evidence.

Most cluster analysis falls into one of two types (Bergman and Feser 1999). The first consist of those analyses that search for clusters through all or most of a regional economy, which some have termed meso-level analyses (Bergman and Feser 1999). These analyses usually rely heavily on secondary data and quantitative methods to identify which clusters are present in a particular region. The second type, termed micro-level analysis, consists of in-depth study of a particular cluster in a particular place. These often rely on primary qualitative data to understand the different elements of the cluster and how they interact. There is considerable variation within both approaches, but most cluster analyses can be placed easily in one or the other group.

Meso-level approaches offer the prospect of a thorough search of the entire economy. They also may be less susceptible to local bias or political influence since they do not focus on an specific cluster chosen in advance (Bergman and Feser 1999). Meso-level approaches vary widely in their sophistication and methodological defensibility. At the simplest, they consist of using location quotients to measure the relative concentrations of groups of firms in a region. This approach is particularly indefensible when the industry groups analyzed are major industrial sectors defined via output such as

"manufacturing" or "professional services" (Martin and Sunley 2003; Bergman and Feser 1999; Woodward and Guimaraes 2009). More sophisticated approaches measure the regional concentration of sets of industries that have been constructed to take account of interdependencies between them. Examples of these include Feser and Bergman's (2000) set of clusters based on national inter-industry trading patterns and Porter's (2003) clusters based on co-location and trading pattern. Feser's (2003) set of occupational clusters is a similar to these except it links occupations based on shared skills.

More sophisticated meso-level analytical approaches that rely on statistical techniques to build clusters out of regional industry data do exist, but they have not been widely adopted in practice (Bergman and Feser 1999). The more popular approach of identifying clusters via measures of concentration of pre-defined sets of industries may serve as an updated form of a regional economic base study (Isserman 2005). As a snapshot of the regional economy, such studies are apt to be useful. As a means of identifying clusters, they suffer from their reliance on *a priori* defined geographic areas and sets of industries. The former diminishes their ability to capture cluster dynamics operating at different scales. The latter restricts the analysis only to one aspect of competitiveness (i.e. value chain linkages or knowledge spillovers); diminishes the capacity to capture regionally idiosyncratic cluster dynamics; and risks missing groups of firms with low relative concentrations but significant agglomeration economies (Martin and Sunley 2003; Bergman and Feser 1999). Meso-level approaches also often fail to distinguish between concentrations that consist of one or two large firms and those that are made up of many smaller firms (Woodward and Guimaraes 2009; Martin and Sunley 2003).

Micro-level analysis allows for exploration of only a single cluster, but because it relies upon local knowledge and data, it is not restricted to pre-defined industry groupings. This gives micro-level analysis the potential to capture regional idiosyncrasies through primary data collection on interactions between individual firms and institutions, as in some cluster "asset mapping" exercises (Austrian 2000). On the other hand, such studies require that the particular cluster be determined beforehand which limits the likelihood of discovering new or emerging clusters. This has the potential to be a serious problem given the likely influence of large industries in the regional economic development and the associated myopia they induce in regional policy (Maskell and Malmberg 2007; Bergman and Feser 1999). Micro-level analysis thus has some of the potential to make up for the shortcomings of meso-level approaches, though at considerable risk of a loss of objectivity.

Neither type of analysis is apt to be superior in all cases. Bergman and Feser (1999) suggest that meso-level analyses may be usefully followed by a set of micro-level studies if the output of the former

guides the choice of the latter. Neither type of analysis is likely to confirm the presence of sets of firms that are more innovative or more productive as a result of one or more of the competitiveness forces identified above due to the difficulty in establishing such causal links. Instead, meso level analysis is apt to provide evidence of groups of firms with the potential to be more competitive than those elsewhere. Micro-level analysis is apt to find more detailed information about the situation of and connections between firms and related institutions in a region. Both have some potential to be useful to policy-makers.

2.3 Cluster policy in theory and practice

If clusters are potential sites of undervalued agglomeration economies, then cluster policy would ideally be framed around support for the continued presence of the cluster through some combination of subsidies, support for those elements of the cluster under public control, and communication with members of the cluster to ensure that specific problems might be addressed as they arose. In practice, meso-level studies rarely provide the detail necessary for such policy on their own. Instead, they produce sets of potential clusters which provide policy-makers with a short-list of portions of the regional economy that might merit further attention. The one large survey of clusters initiatives found that the most common activity associated with cluster efforts is further study of the cluster in question (Sölvell, Lindqvist, and Ketels 2003). Micro-level analysis is likely to produce detailed information about the regional economy, though in practice it may sidestep entirely the question of whether or not the industries in question are a cluster. Many policy recommendations that invoke the cluster concept could rightly be characterized as regional industrial policy with only tenuous links to the cluster idea.

At present, there are few studies that directly examine the ways that cluster analysis leads to cluster policy. Meso-level studies, often of a fairly unsophisticated sort, have certainly played a role in industrial targeting, leading some to dismiss the concept as industry targeting by another name (Buss 1999; Martin and Sunley 2003). However, it is not clear that all targeting is bad policy. Smokestack chasing and an exclusive focus on attraction efforts make poor policy, and cluster studies can provide cover for such activity. On the other hand, as a means of weighing the likely benefits to a region of different firms seeking public subsidies, cluster analysis might play a useful role in a new form of targeting that is free of much of the practice's poor past record (Woodward and Guimaraes 2009). Finally, if targeting involves working with firms already in the region, as opposed to attraction efforts, it

may provide a useful means of directing limited resources toward their most productive use (Wiewel 1999; Goetz, Deller, and Harris 2009).

In focusing regional efforts and providing details about the regional economy, meso- and micro-level analysis may also provide economic development officials with some of the tools needed to begin collaborations with local industry. Problems requiring attention may be identified in micro-level studies. Alternatively, the act of conducting the study, which entails some contact between the economic development community and the private sector, may help to build rapport between the two groups. Such rapport is widely recognized as an important component of successful policy, particularly at the regional scale, which in the US lacks general purpose government. Working together to address small problems can be a viable alternative to more technocratic approaches to economic development (Easterly 2007). Interaction between different sectors also makes it more likely that tacit knowledge and collaborative relationships will play a role (Briggs 2008; Healey 2006). Rosenfeld (2005) has argued that clusters are in fact one manifestation of what Cooke and Morgan (1998) term the associative economy.

There are a great number of case studies of clusters and cluster policy in the literature. Many of these provide a great deal of detail on the analytical techniques used to identify clusters but remain vague about the resulting policies (see Kleinhenz (2000) for an example). On the other hand, Rosenfeld (2007; 2000) describes a number of state and regional policies focused on clusters without going into detail on how the clusters were determined in each case. This latter work makes a strong case that cluster-based policies can have positive outcomes, but in many cases the policies could just as easily be termed “industrial policies.” Their strength lies in targeting policy toward the needs of local industry, often with the input and support of that industry, but whether the industry is any kind of cluster as defined above is beside the point. One can imagine that in many cases, policy-makers could have designed the policies without relying on formal analysis of any kind, and simply targeted their policies toward the largest or most productive industries in the region. The link between cluster analysis and cluster policy remains murky.

Feser and Luger (2003) provide the most telling evidence of how the output of cluster analysis feeds into policy decisions. They found that the results of a statewide, regional scale meso-level analysis of high technology clusters, which were presented in regions around the state, spurred discussions among regional leaders that accomplished two things. First, it brought to light clusters that the formal analysis had missed. Second, it spurred conversations between public and private sector leaders that

identified barriers to growth which themselves might be the focus of regional policy. This provides some empirical validation for the role that cluster analysis might play in developing policy in an associative economy.

2.4 Conclusion – unresolved issues

The cluster concept remains popular in theory and practice, despite resting on a great many disparate ideas whose relative importance and potential interactions are not well understood. The popularity of cluster analysis is certainly due in part to the proliferation of well-paid consultants whose work is often of questionable value (Martin and Sunley 2003; Lagendijk and Cornford 2000). The concept does entail a rationale for public intervention, and some types of cluster analysis – both meso- and micro-level – offer the potential of real insight. Accounts of cluster policies often fail to show any real link between analysis and policy, and instead describe thoughtful policies targeted toward local industry. The question remains whether or not the cluster concept adds value to these sensible prescriptions. If it does, it would likely be through a process that is more iterative than direct, providing an impetus for further research and collaboration rather than a clear set of policy prescriptions. The following section draws on theory from planning, policy sciences, and management science to shed light on that process.

3. Misconceptions about planning in economic development

In economic development practice, the dominant conception of how codified concepts and formal analytical techniques affect decisions is that found in the strategic planning model (SPM). Such models are prominently featured in standard books on the subject (Blakely and Green Leigh 2010; Blair and Carroll 2008; Stimson, Stough, and Roberts 2006). The U.S. Economic Development Administration's Economic Development District program requires participating regions to prepare Comprehensive Economic Development Strategies (CEDS), which involve a similar process. If there is skepticism about the ability of such planning efforts to affect policy, it does not seem to have diminished the willingness on the part of organizations to invest time and resources in preparing plans or on the part of funders to require them. The SPM describes the connection between planning behaviors and decisions as a linear series of distinct steps where planning behaviors control decisions. It also requires a level of certainty and commitment at the start of a planning process that is rarely found in economic

development. The alternative models described below are not widely known in the economic development field, but they provide a more plausible description of planning and decisions.

3.1 Problems with the SPM in economic development

Economic development organizations operate in the context of a great deal of uncertainty – about the current state of the economy (due to data limitations), about the likely future of the economy, about their own ability to affect that future, and about the relative desirability of potential interventions. Decisions economic developers are called upon to make have the characteristics – imperfect foresight, indivisibility, irreversibility, and interdependence with other decisions – where planning is apt to be useful (Hopkins 2001). Planning by economic development organizations often results in the creation of formal planning documents, but even when it does not they engage in planning behaviors which Hopkins (2001) defines as behaviors oriented toward producing knowledge about present conditions, possible courses of action, and preferences about ends and means.

In economic development planning, the SPM model is often applied to the entire economic development process, through and including implementation (Blakely and Green Leigh 2010; Stimson, Stough, and Roberts 2006). It exists in both simple and more elaborate forms. Blair and Carroll (2008) present the simplest version, with only three steps. The six-step SPM advocated by Blakely and Green Leigh (2010) contains a more detailed program consisting of the following steps:

1. Data gathering and analysis;
2. Selecting a local economic development strategy;
3. Selecting local development projects;
4. Building action plans;
5. Specifying project details;
6. Overall development plan preparation and implementation.

At the other end of the spectrum one finds Stimson et al. (2006). Their 14-step model is heavily programmed, even specifying specific analytical techniques including industry cluster analysis. Stimson et al. suggest that movement between steps might not be strictly sequential, an improvement over other versions of the SPM in economic development, but their models still includes numbered steps. All three versions retain the main element of the RPM and SPM: programmed steps that keep goal setting and analysis separate from and antecedent to decisions and commitments to act.

The SPM relies upon several implausible assumptions about how planning behaviors are related to one another and to policy decisions. In programming out a single linear process, the SPM implies that planning behaviors ought to culminate in very specific detailed commitments to action. To ensure that end the SPM, following its close cousin the rational planning model (RPM), essentially requires that each step in the model; be completed prior to the next. Once goals are known, the current situation can be assessed. Once present conditions are known, alternative courses of action can be identified and considered. In this way, each step produces information that is complete and sufficient for the completion of the next one. One problem with this approach is that steps are rarely complete or comprehensive, since the cost of collecting and analyzing all of the necessary information is cognitively and operationally prohibitive (Lindblom 1959; Beauregard 1995). Another problem is that the steps themselves are difficult if not impossible to isolate from one another. Goals and values cannot be completely worked out prior to analysis of present conditions, and the evaluation of different courses of action may result in shifting goals and values (Lindblom 1959). As a result, the distinct, programmed steps that the SPM relies upon to connect planning behaviors to decisions are nearly impossible to realize in practice. They may be possible in the course of a smaller, very specific project, but that is a very different context than the larger policy context to which the SPM is commonly applied.

Even if the issues above could be overcome, the SPM would still be ill-suited to the context of regional economic development because it requires considerable commitment from relevant stakeholders at the beginning of the process. Regional economic development organizations in the US lack a strong mandate. They are often quasi-independent organizations operating with limited resources (Olberding 2002a). They therefore need to partner with other organizations in order to achieve policy goals. Examples of partner organizations include local governments, other regional organizations, and state economic development agencies. Requiring commitment of collaborators at the beginning of a planning process is a difficult proposition. Such processes begin when final policies are not fully known, and as a result commitment from potential collaborators is low (Levin 1976). Commitment and specificity increase up to the point of the policy being enacted. Along the way, some collaborators may withdraw their support entirely as a result of a specific decision, while others may join the process for the same reason. In this environment, the early commitment required by the SPM is unlikely to be forthcoming.

Following Bryson (1988), both Stimson, Stough, and Roberts (2006) and Blakely and Green Leigh (2010) specify identification of and mobilization of, in the words of the latter “the organization or group

of institutions responsible for implementing or coordinating the economic change" as a prerequisite of the SPM. It is difficult to imagine that the private sector would not be part of such a group, particularly when the focus is on industry clusters. If so, it may be that the relevant organizations or groups are not known until after some initial analysis has taken place, either because the private sector is not well organized in a particular place or because those private sector organizations that do exist fail to represent the relevant sectors or firms. Given the many different forces that drive firms in a cluster, even the relevant geographic extent might be uncertain in the early stages of a project. The SPM as presented is thus mired in a catch-22 where those elements that are required at the beginning of a planning process are likely to result from the process itself.

The persistence of the SPM in the economic development literature is due in part to a lack of familiarity with alternative models. Instead of providing plausible alternatives to the SPM, critics of it merely note that it is doomed to failure by either political or market forces. The former can certainly be formidable, as Logan and Molotch (1987), Stone (1989), and Fainstein and Fainstein (1983) among others have shown. The failure of the SPM is a failure of a particular account of the link between planning behaviors and decisions, but it is not tantamount to a declaration that all planning behaviors are pointless. Planning behaviors are one way to operate in systems where political and market forces are powerful (Mandelbaum 1979). What is needed within economic development is an alternative explanation of how they are connected to decisions.

3.2 Alternative planning models and their implications for cluster-based economic development

The alternative to the SPM presented here includes ideas from planning and management theory. The most important premise is that planning is not about controlling decisions (Mastop and Faludi 1997; Hopkins 2007). Plans are a useful tool for operating in complex environments where preferences, capabilities, and contexts are in flux. They work by providing information that is relevant and useful at critical decision points (Hopkins 2001). Planning behaviors can be useful because they allow for the analysis and consideration of current conditions, possible courses of action, potential end states, and of multiple interdependent decisions at one in a setting apart from that in which decisions are made. Plans may indicate intended course of action, but they are by nature intentions and not decisions. Decisions are made in real time, outside of the protected settings in which planning behaviors occur. Planning, when done well, relies on analysis to produce information. Decisions are based on synthesis of information, including that from plans, together with whatever other information is deemed relevant at the time (Mintzberg 1994). Strategies, defined as recognizable patterns of action

across multiple decisions, do not require detailed programming. They may emerge from competent decisions informed but not prescribed by planning behaviors (Mintzberg 1994).

If planning is about informing rather than controlling decisions, then plans must work through a different process than the strict, programmed linear steps of the SPM. Hopkins (2001) described the following five ways that plans could inform decisions:

Agendas – lists of things to do;
Policies – if-then rules for actions;
Visions – images of what could be;
Designs – fully worked out outcomes; and
Strategies – sets of contingent actions.

Each of these makes explicit differing amounts of technical information, goals, and intentions to act, though in varying proportion and level of detail. All involve consideration of the future. Of the five, a strategy is the only one that would roughly fit the conception of how plans work found in the strategic planning model. Policies and agendas alone might fall short of the comprehensiveness that the strategic plan requires. Visions and designs might lack intermediate decisions and a detailed work plan. Though they fall short of the comprehensive programming of the SPM, each has the potential to inform decisions.

The differences between this conception of planning and the SPM can be summarized as follows. Though planning behaviors are the same as those included in the SPM, they are undertaken in a less programmed process. Plans do not control decisions, but rather inform them as described. Decisions are acknowledged to happen outside the controlled confines of formal processes, where plans provide only some of the relevant information. Finally, planning processes do not require a priori commitments to action from all relevant parties since the identities of some of those parties and the specific details about goals and values will be unknown at the outset and will emerge and develop as planning behaviors are undertaken and decision situations are confronted.

This conception of planning helps to develop several propositions about how the clusters concept and formal cluster analysis might shape the decisions of regional economic development organizations. The first is that cluster analysis, alone or in concert with other analytical techniques, is not likely to lead unambiguously to fully described policies. Cluster analysis, as one example of a planning behavior, may provide useful information to decision makers. For example, the clusters

identified in a meso-level analysis might be used as an agenda-type plan. Such an agenda could focus later research efforts, as Bergman and Feser (1999) and Sölvell et al. (2003) noted, but it could also be used to prioritize limited resources available for marketing efforts or for outreach to local firms. Outside of any formal plan the information from micro-level or meso-level analysis might still produce information about present conditions in the form of potentially important links in the regional economy. Such information might be useful in creating visions of possible future states, evaluating proposals, or recognizing emerging structural changes.

None of the above hypothesized mechanisms by which cluster analysis could inform decisions requires a strong prior commitment to action in order to prove useful. REDOs' need to collaborate in order to achieve policy goals will also affect the details of cluster policies as much as the output of cluster analysis. Therefore, commitment to a particular cluster may be contingent upon finding willing collaborators. Furthermore, the need to secure partners may mean that the identity of clusters may change over time, as the set of collaborators may define the appropriate policies. From the perspective of a cluster analyst, this may be anathema, but the variety of potential linkages that exist in a particular region is likely to be large enough that the membership and geography of clusters will change depending on the specific policy approach in question. Thus the need to "identify" clusters may in practice be subservient to the need to correctly match particular policy interventions to particular sets of firms. The commitment of potential collaborators cannot be guaranteed at the outset, but will emerge through the process of policy design, pilot projects, and early implementation.

These propositions also suggest possible tensions in the conduct and use of cluster analysis as an analytical frame and as a marketing tool. This tension is not unique to the cluster idea, and was first described in economic development by Levy (1996). As an analytical tool and planning behavior, the results of cluster analysis are contingent on further confirmation and elaboration, as well as the operational constraints noted above. As a marketing tool, the output of cluster analysis is expected to be clear, definitive and immutable. A desire on the part of a REDO to promote a consistent image of the region may hamper efforts to use cluster analysis to make sense of the regional economy. On the other hand, clusters that change with additional research and project development are not a solid foundation upon which to build a regional brand.

These alternative conceptions of planning also shed light on how best to observe the means by which the cluster concept informs the decisions of REDOs. Most importantly, one cannot begin with formal analysis or planning documents since they do not lead unambiguously to policy decisions.

Instead, one ought to start from the decisions themselves, which will likely be shaped by information in plans and by other information deemed relevant at the time (Hopkins and Schaeffer 1983; Hopkins 2007). This focuses the research on an actual decision rather than on an intention expressed in a plan. From there, one can trace backward to see if and how prior planning behaviors including cluster analysis affected those decisions, and at the same time account for the presence of other sources of information and context. This approach offers less insight into which cluster initiatives are superior, but it will shed light on the effect of the cluster concept is in the practice of economic development. Further, it will take the environment in which economic development is practiced as a starting point for research, fraught with politics and uncertainty though it may be, while not simply attributing the whole of economic development policy to that environment.

4. Design of the research

This research is designed to investigate if and how the cluster concept informs the decisions of REDOs. The research consisted of four cases studies, each of a different decision, in a multi-case holistic design (Yin 2009). The cases were chosen through a multi-step process out of a survey of REDOs in the US conducted in the winter of 2012 (Green forthcoming). Because of the popularity of the cluster concept, it was assumed that in many cases what were deemed cluster policies were in fact traditional economic development policies that had been branded as cluster policies to make them appear current. Instead the chosen cases were those in which preliminary research showed significant reliance upon the cluster concept, and were what Flyvbjerg (2001) called critical cases. If upon completing the research, the cluster concept could not be shown to have usefully informed any of these decisions, then it would be fair to conclude that it had little chance of doing so elsewhere. The opposite finding would confirm the proposition that the concept had the potential to inform decisions, and would allow for evaluation of the propositions described in section 3.2. The data for the cases consisted of interviews with those familiar with the decisions and review of documents that yielded considerable detail on the events leading up to the decision and its more immediate context.

4.1. Case study selection

The decisions that served as the focus for the cases were identified through a multi-step process. The first was a national survey of REDOs in the US that asked about the organizations'

experiences with the cluster concept and cluster policy. The 104 valid responses were evaluated using following five criteria:

1. Greater than average resources expended on learning about clusters in their region, such as through multiple rounds of analytical work;
2. Clusters that were more narrowly defined, such as "aerospace manufacturing," than general, such as "advanced materials";
3. Claims to have used the cluster concept in more than one policy area, such as workforce ;
4. Thoughtful responses to open-ended questions about the advantages and limitations of the cluster concept;
5. Expressed willingness to participate in a case study.

The purpose of the first four criteria was to identify those organizations where the cluster concept and cluster analysis was most likely to have informed decisions. The purpose of the fifth was more practical. The data necessary to conduct each case study was heavily dependent on interviews with key participants. If organizations were not willing to participate in the research, then the case study would have been impossible. However, this does not weaken the design because the cases are critical ones as described above, though it may limit somewhat the generalizability of the conclusions about how the concept affects those decisions.

The application of the above criteria yielded a list of four organizations considered most likely to produce useful decisions for cases. The second step was to contact each organization and speak to the person who actually completed the survey, and who in each case became the primary contact for the case. The purpose of this initial contact was to establish whether or not the organization was still willing to participate in a case study and to begin to identify decisions that might serve as cases. Of the four organizations, one was eliminated because they no longer were willing to participate in the research, and a second was eliminated due to potential conflict of interest with the research team.[2] The remaining two organizations were suitable and cooperative. Preliminary interviews with the primary contact were used to identify cases (decisions) made by each. The decisions were identified by asking the interviewee to consider what the most important recent decisions of the organization had been, and to identify important decisions involving clusters. After discussing the details of each, it was possible to

[2] The Principal Investigator had been involved with performing some cluster-related analytical work for the organization, which might have made it difficult to have honest communication about the value of that analysis.

identify three decisions in one organization and one in another, for a total of four cases. The decisions were all relatively recent, within the last five years.

4.2. Data collection and analysis

The primary methods of collecting data were through semi-structured interviews with key informants and analysis of documents. Interview subjects were identified though conversations with the initial contact at the organization, but additional subjects were identified through the interview process itself. Identified subjects included those with a long history at the organization, those in key leadership positions, and those with intimate knowledge of the cases in question. Leaders or representatives of affiliated organizations that were involved with or affected by the decisions were included as well. In general, the organizations were quite small, so identifying relevant individuals was fairly straightforward. All interviews but one were conducted during site visits to the organizations which lasted about four days each and occurred during the spring of 2012.

Interviews were recorded and transcribed. Some documents were identified before each site visit, and additional ones were provided by interview subjects. The transcripts, documents, and research notes comprised the corpus of data used to create each case report. Table 3.1 summarizes the data sources for each case. In preparing the case report, considerable triangulation was possible by comparing the accounts of a decision from different sources and by comparing data from the interviews to data in documents. The strategy for analyzing the cases was a mix of what Stake (1995) calls direct interpretation and categorical aggregation. The former draws interpretations from the analysis of an individual case, whereas the latter involves an attempt to draw conclusions from the cases in aggregate. For this research, the individual cases were analyzed on their own terms first, and then compared.

Table 3.1 – Data sources used in the cases

Organization	Interviews	Documents			
		Produced Internally		Not Produced Internally	
		Organizational	Research	Research	Media
NE Indiana (3 cases)	9 interviews with 7 people	6 annual reports (2006-2011); 1 plan	10 studies	6 studies	6 newspaper articles
Rockford (1 case)	9 interviews with 8 people	7 annual reports (2005-2011); 3 plans	11 studies		1 newspaper article

5. Cases of decisions

5.1. Background on the cases

The four decision cases come from two separate organizations, three in one and one in the other. The Northeast Indiana Regional Partnership (NEIRP) operates in ten counties centered on Ft. Wayne, Indiana. The Rockford Area Economic Development Corporation (RAEDC), which operates in Winnebago County, IL, on its own and in Rockford and adjacent Boone County through the Rockford Region Economic Development District. Each organization conducted a meso-level study of the regional economy (the NEIRP in 2007 and the RAEDC in 2006), though each organization equivocated between referring to the result of the studies as targets versus clusters. In the ensuing years, each organization conducted additional research in the form of micro-level studies of individual clusters. The specific cases are presented in brief below, and in greater detail in Appendix 1.

5.2 The NEIRP's decision to frame a major grant proposal around a specific cluster

In February 2009, a coalition of community and economic development organizations including the NEIRP submitted a successful $20 million proposal to the Lilly Family Foundation, a major philanthropic organization. The proposal, called Talent Opportunity Success 2015 (TOpS 2015), focused on developing the region's workforce and was organized around meeting the needs of a defense/aerospace cluster and included four main programs:

- $5.7 million to create new workforce development programs targeted to the needs of the defense / aerospace and other high tech manufacturers in the region and train 1,200 workers;
- $2.6 million to outfit an advanced manufacturing training center at Ivy Tech Community College with machines and automated systems that were in use by manufacturers in the area;
- $4.5 million to create two centers of excellence at the campus of Indiana University-Purdue Ft. Wayne (IPFW), one in systems engineering and one in wireless communications;
- $5 million to create STEM education centers in high schools throughout the region.

TOpS 2015 got underway in 2009, and was well underway at the time the research was conducted.

From early in the process, there was some enthusiasm for focusing the proposal around clusters. Early versions of it had included funding for cluster specialist positions at the NEIRP along with several additional programs that were eventually dropped. These other programs included a regional

marketing campaign, a scholarship program for local students, and a commercialization center at the Northeast Indiana Innovation Center among others. To a large extent, they reflected the various desires and interests of the many different groups that had come together to submit the proposal. These included the Greater Ft. Wayne Community Development Foundation, the NEIRP, the local Workforce Investment Board, IPFW, the Northeast Indiana Innovation Center, and the organization now known as the Regional Chamber of Northeast Indiana.

The decision to narrow the focus on a single cluster was a response to the Lilly Family Foundation's request for a more focused proposal that was supported by a single compelling case for action. The revised proposal required the elimination of the above programs, a process that many described as quite difficult. The decision to focus the proposal on the defense/aerospace cluster specifically was the result of an understanding of the importance of that particular group of firms to the Ft. Wayne regional economy. A number of cluster-based plans and studies dating back to 2003 and conducted at the state and regional level had noted the presence of defense/aerospace firms in the state and the region. For the most part, these distinguished between those that specialized in communications technology, such as Raytheon (formerly Magnavox), and the aerospace firms like BAE Systems and Northrup Grumman. The former were referred to variously as "Communications / Technology / Defense," and "Information Technology / Telecommunications." The latter were called "Aerospace" or sometimes simply grouped into the catchall of "Advanced Manufacturing."

In 2007, the NEIRP commissioned a target industry study from a consultant. The method of defining targets was woefully obtuse, but did rely on some techniques familiar to meso-level cluster analysis including measures of concentration of industry- and supply-chain-based clusters. The final report listed five primary targets and ten secondary targets, and among the latter were "Tactical Communications" and "Aviation Aerospace." The NEIRP, in discussing the study, decided that these two groups were really part of a single "defense aerospace" cluster of defense oriented, engineering technology heavy manufacturing firms. The NEIRP decided to focus on six targets: the five primary ones and "defense/aerospace." NEIRP staff also began to use the terms "targets" and "clusters" interchangeably, though in interviews all staff noted misgivings about doing so.

The proposal to the Lilly Family Foundation could have been based on any one of the six clusters. The decision to focus on the defense / aerospace firms hinged on the availability of a compelling case for action to support the industry in the region, and on the ability of the industry itself to organize and play a role in the proposal process. The compelling case was that the Ft. Wayne regional

economy still had a significant share of manufacturing employment due to the presence of the defense / aerospace firms that insulated it from the declining auto industry. Because the firms did so much defense work, they were unlikely to be moved offshore and they were somewhat insulated from economic downturns. With the impending retirement of Baby Boom generation workers, the firms would need a steady supply of skilled workers. If the Ft. Wayne region failed to develop or attract such workers, the firms would likely leave the area. This was the rationale for the final proposal, which addressed provided technical education and workforce training at all levels.

That compelling case was made at times by the industry itself, which was becoming more organized at the time of the proposal. Several executives were involved through the Corporate Council and the NEIRP, and the defense / aerospace industry was soon to form the Northeast Indiana Defense Industry Association. According to one interview subject, a critical step in winning the grant was a set of interviews that the Lilly Family Foundation did with executives in the local defense/aerospace industry. Their support in private interviews as well as on the proposal team was important in convincing Lilly to fund the proposal.

The other clusters on which the NEIRP were focused as a result of the 2007 study – logistics, financial services, food processing, advanced manufacturing and medical devices – lacked either the compelling narrative, the involvement of executives, or both. While there was not a systematic evaluation of each in terms of its appropriateness for framing the proposal, the choice of the defense / aerospace cluster provided the necessary data and support. In addition, the technical nature of the industry allowed for the inclusion of programs like STEM education that had support in state and national policy circles, endearing the proposal to funders and reviewers.

Despite its reliance upon the defense /aerospace cluster, the proposal also made clear that the programs would produce immediate benefits for advanced manufacturing, which overlaps with the defense/aerospace cluster but includes firms in medical devices as well as upstream manufacturers that sell to a variety of sectors. As the TOpS 2015 program has been implemented, it has become clear that the connection to the defense/aerospace cluster was more rhetorical than substantive, a sentiment confirmed by the director of the Talent Initiative in an interview. As another interviewee put it, “I almost wish we'd stop saying that it is about defense. Because people think it is only about defense. It was merely the compelling argument that we could use to convince Lilly that this was the right thing to do.” Whether the defense industry has benefitted from the Lilly grant is still an open question.

5.3 The NEIRP's decision to partner with OrthoWorx, a REDO for an adjacent region

In early 2012, the NEIRP decided to set up a formal relationship with Orthoworx, an economic development organization in Kosciusko County. Kosciusko County is adjacent to the ten counties represented by the NEIRP, and its largest city, Warsaw, is home to three of the largest medical device manufacturing companies in the world. The partnership took the form of mutual investment in each organization by the other. The CEO of Orthoworx is eligible to vote for members of the governing board of the NEIRP, and the CEO of the NEIRP sits on the Strategic Advisory Board of Orthworx. This decision was an important step toward ending a long period of mutual suspicion and a lack of collaboration between the two regions.

The NEIRP had wanted to promote the presence of the medical device cluster in Warsaw but found it difficult to do so for the simple reason that the three large medical device firms – the most visible part of the cluster – were not technically within the region covered by the NEIRP. Early NEIRP promotional materials advertised the proximity of the large firms in Warsaw, as evidence of the region as a favorable location for medical device firms and the wider biotech sector, though the effort was geared toward attracting firms to the ten counties the NEIRP represented.

When the NEIRP was being created to replace the previous regional economic development organization, Warsaw County was invited to join. The NEIRP is funded by yearly contributions of both public and private investors. Their investments are managed separately and the governing structure maintains a privileged position for the public sector. Each year, counties must decide whether to continue their support. As a result, the area covered by the NEIRP has fluctuated over the years between nine and eleven counties. At no point, however, was Kosciusko willing to join. Interview subjects in both counties claimed that this was due to suspicion on the part of some in Kosciusko County that Ft. Wayne was trying to steal the medical device firms away. Those in Warsaw also note that the city is located almost half way between Ft. Wayne and South Bend, is part of the latter's media market, and is grouped into a region with the latter by the Indiana Economic Development Corporation. From the perspective of Warsaw, it was not self-evident that they ought to join with Ft. Wayne on regional development work.

The conclusion in the 2007 target industry study that medical device firms should be a target made the NEIRP take notice. As mentioned, the methods used to identify the targets were murky, but the conclusion together with the interchangeable ideas of target and cluster raised a new hope that the

NEIRP region might have a significant medical device cluster even without counting the firms in Warsaw. This hope was fanned in 2008 by a study of the entire biomedical industry in the NEIRP region conducted by the Indiana Health Industry Foundation. That report, which used extensive industry-specific knowledge rather than secondary data, found 91 establishments in the medical device industry. The NEIRP began to include those companies in its marketing materials, while still highlighting the region's proximity to Warsaw. The NEIRP also sponsored three studies each in 2009 and 2011 on the six targets / clusters. The study on the medical device cluster in the region was conducted in 2009, and was designed to determine once and for all if there was any real potential for a medical device cluster in the NEIRP region. The study concluded that, ". . . it is immediately self-evident that many [. . .] companies [in the NEIRP region] already belong to a cluster – the medical device cluster centered in Warsaw." It presented evidence that many of the firms in the NEIRP region did business with the medical device firms in Warsaw, as well as with other sectors inside and outside the region.

The finding was a disappointment to NEIRP staff. The study went on to recommend that the NEIRP focus on the wider biomedical industry, essentially disentangling considerations about how the organization might support that industry from preoccupations about whether or not the region had a viable medical device cluster. It recommended that the NEIRP "should concentrate its efforts on both supporting the existing Warsaw medical device cluster and developing and growing its own pockets of opportunity in life science." The idea of supporting Warsaw presented problems. The NEIRP did not officially have a mandate to work in Kosciusko County, and the tension between the two made collaboration difficult.

The eventual change was due in a large part to the creation of a new organization, OrthoWorx, in 2009. The small organization had only four staff by 2012, and was charged with working with the large medical device firms in Warsaw to promote the industry. The new organization had less of the history of suspicion about Ft. Wayne. In addition, the organization saw the 2009 study mentioned above, and that went some way toward reassuring staff that the NEIRP were aware that support for Warsaw was in their own interest. At the same time, as part of an effort to develop a training program at their local community college, OrthoWorx staff met with NEIRP and community college staff in Ft. Wayne. Though some representatives of both organizations had known each other before, the discussions around training in manufacturing were noted by several people as the first time that collaboration between the two organizations had seemed possible. This was encouraged by individuals

in the NEIRP who represented counties lying between Ft. Wayne and Warsaw, and for whom such collaboration seemed more natural, and by a regional bank that invested in both organizations.

In 2011, OrthoWorx and the NEIRP invited each other to their respective meetings as guests, and also began to occasionally meet informally. The decision to formalize the relationship grew out of the understanding that while they represented different political entities, they were linked through the medical device industry. Both are aware that the big three companies in Warsaw are the anchor of the industry and that their continued health and presence is critical to people and companies throughout the larger region. Further, OrthoWorx staff acknowledge that the presence of Ft. Wayne provides urban amenities that Warsaw simply cannot offer, and that such amenities are important for attracting and retaining employees at companies in Warsaw. As an example, speaking of recent plans to revitalize the riverfront in Ft. Wayne one interviewee mentioned that an OrthoWorx staff person had said that such investment on the part of Ft. Wayne was critical to Warsaw's ability to attract and retain the talent that they need to support that industry. Throughout the interviews, both groups played down questions of geography and instead pointed to the relationship as a strategic partnership. The collaboration between OrthoWorx and the NEIRP is still quite new. They first attended each other's board meetings as members in early 2012. There hadn't yet been any major new initiatives as of mid-2012, but the fact that they are partnering at all is a major step.

5.4 The NEIRP's decision not to pursue a stand-alone logistics cluster

The NEIRP has decided, evidenced by a lack of concerted action, not to pursue transportation and logistics as a cluster. Transportation and logistics was one of the five first tier targets in the 2007 study. As with the other first tier targets and defense / aerospace, transportation and logistics was the subject of an individual study. The results of that study led the NEIRP to conclude that while transportation and logistics would remain a viable target for parts of the region, the firms in that sector of the economy did not possess the characteristics of a cluster.

The transportation and logistics study, which was released in 2011, examined a wider range of industrial sectors and occupations related to transportation and logistics than had the 2007 target study. The justification for this was that logistical expertise and functions had become integrated throughout supply chains as the latter have become more fragmented. As a result, the 2011 study examined the transportation, warehousing, and wholesaling sectors. The authors found that these industries included

over 10% of regional employment in 2009. They also found above average concentrations of trucking and warehousing, which had location quotients of 5.1 and 2.0, respectively.

The study concluded with three main findings. The first was that despite the size of the transportation and logistics sectors, the northeast Indiana region had no real advantage as a logistics hub compared with many similar areas in the Midwest. The second was that the logistics industry in the region was for the most part attached to local manufacturing more than it was a stand-alone industry. The third was that logistics firms in the region would face a shortage of workers in the near future, even though many of the jobs paid higher wages than other jobs available to low-skilled workers. The study recommended addressing the workforce shortages and investing in transportation infrastructure in the region.

NEIRP staff described the organization's response to the study as follows. First, since the logistics firms that were in the area were there due to the region's proximity to other places rather than local economies of scale, the presence of Interstate 69 would likely continue to attract some number of distribution centers. Aggressive marketing to logistics companies would be wasteful. This response shows the degree to which the concepts of target and cluster were intertwined at the organization. The second response was that in the absence of a motivated partner like OrthoWorx or the Northeast Indiana Defense Industry Association, it would be difficult to work with the local industry. The other response on the part of the NEIRP was the realization of how important good transportation and logistics firms were to the manufacturing in the region. Several staff pointed out that the best way to work on issues of transportation and logistics was to address them with respect to the defense, medical device, and other manufacturing firms with which they were already working. From the standpoint of cluster theory, the result of the study was that transportation and logistics was really a related and supporting industry of local manufacturing rather than a cluster in its own right.

As a result, though the NEIRP continues to consider transportation and logistics a target, it has not expended further resources on it as a stand-alone cluster. The one staff person working specifically to address the needs of local clusters did not see transportation and logistics a main focus of their work. One final result of the study was that its other sponsor, the local Workforce Investment Board, designed several workforce training programs to meet the anticipated labor shortage. Some programs were designed with local manufacturing firms. The lack of action with respect to transportation and logistics was limited to the NEIRP itself.

5.5 The RAEDC's decision to create the Rockford Area Aerospace Network

In late 2009, the Rockford Area Economic Development Corporation (RAEDC) amended their bylaws to allow for the creation of a cluster-specific initiative to address the needs of the aerospace industry in Rockford. The initiative, called the Rockford Area Aerospace Network (RAAN), got started in 2010, and was the result of several years of effort by the RAEDC and the private sector in the region. At the time the research was conducted, the RAAN had seventeen members, and had created a larger group of over 200 aerospace firms in the region.

As did the NEIRP, the RAEDC engaged several studies of local industry including a target industry study and individual micro-level cluster studies. The RAEDC had received funding from Winnebago County for three micro-level studies. The first two, which examined logistics and food processing, were conducted before the target industry study was completed. One finding of the target study, which came as somewhat of a surprise to the RAEDC staff, was that the region might successfully attract aerospace firms to the region based on the number that were already present. Aside from the three large firms that were well known, the RAEDC had not paid much attention to the aerospace industry to that point. Based on that finding, the RAEDC decided to focus the third micro-level study on the aerospace firms in the region. That study, released in June of 2006, found 89 firms in the aerospace sector including dozens of small companies that traded with one another. The aerospace study also found that the area lacked a robust technical education system to supply those companies with skilled manufacturing workers. In a short time, the aerospace industry went from some obscurity in the eyes of the RAEDC to one that might make a plausible target to one that might have concerns the region should address.

Around the same time as the publication of the report on the aerospace industry, the RAEDC was coming to the realization that several other clusters were less promising than they had hoped. This raised the possibility of a more concerted focus on aerospace. The RAEDC did not embark on a major new aerospace initiative right away. Instead, several staff of the organization began to ask about the industry in casual conversations with industry officials. One particularly important such conversation took place in late 2006 between RAEDC staff and Jeff Kaney, the CEO of a small local aerospace firm. The main purpose of the meeting was to discuss some business incentives programs, but in the course of the meeting RAEDC staff mentioned their new interest in the aerospace industry. Kaney asked them to stay after the meeting to talk further, and later asked why the RAEDC didn't take a more active role in regional industry, even mentioning some models of clusters initiatives with which he was familiar.

Seeing the interest in such an approach coming from someone in the private sector, the RAEDC decided to reach out to the CEOs of the two largest aerospace firms in the region to discuss the possibility of collaboration between the industry and the RAEDC. The companies in question were investors in the RAEDC, but the meeting still took months to set up since the large firms did not have a history of working together. The meeting, held in late 2007, consisted of a discussion between executives of several of the larger aerospace firms along with representatives of the local community college. It generated a wide range of ideas about the state of the aerospace industry and ideas about how the RAEDC might go about bolstering it in the region. The larger firms had a number of suggestions for strengthening the position of the upstream suppliers, from working with them to bid for larger contracts to training on doing business with the federal government. In the course of the meeting, it became clear that the larger firms might support initiatives to assist smaller aerospace firms in the region since they relied upon those firms for necessary inputs. Surprisingly to RAEDC staff, at least one executive claimed that even attracting additional large firms similar to their own was not a threat since it would only bring more qualified engineers in the area.

Soon after that meeting, several other events in the region also built excitement around aerospace. In 2008 Embry-Riddle University decided to build its third campus in Rockford. In that same year, the RAEDC learned that Rockford was being considered as a location for a major aircraft manufacturer as a result of some advocacy by the private sector. The RAEDC visited the headquarters of the company in late 2008 with a delegation of staff and local leaders, and was able to make what they felt was a compelling pitch. Though Rockford was not chosen as the location for the plant, the fact that they had been seriously considered further bolstered their excitement about aerospace in the region.

By the end of 2008, the RAEDC was determined to create some sort of program to support what was now being called the aerospace cluster in Rockford. By early 2009, the RAEDC was meeting regularly with a steering committee of aerospace industry leaders. At one meeting, Jeff Kaney, the aerospace CEO, asked about the possibility of handing over some of the leadership to the private sector. Though RAEDC staff felt that it was in the interest of the region to support the aerospace cluster, the RAEDC bylaws did not have any means of establishing independent committees focused on individual industries. As one interviewee put it, the RAEDC was supposed to work with all industries. To build support, and to make sure that they had the support of their investors, the RAEDC staff brought the issue to their board, who voted to amend the bylaws and allow for the creation of industry-specific committees that could be chaired by private sector investors in RAEDC.

With the organizational infrastructure in place, the Rockford Area Aerospace Network (RAAN) was started in 2010 with Jeff Kaney as Chairman. More than just a committee, the RAAN is almost a separate organization dedicated exclusively to the aerospace industry in the wider Rockford region. Though the organization is nominally part of the RAEDC, it has considerable autonomy. One example of this is in the structure of its members. In order to officially be a member of RAAN, firms must be investors in the RAEDC, be within 75 miles of Rockford, and get the majority of their revenue from aerospace. At the time of the research, the network had about 17 members including the four largest firms in the region and a collection of mid-sized suppliers. In addition to this core group, RAAN has set up the Rockford Aerospace Cluster, a wider network for aerospace firms in the Rockford region that required no membership fee and served mainly to keep track of as many of the aerospace firms in the region as possible.

At the time of the research, the RAAN was still new, but it had 17 members and was aware of around 200 firms through the wider Rockford Aerospace Cluster network. The wider network had even allowed an organization representing forty or so aerospace firms in northern Wisconsin to join since the firms it represents did business with firms in Rockford. In addition to networking, the RAAN has been involved in technical education in the region. One interviewee stressed that the members of RAAN were not interested in being a networking organization, but that they were all motivated by a concern about the supply of skilled labor. The RAAN and several of its member companies, along with the RAEDC and local educational institutions have collaborated on the Joint Institute of Engineering Technology – Aerospace (JiET-A) program. JiET-A brings together classes at local community colleges, Embry-Riddle, and nearby Northern Illinois University and internship programs at aerospace firms to create a pipeline of aerospace engineers that can supply labor to aerospace firms in the region.

6. Analysis and Discussion

This research aimed to understand how REDOs used cluster analysis and the cluster concept to inform decisions through a set of detailed case studies of decisions by such organizations. This section presents the key findings of the research.

6.1 Meso-level analysis sets the agenda

All of the cases presented were informed at some point by a meso-level study that aimed to identify target industries. The short lists of economic sectors that such studies produced were used by both organizations to prioritize outreach and further study. This is an important class of decisions on its own, since it is a decision about how to best allocate limited staff time (for outreach) and financial resources (for research studies). In the case of the NEIRP, the list of targets actually became an agenda for future research. All five top tier targets and the additional defense / aerospace target were the focus of individual studies. At the RAEDC, the target study was used to identify the aerospace industry as the subject of the final study for which funding was available. This finding sheds some light on Sölvell, Lindqvist, and Ketels' (2003) finding that the most common activity of cluster initiatives is research. It also supports Isserman's (2005) finding that cluster studies were an updated form of an economic base study. On their own, the meso-level studies provided little in the way of the sort of information around which one could design a policy. Instead, they served as a useful snapshot of the regional economy that could be useful in determining where to devote additional time and energy.

6.2 Micro level cluster studies provide more actionable information

In contrast to the meso-level studies, micro-level studies of individual clusters provided specific information that was useful in creating policies and identifying specific cluster dynamics. Studies of aerospace in Rockford, and logistics and defense / aerospace in Northeast Indiana identified a shortage of qualified workers as a concern. In each of these cases, the REDO or one of its partners worked to design a workforce training program to help address the need. The NEIRP study of the logistics industry also found that it was not particularly competitive compared to similar industries in nearby regions. This was not used to design a program, but rather to avoid designing one. A marketing campaign to attract logistics, which would use limited resources, was a possible course of action. The NEIRP decided, on the basis of the study, to expend the resources elsewhere while still working with logistics firms that expressed interest in the region.

6.3 Cluster studies of both types were useful planning behaviors

The cases showed multiple examples of cluster analysis serving a useful purpose. First and foremost, both types of analysis produced surprising results that set the REDO in question on a new path. One example from the RAEDC was the finding of the size of the local aerospace industry. Though RAEDC staff were aware of several large aerospace firms in the area, they did not think of the industry

as having a deep presence in the region until the target industry study drew attention to it. An RAEDC staff person described a conversation with the author of the study as follows.

> "[I called him and asked], 'Why would you suggest that we focus on aerospace when we only have two companies?' And he kind of laughed at me, and he said I think you need to do a better job researching your market before you assume that you only have two companies. I thought, OK, maybe we need to take a more in depth look."

That conversation led the staff person to advocate using the remaining research funding to look into the aerospace industry, which confirmed the initial finding and helped the RAEDC realize that in addition to the known large aerospace firms, the region had a considerable collection of smaller suppliers going up the supply chain. That gave them the confidence to begin talking to the aerospace industry, and it gave them some specific information about the workforce needs of the industry around which to frame early discussions.

The micro level studies also presented surprising findings. The NEIRP micro-level study of the medical device cluster was cited by several interviewees in Ft. Wayne and Warsaw as instrumental in changing perspectives on the relationship between the two regions. AS one NEIRP staff person put it,

> "I remember the date that [he] came to me and told me, 'you need to read this report and read this conclusion here that we are not a medical device cluster.' And I had to digest it a little bit and think. What does that mean to us if we now admit that we, northeast Indiana, are not a cluster without Warsaw. And it just heightened the intensity of my interest of cultivating a relationship with that community. It changed my perspective on the urgency of us having a productive relationship with them."

The act of wrestling over what to do about such findings was an important step in the road to the decisions presented in the cases. The conversations that resulted from the findings, though not directly observed by the research, were invoked explicitly and implicitly by interview subjects.

One reason that the cluster analysis produced surprising results was fairly obvious. It expanded the focus of the REDOs beyond the large employers in the area. In the case of the Rockford aerospace industry, this resulted in an awareness of what might be a true cluster rather than just one or two large firms. In the case of the medical device clusters in Indiana, it led to the realization that there was a significant concentration of small firms in the NEIRP region that were closely tied to the large firms in

Warsaw. While such findings are not unique to cluster analysis, they are an important aspect of competent cluster analysis.

In addition to surprising findings, the cluster concept itself served a useful purpose in planning by REDOs. Section 3 described Hopkins' (2001) typology of how plans worked – as agendas, policies, visions, strategies, and plans. As shown above, lists of "important" industries in the region, defined as targets or clusters" can serve as agendas fur further action. The cluster concept, as a frame for action, was also useful in creating visions of the future. While those visions were rarely spelled out in formal planning documents, they were alluded to in conversations with interview subjects. Such visions served as a powerful motivation for action. One example of this is the vision of Rockford as a region with a significant aerospace industry. This idea, which was not widely held ten years ago, became possible through research on the industry and conversations between the RAEDC and industry leaders. It became an organizing idea toward which formidable resources were expended.

6.4 Cluster planning was rarely if ever strategic planning

Though the planning behaviors associated with clusters did result in informal agendas and visions, and even sometimes in policies, they never took the form of detailed strategies. Formal plans of any kind played a very small role in either organization. Formal strategies and programmed strategic planning processes of the type espoused by Bryson and economic development academics were nonexistent. The reasons for this are those alluded to in section 3. First, there was never any possibility of agreement between all parties involved in a decision at the beginning of a process. This was because there never was any formalized process in which one could identify a beginning. The decisions did not represent the end or middle of a formal process so much as an important point where action was undertaken.

Furthermore, in many cases the key parties emerged in the course of conducting analysis and interacting with others in the region. Jeff Kaney, the leader of the RAAN, was not involved in the process of studying the aerospace industry in Rockford. That research led to informal conversations, during one of which he emerged as a potential collaborator. As the ideas about how the RAEDC could support an aerospace cluster in Rockford became more concrete, Jeff Kaney took a greater role. Other important players, such as the executives at the larger firms, were reticent to get involved with the RAEDC early on. They eventually did so, but then took only a small role in RAAN. This finding clearly supports Levin's (1976) conception of planning processes. Support is low early on when ideas are vague.

As decisions become more defined, the commitment of those still involved goes up, with the end result being a small group of actors highly committed to a specific course of action.

In addition to key individuals, opportunities emerged over time that could not be foreseen. The decision to frame the successful Lilly Family Foundation proposal around the defense aerospace cluster drew heavily on the results of prior planning behaviors by the NEIRP including analysis and outreach. It could not, for obvious reasons, have been foreseen as a result of those behaviors. Though an extreme example, this highlights the role that unforeseen opportunities play in the work of REDOs. Their limited capacity to act makes them reliant upon the resources of others, whether granting agencies or private sector partners.

A further reason for the lack of formal strategic planning is more specific to clusters. As mentioned in section two, the geographic extent of clusters can be difficult to determine. In a meso-level analysis, there is often a need to define an area before the analysis can occur. This approach fits well with the strategic planning requirement that all parties be identified and committed at the start of a process, but it ignores important aspects of both clusters and regional economic development. First, since the links between cluster members operate at different scales, the geographic extent of a cluster may be impossible to determine without analysis. This is not simply a problem of imposing political boundaries on analysis, as many have noted, but rather the problem of putting any a priori *geographic* boundaries on cluster analysis which at its core is about identifying important *economic* linkages.

The most obvious example of this is seen in the study of medical devices by the NEIRP. If the purpose of the study was to understand the medical device industry in the NEIRP region, then a key purpose of the study was to determine if and how those firms were connected to the ones in Warsaw. To demand that the geographic extent of the study be determined before the study has taken place, as opposed to starting from the center of the region – Ft. Wayne – and seeing where various connections lead is a case of putting the cart before the horse. For this reason, micro level studies, which due to their partially qualitative nature allow for more flexible regional and industrial definitions at the outset, offer advantages over meso-level studies. If one were to further study the aerospace industry in Rockford, it is conceivable that the companies in northern Wisconsin that recently joined the cluster organization might be of interest. Geographically, they are somewhat distant, but by their own actions they have demonstrated that an economic relationship might exist.

6.5 The cluster work of RREDOs is an instance of collective action for public goods

Despite emerging outside of formal planning processes, the decisions of the REDOs in this study played an important role in coordinating actions in support of public goods. As described in section two above, the benefits of clusters are a collective good that is non-rival and non-excludable from the perspective of any single establishment. The decisions in the cases, along with the policies to which they gave rise, led to an increase in the supply of these goods. Both the Lilly Family Foundation grant and the RAAN resulted in programs designed to increase the supply of skilled labor. The RAAN also provides training for Rockford region aerospace companies on doing business with large aerospace firms and the federal government. This has the potential to increase the capacity of local firms, and to make them more resilient to fluctuations in demand.

Another important collective good that was generated by the cluster work is in building the capacity to act. As mentioned above, the cluster idea was a useful frame for creating informal visions of the future. The coalitions that evolved in the run-up to the decisions presented here represent an important resource for the region. The lack of regional government in the US means that regions are often fragmented. Instances of regional collaboration of the type documented in this research build an environment of trust and reciprocity, and perhaps a stock of goodwill that might be drawn upon in future initiatives.

6.6 Limitations of the research

The cases documented here were chosen carefully to reflect the most likely places where REDOs were using the cluster concept and cluster analysis to make decisions. There are, however, some limitations. First, the meso-level studies employed by the organizations in this research were not specifically designed to identify clusters. As target studies, they were designed to identify the best candidate industries for recruitment efforts. The idea that such target studies would be used to identify clusters is anathema to purists, but may be widespread in practice. This may be less of a problem that it seems on the surface, because the logic behind what would constitute evidence of a potential target is not wholly different from the logic behind what would constitute evidence of a potential cluster (Goetz, Deller, and Harris 2009). Both rely on a significant presence of the firms in question in the region. Bergman and Feser (1999) advise that meso-level cluster analysis include a scan of the entire economy, avoid sticking only to major industries, and avoid characterizing clusters solely by product. The meso-level target studies mentioned here did not adhere to all such recommendations, but they did include a

fairly comprehensive analysis and they did delve deeper into the economy rather than merely establishing employment counts by two-digit NAICS sectors.

It may be that more sophisticated meso-level analysis would have led to more information about the regional economy. It is hard to imagine that meso-level analysis would have yielded the same insights as the micro-level studies described in this research, but it remains a possibility. Further research should examine the strengths of different sorts of cluster analysis for informing decisions and policy. The method and design of this research may provide a model for future research on this topic.

7. Conclusion

REDOs have expended considerable time and resources pursuing cluster-based approaches to regional economic development. This research aimed to determine if and how the cluster concept and cluster analysis was informing decisions. It has shown that criticism of such practices is to some degree unwarranted. The unresolved theoretical issues that still plague the cluster concept have not prevented cluster analysis from providing REDOs with useful and sometimes surprising information about their regions. The cluster concept has also been a useful frame for mobilizing coalitions of public and private sector actors around specific goals and policies. This supports Isserman's (2005) claim that cluster studies are the new economic base study and Feser and Luger's (2003)description of cluster as a mode of inquiry. It calls into question Bergman and Feser's (1999) argument that cluster analysis is best conducted in response to a specific problem. The cases presented here show that cluster analysis, particularly micro-level analysis, can bring important problems to light.

The research has also shown that REDOs face considerable institutional constrains that make the strategic planning poorly suited as either a prescriptive or descriptive model of practice. REDOs face limited capacity to act alone and they lack the strong mandate of general purpose government. As a result they rely heavily on collaboration, particularly with the private sector, in order to design and implement policies and programs. These constraints make the assumptions of the strategic planning model, particularly those that require early commitment of all parties, extremely unlikely. Add to this the uncertainty about the nature of clusters in any specific place, and it is clear that the process that leads from cluster-based planning behaviors to distinct sets of actors committed to a course of action messy, iterative, and almost entirely unprogrammed. This confirms the proposition that strategic planning is a poor lens through which to view regional economic development planning.

Finally, this research has shown that cluster analysis has the potential to improve on earlier methods of basic regional analysis by placing the emphasis on important economic connections without respect to political boundaries. Cluster analysis, particularly micro-level analysis may allow for a bottom-up picture of a cluster to develop organically by tracing the connection between different elements of the public and private sector. The resulting cluster can then be a catalyst for coordinated action. Going further, there is no reason to expect that two different clusters, even two centered on the same place, will have the same geographic extent. Cluster-based regional economic development thus has the potential to spur multiple overlapping yet distinct collaborations that would be more responsive to the needs of each cluster without superimposing a top-down designated regional entity responsible for all economic development in the region.

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APPENDIX A

Organizations included in the survey frame

(Listed alphabetically by Metropolitan Statistical Area name)

Metropolitan Statistical Area	Regional Economic Development Organization
Akron, OH	Greater Akron Chamber
Albany, GA	Southwest Georgia Regional Development Center
Albany-Schenectady-Troy, NY	Center for Economic Growth
Albuquerque, NM	Albuquerque Economic Development
Alexandria, LA	Greater Alexandria Economic Development Authority
Allentown-Bethlehem-Easton, PA-NJ	Lehigh Valley Economic Development
Amarillo, TX	The High Ground of Texas
Anchorage, AK	Anchorage Economic Development Corporation
Ann Arbor, MI	Ann Arbor SPARK
Appleton, WI	Fox Cities Economic Development Partnership
Asheville, NC	Advantage West Economic Development Group
Atlantic City-Hammonton, NJ	Atlantic County Community Development Corporation
Atlantic City-Hammonton, NJ	Southern New Jersey Development Council
Augusta-Richmond County, GA-SC	Central Savannah River Area Regional Commission
Augusta-Richmond County, GA-SC	Economic Development Partnership of South Carolina
Austin-Round Rock-San Marcos, TX	Greater Austin San Antonio Corridor Council
Bakersfield-Delano, CA	Kern County Development Corporation
Baltimore-Towson, MD	Economic Alliance of Greater Baltimore
Bangor, ME	Eastern Maine Development Corporation
Barnstable Town, MA	Cape Cod Commission
Baton Rouge, LA	Baton Rouge Area Chamber
Bellingham, WA	Northwest Economic Council
Bend, OR	Economic Development for Central Oregon
Billings, MT	Big Sky Economic Development
Birmingham-Hoover, AL	Birmingham Business Alliance
Bloomington, IN	Bloomington Economic Development Corporation
Bloomington-Normal, IL	Economic Development Council of the Bloomington-Normal Area
Boise City-Nampa, ID	Boise Valley Economic Partnership
Boulder, CO	Boulder Economic Council
Bremerton-Silverdale, WA	Kitsap Economic Development Alliance
Brownsville-Harlingen, TX	Brownsville Economic Development Council
Buffalo-Niagara Falls, NY	Buffalo Niagara Enterprise

Metropolitan Statistical Area	Regional Economic Development Organization
Burlington, NC	Alamance County Economic Development Foundation
Burlington-South Burlington, VT	Greater Burlington Industrial Corporation
Cape Coral-Fort Myers, FL	Fort Myers Regional Partnership
Cedar Rapids, IA	Priority One
Charleston, WV	Charleston Area Alliance
Charleston-North Charleston-Summerville, SC	Charleston Regional Development Alliance
Charlotte-Gastonia-Rock Hill, NC-SC	Charlotte Regional Partnership
Charlottesville, VA	Thomas Jefferson Partnership for Economic Development
Chico, CA	3CORE
Cincinnati-Middletown, OH-KY-IN	Cincinnati USA Partnership for Economic Development
Cleveland-Elyria-Mentor, OH	Greater Cleveland Partnership
Cleveland-Elyria-Mentor, OH	Cleveland Plus
College Station-Bryan, TX	Research Valley Partnership
Colorado Springs, CO	Colorado Springs Regional Economic Development Corporation
Columbia, MO	Columbia Regional Economic Development, Inc.
Columbia, SC	Central SC Alliance
Columbus, GA-AL	Valley Partnership
Columbus, OH	The Columbus Region
Corpus Christi, TX	Corpus Christi Regional Economic Development Corporation
Crestview-Fort Walton Beach-Destin, FL	Economic Development Council for Okaloosa County, Florida
Davenport-Moline-Rock Island, IA-IL	Quad Cities First
Davenport-Moline-Rock Island, IA-IL	Quad Cities Regional Economic Development Authority
Dayton, OH	Dayton Development Coalition
Decatur, AL	North Alabama Industrial Development Association
Deltona-Daytona Beach-Ormond Beach, FL	Volusia County Department of Economic Development
Denver-Aurora-Broomfield, CO	Metro Denver Economic Development Corporation
Des Moines-West Des Moines, IA	Greater Des Moines Partnership
Dover, DE	Kent Economic Partnership
Duluth, MN-WI	Arrowhead Regional Development Commission
Duluth, MN-WI	APEX
Eau Claire, WI	Momentum West
El Centro, CA	Imperial Valley Economic Development Corporation
El Paso, TX	El Paso Regional Economic Development Corporation
Elkhart-Goshen, IN	Economic Development Corporation of Elkhart County

Metropolitan Statistical Area	Regional Economic Development Organization
Erie, PA	Erie Regional Chamber and Growth Partnership
Eugene-Springfield, OR	Lane Metro Partnership
Evansville, IN-KY	Northwest Kentucky Forward
Evansville, IN-KY	Economic Development Coalition of Southwest Indiana
Fargo, ND-MN	Greater Fargo Moorhead Economic Development Corporation
Fayetteville, NC	North Carolina's Southeast
Flint, MI	Gennessee Regional Chamber of Commerce
Florence, SC	North Eastern Strategic Alliance
Fort Collins-Loveland, CO	Northern Colorado Economic Development Corporation
Fort Smith, AR-OK	Fort Smith Regional Alliance
Fort Wayne, IN	Northeast Indiana Regional Partnership
Fresno, CA	Economic Development Corporation serving Fresno County
Fresno, CA	California Central Valley Economic Development Corporation
Gainesville, FL	Heart of Florida Regional Coalition
Grand Rapids-Wyoming, MI	The Right Place, Inc.
Greeley, CO	Upstate Colorado Economic Development
Green Bay, WI	Advance
Greensboro-High Point, NC	Piedmont Triad Partnership
Greenville, NC	North Carolina's Eastern Region
Greenville-Mauldin-Easley, SC	Upstate South Carolina Alliance
Gulfport-Biloxi, MS	Gulf Coast Business Council
Hanford-Corcoran, CA	Kings County Economic Development Corporation
Harrisburg-Carlisle, PA	Capital Region Economic Development Corporation
Hartford-West Hartford-East Hartford, CT	Metro Hartford Alliance
Hartford-West Hartford-East Hartford, CT	Central Connecticut Economic Development Alliance
Holland-Grand Haven, MI	Ottawa County Economic Development Office, Inc.
Honolulu, HI	Enterprise Honolulu, O'ahu Economic Development Board
Houma-Bayou Cane-Thibodaux, LA	Terrebonne Economic Development Authority
Houma-Bayou Cane-Thibodaux, LA	South Louisiana Economic Council
Huntington-Ashland, WV-KY-OH	Ashland Alliance
Huntington-Ashland, WV-KY-OH	Huntington Area Development Council
Huntsville, AL	Huntsville Regional Economic Growth Initiative
Indianapolis-Carmel, IN	Indy Partnership
Iowa City, IA	Iowa City Area Development Group
Jackson, MI	Enterprise Group of Jackson, Inc.
Jackson, MS	Greater Jackson Alliance

Metropolitan Statistical Area	Regional Economic Development Organization
Jacksonville, FL	JAXUSA Partnership
Jacksonville, NC	Jacksonville Onslow Economic Development
Janesville, WI	Rock County Development Alliance
Janesville, WI	Greater Beloit Economic Development Corporation
Joplin, MO	Joplin Regional Partnership
Kalamazoo-Portage, MI	Southwest Michigan First
Kansas City, MO-KS	Think KC
Kennewick-Pasco-Richland, WA	Tri-City Development Council
Kingsport-Bristol-Bristol, TN-VA	Regional Alliance for Economic Development
Kingston, NY	Ulster County Development Corporation
Knoxville, TN	East Tennessee Economic Development Agency
Knoxville, TN	Knoxville Oak Ridge Innovation Valley, Inc.
Lafayette, IN	Greater Lafayette Commerce
Lafayette, LA	Acadiana Economic Development Council
Lake Charles, LA	Southwest Louisiana Economic Development Alliance
Lancaster, PA	Economic Development Company of Lancaster County
Lansing-East Lansing, MI	Lansing Economic Area Partnership
Laredo, TX	Laredo Development Foundation
Las Cruces, NM	Mesilla Valley Economic Development Alliance
Las Vegas-Paradise, NV	Nevada Development Authority
Lexington-Fayette, KY	Bluegrass Alliance
Lexington-Fayette, KY	Commerce Lexington, Inc.
Lincoln, NE	Lincoln Partnership for Economic Development
Little Rock-North Little Rock-Conway, AR	Metro Little Rock Alliance
Louisville/Jefferson County, KY-IN	Greater Louisville, Inc.
Louisville/Jefferson County, KY-IN	One Southern Indiana
Lubbock, TX	Lubbock Economic Development Alliance
Lubbock, TX	South Plains Association of Governments
Lynchburg, VA	Region 2000 Partnership
Macon, GA	Middle Georgia Regional Commission
Madera-Chowchilla, CA	Madera County Economic Development Commission
Madison, WI	Thrive
Manchester-Nashua, NH	Regional Economic Development Center of Southern New Hampshire
McAllen-Edinburg-Mission, TX	Rio Grande Valley Partnership
McAllen-Edinburg-Mission, TX	McAllen Economic Development Corporation
Medford, OR	Southern Oregon Regional Economic Development Inc.
Merced, CA	Merced County Economic Development Corporation

Metropolitan Statistical Area	Regional Economic Development Organization
Milwaukee-Waukesha-West Allis, WI	Milwaukee 7
Minneapolis-St. Paul-Bloomington, MN-WI	Greater MSP
Mobile, AL	Mobile Area Chamber of Commerce
Modesto, CA	Stanislaus Economic Development and Workforce Alliance
Monroe, MI	Monroe County Industrial Development Corporation
Montgomery, AL	Montgomery Area Chamber of Commerce
Montgomery, AL	Central Alabama Regional Planning and Development Commission
Muskegon-Norton Shores, MI	Muskegon Area First
Myrtle Beach-North Myrtle Beach-Conway, SC	Myrtle Beach Regional Economic Development Corporation
Naples-Marco Island, FL	Economic Development Council of Collier County Florida
New Haven-Milford, CT	REX Development
New Orleans-Metairie-Kenner, LA	Greater New Orleans, Inc.
Niles-Benton Harbor, MI	Southwest Michigan Planning Commission
Norwich-New London, CT	Southeastern Connecticut Enterprise Region
Ocala, FL	Ocala Marion County Economic Development Corporation
Oklahoma City, OK	Greater Oklahoma City Partnership
Olympia, WA	Thurston Economic Development Council
Omaha-Council Bluffs, NE-IA	Greater Omaha Economic Development Partnership
Orlando-Kissimmee-Sanford, FL	Metro Orlando Economic Development Commission
Orlando-Kissimmee-Sanford, FL	Central Florida Partnership
Oshkosh-Neenah, WI	Oshkosh Area Economic Development Corporation
Oxnard-Thousand Oaks-Ventura, CA	Economic Development Collaborative - Ventura County
Palm Bay-Melbourne-Titusville, FL	Economic Development Commission of Florida's Space Coast
Panama City-Lynn Haven-Panama City Beach, FL	Bay County Economic Development Alliance
Pensacola-Ferry Pass-Brent, FL	Pensacola Bay Area Chamber of Commerce
Pensacola-Ferry Pass-Brent, FL	Florida's Great Northwest, Inc.
Peoria, IL	Heartland Partnership
Peoria, IL	Economic Development Council for Central Illinois
Pittsburgh, PA	Pittsburgh Regional Alliance
Pittsburgh, PA	Pittsburgh Technology Council
Portland-Vancouver-Hillsboro, OR-WA	Greater Portland, Inc.
Poughkeepsie-Newburgh-Middletown, NY	Hudson Valley Economic Development Corporation
Providence-New Bedford-Fall River, RI-MA	Rhode Island Economic Development Corporation
Pueblo, CO	Pueblo Economic Development Corporation

Metropolitan Statistical Area	Regional Economic Development Organization
Racine, WI	Racine County Economic Development Corporation
Raleigh-Cary, NC	Research Triangle Regional Partnership
Reading, PA	Berks Economic Partnership
Redding, CA	Shasta County Economic Development Corporation
Reno-Sparks, NV	Economic Development Authority of Western Nevada
Richmond, VA	Greater Richmond Partnership, Inc.
Roanoke, VA	Roanoke Regional Partnership
Rochester, MN	Rochester Area Economic Development, Inc.
Rochester, NY	Greater Rochester Enterprise
Rockford, IL	Rockford Area Economic Development Council
Rocky Mount, NC	Carolinas Gateway Partnership
Sacramento--Arden-Arcade--Roseville, CA	Sacramento Area Commerce and Trade Organization
Saginaw-Saginaw Township North, MI	Saginaw Future
Saginaw-Saginaw Township North, MI	Great Lakes Bay Regional Alliance
Salem, OR	Strategic Economic Development Corporation
Salinas, CA	Monterey County Business Council
San Diego-Carlsbad-San Marcos, CA	San Diego Regional Economic Development Corporation
San Jose-Sunnyvale-Santa Clara, CA	Joint Venture Silicon Valley Network
San Luis Obispo-Paso Robles, CA	Economic Vitality Corporation
Santa Rosa-Petaluma, CA	Sonoma County Economic Development Board
Savannah, GA	Savannah Economic Development Authority
Scranton--Wilkes-Barre, PA	Great Valley Technology Alliance
Shreveport-Bossier City, LA	North Louisiana Economic Partnership
Sioux Falls, SD	Sioux Falls Development Foundation
South Bend-Mishawaka, IN-MI	Project Future
South Bend-Mishawaka, IN-MI	Southwestern Michigan Economic Growth Alliance
Spartanburg, SC	Economic Futures Group
Spokane, WA	Greater Spokane, Inc.
Springfield, IL	Q5 Quantum Growth Partnership
Springfield, MA	Economic Development Council of Western Massachusetts
Springfield, MA	Pioneer Valley Planning Commission
Springfield, MO	Springfield Business and Development Corporation
St. Cloud, MN	St. Cloud Area Economic Development Partnership, Inc.
St. Louis, MO-IL	St. Louis Regional Chamber and Growth Association
State College, PA	Centre County Industrial Development Corporation
Stockton, CA	San Joaquin Partnership
Syracuse, NY	Centerstate Center for Economic Opportunity

Metropolitan Statistical Area	Regional Economic Development Organization
Syracuse, NY	Central New York Regional Planning and Development Board
Tampa-St. Petersburg-Clearwater, FL	Tampa Bay Partnership
Toledo, OH	Northwest Ohio Regional Economic Development Association
Toledo, OH	Toledo Regional Growth Partnership
Topeka, KS	Go Topeka Economic Partnership
Trenton-Ewing, NJ	Growth Partnership of Central Jersey
Tucson, AZ	Tucson Regional Economic Opportunities, Inc.
Tulsa, OK	Tulsa Metro Chamber
Tuscaloosa, AL	West Alabama Regional Commission
Tyler, TX	Tyler Economic Development Council
Vallejo-Fairfield, CA	Solano Economic Development Corporation
Vineland-Millville-Bridgeton, NJ	Cumberland Development Corporation
Virginia Beach-Norfolk-Newport News, VA-NC	Hampton Roads Economic Development Alliance
Visalia-Porterville, CA	Tulare County Economic Development Corporation
Waco, TX	Waco McLennan County Economic Development Corporation
Waterloo-Cedar Falls, IA	Greater Cedar Valley Alliance
Wichita, KS	Greater Wichita Economic Development Coalition
Worcester, MA	Worcester Regional Chamber of Commerce
Yakima, WA	Yakima County Development Association
York-Hanover, PA	York County Economic Development Corporation
Youngstown-Warren-Boardman, OH-PA	Mahoning Valley Economic Development Corporation
Youngstown-Warren-Boardman, OH-PA	Youngstown/Warren Regional Chamber
Yuba City, CA	Yuba Sutter Economic Development Corporation
Yuma, AZ	Greater Yuma Economic Development Corporation

APPENDIX B

Survey Instrument

Cluster-based Economic Development Survey
Confidentiality and Instructions

This survey is designed to solicit two sets of information. The first are descriptions of the experiences of regional economic development organizations applying the cluster concept in practice. The second are the opinions of the directors of those organizations about the use of the cluster concept.

A "cluster" is broadly defined in the present survey as a collection of closely related firms and other institutions located within a region.

This survey is intended equally for those individuals and organizations that are actively engaged in cluster-based economic development and for those that are not. **Therefore we are interested in your responses regardless of whether or not your organization is currently working with clusters.**

Please note that no information provided by you will be reported in a way that would identify you or your organization as the source of the response. Only aggregate results will be reported.

The survey consists of four parts and should take you about 15 minutes to complete.

For questions about the survey please contact Tim Green at the University of Illinois at Urbana Champaign at tfgreen@illinois.edu or 217-898-5588.

Thank you for participating!

Section 1 of 4

This section will ask about your organization's experience with cluster-based development.

1. a. Is your organization aware of specific clusters in your region?

☐ Yes → ***Go to question 2***

☐ No

b. Is your organization currently working to identify clusters in your region, or do you plan to do so in the near future?

☐ Yes

☐ No → ***Skip to question 26 on page 8***

2. Please list the clusters your organization is aware of in your region.

Please list up to ten clusters below.

3. Who was primarily responsible for identifying the clusters?
(Check all that apply)

- ☐ Your organization
- ☐ A consultant / consulting group
- ☐ Another organization that focuses on your region (*Please specify)*
- ☐ A state-level agency (*Please specify)*
- ☐ Other (*Please specify)*
- ☐ Don't know

4. What is the earliest point at which your organization began working with any one of these clusters?
(Please select only ONE answer)

- ☐ Less than 2 years ago
- ☐ 3-4 years ago
- ☐ 5-10 years ago
- ☐ More than 10 years ago
- ☐ Don't know

5. How long ago did your organization most recently begin working with a new cluster?
(Please select only ONE answer)

- ☐ Less than 2 years ago
- ☐ 3-4 years ago
- ☐ 5-10 years ago
- ☐ More than 10 years ago
- ☐ Don't know

6. How many times in the last ten years has your organization been involved in an effort to identify clusters in your region?
(Please select only ONE answer)

- ☐ None
- ☐ 1 time
- ☐ 2-3 times
- ☐ More than 3 times
- ☐ Don't know

7. Of the clusters you identified in Question 2, how many do you anticipate will play a role in the work of your organization five years from now?
(Please select only ONE answer)

- ☐ We will still be working with all of the clusters identified in question 2
- ☐ We will still be working with some of the clusters identified in question 2
- ☐ We won't be working with any of the clusters identified in question 2
- ☐ Don't know

8. Does your organization coordinate its operations around the clusters in any of the following ways?

Yes	No	
☐	☐	Specific staff are assigned to focus on specific clusters
☐	☐	Specific funds are allocated toward specific clusters
☐		Other *(Please specify)*

9. Has your organization worked with clusters in any of the following ways?

Yes	No	
☐	☐	Advertised or marketed clusters on its website
☐	☐	Designed specific programs to meet the needs of individual clusters
☐	☐	Formed a working group with representatives of a cluster to address the needs of that cluster
☐	☐	Worked with state officials to address the needs of a particular cluster
☐		Other *(Please specify)*

10. Does your organization track any of the following metrics by specific cluster?

Yes	No	
☐	☐	Leads / potential prospects generated
☐	☐	Jobs created in region
☐	☐	Direct or leveraged financing for attraction, expansion and relocation
☐	☐	Meetings held with cluster representatives
☐		Other *(Please specify)*

Section 2 of 4

A cluster identification effort is an attempt to determine what clusters are in a region, usually as part of a larger economic development program that will involve working with the clusters or using them to organize economic development activity. This section will ask about **the most recent instance of a cluster identification effort with which your organization was involved**.

11. Has your organization ever been involved in an effort to identify clusters in your region?

☐ No, my organization has only worked with clusters identified by other organizations

Skip to question 26 on page 8

☐ Yes, my organization has been involved in an effort to identify clusters in the region

Go to question 12 below

12. How long ago was the MOST RECENT effort to identify clusters in the region in which your organization was involved?
(Please select only ONE answer)

- ☐ Less than 2 years ago
- ☐ 3-4 years ago
- ☐ 5-10 years ago
- ☐ More than 10 years ago
- ☐ Don't know

13. Which, if any, of the following was a motivation for the cluster identification effort?

Yes	No	
☐	☐	A desire to better understand the regional economy
☐	☐	A planned revision to previously identified clusters
☐	☐	Inception of a new program by the organization
☐	☐	It was part of a grant application
☐	☐	A partner organization wanted to identify clusters
☐	☐	Other similar organizations were identifying clusters in their regions
☐		Other *(Please specify)*

14. Was the cluster identification effort designed to inform or support the needs of a specific program area (such as business attraction, workforce development, etc.)?

☐ Yes → ***Go to question 15***

☐ No → ***Skip to question 16 on this page***

15. Which program(s) was the cluster identification effort designed to inform or support?

Yes	No	
☐	☐	Site selection assistance
☐	☐	Recruitment
☐	☐	Financing for firms new to the region
☐	☐	Financing for expanding or relocating firms already in the region
☐	☐	Management expertise and advising
☐	☐	Small business development
☐	☐	Workforce development
☐		Other *(Please specify)*

16. Were any of the following people or groups involved in the cluster identification effort?

Yes	No	
☐	☐	Your organization's staff
☐	☐	External contractor or consultant hired by your organization
☐	☐	Local government representatives
☐	☐	State government representatives
☐	☐	Representatives of individual firms
☐	☐	Trade associations
☐		Other *(please specify)*

17. Did you personally take part (e.g. attend meetings, conduct analysis, speak with experts) in the cluster identification effort?

☐ No → ***Skip to question 21 on the next page***

☐ Yes → ***Go to question 18 below***

18. Which, if any, of the following provided information used to identify clusters?

Yes	No	
☐	☐	A systematic analysis of the regional economy
☐	☐	Discussions among organization's staff
☐	☐	Discussions with experts on the regional economy outside of the organization
☐	☐	Discussions with political leaders in the region
☐	☐	Advocacy from members of the clusters themselves
☐		Other *(Please specify)*

19. Which, if any, of the following analytical methods were used to identify clusters?

Yes	No	Don't Know	
☐	☐	☐	Quantitative analysis of regional occupational data
☐	☐	☐	Quantitative analysis of regional industry data
☐	☐	☐	Analysis of supply chain linkages between local industries
☐	☐	☐	Analysis of social and professional connections between firms in the region
☐	☐	☐	Location quotients
☐	☐	☐	Bubble charts
☐			Other *(Please specify)*

20. Did you use any of the following to identify opportunities to build or strengthen clusters?

Yes	No	Don't Know	
☐	☐	☐	Analysis of unmet local demand / opportunities for import substitution
☐	☐	☐	Analysis of regional locational advantages (e.g. in transportation, tourism, etc.)
☐			Other *(Please specify)*

21. Did any of the following issues arise in the course of the cluster identification effort? If so, was any action taken as a result?

Issue	Discussion of issue	Action taken on issue
a. Re-allocation of staff resources	☐	☐
b. Re-allocation of financial resources	☐	☐
c. Need to contact existing firms in the region	☐	☐
d. Existence of new leads or prospects	☐	☐
e. Re-assessment of organizational goals	☐	☐
f. Revision to organization's strategic plan	☐	☐

22. Which, if any, of the following was an output of the cluster identification effort?

Yes	No	
☐	☐	List of clusters
☐	☐	Presentation about the clusters to staff and board of your organization
☐	☐	Creation of a report about the clusters
☐	☐	Creation of a set of goals and priorities for the organization designed around the clusters
☐	☐	Creation of a strategic plan for the organization designed around the clusters
☐		Other *(Please specify)*

23. This question asks how useful the output of the cluster identification effort was in each of the following contexts. If your organization hasn't done one or more of the following since the cluster identification effort, please mark "Does not apply."

Did the output of your analysis inform . . .	Not Much	Somewhat	A Great Deal	Does not apply
a. Your last three major recruiting efforts	☐	☐	☐	☐
b. Your last effort to reach out to local firms	☐	☐	☐	☐
c. Your last three small business trainings	☐	☐	☐	☐
d. Your last effort to brand your organization	☐	☐	☐	☐
e. Your last budget planning meeting	☐	☐	☐	☐
f. Your last effort to brand your region	☐	☐	☐	☐
g. Your last review of progress toward your goals	☐	☐	☐	☐

24. a. Did you find value in the cluster identification effort or its output?

- ☐ No → ***Skip to question 25 below***
- ☐ Yes

b. Please list up to three of the most valuable outcomes in the boxes below.

25. Please list up to three of the greatest limitations to the usefulness of the cluster identification effort or its output in the boxes below.

Section 3 of 4

This section will ask about your **personal** experience with, and opinions about, the cluster concept and its use in economic development practice. Please draw on your experiences in prior positions as well as your present one.

26. What is your opinion of the value of the cluster concept to the practice of economic development?	Indispensable ☐	Fairly valuable ☐	Slightly valuable ☐	Totally worthless ☐	I don't know ☐
27. How much experience have you had working with clusters in economic development?	Extensive experience ☐	Moderate experience ☐	Occasional experience ☐	Little or no experience ☐	I don't know ☐

For the following questions, please indicate the degree to which you agree or disagree with the statement on the left by marking one of the boxes to the right.

28. Economic development organizations that work with clusters approach development more strategically than those that do not.	Strongly Disagree ☐	Disagree ☐	No Opinion ☐	Agree ☐	Strongly Agree ☐	I don't know ☐
29. "Cluster development" is simply a way to repackage what good economic development organizations have always done.	Strongly Disagree ☐	Disagree ☐	No Opinion ☐	Agree ☐	Strongly Agree ☐	I don't know ☐
30. Identifying clusters provides information that is relevant to doing economic development work.	Strongly Disagree ☐	Disagree ☐	No Opinion ☐	Agree ☐	Strongly Agree ☐	I don't know ☐
31. Our collaborators expect us to use a cluster framework.	Strongly Disagree ☐	Disagree ☐	No Opinion ☐	Agree ☐	Strongly Agree ☐	I don't know ☐

	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree	I don't know
32. A majority of regional economic development organizations are working with clusters.	☐	☐	☐	☐	☐	☐
33. Working with clusters brings to light critical connections in a region's economy.	☐	☐	☐	☐	☐	☐
34. It is important for an economic development organization to use established tools and approaches in order to maintain its reputation.	☐	☐	☐	☐	☐	☐
35. The activities of other economic development organizations are an important source of ideas for how my organization might accomplish its goals.	☐	☐	☐	☐	☐	☐
36. It is necessary to identify our region's clusters in order to secure grants and other external funding.	☐	☐	☐	☐	☐	☐
37. Working with clusters highlights opportunities for intervention that would otherwise go unnoticed.	☐	☐	☐	☐	☐	☐
38. It is necessary for an economic development organization to identify a region's clusters in order for potential collaborators to take it seriously.	☐	☐	☐	☐	☐	☐
39. My organization pays close attention to what other economic development organizations are doing.	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree	I don't know
40. The term "cluster" is really just a new name for an old concept.	☐	☐	☐	☐	☐	☐
41. Federal and state governments drive most of the enthusiasm for cluster development.	☐	☐	☐	☐	☐	☐
42. Working with clusters provides unique insight into regional economic development opportunities and problems.	☐	☐	☐	☐	☐	☐
43. Organizations that collaborate with mine are familiar with the cluster concept.	☐	☐	☐	☐	☐	☐
44. Most of the top thinkers in economic development advocate a cluster-based approach to economic development practice.	☐	☐	☐	☐	☐	☐

Section 4 of 4

This section will collect information on important characteristics of your organization.

45. What is the name of your organization?

46. In what year was your organization founded?

Year

47. Which, if any, of the following were involved in founding your organization?

Yes	No	
☐	☐	Chamber of Commerce
☐	☐	State government
☐	☐	City or county government
☐	☐	Trade association
☐		Other *(Please specify)*

48. Does your organization work primarily on economic development (including business attraction, retention, workforce development, entrepreneurship, etc) or does it also work on other regional issues (e.g. transportation planning, social service provision, etc.)?

☐ My organization works **primarily on economic development** *(answer a and b)*

→ **a. How many full-time staff does your organization employ?**

Number of staff ☐

b. What is your organization's annual budget including staff, programs and projects?

$ ☐

☐ My organization works on **other issues** as well as economic development *(answer c and d)*

→ **c. How many full-time staff does your organization have working on economic development?**

Number of staff ☐

d. What is your organization's annual budget for economic development including staff, programs and projects?

$ ☐

49. Which of the following describe your organization?
(You may answer "yes" to multiple items)

Yes	No	Don't Know	
☐	☐	☐	Public sector agency
☐	☐	☐	Organization independent of government
☐	☐	☐	Board of directors comprised of public and private sector members
☐	☐	☐	Funded jointly by public and private sectors
☐	☐	☐	Regional agency created by state government

50. Is your organization affiliated with a Chamber of Commerce in any of the following ways?

Yes	No	Don't Know	
☐	☐	☐	Chamber currently provides some funding for your organization
☐	☐	☐	Chamber currently provides staff for your organization
☐	☐	☐	Chamber currently provides office space for your organization
☐	☐	☐	Your organization is formally a part of the Chamber
☐	☐	☐	Your organization and Chamber are legally separate but otherwise identical

☐ Other *(Please specify)*

☐

51. How often does your organization communicate (e.g. meet with, speak to, coordinate efforts, collaborate, etc.) with each of the following on economic development?

	Once a week or more	Once or twice a month	A few times a year	Rarely or Never
a. Individual firms	☐	☐	☐	☐
b. Industry or trade associations	☐	☐	☐	☐
c. City or county governments	☐	☐	☐	☐
d. State government	☐	☐	☐	☐
e. Federal government	☐	☐	☐	☐
f. Other local economic development organizations	☐	☐	☐	☐

52. What is your own current title?

Title

53. From the following list, please select the three activities toward which your organization dedicates the greatest portion of its economic development resources.
(Please select UP TO THREE answers)

- ☐ Targeting / prospecting
- ☐ Marketing the region
- ☐ Management advising
- ☐ Site selection assistance
- ☐ Small business development
- ☐ Workforce development
- ☐ Financing
- ☐ Entrepreneurship
- ☐ Other *(Please specify)*

54. Is your organization responsible for preparing a CEDS for a US EDA-designated Economic Development District?

- ☐ Yes
- ☐ No

55. A later part of this research will include case studies of several organizations. Would you be willing to be contacted about participating in such a study?

- ☐ Yes
- ☐ No

56. Thank you for taking the time to complete the survey! To thank you for your time, the survey author can send you a report with a short summary of all responses. If you would like to receive such a report, please provide an email address below.

APPENDIX C

Extended Descriptions of the Cases

1. Background to the Northeast Indiana Regional Partnership Cases

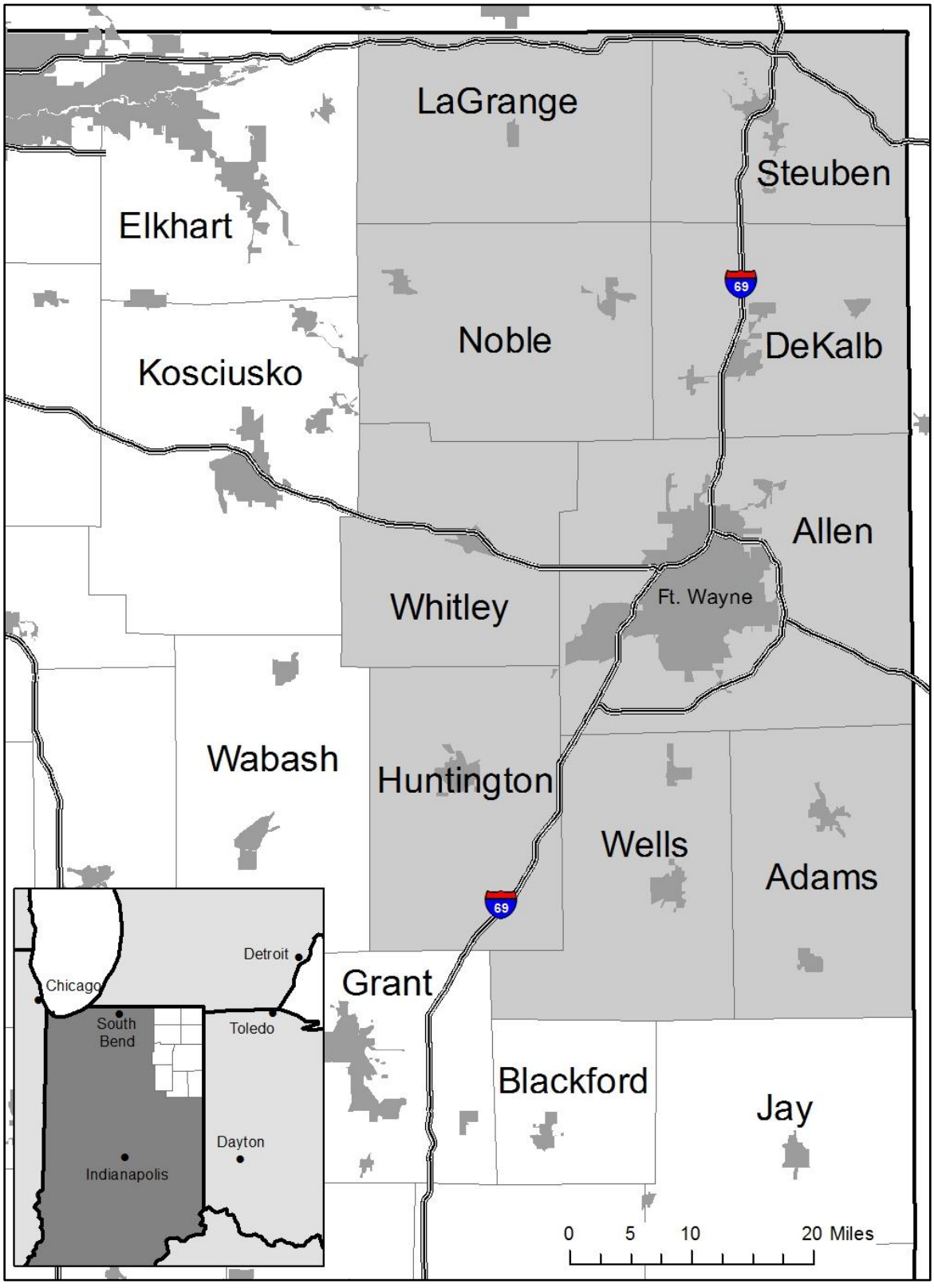
The Northeast Indiana Regional Partnership (NEIRP) was formed in 2006 as a 501(c)(6) organization, and joined soon after by the Northeast Indiana Fund (NIF), a 501(c)(3) partner. The effort to create the NEIRP was led by the Ft. Wayne Corporate Council[3], a private sector organization that was then beginning to expand its focus beyond Ft. Wayne and Allen County. Several publicly-funded regional economic development organizations preceded the NEIRP, but they had limited resources. To start the NEIRP, the Corporate Council led a drive to raise funds, primarily from major firms in the region though with an important early financial pledge form the mayor of Ft. Wayne. The drive brought in $8 million, which exceeded expectations. In order to guarantee the support of the public sector, the NEIRP sought support from counties and major cities as well, with the idea that the organization would cover the geographic region covered by counties that pledged support. Though counties further away from the city of Ft. Wayne were somewhat wary of joining a regional organization that had strong roots in the core city of the region, the NEIRP succeeded in garnering the financial support of nine counties that covered the northeast corner of the state (Figure C.1). In the ensuing years, one additional county joined as well, bringing the total to ten. The board of directors is a mix of public and private sector leaders, but certain powers are reserved for a local economic development organization (LEDO) council.

For much of its existence the offices of the NEIRP have been on the same floor as those of several other regional organizations including the regional office of the Indiana Economic Development Corporation, the regional Workforce Investment Board, and the Community Research Institute of Indiana Purdue Ft. Wayne University. Though it was initially conceived as a marketing organization, the NEIRP and the NIF have over the years expanded into additional program areas such as education and a focus on local clusters. At the time of this research, the combined NEIRP and NIF employed 17 staff: six focused on marketing and recruitment, five in administration and support, and six in other initiatives.

The NEIRP engaged in a process of identifying clusters in the region beginning in 2007, though the process began with a study commissioned from an outside consultant to identify target industries for attraction efforts. The NEIRP also had access to six prior studies that identified clusters at the state

[3] The organization is now renamed the Regional Chamber of Northeast Indiana.

Figure C.1 – the original nine county area of the NEIRP



or regional level. Using a unique methodology that took into account various industries' representation in the region, employment growth in the region, and whether firms in the industry had announced expansions in the state or region, the marketing study recommended an emphasis on five first tier industries and eleven second tier industries. The recommended targets were groups of NAICS industries at the 3, 4, 5 and 6 digit level. The study neglected to make clear how such industry groups were determined.

Noticeably absent from the first tier was the local defense and aerospace industry, which included firms like BAE Systems, Raytheon, ITT, and Northrup Grumman. These firms had a long history in the area, still employed thousands of employees, and were thought of as a critical piece of the regional economy by many NEIRP staff. In reviewing the results of the marketing study, NEIRP staff saw that what they considered a single industry had actually been divided into two industries in the second tier, "tactical communications" and "aviation / aerospace." The NEIRP decided to use the five first tier target industries, and to group the two second tier into a "defense / aerospace" industry, giving them a total of six industries that they began to call their clusters (Table C.1). NEIRP staff were aware that in so doing they had blurred the distinction between target industries and clusters, but rather than conduct an additional study designed to identify clusters they decided to focus their resources on learning more about the industries that had been identified in the marketing study. In 2009 the NIF, with the help of several other local foundations, commissioned studies of three of the six industries. In 2011 they commissioned studies of the other three. NEIRP staff referred to these studies as cluster studies, as did the studies themselves. In many ways they fit Bergman and Feser's (1999) description of micro studies of pre-defined clusters. The studies, prepared by several different authors, varied in quality, but all included specific information on the specific nature of firms in the region and recommendations of how to support them.

Table C.1 – The NEIRP target clusters as of early 2012

Studied in 2009	Medical devices
	Defense / Aerospace
	Food Processing
Studied in 2011	Advanced manufacturing
	Insurance
	Logistics

In addition to the studies, the NIF created the position of Manager of Industry Cluster Initiatives with some funding from another local foundation. The position has by most accounts been a challenging one. The purpose of the position was to encourage cooperation between firms in the identified clusters and to eventually get them to form their own organization. Independent of the NEIRP, the firms in the defense and aerospace industries in the region had done just that in 2010 by forming the Northeast Indiana Defense Industry Association. The perception that a stand-alone organization is essential to a successful cluster initiative has wide support among NEIRP staff, but thus far efforts to bring this about have been inconclusive. However, as the following cases show, decisions about clusters did not always come under the purview of the Manager of Industry Cluster Initiatives.

2. Strategic Planning by the NEIRP

The NEIRP did adopt a five-year strategic plan in 2007. The 58-page document was prepared by a member of the NEIRP's advisory board, group of non-voting board members who are called upon to provide advice and guidance. The plan includes a review of major indicators like growth and wages, as well as a focus on trends in managements and technical field as well as manufacturing. It addresses the organizational landscape as well. All told the plan includes dozens of recommendations, including a call for continual revisiting of the document. By all accounts, the plan played little role in most decisions over the ensuing years. It was officially adopted by the board, but it rarely if ever came up in conversations about later decisions. In describing this, one interviewee claimed that the plan was done because the organization needed one to seem credible at the time, but that it had very little ownership even within the organization. This is not to say that the recommendations were wrong. Another interviewee said that in reviewing the 2007 plan years later, a lot of it made more sense to him than it had at the time. Another interviewee claimed that the plan had not received much funding, and so was only able to do so much.

The plan included a recommendation that the NEIRP focus on clusters in region, among other things, but the proposed clusters were the targets from the 2007 target industry study in their original form without the addition of defense aerospace. The plan also recommended engaging a cluster specialist for each, to learn more about them. In one way, the recommendations were followed, in that the NEIRP did contract for studies of the industries and hired a Manager of Industry Cluster Initiatives. In another sense, though, the funding of the studies could also be understood as a follow-up to the targeting report as amended by the decision to add the defense / aerospace cluster, a chain of events that does not include the 2007 plan.

In addition to the 2007 plan, the studies commissioned in 2009 and 2011 about each of the clusters include both analysis and recommendations, and are in some respects plans. Those in 2009 are explicitly framed as "strategic plans," and contain SWOT analyses and other hallmarks of the strategic planning model. The 2011 studies also include recommendations as well as a summary document that frames work on all of the clusters in the region around five pillars: Competitive Business Climate, Entrepreneurship, 21st Century Talent, Infrastructure, and Quality of Life. Though it does not include much in the way of analysis, the summary report includes discussion of all of the mentioned clusters, and breaks advanced manufacturing into the more meaningful sub-clusters of wire and vehicle manufacture. None of the recommendations in either set of reports appeared to have much buy-in from the NEIRP, though the 2011 report was released not long before the research took place.

3. The Lilly Family Foundation grant and talent initiative

In 2008 the Lilly Family Foundation, a large charitable foundation that has funded a number of initiatives in Indiana, contacted the Community Foundation of Greater Ft. Wayne, a non-profit working throughout Allen County, about submitting a proposal for a 5-10 million dollar grant to help with economic development in the community. Rather than submit the proposal alone, the Community Foundation decided to convene a group of regional leaders, and to submit a proposal on behalf of the region. The initial group that put together the proposal included representatives of many regional organizations including the Community Foundation, the Corporate Council, the NEIRP and NIF, the WIB, the Northeast Indiana Innovation Center (NIIC), and IPFW among others. From the beginning, there was some support for focusing the proposal around clusters generally, but the initial proposal contained more of a list of desired programs that reflected the makeup of those present including scholarships, a commercialization center for the defense industry at the NIIC, and a regional marketing campaign to attract high-skilled workers. It also contained a proposal for research on clusters and cluster specialist staff positions to be housed at the NIF.

The initial response from Lilly was that the proposal was too scattered. So, the group met again to consider how to make the proposal more focused. During this process, it was announced that the city of Columbus, Indiana, had received a 38 million dollar grant from Lilly. The NE Indiana group went to Columbus to learn about the process there, an experience that helped them realize that they could submit a proposal larger than the original 5-10 million dollar solicitation from Lilly. After further researching which elements of their proposal would fit wider state priorities, the group sent a series of revised proposals to Lilly, each of which was rejected for containing too many disparate pieces. Lilly also

told the group that they needed to identify a compelling case to support the proposal, as opposed to just a list of desired programs.

As the group refined the proposal, they drew on information about state level priorities from their consultant in Indianapolis. Through that route, they learned that although Lilly initially claimed to be unwilling to fund K-12 education, they, along with the Governor, were interested in improving STEM (science, technology, engineering, and math) education in high schools. As a result, the proposal eventually contained a proposal for six new high schools focused on technical education. They also began to develop the arguments for what would become their "compelling case." That argument went as follows. NE Indiana has experienced declining per capita income, as compared to that of the US, since the mid-1990s, from 96% of the national average in 1995 to 81% in 2006. In part, this resulted from a decline in manufacturing employment, but in comparison to regions that were harder hit by the decline in the auto industry, NE Indiana still had 25% of its employment in manufacturing related industries in 2006. The establishments in the defense / aerospace cluster were a significant share of this remaining manufacturing employment. However, the defense / aerospace cluster needed high-skilled workers, especially as long-term employees in the baby boom generation began to retire. The grant proposal stated,

> "The question is not whether these companies will fill these job opportunities, but whether they will find the talent required to meet the demand and grow right here in northeast Indiana. This is the compelling near-term opportunity that must be seized."

A further reason for a focus on the defense sector, in 2008, was that it was considered to be less likely to be affected by economic downturns. The proposal is presented as a strategy to support the economy of NE Indiana by providing a sufficient number of adequately trained individuals to ensure that the defense / aerospace cluster would remain a major regional employer.

The penultimate proposal was a 40 million dollar proposal designed to assist workforce development focused around technical education, including programs in high schools, colleges, and continuing education. The Lilly Foundation responded favorably to the larger proposal, but asked that the group cut it down to 20 million. The resulting process was difficult, according to nearly every interviewee familiar with it, since the group decided to remove some of the proposed programs in their entirety in order to keep others largely intact.

The successful 20 million dollar proposal, called Talent Opportunity Success 2015 (TOpS 2015) included funding for four main program areas:

- $5.7 million to create new workforce development programs targeted to the needs of the defense / aerospace and other high tech manufacturers in the region and train 1,200 workers;
- $2.6 million to outfit an advanced manufacturing training center at Ivy Tech with machines and automated systems that were in use by manufacturers in the area;
- $4.5 million to create two centers of excellence at IPFW, one in systems engineering and one in wireless communications;
- $5 million to create STEM education centers in high schools throughout the region.

After adding $2.1 million for governance and evaluation of the program, which would be run with oversight from the Community Foundation and the NIF, the total of the proposal was $20 million. TOpS 2015 got underway in 2010, and was in the midst of its term at the time this research was conducted.

According to one interview subject, a critical step in winning the grant was a set of interviews that Lilly did with the executives of the local defense/aerospace industry. These were individuals that had been cited in the proposals, and some of them had been involved with creating the proposal, but the Lilly staff wanted to interview them in private. Their responses were instrumental in convincing Lilly to fund the proposal. According to one executive, others in the aerospace industry had been supportive of the talent initiative because they were very aware of the impending need for qualified workers. In addition, the executive claimed that the business community had an interest in well-coordinated regional efforts, since they were often asked to assist or support such initiatives.

Despite using the defense /aerospace cluster as a justification, the proposal also made clear that the programs would produce immediate benefits for advanced manufacturing, which overlaps with the defense/aerospace cluster but includes firms in medical devices as well as upstream manufacturers that sell to a variety of sectors. The proposal also mentions that the workforce programs might be used for other segments of the economy in the future, and that the high school programs had the potential to benefit nearly any company in the region. As the program has been implemented, it has become clear that the connection to the defense/aerospace cluster was more rhetorical than substantive, a sentiment confirmed by the director of the Talent Initiative in an interview. As one interviewee put it, “I almost wish we'd stop saying that it is about defense. Because people think it is only about defense. It was merely the compelling argument that we could use to convince Lilly that this was the right thing to do.”

Whether the defense industry has benefitted from the Lilly grant is an open question. There is little reason to believe that the industry received any direct benefit, since most of the grant funded general technical education across the region. Indirectly, more trained workers might lower costs by driving down wages or lowering the search costs of hiring, but that connection is more tenuous. Furthermore, in the current recession, Raytheon has cut dozens of engineering jobs at the Ft. Wayne site. This would seem to undercut the explanation that a lack of engineers is currently a major problem facing the industry, but if the firms expand as the economy recovers the TOpS program may make that expansion easier. Overall, the benefits from the Lilly grant in the short term do not seem tied to a particular industry.

Further, the defense industry does not have much direct control over the NEIRP or the TOpS process. As a major employer in the region, the industry certainly has the ear of policy makers, and the large defense firms have been members of the regional chamber for many years. But, they do not control the regional chamber of commerce, and their executives have not served on the NEIRP Board. It was only in 2010 that the first defense firm supported the NEIRP with a monetary contribution, and then it was only Raytheon that did so. The defense industry wields influence in the region, but it does not create policy unilaterally.

Three things contributed to the use of the defense / aerospace cluster as a frame. First, taken at face value, the argument makes considerable sense. The defense / aerospace cluster is one of the largest, highest wage employers in the region, and it is involved not only in manufacturing but also research and development. Having recently experienced the decline of the auto industry, NE Indiana policy makers are acutely aware of the tenuousness of any enterprise in the area. When such an important regional industry notes that they will need employees with certain skills, and that they are unsure of the availabilities of such skills in the regional workforce, a reaction from policy makers is expected. This, however, brings up a second reason for the defense / aerospace focus, namely that the proposal's authors were in close communication with representatives of the defense / aerospace cluster as the proposal was being prepared. The larger defense / aerospace firms in the region were also fairly well organized. Several interviewees, including an executive in the industry, noted that the firms did a fair amount of subcontracting and hiring each other's workers. Though it was not in formal existence at the time of the Lilly proposal, the industry would eventually form the Northeast Indiana Defense Industry Association (NIDIA) in 2010. The industry was thus ready and able to provide the relevant information and arguments that the Lilly Foundation would find compelling. The third explanation for

the defense /aerospace focus is that the technical nature of the industry allowed for the inclusion of programs like STEM education that had support in state and national policy circles, endearing the proposal to funders and reviewers.

To conclude, the Lilly Family Foundation proposal was framed around, and in some sense targeted toward the defense / aerospace cluster. This provided focus to the proposal, and the authors already had the necessary connections to the cluster to provide compelling information about its needs. It also ensured that there would be supportive voices within the business community. However, the focus was at least in some sense a rhetorical one, since the programs within the proposal stand to benefit firms and industries outside of the cluster. Further, in many ways the proposal could be read as an attempt to revamp the quality of technical education at all levels within the region. It thus addresses a problem that had been noted by the NEIRP as early as its 2007 strategic plan. The proposal also shows the effects of the Lilly Family Foundation's desire for a focused proposal, in that it contains only four initiatives. Finally, in running the proposal through the NEIRP and NIF, the TOpS program supported the NEIRP's expanding focus on economic development activities other than marketing.

4. The evolving partnership with OrthoWorx

In early 2012, the NEIRP decided to set up a formal relationship with the economic development organization in nearby Kosciusko County, Indiana, in order to support the medical device cluster that straddles both regions. Kosciusko is home to three of the largest orthopedic device manufacturers in the world, but it is outside of the counties represented by the NEIRP. The relationship involved mutual investments by each organization in the other, and some influence for each on the other's board of directors. The relationship came after years of sometimes troubled relations between the two regions.

Though the city of Ft. Wayne and Allen County are in most ways the economic hub of NE Indiana, there are other significant concentrations of industry in the region. The most striking of these is the city of Warsaw, Indiana, which is located in Kosciusko County, just outside the area represented by the NEIRP. Warsaw is home to three of the largest orthopedic device manufacturers in the world, De Puy, Zimmer, and Biomet, known locally as the "big three", which together account for about a third of the global market share of the industry (BioCrossroads 2009). This is especially surprising given the small population of Warsaw and Kosciusko County, which in 2010 had 13,559 and 77,358 residents, respectively. Compared to Ft. Wayne and Allen County – population 253,691 and 355,329, respectively

– Warsaw is quite small. In 2007, the health and bio-medical industry[4] accounted for 10,095 (31%) of the 32,106 private sector jobs in Kosciusko County, and the medical device industry alone accounted for 5,979 jobs (BioCrossroads 2009). The presence of that sector, which includes research and manufacturing, drove tiny Warsaw to file patents at the rate of 76 per 10,000 people from 2006-2008, roughly 15 times the national average (BioCrossroads 2009).

The presence of such a large and innovative collection of firms just outside of the counties that constituted it was both a blessing and a curse for the NIERP. One the one hand, proximity to such an industry held opportunities for attracting businesses to NEIRP counties and for building on existing connections to the medical device industry within those counties. On the other hand, the fact that most of the firms and employment in medical devices were not formally represented by the NEIRP meant that they lacked the means and mandate to work closely with the industry. According to current NEIRP staff, they – and historically Ft. Wayne and Allen County – wanted to be able to claim the presence of a biomedical cluster as a way to market the region to prospective companies in that industry.

Interviewees from Warsaw and Ft. Wayne claimed that the two had not worked together on economic development in recent memory. The relationship between the two was uneasy, as Warsaw was often suspicious of its larger neighbor. Though this research did not uncover any recent attempts by Ft. Wayne to attract any of the Big Three away from Warsaw, interviewees from both places characterized community leaders in Warsaw as having a sense that Warsaw had what Ft. Wayne wanted and that Ft. Wayne was trying to take something from Warsaw.

Going back to 2003, economic development plans by counties and others in the Ft. Wayne area had noted the presence of a life sciences industry in the region. According to a 2003 plan prepared by the Northeast Indiana Corporate Council, such an industry "might include orthopedics and medical devices, biomedical research and development, pharmaceutical manufacturing, agribusiness, nanotechnology and molecular manufacturing (Stafford, DeTore, and Wixted 2003)." The plan goes on to recommend reaching out to orthopedic industry manufacturers in Warsaw. Since the plan was not written by the NEIRP, the authors were not bound to restrict their consideration to firms within the counties it represented. From that perspective, including the firms in Warsaw was only natural. With

[4] The Bio-Crossroads Report included a detailed portrait of the bio-medical industry in Kosciusko County that defined the "Health and Biomedical Industry" as comprised of 11 sub-sectors each defined as a collection of 6-digit NAICS codes.

Figure C.2 – IEDC Regions counties in Northeast Indiana

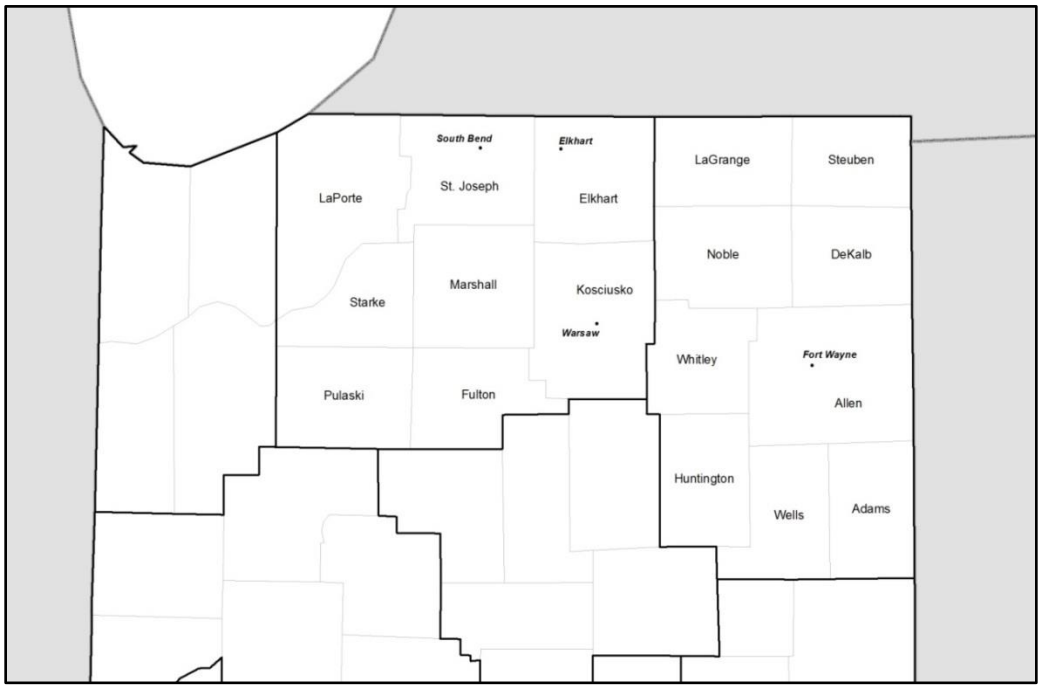
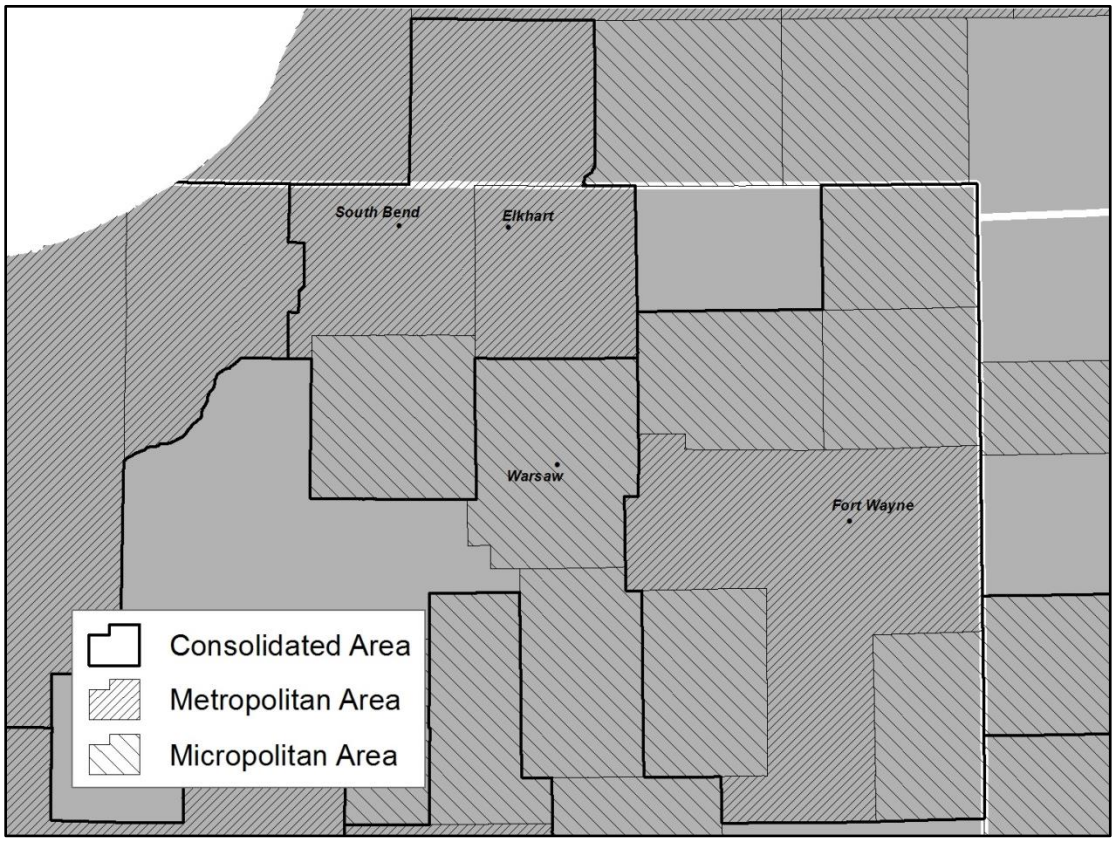


Figure C.3 – OMB-defined core-based statistical areas in Northeast Indiana



the creation of the NEIRP, and Kosciusko County's reluctance to join, that the question of a biomedical cluster became more difficult.

At the creation of the NEIRP, 13 counties were considered as potential members. The original nine that joined are shown in Figure C.1. According to the first NEIRP annual report in 2006, the four counties immediately to the west – Elkhart, Kosciusko, Wabash, and Grant – were invited to join as well. Wabash and Grant counties eventually did join, though Grant later dropped out. Despite its proximity and overtures from the NEIRP, Kosciusko County never did join. Economic development practitioners in both regions felt that this reluctance was explained by the suspicions mentioned above.

An interviewee in Warsaw agreed with that assessment, but also felt that Warsaw was torn between seeing itself as part of the Ft. Wayne region, and seeing itself as a part of the South Bend region. Ft. Wayne is about 40 miles from Warsaw, and South Bend is about 45. There are no interstate freeway links through Warsaw connecting it to either larger city, but US Route 30 – a high-speed, controlled access route – does connect Warsaw and Ft. Wayne. On the other hand, Warsaw is in the South Bend media market, so local news covers South Bend more than Ft. Wayne. The IEDC divides the state into different regions for purposes of planning and implementation. It places Kosciusko County in region 2, which includes South bend, rather than region 3, which includes Ft. Wayne (Figure C.2). The US Office of Management and Budget defines Kosciusko County as a Micropolitan Statistical Area that is adjacent to both the South Bend-Elkhart-Mishawaka, IN-MI Combined Statistical Area and the Fort Wayne-Huntington-Auburn, IN Combined Statistical Area (Figure C.3). Though the consolidated statistical area of which it is a part is adjacent to The Warsaw Micropolitan Statistical Area, South Bend is more closely linked with counties just to the north of it in Michigan. What these various classifications make clear is that while the NEIRP may have thought it natural for Kosciusko County to become a member county, officials in Kosciusko itself would not have seen that as an obvious choice even without the historical lack of trust between Warsaw and Ft. Wayne.

As mentioned above, the 2007 marketing study commissioned by the NEIRP identified medical devices as a top-tier target industry, leading to its selection as one of the organizations six focus industries. This introduced some confusion about the status of the medical device industry in the region. The 2007 study was aimed at identifying potential targets, rather than simply describing industries in the region. Accordingly, the existing concentration of an industry in the region was only one of many criteria considered when evaluating targets. In addition, the methodology also gave weight to industry sectors that had already been identified as potential targets in existing efforts. Since prior

cluster studies often used broadly-defined industrial sectors like "Biomedical" and "Life Sciences" and covered a diverse array of geographic areas that may or may not have included Warsaw, it is possible that the authors considered "Medical Devices" to have been "identified through existing efforts." The NAICS codes included in the medical devices target are shown in Table C.2 along with upper and lower bounds of their 2007 employment as reported by the US Census Bureau. Though adopting the target industries as clusters proved less problematic with the defense aerospace cluster, doing so with medical devices put the NEIRP in the position of focusing on a cluster that wasn't really there.

Table C.2 – 2007 employment and establishments in NEIRP counties in Medical Device target sectors identified in the 2007 study

Industry	Min. Emp.[5]	Max. Emp.	Establishments
3254 Pharmaceuticals and Medicine	0	0	0
3391 Medical Equipment and Supplies Manufacturing	248	469	26
6215 Medical and Diagnostic Laboratories	104	325	29
TOTAL	354	794	55

The NEIRP's approach to the medical device industry reflected the dual conception of it as a target and a cluster. As a target, the NEIRP advertised its member counties' proximity to the orthopedic device companies and Warsaw in its marketing materials. By using phrases such as "proximity to the orthopedic capital" and "supporting the orthopedic capital," the NEIRP was able to take advantage of the name recognition afforded by Warsaw and the companies located there within its own materials. The inclusion of maps showing Kosciusko County, in a different color, on NEIRP marketing materials along with distances to it from cities in the NEIRP region supported this message.

In focusing on medical devices as a cluster, the NEIRP was on less certain ground, so they engaged in two research efforts to identify and better understand the industry in the region. The first of these was sponsored by the Indiana Health Industry Foundation (IHIF), a state level trade group that supports the health and life science industries in Indiana. In 2008, the IHIF engaged in a statewide project to create asset maps of public and private entities including businesses, hospitals, and

[5] The employment estimates were compiled from the US Census County Business Patterns dataset by the author. These data are suppressed in smaller areas if reporting them would reveal the employment or payroll of a particular company. In cases of suppression, ranges are provided instead. These estimates are created by summing over all counties using the extreme values within the range where actual data are suppressed. Zero values are accurate and indicate that there was no employment in that sector.

educational institutions, that engaged in or supported life science industries in Indiana. The IHIF partnered with the NEIRP to carry out this project in those counties that were members of the partnership. The research included several surveys and focus groups administered by the county economic development offices that were members of the NEIRP. The result of the effort was a detailed list of companies in the region along with information about their connection to the wider biomedical and life sciences industry, broadly defined to include "healthcare delivery, medical devices and equipment, pharmaceuticals, agriculture and veterinary products, private sector and university research, and support services" (IHIF report). The portion of the IHIF report that focused on the medical device industry identified 91 companies within the NEIRP region that were engaged with the medical device industry including manufacturers of raw materials and finished products and wholesalers.

The apparent discrepancy between the 55 establishments shown in Table C.2 and the 91 found by the IHIF report can be explained by the different analytical methods used by each. The 2007 report used secondary data, specifically NAICS codes, and not very specific ones at that. In contrast, the IHIF report surveyed experts in the region and built a picture of the cluster from the bottom up. That allowed them to include not only producers of finished goods but also upstream suppliers in the plastics and metalworking industries, without ever relying on fixed NAICS categories. As a trade association, the IHIF was able to leverage its strong contacts in the industry to identify new firms in the region in a process that took fuller advantage of local knowledge and relationships than analysis of data by NAICS or SIC code. To NEIRP staff, these findings raised the possibility that there might be a viable medical device cluster within the NEIRP region, one they could point to without having to reference Warsaw. The study did not provide much more than a list and rough classification of firms, though these proved useful in marketing materials. The NEIRP began to include those companies in its marketing materials, while still highlighting the region's proximity to Warsaw.

The medical device industry was also one of three to be studied intensively in a 2009 study commissioned by the NEIRP (Table C.1). In its introduction, that report states that its purpose was, "to investigate the potential to establish an independent economic development cluster based on the manufacture of medical instruments in Northeast Indiana." Buoyed by the recent IHIF report, the NEIRP had high hopes that the study would point the way toward the growth of a medical device cluster in the NEIRP region. However, the report, whose authors reviewed many previous studies and talked to stakeholders in the region, did just the opposite. It dispelled any notion that there might be an independent medical device cluster in the NEIRP region and stated, ". . . it is immediately self-evident

that many [. . .] companies [in the NEIRP region] already belong to a cluster – the medical device cluster centered in Warsaw." In support of this claim, the authors argued that many of the companies identified in the IHIF report shared a common relationship to the large firms in Warsaw more than anything else. One interviewee recalled,

> "I remember the date that [someone] came to me and told me, 'you need to read this report and read this conclusion here that we are not a medical device cluster.' And I had to digest it a little bit and think what does that mean to us if we now admit that we, Northeast Indiana, are not a cluster without Warsaw?"

The report went on to recommend that the NEIRP focus on the wider biomedical industry, essentially disentangling considerations about how the organization might support that industry from preoccupations about whether or not the region had a viable medical device cluster. The report's authors recommended that the NEIRP "should concentrate its efforts on both supporting the existing Warsaw medical device cluster and developing and growing its own pockets of opportunity in life science."

In making the case that the NEIRP region lacked a medical device cluster, the authors of the 2009 report presented several findings that would eventually lead the NEIRP and others to see the medical device industry in northeast Indiana in a different way. One, mentioned above, was that many of the 91 medical device companies in the region supplied goods to the larger companies in Warsaw. A second was that many of the employees of the Warsaw firms actually lived in counties in the NEIRP region. This made clear that the health of the NEIRP region, and some firms within it, were entwined with the health of the Warsaw cluster. Even as the NEIRP came to appreciate this fact, the circumscribed geographical mandate of the organization made it difficult to determine what to do about it. Additionally, the uneasy relationship between the NEIRP and economic development officials in Warsaw complicated matters. However, around the same time as the results of the cluster study were released, the organizational landscape was changing in Warsaw.

Economic development in Kosciusko County had been led for some time by the Kosciusko County Economic Development Corporation (KEDCO). However, in 2009 the Lilly Family Foundation commissioned a study of what they termed the orthopedic cluster in Warsaw. That study recommended that Warsaw create a specific organization to foster the orthopedic industry in Warsaw. In noting the potential for such an organization, the report noted that the orthopedic companies had

already begun to collaborate on non-competitive issues, such as the joint support for establishing a master's degree program in regulatory affairs in the orthopedic industry at Warsaw's Grace College. Following the recommendations in the report, the Lilly Family Foundation decided to push for the formation of a group to advocate for the needs of the orthopedic cluster in Warsaw. Their effort resulted in the formation of a new organization, OtrthoWorx, that had considerable support from the big three orthopedic manufacturers.

OrthoWorx was smaller than the NEIRP, with only four employees in 2012. The organization began working to identify and address issues relevant to the orthopedic cluster. In one instance, they worked with the orthopedic industry and the local community college to develop training in manufacturing that was tailored more specifically to the needs of that industry. Doing so involved adding a great deal of industry-specific information on quality control and process management. In the course of developing their manufacturing training program, representatives of OrthoWorx met with representatives of the advanced manufacturing center at the community college in Ft. Wayne and with some NEIRP staff. Though some representatives of both organizations had known each other before, the discussions around training in manufacturing was noted by several people as the first time that collaboration between the two organizations had seemed possible.

In addition, several other factors came together to make collaboration between OrthoWorx and the NEIRP more likely. One was the retirement of some of the people in Warsaw who were most wary of the NEIRP's motives. Another, according to an interviewee in Warsaw, was the publication of the 2009 study of the medical device industry in the NEIRP region and its recommendation that the NEIRP do what it could to support the success of that industry in Warsaw, since the medical device firms in the NEIRP region were part of supply chains that ended in Warsaw. Seeing that recommendation in a report that came out of Ft. Wayne went some way toward reassuring OrthoWorx staff that the NEIRP were aware that support for Warsaw was in their own interest. Finally, there were individuals in both OrthoWorx and the NEIRP that were pushing for collaboration between the two. That included some of the representatives of NEIRP counties located between Ft. Wayne and Warsaw, and a regional bank that happened to be a supporter of both organizations. The circumstances of both likely made cooperation between the two organizations more sensible than an "us versus them" approach.

In 2011, OrthoWorx and the NEIRP invited each other to their respective meetings as guests, and also began to occasionally meet informally. They eventually decided that they should solidify their relationship by each investing in the other, which would give each a vote for who would serve on the

other's board.[6] The decision to formalize the relationship grew out of the understanding that while they represented different political entities, they were linked through the medical device industry. Both are aware that the big three companies in Warsaw are the anchor of the industry, and that their continued health and presence is critical to people and companies throughout the larger region. Further, Orthoworx staff acknowledge that the presence of Ft. Wayne provides urban amenities that Warsaw simply cannot offer, and that such amenities are important for attracting and retaining employees at companies in Warsaw. As an example, speaking of recent plans to revitalize the riverfront in Ft. Wayne one interviewee mentioned that an OrthoWorx staffperson had said that such investment on the part of Ft. Wayne was critical to Warsaw's ability to attract and retain the talent that they need to support that industry. Throughout the interviews, both groups played down questions of geography and instead point to the relationship as a strategic partnership.

The collaboration between OrthoWorx and the NEIRP is still quite new. They first attended each other's board meetings as members in early 2012. There hadn't yet been any major new initiatives as of mid-2012, but the fact that they are partnering at all is a major step. The NEIRP, over several years, gradually came to the realization that their interest in the medical device industry as a cluster, as opposed to a target, could not be rationalized without acknowledging the central role of companies in Warsaw. The creation of OrthoWorx changed the organizational landscape in Kosciusko County economic development, and presented a more willing potential partner for the NEIRP. The NEIRP still works with medical device companies in its region, and it still works to attract similar such companies, but it is able to do that while supporting OrthoWorx's goal of a healthy medical device industry in Warsaw.

5. The NEIRP and Logistics – Target or cluster?

NEIRP staff on several occasions pointed out that the only real cluster wholly in the region, as manifested by a stand-alone organization, was the defense/aerospace industry. The rather unique circumstances around the medical device industry are covered in the prior section. Of the four remaining clusters – insurance, transportation and logistics, advanced manufacturing, and food processing – only insurance was a focus of the staff person assigned to cluster programs. This section focuses how the NEIRP came to understand the role of transportation and logistics in the regional economy.

[6] As independent organizations, both the NEIRP and OrthoWorx select their boards through a ballot open to investors over a certain level.

As with the NEIRP's other clusters, transportation and logistics was originally identified as a potential target for attraction in the 2007 study, and it had been on lists of clusters and key industries in the region since at least the mid-1990s. As one of the six clusters, it was in the second round of in-depth studies contracted in 2011 that were funded jointly by the NEIRP and the workforce investment board (Table C.1). Until then, the information that the NEIRP had about the transportation and logistics sector was anecdotal. A number of distribution facilities were located along Interstate 69. As it had with other proposed targets, the 2007 study defined the transportation and logistics target as a selection of NAICS codes. These, along with their employment in 2007, are reported in Table C.3.

The authors of the 2011 study on the transportation and logistics cluster defined it differently than the authors of the earlier study, and they looked at both a wider range of industry sectors and employment in occupations related to transportation and logistics. The authors justified the use of a wider set of industry sectors within the cluster with the claim that logistical expertise and functions had become integrated throughout supply chains as the latter have become more fragmented. As a result, their definition of the transportation and logistics cluster includes all employment in transportation, warehousing, and wholesaling. In support of this claim, they noted that most distribution centers built in the US in the decade leading up to the report had been classified as wholesale operations by the Bureau of Economic Analysis. The authors found that these industries included over 10% of regional employment in 2009. They also found above average concentrations of trucking and warehousing, which had location quotients of 5.1 and 2.0, respectively. The report also included the results of several focus groups with leaders in the logistics industry and an analysis of the locational advantages of the region with respect to distribution costs.

The report concluded with three main findings. The first was that the northeast Indiana region had no real advantage as a logistics hub compared with many similar areas in the wider Midwest. The second was that the logistics industry in the region was for the most part attached to local manufacturing more than it was a stand-alone industry. The third was that logistics firms in the region would face a shortage of workers in the near future, even though many of the jobs paid higher wages than other jobs available to low-skilled workers. The report recommended addressing the workforce shortages and investing in rail and road infrastructure in the region.

Table C.3 – Ft. Wayne MSA 2007 employment in transportation and logistics target sectors identified in the 2007 study[7]

Industry		Employment	Establishments
423860	Transportation equipment and supplies	0	0
482	Rail transportation	0	0
4832	Inland water transportation	0	0
484	Truck transportation	3,866	220
486	Pipeline transportation	<20	1
488	Support activities for transportation	365	42
493	Warehousing and storage	451	23
541614	Process, physical distribution, and logistics consulting services	89	15
TOTAL		4,771-4,791	301

From the perspective of NEIRP staff, the main takeaway from the report seemed to be that there was little need to aggressively market to logistics companies. According to their thinking, the presence of Interstate 69 would likely continue to attract distribution centers, as it had in the past. This is a bit ironic, since the report was ostensibly about logistics as a cluster, rather than a target. Despite their claim of six clusters, the NEIRP had a working definition of a cluster as an organized group of private sector firms, something like NIDIA. The organization had the resources and expertise to engage in marketing, and they had the interest and some experience working with other organizations like NIDIA and OrthoWorx to address the needs of clusters. Logistics did not fit either model. The recommendation in the report, that the region focus on transportation infrastructure, was something that interviewees spoke of supporting, but it was an area with which the NEIRP had little experience. In short, the recommendations of the logistics report did not fit well with the organizational capacity of the NEIRP.

As mentioned above, the NEIRP was not the only sponsor of the 2011 report. The other funder, the workforce investment board, did respond to the specific recommendations in the report. Specifically, it designed a number of training programs to meet the expected shortage or workers in the logistics sector. Following the finding that logistics in the region was connected to local manufacturing,

[7] As with the data in Table C.2, these estimates are prepared by the author from US Census County Business Patterns. In this case, however, the figures are for the Ft. Wayne Metropolitan Statistical Area rather than for all counties in the region because use of the later figures results in such a high incidence of suppressed data that estimates of actual employment become too unreliable. These data give only a rough idea of the size of this sector relative to the regional economy.

the workforce investment board coordinated with manufacturing firms to design some of those programs. One example of this is a local manufacturer of high-end handbags that does all of its shipping from the region, and whose large workforce is split evenly between manufacturing and logistics. The workforce investment board was in a position to act on some of the recommendations of the report that the NEIRP was not.

6. Background to the Rockford, Illinois, case

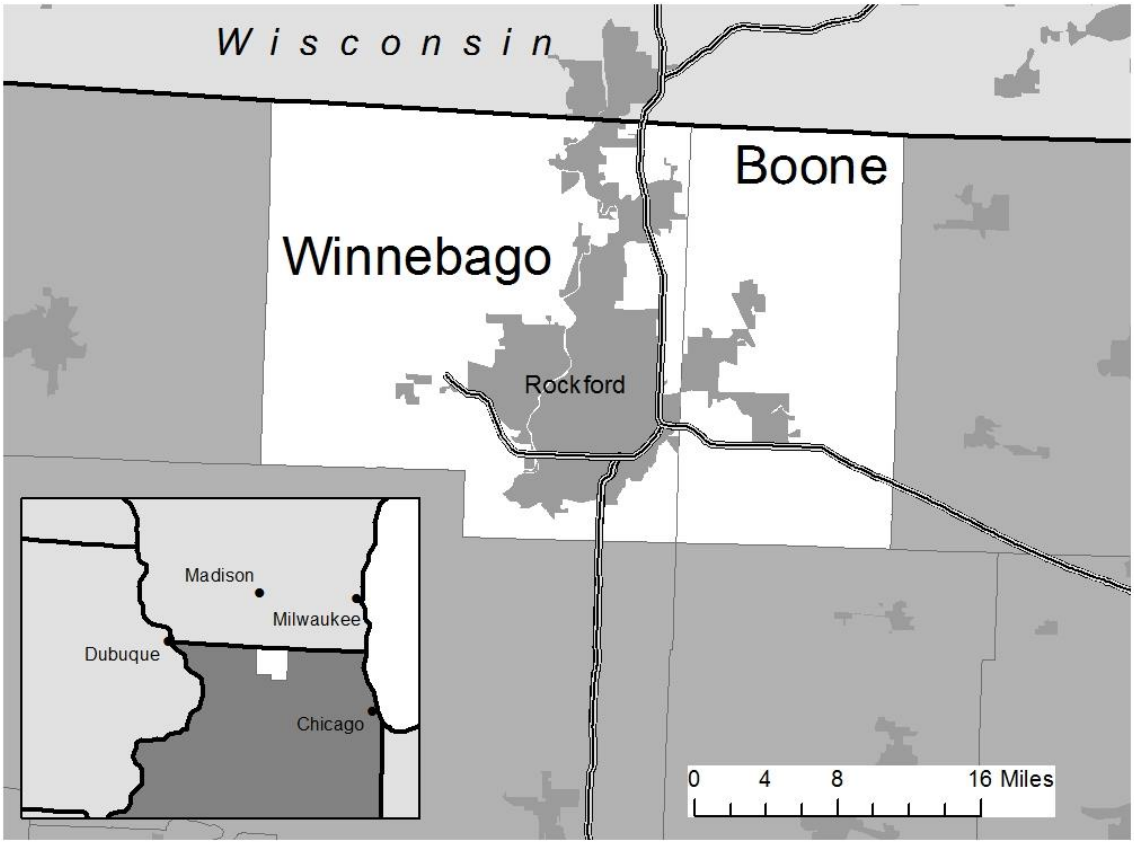
The Rockford Area Economic Development Council (RAEDC) was originally part of the century-old Rockford Chamber of Commerce under a single CEO. In the early 1980s, the Chamber of Commerce created an economic development corporation to fund projects in the region, and a Council of 100, which was a group of local business and community leaders that functioned as its economic development arm (Elazar and Marbach 2004). The RAEDC began to take its current form around 2003, and was fully independent of the Chamber of Commerce by 2004. By 2005, the RAEDC had 40 investors on its board. The organization gets the majority of its funding from the private sector, though the major local governments are all contributors as well.

The geographic scope of the RAEDC proper is limited to Winnebago County. However, the RAEDC has created or co-created several other organizational entities that allow it to work beyond Winnebago County's borders. One of these is an Economic Development District (EDD) formed with Boone County, adjacent to the east. The RAEDC knew that the EDD designation would open opportunities to new sources of federal funding, but the Economic Development Administration requires that EDDs be regional in scope. The economy of Boone County is tied to that of Winnebago, since the former is home to a large Chrysler manufacturing plant, a major regional employer. The RAEDC applied for and received designation as an EDD with Boone County, and has since successfully obtained several federal grants. Another group with which the RAEDC is involved is the Tri-State Alliance, which brings together representatives from Rockford, Dubuque, IA, and Janesville, WI to address regional transportation issues, primarily rail.

The RAEDC initially identified potential clusters in a manner similar to the NEIRP. In 2006 they hired a consultant to identify targets for marketing, and the resulting report recommended seven target industries. The RAEDC never referred to these targets as clusters, but some of the findings in the report did note concentrations of industries in the region. In particular, the report noted the presence of 81 companies related to the aerospace industry. These included top tier manufacturers like Hamilton

Sundstrand, of which the RAEDC was well aware, but it also included smaller firms up the supply chain that produced metals, plastics, hydraulics systems, and other components. According to one interviewee, until the publication of the report, there was no real awareness that the Rockford region might be home to a significant aerospace industry, all along the supply chain, as opposed to merely a few large manufacturers. At the time the research was conducted, the RAEDC had ten people on staff working in a range of areas including marketing, retention and expansion, small business development, and international trade. There was no specific staff person assigned to work with cluster development.

Figure C.4 – Location of counties involved with the RAEDC and the EDD



7. Strategic Planning at the RAEDC

The RAEDC did adopt a five year plan covering 2008-2012. The document was fairly brief at 14 pages, and was mostly a statement of general intentions. The plan was organized around five priorities: improving the business climate, targeted marketing efforts, addressing workforce development, developing infrastructure, and creating a fund to address other issues as they arise. The document doesn't mention clusters except for once in passing, and does not name any one cluster in particular.

The plan itself was in some ways directed at an external audience, as a means of generating continual support, political and financial, for the work of the organization. In interviews, it was mentioned as a means of generating support as much as it was as a source of information for decisions.

8. The creation of the Rockford Area Aerospace Network (RAAN)

Before the results of the targeted industry study in 2006, the RAEDC had received funding from Winnebago County to fund three studies on the local economy. Without a systematic review of the economy, the RAEDC decided to focus the first two of these, in June and November of 2005, on logistics and food processing, respectively. When the target industry study came out in February of 2006, there was still funding available for one more study. Based on the finding about the potential aerospace industry, the RAEDC decided to look into the aerospace industry in the third study. That study, released in June of 2006, found several more companies in the region – 89 in total – and described the state of the aerospace industry in Rockford in far greater detail. Among the findings of the report, one that stuck with RAEDC staff was that the Rockford region was a good place for aerospace components manufacturing, with dozens of small companies that traded with one another, but that the area lacked a robust technical education system to supply those companies with skilled manufacturing workers. Over the course of the two studies, the RAEDC went from not knowing about the aerospace industry, to thinking of it as a potential target for marketing, to seeing that the industry might have concerns that the region should address.

Around the same time as the publication of the report on the aerospace industry, the RAEDC was coming to the realization that at least one of their targets, logistics, was less promising than they had hoped. The location of a large distribution center had raised their hopes, but further research suggested otherwise. The region would continue to attract logistics companies who found its location necessary for their distribution networks, but it had no absolute advantage. That realization, according to one interviewee, opened up the possibility of a focus on other industries in the region, including aerospace.

The RAEDC did not embark on a major new aerospace initiative right away. Instead, several staff of the organization began to ask about the industry in casual conversations with industry officials. One particularly important such conversation took place in late 2006. RAEDC staff were meeting with Jeff Kaney, CEO of a small local aerospace firm, who would later go on to play a major role in the RAAN. The purpose of the meeting was to discuss some incentives that were available to the aerospace firm for

one of its projects. RAEDC mentioned their new interest in the industry, and Kaney asked them to stay after the meeting to talk further about the industry in the region. He mentioned that he wondered why the RAEDC didn't take a more active role in the region, going as far as recommending that the RAEDC look into models of clusters initiatives with which he was familiar.

Seeing the interest in such an approach coming from someone in the private sector, the RAEDC decided to reach out to the CEOs of the two largest aerospace firms in the region to discuss the possibility of collaboration between the industry and the RAEDC. The companies in question were investors in the RAEDC, but the meeting took months to set up. It was helped by the enthusiasm of one of the executives who was planning to retire soon, a fact that some RAEDC staff thought explained his enthusiasm for sitting down with several rival companies. The meeting, held in late 2007, consisted of a discussion between executives of several of the larger aerospace firms along with representatives of the local community college. The discussion generated a wide range of ideas about the state of the aerospace industry, and ideas about how the RAEDC might go about bolstering it in the region. Specifically, the larger firms had a number of suggestions for strengthening the position of the upstream suppliers, from working with them to bid for larger contracts to training on doing business with the federal government. What became clear was that the larger firms would support such initiatives since it would effectively create more suppliers for them in the immediate region. On the other hand, the presence of large firms willing to share some insights about what they looked for in a supplier was something that smaller firms could use to their advantage. The discussion even veered into discussions about the possibility of attracting additional aerospace firms to the area. Though RAEDC staff feared that this might be met with hostility, at least one executive claimed that such an event would only bring more qualified engineers in the area, something he saw as positive.

Soon after that meeting, several other events in the region also built excitement around aerospace. First, in 2008 Embry-Riddle University decided to build its third campus in Rockford. This resulted from the fortuitous residence of one of the trustees of the university in Rockford, but was helped by enthusiastic support from the region. Since then, Embry-Riddle has considered expanding the Rockford campus, but the plans have not yet come to fruition. Second, in 2008, the RAEDC learned that Rockford was being considered as a location for a major aircraft manufacturer, a result of some effort within the private sector in the region. The RAEDC visited the headquarters of the company in late 2008 with a delegation of staff and local leaders, and was able to make what they felt was a compelling pitch.

As it turned out, Rockford was not chosen, but the fact that they had been seriously considered further bolstered their excitement about aerospace in the region.

By the end of 2008, the RAEDC was determined to create some sort of program to support what was now being called the aerospace cluster in Rockford. By early 2009, the RAEDC was meeting regularly with a steering committee of aerospace industry leaders. However, the path to the creation of RAAN was not without problems. At one steering committee meeting, Jeff Kaney, the aerospace CEO, asked about the possibility of handing over some of the leadership to the private sector. Though RAEDC staff felt that it was in the interest of the region to support the aerospace cluster, the RAEDC bylaws did not have any means of establishing independent committees focused on individual industries. As one interviewee put it, the RAEDC was supposed to work with all industries. To build support, and to make sure that they had the support of their investors, the RAEDC staff brought the issue to their board, who voted to amend the bylaws and allow for the creation of industry-specific committees. There has been external pressure as well. Several staff reported that once it became clear that the RAEDC planned to focus effort on particular industries, some local leaders pushed for the creation of cluster initiatives in other industries. RAEDC staff tried to resist this, since they feared it had the potential to divert scarce resources, but it was not clear if their resistance would be sufficient.

Eventually, the organizational infrastructure was in place to create a committee at the RAEDC that would be private sector led and focused on the aerospace industry. The Rockford Area Aerospace Network was started in 2010 with Jeff Kaney as Chairman. More than just a committee, the RAAN is almost a separate organization dedicated exclusively to the aerospace industry in the wider Rockford region. Though the organization is nominally part of the RAEDC, it has considerable leeway. One example of this is in the structure of its members. In order to officially be a member of RAAN, firms must be investors in the RAEDC, be within 75 miles of Rockford, and get the majority of their revenue from aerospace. At the time of the research, the network had about 17 members including the four largest firms in the region and a collection of mid-sized suppliers.

In addition to this core group, though the RAAN was interested both in gaining further information about the aerospace industry, and in serving as a forum for the entire industry in Rockford. To accomplish this, RAAN set up the Rockford Aerospace Cluster, a network for aerospace firms in the Rockford region that required no membership fee and served mainly to boost the profile of the industry locally. The cluster holds one or two trade fairs per year, where they bring a large manufacturer like Boeing in to present about what it takes to do business with them and to allow them to meet companies

in Rockford, and only requires that its members keep their company information up to date in a database. The main intention, though, is to encourage aerospace firms in the Rockford area to make themselves known as a means of raising the profile of the industry. With its low cost of membership, the Rockford aerospace cluster has even made connections with organizations outside of the Rockford region. An organization representing forty or so aerospace firms in northern Wisconsin was recently allowed to join the cluster, since the firms it represents do some business with firms in Rockford. It isn't clear what will come of the relationship, but it shows how RAAN has made new types of contact and collaboration possible for aerospace companies in the region. By 2012, the RAAN had over 200 aerospace firms in the cluster.

The RAAN, in addition to managing the cluster, has also been involved in technical education in the region. One interviewee stressed that the members of RAAN were not interested in being a networking organization, but that the thing that motivated all of them was a concern about the supply of skilled labor. The RAAN and several of its member companies, along with the RAEDC and local education institutions have collaborated on the Joint Institute of Engineering Technology – Aerospace (JiET-A) program. JiET-A brings together classes at local community colleges, Embry-Riddle, and nearby Northern Illinois University and internship programs at aerospace firms to create a pipeline of aerospace engineers that can supply labor to aerospace firms in the region.

RAAN in still only a few years old, but it has already managed to have an impact both on the local education system and on the profile of the Rockford aerospace industry. As to the question of whether or not something like the RAAN could be replicated in other local industries, opinions are divided. Some members of RAAN see it as a possibility, noting the success of their own industry, which includes several large firms that had never collaborated in that way before. RAEDC staff are more reserved. They recognized that the success of RAAN depends on highly motivated individuals willing to take leadership roles. They also note that not all industries in the region are organized like aerospace, and so it isn't clear that the model that fits that industry would work well with others. Finally, one interviewee noted that there are additional things that the RAEDC could do to support aerospace in Rockford, such as ensure that its interests were represented in the state capital, that they simply lack the resources to do at this point.