THE RISE OF ECONOMIC DEVELOPMENT OVERLAY DISTRICTS IN RESPONSE TO INDUSTRIAL LAND LOSS: INSIGHTS FROM SURVEY AND CASE STUDY RESEARCH

A Dissertation
Presented to
The Academic Faculty

by

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In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy in the
School of City and Regional Planning

Georgia Institute of Technology
May 2015

THE RISE OF ECONOMIC DEVELOPMENT OVERLAY DISTRICTS IN RESPONSE TO INDUSTRIAL LAND LOSS: INSIGHTS FROM SURVEY AND CASE STUDY RESEARCH

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ACKNOWLEDGEMENTS

I would initially like to give thanks to my chair and mentor Associate Dean Nancey Green Leigh without whose guidance and sage advice this journey would not have been possible. She followed my every challenge and supported me when and where required. She has always been responsive and set an extraordinary example.

I am very grateful to my committee members, Dean Steven French, Dr. Catherine Ross, Dr. John Matthews, and Prof. Michael Dobbins, because without their critical reviews and insightful comments, the tasks before me would have been much more difficult. Thanks also to Dr. Beril Toktay, my minor advisor for all of her early encouragement and expertise.

I also thank current School of City and Regional Planning Chair, Dr. Bruce Stiftel and his predecessor Dr. Cheryl Contant for their present and past encouragement and support of my pursuit, always providing timely advice regarding how to proceed. In addition, I gratefully acknowledge the support of former Deans Thomas Galloway and Douglas Allen, for providing me with opportunities to work within the administration on projects which supported both the University and my endeavor.

Many thanks for the Georgia Tech academic advisory and administrative support provided by Dracy Blackwell, Jwaan Wallace, Dot Matthews, Beverly Burton, Tatianna Mathews, Geneva Morrison, Mercedes Saghini, Norma Denuex, MaLinda Williams, and Kelly Winn. Without their constant advice and follow through, many necessary steps would have been missed.

I would like to express my appreciation to Dr. Michael Elliot, Dr. Harley Etienne, Dr. Daniel Immergluck, Dr. Larry Keating (Emeritus), Dr. William Drummond, Dr. Maurizo Iacopetta, Dr. John Peponis, each for the encouragement, suggestions and support provided during my study.

I am grateful to have had the opportunity to study with some of the greatest former and current students, associates and friends in the world. Special thanks to Dr. Ning Ai, Dr. Ann Carpenter, Dr. Taelim Choi, Dr. Barbara Faga, Dr. Tae-Hyoung Gim, Dr. Elizabeth Keysar, Dr. Jaecheol Kim, Dr. Dalbyul Lee, Dr. Sugie Lee, Dr. Yun Sang Lee, Dr. Mitchell Moody, Dr. Subrahmanyam Muthukumar, , Dr. Jeong II Park, Dr. Lynn Patterson, Dr. Ge Song, Dr. Eric Sunquist, Dr. Jason Vargo, Thomas Douthat, Jessica Doyle, Jay Forrest, Dana Habeeb, Nathanael Hoelzel, Won Lee, Arthi Rao and Sangwoo Sung, for the many interactions, exchanges of knowledge, and camaraderie.

I wish to thank my professional colleagues and friends for their support including Dr. Kathryn Rice, Dr. James Turkvant, Dr. Eugene Walker, Dr. Jerry Weitz, MacMillan Baggett, John Colton, Michael Cooper, G. Douglas Dillard, Patrick Ejike, MeKonnen Gessesse, Dennis Heller, Sylvester Hopewell, Gary Little, Charletta Wilson Jacks, Russell Kellogg, Jill Lemke, Michael Martin, Dineene O'Connor, Jerry Silvio, Robert Voyles, Marshall Walker, and Kathryn Zickert.

Last but not least, I would like to give thanks to my family, especially my parents who in their own way left me with discipline and a work ethic that has been the back bone of my perseverance.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

APA	American Planning Association
CBRE	Richard Ellis Real Estate Consulting Firm
EDOD	Economic Development Overlay District Zoning Ordinance
ICMA	International City Managers Association
NAM	National Association of Manufacturers
PACT	President's Council of Advisors on Science and Technology
PUD	Planned Unit Development
RESI	Regional Economic Studies Institute-Towson University

SUMMARY

The primary goal of the study is to explore and describe how economic development overlay districts (EDODs) have risen to supersede Euclidean zoning, promote economic development and respond to industrial land loss. Zoning overlays can be found in various locations in the United States, including central cities, inner-ring suburbs, outer ring suburbs and exurban or rural areas (Lee and Leigh, 2005). The impending economic change and continued instability within the United States economy, requires effective land use controls. Improvement in land development policy is more important than ever. With anticipated growth in the services sector, increasing competition for industrial sites by other users, and a relative decline in industrial development, it is anticipated that market changes will continue to adversely affect industrial locations in urban and inner-ring suburban locations. EDODs can provide some advantage to preserve industrial/manufacturing facilities in local communities.

Manufacturing supports an estimated 17.4 million jobs in the United States, and about one in six private-sector jobs (NAM, 2013). New patterns of manufacturing and distribution require that inventory of land and buildings for industrial use be retained for industrial purposes to support local economies. Overlay districts are important in realizing these objectives. The historic ineffective use of Euclidean zoning, along with other development factors, has put viable industrial sites at risk. Currently, industrial sites can be subject to encroachment and acquisition for non-industrial alternative use.

This study provides a random survey of local communities throughout the United States, which indicate that although EDODs are limited in their general application, the existing

examples of their enactment reflects positive contributions. Working through the comprehensive and economic development plan policies, communities in the study areas have made Euclidian zoning stronger and more relevant to contemporary circumstances. Linking EDODs to development funding options assist in making industrial sites more viable.

Evidence used to address the research question included several sources: Six multiple case-studies with cross comparisons, review of over fifty zoning overlay districts and the associated policy documents, including the comprehensive plan, and economic development plan for localities throughout the United States (see Selected Industrial Related Overlay District Purpose and Intent, Table D.1, Appendix, p.168). The use of zoning overlays for largely economic development purposes began to increase in latter part of the 20th century.

This research examines and comparatively analyzes various types of overlay district locations in Atlanta, GA, Baltimore, MD, Milwaukee, WI, New Philadelphia, OH, Philadelphia, PA, and Youngstown, OH, indicating the viability and limitations of the EDODs to effectively supersede Euclidian zoning. The existing application of overlay districts show that they can target regulatory concerns specifically to address issues which present economic, political and administrative challenges to Euclidian zoning effectiveness.

The results of this study indicate that competitive market conditions present real concern for local jurisdictions and private industrial-oriented firms attempting to retain or locate in an existing industrial site or facility. Euclidian zoning and its attending overlay districts cannot alone alter the locational landscape. There must be a purposeful regulatory design and economic development programs, associated with the approach to use EDODs, to supplement Euclidian zoning ordinances. Best practices are also presented in this study. Specifically, the study

addressed the "who, what, where, how and why" zoning overlay districts can be viable. The research also, addresses how planners design land use strategies and work within the EDODs framework to ensure that overlay districts are effectively implemented.

Planners work in political environments (particularly in practice) in which policy decisions originate from administrators, elected officials and/or the general public, as well as from within their own ranks. Planners have increasing interest and knowledge in overlay districts and an historic interest in Euclidian zoning application. Survey respondents indicated that they have all enacted a Euclidian zoning ordinance.

The research finds that many existing Euclidian zoning ordinances include Planned Unit Development (PUD) districts .The PUD permits mixed-use projects, which can rezone, redevelop and/or reuses viable industrial properties. Moreover, the city of Youngstown, OH, has enacted a Planned Development Overlay, which proposes to create an extremely permissible regulatory devise. It might encourage industrial land retention and simultaneously permit mix-use development which could exclude industrial use from a proposed development plan.

The study finds that EDODs may be implemented in tandem with Tax Increment Financing (TIF), which was used by 67% of survey respondents. However, Transfer of Development Rights (TDR), which also requires a degree of intensity of development to make it effective, is only used by 25% of the responding communities. In addition, in some localities the Federal Enterprise Zone (EZ) has coterminous boundaries with EDODs.

Survey respondents represent personnel of mostly local governments, followed by local development authorities, public/private non-profits and others. Approximately 86% of the respondents were in local agencies with less than 5 employees working in economic

development. Planning staff have to multitask and measure time allocation to administer EDODs. Approximately 88% of the jurisdictions which responded have 1-5 “overlay districts.”

However, EDODs are not generally used by local jurisdictions. Only approximately 42% of survey respondents indicated their jurisdiction had adopted EDODs. It is a targeted land use control device adopted after firmly determining the intent or purpose for its application. Respondents indicated that EDODs were enacted as a land use/zoning tool mainly to require design review and then facilitate economic development programs, followed by environmental protection and historic preservation.

Planners work in politically influenced environments where overlay districts are not generally included in state enabling acts and may be opposed by those who see EDODs as over-regulation or special interest oriented. Some communities are sophisticated, with economic development programs working in tandem with EDODs. However, other local jurisdictions continue to use Euclidian zoning and overlay districts for non-industrial purposes and use the PUD to accommodate unique development plans which mixed-use schemes. This study finds that many Euclidian zoning ordinances seem not to protect future industrial site locations and preclude industrial land loss.

The dissertation finds that overlay districts are involved with furthering economic development objectives in many localities. However, the application of EDODs to address industrial land loss has not been researched. Case studies which address the application of overlays to preserve industrial land are presented in this study, a survey has been administered and interviews conducted. The findings also indicate that industrial land has been shielded from

market pressures to rezone to non-industrial uses through the regulation of some EDODs (e.g., prohibit residential and/or service commercial uses).

There are three case-studies including Baltimore, MD, Milwaukee, WI and New Philadelphia, OH. These cities have enacted EDODs that have a clear common objective, to retain and develop industrial land and uses. Local Planning agencies and local development corporations within these communities actively work to implement the EDODs' objectives with consideration of market factors. The case-studies demonstrate that contributions and modifications, made by local jurisdictions to Euclidian zoning through EDODs, advance economic development and land use controls. These regulatory improvements effectively and efficiently improve or supersede Euclidian zoning.

Moreover, this study surveyed over 200 agencies, including communities with EDODs. It finds that communities within the last three decades have enacted economic development ordinances (see Appendix D, Table D.1, Selected EDODs-Purpose and Intent, p.168). Findings of this study indicate that localities have not however, devised sufficient monitoring and review systems to track the EDODs' progress, efficiencies or effectiveness. An exception is the Baltimore Maritime Industrial Zoning Overlay District (MIZOD). This overlay district ordinance requires an annual report of activities within the EDODs to be developed and presented to the Baltimore City elected leaders. Other jurisdictions should require similar program data collection, evaluation and reporting systems, as a condition of zoning consideration and/or permit approval. The interview of agency representatives and practitioners found that EDODs are designed to, among other things, improve economic development programming.

This study surveyed EDODs that facilitate development and retention of industrial space. It found that overlay districts work to implement economic development policy options within the comprehensive plan and economic development plan. The development of EDODs would follow a process similar to that depicted in Appendix D, Figure D.2, p 178.

However, interviewees indicated a wide variation of approaches and designs of EDODs. Some overlay districts require zoning applicants to meet zoning performance standards and conditions to sustain industrial land and prevent its loss. Such policy objectives are narrowly focused to ensure that localities retain their competitiveness, as locations to site manufacturing and other industrial uses, to create jobs, and broaden the tax base where they are used.

The conclusion of this study is that overlays protect industrial land and jobs better than Euclidian zoning and the protection generates greater confidence in industrial investment. Manufacturers and other industrial-oriented users have located within in EDODs and have in some cases lobbied the local government for continuation of the district when nearing time of its expiration (RESI; 2009; Lemke, 2011; City of New Philadelphia, 2011). Jobs have been added in consecutive years within key EDODs. Other newly established EDODs have been used to target investments in industrial site infrastructure and provide incentives to underwrite other industrial development and small entrepreneurial businesses (e.g., industrial business incubators, and direct funding from public/private financing). However, there is little direct assessment maintained regarding the return on investments made by governments to promote industrial development in the EDODs. Some noted exceptions are: City of Baltimore, 2013; City of Las Cruces, NM 1997, and the City of Los Angeles, 2005). It should also be

pointed out that market success is a strong indicator of the effectiveness and impact of EDODs. What kinds of indicators are used to track the influence of EDODs depends largely on economic development goals of a locality.

EDODs do effectively supersede underlying regulations, by making Euclidian zoning requirements more flexible, adding performance standards, and adhering more precisely to planning and economic development policy objectives.

CHAPTER 1

INTRODUCTION

In the 1800s, America moved from an agrarian economy to an industrial one (CB Richard Ellis Consulting (CBRE), 2012). The U.S. began to consider how land, especially residential and industrial land, could be economically, environmentally, and spatially developed. Europe provided ideas; for example, Frankfurt, Germany (1891) was considered the first city in the world to divide land into use districts in accordance with a master plan (Hirt, 2013). European ordinances at that time also required performance measures and scale or form limitations to be met, since mixed use was permitted (i.e., industrial and residential). However, Hirt (2013) wrote that American zoning districts were established on a hierarchical system, with residential development the most restrictive, and industrial the least restrictive zoning classifications (e.g., strict separation of uses). The advent of the first comprehensive U.S. zoning ordinance (i.e., bulk, land use, and shape elements) took place in 1916 in New York City (Chandler & Dale, 2001; Gerckens, 2008; Hirt, 2013). Zoning codes were soon guiding some U.S. communities forward, especially to create substantial residential and industrial development, providing homes and manufacturing jobs over the ensuing decades (Fischel, 2001).

Since the post-World War II era (1950s), post-industrial America has been losing manufacturing jobs and plants in cities throughout the country, partly due to foreign competition using cheaper labor, and more efficient production (Howland, 2011, 2012; Leigh, 1994; Lockhart, 2011). During the 1970s, the U.S. began moving from a heavy manufacturing economy to service and high technology (knowledge) industries (CBRE, 2012; Florida, 2002). Simultaneously, there has been growth in warehousing, distribution, and logistics jobs in regions

with ports, while hundreds of thousands of jobs in manufacturing are being lost (Mueller and Young, 2013; Ronderos, 2010).

For some cities, high land costs, rising productivity, shifting transportation modes, and competitive low-cost U.S. regions have also contributed to industrial decline (Wolf-Powers, 2005). To retain industrial space, better zoning ordinances, policies and practices are required. Manufacturing businesses could be expanding, reusing, or developing industrial properties and doing so can strengthen cities' economic development. In 2007, manufacturing jobs were higher paying (i.e., $725 average weekly) as compared to an overall average wage of $603 per week (Fox & Marra, 2007). Lower paying service-sector employment has replaced many manufacturing jobs (Fox & Marra, 2007).

Furthermore, the National Association of Manufacturers (NAM) indicated that "In 2013 the average manufacturing worker in the United States earned $77,506 annually, including pay and benefits. The average worker in all industries earned $62, 546. Manufacturing has the highest multiplier effect of any economic sector. For every $1.00 spent in manufacturing, an additional $1.32 is added to the U.S. economy" (NAM, 2014). In addition, manufacturing "provides workers with a wide range of skills and job titles, and contributes to more diverse and resilient local economies. Local representatives are beginning to refocus on manufacturing and industrial development, demanding cleaner industrial processes, greener products, greater innovation and more goods that are made in the U.S.A." (Hoelzel and Leigh, 2012).

The "Great Recession" of 2007-2009, resulted in an aggregate loss of eight million jobs and an increase in national and regional industrial vacancy rates, which have only recently begun to decline (CBRE, 2012; Institute for Supply Management (ISM), 2013; Lester,

2012). Industrially zoned properties with infrastructure are needed to support the U.S. economic recovery. America's future economic success is hinged in part, on its ability to link resources and support advanced, sustainable manufacturing using local urban and regional industrial infrastructure. For example, urban localities which maintain industrial land with locational advantages, (e.g., access to suppliers, customers, labor, transportation and logistics, communications and innovative knowledge production, such as research and development (R&D) activities) will be ready to accommodate industrial growth. U.S. industries must be prepared to expand their domestic and global-export manufacturing capabilities (Leigh, Hoelzel, Kraft and Dempwolf, 2014; President's Council of Advisors on Science and Technology (PCAST), 2011). Locally based manufacturing has historically allowed the U.S. to thrive in its ability to produce and distribute goods to global markets. Approximately two-thirds of all private-sector R&D in the U.S. is performed by manufactures, which surpasses all other sectors (NAM, 2014).

Therefore, the retention of urban industrial land is a critically important factor for U.S. economic welfare and interest. Today's industries are modern and generally do not produce major negative externalities or major pollution of land, air or water, or generate noise, light, and vibrations (Levine, 2014). Depending on the productions, distribution or repair operation, these industries could operate in close proximity to residential land uses or as mixed uses (Howland, 2011; Levine, 2014). Therefore, the strict land use segregation found in traditional Euclidian zoning is not alwalys needed with modern industry.

However, older urban industrial centers, and some suburban industrial areas, have had to determine how to retain viable industrial sites as well as market properties to

potential industrial users and dispose of nonproductive or defunct industrial uses. Although new industries have changed in their production modes and technological requirements, there is opportunity for older industrial properties to use innovations and become highly productive again. These existing properties, given zoning changes and overlays, can support new job creation and add new revenue to local economies. Zoning Overlay Districts can significantly assist communities to realize their desires to retain and grow industrial land, plants and jobs. A "zoning overlay district" is a land use control tool (i.e., inclusive of overlay zone text and map, see Appendix A, p. 147). The zoning overlay is superimposed on an established (Euclidian) district. The overlay can provide supplemental regulation, density bonus and/or incentive programs to influence more or less developmental change. Its purpose is to address a public interest in a targeted area. Overlay districts allow developers to work through a structured development process, which encourages development options and relaxes negotiated requirements, if development proposals benefit the public interest. Cities with overlay districts were examined to identify if they have been able to realize the intent of the overlay districts.

Some of the jobs created in overlay districts can be in the fields of Science, Technology, Engineering and Math (S.T.E.M.). These jobs can be 'green jobs,' which are "in businesses that produce goods or provide services that benefit the environment or conserve natural resources" (Hoelzel and Leigh, 2012). The average salary of these jobs is $53,000 (Leigh, Hoelzel, Kraft and Dempwolf, 2014).

Manufacturing is a particularly important contributor to the success of U. S. economic growth and viable industrially zoned parcels should be retained, in part because they

already have infrastructure. Some older urban industrial sites are "brownfields" and require environmental reclamation before reuse. These parcels may be the largest available industrially zoned sites in an urban city center location.

As the U.S. retools its economy to promote manufacturing, key urban and suburban industrial sites must be ready to accommodate this anticipated growth. In fact, the NAM indicated that in 2013, manufacturers contributed $2.08 trillion to the economy or 12.5 percent of Gross Domestic Product (GDP). So, we must try to retain viable urban (and in some cases suburban) industrial properties to sustain future operations.

Moreover, the PCAST (2011) has indicated that the U.S.'s leadership in manufacturing globally is at risk. In fact, the PCAST stated that "manufacturing as a share of national income, employment and leadership in producing and exporting manufactured goods is in question" (2011). PCAST also indicated that providing high quality good-paying jobs to our citizens, ensuring national security, establishing manufacturing based on new technologies and maintaining our domestic manufacturing capabilities is critical. We need appropriately zoned and strategically located industrial properties throughout the U.S. , with the appropriate infrastructure, to accomplish this effort.

The availability of urban industrial land that supports industry will form the basis for urban manufacturing success. If the retained sites are zoned appropriately or have overlays, and are located in central cities (urban centers) or suburban areas (e.g., with clusters and/or business incubators), the synergy which such land use and density or agglomeration produces can provide location advantage, making manufacturing businesses potentially more successful (Graham, 2008; Mistry and Byron, 2011). However, the land on which these

industrial or manufacturing activities are maintained must be retained within Euclidian industrial zones of local jurisdictions.

Traditional zoning, known as "Euclidian zoning," is the predominant form of land use control in the U.S. today (Pendall, Puentes & Martin, 2006). It is designed to separate and protect adjacent single-family uses from encroachment, by nuisances, such as pollution from industrial air, noise, odor, light, traffic, vibrations, and water emissions. Euclidian zoning ordinances consist of maps and text.

Some researchers and local officials have argued that industrial space, market and job loss are due in part to less-protective, inflexible and/or inadequate Euclidian hierarchical-district zoning regulations (City of Seattle, 2007a, 2007b; Marwedel, 1998; Shenkel, 1964). Hierarchical zoning means that land is classified or separated into designate residential uses as the highest or most restrictive classification, which disallows most other land uses. Conversely, this zoning system designates heavy industrial use as the most intense zoning, and it is the least restrictive, allowing almost all classifications permitted in residential, retail, services, office and other industrial uses. The hierarchical zoning system can therefore allow encroachment of non-industrial uses into viable industrial districts. This type of separation can create a dilemma while protecting permitted land uses from negative development externalities, complimentary uses are sometimes also excluded. Moreover, Euclidian zoning requires a multiplicity of conditions that restrict flexible development regulation. The result is inappropriate regulation which can necessitate numerous amendments, variances, and spot zoning actions (ARC, 2002, 2006). According to Dumouchel (1975), Euclidian zoning is defined as:

"The partitioning of land parcels in a community by ordinance into zones and the establishment of regulations in the ordinance to govern the land use and the location, height, use, and land coverage of buildings within each zone. The zoning ordinance usually consists of text and a zoning map. The districts or zones shown on the zoning map are usually identified as to the permitted type of land use" (see Appendix, Figure D.3, p.179). Other researchers have argued that overlay zones (sometimes termed, "special districts") can supplement or supersede Euclidian zoning and incorporate rules, more responsive development regulation and affect how the community envisions growth (APA, 2006; ARC, 2002a, 2002c; Babcock & Banta, 1973; Babcock & Lawsen, 1990; Bavoso & Jones, 1996a, 1996b). The overlay could avoid the politically charged process of rewriting and adopting entire sections of the underlying regulations. A zoning overlay district is defined by the American Planning Association (APA)" (2007) as:

"… a zoning district which is applied over one or more previously established zoning districts, establishing additional or stricter standards and criteria for covered properties in addition to those of the underlying zoning district. Communities often use overlay zones to protect special features such as historic buildings, wetlands, steep slopes, and waterfronts. Overlay zones can also be used to promote specific development projects, such as mixed-use developments, waterfront developments, housing along transit corridors, or affordable housing"

The early application of overlays has been largely for environmental and historic preservation purposes. The notion of the overlay has been popularized by Ian McHarg (1969) in his seminal work entitled "Designed with Nature." In his work McHarg used the overlay concept to clearly show the details surrounding suitability analysis, land allocation and natural resources

use. Similarly, since the 1960s, zoning overlays have become more commonly used to implement land use policies by superseding the Euclidian ordinance (see, Fig. D.1, Zoning Overlay District Time Line, Appendix, p.177).

There are also several alternative land use devices which can be used to address the limitations of Euclidian zoning's inadequacy in protecting industrial jobs and investment potential in communities in the United States (See Fig.1, Overlay Alternative Land Use Implementation Tools 2014, below):

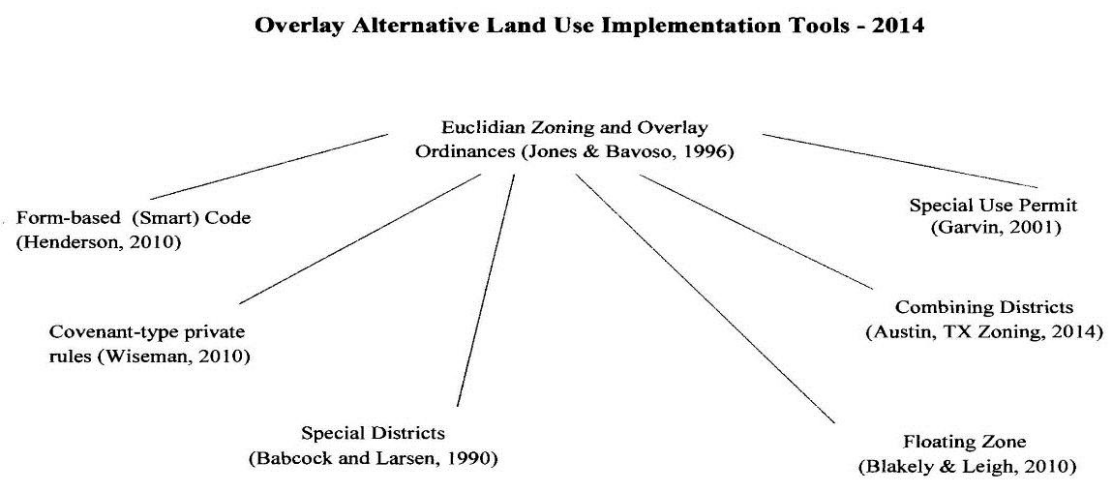


Figure__ By author, 2014

Figure 1 Overlay Alternative Land Use Implementation

These additional approaches can mean tailoring special use permits to allow certain land uses, perhaps with conditions or performance standards; allowing businesses or residents to submit covenant-type private rules to allow land uses with development controls within "rule bound" communities (Wiseman, 2010) . In addition, combining several specific zoning districts to allow mixed-uses and key requirements, or permit floating zones to maximize geographical and regulatory flexibility could expedite development in a jurisdiction.

This dissertation did not seek to research these alternatives to zoning overlay districts. The analysis of zoning overlay districts as a tool to protect and promote industrial development is the primary focus of this study. The overlay application has historically been largely a residential protection land use discretionary control device. Overlay districts can result in permitting flexibility in development, which would have a positive economic development benefit to retain and attract developers to a city (Hamilton, 1986). However, overlays can be controversial.

The study also examines the economic development overlay district as a technique to circumscribe an area subject to Euclidian zoning and alter its conventional application to specifically regulate land use, promote retention and/or expansion of industrial space and support job development.

The Problem

Local jurisdictions originally adopted zoning ordinances to protect single-family residences by separating polluting or nuisance industry from non-industrial land uses (especially manufacturing activities), to regulate bulk and height, and to ensure air circulation and the provision of sunlight through building design considerations (*Welch v. Swasey*, 1909). The U.S.

constitutionality of zoning was upheld in the 1926 case, *Ambler Realty v. The Village of Euclid, Ohio,* 1926, (APA, 1988; Zoning Overlay District Time Line, Appendix D, p.177).

Many decades later, expansion of non-industrial and/or residential land into traditional industrial districts created conflict as well as encroachment on prime industrial sites (Fitzgerald and Leigh, 2002; Hentschel, 2009; Howland, 2011; City of Los Angeles-Industrial Development Policy Initiative (IDPI), 2005). The U.S. has a history of relegating industrial zoning to a less desirable status that has led to the loss of viable manufacturing sites (Los Angles, 2005a, 2005b; Milwaukee, 2010; Seattle, 2007a, 2007b); Regional Economic Studies Institute-Townson University (RESI), 2008). In some instances, the Planned Unit Development (PUD) zone in Euclidian ordinances has been "the principal method of accomplishing conversion from industrial to mixed-use" (BDC, 2007). This subsequently spurred localities to enact overlay districts to protect viable industrial developments.

Euclidian zoning is considered an antiquated land use control technique (Babcock & Banta, 1973; Lerable, 1995; Wiseman, 2010). It allows for the rezoning, displacement and redevelopment of needed industrial properties for residential and commercial uses (Lander, 2006). Moreover, it permits the encroachment of incompatible uses and exclusion of compatible uses (Jones & Bavoso, 1996). Inadequate traditional zoning has contributed to the loss of investment of financial and human capital in local communities (Shenkel, 1964). Today, however, zoning overlay concepts promoting industries with new production technology, less pollution emissions and more performance requirements can make it possible for industrial zones to be closer to residential developments without encroaching upon each other (Levine, 2014).

Overlay districts are applied to improve the effectiveness and concentrated focus of Euclidian zoning (Blackwell, 1989; Garvin, 2001). Overlays can encourage certain types of development and redevelopment (Blakely & Leigh, 2010; Bleakly, 2007). For example, an "enterprise overlay" can provide for more intense use (i.e., physical change) than permitted in the underlying zoning. This intensity is provided through greater floor area ratios (F.A.R.), parking waivers and additional land-use options (Lerable, 1995). In addition, overlays can be more flexible, impose additional environmental regulations and concentrate more focused controls and performance standards in the geographical (special district) area. Also, residential flood hazard zones can be created through an overlay district that sets out more specific requirements than the underlying Euclidian zone (Blackwell, 1989; Garvin, 2001). These capabilities in overlays can be used to provide corrective and innovative industrial regulation which promotes industry retention and expansion.

Effective retention of industrial space and jobs is needed in the recovering U.S. economy, along with innovative environmental design (New York, 2005). This is especially the case in cities where racial minorities are disproportionately affected (e.g., African-Americans) through the loss of manufacturing jobs; and where unemployment and poverty has substantially increased (Peterson & Krivo, 2010). Some have argued that state, regional and local government policies must be improved to target development, and retain manufacturing plants within local jurisdictions (Helper, Krueger and Wial, 2012). On a federal level, researchers advise the White House to aggressively change policy in support of such manufacturing expansion and innovation, especially on regional and local levels (Hardie, 2012; Helper et al., 2012; PCAST, 2011).

This dissertation explores how local zoning overlay districts can help retain employment in manufacturing or industrial developments and related uses. By "overlaying" Euclidian zoning. This traditional land use regulation can be made more effective in the promotion of industrial development. The overlay process is considered an extra layer of review. If it is fast-tracked, it is considered convenient.

Therefore, some communities use overlay districts to facilitate industrial land use, to effectively regulate development, and to modify design criteria (Jones and Bavoso, 1996). Traditional zoning ordinances with overlays can target economic development opportunities and enhance economic development program monitoring, feedback, and planning. As mentioned by Blakely and Leigh (2010) and the APA (2012a),

> "Overlay zones have the potential to be very effective governmental regulatory tools. Since they tailor regulations to specific properties and districts to meet specific community goals, they can be more politically feasible to implement and can help communities meet stated goals or address specific inequities. (APA, 2012a)."

Zoning overlay districts have evolved, in part, to address issues associated with the ineffectiveness of Euclidian zoning (Blackwell, 1989). Some researchers believe that conventional zoning is not effective because it is too restrictive (Jones & Bavoso, 1996). They argued that conventional zoning essentially separates properties based on function and use.

To summarize, Euclidian zoning has been found deficient for land use regulation, because it has: a) allowed the expansion of non-industrial and/or residential land into traditional

industrial districts (i.e., encroachment on prime industrial sites); b) allowed the relegation of industrial zoning to a less desirable status leading to the loss of viable manufacturing sites; c) allowed the principle method (i.e., PUDs) to accomplish conversion from industrial use to mixed-use development; d) allowed the rezoning, displacement and redevelopment of needed industrial properties, promoting residential and commercial use; and e) has contributed to the loss of investment of financial and human capital in local communities. The zoning overlay district tool has arisen to respond to these concerns, especially in reference to the economic and industrial challenges facing the U.S. manufacturing sector today.

Purpose of Study

The purpose of this research was to examine the evidence to date of how industrial overlay districts are being used to augment Euclidian zoning in response to changing economic development needs of the community. In doing so, I describe the regulatory aspects, economic development goals, objectives and strategies pertaining to Euclidian zoning and overlay districts. This study provides researchers, academicians, practitioners and citizen planners a better understanding of how or if overlay districts influence development of industrial and related activities relative to Euclidian zoning. Also, this research addresses the important issue of how overlay districts focus land use regulation on inner urban/redevelopment areas and established inner-ring suburban locations (Blakely & Leigh, 2011; Lee & Leigh, 2005). Specifically, this research analyzes urban and suburban-industrial oriented overlay districts as opposed to greenfield or rural (outlying) overlays.

The primary goal of this study is to describe how and why overlay districts have been wanted to supersede Euclidian zoning, to promote economic development and job creation

through industrial development and/or urban redevelopment. Euclidian zoning does not address contemporary "pragmatic issues" or provide for "cost-effective development," including streamlined review processes and concentrated infrastructure investments (Banta and Larsen, 1990; Nolan, 1998). Furthermore, Euclidian zoning is unable to "deal effectively with often-competing social, economic and environmental concerns" (Jacobs, 1961; Meshenberg, 1976). Other researchers find that Euclidian zoning is "unresponsive to changing markets, inflexible and responsible for monotonous development" (Lerable, [Preface] 1995; Wiseman, 2010). Very little research has been conducted regarding the application of zoning overlay districts. This study is directed primarily at industrial-oriented economic development overlay districts defined as having the following typical elements (see Appendix B, Sample EDOD, p. 150):

1. a statement of intent and purpose for applying the economic development overlay;
2. mapped economic development overlay zones that impose a set of requirements, in addition (i.e., more or less restrictive) to those of the underlying zoning district;
3. site-specific regulatory requirements regarding policies affecting change (e.g., lot size, density, building location, open space, height, permitted land uses, accessory uses, conditional uses, design criteria, parking and performance standards) (Babcock and Banta, 1973; Talen and Knaap, 2003);
4. identified special economic development public interests (purpose) in local, regional, national, and global geographic market context;
5. a range of possible economic and business applications beyond the underlying district (i.e., expand economic/industrial base, and local/regional employment and population centers);
6. flexibility in the development of land and ensuring compliance with normal district regulations (including working cooperatively with public review procedures);
7. encourage more sustainable industrial development with respect to public infrastructure and preservation of open space; and

8. designate an area where industry and business can be conducted without the intrusion of non-industrial related uses and where investment is encouraged.

This study aimed to answer the research question, "Do overlays protect industrial land better than Euclidian zoning and does the protection facilitate greater confidence in industrial investment?" To answer this, a mixed method research design using qualitative and quantitative approaches is employed, including internet research, a qualitative multiple (six) case study analysis with interviews of agency personnel, field reconnaissance, sample survey research (i.e., 150-200 agency questionnaires). Potential targets for this research include city and regional planning practitioners, academic researchers, students, economic development policy specialists, citizen planners and the interested general public. In addition, federal and state agencies concerned with industrial growth and retention will better understand the potential opportunities resulting from the local economic development strategy associated with this industrial-oriented overlay district research (RESI, 2008). Policy implications of this study are expected to assist those concerned with promoting industries and manufacturing uses to maintain sustainable employment within their communities.

Therefore, it is important to first explore the nature of policies affecting local EDODs. To date, studies have largely focused on the policy and regulatory factors associated with environmental controls, historic preservation affecting residential development through Euclidian zoning, and overlay districts.

Research Question

There has been a great effort on the part of many local jurisdictions to address the decline of industrial development and the loss of manufacturing jobs in the U.S. It is important to these communities to determine how to best avoid continued losses of industrial space (Leigh, Hoelzel, Kraft and Dempwolf, 2014). The research question indicates the central issue and describes what will happen in this study to address how the use of overlay districts affect retention and expansion of existing industries and attraction of future industrial opportunities within defined geographic borders.

The research question presented below will generate information regarding industrial economic development "best practices" and provide a guide to conducting the research in this study. The response to this question is intended to increase understanding of the overlay district as an economic development tool. This research seeks to determine whether overlay districts contribute to the practice of economic development, and to answer the fundamental question:

Research Question: *Do overlays protect industrial land and jobs better than Euclidian zoning and does the protection facilitate greater confidence in industrial investment?*

This research question focuses on the effects of overlay zoning to promote economic development strategies. This inquiry addresses whether EDODs objectives are designed to affect Euclidian zoning, which primarily seeks to promote orderly growth, protect property values, and lessen environmental externalities (Chandler & Dale, 2001). Euclidian zoning requires overlay support because it: is not flexible and many times fails to directly broaden the tax base and/or influence the creation of industrial-jobs or further social-economic-equity strategies (Lerable,

1995; Meshenberg, 1976; Shenkel, 1964;). It is expected that overlay districts will improve Euclidian zoning by directly implementing planning and economic development policies and programs, to focus land use controls on specific problems or issues (Blakely & Leigh, 2010; Garvin, 2001). That is, overlays do not have to be applied citywide or countywide, but can be focused exclusively on specific districts and key developments within districts (Blackwell, 1989).

The overlays have been used or applied in a number of circumstances in which they have successfully addressed the environmental issues associated with performance standards to encourage unique management of externalities, eliminate impacts and/or maintain an acceptable level of exposure (Blackwell, 1989). In addition, the application of overlays encourage economic change and density of residential development. In Chinatown of New York, for example, an overlay has yielded new housing opportunities and community amenities through redevelopment.

As an incentive overlay zone, the “Special Manhattan Bridge District" was implemented in New York City, within the special garment district. It allowed for the focus of environmental review criteria which identified the preservation of manufacturing space for the clothing industry. Through the City Environmental Quality Review process (CEQR) it was found that the neighborhood would not be adversely impacted. The impacts and character of the community were preserved by an overlay zone (Westlaw, 2007).

Study Variables and Indicators

This study highlights key variable characteristics of Euclidian zones and overlay districts (areas derived by new regulatory modification and economic policy initiatives). The overlays' indicators result in part from the operationalization or implementation of polices and regulation for local economic development purposes. The research study analyzes communities with significant industrial land use intensity. EDODs are generally linked to a jurisdiction's comprehensive development and/or economic development strategies and plans (Washington, DC, 2013). Therefore, the metrics used to show the relative "effectiveness" of EDODs in this study include the following (see Table 2, p. 60):

- Number of Industrially oriented jobs in the EDOD;
- Number of Acres located in the EDODs;
- Number of acres zoned industrial in the EDODs;
- Distance to regional hub or CBD;
- Number of persons in the locality;
- Average wage paid by firms in the EDODs
- Adopted Comprehensive Development Plan in the locality;
- Adopted Economic Development Plan in the locality; and
- Adopted Euclidian and/or Overlay Zoning Ordinances.

These metrics reflect how each study jurisdiction relates to its overlay districts and affect change by superseding underlying Euclidian zoning regulations. Each jurisdiction is different and therefore the EDODs were designed to address the unique economic development needs in that community.

Study Limitations, Significance and Justification

This study was limited in several ways. First, no significant research has been done regarding the application of industrial-oriented EDODs; therefore, original data sets had to be generated. Second, the researcher had to identify supplemental overlay data through library and internet searches. Moreover, the proprietary data base used for this study, the Municipal Code Corporation, is a finite zoning ordinance subset of nationwide zoning codes, limiting the sample size. Original data, along with internet searches and a survey instrument, was used to facilitate this exploratory and descriptive analysis. Third, the theoretical constructs chosen provides a broad view of subordinate elements affecting zoning EDODs. However, contextual independent variables are necessary to link industrial overlay policies with a theoretical foundation. Finally, the timeframe in which the EDODs were implemented in the United States ranges from 1960–present.

However, not enough economic development zoning overlay districts were implemented or available for inclusion in a time-series or quantitative experiment. There is no causality established in this research. Therefore, the study has elected to undertake a multiple case-study qualitative analysis, supported by a stratified-sample survey. There are sufficient local communities with Euclidian zoning and economic development "industrial-oriented overlays" to conduct the case-study analysis and provide a sample population to support a quantitative survey analysis. The time and financial resources are available to execute survey instruments (e.g., field reconnaissance, interviews, data collection, coding, analysis, dissertation writing and production within the proposal scope).

Most of the zoning overlays implemented thus far pertains to residential or mixed-use development. Given the economic state of industrial development in the United States today on a national, regional and local scale, it is imperative that any impediments (e.g., inflexibility and lack of innovation of traditional zoning) are corrected and economic growth maintained. This research is justified because it will contribute to that end.

CHAPTER 2

THEORETICAL FOUNDATIONS AND CHARACTERISTICS OF EUCLIDIAN ZONING AND OVERLAYS

Studies show that communities in the United States have rezoned viable industrial sites at increasing rates for nonindustrial purposes (City of Los Angeles, 2005a, 2005b, 2007; City of Seattle, 2005; Howland et al., 2010; Rast, 2005; RESI-Towson University, 2008; Seattle Planning Commission, 2007). Still, some local jurisdictions maintain a surplus of industrially-zoned properties due to decreased demand and therefore rezoning to nonindustrial use is required (Howland, 2011).

Researchers have found that the loss of industrial property is due in part to the historic inefficiency of Euclidian zoning (Anonymous, 2008; Babcock and Banta, 1973; Rast, 2005; Leigh, et al., 201; Meshenberg, 1976). Communities attempting to retain and expand their existing industrial inventory have been using various non-overlay land use control devices, including special industrial districts, planned unit development, and land banking as a means to designate and allocate future industrial land uses (Babcock & Larsen, 1990; Blakely & Leigh, 2011; Shenkel, 1964).

Euclidian zoning is more prevalent in the United States' localities than any other land use control device. The noted exception is Houston, Texas (Lewyn, 2009; Pendall, Puentes and Martin, 2006). Some communities have opted to use overlay districts in conjunction with Euclidian zoning, to stop or slow potential loss of viable industrial properties, and encourage

economic development (Blakely and Leigh, 2010). Also, overlays can be consistent with U.S. policy interests, by creating more sustainable industrial and manufacturing living-wage jobs. Through Euclidian zoning and overlay districts, local communities can help give residents stable incomes, which create demand for housing and retail options (Mistry and Byron, 2011).

Historical Perspective of Euclidian Zoning and Overlay Districts

Communities have historically zoned properties for urban industrial sites which promote "Fordist"-type mass production and interdependent businesses. In later years, many of these businesses became vertically-oriented industries on industrially zoned suburban sites (City of Los Angeles, 2007; Ruigrok and van Tulder, 1995). These businesses include steel, automobiles, textiles, appliances, and other manufacturers. However, contemporary off-shoring, industry restructuring, deindustrialization and inflexible Euclidian zoning contribute to restrictions which have adversely affected industrial site demand (Shenkel, 1964). For example, Euclidian zoning may not provide the flexibility to allow for new and redeveloped, industrial sites and buildings that are designed for contemporary manufacturing businesses and related office uses (Babcock & Banta, 1973). Overlays could allow for incorporation of covenants negotiated with the local government's neighborhoods and developers facilitating new industrial development, while protecting neighboring uses (Dyett and Bhathia, 2001; Wiseman, 2010). These industrial community resources could address design, new construction, modified buildings and preserving building scale (Wiseman, 2010). Compromising Euclidian zoning can combine with other factors, such as market conditions, to leave a surplus of vacant and underutilized industrial sites in urban and suburban areas; and encourage office, residential and

retail development to reuse and redevelop viable industrial property for nonindustrial use (Howland, 2011).

Industrial properties have also suffered due to economic downturns and the Great Recession of 2007-2009, largely resulting from problems in domestic public-private finance and credit policies, uncertain industrial markets, and direct competition from foreign industries (Boston, 2012; Heschmeyer, 2012; Lockhart, 2011). The tremendous loss of manufacturing businesses and jobs in the U.S. has created the necessity of Euclidian zoning modification to make it easier to retain and expand industries where possible (Blakely and Leigh, 2010; Howland, 2011; PCAST, 2011).

Overlays can assist in industrial plant and site reuse especially in the urban core or older urban centers which require improvements to Euclidian zoning regulations (CBRE, 2007; Dunham-Jones & Williamson, 2009). EDODs are therefore "special purpose zones," relevant in declining, redevelopment and growth areas where economic development programs are targeted (Blakely and Leigh, 2010; Chandler and Dale, 2001; Meshenberg, 1976).

Many researchers and land use theorists in this literature review, such as Babcock and Banta (1973); Cook, (1996); Garvin, (2001); Hamilton, (1986); Lerable (1995); Meshenberg (1976); and Wiseman (2010), support the concept of overlay districts. These authors refer to a narrow and specific application of overlay districts in the past, largely for environmental control, historic preservation, and aesthetic purposes. See summary of perspectives in Table 1 below:

Table 1: Euclidian Zoning Summary of Perspectives

Author	Year	Perspectives	Potential Solution
Babcock and Larsen	1990	Zoning has become worse, more complex, sophisticated, less efficient and fair.	Special District (i.e., sometimes termed Overlay Districts, per Jones and Bavoso, 1996)
Blackwell	1989	Ineffective in protecting environmentally sensitive lands; ignores cumulative effects of land use on the environment.	Overlay zoning more effectively protects natural resource areas.
City of Los Angeles	2004	Permissible Industrial zoning conversion to non-industrial use.	Proactive planning to protect industrial land.
Custer	2007	Creates sprawl. Consumes vacant land and more services. Causes automobile dependency.	New Urbanism. (Form-based zoning)
Dyett and Bhathia	2001	Grouping similar uses and activities required. Need more flexibility to achieve greater public benefit.	New Urbanism. Combining districts and overlay zones within defined areas.
Fischel	2001	Fragmented local government and powerful “minorities” or regional and local community representatives control zoning approval and exclusionary processes.	Home voter hypothesis (2001). Zoning can be confronted with a system of home-value-insurance.
ICMA	2000	Narrow local, not regional interest; bureaucratic, exclusionary and lacks planning framework.	Overlay control to provide additional layers of development standards.
Jones and Bavoso	1996	Relies too heavily upon "economic concerns." Oversimplified, housing, scale problems, and inability to plan long-term.	Overlay zoning is one way to create more flexibility and discretionary alternatives.

Table 1 Continued

Meshenberg	1976	Controls misused. Design monotony. Weak administration. No relationship to policies and plans. Adds time and costs.	Use overlay districts, PUDs, floating zoning, incentive zoning and other flexible techniques.
Shenkel	1964	Industrial location issue. Outmoded concept of zoning nuisance controls.	Follow objectives of master plan –economic objectives to protect industrial areas.
Wiseman	2010	Failed to dictate desired community characteristics.	Overlay communities; covenant-type or "private" rules.
		Compiled by Author, September 26, 2013	

However, current characteristics of overlay districts provide a broader application of this device to further economic development, redevelopment and social equity factors. Accordingly, different types of land use development requirements, design guidelines, and economic incentives are now associated with contemporary overlay regulations (ARC, 2006; Bleakly, 2007; GDCA, 2007). Overlays can be created as interim regulations, and put into place temporarily until a new comprehensive plan (i.e., the overlays will implement the comprehensive plan), economic development strategy, and subsequent zoning ordinance are adopted (BCDP, 2010). In other instances, the overlay district may be a permanent zone incorporated in existing or new zoning regulations.

Theory Relevant to Overlay Districts

The literature review includes theoretical constructs which form the foundation for zoning economic development overlay conceptualization and its practical application (see Figure 2.1, Venn diagram, below). The EDODs theory itself is underdeveloped. To ground the research, I considered the historical, conceptual, and theoretical foundations of industrial oriented zoning, land use planning, economic development/redevelopment, and location analysis.

Figure 2.1: Venn Diagram

These theoretical constructs inform the current research as follows:

Theory 1: Zoning Theory (factors present an historical and legal basis linked to nuisance laws and the comprehensive development plan).

Statement: The zoning theory is based on federal constitutional precepts of health, safety, and welfare, promulgated at state and local levels (Babcock & Banta, 1973; Babcock & Larsen, 1990; Rose, 1974; Shenkel, 1964; Williams, 1975; Beuscher, Wright, & Gitelman, 1976). This theoretical construct intends to separate incompatible land uses and aggregate similar uses. Zoning theory informs the research question by:

1. Zoning theory sets the foundation upon which needed regulatory flexibility is considered (Nolan & Salkin, 2006). Overlays can apply this theory to encourage more contemporary, innovative, marketable and adaptable industrial and commercial land uses (Bavoso & Jones, 1996a, 1996b; Blakely and Leigh, 2010; Bleakly, 2007).

2. Euclidian zoning theory, on which the overlay district is based, advances the notion of "police power" control to protect the health and safety and welfare of local communities. However, traditional zoning also allows for the encroachment of non-industrial land uses and diminution of industrial site value (Beuscher et al., 1976; Rose, 1974; Babcock & Banta, 1973; Olson, 2008; PIDC, 2010; p. xiv; Rast, 2005).

3. The zoning overlay has its roots in traditional hierarchical zoning with bulk, design, environmental and spatial requirements. However, overlays attempt to modify (i.e., increase or decrease) Euclidian regulation, affect traditional zoning flexibility and can influence economic viability of development within the community by targeting, attracting and retaining specific types of jobs and industry..

Theory 2: Land Use (Conceptual factors are comprehensive, rational, normative, and prescriptive)

Statement: The land use theory focuses on operationalization through the development management-planning model. The rational, normative concept of land use planning promotes a process that sets the foundation, provides innovation and influences the outcomes associated with the development process (Kaiser, Godschalk, & Chapin, Jr., 1995; Friedmann, 1987, 1993). The land use plan also aggregates the number of acres of land classified by type to be allocated within a jurisdiction. Moreover, Fernandez (2006) argues that how land is developed can cause neighborhoods to be segregated, and therefore forces minorities especially, to live far away from employment centers or workplaces (Ihlanfeldt & Sjoquist, 1999, 1989).Land use theory informs the research question by:

1. Conceptualizing how land within EDODs is allocated and under what circumstances this occurs (i.e., considering time, resources, and environmental factors).
2. Land use theory is inherent in the comprehensive planning process which incorporates key development interrelated concerns (Friedmann & Hudson, 1974; Rittel &Webber, 1972). It includes transportation, infrastructure, demographics, community facilities, and economic development.
3. The direct effect of land use control within EDODs influences the location of specific land uses within a jurisdiction.
4. Identifying the capital improvement program as a process that sets the framework for land use.

Theory 3: Local Economic Development (LED) (theory basis which includes concepts of achievement in industry attraction, retention, expansion, innovation, entrepreneurship and community standard of living).

Statement: local economic development theory seeks to explain increases in human and physical development and identify the principles of economic and social equity and sustainability (Blakely & Leigh, 2009; Malizia, 1990). Local economic development theory informs the research question regarding overlay districts by:

1. Addressing sectorial industries, business conditions and development criteria affected by Euclidian zoning.

2. Local economic development theory clarifies elements of economic growth, and also identifies factors of community equity and those leading to economic decline within a community (Fitzgerald and Leigh, 2002; White, Bingham & Hill, 2003).

3. In addition, local economic development theory implies that the economic base within local jurisdictions is predicated on the regional development of basic export-oriented industries and the fundamental interrelationship of innovative businesses, entrepreneurship, financing, employment, infrastructure and equitable investments (Hermansen, 1972; Jones, 2002; North, 1955; Porter, 1990).

4. Finally, LED theory informs this research through the concepts of revitalization and redevelopment within overlay zones. Redevelopment can be fostered in accordance with state and federal redevelopment laws to expand and retain industrial and manufacturing activities and create employment (Blakely & Leigh, 2010; Wilson, J.Q., 1966).

Theory 4: Location Theory (considers the placement of industry relative to its sector in addition to spatial factors or characteristics).

Statement: The question of location affects the decline or growth of industry and is central to the minimization of production cost, including optomizing the transportation costs of getting raw materials to a manufacturing site and finished goods to market (Alonso, 1975; Blakely & Leigh, 2010; Christaller, 1933; Conway & Liston, 1976; Marshall, [1890] 1961; Hoover, 1937; Hotelling, 1929; Ohlin, 1933; Myrdal, 1957; Perroux, 1983; Weber, 1929). Location theory informs the research question by:

1. As Malizia and Feser (1999) indicated, location theory is the basis for the finding optimal placement of industries, businesses, and infrastructures within EDODs (Blakely & Bradshaw, 2002). Moreover, Ohlin (1933) suggested that "regional comparative advantage in production, differential market responses to price changes and regional differences in factor and product supplies are important considerations." These factors influence the location of industries inside and outside of overlay districts.

2. Charles Tiebout's 1956 theory of public choice. He states if a local government does not provide optimal public goods at optimal cost (i.e., high infrastructure levels of service (LOS)), businesses, developers and residents will "vote with their feet" and move to another locality (Wiseman, 2010).

3. Firms are influenced by the location theory which hypothesizes the affect that agglomeration, clustering and production linkages have on a particular industry by sectors (Arrow, 1962; Marshall, 1920; Porter, 1990; Romar, 1990). Clusters and networks are important to independent firms that capture all forms of ways to share support services,supplies, workforces and affect positive change (Organization for Economic Co-operation and Development (OECD), 2010). Some jurisdictions in which EDODs are applied promote industry

clusters linked by value-added production chains. These unique, innovative, economic and environmental factors influence location decisions associated with specific industries (Conway and Liston, 1976; Fitzgerald and Leigh, 2002; McMahan, 1976; Seldin and Swesnik, 1970; Swaminatan, 1998).

4. Location theory also encompasses spatial mismatch theory which raises the concern that some industrial plant placements might not be accessible to low-middle income residents (Ihlanfeldt & Sjoquist, 1989; Molotch, 1976; Wolf-Powers, 2005). This research applied these theoretical industrial, economic and spatial location constructs. The factors included in location theory will also involve the EDODs distant from the CBD, the closest arterial road, proximity to interstate interchanges or deep port transportation. In addition, bus/transit facilities are factors.

Characteristics of Overlay Districts

"Overlay districts" can be synonymous with "special districts" and "planned unit developments (PUDs)." However, zoning overlays may differ in that they are not a "standard," "as-of-right," or base zoning classification (Garvin, 2001). They are also not "floating zones" or "planned industrial/manufacturing districts" (Babcock & Larsen, 1990; Beuscher, Wright & Gitelman, 1976; Meshenberg, 1976).

Overlay zones are additional regulations that "superimpose a set of requirements" on base zoning (Meshenberg, 1976; Owens, 2008; Soule, Fitzerald & Bluestone, 2004). These regulations are sometimes optimal, negotiable and incentives. The EDODs makes it feasible for a community to more effectively permit or restrict development (Blakely & Leigh, 2010). This is

done by tailoring detailed regulation to specific development types and geography in a community (Blackwell, 1989). Moreover, the overlay districts can further industry agglomeration by encouraging the clustering of endogenous manufacturing firms at locations advantageous to production (Bluestone, 2009; City of New Philadelphia, OH, 2013; Marshall, [1890] 1961; Norman and Venables, 2003; UNIDO, 2009; Weber, 1929). Porter (2001) indicated that with respect to clustering, "firms can be encouraged to locate near each other through zoning, and the provision of easily accessible infrastructure."

Furthermore, zoning overlay districts can be confused with business improvement districts (BIDs), community improvement districts (CIDs), and enterprise zones (EZs). The zoning overlay districts are quite different in that they are not direct funding vehicles as are BIDs, CIDs and EZs. They are instead zoning (i.e., land use and development control) devices, administered by local government zoning staff per policy decisions of elected local legislative officials in accordance with state zoning enabling legislation (Babcock & Banta, 1973; Meshenberg, 1976; White, Bingham & Hill, 2003). In some states with planning acts, local zoning and overlay districts are selected as tools to implement the local government's comprehensive development plan (Markham & Roberts, 2006; The Maryland Office of Planning, 1995; Shenkel, 1964; Seattle PC, 2007).

A number of local jurisdictions have enacted economic development overlays. By adopting zoning overlays, however these localities may have changed policy options and increased administrative and fiscal costs (ARC, 2002; The M-NCPPC, 2004).

Overlays have become increasingly popular with local governments in the United States, as a means to focus economic development policies and improve traditional Euclidian zoning

(Babcock and Banta, 1973; Blackwell, 1989; Blakely and Bradshaw, 2002 Lerable, 1995; Meshenberg, 1976; Owens, 2008; Owens and Stevenson, 2007). Zoning overlay districts can address the dilemma of trying to balance the tension between "flexibility" and the desire for "certainty" in land-use regulation (Dyett & Bhatia, 2001). The overlay can promote quality growth concepts and provide a higher level of protection or quality in Euclidian zoned areas (Wiseman, 2010). For example, in some residential communities which have historically used private covenants (as do many industrial developments) and conventional zoning to address community aesthetics, the overlay districts have been applied.

Wiseman (2010) maintains that covenants can be replaced by overlays on individual properties. He argued that “rule bound” communities that applied extensive overlays, improve traditional Euclidian zoning requirements on existing properties. Wiseman found both overlays and private covenants to be somewhat lacking in flexibility, if extensive rules were applied which are hard to modify. Meshenberg (1976, p. 3) indicated the “wait-and-see” (as opposed to “as-of-right”) development regulations that are included via “flexible techniques,” such as overlays, floating zones, PUDs and conditional rezoning, provided improved negotiations and wider choices of criteria and standards for developers.

In addition, overlays can be used to encourage or discourage certain types of development. This can be done by providing flexibility in the application of environmental performance standards that are spatially limited, that affect multiple zoning districts within one overlay, and that can provide more discretion in politically sensitive areas (Blackwell, 1989; Jones and Bavoso, 1996; LeBeau, 2006).

Exploring clustering of endogenous manufacturing firms in overlay districts is important, given that, in the post-industrial global economy, access (i.e., networking) is as critical a factor as location (Friedman, 2005, 2008; Kasarda, 2011). Therefore, competitive future industry may be located in the most affordable and accessible spaces where electronic and personal communication interactions are possible. Retaining central city industrial space locations is essential in these instances. Furthermore, industry clustering through economic development overlays means co-locating firms in the same industry that are driven by common needs for inputs and access to markets (Bluestone, 2009; Soule, Fritzgerald and Bluestone, 2004; Porter, 2001).

Moreover, "industry-specific knowledge flows are required to support these firms, as well as the need for specialized skills" (Porter, M.E., 1990, p. 148). Some EDODs are being designed with clustering of industry in mind. For example, the maritime industry in Baltimore, MD; the technology-research industry in New Philadelphia, OH; and the sculpture-art industry in Prince George's County, MD all have clustering characteristics.

This literature search yields insight into the typology, application, and advancement of overlay districts (see Appendix A, Examples of EDODs, p.147).

The evolution of major land use-oriented overlays is reflected in Figure 2.2, below:

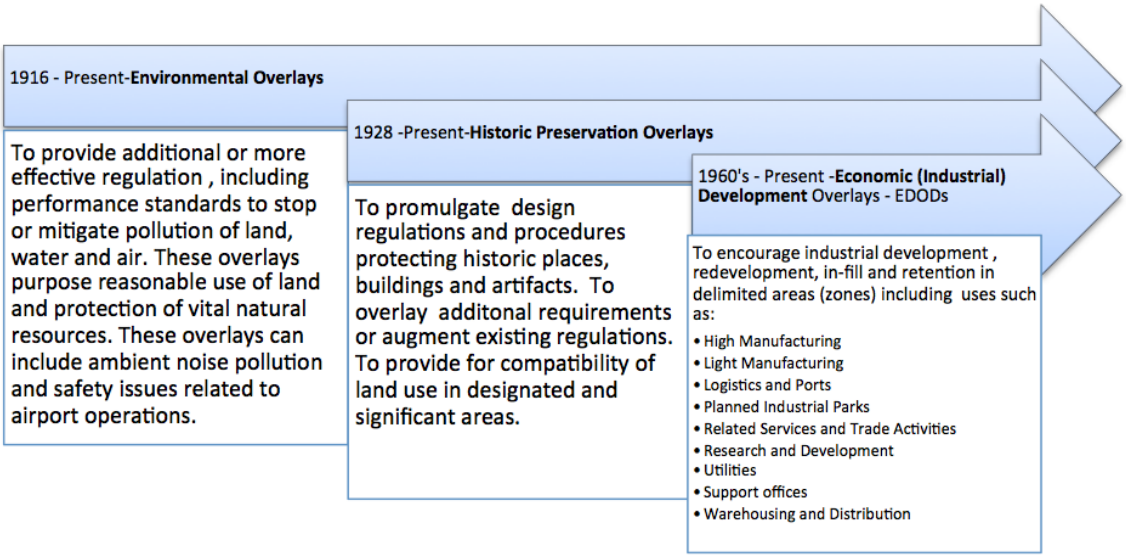


Figure 2.2: Evolution of Key Overlay Districts

Furthermore, this dissertation posits the theory that overlay zoning targets "land use control" through legal and regulatory program implementation. The theory links zoning policy and regulations with comprehensive plan objectives and economic development strategies. Theoretical constructs can become policies that lead to regulatory programs which make industrial site location and job retention more feasible. Moreover, based on local economic development theory, overlay districts modify Euclidian zoning to improve the physical and financial resources available to affect industrial attraction, retention and expansion (Blakely & Bradshaw, 2002; Blakely & Leigh, 2010).

In addition, land use theory describes the phenomena of classification, projection, allocation and distribution of industrial property in overlay districts. This study applies location theory governing industrial spatial characteristics, competitive advantage and site selection factors (Kaiser, Godschalk & Chapin, 1995; Porter, 1990). These theoretical constructs form the

basis for the conceptualization of Euclidian zoning and overlay districts, and their impact on the advancement of local communities and the economic base.

Some overlay districts control environmental land degradation within coastal zones, stream buffers, flood plains, and other sensitive areas where development could occur (Hamilton, 1986). Environmental overlays may include performance measures and incentives which can be administratively complex (Baker, Sipe and Gleeson, 2006). The application of the overlay to provide additional regulations and ameliorative controls in Euclidian zones can be of benefit to communities. New Urbanists have roundly criticized Euclidian zoning as resulting in land use segregation and contributing to phenomena such as sprawl and dependency on automobiles (Matthews & Turnbull, 2007).

In some communities (e.g., Prince George's County, Maryland), overlay zones attempt to provide "flexibility" when the intent is to permit more density and mixed land uses, revitalize and redevelop properties, and provide protection for the natural environment (GDCA, 2004; The M-NCPC, 2004). Overlay districts focus on development regulation, which connects these objectives with Euclidian-type development controls. For example, ineffective Euclidian zoning promotes land use patterns that lack needed densities, and forces residential areas away from key employment centers (Shenkel, 1964).

Euclidian zoning and overlay districts have evolved in tandem. Overlays diverged from Euclidian zoning when it became increasingly restrictive and inflexible (ARC, 2007; Meshenberg, 1976). Ironically, Euclidian zoning was historically considered an appropriate means to protect the health, safety, welfare, and property values of single-family communities (Blackwell, 1989; Wiseman, 2010). Traditional zoning has since proven inconsistent in

providing these protections for reasons including, permissible controls allowing for encroachment of incompatible adjacent land use, rezoning actions, inappropriate conditions of zoning and variances (Babcock & Larsen, 1990;Fischel, 2001 Jones & Bavoso, 1996). In addition, conventional zoning continues to be excessively restrictive with respect to realizing appropriate design and development opportunities within local jurisdictions (Jones & Bavoso, 1996). Overlay districts and conventional zoning ordinances may achieve unanimity in time, if more creative and universally acceptable land use controls can evolve (Dyett & Bhatia, 2001; Soule, Fritzgerald, & Bluestone, 2004).

Moreover, the overlay district may yield the desired changes in the built environment. For example, more jobs are needed in the manufacturing sector to create higher paying positions so that living wages can be provided to middle- and lower-class workers. Service industry workers earn lower wages overall than manufacturing jobs, and because of the loss of many industrial developments from inner cities to the suburbs in the U.S., beginning in the 1940s (in addition to the overall restructuring of industry in the 1960s), many cities became less competitive (Fernandez, 2006; Fitzgerald & Leigh, 2002; PCAST, 2011). Manufacturing facilities continued to be concentrated in the suburbs (Fitzgerald & Leigh, 2002; Howland et al., 2010).

EDODs promote industrial development, redevelopment, and business retention programming, all of which are necessary to sustain industrial growth in urban centers. In many suburban locations throughout the U.S., communities have established a clear vision and direction to carry economic development plans into the future. Jurisdictions should also use a

planning structure that includes the comprehensive and economic development plans, and should enhance Euclidian zoning using EDODs (See Figure 3, EDODs Interrelationship below).

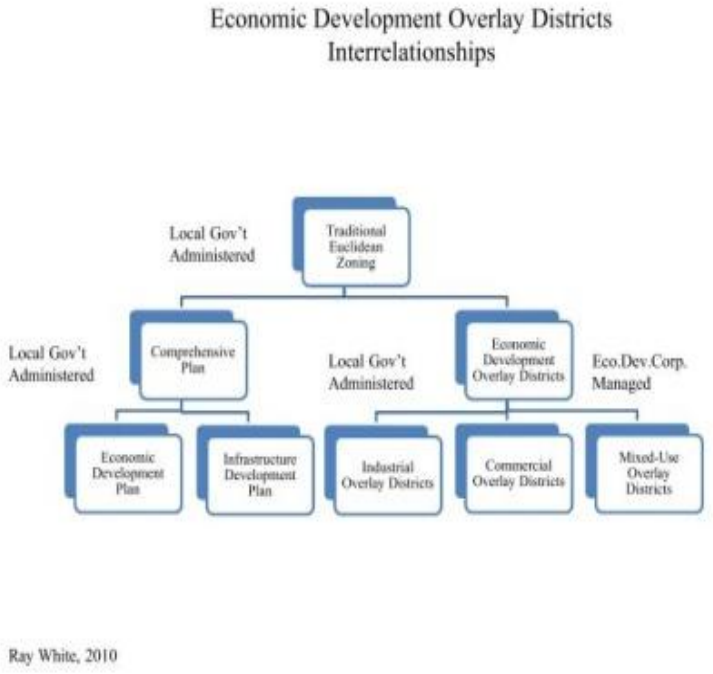


Figure 3: EDODs Interrelationship

Application of Zoning Overlay Districts

In recent years, many communities have used overlay districts, not merely to supersede Euclidian zones and address environmental, historic preservation and design controls, but to extend the project development review requirements and leverage private capital to promote business and equitable employment opportunities (ARC, 2002, 2007; Talen and Knaap, 2003). The cyclical and recessionary nature of national and regional economies in the U.S. has prompted local communities to consider EDODs as a means to spur sustainable economic growth (Blakely and Leigh, 2010). This type of application of zoning is meant to modify existing

ordinances to make industrial-oriented sites, especially in urban neighborhoods, more viable for businesses. Jurisdictions use EDODs to foster additional business by affecting regulations and incentivizing development to attract more uses into specific areas or zones (See Appendix-B, EDOD Process, p. 150).

Overlay zones are innovative techniques or special purpose districts (Beuscher, Wright and Gitelman, 1976). They are a part of a local zoning ordinance, proposed to give more flexibility to Euclidian zoning. They are regulatory tools used when a local government's general zoning and development standards do not address a sub-area's unique issues and conditions (Solnit, 1988). Zoning overlay districts can be established as a permanent, interim and/or temporary land-use regulatory program.

EDODs are becoming more important as localities in the U.S. continue to urbanize and struggle to keep their manufacturing sectors viable. This is because zoning as a land-use control and as a growth facilitation or management device is limited (Meshenberg, 1976; Custer, 2007). It should be pointed out that, in some cases, "special-purpose overlay districts" can provide land-use practices, which "change the nature" of industrial areas (City of Seattle, 2005, p. 15). Applying zoning overlay districts can result in legal challenges of "taking" industrial uses from property owners (Allingham v. City of Seattle, 1988). In other cases the "special-purpose overlay" or "industrial sanctuary zone" can ensure that residential uses are "expressly prohibited" from encroaching upon industrial development.

EDODs are designed to regain the competitiveness of traditional industrial zoning by providing specific industrial bulk and use regulations as geographically targeted incentives (e.g. capital improvements, intensity and density bonuses, employee training programs and bond

financing), to protect them from losses due to regional and national economic downturn and environmental degradation (Blakely & Leigh, 2010; Bleakly, 2007; Jones & Bavoso, 1996; Meshenberg, 1976). One argument today is that cities do not do enough through zoning to protect industrial sites (Soule, Fitzerald & Bluestone, 2004; Central City Association et al., 2006). A counterargument is that the cost of industrial land in some cities is $125 per square foot (PICD, 2010). However, to make an industrial development feasible a prerecession analysis indicated, a parcel must be valued equal to or less than $45 per square foot to attract industrial users (CBRE, 2007). Furthermore, the reason for the high cost of inner-city industrial property is due not only to zoning, but also the following: (1) high taxes, (2) high rents, (3) traffic congestion, (4) poor infrastructure, (5) small parcel sizes, and (6) obsolete buildings (CBRE, 2007).

Some cities like Los Angeles have devised industrial development strategies that seek to maintain high paying industrial jobs, encourage industrial development, and strengthen the local tax base (CBRE, 2007). By contrast, some local policymakers take the position that in a post-industrial economy, their jurisdiction will never realize past levels of industrial absorption of space. They see little need to set land aside, especially for manufacturing (Rast, 2005). Therefore, either a mixed-use approach, or redevelopment to include non-industrial or non-manufacturing uses, is considered more fiscally and economically practical (Walsh, 2010).

In an attempt to address these and other issues, and to maintain viable industrial development parcels, some local jurisdictions have proposed and/or devised (EDODs) (BCDP, 2010, Seattle Planning Commission, 2005, 2007). EDODs are sometimes located in declining urban areas (e.g., “Rust Belt” localities), and in communities which contemplate redevelopment,

infill, and the reuse of obsolete industrial properties. EDODs are also proposed to foster new, innovative industrial uses and to improve the effectiveness of Euclidian zoning. However, location notwithstanding, some industries will naturally fail because, as Joseph Schumpeter ([1934], 1947) indicated, the "creative destruction" of certain industries will take place as businesses become obsolete and are destroyed (Blakely & Leigh, 2010; Barro & Sala-i-Martin, 2004). Therefore, it may be able to facilitate the rise new advanced industries to replace them.

Legal and Administrative Context of Overlay Districts

Overlay districts are extensions and modifiers of local conventional zoning. However, overlays derive unspecified power from state-enabling legislation (Jones & Bavoso, 1996; Meshenberg, 1976). Most overlay ordinances clearly indicate, in terms of legal purview, what happens if conflict ensues with respect to overlays versus the use of underlying regulations. However, the overlay district's legal context depends in a large measure on how the actual ordinance is drafted (Garvin, 2001; Lerable, 1995).

The U.S. Constitution does not specifically enumerate land use regulation as a federal power; therefore, it is an "inherent" state power. States have delegated this power to local governments to one degree or another. Local jurisdictions that pass legislation regarding overlay districts must adhere to the 5th and 14th Amendments to the U.S. Constitution (i.e., the "taking" and "due process" clauses, respectively) by protecting property rights, adopting a comprehensive plan, allowing reasonable use, and holding public hearings and meetings (Arendt, 1994; Lerable, 1995). It can take several years to develop an overlay ordinance (Fitzgerald & Leigh, 2002) due

to community involvement with local staff and representatives to build a consensus on the acceptance of overlay districts. The process might take some time because of due process hearings and the time needed to resolve other issues (Olson, 2008; Wiseman, 2010).

Additionally, overlay districts can create more administrative costs than Euclidian codes due to overlapping regulations (Lerable, 1995). By incrementally adopting a small number of overlays, a community can better manage public opposition to an overlay's enactment (Pace, 2007; ARC, 2006). Citizens may react negatively because they feel community staff has too much power to make administrative decisions. The public may also engage late in the overlay zoning process, or simply not understand the new ordinance and its complexities (ARC, 2002; Lerable, 1995).

The administrative staff of some local governments experience increasing workloads due to the rapid expansion of overlay districts. They must process additional regulatory requirements to implement the overlay ordinance. In addition, more staff expertise is required to complete complex negotiations or to resolve conflicts with developers and community representatives (Lerable, 1995). This includes interpreting the overlay ordinances to ensure that the zoning considers "political concerns and public acceptability" (ARC, Overlay Districts, 2002, p. 5).

Overlay Districts and Comprehensive Development Plans

There is consistent debate over the interrelationship between comprehensive development planning and land development regulation (Arendt, 1994). Overlay districts can logically link zoning and planning functions, but the debate is fundamentally over whether or not jurisdictions

must devise and implement development regulation "in accordance with a type of policy plan" (Meshenberg, 1976, p. 13). Communities should have a strategy through which the relationship of the comprehensive plan to regulations is clear (Barr, 2000).

Comprehensive planning received a major boost in 1928 with the passing of the Standard City Planning Enabling Act (SPEA). However, it was not until the 1960s and 1970s that many communities began to use comprehensive planning effectively to establish a vision and to lay out goals and specific objectives. Today, communities that have adopted Euclidian zoning also have comprehensive plans, which is what they base their zoning ordinance on. There is a clear relationship between comprehensive plan policy objectives and the purpose, need, and intent of zoning overlay districts (Olson, 2008; Jones & Bavoso, 1996; Meshenberg, 1976). Comprehensive development plans have become a basis for the initiation of overlay districts, as they are important to the physical build-out of communities, and are linked conceptually and functionally to the comprehensive plan (GDCA, 2004).

Fostering Economic Development

Interest in overlay districts for economic development is increasing in communities throughout the U.S. (Garvin, 2001; Meshenberg, 1976). However, how broad the interest is has yet to be assessed. There is a need for research to focus on specific, overlay-oriented economic development issues (Babcock & Banta, 1973; Cook, 1980; Rahenkamp & Hengst, 1988). Many researchers see overlay districts as an effective economic development investment tool (GDCA, 2004; Lerable, 1995; Meshenberg, 1976). However, at present, there is no nationwide assessment

of the use of EDODS. It is unclear as to whether communities provide enough incentive, i.e., public contributions of needed infrastructure, tax abatement and possible industrial revenue bond issues, to make overlays work. In addition, EDODs may be effective where land costs are influenced through negotiated incentives (e.g., and/or where the land market is expanding or depressed by market conditions (Blakely & Leigh, 2010; Colwell & Scheu, 1988; Musil, 2007).

Moreover, local officials expect overlay districts to meet pressing requirements for improved economic growth and equity; yet the literature suggests that geographically-based incentives may have questionable, positive influences (White, Bingham, & Hill, 2003). Some economic development overlays may work best by including non-financial incentives, such as freeing regulatory constraints and applying floor area ratios and density bonuses (Colwell & Scheu, 1988).

The overlay district's purpose can be narrow or broadly defined. When an overlay district is a tool for economic development, it can address potential opportunities for industrial and non-industrial greenfield development, grayfield development, and brownfield re-use and re-development projects (GDCA, 2004; The Maryland Office of Planning, 1995). In more traditional commercial revitalization efforts, an overlay addresses urban road corridor concerns (Garvin, 2001). Less-developed or declining road corridors require more extensive economic development attention, and within road corridors, jurisdictions must increase their mixed uses. These road corridors exist in inner city zones, inner-ring suburbs, and outlying areas (Lee, 2005). In addition, mixed income residential developments are encouraged; however, growth-oriented communities aggressively avoid "strip commercialization" (GDCA, 2004, p. 1; Wiseman, 2010).

Overlay districts can add additional economic elements geared toward focusing a locality's resources. Concerning economic development, overlays create the potential for a more equitable distribution of investment by reestablishing industrial-related employment at various wage scales (Blakely and Bradshaw, 2002; Hamilton, 1986). Communities can realize the redistribution of resources across a region and create more regional equity. Therefore, the public purpose of EDODs includes improving the equity position of communities (ARC, 2002, 2007; Jones & Bavoso, 1996).

Each EDOD has a problem-specific focus. EDODs are designed based on the unique problems and circumstances of each political jurisdiction. In other words, no two EDODs are precisely the same. Instead, each overlay is based on study results that have been found to clearly identify the problems the overlay district is designed to address. EDODs are also based on the vision, goals, and objectives established for addressing economic development in each specific jurisdiction (Meshenberg, 1976; Jones and Bavoso, 1996).

Current Status of Overlay Districts

Some communities use overlay districts to plan, manage and shape development, as developers seek to build within established areas (Blakely and Leigh, 2010; Garvin, 2001). This research contributes to understanding how many negotiations between developers, government representatives, and citizens can result in creative use of overlays to solve problems (Campbell & Fainstein, 2003; Wiseman, 2010,). Jurisdictions may also apply overlays to facilitate industrial development retention in the face of new non-industrial mixed-use and mixed-income

development design concepts (ARC, 2002). Overlays include definitions, statements of purpose and/or intent, permitted and prohibited land uses, and development standards, which can specifically encourage various types of developments. As the proliferation of overlay districts continues to implement economic development strategies, one cannot avoid the legal and political realities of its use (Meshenberg, 1976; Rahenkamp & Hengst, 1980).

CHAPTER 3

METHODS AND PROCEDURES

The methodology and research design of this study focuses on the evaluation of economic development overlay districts. It compares measures, given available data, within each area and by correlating variables to discern the presence or absence of the overlay district. Data such as overlay location (i.e., distance to CBD), industrial space retention, levels of wages paid by firms, number of industrial-oriented jobs retained and/or created - household income, population, and population change was considered (Musil, 2007).

Moreover, the research uses the study survey, phone and in-person interviews to discern whether there was a clear link between EDODs and planning and economic development policy objectives of localities (ARC, 2006; MOP, 1995; Westlaw, 2007). Jurisdictions indicated their policy objectives in documents, such as comprehensive development and/or economic development strategic plans. If there is a link between EDODs and a jurisdiction's planning documents, this provides evidence that there is an attempt to program the use of EDODs to implement economic policy objectives.

Research Design

This research describes the extent to which economic development goals, specifically those designed to strengthen the community's industrial base, are being pursued. It identifies costs and benefits of using the EDOD approach. The research question focused on whether EDODs (industrial-oriented) effectively supersede Euclidian zoning and facilitates the retention and/or creation of industrial jobs. The research design requires a systematic mixed methods

approach to determine how the process of economic overlay districts was undertaken. This means considering not only why an overlay district was adopted, but also if the overlay's regulation and incentives fit in the context of comprehensive, over-arching strategies that follow policy objectives to improve economic development outcomes. The research design for this dissertation includes the following components:

Conceptual Case Study Model

The primary method used in this research was a cross-sectional multiple case study (Gaber & Gaber, 2007; Trochim & Donnelly, 2008; Yin, 2003). The research model is structured to consider how economic development oriented overlay districts have been used and how this compares to what the literature review says they are good for. (see Figure 4, Schematic of Research Study Design p.49). The model will also compare demographic, socioeconomic and descriptive variables from 1960-2010, using U.S. census data, regional and local databases, U.S. Department of Labor–Bureau of Labor Statistics data, and data from other sources to provide a comparison of the characteristics in each community with an overlay district and a non-overlay district.

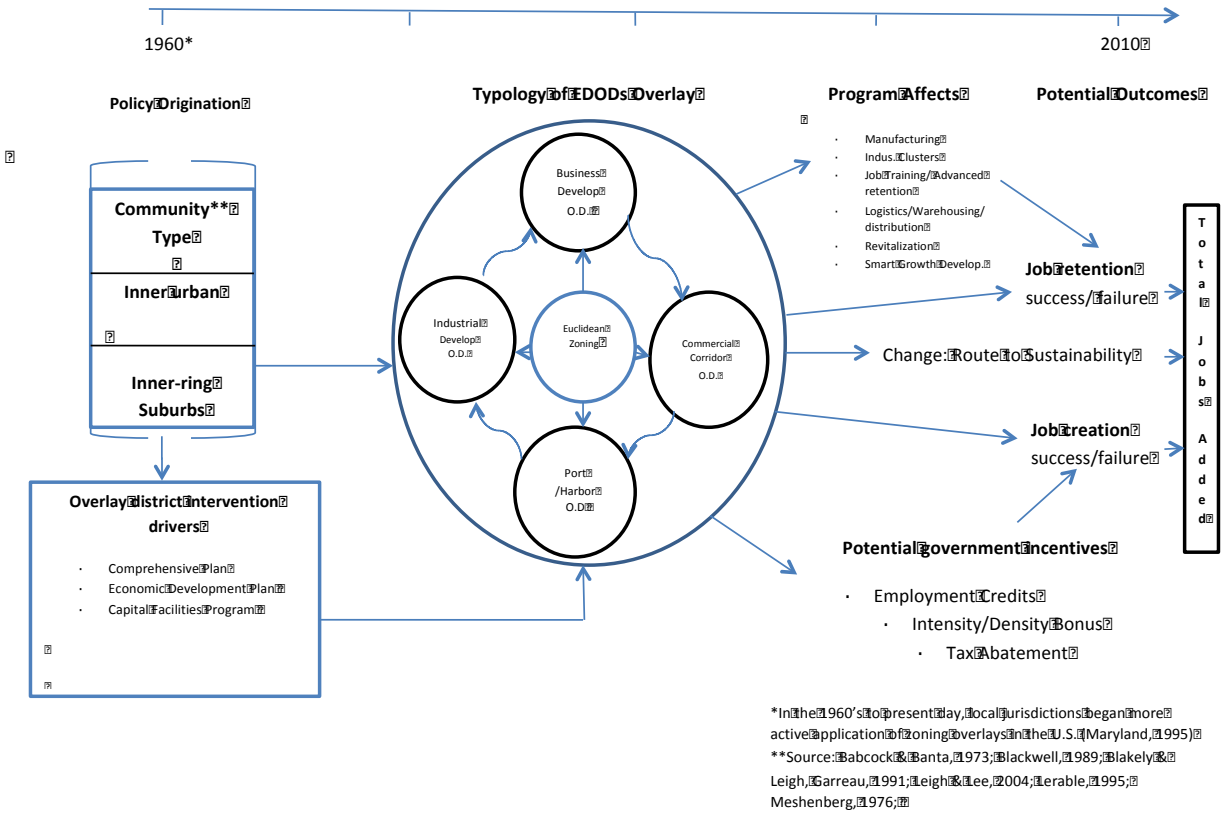


Figure 4: Schematic of Research Study Design Elements

Operationalization of Conceptual Model

The study employs mixed research methods, including internet research, a multiple case study analysis, a descriptive statistical analysis, a survey analysis, and field research or reconnaissance. The multiple case study method will be exploratory and descriptive (Yin, 2003; Gaber & Gaber, 2007; Patton & Sawicki, 1986). Moreover, the "operationalization" (i.e., testing/measuring variables) of the conceptual model is determined through consistent literal and theoretical replications established by the multiple case studies as indicated (Trochim & Donnelly, 2008; Yin, 2003).

Unit of Analysis

The unit of analysis for the qualitative multiple-case study comparison is the overlay district within a locality. The unit of analysis for the quantitative analysis is the U.S. census tract data, aggregated to the boundaries of the city. These units of analysis permitted the summarization and description of the case study locality's relative differences and contextual events (Babbie, 2001; Yin, 2003). Additionally, industrial development acreage and/or square footage is calculated within the overlay area as compared with the study locality as a whole.

This study classifies industrial activities as defined by the North American Industry Classification System (NAICS). Moreover, the study uses the "production, distribution, and repair (PDR)" definition which Howland (2011) terms "a more expansive definition" of industrial activities. It is also appropriate for suburban industrial districts, and easier for the general public to comprehend. Subsector designations represent industrially-zoned land used for utilities, construction, manufacturing, transportation and warehousing (logistics), distribution, and other industrial-related businesses. See Figure 5, EDODs Production, Distribution and Repair Sectors NAICS chart, below:

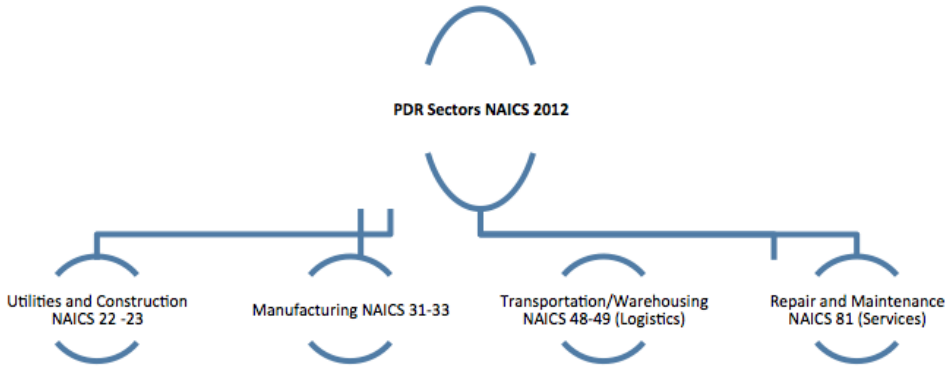


Figure 5: EDODs Production, Distribution and Repair NAICS

Source: U.S. Bureau of Census-Business and Industry 2012 NAICS Definition; U.S. Small Business Administration, Small Business Size Standards, 2012

Appropriateness of Research Model

The study first identifies and selects communities which use overlay districts for industry-oriented, economic development and redevelopment purposes. The focus is on key growth or declining cities/counties within the U.S. The study then performs a multiple case study comparative analysis of key communities with industrial-oriented overlay districts, as compared to selected non-industrial-oriented overlay districts jurisdictions.

Some local communities have planned industrial districts (PID) or planned manufacturing Districts (PMD), and economic development overlay districts (EDODs) working simultaneously. Chicago, Illinois; Milwaukee, Wisconsin; New York City, New York; Philadelphia, Pennsylvania; and Seattle, Washington, are such jurisdictions. These are cities that have also implemented mixed use/commercial EDODs. These communities were surveyed to ascertain the

relationship of overlay districts and Euclidian-based zoning in there economic development strategies.

Sources of evidence were documentation, archival records, interviews, and direct observation (Tellis, 1997; Yin, 1994). Database sources available for evidentiary support in this research include:

- Brookings Institute's State of Metropolitan America 2010 database;
- City and county business and property tax and licensure records;
- MunicipalCode.com (MuniPRO) Local Ordinance Database;
- North American Industry Classification System (NAICS);
- State, regional, and local government agency databases;
- U.S. Department of Commerce, Bureau of Economic Analysis databases and comprehensive economic development strategies (CEDS) requirements;
- U.S. Census Bureau 2002 Economic Census: Geographic Area Series Schedule
- U.S. Census Bureau longitudinal and local level data, 2000-2010 (including the Decennial Census and American Community Survey (ACS));
- U.S. Census Bureau-Center for Economic Studies (CES)-Longitudinal Business Database (LBD), 1976-2009, and 2010 County Business Patterns
- U.S. Census Business Dynamics Statistics;
- U.S. Department of Labor, Bureau of Economic Analysis, Bureau of Labor Statistics-National Compensation Survey (NCS);

- U.S. Small Business Administration – Small manufacturers and entrepreneurs and HUBZone data references, Table of Small Business Size Standards 2012 (NAICS codes).

The study also analyzes economic data, and local government databases to operationalize the conceptual model. In addition, the use of a survey instrument and multiple case study analysis (including limited field reconnaissance and site visits) supported of the research method. In-person and phone interviews were also extensively completed. The interviewees include government agency personnel and private sector development professionals who gave their expert perspective regarding EDODs issues. This effort provides a descriptive analysis and comparison of the elements of each overlay district studied.

Industrial-oriented overlay districts can include commercial uses (i.e., office, lodging logistics, and service-oriented purposes). These "commercial uses" compliment and are sometimes located within an industrial area. Commercial uses were built on underused vacant industrial land and/or on redeveloped parcels in some overlay districts (Baltimore, 2013; PIDC, 2010; Philadelphia City Planning Commission (PCPC), 2007). In addition, demographics, employment trends, and general business growth statistics within EDODs are studied. The research evaluates these variables. The variables were analyzed to determine the degree of Euclidian zoning influence and to show which factors are related to the application of EDODs. However, no causality can be found through this data analysis.

CHAPTER 4

MIXED METHODS ANALYSIS

A mixed methods approach is central to the methodology in this study. This study is largely a qualitative study undergirded by a quantitative survey analysis. The mixed method research approach includes five triangulated components: internet research, interviews, survey analysis, and multiple case study analysis (See Figure 6, Mixed Methods Analysis, below).

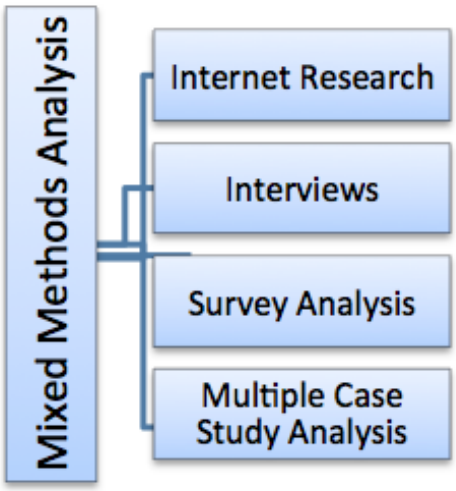


Figure 6: Mixed Methods Analysis

The result of this methodological approach is to address the research question: *Do overlays protect industrial land and jobs better then Euclidean zoning and does the protection facilitate greater confidence in industrial investment?* Mixed methods are the appropriate methodological approach for this study because this research can use both qualitative and quantitative tools to perform a more robust analysis (Creswell, 2009; Gaber & Gaber, 2007;

Trochim & Donnelly, 2008; Mukhija, 2010; Yin, 1994). Moreover, primary data must be generated because little historical or legacy data is available.

This approach was chosen because it accommodates the study's research question The mixed methods research approach includes various research methodologies designed to consider multiple data slices and use "methodological triangulation" (Gaber & Gaber, 2007). This refers to the application of different methods to address and analyze specific question (Gaber & Gaber, 2007). The intent here is to use a between-method investigation technique that combines dissimilar methods to examine a particular situation. As an example, the study uses economic data, census data, Internet research, phone interviews, and a survey analysis to acquire statistics to adduce and describe the reasons for the choice of locations of industry within specific EDODs. The study simultaneously applies a largely qualitative strategy and not a quantitative empirical analysis, because substantive data could not be generated.

Data Requirements, Sources and Collection

Data collection follows a mixed methods process for this dissertation and consists of the following elements:

Initially, available data sets associated with prior research of zoning overlay districts in the United States were sought. Universities, federal (i.e., gathered from the U.S. Census, EDA, HUD, EPA) state and local government agencies, quasi-private membership research institutions (e.g., American Planning Association, Urban Land Institute and the Lincoln Institute) private consultants, economic development agencies and other sources were canvassed for data

collection. The U.S. Census Bureau data included Manufacturing Geographic Area Series-2007-Economic Census (by NAICS) and was used to determine which states in the United States had the establishments which were mainly small businesses with 1 to 19 employees and those with establishments with 100 employees or more. This helps to identify communities with small business entrepreneurship activity and those with the larger manufacturer corporate identity.

Additional information (Smith and Smith, 2010), and is used to identify communities which suffered urban decline primarily between 1950 and 2000. This data later helps to target communities where economic development overlay districts may be applied to encourage urban redevelopment and new growth opportunities.

Secondly, since no relevant data sets were available except that of the Municipal Code Corporation (Municode); the Municode's 2700 client database was used to identify local communities with municipal codes, and zoning ordinances with potentially relevant overlay districts for this research. Approximately, 200 municipal codes were randomly selected. Each locality's zoning code was researched on the web to find whether or not it had overlay districts which were economic development oriented.

Thirdly, an extensive Internet research effort was undertaken using the Boolean keyword approach, to identify collect and analyze all relevant economic overlay districts. Each relevant ordinance is reviewed and entered into the study database.

Fourthly, a survey instrument was developed in accordance with the Georgia Tech Internal Review Board (IRB) requirements and using the survey monkey program. Each of the over 200 potential respondents identified as local communities with economic development and/or industrial oriented overlay districts, were sent survey e-mail invitations to complete a delivered survey instrument.

Fifthly, available documentation and data regarding industrial growth and development within the study municipalities and their overlay districts was collected and reviewed. Phone interviews were conducted with planning and economic development personnel and those communities with economic development oriented overlay districts.

Lastly, the sixth key case study overlay districts communities, which are the focus of this research, were interviewed; data was collected and processed to support this research.

Survey Data Base

Municode dashboard data is used. The data set is a proprietary private sector compilation of local codes and zoning ordinances in the United States. The method for collecting secondary data in this dissertation is based on the Municipal Code Corporation database (MuniCode/MuniPro). This is a local ordinance codification service that has an existing client base which represents approximately 2, 700 online local government codes (see Municode Data Base, Appendix D, p.181). The data file is searchable (i.e., industrial overlays identifiable) through its built-in dashboard and Boolean search engine. EDODs were extracted as a subset (random sample) of the universe of zoning ordinance in local codes of all fifty states within the United States.

The identified localities which have EDODs were selected to receive a survey instrument designed to gather detailed data. This data facilitated comparative and descriptive analysis regarding the overlay district application.

Data collected through the survey (i.e., Survey Monkey software) analysis is available to support the qualitative case study method. The data analysis used Microsoft Word and Excel software applications. Fieldwork and reconnaissance was conducted in selected case study localities where possible.

In addition, available local agency policy documents and plans related to land use planning and economic development is analyzed through content analysis. This furthers the understanding of policy implications associated with Euclidian zoning and overlay district application. Finally, available recorded minutes of selected local government policy board meetings are studied to further understand policy decisions regarding Euclidian zoning and overlay district application.

Secondary Data Collection

Secondary data collection techniques are used to supplement the case study and survey analysis. This data provides more detailed background to the characteristics of these localities. The secondary data includes government research, data and documents (U.S. 2000 Census; 2002 Economic Census; 2008 American Community Survey (ACS) data), STATS America (U.S. Department of Commerce Economic Development Administration and Indiana University, 2011), local economic development agency organizational material, official reports, pamphlets, and websites.

Survey Analysis

The primary statistical data collection component of this research is the execution of a 150-200 participant random survey instrument. It led to a quantitative analysis result. The quantitative survey analysis generates case study statistical evidence by correlating variables. Moreover, through the introduction of relevant variables, the study attempted to obtain a precise numerical value for key variables (e.g., jobs created/retained). In addition, the study used a standard statistical approach to derive descriptive statistics, and to relate this statistical output to the purpose and intent of the stated policy options in the case study policy documents. The initial phase of this research included the execution of a survey instrument (Yin, 2003). The data generated from this survey was used to provide a strong qualitative descriptive reference of how and why overlay districts are being implemented for economic industrial-related purposes. The survey data was used to support case-study analysis during mixed methods/methodological triangulation (Talen & Knaap, 2003; Gaber & Gaber, 2007).

The study uses a proprietary database consisting of a population of over 2500 local government zoning codes (i.e., Municipal Code Corporation files), which yielded a stratified sample survey (i.e., a subset of 150-200) randomly selected participants (see, Municipal Code Data, Appendix Table D, 4.2,p.168). The dataset is supplemented by an internet search for economic development zoning overlays proposed by public agencies, authorities, and private sector industrial development firms and organizations, including (see Examples of Selected Industrial Related Overlay District-Purpose and Intent in Appendix D., p.168):

- City, county, regional planning, and government agencies;

- American Planning Association (membership); and

- Various State Economic Developers Associations (membership).

The EDODs data analysis results have been generalized to the local planning and economic development agencies in the United States (Creswell, 2009; Diem, 2004; Gaber & Gaber, 1997; Healey, 2005, 2010; Yin, 2003). The following EDODs exploratory variables are used to link to the dissertation question and quantify the measures and variable characteristics used to relate case-study overlays to each other and to generalize the overlay districts construct (see Table 2, below):

Table 2

EDODs Exploratory Variable Characteristics

A.	Variable Characteristic (Key Indicators)*	Measure of the Variable	Type of Variable	Variable Name	Source
1	Employment in EDODs	No. of Industrially-oriented jobs in the EDOD	Interval	Emp	Survey/secondary data/web/interview
2	Land Area	No. of Acres located in EDODs	Interval	Lnd	Government/ /survey/field reconnaissance
3	Industrial land use	No. of acres used/ zoned industrial in EDODs	Interval	Indz	Government/publications/survey/web
4	Overlay Location	Distance to regional hub or CBD (Resource access)	Interval	Rgl	Government/publications/survey
5	Population	No. of persons/ in the locality	Interval	Pop	Government/publications/web
6	Wages	Average wage paid by firms in the EDODs	Interval	Wag	Government/publications/survey
B.					

Table 2 Continued

1	Comprehensive Plan	Adopted Comprehensive Development Plan in locality	Nominal	Cdp	Survey/government/ publications literature/web
2	Econ. Development Plan	Adopted Economic Development Plan in locality	Nominal	Edp	Survey/government/agency publications/org. literature/web
3	Zoning Ordinance	Adopted/updated Euclidian/Overlay Zoning Ordinance	Nominal	Ezo	Survey/government publications/ org. literature/web

*Key variables necessary to conduct analysis.

Internet Research

An extensive internet research was undertaken to discover the available Euclidian-based zoning and overlay districts archives, applying Boolean logic queries. This online research process provided invaluable data regarding industrial-oriented economic development overlay districts. The process discovered and retrieved Euclidian-based zoning ordinances and associated overlay districts. This information was downloaded, categorized and analyzed to shed light on the purpose, characteristics and functions of local zoning overlays. The data compiled complements the information resulting from survey analysis methods.

In addition, internet research provides a substantial amount of data to supplement the research sample survey (Dochartaigh, 2002). This effort yields additional data for some of the surveyed local communities. It also provides supportive information to clarify the application of overlay districts for economic development purposes. The internet is used to locate U.S. Census data and EDA data, inclusive of other sources, which yields data files and databases of economic development statistics. The study utilized demographic and business development information that is important to understanding how overlay districts are allocated.

Interview Analysis

Phone and/or in-person semi-structured interviews were conducted to gain detailed operational information from key public and private sector planning and economic development personnel (Gaber and Gaber, 2007; Yin, 2003). These personnel are charged with managing the implementation of EDODs and Euclidian zoning regulations within the study jurisdictions. Specific questions used to standardize responses were asked of interviewees as indicated in the survey instrument (see Appendix C, p.158). Interview questions include finding whether the jurisdiction has chosen to use economic development overlay districts; does the overlay lead to better development and design, and are the overlays effective in maintaining and growing jobs? Additionally, the study communities are asked to give indications or assessment as to how they know this change has been affected. A protocol for the phone (< 20 minutes) interviews was submitted and approved by the IRB. The outcome of these interviews is included in the analysis of the qualitative data using Microsoft Excel Statistical Package tools.

Case Study Analysis

The qualitative multiple case study analysis is derived from a careful selection of specific case study communities. Key communities which have adopted industrial-oriented overlay districts were selected through predetermined criteria, which identified the variables that are important in exploring and describing the characteristics of the overlay district. The study collects data relative to the overlay districts' relationship with underlying Euclidian zoning, the comprehensive plan, and the economic development strategic plan in each case study's

jurisdiction. This data includes information related to infrastructure such as roads, water and sewer capacity, taxes, incentives, and available economic indicators (See Appendix C, p. 158, Survey Instrument).

Several case studies drawn from the Municode/MuniPRO database and the internet research were developed and analyzed (See Fig 7, Distribution of Selected Districts by Locality and State (Map), below).

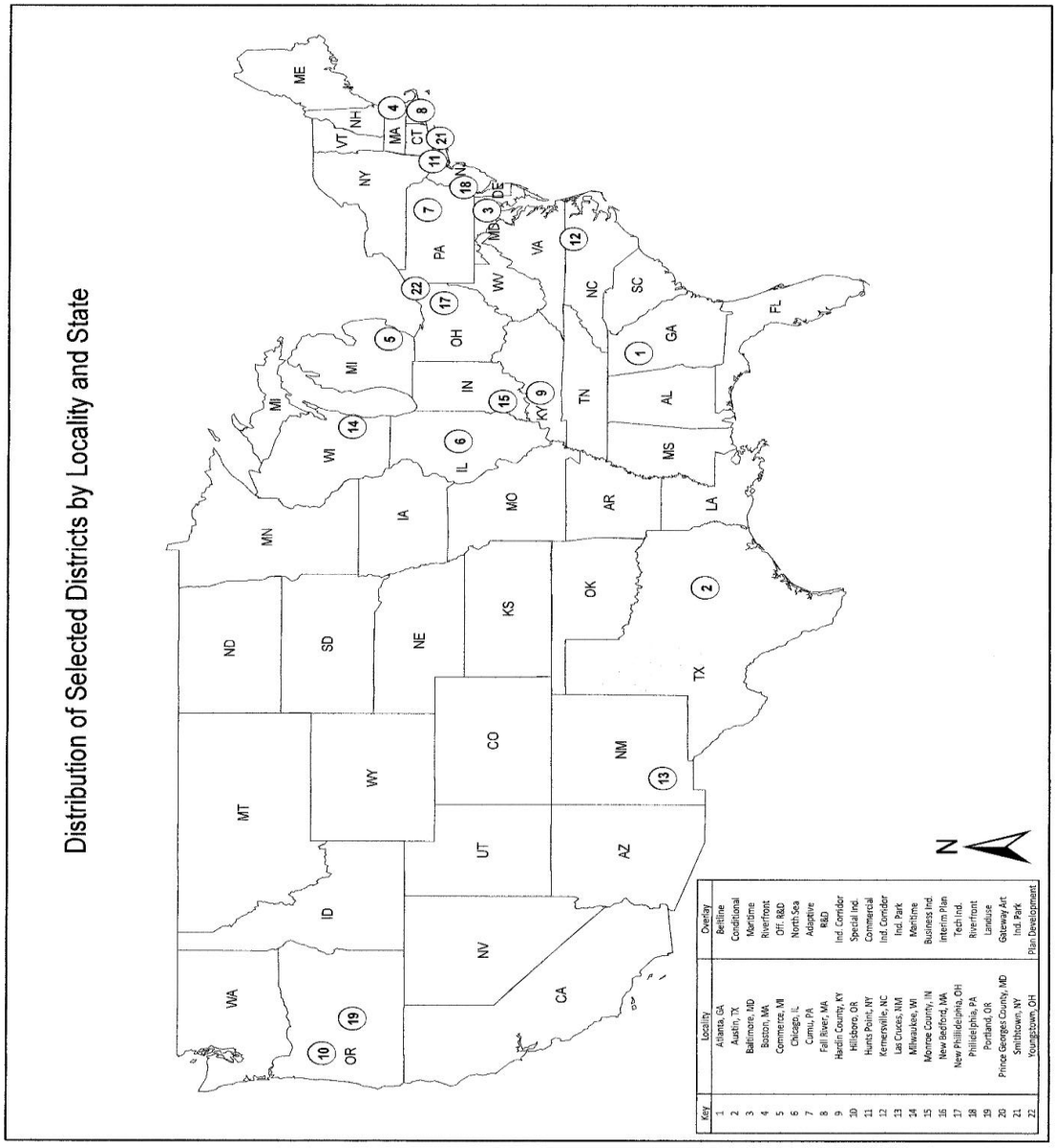


Figure 7: Distribution of Selected Districts by Locality and State

These case studies provided valuable information which was used to answer the research question of the study. The case studies were considered in a matrix relationship between communities (See Fig 8 Case Study EDODs Matrix, below). The relationship describes 1) the state of a community that has industrial-oriented overlays and is a "growth" jurisdiction; 2) a community which has no industrial overlays" and is a "growth community;" 3) a community which "has industrial-oriented overlays" and is a "no growth community;" and 4) a community that "does not" have overlays, and is declining or has no growth." The structure and flow of the case-study design for this research is shown in Figure 9.1- Industrial-oriented economic development overlay districts (EDODs) and figure 9.2- Non-Industrial-oriented overlay districts research case study method:

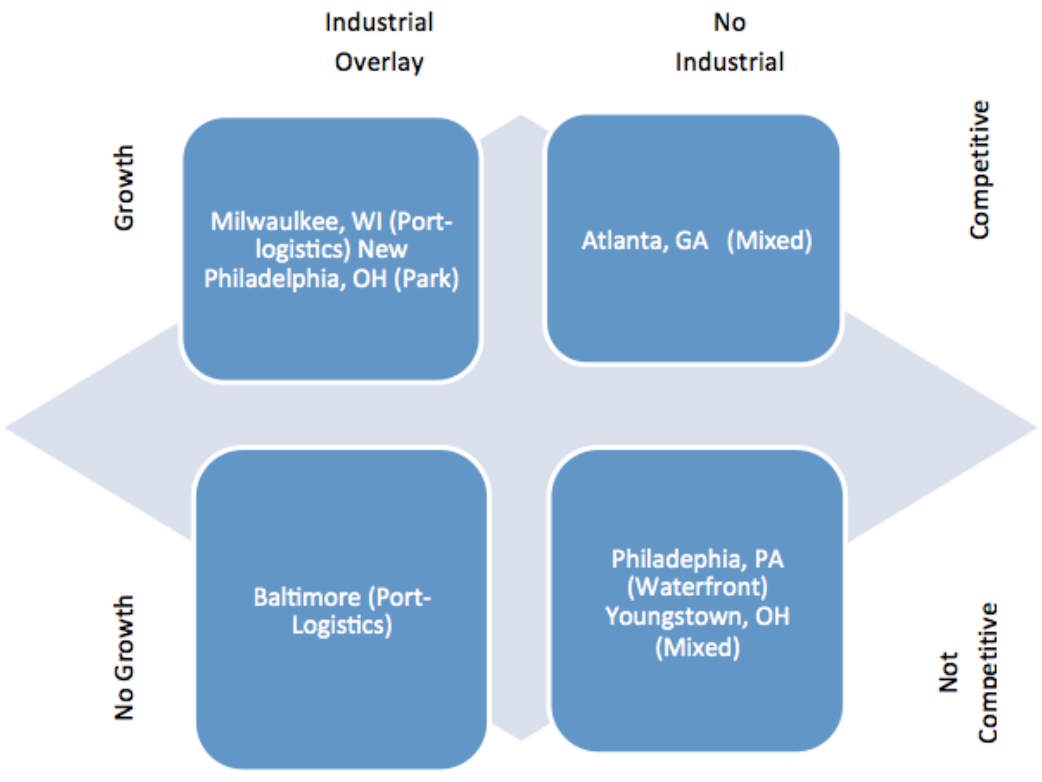


Figure 8: Case Study EDODs Matrix

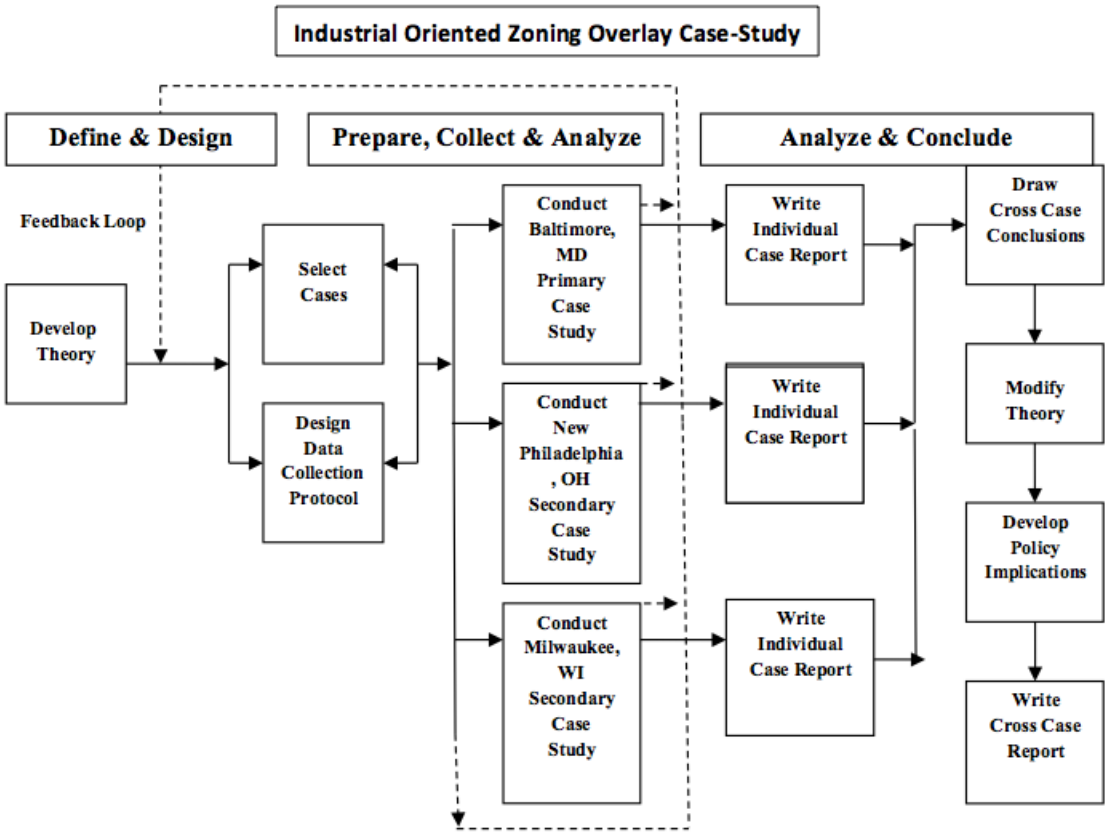


Figure 9.1: Overlay Districts Research Case Study Method

Case Study Method

Source: COSMOS Corporation; Gaber and Gaber; Mukhija, 2010; Yin, 1994, 2003

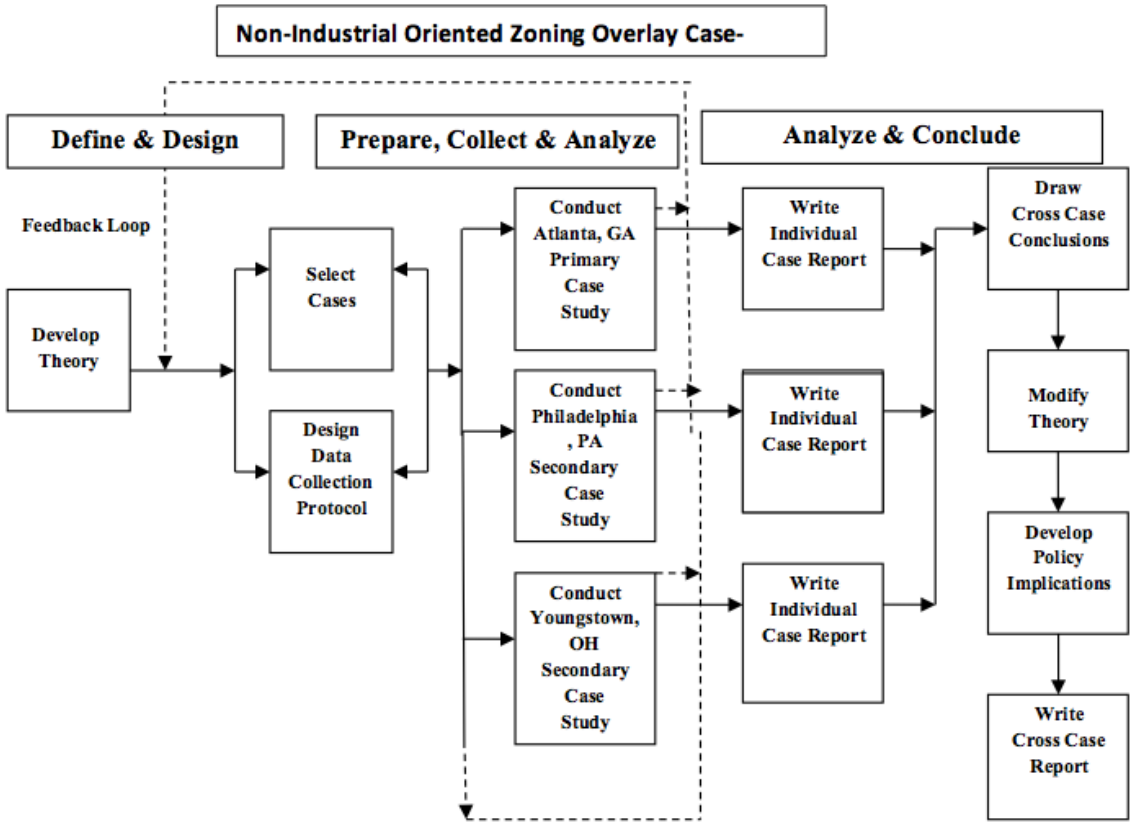


Figure 9.2: Overlay Districts Research Case Study Method

Source: COSMOS Corporation; Gaber and Gaber; Mukhija, 2010; Yin, 1994, 2003

The study includes three cities with industry-oriented economic development overlay districts as (treated) case studies (see figure 9.1: Industrial overlay Case Study Design Method, above) and three cities which do not have industrially-oriented EDODs, and also as-of-right Euclidian industrial zoning districts for comparison (see figure 9.2: Non-industrial overlay Case Study Design Method above).

These case studies include EDODs and "As-of-Right (A.O.R.) zoning districts located in historically growing localities and declining jurisdictions within key regions of the U.S. (as shown in Table 3: Comparative Case Study Selections, below):

Table 3

Comparative Case Study Selections

Growth	Comparative Jurisdictions	State	Locality Scale*	O.D.** I=Indus. C=Comm. M=Mix /P.I.D. A=A.O.R.	2010 Pop.	2000 Pop.	1990 Pop.	2000-2010 % Change	Region
A.	Atlanta	GA	CL	SPIs/Mix/A	420,003	416,474	415,200	0.84%	S
B.	Milwaukee	WI	CL	I/A	594,740	573,358	628,088	3.60%	ENC
C.	New Philadelphia	OH	CS	I/A	17,288	17,110	15,698	1.03%	ENC

Note: UA: An urban area continuously built-up with a population of 50,000 or more (U.S. Census).

No Growth	Comparative Jurisdictions	State	Locality Scale	O.D*. I=Indus. C=Comm. M=Mix /P.I.D. A=A.O.R.	2010 Pop.	2000 Pop.	1990 Pop.	2000 -2010 % Change	Region
A.	Baltimore	MD	CL	MIZOD/A I	639,337	651,154	736,014	-1.85%	S
B.	Philadelphia	PA	CL	PID/M/A I	1,448,911	1,517,550	1,585,577	-.00047%	NE
C.	Youngstown	OH	CS	M/A	67,364	82,026	95,732	-21.77%	ENC

Sources: Brookings Institute. (2010). State of Metropolitan America Indicator Map 2000-2009 National Center for Education, Retrieved December 2010 from http://www.nces.edu.gov/ccd/rural locales.asp. Smith & Allen. (2010). STATS America (2010). U.S. Department of Commerce Economic Development Administration and Indiana University. Urban decline (and success) in the United States. Davidson College.

Table 3 Continued

Retrieved April 2010, from http:/eh.net/encyclopedia/article/Smith. U.S. Census Bureau (2000). Urban Decline.doc; PHC-T5 ranking tables for incorporated places of 100,000 or more 1990-2000; U.S. Census Bureau. (2009) American community survey 2009 data release. Retrieved November, 2010.U.S. Census, 1950-2000. http://www/census.gov/acs/www/data_documentation/2002_release_ schedule/; U.S. Census Bureau. Annual estimates resident population incorporated places over 100,000, 2000-2009, Retrieved December, 2010. Note: See Appendix D, p. 120, for case-study selection criteria. *Local population scale: See Appendix D, p.120. **Overlay Zoning District Types: I=Industrial, C=Commercial, M=Mixed Use, PID=Planned Industrial Districts; Non-overlay district: A=As-of-right (A.O.R.) zoning. Size designation of localities based U.S. Census:

Six jurisdictions were selected for case study comparative purposes. They represent three communities geographically located within the Rust Belt and three Non-Rust Belt (Sunbelt) regions of the U.S. They also represent jurisdictions that have realized a measure of substantial growth or substantial economic decline in recent years. In addition, these jurisdictions have adopted industry-oriented EDODs over ten years (2000-2010). These jurisdictions are studied to find whether they have realized substantial policy and economic gains resulting from their application of EDODs for industrial-oriented versus non-industrial-oriented development purposes.

These industrial/commercial development case studies have been selected to focus research on questions related to the EDODs as indicated in the profiles below:

Comparative Growth Jurisdictions

A. Atlanta, Georgia-Beltline Overlay

Atlanta is a Sunbelt city of approximately 420,000 people (ARC, 2011, U.S. Census, 2010). The city has grown noticeably in recent years, after a decade of marginal population growth. Atlanta remains the center of a dynamic and diverse metropolitan region and has

historically maintained a very robust economic base. The pace of manufacturing activity was said to have declined and vacancy rates increased. However, the city's continued progress has recently been due to the strength of residential construction (Federal Reserve District (FRD), 2013). Atlanta has transitioned into a largely commercial, service, institutional and residential diverse economy (Leigh & Graduate Students, 2010; Fulton Co. Dept. of Environ. & Comm. Develop., 2011). Atlanta's marginal growth in the recent past has been due, in part, to recessionary economic slowdown and industry restructuring (FRD, 2013).

The city and region will require more basic-industrial firms to advance the city's economy and create needed jobs. Atlanta's land use controls, particularly Euclidian zoning, has regulated industrial growth as-of-right. That is, most development has occurred as market driven in defined traditional zoning districts. Atlanta provides land use control and plan implementation applying "as-of-right" conventional manufacturing M1 and M2 basic industrial zoning classifications (City of Atlanta, 2013). The city has not chosen to use economic development overlay districts (EDODs) to assist in attracting, expanding or retaining industrial development within its jurisdiction. Atlanta has used commercial and mixed-use overlays (i.e., Special Public Interest (SPI) districts) and historic preservation districts to affect new development, redevelopment, retention and revitalization.

The city recently adopted a major urban redevelopment project, the Beltline employing an overlay district with mixed-use residential and commercial nodes, green space, and transportation services. This overlay is designed to promote land use transformation of of used industrial properties. The SPI and Beltline overlay districts are not designed to encourage direct industrial development. Therefore, Atlanta's Euclidian-based non-industrial zoning regulation is

used as a “counterfactual” to help explain the viability of the industrial-oriented overlay district case studies in this dissertation.

The basic question in this case study is whether or not the BeltLine overlay protects industrial land and jobs within the Atlanta BeltLine Project corridor better than Euclidian zoning, and does the protection facilitate greater confidence in industrial investment? The BeltLine Overlay Zoning District was adopted by the city of Atlanta, Georgia as “the overall guide for development activity (BeltLine District Regulations, 2007).” Similar to other underlying Euclidian zoning concerns, the challenges in the BeltLine project are based on use of land, density, height of buildings and intensity.

The BeltLine overlay regulation is “design-oriented” and not a zoning overlay, i.e., “land use controls” are strictly the Euclidian zone of the underlying ordinance (BeltLine Overview, 2005, pg.28). A critical theory opposing this position is that appropriate land use control can avoid special administrative permits (e.g. untimely building permit issuance) before adequate review and projects are built. It can assist in assuring that the BeltLine vision is realized. The BeltLine overlay is predicated not exclusively on its relationship to Euclidian zoning as an implementation tool, but also, its relationship to formative plan documents such as the "Belt Line – Atlanta Design of Infrastructure as a Reflection of Public Policy plan," which outlines the BeltLine conceptual vision (Gravel, 1999; Atlanta BeltLine Partnership, 2005).

The initial vision was subsequently advanced through the Atlanta BeltLine Redevelopment Plan process, as devised by consultants for the city in 2005. The BeltLine Redevelopment plan provided broad strokes of goals associated with transit, trails, open space work force housing, historic resources, pubic art and other factors. The BeltLine is a 22 mile

corridor, approximately ½ miles on each side of an old past circumferential rail line linking proposed redeveloped areas around the central industrial base (BeltLine, Inc, 2007). The project represents a major community initiative designed to provide the opportunity to promote neighborhood revitalization, redevelopment, new development, and work force housing to affect community economic development in the city of Atlanta (see, Atlanta Development Authority, 2009 (now d/b/a "Invest Atlanta"); BeltLine Overlay District Regulations, 2007; Beltline Overview, 2005). During the next 25 years this project is expected to generate $20 billion in development (EDAW, 2005).

The BeltLine is delimited in part by active, semi-active and inactive commercial rail infrastructure. They include: CSX, Norfolk Southern, Seaboard Lines and Georgia Department of Transportation (GDOT) which own rail and right-of-way properties along the BeltLine corridor. The corridor traverses inner-city neighborhoods in a circumferential layout. The BeltLine is 2-4 miles from the center of the city; it touches 45 neighborhoods; has 100,000 people living within one half mile of the BeltLine; encompasses 2,900 acres of underutilized property and is near MARTA stations, major attractions, schools and parks (See, Atlanta GA BeltLine Overlay District Selected Variable Table.4, below).

Table 4
Atlanta, GA BeltLine Overlay District Selected

Overlay District Variables	**Overlay Characteristic Atlanta BeltLine[1]**	**Atlanta Citywide Characteristics**	**Fulton Countywide Characteristics**
Population	89,568 (20% of city)	447,841 [2]	984,293[3]
Average number of employees in industry	30[4]	30[4]	30[4] 26,440(Mfg.), 895 Establishments

Table 4 Continued

Distance to CBD	2-4 miles	N/A	N/A
Percent land zoned industrial	<10% 2,900 acres underutilized property[6]	Declining	Declining
Percent Land Use classified Industrial	23.4%[7] 1,532 acres Declining	Declining	Declining
Average Industrial Annual Wage	$98,644	$98,644	$98,644
Total land area	27 sq.mil (20% of city)[5] 17,200 acres	133.7 sq.mil[9] 85,687 acres	527sq.mil[8]

[1]Atlanta Beltline Subareas 8 and 9, NW Atlanta.
[2]Source: U.S. Census Bureau, State & County QuickFacts; Atlanta Regional Commission, Cities and Towns: 2010 Yearbook of Growth and Change (Atlanta's population declined over two decades between 1970-1990). It is still projected to increase in the near future.
[3]Source: U.S. Census, Quick Facts, 2014, Fulton County, Georgia; ARC-County Summary, SW Atlanta, sub-district.
[4]Source: Georgia Department of Labor, Georgia Employment $ Wages 2013.All Counties. (Fulton Co., Georgia) Retrieved January 8, 2015 from https://explorer.dol.state.ga.us/.../ewcurrent
[5]Source: Atlanta BeltLine, Inc. Transportation Director Position Description, 2014; Retrieved August 26, 2014 from http://beltline.org/wp-content/uploads/2014/06/Atlanta-BeltLine-Inc-Transportation-Director-6.16.14.pdf
[6] BeltLine Overview, 2005, pg.6; BeltLine Partnership, 2005.
[7]BeltLine Redevelopment Plan, 2005, pg.24
[8]U.S. Census, Quick Facts, 2014, Fulton County, Georgia
[9]U.S. Census, Quick Facts, 2014; City of Atlanta, Comprehensive Development Plan, 2011\

The BeltLine corridor contains various land uses. Some of these uses are abandoned or underused mainly industrial properties (BeltLine Redevelopment Plan, 2005). After adopting the BeltLine Zoning Overlay Ordinance the city of Atlanta established a localized geographic neighborhood vision in 2009. The city used consultant-driven charrettes to establish 10 quadrants or subareas which are used to direct the overlays design-oriented regulations. Simultaneously, the output from the charrettes was incorporated in the Atlanta BeltLine Planning Area master plan for that area through the subarea plans from 2007 to 2012.

In addition, other areas contain viable industrial land uses to be considered. In specific areas along the BeltLine, there are a number of industrial properties e.g., within the Old Fourth Ward neighborhood. Georgia Power Company and the Ridgeway Mechanical, Inc. are commercial service businesses which exist within the corridor. Also, commercial uses i.e., including the U.S. Post Office are present. Location is an important requirement for these commercial and industrial uses. Some areas particularly in the northwestern quadrant of the BeltLine, have heavy industrial zoning which is being considered for redevelopment versus maintaining viable industrial through retention or expansion (ADA, 2009).

Areas suggested instead of commercial uses. Adjusting the underlying zoning through amending the BeltLine overlay could facilitate this outcome. There are not necessarily good locations for relocation for some existing commercial or industrial uses within the district. However, the business may be assisted to stay or a similar use might be able to use the existing property. The current overlay does not change the underlying zoning. But, it is rather silent regarding retention and may be counter-productive relative to the existing industrially zoned parcels. There is an overwhelming community interest to redevelop the BeltLine properties, relative to each neighborhood, for adaptive residential reuse and/or mixed-use residential-based concerns.

Politicians and many constituents see the BeltLine as an opportunity to completely redevelop the corridor and its industrial-base by creating mixed use residential-based pedestrian-oriented, open space and recreation oriented communities. The BeltLine project has maintained tremendous community engagement, including an over 16 month public input process (i.e., more than 1,600 participants to develop its vision (BeltLine Vision, 2005; BeltLine Redevelopment

Plan, 2005). In this vision, there is relatively little specific mention of, or action on industrial-based employment centers or industrial business retention and expansion. However, as recently argued by Atlanta BeltLine, Inc. staff (ABI was established in 2006 by Invest Atlanta), BeltLine subarea plans (i.e., regarding Subarea7, 8 and 9) do in fact reflect some recommended industrial land use retention options. These areas consist of parcels having office/institutional and industrial land use designations (AB Master Plan-Subarea 8, 2012).

In addition, the overlay is said to be above the base zoning and focuses on urban design, orientation of uses, and the transition from industrial to alternative uses. There is discussion of establishing a BeltLine industrial policy with more involvement from developers with regard to future industrial land use (ABI staff, 2014). The effort is linked to addressing the current industrial land use classification relative to the BeltLine Tax Allocation District (TAD), per the Georgia Redevelopment Powers Law, Chapter 44, Title 36 (AB Master Plan-Subarea 8, 2012, AB Redevelopment Plan, 2005; EDAW, Inc., 2005). Clearly, the intent is to work through the city comprehensive land use planning process BeltLine overlay and the underlying (Euclidian) zoning, to determine, on a parcel by parcel basis, the disposition of industrial-commercial properties.

Furthermore, the BeltLine Strategic Implementation Plan of 2013 does in fact; indicate that some quantification of projected industrial jobs has been calculated: "The target for permanent jobs was developed in 2005 by estimating the size and type of developments that were envisioned to be built in the Atlanta BeltLine planning area. Based on this estimate, job creation goals were calculated by applying an average ratio of square feet (sf) of development to jobs (225 sf per job for retail, 250 sf per job for commercial, and 500 sf per job for industrial).

Construction jobs were to result from TAD investment funds over the life of the BeltLine project" The BeltLine Redevelopment Plan (2005) has projected the creation of 30,000 permanent jobs and 48,000 one–year construction jobs (i.e., based on "an average annual salary of $40,000/worker) in the BeltLine planning area (BeltLine 2030, SIP, 2013)." It was indicated that TAD invested development funds ($1.7 billion) would support this projected job creation. Approximately, $6.0 billion is anticipated to result from private development.

This study's unit of analysis is the overlay district. The BeltLine overlay is a design-oriented overlay with major land use and economic development implications. However, consideration is given to the underlying zoning regarding what development is permitted. Clearly, the overlay currently does not affect permitted land uses unless it is disallowed in the underlying zoning.

The BeltLine project provides sufficient confidence in data to draw appropriate conclusions based on factual analysis resulting from this case study design. The case study is supported by field reconnaissance, historic data, and survey/interview analysis. Construct validity was achieved by pre-tested survey instrument. The survey and interview technique was approved by the GT Internal Review Board (IRB). Approval followed continued adjustment to content, relevance, time and to correct potential bias in clarity. No causal inferences are sought through this research.

Some economic development entities (e.g., city planning staff and business community), are concerned that viable industrial development will be lost over time in the BeltLine project corridor (Interviews, 2014). This is a concern in part because the purpose or intent of the BeltLine overlay district regulations does not directly address this issue. It states it is to:

"1.) Implement certain recommendations contained in the comprehensive study known as the BeltLine Redevelopment Plan as adopted by the city of Atlanta; 2.) Promote a continuous corridor along the beltline route of sufficient dimension for the implementation of transit, multi--use trails and green space; 3.) Promote and maximize opportunities for safe and accessible green space, land use, public art, and cultural and institutional buildings; 4.) Preserve opportunities for connecting trails reaching beyond the BeltLine to create a board network of trails throughout the city; 5) Encourage and create smaller blocks and connected streets to improve access to the BeltLine, reduce congestion, and further that urban character of the area; 6.) Preserve the historic physical character of the industrial districts along the BeltLine by promoting an adaptive reuse of historic structures and encouraging new construction to be consistent with the sides scale/or character of those buildings; 7.) Ensure that new construction is compatible with the character of the existing established adjacent single-family neighborhoods; 8.) Create new mixed-use and commercial nodes at beltline station areas that are pedestrian and transit-oriented; 9.) Create a diversified urban environment where people can live, work, meet and play; 10.) Promote public health and safety by providing an industrial-oriented environment that includes active street-level uses, sufficient sidewalk widths, and primary pedestrian access from sidewalks to adjacent building entrances; 11.) Promote development of the wide range of housing types appropriate to meet various housing needs and income levels; 12.) Facilitate safe, pleasant and convenient pedestrian and bicycle circulation and minimize conflict between pedestrians and alternative transit modes; 13.) Provide accessible and sufficient parking in an unobtrusive manner by encouraging shared parking solutions and minimizing commercial parking in residential neighborhoods; 14.) Maximize air and water quality, including that which supports tree planting, green space and watershed protection, and bicycle parking; 15.) Improve the aesthetics of street and built environments (City of Atlanta, 2007)."

The intended future status of industrial uses (i.e., industrial development policy) in the BeltLine corridor could include a perspective as presented by Mark Levine (2014) and shared by the Atlanta BeltLine Inc.; which indicates that Industrial job creation could be enhanced through promotion of light industrial mixed-use development and not ultimately zone out industry. Such action to displace industry is considered counterproductive to the creation of needed, accessible permanent jobs that provide higher family-wage employment opportunities. There is no current industrial policy designed to give priority to potential rezoning of industrial properties. The 10 subareas identified as part of the BeltLine plan strategy for inclusion as land use recommendation in the Atlanta Comprehensive Development Plan and the BeltLine Redevelopment Plan primarily focus on residential, commercial, green space oriented development. The policy does not include heavy industrial development (which is comprehensible), but may exclude light industrial use.

In fact, industrial development was suggested to not make sense anywhere in the city where it is not already located. However, light industrial can be preserved and it would not be difficult in the future to perceive, a shift down from Atlanta's I-1 (light industrial) classification to a mixed use or residential and/or commercial development pattern. But, it is more difficult to shift from a heavy industry (I-2) classification to these alternative or adaptive reuse opportunities. The overlay is not designed to effectuate this change as it is currently configured. However, the BeltLine goal is to move existing I – 1 (light industrial) and I-2 (Heavy industrial) to I-1 (light industrial) classification. The intent is to move underperforming parcels to alternative or adaptive use opportunities.

The people in the Atlanta BeltLine communities, the city and region at large should have places to work. They need jobs Industrial jobs, in general have a higher multiplier than service/commercial jobs. The existing industrial classifications in the underlying Euclidian zoning are perceived to enable employment opportunities and the retention of non-heavy industrial development. Moreover, amendment to the existing BeltLine overlay district and/ or the creation of a new conceptual hybrid industrial-based overlay district, may provide for future options. Such overlays could efficiently generate light industrial employment and high tech knowledge base firms and research and development firms within the BeltLine communities.

The Atlanta beltline Inc., desires to consider a more useful plan to match subareas through higher level overlay districts to address concerns regarding continuous service between subareas such as a continuation of easements through each geographical area. Such consistency would promote easing servicing light manufacturing or light industrial opportunities within adjoining subareas along the BeltLine. The BeltLine overlay, and economic development overlay

tools in general, can be considered important resources. This is possible when the overlay can be usedas an instrument to actually guide development. In the Atlanta BeltLine area the overlay can provide flexibility in regulation so that logical investments can still occur and light industry and manufacturing can be perpetuated to further the provision of jobs.

In addition, within the BeltLine communities, the demographics can reflect the technical expertise (i.e., trainable personnel with appropriate basic aptitude, skill sets and/or education levels) of potential employees. Then, for example, locating Information Technology (IT), healthcare type businesses in areas such as the South East quadrant of the BeltLine (Grant Park/Ormewood Park neighborhood) business may find the work force needed. Alternatively, more existing blue-collar demographics may attract other types of manufacturing or light industrial uses to existing employment centers along the BeltLine (i.e., the Adair Park and Home Park communities) in the southern portion of the BeltLine areas are less prosperous containing less educated and or skilled residents. In some cases, an overlay can be fostered or undertaken for politically expedient reasons. That is, it can be counter-productive if the overlay is decided upon without prior adequate analysis and review to promote an economic development strategy which is practical.

The BeltLine overlay and its future options are linked to the city and region's political and community engagement process. The overlay can make development activities better, if it can be structured to address equity issues by encouraging investment in other than the most prosperous neighborhoods to create jobs. The communities along the BeltLine where there is little development pressure (i.e. investment) on property to encourage appreciation. Moreover, there is little commitment to long-term development from developers and less encouragement for

new growth. This can be addressed in part through targeting inclusive efforts through the overlay. The Euclidian zoning (underlying zoning), is not designed to respond efficiently or timely in many instances, because of the complexity, rigidity and lack of innovation and vision. New development and industrial property is needed along with capital, manpower and technical resources.

The BeltLine overlay is not now designed to address these ongoing needs as it relates to industrial economic development. However, the potential exists to address these concerns within BeltLine project area. The overlay district as a superseding tool relative to the underlying Euclidian zoning can add or subtract features with regard to development regulation and permitted uses. Currently, the beltline overlay provides purely design guidelines and does not affect the underlying as-of-right Euclidian zoning. However, it is necessary to effect change beyond the building orientation, streetscape, development design, parking and signage. Broader applications of the overlay district will be needed to deal with economic development concerns. Bringing industry and jobs closer to potential employees (i.e., location) is critical. An approach to retain or preserve industrial space in proximity to residential communities is necessary to maintain a working family wage in the city. Industrial retention, preservation and redevelopment areas within BeltLine subareas, as defined in the Atlanta Comprehensive Development Master Plan (i.e., addressing I-1 light industry and I-2 Heavy industry), is needed. The BeltLine project area contains approximately 6,545 acres, of which 1,532 acres or 23.4% are classified as industrial land use (BeltLine Redevelopment Plan, 2005).

The BeltLine overlay could supersede the Euclidean (underlying) zoning as an improvement in its effectiveness and efficiency in protecting industry. The possibility of a new

mixed industrial district that may alternately affect the entire city and region, could present "industrial boutique" zoning or a mixed use with potential commercial and/or residential options. Such development potential may be worth exploring. However, as it now stands, the Atlanta BeltLine Overlay District does not specifically address these hard industrial economic development concerns. Therefore the Atlanta BeltLine Overlay District does not effectively supersede the underlying Euclidian zoning to affect economic development objectives for industrial development purposes.

B. City of New Philadelphia, Ohio-Tech Industrial Overlay District

There are approximately 92,000 people in the New Philadelphia /Canton/ Akron Ohio SMS. The city of Canton airport is about 25 miles away**.** The city of New Philadelphia is a small city of 17, 288 persons (U.S. Census 2010). The city is located 71 miles or 1.5 hrs. South of Cleveland, Ohio (See Table 5, New Philadelphia, OH TIOD Selected Variables, p.85).

The basic question in this case study was whether or not the New Philadelphia Tech Industrial overlay protects industrial land and jobs within the city better than Euclidian zoning, and whether the zoning overlay provides this protection and facilitates confidence in industrial investment. Prior to developing an industrial overlay district, the city was developed largely through Euclidian zoning and retroactive covenants. The city is a suburb in somewhat of a rural setting, with agriculture as the largest industry sector. However, the city is trying to expand its industrial/ manufacturing sector. In December 2008 the 173 acre Tech Industrial Park opened and infrastructure was completed; however, currently there are only two industrial uses in the park. The tech park was affected because by the economic recession.

New Philadelphia constructed a 27,000 ft^2Tolloty Technology incubator in June, 2014. in the tech park is,. The incubator currently has one high tech water purification and chemical supply company with six employees, and one IT software development firm with 14 employees. Approximately 50 of the tech park acres are Leadership in Energy and Environmental Design (LEED) certified which adds little to the costs of development, and will help the city when it identifies how the tech park sets performance standards. Approximately 24 businesses are expected to locate in the park. The incentives available in the park include an enterprise zone and tax abatement, a 75% tax abatement subject to school board approval, as well as state incentives that will reduce the land price offered for the first one or two industries to locate in the park.

The city of New Philadelphia has been collaborating with Kent State University (Tuscarawas, County/New Philadelphia campus) which houses the incubator, using the 1960 Ohio State local law which allows local communities to establish their own overlay districts of 150 acres. The University grants the overlay district funding through a contract through from Kent State. The city and University have been working for 30 years on economic development. New Philadelphia works through the Tuscarawas Community Improvement Corporation, which receives grants, including a $6 million grant funded through the U.S.EDA used in part to fund the city's business incubator in the EDOD.

The city of New Philadelphia zoning ordinance states that its purpose and intent for the "Tech Industrial Overlay District" is to "promote the development of research and technology oriented businesses in the city that will strengthen the economy of the city, attract high tech employers and provide research and partnering opportunities with nearby universities." It also indicates it is to promote the development of businesses that will use and showcase recent

advances in sustainable construction and development and provide a new model for economic growth (See Appendix p.156, Sample EDOD-TIOD City of New Philadelphia, OH).

Table 5
New Philadelphia, OH – Tech Industrial Overlay District Selected Variables

Overlay District Variables	Overlay Characteristic	Citywide Characteristics
Population	17,288	17,288[3]
Average number of employees per industry	10 Emp/Indus.[4] (incubator)	51 Emp/Indus.[6]
Distance to CBD[1]	3 miles[4]	N/A
Percent land zoned industrial	100[4]	N/A
Percent Land Use classified Industrial	100[4]	N/A
Average Industrial Wage	$41,600/yr.[4]	$39,610/yr.[5]
Total land area	173 acres[4]	8.22 sq.miles[3]

[1]CBD: Central Business District
[2]Overlay consists of the industrial park with no resident population.
[3]U.S. Census Bureau, state and county quick facts (2010).
[4]Tuscarawas County Community Improvement Corporation (TCCIC), July 2013. The overlay district boundary is consistent with the technology park (includes 27,000sf incubator with 20 emps).
[5]U.S.Department of Labor, Bureau of Labor Statistics (2013).
[6]U.S.Census. 2012 Zip Code Business Patterns (NAICS); 1993 Emp./39 Estab.=51emp/estab. New Philadelphia, OH

In addition, the Tech Industrial Overlay promotes the development of businesses that fit well within the unique natural features of the site without substantial disturbance to topography, unique views and environmental features. The overlays prohibit the uses that would be detrimental to the attraction and retention of research and technology oriented businesses, and

necessitate large-scale alteration of the site, thereby harming its unique features. Finally, the overlay is to create architectural and development standards that will respect the natural features and promote cohesive quality development and protect the character desired by the city and investment of businesses established within the overlay district (see CNP Overlay ordinance in Appendix B, p.150)." New Philadelphia adopted a high-tech overlay district and established the high-tech industrial park in 2011. The city received a federal grant from EDA to focus on research and development. The grant proposal presented a campus with 12,000 to 15,000 ft.^{2} clusters for office research labs and light industrial use. Restorative covenants are to be imposed on these research development clusters. The high-tech clusters focus on intellectual property in a research Park setting.

The city's intent is to bring the zoning categories in line with the restrictive covenants. No heavy industry is permitted in the tech park. This is in part because the terrain has rolling hills and it is not flat enough to effectively support heavy industrial development. Also, “heavy industrial” zoning using overlays may be considered too restrictive [Interview with Gary Little, Exec. Dir., CNP, CID, August 1, 2013].

New Philadelphia is concerned about possibly excluding or not attracting targeted industries in the high-tech area if such heavy industries were permitted. The city received EDA grants in 2000 and 2001with the idea and initial concept to develop the tech park. The existing zoning for the city of New Philadelphia only allows for as- of- right light industry and heavy industries. However, the city historically used restrictive covenants and moved to apply an overlay to zoning to make the restrictive covenants working through the planning commission.

C. City of Milwaukee, Wisconsin- Development Incentive Zone (DIZ) Overlay District

The city of Milwaukee is a Midwestern city which had a population of 599,164 in 2010 (U.S. Census). Milwaukee's initial zoning ordinance was enacted in 1920. The city adopted its current zoning code in response to population growth and economic pressures including industrial and manufacturing activities (Milwaukee Citywide Policy Plan, 2009). Milwaukee's zoning code was last updated in 2002. It is currently focused on developing its economy around technology and service industries. However, Milwaukee notes that industry supplied 20% of all jobs in 2006 and therefore, it is programming to protect and retain a "strong base of development-ready industrial land (MCPP, 2008)."

The research question in this dissertation is: Has the city of Milwaukee used zoning overlay districts to protect industrial land and jobs within its jurisdiction better than Euclidian zoning and if so, does this protection facilitate confidence in industrial investment? The city's land use policy supports alternative uses for non-productive or non-profitable industrial properties. The policy variables used to characterize the city's EDODs are depicted in Table 6, below.

Much of Milwaukee's existing land is zoned for industry and is associated with its port activity. The port activity has increased 23% since 2000 (Milwaukee PRP, 2010). Also, import/export activity is facilitated by a foreign trade zone (FTZ). The Port Authority of Milwaukee; city of Milwaukee, city of Milwaukee Redevelopment Authority (among other stakeholders), have devised the Port Redevelopment Plan which includes the application of several sub-area overlay districts proposed to "Promote the attractive, productive and efficient

use or reuse of land and/or buildings in the Project Area in a manner that provides high-quality sites for commercial/industrial development while benefiting the surrounding community (Port of Milwaukee Redevelopment Plan, 2010 pg.4). Moreover, the city's Common Council has enacted The Development Incentive Zone (DIZ) district that was proposed as a unique overlay district by the city of Milwaukee. It was devised to replace the underlying zoning and create opportunities for compatible land uses through changes in bulk regulations, design guidelines and development performance standards to implement the Redevelopment Plan for the Port of Milwaukee (2010).

The redevelopment plan proposes several industrial and commercial overlay districts in the general port area, which restrict certain uses and provide design guidelines, and sustainability requirements for new construction. The overlay districts are permitted by Wisconsin state statutes which the city attorney has interpreted as meaning "the overlay can only be more restrictive and not more permissive." The districts are very large and consist of several sub-area overlays. The Development Incentive Zone in the Near Southside port redevelopment plan area is a significant overlay located near the port. The port is largely zoned industrial, but does propose commercial and residential development on its fringes.

To protect water-related businesses with family-wage jobs, the port redevelopment plan recommends "restricting land uses that tend not to do so (RPPM, 2010, pg.4)." The port of Milwaukee overlay zones, particularly in the Southeast Side plan area, are intended to maintain the viability of the port as an economic driver. The port provides 1,119 direct jobs, $93.6 million in wages, $79.6 million in business revenue, and $35 million in federal, state and local taxes; over 3 million tons per year of imported raw materials (steel, salt and coal), grain and heavy

machinery exports, the port is considered a profitable unit of city government. The Port Authority has indicated that shipping goods by water is the most environmentally-friendly transportation option as compared to rail, air, or truck. Therefore, the use of overlay districts to secure industrial and commercial land use is considered vitally important.

The redevelopment plan contains land use recommendations in the "Near Southside" overlay sub-district. These recommendations call for the continued adaptive reuse of former industrial warehouse buildings into mixed-use structures that support commercial and industrial uses. In addition, the plan encourages a mixture of uses including retail, residential, office and entertainment uses. It promotes the transition of the area into a mixed use business area with a range of commercial, retail, and light manufacturing uses and it preserves large parcels and possibly combines underused and obsolete parcels to create a business park.

The business park plan includes offices, research and development and light manufacturing usesw. In addition, it recommends: a) preservation of the port as a strategic resource; b) development opportunities for environmentally-sensitive job-creating land uses; c) buffering of the industrial port land uses from residential areas to the south; d) encouragement of employment opportunities as they are essential to the health of the neighborhood and encourage water-related industries and market rate industrial development.

The port of Milwaukee redevelopment plan identifies three subareas within the redevelopment plan boundary (Port of Milwaukee Redevelopment Plan, 2010 pg.5). They include a Business Mixed-Use Sub Area "A"; Water Development, and Recreation Sub-Area "B" and Port and Commodities Sub-Area "C". No existing businesses are made to close because of non-conformance; they are "grandfathered" as legal, non-conforming uses. Infrastructure will

obviously be necessary to support the redevelopment. However, no projects or rights-of-way are identified as redevelopment properties or for acquisition. Industrial overlay district as proposed in Sub-Area "A" Business Mixed-Use, is designated to change the current Euclidian zoning classified as "IH" (Industrial Heavy) and "IM"" (Industrial Mixed)," this overlay district will permit commercial, light industrial and multifamily residential uses and will prohibit heavy industrial, motor vehicle sales and salvage operations and single-family residential use (Port of Milwaukee Redevelopment Plan, 2010 pg.5).

The overlay district provides a more favorable mix of industrial and non-industrial uses within the proposed zoning. The next Sub-Area “B” overlay district called the Water Development, and Recreation Overlay, also includes zoning classifications of "IH" (Industrial Heavy), "IM" (Industrial Mixed), and "IL(2)" (Industrial Light). The Sub-Area "B" overlay district has zoning of "I0 (2)" (Industrial Office) which permits commercial, office, research and light industrial uses. It prohibits residential and heavy industrial uses, motor vehicle sales and salvage operations. Similarly, this overlay classification is designed to provide for more flexibility and compatible land use in support of industrial oriented mixed-use development.

Finally, the Port of Milwaukee's redevelopment plan proposed the Sub-Area "C" Port and Commodities Overlay District. The previous underlying zoning (i.e., current as-of-right zoning district) permits "IH" (Industrial Heavy) land uses. The proposed overlay district "C", which proposes zoning of "IH" (Industrial Heavy), will permit light to heavy industrial and manufacturing uses. This overlay would prohibit residential and most commercial uses. Clearly the attempt with this embedded overlay was to include protection of the heavy industrial classifications within the Milwaukee port area. The intent was to make the overlay district a

more successful application of zoning than the Euclidian land use control. The port of Milwaukee overlay districts will also add additional building design requirements and sustainability design requirements, which incorporate aggressive energy-efficient practices, alternative energy methods, recycled materials, and sustainable building features. It will also encourage increased public access to water by way of path or river walk segments (City of Milwaukee Zoning, "Subchapter 10: Overlay Zones).

The city of Milwaukee makes zoning changes in the port area using its Development Incentive Zone (DIZ) Overlay District (2011) designation; an imbedded Sub-Area overlay as part of the larger Port of Milwaukee Redevelopment Plan project area (2010). This called for a change in its existing IH or industrial-heavy zone and IL-2 or industrial-light underlying classifications to IO2 or industrial-office zoning. They affected this through the establishment of the East End Menomonee Valley Development Incentive Zone (DIZ) as enacted in 2007. The DIZ attempts to promote revitalization projects with zoning performance standards and design guidelines requiring more context- sensitive and higher quality design.

Table 6
Milwaukee, WI - Port Zoning Overlay District-Development Incentive Zone (DIZ) Selected Variables

Overlay District Variables	Overlay Characteristic	Citywide Characteristics
Population	N/A	599,164[4]
Average number of employees per industry	N/A[2]	50 Emp/mfg.firm[6]
Distance to CBD[1]	1.5 miles	N/A

Table 6 Continued

Percent land zoned industrial	100%[3]	17.53%[7]
Percent Land Use classified Industrial	100%[3]	7%[7]
Average Industrial Wage	$56,202[5]	$56,202.[5]
Total land area	600 acres[3]	96.12 sq.miles[4]

[1]CBD: Central Business District
[2] The Port of Milwaukee indicated that 1,119 direct jobs and 909 indirect jobs were estimated in the port area in 2009 (Source: City of Milwaukee Port Redevelopment Plan, 2009).
[3]City of Milwaukee Port Authority Port Redevelopment Plan, 2009); Note: The major Redevelopment Plan boundary includes 100% industrially zoned property. However, the East End Menomonee Valley Development Incentive Zone (2007) depicts a Sub-Area which proposes light industrial approximately (2/3) and planned development zoning (1/3).
[4]U. S. Census Bureau: State and County Quick facts (2010 census of population and housing).
[5]U.S. DOL-Bureau of Labor Statistics (2013): May 2013 State Occupational and Wage Estimates-Wisconsin.
[6]U.S. Census-2012 County Business Patterns (NAICS)
[7] Milwaukee Citywide Policy Plan (2009). Industrial=manufacturing, construction and warehousing.

As indicated in the above table, Milwaukee's port overly area is currently approximately 600 acres, zoned for industrial use (100%). The industrial wages are substantial (approximately $27.02/hr.) when compared to service-oriented wages. The city's future land use plan for the port area includes maintaining viable industrial uses and allowing conversion to commercial/mixed use, green space, transportation (i.e., rail stations and viaduct loops) and residential development.(Milwaukee CPP, pp.37-41).

The city of Milwaukee applies overlay districts to work in accordance with its policies to strengthen commercial and industrial centers, and expand commercial and industrial activity as follows:

Milwaukee 2010 Comprehensive Plan Policies

- Strengthen commercial and mixed-use districts, quality retail developments serving neighborhoods and key intersections as centers of economic activity.
- Preserve industrial land uses and revitalize the industrial economy for a changing global and regional economy.
- Assemble parcels, update facilities and infrastructure, remediate, and retrofit industrial parcels for new commercial and industrial business and employment.
- Enhance the image and aesthetics of industrial districts.
- Consider the campus, park, main street, and town square style of development for industrial business, and commercial districts.
- Integrate residential, office, retail, civic, institutional, cultural, and open space uses into commercial areas.
- Allow for flexibility within the commercial and industrial land uses to allow non-traditional forms of business such as home offices and live-workspaces.
- Integrate residential, office, retail, civic, institutional, cultural, and open space uses into commercial areas.
- Support context sensitive and sustainable parking strategies that support businesses while encouraging alternative modes of travel and the most effective and efficient use of land (Milwaukee CPP, 2010 pg.47).

Comparative Declining Jurisdictions

A. Baltimore, Maryland-Maritime Industrial Zone Overlay District

The research question in this case study was whether the MIZOD effectively protects industrial land and jobs within the MIZOD district and whether the protection facilitates confidence in industrial investment The city of Baltimore's population was 639,337 persons in 2009 and has been in decline since the 1960s (U.S. Census, ACS, 2010). In fact, the city fell from 651,000 to approximately 621,000 persons from 2000 to 2010. In the 1950s the Baltimore harbor began to experience a decline in port activity due in part to global and regional competition (Lemke, 2011).

The Maritime Industrial Zone Overlay District (MIZOD) was enacted in 2006 and amended in 2008 (BCDP, 2010). This industrial overlay was based on the city's "Maritime Master Plan." It was designed to respond to the threat of residential land use encroachment, and to encourage investment in deep-water maritime uses and infrastructure (City of Baltimore, 2003). Baltimore's industrial shipping interest is still a key component of its economic development program. The MZIOD is the unit of analysis for this study.

Today, the efficiency of deep-water infrastructure is also critical because of the Port of Baltimore's need to stay competitive in the face of possible dredging and other improvements taking place at ports along the eastern seaboard of the United States to increase regional cargo movement. These ports include Miami, FL, New York, NY, Charleston, NC and Savannah, GA. They are preparing for larger container ships termed "Post-Panamex" ships, e.g., 12,000 TEU capacity (20 foot equivalent unit). These massive ships will be passing through the newly improved Panama Canal (Mueller and Young, 2013). These jurisdictions are also competing for the mega warehouses, direct distribution facilities, multimodal transportation and major trucking

firms involved in the changing global logistics industry (Humphreys, 2012; Mueller and Young, 2013).The MIZOD has handled record amounts of cargo shipping.

Has the MIZOD protected the industrial uses in the overlay better than the underlying Euclidian industrial zoning regulation? The bulk, regulation (i.e., setback, height, parking, and so on), design and land use controls necessary to maintain a viable port operation within the MIZOD area were questioned since the 1960s and finally addressed directly beginning in 2008 with the MIZOD enactment. The major zoning issue is related to the protection of property for maritime industrial use as opposed to non-industrial alternatives.

The goal of the MIZOD is to ensure that maritime industrial businesses are able to rely on substantive land use controls which work in conjunction with overall port operations to keep Baltimore prospering (City of Baltimore, 2007). The MIZOD includes several areas of heavy industrial-zoned (M-3) parcels located in the communities of Canton, Fairview, Curtis Bay, and Locus Point. In fact, a plurality of the industrial sector located in the MIZOD, 43% were manufacturing firms (RESI, 2008). The purpose of this overlay ordinance was to preserve industrial properties and prohibit the following uses in the overlay zone (Hentschel, 2009, p.1):

- Hotels and motels;
- Offices, business and professional, other than as an accessory to industrial use;
- Planned Unit Developments;
- Restaurants and lunchrooms, other than accessory; and
- Live entertainment or dancing in excess of restaurants and taverns.

Baltimore approved an extension of the MIZOD from its sunset date of 2014 to 2024 (Rosen, 2009). However, the new 2012 Baltimore Zoning Ordinance, recently adopted, incorporates the MIZOD rezoning criteria in the "MI Maritime Industrial District;" base zoning ordinance (Baltimore, 2012; Lemke, 2011, p.35). An early version of the zoning ordinance indicated that the MIZOD was "designed to ensure the preservation of limited deep-water frontage of the Port of Baltimore for maritime use (Hentschel, 2009, p.1).

The intent of the specific MIZOD zoning ordinance is to delineate an area where maritime shipping, including warehousing distribution and logistics support businesses, can be conducted without the intrusion of non-industrial use and where investment in maritime infrastructure is encouraged" (Baltimore Zoning Ordinance, 2009, p. 251). Baltimore's success using the MIZOD to supersede its old zoning ordinance, and enhance its new one, makes it a good "test bed vehicle" providing a basis for the generalization of the EDODs concept.

The underlying zoning is a mixture of various classifications. It is identified in the new zoning code. Any industry other than that permitted by the MIZOD is prohibited in the new ordinance. It was completed and adopted in 2014. Under the new zoning ordinance, the underlying zoning has become the MIZOD. Which means the MIZOD has become a permanent district Uses will be allowed "as-of- right", subject to the requirements of the MIZOD. Baltimore's MIZOD played a significant role in preparing the city to incorporate it as an as-of-right district.

As an overlay, the MIZOD's selected development variables indicate that the MIZOD was very effective in contributing to industrial growth in the city (See Table 7, Baltimore, MD MIZOD Selected Variables, below). Similar to Baltimore, other port communities, e.g.,

Milwaukee, WI and Philadelphia, PA have enacted overlay districts to affect economic development along its waterfront, albeit with different outcomes in mind. The MIZOD works in conjunction with other factors to improve the port of Milwaukee's competitive position:

- Furthest inland deep-water access on the East Coast
- Easy access to rail and truck transportation
- Proximity to the center of the country
- Easy to attract talented workers to the area (activities, cost of living, etc.)
- Advantageous existing transportation infrastructure
- Industrial property with deep-water access is not available anywhere else in Maryland
- The Enterprise Zone continues to be an effect is a tool in business growth and retention (BDC, 2007).

Companies in the MIZOD have felt confident when making significant investment. Tax credits which are offered to these companies have been more often used and provided as an incentive for capital improvements and/or employee development in the port of Baltimore (BDC, 2007).

The MIZOD study variables help to focus on the overlay and give added strength to objectives of Baltimore's and the Maryland Port Authority's economic development and comprehensive plan strategies, to protect and promote the maritime business and industry in the MIZOD and the viable industrial port area in total. A good portion of the active port area is in close proximity to the CBD (i.e., 1+/-mile) and close to non-industrial uses. Since the properties

are generally zoned industrial, the effort is to protect the marketable industrial-oriented land uses and transition to alternative uses where necessary.

Many major re-zonings to PUDs have occurred over the years in Baltimore city. Given some major industry and market changes, key parcel rezoning may have been preferred and justified. Despite the industrial property rezoning, businesses in the MIZOD continued to develop and increase employment. The MIZOD average annual wage for industrial jobs ($53,000) far exceeds the comparable service job wage, which generally follows viable industrial parcel rezoning, redevelopment and/or adaptive reuse. Focusing on the five sq. mile MIZOD (i.e., over 70% of Baltimore's deep-water harbor) projects a geographically small land area, with a significant economic impact relative to employment, tax revenue generation and port cargo activity (City of Balimore,2003).

The city has historically positioned itself well by investing in port related infrastructure (See Table 8, Overlay Infrastructure Accessibility and Regulatory Status below). Unfortunately, like other local jurisdictions that have enacted economic development overlay districts; no tracking, monitoring and data collection assessment tools have been used by Baltimore to evaluate the effectiveness of its overlay application or the utility of incentives applied over time (RESI Towson University, 2008).

Table 7
Baltimore, MD MIZOD Selected Variables

Overlay District Variables	Overlay Characteristic	Citywide Characteristics
Population	N/A	639,337 persons[2]
Average number of employees per industry	(Aver.: 76 Emp/firm)[4] 186 firms (2007)	(Aver.: 23 Emp/firm) 1463 Industrial firms (2007)
Distance to CBD[1]	1+ miles[5/6]	N/A
Percent land zoned Industrial	100%[3]	17%[3]
Percent Land Use classified Industrial	82%[3]	30%[7]
Average Industrial Wage	$59,946[4]	$55, 164
Total land area	5 sq. miles[6]	80.94 sq.miles[2]

[1]CBD: Central Business District
[2]U.S. Census 2010 –Baltimore (city) QuickFacts
[3]City of Baltimore Planning Department (2014) .Transportation makes up 11%, Public Facilities: 4% and 2% is undeveloped. Industrial = manufacturing, wholesale trade, transportation & warehousing
[4] RESI (2008). MIZOD Study, Baltimore Industrial Group. (2010). MIZOD Survey.
[5]Deep harbor is located approximately 7miles from the main stem of Chesapeake Bay (City of Baltimore Planning Department, Baltimore Maritime Master Plan (2003)); Port of Baltimore (September 5, 2014) www.marylandports.com.
[6]The actual deep-water harbor in Baltimore, MD exceeds 7sq.miles Baltimore Maritime Master Plan, (2003). The MIZOD encompasses 5 sq. miles
[7]Wikipedia, 2011

Table 8
Overlay Infrastructure Accessibility and Regulatory Status

Port-Oriented Overlay Criteria[1]	**Deep Water Access (18 ft.>)**	**Rail Access to parcels with Deep Access**	**Truck Access to Major Highway and Logistics**	**Contiguity provided to port facilities**	**Zoned for Industrial and not Planned Unit Development**	**Overlay was enacted Y/N**	**Overlay has transitioned into as-of-right ordinance Y/N**
Baltimore MIZOD	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Philadelphia CDROD	Yes	Yes	Yes	Yes	Yes[2]	Yes	No
Milwaukee Port OD/DIZ	Yes	Yes	Yes	Yes	Yes	Yes	No

[1] Criteria is based in part on city of Baltimore's MIZOD measurement criteria (2004), and other Ports of Authority standards.
[2] City of Philadelphia "grandfathered" historic viable industry. However there is continued activity rezoning industrial properties to nonindustrial use (i.e., commercial and residential uses). City of Philadelphia Planning Department, 2013 (interviews).

B. Philadelphia, Pennsylvania-Central Delaware Riverfront Overlay District

Philadelphia, Pennsylvania is a major U.S. city which has maintained a substantial manufacturing base for over the last 100 years. However, its level of industrial activity peaked in the 1950s as globalization, technological change, deindustrialization and obsolescence, ensued. The city "lost 62 percent of its industrial firms between 1963 and 1992 (Walsh, 2010, p.6). Major industrial properties distributed throughout the city (including riverfront) were abandoned or left underused (City of Philadelphia, 2011). In 1990, Philadelphia had an overabundance of lots zoned for industrial use (Asabere and Huffman, 1991 p. 154). A pattern followed among other major industrial cities, in which the price of industrial land was discounted, due to the exclusion of industrial-zoned parcels to control negative externalities (ibid., p. 155). Nonindustrial uses were built on industrially-zoned properties (Jurash, 2007; McGovern, 2013).

The research question in this dissertation relative to the city of Philadelphia's land use control was does its overlay district protect industrial land and jobs better than the underlying Euclidian zoning, and does this protection and facilitate confidence in industrial investment? Philadelphia has most recently adopted a comprehensive plan, called "Citywide Vision Philadelphia 2030," which establishes seven "industrial legacy"

areas on which to focus its economic development, planning and recently revised Euclidian zoning ordinance (City of Philadelphia, 2011). In reforming zoning, the city has acknowledged the ineffectiveness of its outdated1962 zoning code and included in its revision the application of more efficient overlay districts (City of Philadelphia, 2012; The Inquirer, 2012). Philadelphia zoning overlay districts are designed in part to conserve neighborhoods through the "neighborhood conservation overlay districts" (City of Philadelphia, 2012b).

The zoning code facilitates the reuse of obsolete, used and vacant industrial properties by encouraging rezoning to alternative and mixed-use residential/commercial/light industrial developments through the 2009 Central Delaware Riverfront Overlay District or CDO (City of Philadelphia, 2012a). The CDO regulation of industrial property also proposes to protect the long-term future of river-front (City of Philadelphia, 2012a). This includes maintaining existing viable industrial (largely shipping industry/working port) uses in defined "overlay districts" by protecting and retaining activity at the current industry location (PCPC, 2007). Traditional industrially-zoned properties are being redeveloped to establish "as-of-right" planned industrial districts (PIDs), and industrial parks away from the central riverfront area. Philadelphia's Euclidian zoning ordinance does not use overlays largely to focus policy on the expansion of industrial uses. Rather, the overlay is principally used to retain key industrial uses and to amortize ("grandfather") others out. The Philadelphia CDO was used as "non- Industrial-oriented" overlay district in this dissertation research proposal. The Table 9, below depicts the selected variables of the CDO which describes its characteristics:

Table 9
Philadelphia, PA Central Delaware River Overlay District
Selected Variables

Overlay District Variables	Overlay Characteristic	Citywide Characteristics
Average number of employees per industry	< 20[3]	<20[3]
Distance to CBD[1]	2miles	N/A
Percent land zoned industrial	<15%[2]	21%[3] 17,800 acres
Percent Land Use classified Industrial	15%[3] 2,361 acres	13%[3] 15,800 acres
Average Industrial Annual Wage	$58,977: Mfg.[5] $50,000: Ind.[5]	$58,977: Mfg.5 $50,000: Ind.[5]
Total land area	15,804[2]	86,000 acres[4]

[1]CBD: Central Business District; [2] Philadelphia Industrial Land & Market Strategy, 2010; [3]The CDOD is located partially within the Delaware Waterfront Industrial District group (Phil. Mkt. & LU Strategy, 2010 p.xii). Note: The utilities construction, manufacturing, wholesale, transportation and warehousing employment sector is 6.5% of total employment (Philadelphia 2035 Vision, 2011 p.42).[4]Only 5% of Philadelphia land area is vacant (2030 Vision). [5] Mayor's Manufacturing Task Force Study "Manufacturing Growth Strategy for Philadelphia, 2013."

C. Youngstown, Ohio-Planned Development Overlay District

The City of Youngstown, Ohio has a population of 67,364 (U.S. Census, 2010). Over the last 30 years the city has seen a steady and significant decline in population, resulting from a substantial loss in jobs due to the lack of competitiveness in the steel industry and related firms. The negative affect is seen in the abandoned housing and industrial plants, and the tremendous adverse effect on the city's economic base. Unemployment skyrocketed and crime increased as

citizens moved out and businesses shut down. Today, the City of Youngstown, Ohio is trying to revitalize and increase the quality of life for the residents who remain.

The current scale of the city is too large to be maintained by the undercapitalized and smaller existing population. Land use controls are now needed to address enormous residential and industrial property vacancies. New zoning concepts are needed to help effectively induce growth and economic development opportunities. The city intends to use overlay districts to provide innovative flexible land use controls and encourage new sustainable industry through catalyzed and incentivized development activity. The question in this study is will Youngstown's overlays protect industrial land and jobs better than Euclidean zoning and does the protection facilitate confidence in industrial development?

Youngstown's new vision includes making itself a smaller city, redefining its role in the new regional economy that focuses on diverse industry sectors, including university-oriented uses, healthcare industry sector, and arts industry uses. In addition, Youngstown envisions a new image that enhances the quality of life and a specific call to action for all people within the city. The city hopes to stem its population decline and stabilize its economic base. Youngstown is trying to re-scale its industrial, commercial and residential development to fit a city of 82,000 persons in the future.

New and varied jobs are needed to entice younger people back to the city, since the loss of many skilled workers to other regions has resulted in an older and more dependent population within the city limits. Promoting new jobs in targeted industries, located on redeveloped and revitalized properties helps to define the direction in which the city is planning to move. Overlay districts will provide opportunities for creativity and new development and redevelopment plans.

The City of Youngstown 2012 Development/Redevelopment Plan indicates that overlays will provide for more flexible land use than what is allowed by the more rigid Euclidian zoning classifications (YSU, 2012). Youngstown intends to use a Planned Development Overlay Zoning district in its future redevelopment efforts (Youngstown Zoning Ordinance, 2009; Youngstown Redevelopment Code, 2013). The city of Youngstown needs the "flexibility" the overlay affords the regulators to consider unique plans not necessarily anticipated by Euclidian zoning codes. The city is still losing population, even though it has realized success in revitalizing its CBD.

Because of its "rust belt "steel mill heritage, and lack of competitiveness, it has included the zoning overlay in its development toolbox. Its federal Enterprise Zone (2005-2006) failed to locate a major retail project and the city subsequently saw this program expire along with its application of an overlay district (Ref. staff interview, 2013).

It is hoped that the new redevelopment code with overlay districts will make a difference along with other economic development program resources. For example, the city anticipates using the overlay to attract new oil shale business. Targeting this industry could bring jobs and people to Youngstown and perhaps use some of its older industrial properties.

Table 10
Youngstown, OH Planned Development Overlay District Variables

Overlay District Variables	**Overlay[3] Characteristic**	**Percent of Citywide Characteristics**
Average number of employees per industry	N/A	N/A
Distance to CBD[1]	N/A	N/A

Percent land zoned industrial	N/A	22.5%[4]
Percent Land Use classified Industrial	N/A	12.1%[5]
Average Industrial Wage	N/A	$14.14-$23.28/hr.[6]
Population	N/A	65,184[2]
Total land area	TBD[3]	33.95 sq.miles[2]

[1]CBD: Central Business District
[2]U.S. Census Bureau: Youngstown (city), Ohio, State & County Quickfacts, 2014
3Youngstown, OH, Redevelopment Code-City Ordinance 13-56 (enacted: April 17, 2013, Planned Development Overlay District, pg32). No overlay has been approved yet.
[4]Youngstown State University, GIS (2014). Zoning: IG Industrial Green: 3,030.9 acres (16.3% of total); IU Industrial Unlimited: 1,155.5 (6.2%).
[5]YSU, GIS (2014). Current Land Use: Industrial Heavy: 74.1 acres (0.4% of total); Industrial Light: 2,178.3 acres (11.7%).
[6]BLS (2013). State Occupational Employment and Wage Estimates, OHIO.
Once a prospect has made application for the PDO District use, the over characteristics can then be determined.

The Youngstown Redevelopment Code (2013) provides several zoning overlay districts, including the (PDO) Planned Development Overlay District. Its purpose is:

"To provide an opportunity for appropriate, creative planned development and redevelopment to occur within designated areas in ways that create significant benefits to the City beyond those that would occur under base zoning districts. Planned Development Overlay zoning allows for flexibility in dimensional requirements in return for compliance with a specific land use and development plan that ensures the protection of the public health, safety and welfare and significant benefits to the city (COY/YRC,2013 pg.32).

The city applies this zoning overlay to affect economic development in targeted areas throughout its jurisdiction. As part of the newly adopted code this ordinance has not been used. It is a

carryover from Youngstown's previous zoning code. The overlay was not successfully implemented in the past. However, it is now poised to permit approved planned developments of all kinds to benefit the city's industrial redevelopment and adaptive reuse. Proposed developments must achieve one or more of the following benefits to use this overlay:

"The city intends to approve PD overlay zoning in cases where the approval will enable the applicant to provide greater benefits to the city in one of six specific areas:

A. Job Creation

The creation of significant number of new jobs paying wages above the Federal minimum wage (i.e., established as $7.25/hr., July 24, 2009).

B. Tax Base Increase

The creation of additional real property tax assessment, valued significantly higher than would be possible without the approval of a PD.

Overlay

C. Green Industrial Uses

The accommodation of green industrial uses in a facility that would not be possible without the approval of a PD Overlay.

D. Green Corridors

The preservation of significantly more open space from development in those locations where the adopted comprehensive plan calls for the creation of green corridors.

E. Urban Agriculture

The creation of a new or innovative urban agricultural or agricultural processing use that would not be possible without the approval of a PD Overlay.

F. Sustainability

The incorporation of project elements to conserve energy, generate renewable energy, conserves water, or remediates pre-existing environmental impacts that would not be possible without the approval of a PD overlay (Youngstown, Ohio, Redevelopment Code, 2012, p.33)."

Youngstown is applying this economic development overlay to turn around the decline in its growth rate over several decades. The city intends to cast a wide net, (albeit not limited to industrial use) in the hope of attracting new revitalization development opportunities.

CHAPTER 5

SURVEY DATA ANALYSIS, FINDINGS AND DISCUSSION

Survey Results and Analysis

The study survey was administered using Survey Monkey, Inc. A data base of 2,700 municipal codes and related documents was acquired from the Municipal Code Corporation, Inc (Municode). Also, approximately 20 local jurisdictions selected through internet searches were added to the list. A simple random selection of 200 localities (i.e., every 10^{th} locality), with Euclidian zoning ordinances, was derived. An extensive Internet search was conducted to verify the Municode data and overlay districts on the selected locality's websites. The survey consisted of 27 questions. Approximately 202 surveys were e-mailed to the listed jurisdictions. Approximate 36 respondents or 17.8% participated in the survey effort. Although this can be considered a marginal response rate, it can also be considered a substantial representation of the population of existing EDODs. A guesstimate is that less than 25% of the subset (200 communities) or approximately 50 communities actually have economic development-oriented overlays, a more realistic estimate for the survey participation rate would be 72% (i.e., 36/50). The survey was designed to elicit a range of information and brought forth unique and interesting observations regarding the type of agency implementing the EDODs, supporting programs, targeting of overlays for economic development programming, monitoring and assessment of EDODs, spatial and regulatory characteristics of the EDODs, political impetus, and community involvement:

Summary of Survey Results

Q1 – I would like a copy of the results from this survey.

Responded: 36, answered: 26, skipped: 10, (response rate 72 %)

Findings: 72 % of respondents want a copy of the results. Most of the respondents are interested enough in the subject of economic development overlay districts to desire a copy of the survey results.

Q2 – What is the local agency contact information?

Responded: 36, answered: 14, skipped: 22, (response rate 40 %)

Finding: less than 40% of the respondents gave information regarding their personal affiliation and agency contact. Perhaps the participation was desired, but also to remain confidential.

Q3 – Name of person completing survey?

Responded: 36, answered: 14, skipped: 22 (response rate 40 %)

Finding: less than 40% of respondents gave information regarding the name of the person completing the survey. The assumption is that anonymity is important.

Q4 – Survey completion date?

Responded: 36, answered: 14, skipped: 22 (response rate 40 %)

Finding: less than 40% gave information indicating the date of completion.

Q5 – Number of employees focused on economic development?

Responded: 36, answered: 14, skipped: 22 (response rate 40 %)

Finding: Of the 14 answered, 12 had less than five employees working in economic development, and one agency has 40 persons working in economic development. The remaining agency reported 11 economic development employees each .

Q6 – Number of staff focused on zoning overlay district administration/implementation?

Responded: 36, answered: 14, skipped: 22 (response rate 40 %)

Finding: Most responding jurisdictions have less than five full-time equivalent staff (10 agencies) focused on zoning overlay district administration/implementation. Two respondents have 10 staff members and one with more than 15 staffers. Therefore, it suggests that some localities do not have adequate staff to accommodate the typical labor-intensive zoning overlay district processes.

Q7 – What is your type of organization?

Responded: 36, answered: 14, skipped: 22 (response rate 39%)

Finding: Approximately 10 agencies responded to this question. The vast majority or 90% of the respondents were local governments or local authorities and 10% other.

Q8– What is your agency mission statement?

Responded: 36, answered: 11, skipped: 25 (response rate 31 %)

Finding: most jurisdictions responded with mission statements that included such factors as: providing efficient, effective and responsive municipal government.

Respondents indicated that the mission statement included providing planning assistance, eliminating blight, promoting business expansion and creation of jobs. Other statements included: leading, coordinating and providing regional and statewide initiatives; cooperating with other public and private partners. In addition, other local governments indicated providing the vision and leadership in land-use planning, urban and strategic planning, historical and architectural preservation, zoning, design, development and capital improvements budgeting.

Other mission statements included: promoting sustainable economic, social and community development, natural resource stewardship and livability, balanced recreational and educational opportunities, dedication to excellence in customer service, quality of life and global economic development. Finally, one mission was to protect the health safety and welfare of citizens (i.e., police power).

Q9 –Does your jurisdiction have state zoning enabling legislation or overlay district enabling legislation?

Responded: 36, answered: 14, skipped: 22 (response rate 39 %)

Finding: Responses (100%) to this question indicate that most jurisdictions do lie within overlay zoning enabling states or states with implied power given to localities through Euclidian Zoning Enabling Acts.

Q 10 – Does your jurisdiction use the following land use tools or development interventions?

Responded: 36, answered: 14, skipped: 22 (response rate 38%)

Finding: Most of the respondents (59 %) do not have business improvement districts (BIDs) or Community Improvement Districts (CIDs). Approximately 25% do have Business Improvement Districts or Community Improvement Districts and 16.67% do not know. Most jurisdictions (93 %) have comprehensive development plans and seven % do not. Economic development is important considering 70 % of the respondents indicate having an economic development strategic plan. However, only 25% of the responding agencies have economic development overlay districts, 58 % indicated they did not and 17 % did not know. By contrast, 69 % of respondents have enterprise zones and 38 % do not. In addition, 100% of the responding entity's indicated that they did have a Euclidean zoning ordinance.

Therefore, it is fair to say that most jurisdictions have zoning ordinances working with comprehensive development plans and economic development strategic plans. But fewer jurisdictions use economic development overlay districts as a means to implement or supersede existing Euclidian zoning ordinances. Furthermore, form-based zoning was indicated by 58 % of the jurisdictions as being used and 42 % do not. Most jurisdictions responded that they did not use Planned Industrial Districts (PIDs), with only 18.18% indicating they did use PIDs to regulate or promote industrial development. In some jurisdictions traditional Planned Unit Development (PUDs) was generally applied (86 %) and in others they were not (14 %). Private covenants were used in most respondent's jurisdictions (67%), and not in others (25%) the balance did not know.

Traditional subdivision regulation was generally applied in 100% of the respondents' jurisdictions. More jurisdictions (67%) use tax increment/financing tax allocation districts to

encourage or incentivize development. However, fewer jurisdictions (25%) indicated application of Transfer Development Rights (TDR) 67 % and 25% did apply this technique. Similarly, responding jurisdictions did not use transact codes (55 %) and 28 % did use this technique and 18 % did not know if they utilize this approach.

Q 11 – How often do the following land use actions take place in economic development overlay districts in your jurisdiction?

Responded: 36, answered: 14, skipped: 22 (response rate 39 %)

Findings: Approximately 57 % of the respondents indicated that they sometimes addressed adaptive industrial reuse projects through the application of EDODs. However, respondents indicated that EDODs were sometimes applied for adaptive non-industrial reuse (43 %) or often used EDODs for these purposes (36 %).

But, EDODs were rarely used for green innovative industry development (57 %). Industrial business development activities were promoted in the responding jurisdictions sometimes or often as indicated by 36 % and 29 % of the respondents respectively. In addition, industrial business retention is generated through economic development overlay districts in the responding jurisdiction "sometimes" (23%) or "often" as indicated by 31 % respectively. EDODs are almost never (39%) or are rarely (25%) used for industrial land preservation purposes in the responding localities.

On the other hand, EDODs have sometimes (54%) or often (23%) been used to accommodate mixed-use development activities. Respondents indicated that EDODs were sometimes (36%) used to accommodate redevelopment actions for industrial use. On the other

hand, over 71% of the respondents indicated that they sometimes or often applied overlay districts in redevelopment of non-industrial use. This implies a potential for the loss of viable industrial sites.

Q12 - Which of the following statements best exemplifies the working definition of economic development for your agency?

Responded: 30, answered: 12, skipped: 18 (response rate 40%)

Findings: The majority of the respondents agreed that the definition of economic development typically includes: economic development creates wealth through investment in human capital, financial capital, infrastructure, and natural resources.

It increases the economic well-being of an area through increasing business activity and employment; and it raises the community standard of living through human and physical infrastructure development, with attention paid to social equity and environmental responsibility (67%).

Q13 - In which of the following economic development activities is your agency engaged?

Responded: 30, answered: 12, skipped: 18 (response rate 40%)

Findings: Most responding jurisdictions are actively pursuing, recruiting or passively serving business attraction, retention and development activity (75%). However, fewer jurisdictions actively pursue or recruit using business finance (42%). The responding agencies passively serve environmental management activity (42 %). At least 50% of the responding

agencies provide infrastructure investment. Approximately 58.3% actively pursue or passively serve job creation activity; with 50% of responding agencies involved in workforce development and training activities. Although only 33 % of respondents indicated assistance in marketing for products of industry; 58 % of respondents support the development of planned industrial parks. But, this is not done through property acquisition. On the part of local jurisdictions only 33.3% of respondents assisted in property acquisition activity. Approximately 83.3% of the respondents indicated that their agencies were involved in regional collaboration to promote economic development.

Q14 - Has your jurisdiction/agency adopted EDODs?

Responded: 30, answered: 12, skipped: 18 (response rate 40%)

Findings: Approximately 50% of the responding jurisdictions/agencies, answering this question, indicated that they did adopt EDODs and 50% indicated that they did not adopt EDODs.

Q15 - Does your jurisdiction collect data to assess the effectiveness of economic development activity within EDODs?

Responded: 30, answered: 12, skipped: 18 (response rate 40%)

Findings: Less than half of the respondents (41.67%) indicated that they do collect data to assess the effectiveness of economic development activity within EDODs. Conversely 58.33% of the responding jurisdictions indicated that they do not collect data to assess the effectiveness of EDODs.

Q16 - If yes does your locality collect EDOD assessment data as follows?

Responded: 30, answered: 8, skipped: 22 (response rate 27%)

Findings: Data regarding the number of jobs (indicated by multiplier), are not collected until after adoption of the EDODs (38 %) and a larger percentage of responding jurisdictions (62.5%) do not know how many jobs exist in the EDODs. The number of industrial development permits which are collected before adoption of the EDODs is also generally unknown (43%). In addition, 57.14% do not know whether such data is collected. The number of industrial square feet added is collected by 38 % and 50% said they did not know. The number of industrial square feet added, in the EDODs, businesses expanded, retained, and number of permits issued are generally known after adoption of the EDODs or are not known by the jurisdictions (i.e. the response ranges between 50% and 100% of the responding agencies). Surveyed jurisdictions also do not routinely collect EDODs data on household income increases, increased number of jobs, and property tax revenue generation are data which is not known by responding jurisdictions.

Q17 - How many Industrial EDODs have been adopted your jurisdiction?

Responded: 36, answered: 10, skipped: 26 (response rate 28%)

Findings: Of those who responded, 90% answered that they had 1-5 EDODs. Only one had 11 or more EDODs within its jurisdiction.

Q18 – What is the average size of EDODs in your jurisdiction (in acres)?

Responded: 36, answered: 10, skipped: 26

Findings: The average size of the EDODs varied by jurisdiction, with 30% of the respondents indicating1-24 acres average size, 30% 25-49 acres, 10% 50-74 acres, and 30% having an average size of 100 acres or more.

Q19 – In what year(s) were the EDODs enacted in your jurisdiction?

Responded: 36, answered: 11, skipped: 25 (response rate 31%)

Findings: The years in which the EDODs were enacted in respondent's jurisdictions varied. The range was 1973-2013. A few respondents did not know.

Q20 – What is the classification of industries within economic development overlay districts in your jurisdiction by 2007 NAICS?

Responded: 36, answered: 8, skipped: 28 (response rate 22%)

Findings: The respondents who answered this question indicated (62.5%) that the EDODs in their jurisdictions included (by NAICS): Manufacturing (311-339), Transportation and warehousing (logistics) (481-493), Professional, science, and technical services (541). Repair and maintenance businesses (NAICS 811) were identified as being represented in the respondents EDODs. The EDODs which focus on the Utilities and construction industry (NAICS 221-425) were identified by fewer respondents in that only 50% of those surveyed indicated that this classification is present in their EDODs.

Q21 – What is the purpose or intent for establishing economic development overlay districts (EDODs) in your jurisdiction?

Responded: 36, answered: 10, skipped: 26 (response rate 28%)

Findings: The most chosen purpose or intent for established EDODs by respondents, who answered this question, was for design control and economic development (80%). Another purpose or intent was historic preservation (50%), followed by transportation and environmental protection (40%). Natural resources conservation and recreation purposes were also selected as a purpose or intent for establishing EDODs (30%). This was followed by housing plans and safety (including airports) as the reasons for adopting EDODs in these jurisdictions (22 %).

Q22 – Do you target the development of any specific industry sectors within your EDODs?

Responded: 36, answered: 7, skipped: 29 (response rate 19%)

Findings: The answers to this question, indicates a varied approach to targeting in EDODs. The responses included focusing on industrial type and business location such as the central business district, arts related industries, advanced manufacturing and high technology (industrial and business park location), maritime industrial (port located) and related activities and (basic) industrial and mixed-use developments. Still other jurisdictions did not target industry sectors.

Q 23 – What was the initial source of motivation for adopting and implementing economic development overlay districts in your locality?

Responded: 36, answered: 8, skipped 28 (response rate 22%)

Findings: The initial motivation for developing and implementing EDODs in the surveyed localities include: Community activism (e.g., neighborhood association, task forces and

others) (63 %), staff analysis/recommendations (50%), elected official interest (25%), and state and regional planning requirements (13 %).

Q24 – Which of the following comes closest to your opinion of the overall ease of administration of your EDODs ordinances?

Responded: 36, answered: 11, skipped: 25 (response rate 31%)

Findings: Only approximately 45% of those who answered this question indicated that the administration of their locality's EDODs ordinance was somewhat easy. It was considered somewhat difficult by 27 % of those answering the question. About, 18 % indicated the EDODs ordinance was very difficult to implement. Only nine % of those answering the question indicated that the EDODs are very easy to implement.

Q25 - How is the EDOD perceived within your agency (relative to presented statements)?

Responded: 36, answered: 10, skipped: 26 (response rate 28%)

Findings: Approximately 50% agreed or strongly agreed with the statement that overlay districts provide immediate flexibility of regulation to accommodate new types of development. This statement was disagreed or strongly disagreed with by 20% of those who answered, and 30% had no opinion. Only 20% indicated that overlay districts were less costly than amending a Euclidian zoning ordinance; while 40% disagreed with this statement and 40% had no opinion.

Although this survey is not conclusive, it is understood that the path to adopting an overlay district or amending a Euclidian ordinance requires a similar amount of due process,

public participation and public advertisement. What is harder to assess is the political, administrative and time costs associated with "updating" a full Euclidian zoning ordinance (with district modification), as opposed to adoption of an "interim" overlay district to address regulatory or development concerns until a new full zoning ordinance is adopted (approximately 60% of respondent agreed with this premise).

Respondent were split 40% to 40% when asked if it was easier to gain stakeholder approval when considering an overly district as opposed to an "as-of-right" Euclidian ordinance. Only 20% had no opinion. In addition, 50% of those asked, agreed or strongly agreed that overlay districts are designed to achieve immediate change, relative to market pressure to sell viable industrial acreage or reduce re-zoning to nonindustrial use. Approximately 30% disagree strongly disagreed with this opinion and 20% had no opinion.

Q26 –Citizen Participation to enact overlay districts is important in my locality?

Responded: 36, answered: 11, skipped: 25 (response rate 31%)

Findings: Of those responding to this question 73 % indicated that they agreed or strongly agreed with citizen participation is important when enacting overlay districts. Only approximately 9% disagreed or strongly disagreed and 18 % were neutral or had no opinion.

CHAPTER 6

RELIABILITY AND THREATS TO VALIDITY

Reliability was established in this mixed methods qualitative analysis by using the overlay exploratory variables and other data slices to converge on the answer to the research question (Gaber & Gaber, 2007). Despite the lack of causal predictability, the relationship of variables within the different methods can construct plausible explanations (Ibid). Through the dissertation case studies, interviews, agency documents and supporting data analysis the following evidence of EDODs' impact is derived:

- Industrial and/or manufacturing developments have been retained in EDODs;
- Industrial and/or manufacturing developments have been newly established in EDODs;
- EDODs have been increasing in use by local jurisdictions to address a loss of viable industrial sites;
- EDODs link policy options in comprehensive development plans and economic development strategic plans with enactment of overlay legislation;
- Communities target the location of EDODs and link incentives to encourage development and redevelopment within them;
- EDODs influence industrial retention, expansion and redevelopment through local ordinance;
- EDODs specifically prohibit the rezoning of industrially zoned parcels to residential use;

- EDODs require zoning performance standards to control permitted operations on specific land and within structures;
- The population in localities with EDOD is varied in size and demographics which mean that some communities address issues of income and social equity which require different overlay designs;
- Manufacturing and other industrial related uses located in EDODs provide substantial average wages to employees relative to other industry sectors, and
- EDODs are located in proximity of the CBD in urban centers and within inner-ring suburbs, which address the work/housing mismatch issues.

Although causal inferences are not sought through this research, reliability of data is important in this study. Threats to validity can occur when attempting to generalize (Trochim and Donnelly, 2008). The threats to validity varied when addressing the qualitative versus quantitative factors in this study because the data is focused on different data slices (Gaber and Gaber, 2007). Such concerns include:

i. Confidence: Every attempt was made to draw appropriate conclusions based on a factual analysis resulting from implementing the research design, maintaining a chain of evidence, pretesting surveys, and generating a database using case studies, field reconnaissance, historical data, and survey analysis.

ii. Construct validity: The survey instrument did in fact work properly, although required IRB protective language was too lengthy and may have discouraged some participants. Pretesting of the survey instrument was conducted, providing for continued adjustments to content, relevance, time, and to correct bias in lack of clarity.

iii. Internal validity: The study's mixed-methods research approach provided opportunities to review various publications and documents (i.e., Euclidian zoning ordinances and overlay districts, comprehensive plans, economic development plans and redevelopment plans). Internal validity was maintained in that the study despite its largely qualitative focus, addressed the research question relative to applicable research variables.

iv. External validity: Consideration is given to the degree in which the study conclusions would hold true for other persons in other places and at other times (Trochim and Donnelly, 2008). This study addressed generalization and notes the different contexts in which economic development overlay districts have been applied or enacted (e.g. the relationship between case study communities with transferable overlay districts concepts) and potential communities for overlay use focusing on similarities and differences applying the concept of "proximal similarity" and show potential context to economic development overlay districts in a variety of places with different people at different times (Trochim and Donnelly, 2008)

This research demonstrates how and why local economic developers and planners may increasingly catalyze economic growth by improving Euclidian zoning through overlay districts. The research effort includes a multiple case study analysis. A clearer picture emerged of how overlay districts supersede and support Euclidian zoning, and, more specifically, if and how they assist in improving program-implementation of the goals and objectives of comprehensive and economic development plans in localities.

The research describes the characteristics of specific industrial-oriented, Euclidian-based overlay districts, including industrial/mixed use overlays (i.e., zoning overlay districts which promote office/labs, and commercial support facilities, for manufacturing/industrial

development). This was contrasted with contemporary overlays, such as residential/mixed use, and other non-industrial and as-of-right zoning districts.

The results of this research o contribute to current literature by providing a clearer understanding of how the traditional application of overlay districts has expanded (beyond its influence on environmental externalities, design elements and historic preservation issues). This research shows that overlay districts can serve as an increasing number of economic development purposes that will effectively change the built environment and create industrial development and jobs.

A number of jobs were intended to be created within economic development overlays. Local economic development agency staff provided interview comments and survey responses which report development to have been influenced by the EDODs and several other economic factors. The research addressed construct and external validity claims, because the theoretical constructs will show how EDODs are firmly tied to zoning, comprehensive land use, and economic development and location theory. Additionally, the findings demonstrated how the application of EDODs in the study communities will be generalized to other persons, places and times.

This research identifies and categorizes industrial-oriented policies that promoted overlay districts to support economic development. The results of this dissertation inform the field of economic development and provide academics and practitioners with a clearer picture of best practices to facilitate policy development and recommendations.

CHAPTER 7

CROSS CASE- STUDY REPORT

Baltimore, Maryland-MIZOD (industrial oriented overlay district)
Philadelphia, Pennsylvania-COD (nonindustrial overlay district)

The application of the overlay districts identified in these research case studies, suggest that there is evidence supporting linkage between available data and the study propositions. The research question as stated is: do overlays protect industrial land and jobs better than Euclidean zoning; and does the protection facilitate greater confidence in industrial investment? The answer to this question is: When economic development overlays EDODs "targeted regulations" are enacted (and also, provided with infrastructure , industrial recruitment and other economic incentives) to supersede Euclidean zoning, in accordance with the intent and purpose as established by each jurisdiction, the surveys and interviews suggest a 'positive relationship." That is, it was found through surveys, interviews and documents reviewed that protection of industrial land and jobs are thought to be enhanced beyond Euclidian zoning by enacting EDODs.

Therefore, industrial property owners are better served than through Euclidean zoning alone. In the case of Baltimore, MD the city was able to establish a long-term overlay district which protected maritime water-based industries over many years from encroachment by preventing rezoning of industrial overlay property to non-industrial uses. The programming associated with this overlay, working through the Port Authority of Baltimore and the Baltimore city government, provided for benefits including an established enterprise zones, tax incentives,

infrastructure investments and public/private financing. The regulatory considerations associated with zoning, subdivision regulation, development permitting options, and so on, working in tandem, enhanced and facilitated the retention of maritime businesses within the Port of Baltimore.

During this time, (2008 to 2014) economic indicators such as port container activity continued to grow substantially, infrastructure investments were extended; jobs were created. Although, the net growth could not be totally subscribed to the establishment of the EDODs, recent surveys of 186 companies located in the MIZOD identified the overlay as being beneficial and successfully lobbied for its continued extension to 2024. However, as indicated the overlay has recently been converted to a full as-of-right district within Baltimore city's new 2013 zoning ordinance. The MIZOD in Baltimore city is very different than the Central Delaware River Overlay District (COD) in Philadelphia, Pennsylvania.

One major difference is that the MIZOD was initially designed as a long-term interim device to effectively manage industrial development and industrial property disposition until such time as the new ordinance could be adopted. Extensions of the Philadelphia COD ordinance were also necessary to ensure that vital water-based industries would not be interfered with or curtailed because of encroachment or attempts to convert industrial properties to alternative uses. The COD has a shorter interim time horizon. However, like the MIZOD, the COD is linked to established land-use policy in the comprehensive plan and constrained by the overlay's stated purpose, intent and policy objectives. Furthermore, the COD was designed to ultimately transition industrial properties away from the overlay district and toward existing established or newly created industrial office parks and districts at alternative locations. Therefore, in both of

these instances, the overlay would be allowed to be more restrictive. However, in one circumstance it favors the retention and expansion of viable industrial space (MIZOD), and in the other, while doing the same (COD), the long-term implication is to phase or grandfather established industrial uses and locate or relocate them to existing industrial districts in Philadelphia, PA. The MIZOD in Baltimore more effectively realized the concept of the economic development overlay district (EDODs) as defined in this research study. The COD does in fact have elements that are characteristic of the EDODs as it relates to industry.

Industry is now located to the south and north of the former industrial district along the waterfront in the Central Delaware River Overlay District (COD). An industrial survey was conducted last year 2010 and report was written indicating where the preservation of industry should be provided and where industry is to go in the future. Random development parcels have been distributed in the cities due to the 19th century development patterns. Factories then were built and constructed on small parcels. Now the concentration is on industrial change.

A new zoning ordinance has been written, the first real overhaul since the 1960s. Recognizing new industrial plants are not generally causing ambient pollution, the new the Central Delaware River Overlay District encourages development of industrial and commercial mix uses. Within the CDO, artisans locate in industrial uses with retail, and are compatible as they develop next to commercial and residential uses. The overlay along the waterfront in Philadelphia breaks with tradition and considers markets ahead of development in the waterfront. The city wants to have certain infrastructure in place before the market is created, and proposes projects. They want to do the necessary diligence before the market shifts. The overlay provides time to do civic planning master planning in this area. The city through its development

Corporation is also considering what development options to provide for along the Delaware River waterfront. Philadelphia has less than 10% water frontage which is city-owned and 90% which is privately owned. The focus as to how the overlay district will work is predicated on Philadelphia's new master plan.

The Central Delaware River Overlay District (COD) has an express purpose which is largely to promote the transition away from older established industrial development. However, there are remaining industrial historic sites which still are viably functional for adaptive reuse and retention of industrial options. The Central Delaware River overlay district does not have the same focus as those other industrial areas in the city. As an example, in the Hunting Park industrial area, a bakery moved into the old Budweiser beer manufacturing facility and is using the old late 19th century building. It's realigning the base zoning and moving to new uses.

On the other hand, the overlay is concerned with providing a stopgap measure to stop land from being developed for non-industrial use. It also centralizes the effort to focus on policy. Philadelphia's new industrial policy plan provides great assistance in managing industrial growth. However, in areas like the Philadelphia waterfront the COD is needed to sharply target policy options. Philadelphia's ten industrial districts, have less than one half (i.e., 35 to 40%) of industrial land remains to work with. Active industrial uses were said to have not been rezoned out.

The central Delaware River overlay district is perceived as focusing on a unique opportunity to advance development while preserving key industrial parcels. However, it should be clear that the policy position of the city is the transition of all grandfathered industrial properties out of the overlay, and into established industrial zone and or parks. Expansion of

existing industry along this part of the waterfront was not a preference. It should be pointed out however, that the city's industrial development corporate focus is not necessarily considered by the city planning to be consistent with their industrial development policy perspective. Land banking and financing opportunities were included in the Philadelphia Industrial Development Corporation's (PIDC) activities.

Finding sites for industrial locations within the city of Philadelphia creates potential conflict for interagency development approaches. The PIDC considers industrial sites in the COD (see selected variables in figure 9, p. 97). Data indicates that the city of Philadelphia has a number of viable industrial site location alternatives. The COD is located within 2 miles from the CBD and is a competitive location for industry. It can establish or retain viable industrial uses. Moreover, the COD is in proximity to a working population; and industries provide an average industrial annual wage of $50,000 per year. This could provide ample opportunity for family wage employment within the city. One of the primary concerns in Philadelphia is that some of the existing industrial buildings, that are strategically located, were compromised by adaptive reuse or redevelopment. If this occurred there would be no industrial building inventory prospects.

Overlay zoning may still be needed to protect industrial districts. Philadelphia's new Industrial Land Market Study has helped to focus on industrial properties which in the past were lost to rezoning. Some of these restrictions on site conversion angered some people who wanted to use the property for churches, nightclubs and other alternative uses. They were frustrated by potential reuse options foreclosed on industrial properties and felt that they had no control if efforts were made to retain industrial space. In addition, waterfront properties for industries are

very important along the Delaware River and the Schuylkill River. The disposition of Industrial buildings within the overlay is controlled by the city on a parcel by parcel basis. The city's desire to preserve industrial land for development and expansion is well-placed. However, the planning policy through the planning department is to direct industrial growth to established industrial districts and not along the waterfront within the COD. Therefore, some existing COD industrial properties will be compromised, despite the "grandfather provision" in the COD.

Milwaukee, Wisconsin-IOD/DIZ (industries oriented overlay district)
Atlanta, Georgia-BeltLine OD (non-industrial oriented overlay district

The Atlanta Georgia BeltLine Overlay District is a design oriented overlay. However, it has potential for promoting light manufacturing industry or mixed-use industrial type development. The decision as to how to treat the industrial acreage within the overlay area has yet to be decided upon. As a result, different agencies working on the beltline project maintain different perspectives as relates to the disposition of industrial properties within the overlay. Moreover, an assessment of the status of individual industrial parcels and or aggregate analysis of industrial parks or freestanding units has yet to be done.

As the BeltLine progresses substantially in the direction of residentially oriented neighborhood-based mixed-use development, a key component of its employment options has not yet been decided. To some extent, the BeltLine overlay district can be perceived as part of in-land industrial port operations. That is to say, its close proximity to Hartsfield-Jackson International Airport and the accessibility or truck routes and access to the Interstate highway makes certain existing industrial properties within the Atlanta BeltLine overlay viable locations for logistics operations. The existing industrial locations can link warehousing and cargo

shipping activities from the Georgia Port Authority (GPA) facilities in Savannah and Brunswick, GA.

Likewise, the port of Milwaukee Wisconsin has industrially zoned parcels within the Industrial Overlay District/Development Incentive Zone Overlay District. The district provides industrial oriented economic development overlay district opportunities to-based maritime business establishments.

Both Atlanta and Milwaukee are midsize cities with a growing in population and economy. The overlay districts in both communities are designed in most instances to protect neighborhoods and create neighborhood scale economies with smart growth compact development. The overlays in each community are designed to help to economic development and in some cases to promote mixed-use development concepts.

Unlike Atlanta, the Milwaukee Industrial Overlay District/Development Incentive Zone has three sub-districts , one which provide for mixed-use development opportunities including business development, a second for light manufacturing and mixed-use types of development, and third overlay district focuses on port operations and recreational facilities.

A key point of divergence is that Atlanta's diverse economic base is largely service driven, and although industrial/manufacturing jobs would provide a greater average wage for workers within Atlanta, the BeltLine is perceived to be a non-industrial oriented overlay district. It is not yet focused on the opportunity to retain and or expand its existing light manufacturing base. Moreover, in general Atlanta's industrial base has been constantly shrinking. Without a

change in policy considerations, the BeltLine overlay may affect a greater shrinkage of Atlanta's industrial development opportunities.

In contrast, Milwaukee has a substantial amount of industrially zoned property still remaining. Some of these properties are associated with its active port operation. Because of Milwaukee's various overlay options the city has additional resources and possibilities to determine how to build out the industrial base. Atlanta has an opportunity to retain and expand some of its light manufacturing operations but it could decide to exploit the opportunity to create jobs through the overlay.

Both communities have access to well-educated, highly skilled workers. Both communities have economic development resources to support industrial development operations as well as mixed-use development. However, while Milwaukee sets in motion a strategy to capture its industrial heritage and maintain business options through the IOD/DIZ overlays, but Atlanta's BeltLine overlay has yet to promote any uses other than service-oriented and retail oriented businesses. To consider its options, the Atlanta BeltLine project needs to provide attention to its industrial business community and focus more on job creation opportunities Atlanta may in fact move to establish an industrial development focus through its Beltline project as suggested by the city of Atlanta staff.

The Beltline overlay project and those in the Milwaukee industrial overlay district currently use development incentives. This demonstrates that the overlay is in fact a viable tool, whether non-industrial oriented or industrial oriented focused. The EDODs can implement advanced and very sophisticated comprehensive plan and economic development plans, goals, objectives and programming consistent with the scope, purpose and intent of the overlay.

Moreover, the Milwaukee overlays in particular, are demonstrating how Euclidean zoning can be superseded by overlay districts to perpetuate industrial development retention expansion and revitalization.

Although the Atlanta BeltLine overlay is purely design-oriented to affect the quality of life aspects of development, both communities, have demonstrated how the overlay can assist in development options by targeting their resources to specific development types, and encouraging participation by various stakeholders in changing the built environment beyond the regulatory requirements of the Euclidean zone. Atlanta and Milwaukee could use EDODs to advance entrepreneurship in their communities.

The use of business incubators to establish smaller and minority owned businesses could occur within the EDODs. The business incubators could attract local, state and federal incentives, as well as private resources to assist this business with entering various traditional and innovative industrial markets (including production, distribution and repair (PDR) activities). Minority businesses in particular could be targeted with training and linked to resources to help them survive.

The EDODs could work in tandem with Affordable Housing programs and overlays; to ensure that minority entrepreneurs' and their families can avoid gentrification impacts and remain in the "inner-urban" communities of Atlanta and Milwaukee.

New Philadelphia, Ohio-TIOD (industrial oriented overlay district)
Youngstown, Ohio-PDOD (non-industrial overlay district

New Philadelphia is a small community in northern Ohio which took the big step of establishing a technical industrial overlay district. The city of New Philadelphia working through

its community development corporation has built a Technology Industrial Park and established a technical industrial overlay district. The district provides design and performance standards along with use requirements and limitations and has promoted itself to a successful attraction of high-tech chemical plant.

The city has invested infrastructure, industrial revenue bonds and technical assistance in establishing technical industrial Park in the TIOD. No residential uses as well as other incompatible developments are permitted in the technology Park overlay. The technology park is located in a rural setting approximately three miles from the CBD and is the city's most recent attempt to bring innovative new industry to the small town. In contrast, Youngstown is a much more established older community which has been hit hard after 30 years of economic decline.

The city of Youngstown adopted a new zoning ordinance which provides for overlay districts. It identifies a new overlay district which provides for maximum flexibility by not determining what a specific development plan must contain. As a result, within the general guidelines of the overlay, a proposal can be put forth with new and innovative ideas. It is not a floating zone as such, because the district is set and designated at a specific location. However it is not designed to adaptively use or transition potentially viable industrial properties for nonindustrial uses. Youngstown's comprehensive plan also identifies overlay districts as tools for implementing development plans. The city does not limit the application of overlays to addressing the loss of industrial land and development.

Instead, Youngstown is being proactive, creating maximum flexibility to allow innovative and creative development and redevelopment options. For example, the city's problem is not being devoid of industrial land. But, more specifically, the city wants to retain

key industrial parcels to establish a land bank or inventory. For example, building a 1,000 ft.² industrial plant to accommodate 10 or more employees requires a large site of 20 acres or more and is a concern. This is especially the case when the site needs to be assembled, cleared and re-platted. Youngstown has many acres of zoned land currently designated for heavy industry. The city needed a new industrial approach which the overlay accommodates. The city of Youngstown developed a new development/redevelopment plan in 2012, and adopted a new zoning ordinance a Redevelopment (Zoning) Code in 2013 (Youngstown, 2013).

The city sees itself as shrinking in size (i.e., "planned shrinkage?") and establishing new regulatory procedures to undertake innovative and significant change. The new Planned Development Overlay District in Youngstown is not designed to limit or restrict, but rather to open opportunities for varied and unique development plans going forward (City of Youngstown, staff interview, 2013) . The city intends to allow for mixed-use inflexible changes the bulk regulations and performance standards. In an attempt to provide maximum flexibility to new concepts and development options, the city of New Philadelphia developed a similar philosophy, which states its new Tech Industrial Overlay District (TIOD) is an attempt to attract creative new-age research and development oriented businesses. However, unlike Youngstown, the city of New Philadelphia overlay will exclude residential development, thus making it a purely industrial-oriented overlay district or an EDOD.

CHAPTER 8

CONCLUSION AND POLICY IMPLICATIONS

Why not just amend the existing Euclidian zoning ordinance and not enact an overlay district to improve the regulation and stem the loss of industrial zoned land? Patching the old Euclidian ordinance (which may be more than 25 years old) is impractical and not politically expedient. The research conclusions from case studies, survey administration and interviews indicatesthat overlay districts provide immediate flexibility of regulation to accommodate new types of development. In addition, at least 50% of the survey respondents indicated that overlay districts can be enacted for a limited period of time, which may be more acceptable to some communities, until a more permanent ordinance is, adopted (City of Baltimore, 2012a).

Furthermore, 50% of survey respondents indicated that EDODs are designed to achieve immediate change (i.e., to respond to market pressure and sell industrial acreage or reduce re-zoning to nonindustrial use and retain viable industrial land). Finally, the study survey and interviews found that because overlay districts do not have to be applied city-wide; they can be targeted to a particular geographical area and tailor development regulations and incentives to encourage in retention and attraction of industrial development.

Only 39% of survey respondents indicated that zoning enabling legislation existed, specifically allowing local jurisdictions to adopt zoning or overlay districts. However, 100% of those who responded did have a Euclidian zoning ordinance. This indicates that if the local government does have an EDOD ordinance it is most likely “implied permission” associated

with the Euclidian zoning enabling act. State legislatures should work with local jurisdictions on policy and legislation to provide greater economic development tools, including EDODs.

In the cities of Baltimore, MD, New Philadelphia, OH, and Youngstown, OH (see Chapter 7), overlay districts are gaining favor in local jurisdictions as a regulatory approach that targets and encourages smart community growth. A major reason for this use of overlays is to affect physical, socio-economic, and land use policy change and implementation of plans, without tedious amendments to base zoning (Garvin, 2001; Lerable, 1995; Jones & Bavoso, 1996; Muhlenberg, 1976; Rahenkamp & Hengst, 1987).

The case study and interviews in this dissertation indicate that overlays are used to address the effects of industry restructuring and relocation, which have left many existing development and potential redevelopment sites competing directly with non-industrial uses, such as residential and low-intensity mixed uses (The Baltimore Industrial Group, 2010; Philadelphia Industrial Development Corporation, 2010; Seattle Planning Commission, 2007). Vacant and underused industrial sites located in EDODs are sometimes being preserved if they are deemed viable industrially-zoned locations for future development opportunities (Youngstown State University, 2010, City of Philadelphia, 2012a).

Detailed case study analyses of three cities which maintain "viable economic development industrial overlay districts (i.e., Baltimore, Maryland; Milwaukee, Wisconsin; and New Philadelphia, Ohio) provide different approaches to similar problems. Also, three alternative case studies which represent non-industrial overlay districts (i.e., Atlanta, Georgia, Milwaukee Wisconsin and Youngstown, Ohio)demonstrates key policies implications and opportunities for stemming industrial land loss.

In addition, survey data from respondents helped to give clarity to issues surrounding the implementation of zoning overlay districts. This primary data was buttressed by Internet searches and a significant literature review which helped to provide the foundation for findings and conclusions. This research asked the question "Do overlays protect industrial land better than Euclidian zoning and does the protection facilitate greater confidence in industrial investment?" This study cannot answer the question of causality. However, the multiple case study (qualitative analysis) does present evidence that economic development overlay districts are being employed to supersede Euclidian zoning and enhance industrial development option. Each case study presents available data, which indicates economic activity within the overlay districts has been realized (e.g., job increases, infrastructure development, addition of industrial uses and space, and increases in population).

The EDODs protects land from encroachment (e.g., prohibiting residential use). They assist in the retention of industrial business and facilitate industrial investment. The case study analysis has provided data with regard to the defined economic development overlay districts (e.g. Baltimore, (MIZOD); New Philadelphia (TIOD) and Milwaukee (POD-DIZ). The analysis shows Euclidian land use control has been superseded or modified by altering bulk regulation, land use requirements and facilitating links to public/private financing options. Each application of an economic development overlay district has been uniquely tailored to the specific conditions, circumstances, needs, and policy objectives of a particular locality.

The cities of Baltimore, Milwaukee, and New Philadelphia all shared a common need to supersede Euclidian zoning. They effectively address the advancement of more or less restrictive land use regulation, relative to the Euclidian zoning, and thereby furthering the

economic development objectives. These case-study communities derive public policies through processes like the comprehensive plan, economic development plan and/or policy plan which recommend creative approaches to plan implementation extending beyond Euclidian zoning. Each case-study community legislatively enacted the economic development overlay district to effect change.

As Foster and Summers (2007) pointed out, the executive and legislative branches of state and local governments respond to the pressures of voting citizens (which can influence public policies and affect change). The case-study localities have all worked through community participation programs sponsored by local government executive and legislative branches and used state enabling laws (as implied) to supersede Euclidian zoning by enacting EDODs.

Although, dissertation survey responses indicated that few jurisdictions actually have enacted economic development overlay districts to date, most have mission statements which parallel with the purpose and intent espoused in the economic development zoning overlay ordinances. In addition, most of the localities which responded to the survey question (57%) indicated that adaptive reuse of industrial properties for non-industrial use was sometime achieved through EDODs.

The conclusion drawn here is that some communities are yielding to market and community pressures, and use the overlay to transition away from the industrial zoning to service sector uses. Conversely, if a community is uniquely positioned to retain and expand its industrial base, for example, Milwaukee and Baltimore, and have local, state and federal support, then the overlay is applied more effectively in support of Euclidian zoning by furthering economic development objectives which promote industrial uses (Blakely and Leigh, 2010; Jones and

Bavoso, 1996; Meshenberg, 1976). Communities which also have other economic development tools, such as, business improvement districts (BIDs), community improvement districts (CIDs) and/or enterprise zones (EZs) (59% of survey respondent to the question) may be able to increase their effective use of EDODs (25% of respondent have used them).

Many communities also did not use planned industrial districts, but they did enact form-based zoning (58% answered in the affirmative). At least 50% of survey respondents said they have adopted EDODs. Most of these communities had 1-5 EDODs and one had 11 or more overly districts. These survey respondents, along with the many interviews, case studies and review of documents provide evidence that use of the overlay to supersede Euclidian zoning and advance economic development strategies is really in practice today.

However, it is not clear how much the overlay is routinely considered for industrial retention, expansion or new development purposes. Some communities, such as Baltimore, recognize the negative impact planned unit developments in Euclidian ordinances can have on industrial retention efforts. They take action to stave the challenge by enacting a sophisticated targeted EDOD. Other local governments have passed new "Form-Based" zoning ordinances to replace ineffective Euclidian zoning and imbedded overlay districts within the "new age" land use control device (e.g., El Paso, TX Smart Code, 2008).

The zoning overlay district is becoming more of a tool to address broad economic development concerns as well as the specific targeted industrial retention, expansion and attraction issues in local jurisdictions going forward. Most survey respondents (62.5%) agreed that when used for economic development purposes, the overlay focused on the NAICS classifications of manufacturing, transportation and warehousing (logistics), professional,

science, and technical services, repair and maintenance businesses and less for utilities and construction industry use.

Additional respondents agreed (80%) that today the zoning overlay districts are increasingly used for design control and economic development. Still others (50%) indicated zoning overlays were used to promote historic preservation, environmental protection (40%). In addition, the overlay was seen as being used to address housing and safety concerns (22%). So, it can be concluded that the EDODs is increasing in its applicability, with its focus on economic development and industrial development superseding Euclidian zoning increasing in scope.

Communities continue to target industry sectors with the EDODs, affording Euclidian zoning to be more of a proactive verse reactive land use tool. EDODs can facilitate economic development strategies. This is particularly helpful since 63% of survey respondents and some interviewees think that community activism and staff analysis/recommendation are the drivers for EDODs enactment. With nearly75% of survey respondents indicating their local government requires community engagement, EDODs can be a vehicle to encourage more public participation in developing local industrial development policy. Community involvement, including local businesses, will ensure the overlays continued flexibility and perceived "somewhat easy" administration of EDODs (per 45% of respondents). Such input will increase the importance and provision of needed staffing, resources and streamlined systems to implement EDODs. On occasion when conducting early field reconnaissance, some upper-management city planning staff has expressed concern with the administration, cost, staff time, and complexity of zoning overlay districts (e.g., Prince George's County, MD-Gateway Arts Overlay District-The M-NCPPC, (2004)). Generally, cities (i.e., except in very large cities),

don't have the time/resources to conduct evaluations of metrics and program monitoring associated with EDODs. This provides an opportunity for the planning "academy" to step in and do critical analysis.

The EDODs have succeeded in many cases to contribute to the effectiveness of Euclidean zoning. By adding to or subtracting from the use, bulk, design and parking requirements as well linking economic development strategies and incentives to the zoning overlay a more practical tool has emerged (see Table 8.1, Key Findings and Policy Implications, below). Additionally, certain policy recommendation should be considered as follows:

- Communities should establish monitoring programs to work in conjunction with the economic development zoning overlays to determine on an on-going basis how the tool has been applied.
- Establish a firm program to collect and maintain a data base on which to focus on EDODs future programs.
- The EDODs should be more clearly understood by all stakeholders through continued education processes, especially on various governmental levels (i.e., perhaps sponsored though regional planning agencies).
- Consider the Foster and Summers (2008) study findings that some state governments in the U.S. are relatively highly restrictive on local land use control (particularly Arkansas, New Jersey, Ohio and Pennsylvania). Two of these States and three localities are case-studies within this dissertation. These and other jurisdictions may require state enabling legislation to give

them local autonomy and state support of EDODs. Local governments should work in tandem with state and federal entities to become highly effective.

- EDODs are used at specific times by communities to accomplish limited and targeted objectives, e.g., to restrict land use to only affect Euclidean industrial zoning; and to exclude residential and other nonindustrial-oriented uses to prevent encroachment and displacement of viable industrial business, buildings and land use. Conversely, mixed-use developments should be pursued when conditions are optimal.
- There is a "real" and "perceived" tension between the policy to protect neighborhoods and encourage mixed use development (i.e., context-sensitive /new urbanism) and the development of EDODs. Policies should be designed to retain viable industrial zoned properties to meet the present and future demands within localities.
- Local governments should consider regional planning and inter-jurisdictional implementation processes (e.g. clustering of businesses at locations which may cross several local government boundaries, including infrastructure and taxing districts) to lessen local EDODs competition and enhance regional economies of scale, cooperation, planning and programming.
- Funding sources should be linked to EDODs, such that older established economic development resources (e.g., Enterprise Zones) and utilized and newly launched programs, such as the federal “Investing in Manufacturing

> Communities Partnership (IMCP) can be applied. The IMCP provides funds to communities to "demonstrate best practices in attracting and expanding manufacturing by using long-term planning that integrates targeted investments in workforce training, infrastructure, research and other key assets (USEDA, 2013)."

Research findings and policy implications are summarized in Table No.___ below. The research findings indicate that there has been a degree of tension between local planning/economic development agencies and personnel sometimes within these same organization. The concern regarding the disposition of industrial properties, was derived from study interviews with key personnel and research observations. The issue stems from the position by smart-growth advocates that old industrially zoned water-front parcels and transitioning inner-city parcels are sometimes considered better suited for residential and commercial mixed-use development, with public access, as opposed to continued industrial use. In cities like Philadelphia, PA and Atlanta, GA these concerns have surfaced in the past decade.

Planning personnel who are trying to relocate older industrial uses to established industrial districts, and redevelop or adaptively use these former industrial parcels, argue that the markets have shifted away from industrial uses and these parcel can benefit the public and private interest more effectively if alternative uses are realized. In some instances, the EDODs are designed to affect this change. The communities' planners are suggesting that such industrial use can best be accommodated in defined industrial districts elsewhere in the locality.

Conversely, findings indicate advocates of industrially-oriented EDODs, argue that some existing industrial parcels located along the water-front and strategically located within

communities should be retained for present and future industrial development opportunities. They maintain that there should be no compromise when confronting industrial land loss and displacement of industrial businesses. EDODs are used to target industrial policies, plans and programs using incentives and job training to retain and attract businesses.

However, in certain instances, EDODs advocates consider the competition for limited industrially zoned parcels to be an opportunity to accept mixed-use development concepts, as long as industrial parcels remain a permitted use. The study findings indicated a lack of consensus regarding local public sector industrial land use policy. Localities have recently begun to consider local industrial land use policy (e.g., Youngstown, OH and Philadelphia, PA).

The research findings indicated that by ensuring, a community involvement program is executed during the development of the EDODs, which includes all affected stakeholder groups, the EDODs has a better chance of adoption and implementation.

Furthermore, it was found that the EDODs are narrowly focused and require special knowledge and training of personnel to administer the zoning program. Such staff training is recommended prior to the implementation of any EDODs ordinance. In addition, it is recommended that localities should not create too many overlay districts in its code. This will lessen the likelihood that the staff will be overwhelmed by the administrative tasks associated with EDODs implementation.

Moreover, if communities interact with each other on a joint-jurisdictional and/or regional basis using EDODs, there will be greater possibilities of success in protecting industrially zoned land. By using a regional approach, jurisdictions can stream line their

development processes and prevent conflicts and redundant regulation in adjacent jurisdictions. Also, if localities jointly divisive and implement EDODs, a regional link to economic development programming will be maintained. Efficiencies thorough administrative economies of scale would be realized.

Table 8.1 Key Research Findings and Policy Implications

Findings	Issues	Recommendations	Key References
Tension regarding policy exists between some mixed-use development planning personnel (i.e., Including Smart Growth advocates) and industrial development, retention and expansion land use advocates (i.e., EDODs)	Competition for existing industrial parcels which are limited	Use new zoning overlay to allow mixed use development, including industrial use within the district	CBRE-CBR Ellis, 2007; City of Los Angeles, 2004 and 2007; City of Philadelphia, PA, 2011; Youngstown State University, 2010
	Lack of local consensus on industrial land use policy	Design economic policy on local level	Leigh & Graduate Students, 2010
	Industrial land loss and economic decline in the inner-city and inter-ring suburbs are still an investment issues for which EDODs can be of assistance.	EDODs can be designed to target properties during rezoning to facilitate industrial development through incentives. Job creation can be targeted to regulatory gains.	Leigh & Hoelzel, 2010; Youngstown, 0H; YSU, 2010
EDODs are narrowly focused and required trained personnel to navigate and administer the regulations. Administration of EDODs can be costly and staff time and agency resource coordination.	Staff may not be trained sufficiently to administer EDODs (especially if the regulations are varied and technically challenging).	Do not create too many EDODs, just to address concerns. Perform the necessary study and justification to determine the benefits and costs to a community.	Lerable, 1995; Meshenberg, 1976; The Maryland-NCPPC, 2004
There is a clear link between EDODs and planning and economic development policy objectives on a local level.	EDODs must be policy-based. If the appropriate political and community support is not evident, the implementation process will be flawed.	All "stakeholders" must be involved in the EDODs development process from inception to enactment. Even if the EDOD is interim and intent. It will be understood and therefore, possibly accepted over time if supported through the process.	Molotch, 1976; Dissertation survey analysis, phone and in-person agency interviews; and multiple case study analysis
Regional/Inter-jurisdictional implementation of EDODs could be beneficial	Local governments can consider EDODs regional and/or inter-jurisdictional implications. However, they have little perspective or experience at this scale.	Localities with EDODs (especially with exogenous industry clusters and /specialized industrial zones) should plan to focus on regional location and joint-jurisdictional participation. Regional planning technical assistance should be provided to localities.	ARC, 2006; Fischel, 2001; ICMA, 2000; Porter, 2001; Ross, 2006; UNIDO, 2010;

CHAPTER 9

FUTURE RESEARCH

This research suggests further study is needed on the impacts of zoning overlay districts applications which has changed Euclidian zoning that has ushered in an era of unprecedented land use control since its inception. The controversial effects of Euclidian zoning are now legally, economically, politically, and socially engrained in the U.S. development processes. EDODs or other relatively new procedures (e.g., "Form-Based" zoning) are considered to improve or replace Euclidian ordinances. Future research can build on the answer to quantitative and qualitative research questions emanating from perceived flaws of Euclidian zoning. Perhaps future study could recommend a better overall system in conjunction with analysis of the outcomes of using smart codes and or form-based codes. Such research could contribute to the nation's success in economic development from a land use control and plan implementation perspective.

The implementation issues concerning the overlay districts are quite significant. Depending on the leadership and governance structure within a jurisdiction, there may be more or less support for certain policy elements of the overlay districts. Also, financing of the development plans, which evolve as part of the overlay process, can determine the degree of success in its overall implementation. Therefore, it is important to determine the funding structure for implementation. It is especially critical in an outlying area to precede the overlay district with the strategic development plan. The funding has to be sought to build out sewer, water, and road infrastructures necessary to accommodate even modest growth.

The legal challenges which might result from the proliferation of these ordinances have yet to occur. However, it is anticipated that as development overlay districts are enacted, and opportunity for investors and property owners increases, perhaps more litigation will result.

The question of how to measure success in implementing overlay districts is challenging. The quantitative aspect of the question will require a very clear, analytical approach to determine effect of overlay districts. Hedonic regression may be used to find the pricing and value of development. Success may also be measured using a less quantitative method, such as a more mixed or qualitative analysis. The community must establish a clear vision for its goals to gain a sense of what jurisdictions actually want to establish through the overlay. It may be that communities want certain resources from a cultural or historical standpoint. Through an analysis of the social and cultural implications of the overlay, benefits associated with greater education and understanding can be assessed. In addition, economic development entities in communities can benefit tremendously if planners and "zoners" trained by planning schools provide an emphasis on teaching more about doing program and project evaluation.

Further social and recreational factors would also require assessment. Moreover, timely quantitative or qualitative analysis done to further determine the economic viability and the contribution of the overlays, could serve as the foundation for future studies, and could provide a major addition to further understanding community planning and achieving economic development. Finally, the further study of how overly districts can improve the efficiency and effectiveness of the local industrial land development "processes" beyond Euclidian controls would be worthwhile. An example of these types of overlays could include: 1) Regional Manufacturing Conservation Overlay Zone, and 2) Regional Industrial Development Policy

Overlay Zone. These research efforts could contribute to the conceptualization of new, and/or improved land use control devices on local levels and to advance a national industrial development policy. It is critical that we regionalize our economic development focus on industrial development and the implementation of land use processes.

APPENDICIES

Appendix A – Overlay Definitions, Typology and Example

There is a common conceptualization of overlay zoning and its application by the authors as indicated in the table below:

Table A.1 Definition of Overlay District

Garvin (2001): "Overlay zoning has much in common with conditional use (special permit) zoning provisions which specify additional requirements which certain uses must satisfy to obtain a zoning permit. Overlay zones are a useful and increasingly common tool employed by communities attempting to direct planning and land use controls at specific problems and issues"
Jones and Bavoso (1996): "An overlay zone is defined as a mapped overlay district superimposed on one or more established zoning districts which may be used to impose supplemental restrictions on uses in these districts, permit uses otherwise disallowed, or implement some form of density bonus or incentive bonus program"
Lerable (1995): "Overlay zones typically provide an extra layer of regulation. However, overlay zones can also be used to provide exceptions to base district regulations. For example, and enterprise overlay district in a central business district may allow for additional uses not otherwise allowed in the same base district elsewhere in a jurisdiction."
Rahenkamp and Hengst (1988): "Overlay zoning involves the application of a map that overlaps but does not coincide with the boundaries of the underlying, basic zone or zones. Overlay zoning requires a special public interest in the area being overlaid. The mapped overlay zone, in effect, imposes a set of requirements over and above those of the underlying district."
Meshenberg (1976): "An overlay is a mapped zone that imposes a set of requirements in addition to those of the underlying zoning district. In an area where an overlay zone is established, property is placed simultaneously in the two zones, and the land may be developed only under the conditions and requirements of both zones. Overlay zones typically are applied when there is a special public interest in a geographical area that does not coincide with the

Table A.1 Continued

underlying zone boundaries."
Babcock and Banta (1973): "Mere geography does not distinguish hazards to adjoining property from particular uses. Overlay districting goes to the heart of this problem, recognizing that some use regulations may lend themselves to very different geographic mapping from that found with conventional districts. On a different scale, the overlay perspective might suggest that standard regulations deserve different treatment depending on the stage of development in the different areas of a city."

Study Definition of Economic Development Overlay Districts (EDODs)

An economic development overlay district is defined as a one which generally:

- Has a statement of intent and purpose for applying the economic development overlay;
- Has mapped economic development overlay zones that impose a set of requirements, in addition (i.e., more or less restrictive) to those of the underlying zoning district;
- Has site-specific regulatory requirements regarding policies affecting change (e.g., lot size, density, building location, open space, height, permitted land uses, accessory uses, conditional uses design criteria, parking and performance standards) (Babcock and Banta, 1973; Talen and Knaap, 2003);
- Has identified special economic development public interests (purpose) in local, regional, national, and global geographic market context;

- Has a range of possible economic and business applications beyond the underlying district (i.e., expand economic/industrial base, and local/regional employment and population centers);
- Has flexibility in the development of land and ensuring compliance with normal district regulations (including working cooperatively with public review procedures);
- Has encouraged more sustainable industrial development with respect to public infrastructure and preservation of open space;
- Has designated an area where industry and business can be conducted without the intrusion of non-industrial related uses and where investment is encouraged.

Note: An Economic Development Overlay which is non-industrial-oriented could include commercial and/or residential (mixed) uses which are not incidental or subordinate to the industrial development.

Source: Developed by author, 2014.

Appendix B- Sample Economic Development Overlay District (Industrial-oriented)

Tech Industrial Overlay District for City of New Philadelphia, Ohio

April 19, 2011

Purpose and Intent

The City of New Philadelphia hereby establishes the following overlay standards to carry out the purposes which are stated in the preamble of the zoning code and to achieve the following objectives:

1. To promote the development of research and technology oriented businesses in the city that will strengthen the economy of the city, attract high tech employers and research based firms and provide research and partnering opportunities with nearby universities.

2. To promote the development of businesses that will utilize and showcase recent advances in technology for sustainable construction and development and provide a new model for economic growth.

3. To promote the development of businesses that would fit well within the unique natural features of the site without substantial disturbance of the topography, unique view corridors and environmental features.

4. To prohibit uses that would create that for middle influence on the attraction and retention of research and technology oriented businesses and/or necessitate large-scale alteration of the site thereby harming their unique features.

5. To create architectural and development standards that will respect the natural features, and promote cohesive, quality development that protects the character desired by the city and the investment of businesses established within the overlay district.

Applicability

The provisions of this section shall provide the development regulations for properties located within the Tech Industrial Overlay as identified on the official zoning map of the City of New Philadelphia. These regulations should apply in combination with the underlying taste zoning district regulations and all other applicable standards of this zoning code. When the Tech Industrial Overlay standards conflict with the underlying base zoning district regulations and other standards of this zoning cold, the regulations of the tech industrial overlay will apply.

Permitted Uses

To achieve the purposes and intent of this overlay the following uses shall be permitted as principal uses within the tech industrial overlay:

1. Pharmaceutical and medical research and development

2. Computer and electronic product research and development

3. Computer and electronic product research and development

4. Information technology

5. Software development and programming

6. Computer animation and simulation

7. Chemical research and development

8. Data centers and data warehousing

9. Biotechnical research and development

10. Alternative energy research and development

11. Telecommunications and video communications research and development

12. Nano tech research and development

13. Fuel cells research and development

14. Environmental services

15. Aeronautics and Aerospace research and development

16. Hydraulics and robotics research and development

17. Architectural, engineering and related services

18. Specialized design services

19. Scientific research and development services

20. Business schools and computer management training

21. Medical diagnostic laboratories

22. Other similar or related technology businesses as approved by the City of New Philadelphia

Prohibited Uses

The following uses, operations and activities shall be prohibited from all properties within the Tech Industrial Overlay:

1. Any use not listed above as being specifically permitted within the Tech Industrial Overlay.

2. Any residential use.

3. Any activity violating any applicable federal, state or local law, ordinance, regulations, standards, order or rule.

4. Any use that is offensive because of emissions of folders, fumes, dust, smoke, gas, or toxic product, or other form of pollution or by reason of noise or vibration.

5. Any use or activity that causes danger to any person or property or any other property.

6. Any activity involving blasting, quarrying or excavation except in the construction of a principal or permitted use.

7. Any activity that may cause electrical- mechanical or electro-magnetic disturbances or radiation disturbances to other uses.

Site Planning and Design

The following guidelines and development standards are intended to protect and enhance the visual experience of the district and reduce incompatible and adverse impacts on adjacent buildings and properties. The development of any site within the Tech Industrial Overlay shall be in accordance with an approved master plan or site plan. Site planning and design features shall be consistent with the following requirements:

Minimum Lot Standards

1. Density-Allowable density shall be as necessary to fit the required building, parking and circulation on the site and provide for all required setbacks, open space, storm water management, and environmental preservation as detailed herein.

2. Minimum Lot Width-All lots shall have sufficient lot width at the front yard setback line to provide for the proposed use and required setbacks.

3. Minimum Lot Size-Lot size shall be, at a minimum, large enough to adequately provide for the proposed use, all required setbacks, in the following requirements:

a. All uses allowed in this district show entirely enclosed its primary operation with in a structure. Open storage and service areas are not permitted within the Tech Industrial Overlay.

b. All lots shall have access to the Right-of-Way of a public street or, in the event of multiple buildings accessing a common drive, shall be accessed by a permanent access easement.

c. All lots shall be adequate in size to provide for all storm water and utility provisions necessary to serve the property. In the event of a master planned development shared storm water management shall be permitted by the city.

Setbacks Required

All lots and uses shall have established the minimum setbacks from all rights of way lines and the internal and external property lines. No building structure or parking shall be permitted, constructed, modified or expanded within the required yard or set back space as defined herein. Accessory uses and structures shall not be permitted within the required yard and set back space.

1. Front Yard-All front yards shall be defined as the area adjacent and contiguous to the principal right of way servicing the building or use. In the case of corner lots the area adjacent to a contiguous to both rights-of-way shall be considered front yards. The minimum front yard setback shall be provided for structures and provided for parking in circulation. Loading area shall not be permitted in the right yards of any building or use.

2. Internal lot lines-The setback's side yard lot lines internal to a master plan development and adjacent to similar uses shall be a minimum of seat for structures and feet for parking loading and circulation. Setbacks from parking may be reduced to feet if both property owners sign and execute a legal agreement for shared parking between the uses.

3. External Property Lines-The setback for rear yards within a master planned development and external rear and side yard property lines adjacent to properties outside

of the master plan development shall be feet for structures, parking, loading and circulation areas.

Open Space Requirements

To create a high-quality environment that encourages activity, promotes the health and general well-being of its workers, and helps attract and retain businesses and employees, each development within the Tech Industrial Overlay is required to set aside a minimum of 20% of land for unusable open space with the following requirements:

1. Open space shall be designated and designed to provide some type of passive or active use and enjoyment. Passive uses shall include nature trails, educational trails, gardens, picnic areas, courtyards, etc.

2. Open space shall be accessible and usable by all users within the development, with the exception of private courtyards formed by buildings within individual sites.

3. Individual lots within the master planned development are not required to meet the stated open space requirements for each lot so long as the requirements are met for the overall development as a whole.

4. Private courtyards are formed by clustering of buildings within a site are acceptable as open space provided the courtyard provide some type of amenity for use or enjoyment for the general population within each building in the cluster. If part of an overall master plan, individual courtyards may count toward the open space required for the entire development.

5. Setbacks and storm water management areas shall not be permitted to count as required open space unless established with paths for trails constructed and maintained by the development. To be counted as open, open space paths and trails must be accessible to each use and form a loop or provide a destination for uses.

6. For developments within urban areas the requirements for open space shall be waived by the planning commission if the development is incorporated into the urban environment, has paid access to the public sidewalks, and is within walking distance of public parks, restaurants, shops or other amenities (City of New Philadelphia, Ohio, 2011).

Appendix C – EDODs Survey Instrument

Economic Development Overlay Districts Survey

1.

Dear Agency Representative:

You are being asked to be a volunteer in an on-line research study of cities/counties and/or economic development agencies. The purpose of this study is to collect and analyze data to help explain if and how Economic Development Overlay Districts (EDODs) affect Euclidian zoning thereby protecting industrial land, jobs and investment. We expect to enroll 200 local communities in this study. Participants in this study must have an adopted Euclidian zoning ordinance and/or overlay districts. If you decide to be in this study your part may involve receiving a phone call asking you to suggest any available completed studies, reports, and relevant zoning ordinances that you know of concerning overlays in your jurisdiction (this phone call should take no longer than 10 minutes). You will also receive a Survey Monkey electronic survey instrument by way of email. You will be asked to go to a website and complete a survey which has 27 questions and is estimated to take 15 to 20 minutes to complete.

Once you have completed the survey and uploaded your answers that will end your participation in this phase of the research. If for some reason you have been unable to complete the survey within one week of your consent to participate you will receive one 3 minute phone call asking if you have incurred a problem accessing the questionnaire. In some cases, if your jurisdiction has an active economic development overlay district, a researcher may request a field trip which may take 2 to 3 hours to visit the overlay area. The risk involved is no greater than those involved in daily activities such as processing zoning applications, or conducting zoning field trips to observe development patterns or activities. You are not likely to benefit directly from joining this study, but we hope what we learn will someday help others with less opportunities in their communities to generate jobs and wealth. There is no compensation for participation.

The following procedures will be followed to keep your personal information confidential in this study: the data collected about you will be kept private to the extent allowed by law. To protect your privacy your records will be kept under code rather than by name. Your records will be kept in locked electronic files and only research investigators will be allowed to look at them. Your name and any of the facts that might point to you will not appear when results of this study are presented or published. Your privacy will be protected to the extent allowed by law. To make sure that this research is being carried out in the proper way the Georgia Institute of Technology IRB may review study records. The Office of Human Research Protections may also look over study records during required reviews.

You should be aware that the study is not being run from a 'secure' https server of the kind typically used to handle credit card transactions, so there is a small possibility that responses could be viewed by unauthorized third parties such as computer hackers. In general, the web page software will log as header lines the IP address of the machine you use to access the Survey Monkey website, e.g., 101.403.506.807, but otherwise no other information will be stored unless you explicitly enter it. Your statements may be used to reference a particular point in describing or explaining the functions of Euclidian zoning or overlay districts. In this instance you will have an opportunity to review the text in which the statements appear to ensure proper attribution. Specifically, we are only interested in group information. The reporting of the study results will contain no personal information about individual participants.

There is no cost to you other than your time for being in this study. However, if you participate in a field trip you agree to be responsible for the costs of your visit. If you are injured as a result of being in this study please contact principal investigator, Nancey Green Leigh, PhD at (404) 894-9839.Neither the principal investigator nor Georgia Institute of Technology has made provision for payment of costs associated with any injury resulting from participation in this study. Your participation in this study is voluntary. You do not have to be in this study if you don't want to be. You have the right to change your mind and leave the study at any time without giving any reason and without penalty. Any new information that may make you change your mind about being in this study will be given to you.

You may print out a copy of this consent form to keep. You do not waive any of your legal rights participating in this research. If you have any questions about your rights as a research participant you may contact Ms. Kelly Winn, Georgia Institute of Technology Office of Research Integrity Assurance, at (404) 385-2175. If you participate in the survey, we will send a report on its results to the electronic address you provide. If you have questions about the research, please contact Raymond White: http://www.raymond.white@gatech.edu or (678) 469-8803. By completing the online survey you indicate your consent to be in this study. Thank you.

1. If you would like a copy of the results from this survey, please check this box:

☐

2.

Page 1

Economic Development Overlay Districts Survey

2. Local Agency

Name:

Company:

Address:

Address 2:

City/Town:

State:

ZIP:

Country:

Email Address:

Phone Number:

3. Name of person completing survey:

4. Survey completion Date:

5. Number of employees focused on Economic Development:

6. Number of staff focused on zoning overlay district administration/implementation:

7. Type of organization (please check as appropriate):

- a.Goverment:
- b.Authority:
- c.Public/Private Non-profit:
- d.Other:

8. Agency Mission Statement:

9. Does your jurisdiction have state zoning enabling legislation or overlay district enabling legislation?

- a.Yes
- b.No
- c.Not Sure

Economic Development Overlay Districts Survey

10. Does your jurisdiction (city/county) use the following land use tools or development interventions?

	Yes	No	Don't Know
a.Business improvement district (BID)	◯	◯	◯
b.Community improvement district (CID)	◯	◯	◯
c.Comprehensive development plan	◯	◯	◯
d.Economic development overlay district (EDOD)	◯	◯	◯
e.Economic development strategic plan	◯	◯	◯
f.Enterprise zoning (EZ)	◯	◯	◯
g.Euclidian zoning ordinance	◯	◯	◯
h.Form-based zoning	◯	◯	◯
i.Planned industrial district (PID)	◯	◯	◯
j.Planned unit development (PUD)	◯	◯	◯
k.Private covenants	◯	◯	◯
l.Property tax incentives	◯	◯	◯
m.Special tax incentives	◯	◯	◯
n.Special districts	◯	◯	◯
o.Subdivision ordinance	◯	◯	◯
q.Tax credits	◯	◯	◯
r.Tax increment financing (TIF/TAD)	◯	◯	◯
s.Transfer development rights (TDR)	◯	◯	◯
t.Transect codes	◯	◯	◯

Economic Development Overlay Districts Survey

11. How often do the following land use actions take place in economic development overlay ordinances in your jurisdiction?

	Never	Rarely	Sometimes	Often
a.Adaptive industrial reuse	◯	◯	◯	◯
b.Adaptive non-industrial reuse	◯	◯	◯	◯
c.Green innovative industries	◯	◯	◯	◯
d.Industrial (business) development	◯	◯	◯	◯
e.Industrial (business) retention	◯	◯	◯	◯
f.Industrial land preservation	◯	◯	◯	◯
g.Mixed-use development	◯	◯	◯	◯
h.Redevelopment - Industrial use	◯	◯	◯	◯
i.Redevelopment - non-industrial use	◯	◯	◯	◯

12. Which of the following statements best exemplifies the working definition of economic development for your agency? a, b, c or d (Please check all that apply):

◯ a.Economic development creates wealth through investment in human capital, financial capital, infrastructure and natural resources.

◯ b.Economic development increases the economic well-being of an area through increasing business activity and employment.

◯ c. Economic development raises the community's standard of living through human and physical infrastructure development, with attention paid to social equity and environmental responsibility.

◯ d.All of the above.

Economic Development Overlay Districts Survey

13. In which of the following economic development activities is your agency engaged?

	Actively pursue/recruit	Passively serve	We do not assist	n/a
a.Business attraction	☐	☐	☐	☐
b.Business retention and development	☐	☐	☐	☐
c.Business finance (bond and grants)	☐	☐	☐	☐
d.Environmental management	☐	☐	☐	☐
e.Infrastructure investment	☐	☐	☐	☐
f.Job creation	☐	☐	☐	☐
g.Marketing for products	☐	☐	☐	☐
h.Planned industrial park development	☐	☐	☐	☐
i.Property acquisition	☐	☐	☐	☐
j.Regional collaboration	☐	☐	☐	☐
k.Workforce development and training	☐	☐	☐	☐

14. Some conventional ordinances include economic development districts (EDODs) as an implementation tool. The "overlay zone" is defined as "a special zoning district that is placed over the existing (Euclidian)zoning base, thereby superseding, modifying or supplementing its requirements." Has your jurisdiction/agency adopted EDODs?

☐ a.Yes

☐ b.No

☐ c.Not sure

15. Does your jurisdiction collect data to assess the effectiveness of economic development activity within Economic Development Overlay Districts (EDODs)?

◯ a.Yes ◯ b.No

Economic Development Overlay Districts Survey

16. If yes, does your locality collect EDODs assessment data as follows:

	Before Adoption	After Adoption	Don't Know
a.Number of industrial jobs (Multiplier based)	☐	☐	☐
b.Number of industrial development permits	☐	☐	☐
c.Number of industrial square feet added	☐	☐	☐
d.Number of industrial businesses expanded	☐	☐	☐
e.Number of businesses retained	☐	☐	☐
f.Number of commercial (office) permits	☐	☐	☐
g.Number of commercial (office) businesses expanded	☐	☐	☐
h.Number of households with increased incomes	☐	☐	☐
i.Number of jobs held by low and moderate-income residents	☐	☐	☐
j.Number of jobs held by middle-income residents	☐	☐	☐
k.Number of dollars in property tax revenue	☐	☐	☐
l.Other (write in measure)	☐	☐	☐

17. How many Industrial EDODs have been adopted in your jurisdiction? (Please check one)

- ◯ a.1-5
- ◯ b.6- 10
- ◯ c.11 or more

18. What is the average size of EDODs in your jurisdiction (in acres)?

- ◯ a.1-24
- ◯ b.25-49
- ◯ c.50-74
- ◯ d.75-79
- ◯ e.100+

Economic Development Overlay Districts Survey

19. In what year(s) was the EDOD enacted in your jurisdiction?

20. What is the classification of industries within economic development overlay districts in your jurisdiction by 2007 NAICS classification? The North American Industrial Classification System (NAICS) is "the standard used by the Federal statistical agencies in classifying business establishments to collect, analyze, and publish statistical data regardin the U.S. business economy (U.S.Census Bureau, 2012)." (please check all that apply)

	Yes	No
a. Manufacturing NAICS 311-339	☐	☐
b. Transportation (Logistics) and warehousing NAICS 481-493	☐	☐
c. Professional, science, and technical services NAICS 541	☐	☐
d. Utilities and construction NAICS 221-425	☐	☐
e. Repair and Maintenance NAICS 811	☐	☐
e. Others (Please list by NAICS)	☐	☐

Other (Please list by NAICS)

21. What is the purpose or intent for establishing economic development overlay districts (EDODs) in your jurisdiction?

	Yes	No	Overlay was Enacted
a.Design review	☐	☐	☐
b.Economic development	☐	☐	☐
c.Environmental protection	☐	☐	☐
d.Historic preservation	☐	☐	☐
e.Housing plans	☐	☐	☐
f.Natural resources conservation	☐	☐	☐
g.Recreation	☐	☐	☐
h.Safety (include airport)	☐	☐	☐
i.Social Services	☐	☐	☐
j.Transportation	☐	☐	☐

Economic Development Overlay Districts Survey

22. Do you target the development of any specific industry sectors within your EDODs? If yes, which:

23. What was the initial source of motivation for adopting and implementing economic development overlay districts in your locality?

- ☐ a.Community activism
- ☐ b.Elected official interest
- ☐ c.Staff analysis
- ☐ d.State or regional planning requirements

e.Other (reasons)

24. Which of the following comes closest to your opinion of the overall ease of administration of your economic development overlay districts ordinances?

- ☐ a.Very easy
- ☐ b.Somewhat easy
- ☐ c.Somewhat difficult
- ☐ d.Very difficult

Economic Development Overlay Districts Survey

25. Please check the appropriate boxes below to indicate how the Economic Development Overlay District is perceived within your agency:

	Agree	Strongly agree	Disagree	Strongly disagree	No opinion
a.Overlay districts provide immediate flexibility of regulation to accommodate new types of development.	☐	☐	☐	☐	☐
b.Overlay districts are less costly than amending a Euclidian zoning ordinance.	☐	☐	☐	☐	☐
c.Overlay districts can be easier to gain stakeholder approval than "as-of-right" Euclidian ordinances.	☐	☐	☐	☐	☐
d.Overlay districts can be enacted for a limited period of time. Its temporary duration may be more acceptable to some communities, until more permanent ordinances can be adopted.	☐	☐	☐	☐	☐
e.Overlay districts are designed to achieve immediate change (e.g., to decrease market pressure to sell viable industrial acreage or to reduce re-zoning to nonindustrial use).	☐	☐	☐	☐	☐

j.Other (please specify)

☐

Economic Development Overlay Districts Survey

26. Overlay districts can provide opportunities for enhanced citizen participation. Citizen involvement can ensure the quality of economic well being (including services to disadvantaged populations), environmental protection and conservation. Based on this statement, please give your opinion about the following: Citizen participation in enacting overlay districts is important in my locality.

- [ ] a.Agree
- [ ] b.Strongly agree
- [ ] c.Disagree
- [ ] d.Strongly disagree
- [ ] e.Neutral/No opinion
- [ ] f.Not sure

27. Thank you again for your time. Please provide any additional comments you may have in the box below:

Appendix D– Tables and Figures

Table D.1

Selected Economic Development Overlay Districts-Purpose and Intent

No.*	Name of jurisdiction	Name of Administrative agency	Overlay district name	Overly district purpose and intent	Type[2]	Year proposed	Year activated	Year repealed
1.	Atlanta, Georgia	Atlanta Office of Planning; The Atlanta Beltline, Inc.	Beltline Corridor Overlay District	An existing zoning map and underlying zoning regulations are overlaid imposing additional regulation. The Beltline is a major initiative to link green space trails, transit and economic development, utilizing railroad corridor and surrounding underutilized industrial properties in a redevelopment project area.	R/M		2007	N/A
2.	Austin, Texas	Austin planning department	Conditional overlay (CO) district	Addition to and supplement plan development code, requirements prohibit uses in base district, increases minimum lot size and decreases floor area ratio. The purpose of a conditional overlay (CO) combining district is to modify use and site development regulations to address the specific circumstances presented by a site. A 'CO' combining district may be used to: (1) promote compatibility between competing or potentially incompatible uses; (2) ease the transition from one base district to another; (3) address land uses or sites with special requirements; and (4) guide development in unique circumstances.	D/M		1970	N/A
3.*	Baltimore, Maryland	Baltimore development Corporation	Maritime industrial overlay district/maritime industrial zoning ordinance (MIZOD)	Industrial Park, urban business, mixed-use, port compatible development, office technology	I		2004	Yes (2014)
4.	Bedford, Massachusetts	Metropolitan area planning Council	Industrial mixed-use overlay district	Provides a mix of compatible uses the first-floor street frontage usually reserved for retail restaurants and some cases office uses. By amendment the overlay district could allow for office, research facility, with light manufacturing in the industrial (C) district to obtain a special permit from the planning board if parking spaces exceed the maximum allowed.	I/MI		2006	N/A
5.	Boston, Massachusetts	Boston redevelopment authority	South Boston waterfront interim planning overlay district	Public access/recreational use/water related business retention is the focus and intent of this overlay districts.	R/CI		1999	N/A
6.*	Boston, Massachusetts	Boston redevelopment authority	Plan development area (PDA) special-purpose overlay districts	Development plans/master plans/review procedures designed to create high tech and advanced manufacturing industries.	I			N/A
7.*	Chicago, Illinois	Chicago, Illinois planning Department	North Seaport-Special character overlay district	Directs development controls to specific development of seaport area. Not within its planned manufacturing districts (PMD).	I		2007	N/A
8.	City of Grand Prairie, Texas	Grand Prairie planning division	Unified development code-Corridor overlay districts: Beltline, and Lakeridge Park	Overlay districts designed to address commercial corridor development and controls and design standards to locate appropriate uses but setbacks,	C/D		1990	N/A

Selected Economic Development Overlay Districts-Purpose and Intent

			way overlay districts;	design standards, landscaped plans, and transportation requirements.				
9.	City of Newport News, Virginia	Planning Department	Lee Hall Corridor Overlay District	Encourages appropriate renovations to existing mixed-use, commercial and industrial structures and compatible new construction by promoting orderly development and redevelopment, the use of building forms material and site design, architectural and visual character to encourage diversity of design styles.	M/D		2014	N/A
10.	Cobb County, Georgia	Cobb County planning Department	Redevelopment overlay district (ROD)	Established to provide locations for redevelopment of commercial, office and residential uses in which development is pedestrian oriented and developed at a community regional activity center scale and intensity.	R/M		2007	N/A
11.*	Commerce Township, Michigan	Township Planning Department; Oakland County commission	ORI, office research industrial overlay district	High-tech uses, engineering, research and design, development, robotic research biotechnology, biotechnology	I/D		2009	N/A
12.*	Cumu Township, Pennsylvania	Cumu Township Office	Adaptive Reuse and Redevelopment Overlay District (Special Overlay District)	A special overlay to the existing commercial and industrial uses within the underlying local commerce (LC) district, Highway commercial (HC) district and general industrial (GI) district. To permit plan to reuse, division and/or redevelopment of existing nonresidential buildings, structures and land uses. To retain and expand existing businesses to preserve a sound tax base and provide employment opportunities. Provide incentives and pursue economic development targets. Maintain positive relationships with local businesses and implement the recommendations in the comprehensive plan.	I/C		2009	N/A
13.	Detroit, Michigan	Detroit planning Department	Major corridor overlay areas; downtown and riverfront overlay areas; development improvement overlay areas overlay district	Encourage appropriate renovation to existing mixed-use, commercial and industrial structures incompatible new construction by promoting the use of building forms materials and site design.	C/M/I		2010	N/A
14.*	Fall River, Massachusetts	Fall River office of economic development	Research and development overlay districts	Research development in science and technology are encouraged in these overly districts. The first overlay focuses on promoting life science and biotechnology; the second includes an energy business focus. The region's only research and development overlay districts.	R/D; R/D		2000;2014	N/A
15.*	Hardin County, Kentucky	Hardin County planning Department	Hardin County industrial overlay district	Industrial corridor visual and set back controls to promote industrial development.	I/D		2009	N/A
16.*	Hillsboro, Oregon	Washington County planning Department	Special industrial overlay district (SID)	Initially designated to encourage industrial development before city annexation of parcels (and early 1980s). City provides water and sewer infrastructure. No longer valid ordinance nullified by state land use law (Growth Management) in Oregon (Harry, T. (2013)).	I		1987	1990
17.*	Kernersville, North Carolina	Town planning Department/zoning officer	Industrial corridor overlay district (ICOD)	Encourage development and redevelopment which preserves the community's industrial tax and job base	I/R		2009	N/A
18.	King County,	King Co. Dept. of permitting	Economic Redevelopment	The purpose of the Economic Redevelopment SDO is	R/C/I		1994	N/A

Table D.1 Continued

Selected Economic Development Overlay Districts-Purpose and Intent

	Washington	and Environmental Review	Special District Overlay-Economic Development	to provide incentives for the redevelopment of large existing, underutilized concentrations of commercial/industrial lands within urban areas.				
19.*	La Porte County, Indiana	City of La Porte	Economic Opportunity Overlay District	The intent of the EOOD is to provide a mechanism to allow for development of major transportation-related facilities and limited exurban and rural areas where specific conditions exist that are conducive to large-scale distribution and logistics centers.	I		2004	N/A
20.*	Las Cruces, New Mexico	Economic development department	West Mesa industrial Park overlay zone district	Industrial Park development is supported within this overlay district adjacent to the municipal airport. The overlay is to implement land use and design policies, promote and encourage economic growth, protect the natural and existing environment within the park, provide clean industry and employment and maintain and enhance existing commercial and industrial uses and aesthetic features of the park. The overlay includes a Foreign Trade Zone.	I		1997	N/A
21.	Las Vegas, Nevada	Las Vegas Planning Department	Downtown entertainment overlay district	The DEOD is intended to create safe and secure environments, eliminate urban blight, revitalize surrounding neighborhoods, foster economic development and expand free enterprise, eliminate criminal activity, promotes choice for business and citizens, adjust zoning and license restrictions to encourage gaming, nightclubs, comedy clubs, and music entertainment; leverage unique attractions; and encourage and facilitate the improvement district for commercial area vitalization.	C/M		2006	N/A
22.*	Milwaukee, Wisconsin	Department of city development; Milwaukee port authority	Port of Milwaukee overlay district	Promote industrial maritime development and commercial development, in accordance with the city of Milwaukee's port redevelopment plan (2010).	I		2009	N/A
23.*	Minneapolis, Minnesota	industrial living overlay district	Industrial living overlay district	This overlay allows for a rezoning to industrial classification with a cluster subdivision. If an applicant wants to subdivide their property without the industrial component they must apply for a rezoning in order to be removed from the overlay.	I/M		2000	N/A
24.*	Monroe County, Indiana (Bloomington)	Monroe County planning Department	Business and industrial overlay district	Designed to retain the potential for business and industrial development in areas identified on the comprehensive land use plan. Permit uses which are limited to those allowed in the light industrial and heavy industrial districts.	I		1977	N/A
25.*	New Bedford, Massachusetts	Planning board, planning Department, redevelopment authority	Hicks-Logan-Sawyer interim planning overlay district-(HLS IPOD)	Encourage redevelopment of brownfields and new development. Does not affect expansion of existing use and does not exceed 500 sq.ft., or in the last five years located in an overlay district. The district is approximately 95 acres predominately industrially zoned land cover and 13 city blocks.	R/I		2008	N/A
26.*	New Bedford, Massachusetts	South Coast development partnership; greater New Bedford industrial foundation;	Research and development overlay districts	These overlays promote the life science industry; promotes skilled workers, creative financing and proper zoning through research and development in	I		2008	N/A

Table D.1 Continued

Selected Economic Development Overlay Districts-Purpose and Intent

		Fall River office of economic development; New Bedford economic development Council; University of Massachusetts		overlay districts in south coast Massachusetts. The overlays promote commercial real estate including raw land and available space. They support biotechnology and bioengineering medical device manufacturing through cluster promotion. Business parks are supported in these overlay districts.				
27.*	New Philadelphia, Ohio	Tuscarawas County Community Improvement Corporation	Tech Industrial Overlay District	To promote research and technology oriented development promote the development of businesses that will utilize and showcase recent advancements in sustainable construction and development; prohibit uses that would create detrimental influence on the attraction and retention of research and technology oriented businesses and create architectural and development standards.	I		2011	N/A
28.	New York, New York	New York City Department of city planning	Hunts Point residential/commercial overlay district	Local commercial/retail business development in residential/industrial (food) mixed area (significant local community demand).	C/M		2008	N/A
29.	Norcross, Georgia	Norcross planning department's	redevelopment area overlay district	Revitalization of underutilize commercial corridors and residential areas	R/C		2007	N/A
30.*	North Charleston, South Carolina	North Charleston planning Department	Maritime cargo overlay district	Promotes maritime cargo operations within areas designated as tax increment finance districts in conjunction with maritime cargo overlay districts; other than containerized shipping operations and related activities; the district uses include but are not limited to, break-bulk handling of cargo, and roll-on/roll-off operations.	I		1995	N/A
31.*	Philadelphia, Pennsylvania	Philadelphia planning Department; Philadelphia industrial development commission (PI DC)	Central Delaware riverfront overlay district	Provide development guidance and controls for the central Delaware riverfront; a diverse collection of uses, ranging from the working industrial port and large retail in the south to high-rise communities in the north. The overlay helps promote long-term economic viability in the district. Non-viable industrial uses have become non-conforming within the overlay, allowed to sell to another viable industrial use and maintain nonconforming status (i.e., not permitted to expand).	R/M		2009	N/A
32.*	Portland, Oregon	City of Portland Bureau of Planning & Sustainability; Central East side industrial Council (CEIC); Portland Development Commission (PDC)	Central Eastside Industrial Overlay District	Design overlay/employment opportunity sub-area is the focus of this overlay in land use districts (predated Growth Management Boundaries).	I		1975	N/A
33.*	Portland, Oregon	Portland planning and Sustainability Department	River industrial overlay zone	Encourages and promotes the development of river-dependent and river-related industries which strengthens the economic viability of Portland as a marine shipping and industrial harbor. Preserves riparian habitat and provide river front public access where practical (ref: www.portlandonline.com)	I		1975	N/A

Table D.1 Continued

Selected Economic Development Overlay Districts-Purpose and Intent

34.	Prince Georges County, Maryland	Prince George's County planning Department-M-NCPPC	Revitalization overlay district (R-O-D)	Ensure the orderly development or redevelopment of land within a designated district. Provide a mechanism for the County to delegate full authority to local municipalities to prove departures from parking, landscaping and signage standards. Also provide limited authority to approve variances from building setback, lot coverage, yards and dimensional requirements of the existing zoning.	R/M		2004	N/A
35.*	Prince George's County, Maryland	Prince George's County planning Department-the Maryland-M-NCPPC	Gateway arts overlay district	Promote the arts and entertainment industry. Convert surplus industrial space to manufacture artwork, including large-scale sculpture development in live/work mixed-uses.	R/M/I		2004	N/A
36.	Raleigh, North Carolina	Raleigh planning Department	Planned development conditional use overlay district	To promote mixed-use, transit usage, economic arrangement of buildings, and preservation of natural features, protect commercial corridors from stripped-development, and provide public services and master planning.	M		1989	N/A
37.*	Randolph County, North Carolina	Randall County planning Board	Performance-based industrial overlay zoning districts	Proposed as management policy guidelines (policy 1.8) Randolph County growth management plan (2009),pg. 13. Policy 3.1: industrial development should be on land that is physically suitable and has unique locational advantages for industry.	I		2009	N/A
38.*	San Francisco, California	San Francisco planning Department	Special use district (SUD) overlays	Promotes urban mixed uses and production, distribution and repair zoning in the central waterfront. In this SUD, medical services, life science offices, and life science laboratories are permitted uses and exempt from size limitations and vertical (4 x 4) zoning controls.	M/I		2009	N/A
39.*	Seattle, Washington	Department of planning and development	Southeast Seattle reinvestment area overlay district (SESRA)	To promote community revitalization and investment and encourage development which supports business activity and provides employment opportunities and needed services to residents of Southeast Seattle (Seattle municipal code).	C		1992	N/A
40.*	Smithtown, New York	Smithtown planning and community development Department	Hauppauge industrial Park overlay zoning district (Proposed)	Relax some of existing light industrial zoning regulations that currently applied to building location in the industrial Park providing business owners with the opportunity to expand their facilities and operations. Overlay district regulation would allow most buildings in the industrial Park to increase their height from 35 feet to 50 feet or higher; permit outdoor storage and allow for increased signage and the use of shared parking lots. Warehousing and manufacturing buildings would be allowed to expand to the heights needed to accommodate taller wracking and new equipment and machinery. And $85 million upgrade and sewer water district increase capacity from 300 GPD to more than 1 million GPD.	I		2013	N/A
41.*	Tempe, Arizona	Tempe zoning and development department	General industrial overlay district	The purpose of the Gen. industrial overlay district (G.I. OD) is to provide a smooth transition from the G.I. OD to adjacent single-family residential districts	I		2005	N/A

Table D.1 Continued

Selected Economic Development Overlay Districts-Purpose and Intent

42.*	Titusville, Pennsylvania	City planning department/zoning officer	Industrial overlay district (IOD)	District is primarily intended to facilitate the redevelopment of older Brownfields industrial areas.	I/R		2006	N/A
43*.	Tualatin, Oregon	Tualatin Planning Department	Industrial business park overlay district	To accommodate the changing industrial -commercial marketplace by allowing mixed uses within the context of an enforceable master plan. Industrial uses are emphasized, but office and selected service and retail uses are allowed through the operation of the industrial business or overlay district. The second purpose of the district is to recognize that not all office service and retail uses are incompatible. This district allows selected retail and service uses that are supportive of and secondary to industrial and office uses.	I/C		1999	N/A
44.*	Village of West Milwaukee, Wisconsin	Office of the village administrator	Proposed business, manufacturing and mixed-use planned unit development overlay districts	To address compliance with physical plant arrangement, architectural design of buildings, performance standards and industrial development design adequate services and public safety protection adequate parking and transportation facilities	I/M	2013		N/A
45.	Walnut Grove, Georgia	City clerk	Downtown redevelopment overlay district	The purpose and intent of the downtown redevelopment overlay district is to permit the development of land in a manner consistent with traditional small-town commercial uses and residential neighborhoods.	R/C/M		2007	N/A
46.	Walton County, Georgia	Walton County planning and development Department	Crossroad corridor overlay district	The overlay protects the public health, safety and general welfare and ensures prosperity in Walton County by discouraging stripped commercial development and encouraging high intensity pedestrian-friendly (commercial) development nodes and intersections along certain highway corridors. It set higher standards for appearance, and functionality of land uses at major intersections. Uses allowed with conditional use permit include building materials, light industrial uses, and warehouse and distribution centers.	M		2012	N/A
47.*	Washington, DC	District of Columbia office of zoning	Langdon overlay district (LO)	Established to implement the comprehensive plan by protecting residences and residents from adverse environmental, safety, and aesthetic impacts of budding industrially zoned properties and uses; to encourage retention of existing commercial and light manufacturing uses and to allow new businesses under special controls designed to protect the quality of life in neighborhood character of the adjacent residential neighborhood.	M/D		2010	N/A
48.*	West Palm Beach, Florida	Palm Beach County zoning division	Infill redevelopment overlay,	Promotes community redevelopment, economic development, infill redevelopment, urban redevelopment, research and technology	C/R			N/A
49.*	Youngstown, Ohio	Youngstown Planning Department	Planned development overlay district	Provide an opportunity for appropriate, creative planned development in ways that create significant benefits to the city beyond those that would occur under base zoning districts. (Youngstown , OH, Redevelopment Code)	P/R		2011	N/A

Table D.1 Continued

Table D.1 Continued

Selected Economic Development Overlay Districts-Purpose and Intent

[1]Industrially-oriented zoning overlay districts which support industrial development, retention, expansion, transition to and/or from an underlying industrial zone.
[2]Overlay Type: C: Commercial; D: Design; I: Industrial; M: Mixed Use; P: Planned Development; R: Redevelopment. Table compiled by author, 2014.

Table D.2
Municipal Code Corporation Publications Data*
Listed by State

State	Number of General Codes	Percent of Entries
Alabama	65	2.58%
Alaska	18	0.72%
Arizona	14	0.56%
Arkansas	25	0.99%
California	195	7.75%
Colorado	29	1.15%
Connecticut	33	1.31%
Delaware	6	0.24%
Florida	348	13.83%
Georgia	276	10.97%
Hawaii	1	0.04%
Idaho	5	0.20%
Illinois	139	5.52%
Indiana	32	1.27%
Iowa	9	0.36%
Kansas	32	1.27%
Kentucky	6	0.24%
Louisiana	97	3.85%
Maine	9	0.36%
Maryland	18	0.72%
Massachusetts	17	0.68%
Michigan	104	4.13%
Minnesota	46	1.83%
Mississippi	25	0.99%
Missouri	57	2.26%
Montana	9	0.36%
Nebraska	9	0.36%
Nevada	8	0.32%
New Hampshire	4	0.16%
New Jersey	18	0.72%
New Mexico	18	0.72%
New York	12	0.48%
North Carolina	106	4.21%
North Dakota	6	0.24%
Ohio	5	0.20%
Oklahoma	31	1.23%
Oregon	17	0.68%
Pennsylvania	4	0.16%
Rhode Island	18	0.72%

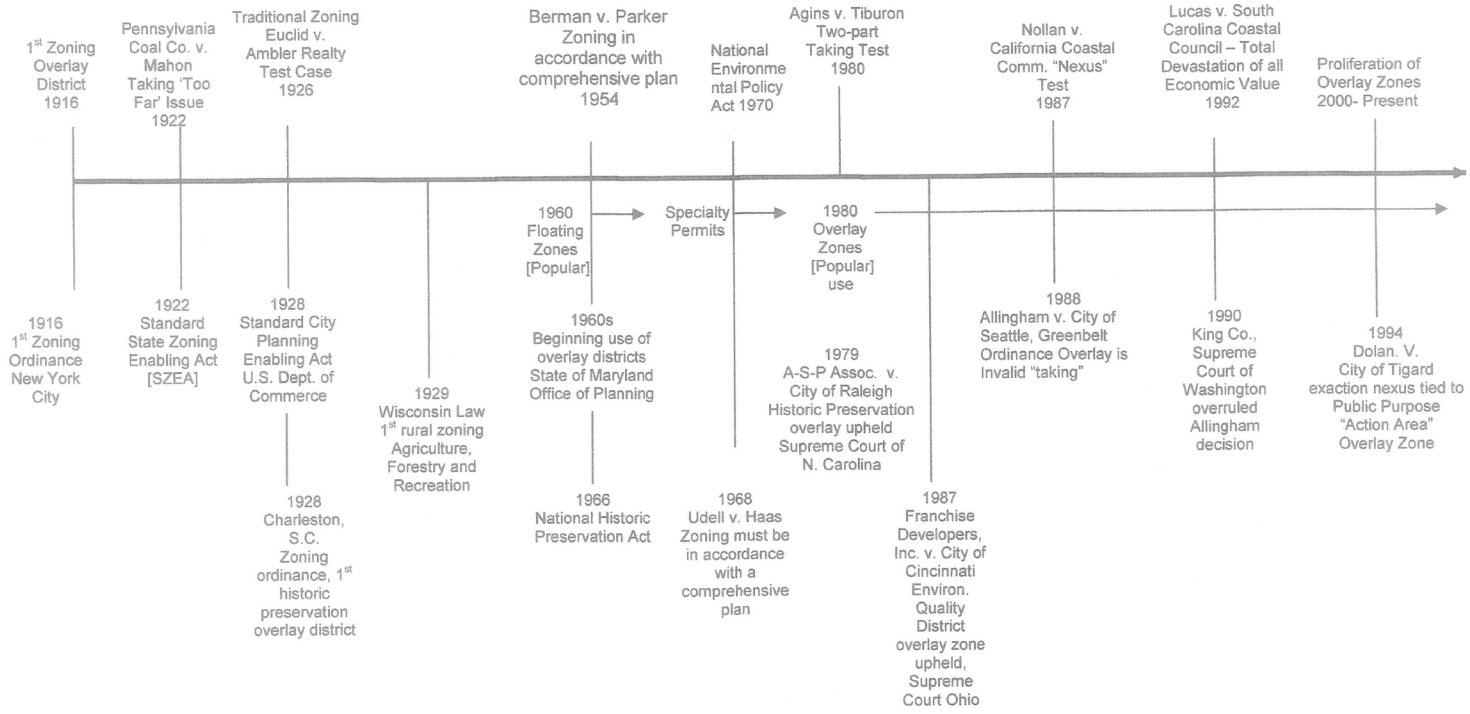
Table D.2 Continued

South Carolina	85	3.38%
South Dakota	8	0.32%
Tennessee	12	0.48%
Texas	240	9.54%
Utah	10	0.40%
Vermont	2	0.08%
Virginia	116	4.61%
Washington	43	1.71%
West Virginia	7	0.28%
Wisconsin	113	4.49%
Wyoming	10	0.40%
Total	2517	100 .00%

Source: Municode Corporation [2013) *"Publications can be code, comprehensive plan, zoning code, policy and procedures manual, or council minutes, although the vast majority of publications are codes of ordinances" Phillip Claiborne, Chief Information Officer, Municipal Code Corporation, October 30, 2013.

Figure D.1

Zoning Overlay District Timeline
A chronology of Legislation, Statutes, Policy and Events



Source: Jones and Bavoso, 1996; Maryland, 1995; Blackwell, 1989; Stipe and Lee, 1987; Anjomani, 1984; Beusher, 1976; Rose, 1974; Babcock and Banta, 1973. [Compiled: White, 2012]

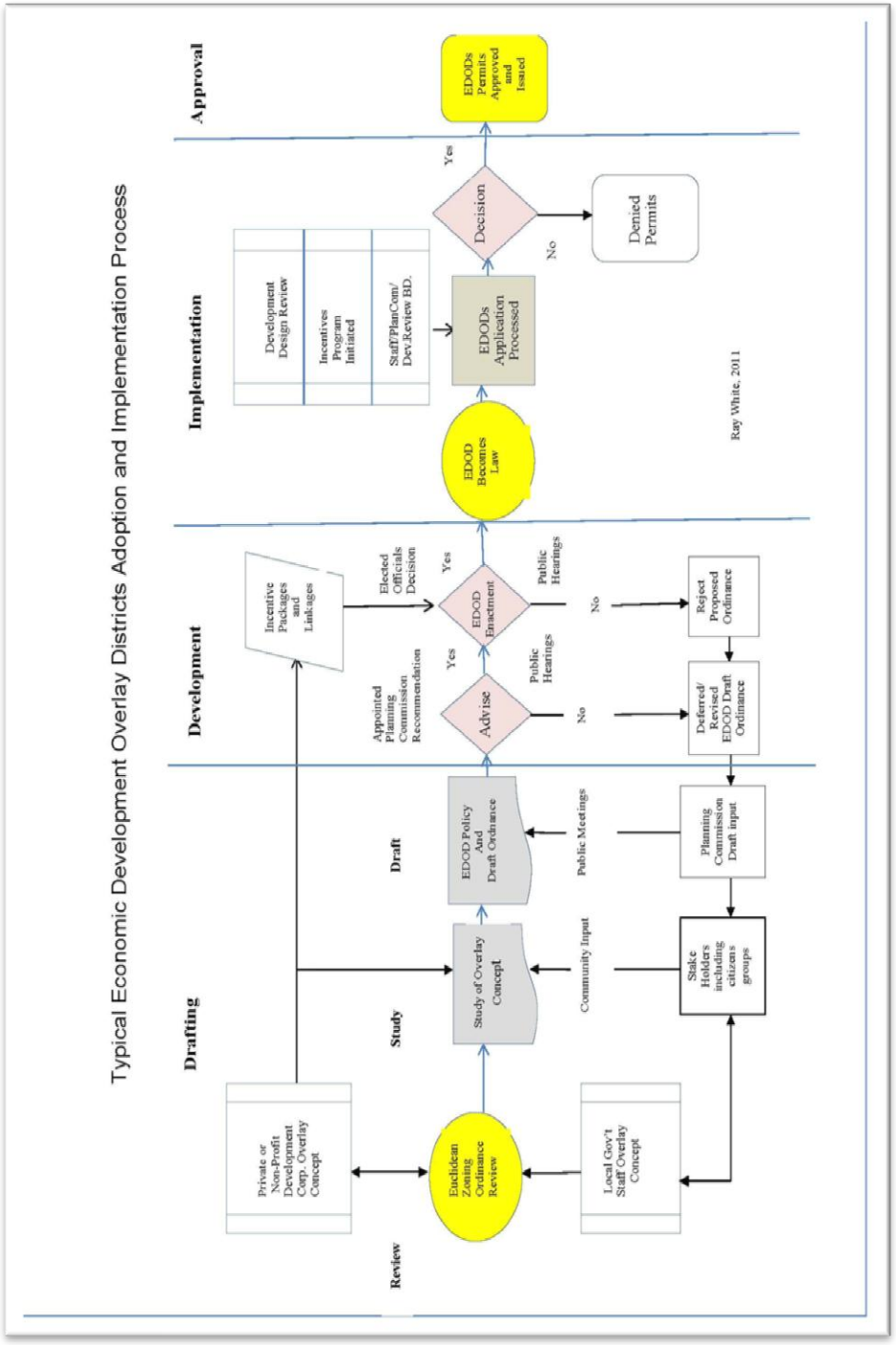

Typical Economic Development Overlay Districts Adoption and Implementation Process
Drafting
Development
Implementation
Approval
Review
Study
Draft
Private or Non-Profit Development Corp. Overlay Concept
Euclidean Zoning Ordinance Review
Local Gov't Staff Overlay Concept
Study of Overlay Concept
Community Input
Stake Holders including citizen's groups
EDOD Policy And Draft Ordinance
Public Meetings
Planning Commission Draft input
Deferred/ Revised EDOD Draft Ordinance
Appointed Planning Commission Recommendation
Advise
Yes
Public Hearings
No
EDOD Enactment
Yes
Public Hearings
No
Reject Proposed Ordinance
Incentive Packages and Linkages
Elected Officials Decision
EDOD Becomes Law
Development Design Review
Incentives Program Initiated
Staff/PlanCom/ Dev.Review BD.
EDODs Application Processed
Decision
Yes
No
Denied Permits
EDODs Permits Approved and Issued
Ray White, 2011

Figure D.2

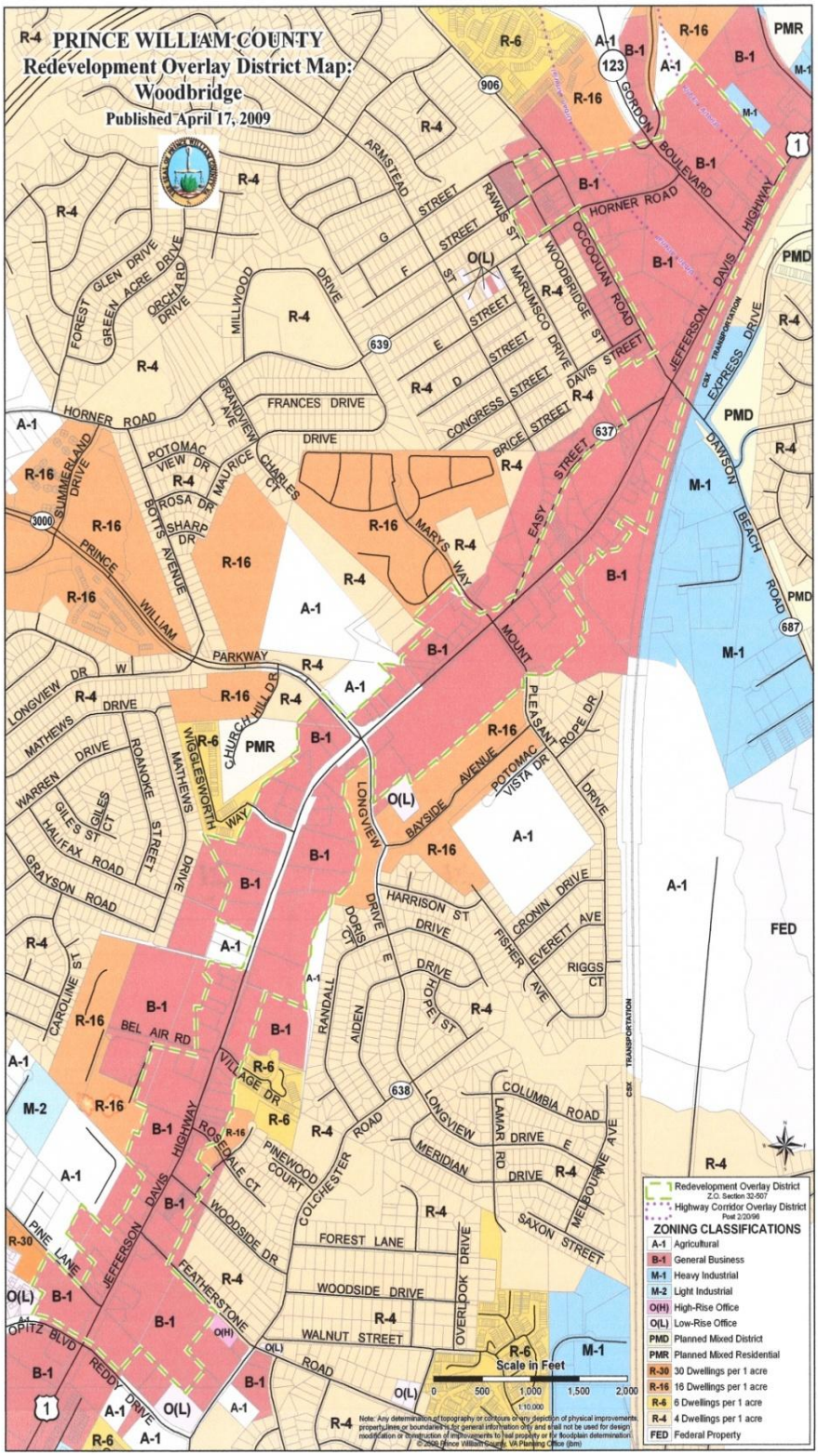

PRINCE WILLIAM COUNTY
Redevelopment Overlay District Map:
Woodbridge
Published April 17, 2009
Redevelopment Overlay District
Z.O. Section 32-507
Highway Corridor Overlay District
Post 2/20/96
ZONING CLASSIFICATIONS
A-1 Agricultural
B-1 General Business
M-1 Heavy Industrial
M-2 Light Industrial
O(H) High-Rise Office
O(L) Low-Rise Office
PMD Planned Mixed District
PMR Planned Mixed Residential
R-30 30 Dwellings per 1 acre
R-16 16 Dwellings per 1 acre
R-6 6 Dwellings per 1 acre
R-4 4 Dwellings per 1 acre
FED Federal Property
Scale in Feet
0 500 1,000 1,500 2,000
1:10,000

Figure D.3

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