Minor League Baseball Stadiums and Urban Redevelopment in Mid-Sized American Cities

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ABSTRACT

As America's cities continue to grow outward through suburbanization, many cities are looking to economically revitalize their downtowns. One method has involved city officials and owners of Minor League Baseball teams working together to spur redevelopment by building stadiums downtown with the hope that the stadiums will stimulate economic success with new residential housing and commercial expansion. This mindset reflects a change in ideology by team owners over the past two decades, as new stadiums were previously being built in suburbs. This research investigates the changes within the neighborhoods of a sample of cities with stadiums that opened between 1994 and 2013 through a number of geographic methods. Remote sensing techniques and on-site visits are utilized to examine land use change, GIS is employed to analyze temporal change in the demographics of the neighborhoods, and finally, geographic modeling is used to portray common themes, successes, and failures among the sample of cities building a stadium as a method of downtown revitalization.

MINOR LEAGUE BASEBALL

Organized in 1901, Minor League Baseball, Inc. serves as a development league for players with Major League Baseball (MLB) contracts. It has long been the most successful North American developmental sports league in terms of attendance; more than 42 million people attended Minor League Baseball (MiLB) games in 2012 (Minor League Baseball 2012). Despite their affiliation with MLB franchises, most MiLB franchises are independently owned and operated. MiLB franchises become affiliated with MLB franchises by signing or renewing two or four-year player development contracts after the baseball season of even-numbered years. MiLB franchises are allowed only one MLB affiliate at a time, but a flurry of activity occurs every other September as affiliation contracts expire and MLB team offices consider proposals from MiLB franchises that best suit their needs. Some MLB franchises are content with their MiLB affiliates and have maintained business relationships with them for decades, while other MiLB franchises are unable to keep a steady affiliate due to outdated facilities, travel connections to MLB franchises, and other factors.

Minor League Baseball's Logo (Source: MiLB.com)

TRENDS IN STADIUM CONSTRUCTION

Minor League Baseball has seen a period of stadium construction over the past two decades that it has never seen before - since 1990, half of the 160 MiLB teams have christened new stadiums. In the same time period, another 52 ball parks underwent major renovations. There are a number of reasons for this: MLB franchises are primarily concerned with the quality of MiLB facilities for their employees (team offices, operations space, training space, and the field itself). While many cities have successfully lured MiLB franchises by constructing new stadiums that offer better facilities, most have chosen to renovate existing stadiums or build new ones to keep their parent MLB franchise satisfied. A steadily growing attendance with increasing expectations for ballpark amenities (such as luxury seating, restaurants, and playgrounds), as well as the potential for increasing team revenues by providing those amenities, has also played a significant role in the recent period of stadium construction in the minor leagues.

Period	Downtown	Urban (not Downtown)	Suburban	Rural
1990-1994	2	4	6	0
1995-1999	10	9	6	1
2000-2004	9	8	4	1
2005-2009	8	7	3	1
2010-2013	4	0	1	1

Figure 1. Siting locations of new MiLB stadiums by 5-year period to present since 1990.

A study of stadium construction trends since 1990 reveals a significant shift in the siting of new ballparks. According to an analysis we conducted of the 160 MiLB ballparks currently in use, 33 of 85 opening after 1990 were constructed in the central business district (CBD) of the host city, and another 28 ballparks opened in mixed-use (residential and commercial) urban settings outside of CBDs. Twenty ballparks opened in suburban settings, and four were constructed in rural settings (Figure 1). The selection of suburban locations for ballparks has decreased over the past two decades. Between 1990-1994, six of twelve new stadiums (50%) were sited in suburbs, but between 2005-2009, only three of nineteen (15.8%) opened in suburbs (Figure 2). During the same time, the number of new downtown ballparks increased from two of twelve (16.7%) to eight of nineteen (42.1%). These numbers reflect a notable shift in urban planning that emphasizes the redevelopment of central business districts to increase tax revenues for local governments. Many studies in the social sciences have investigated the impacts of various downtown redevelopment efforts, but geographers have yet to examine this trend through the lens of minor league sports franchises and their facilities. This research explores the results and impacts of favoring downtown locales for stadium siting.

Figure 2. Analysis of MiLB stadium siting locations by 5-year period to present since 1990.

LITERATURE REVIEW

The building of downtown stadiums has been a model used by many cities for downtown revitalization. Solutions for America (2013) discusses downtown revitalization and the intended impacts on the city. Job creation, reduction of urban sprawl, prosperity for small businesses, protection of property values, and increased options for goods and services in the community are all desired effects. A list of suggestions and goals that should be taken into consideration for urban redevelopment is also presented. For a successful downtown, the attraction of a wide range of individuals by improving housing, work, shopping, culture, entertainment, government, and tourist attractions is key, as well as flexible buildings and spaces.

Curry et al. (2004) uses the city of Columbus, Ohio as a case study for downtown redevelopment through the building of a multi-purpose arena (Figure 3). The benefits of new stadiums, office buildings, museums, and malls downtown are also discussed. Johnson (1993) analyzes a series of different cities as examples of movements to build new stadiums for Minor League Baseball teams. The 1980s model of locating government facilities, office buildings, and financial institutions downtown has changed to locating buildings and businesses designed for entertainment and recreation. This new model has attracted people downtown outside of the usual 9 A.M. to 5 P.M. workday and increased economic activity, as people are more likely to shop, eat, and drink if these sources of entertainment are located near the stadium.

In the fall of 2012, the city of El Paso, Texas approved plans for a downtown stadium to be built for a MiLB team as part of a $473 million commitment for improvements in the city (Badger 2013). The project required the demolition of the city hall (seen in Figure 4), as this is the most desired site for the $93 million stadium building project (City of El Paso, Texas n.d.). Despite these excessive costs, the city is projecting a successful economic impact as well as many other positive social characteristics such as increased community pride, promotion of growth for entertainment areas, and the use of a professional sports team to attract tourism and other business development. Indianapolis, Indiana has experienced some of these benefits since the opening of Victory Field downtown in 1996 (Victory Field Profile n.d.). The area has enjoyed over $3 billion in public and private investments, and now has a thriving downtown area consisting of a convention center and hundreds of restaurants and retail stores.

There are many determining factors if having a MiLB team is feasible for a city. Davis (2006) found that the ability of a city to have a team is related to a large population, high personal income of residents, and be relatively distant from the nearest Major League Baseball team. Team owners are increasingly attracted to cities that possess these qualities. The Frisco RoughRiders recently moved from Shreveport, Louisiana to the northern suburbs of Dallas, Texas and are ecstatic that they are now located in one of the fastest growing cities in America (Figure 5). Their ballpark, which opened for their arrival in 2003, is located in a region of the Metroplex with high household incomes (Davis 2006). It was also discussed that cities with populations fewer than 100,000 rarely have minor league teams, while cities with populations of over 750,000 rarely do not have a team because there is a MLB franchise in the vicinity.

For the building of a new stadium downtown to be successful for economic development, the team needs to consistently attract fans. Gitter and Rhoads (2010) discusses effective ways of attracting attendance. These can include the quality and frequency of promotions as well as the winning percentage of the team. The building of a new stadium also has a positive relationship with attendance, as attendance at a new stadium can be expected to be heightened for at least one decade. Gitter and Rhoads (2008) also argue that contrary to popular belief, Minor League Baseball fans do care about a team's winning percentage, and that a more successful team will attract more fans.

Kolko (2013) conducted a study examining how Major League Baseball stadiums impact housing costs for the surrounding area. It was concluded that the land value in the neighborhoods of 20 of the 29 stadiums in the United States is higher than the average for that city's metropolitan area. In comparison to their metropolitan areas, the most expensive stadium neighborhoods are located downtown, while the inexpensive neighborhoods are located at least a few miles away from downtown.

Figure 3. Nationwide Arena in downtown Columbus opened in 2000 and has spurred the development of numerous businesses in the vicinity. (Photo: Ezra Zeitler)

Figure 4. An implosion of the El Paso, Texas City Hall on April 14, 2013 was conducted to make room for a new baseball stadium. (Photo: kvia.com)

Figure 5. Dr. Pepper Ballpark opened in 2003 in the Dallas suburb of Frisco. It has won numerous awards for its architectural design (Photo: Ezra Zeitler)

METHODOLOGY

Research was conducted about each stadium, including how it was funded, the cost, and the year it was opened by visiting team web pages. The stadiums were examined using Google Earth to determine their location within their respective cities, type of surrounding neighborhood, businesses and other structures nearby, and the outfield orientation.

Total population, mean household income, and census tract shapefiles were downloaded from the U.S. Census Bureau. The stadium addresses were geocoded and a two-mile buffer was created to represent the area within walking distance of the stadium. Network analysis was employed to generate a 30-minute service area around the stadiums. The intersect function was used to determine the total populations within the extent of the buffer and service areas.

To model population change, data estimating demographic variables from previous years using 2010 boundaries was downloaded from the Longitudinal Tract Data Base. Percent change between 2000 and 2011 was then able to be calculated and mapped.

Using knowledge gained from the 15 stadiums used as a case study, as well as literature discussing other stadium development projects, a model was created to display general attributes of a downtown stadium location.

STUDY AREAS

A sample of fifteen cities was selected from the pool of the 85 MiLB stadiums constructed since 1990. These cities represent metropolitan areas of varying sizes, including Erie, Pennsylvania (280,000), Reno, Nevada (425,000), Tulsa, Oklahoma (937,000), Columbus, Ohio (1.9 million) and Brooklyn, New York (19.5 million). These cities were also selected to represent a variety in the age of stadiums (from brand new to 18 years old), the cost of constructing the stadiums ($5 to $80 million), and the capacity of the stadiums, which ranges from 5,000 to 14,000 (Figure 6). The high number of study cities in the south and east of the Mississippi River is reflective of the overall frequency of MiLB teams in these regions (Figure 7).

Given the intentional focus on downtown redevelopment in this research, more cities with downtown stadiums were selected as study areas than stadiums located elsewhere. Before delving into demographic and socioeconomic analysis of the cities, a study of the siting locations and orientations of the stadiums was conducted to prove or disprove the theory that most would be orientated in a manner that provides the spectator a pleasant view of scenic amenities such as nearby buildings or natural landscapes. This practice, which has become a popular feature in MLB stadiums like those in Cleveland, Minneapolis, St. Louis, and Seattle, is intended to weave the stadium into the city, both functionally and aesthetically.

Interestingly, cities that constructed downtown stadiums before the mid-2000s tend to be oriented away from visual amenities - the only exception is found in Odgen, where the ballpark is oriented so that fans can enjoy a view of the Wasatch Mountains from their seats. A majority of stadiums in the study areas that were constructed after 2005 were sited on property that provided views of skylines (Columbus, Fort Wayne, Tulsa, and Birmingham; see Figures 8, 9, and 10) or other prominent features such as a bridge (Corpus Christi) and open water (Brooklyn and Pensacola). In order to meet MiLB guidelines mandating that stadiums be oriented in such a manner that prevents a batter from facing into the sun at any time of the day, most stadiums face northeast, east, or southeast. Therefore, in order to incorporate a skyline, a stadium must be located on the west side of a city's downtown.

In the next section of this poster, we discuss the role that stadiums are playing in the attempted resuscitation of downtowns in mid-sized cities through an analysis of population and land use change.

Team	2010 Metropolitan Population (est.)	Year Stadium Opened	Location	Cost (Million)	Capacity (Thousands)
Erie SeaWolves	280,000	1995	Downtown	8.7	7
Durham Bulls	504,000	1995	Downtown	16	10
Odgen Raptors	1,087,000	1997	Downtown	5	5.6
Louisville Bats	1,235,000	2000	Downtown	27.8	13.1
Memphis Redbirds	1,324,000	2000	Downtown	80.5	14.3
Brooklyn Cyclones	19,567,000	2001	Urban (not downtown)	37	7.5
Frisco RoughRiders	6,426,000	2003	Suburban	22.7	10.6
Corpus Christi Hooks	428,000	2005	Downtown	27.7	5.4
Reno Aces	425,000	2009	Downtown	50	9.1
Columbus Clippers	1,901,000	2009	Downtown	56	10.1
Fort Wayne TinCaps	416,000	2009	Downtown	30.6	8.2
Tulsa Drillers	937,000	2010	Downtown	39.2	7.8
Pensacola Blue Wahoos	448,000	2012	Downtown	18.5	5
Birmingham Barons	1,128,000	2013	Downtown	64	8.5
Hillsboro Hops	2,226,000	2013	Suburban	15.2	4.5

Figure 6. City and stadium information for the fifteen study areas in this research.

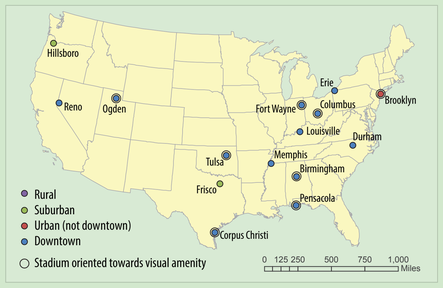

Figure 7. Locations of the fifteen study areas in this research.

Figure 8. Fans at Huntington Park in Columbus enjoy a view of the city's downtown skyline in between pitches. Photo: Ezra Zeitler

Figure 9. Fort Wayne's Parkview Field was strategically oriented towards downtown so that ticket holders could enjoy the view. Photo: John McGauley

Figure 10. Whataburger Field in Corpus Christi is located north of downtown and is oriented northeast towards the city's iconic Harbor Bridge. Photo: Ezra Zeitler

POPULATION CHANGE BETWEEN 2000 & 2011

A growing trend in the nation is the desire of college-educated professionals aged 25 to 34 to live in urban areas that are close to work and provide many entertainment, restaurant, and shopping options. Nationally, this demographic increased 26% between 2000 and 2010 and has cities competing to attract educated young adults as businesses consider relocating or expanding into regions with large numbers college-educated workers (Brennan 2013). To attract these young adults, city officials and planners have been looking for ways to revitalize downtown areas. One such method is to build a new sports stadium as a focal point of the revitalization efforts. Stadiums provide entertainment, and a foundation for other restaurants, shops, and businesses to locate nearby. In addition to the downtown stadium built in 2003, Louisville has recently undergone a redevelopment project to renovate the "Bourbon District" and turn the buildings into new restaurants and nightlife attractions (Figure 11). Corpus Christi is dependent on the energy sector (oil, natural gas) and tourism (South Padre Island). Compared to other cities in the study, the development of new residential properties has been slow, and this lack of development is reflected in a low degree of population growth in the downtown area (Figure 12). Columbus' downtown redevelopment began with the opening of a new multipurpose hockey arena in 2000. This drew fans downtown during the NHL season, which extends from October to April. In order to attract fans downtown during the spring and summer months, a minor league baseball stadium was constructed in 2009 and has since furthered the redevelopment (Figure 13). Birmingham has seen a 32% increase in downtown residents since 2000 (Brennan 2013). The opening of a new stadium in 2013 is intended to attract more people to the downtown area in the future (Figure 14). These four cities were selected because they represent similar trends in other cities and reflect different stages of redevelopment.

Louisville, KY (Stadium Opened 2003)

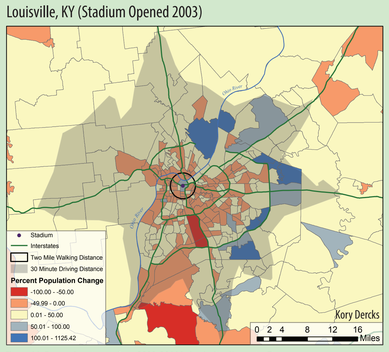

Figure 11. Population change from 2000-2011 in Louisville, Kentucky. The census tract encompassing the downtown stadium has experienced a 55% increase in population since 2000. Population growth is also visible to the northeast along the Ohio River. Louisville's recent plans to renovate the "Bourbon District" aim to create more restaurants and nightlife attractions. Data: U.S. Census.

Corpus Christi, TX (Stadium Opened 2005)

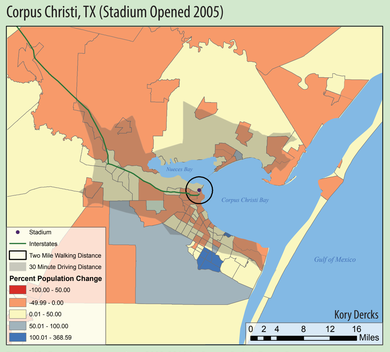

Figure 12. Population change from 2000-2011 in Corpus Christi, Texas. Compared to other cities, residential development in Corpus Christi has been slow. The stadium is located in an area of population growth, but directly to the south are census tracts that have all seen a decrease in population since 2000. Data: U.S. Census.

Columbus, OH (Stadium Opened 2009)

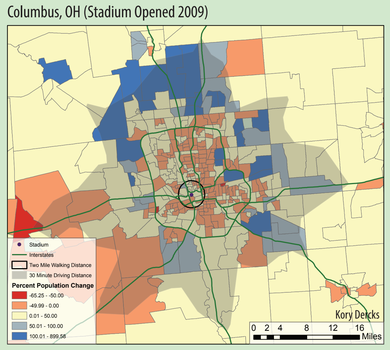

Figure 13. Population change from 2000-2011 in Columbus, Ohio. This map displays population growth in most of the two mile buffer surrounding the stadium since 2000. This represents the successful impact the hockey arena and baseball stadium have had on the redevelopment of downtown Columbus. Data: U.S. Census

Birmingham, AL (Stadium Opened 2013)

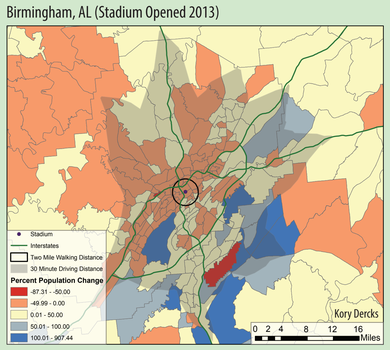

Figure 14. Population change from 2000-2011 in Birmingham, Alabama. The city of Birmingham is hoping the opening of a new downtown stadium in 2013 will spur redevelopment in the area. Here, the map displays the negative population change evident in downtown Birmingham since 2000. Data: U.S. Census

NEIGHBORHOOD IMPACTS

Using minor league ballparks as incubators for downtown economic redevelopment has been successful in many communities, and fieldwork conducted in a number of the cities in our study reveals evidence of this. For example, Huntington Park, which opened in 2009 on the northwest edge of downtown Columbus, Ohio has attracted real estate developers who quickly renovated abandoned warehouses located two blocks west of the stadium into chic condominiums. Nearby restaurants, stores, and concert venues provide additional leisure activities for residents of this neighborhood (Figure 15). In Louisville, Kentucky, many buildings located near Louisville Slugger Ballpark (opened in 2000) were razed in order to provide space for five-story mixed-use buildings that offer street-level commercial space and apartments above (Figure 16). As mentioned in the "Population Change" section of this poster, the City of Louisville is currently working with the private sector to develop a downtown "Bourbon District" that taps into region's history of bourbon distilling to increase tourism and tax revenues. Buildings similar to those found in Louisville have been and are currently under construction across the street from Dr. Pepper Ballpark (opened in 2003) in the Dallas, Texas suburb of Frisco. Unlike the rest of Frisco, the immediate vicinity of the ballpark is designed to be a walkable neighborhood that offers eating, drinking, and shopping amenities for its residents (Figure 17). The neighborhood of Oneok Field (opened in 2010) in downtown Tulsa, Oklahoma is not as developed as the other neighborhoods mentioned here, but a number of new restaurants have opened within two blocks of the stadium since it opened (Figure 18).

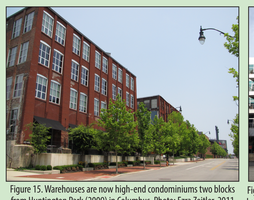

Figure 15. Warehouses are now high-end condominiums two blocks from Huntington Park (2009) in Columbus. Photo: Ezra Zeitler, 2011

Figure 16. Recently finished apartment buildings across the street from Louisville Slugger Ballpark (2000) in Louisville. Photo: Ezra Zeitler, 2013

Figure 17. Apartment building under construction across the street from Dr. Pepper Ballpark (2003) in Frisco. Photo: Ezra Zeitler, 2013

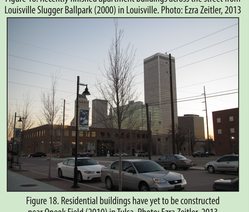

Figure 18. Residential buildings have yet to be constructed near Oneok Field (2010) in Tulsa. Photo: Ezra Zeitler, 2013

SUBURBAN STADIUMS

Frisco, Texas and Hillsboro, Oregon are examples of cities with stadiums built in suburbs that have a large quaternary sector work force. In fact, the stadiums in these two cities are located within two miles of large office buildings where thousands of people are employed and within twenty miles of where many of these people live. Hewlett-Packard's Enterprise Services Headquarters is located near the stadium in Frisco, which is in the Dallas-Fort Worth metropolitan area (population 6,426,000). The Frisco areas has some of the highest household incomes in the Metroplex (Figure 19). Hillsboro, located to the west of Portland, Oregon, is part of the Portland-Vancouver, Washington metropolitan area (population 2,226,000). The stadium is located within three miles of four Intel campuses that employ over 16,000 people (Suh 2007). This stadium is also located in an area with a high household incomes (Figure 20).

Frisco, TX (Stadium Opened 2003)

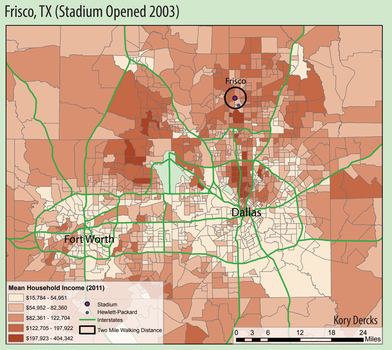

Figure 19. Mean Household Income for the Dallas Metropolitan Area. This map displays the stadium location in Frisco, a northern suburb of Dallas. The stadium is located less than two miles away from Hewlett-Packard's Enterprise Services Headquarters in an area with very high mean household incomes. Data: U.S. Census.

Hillsboro, OR (Stadium Opened 2013)

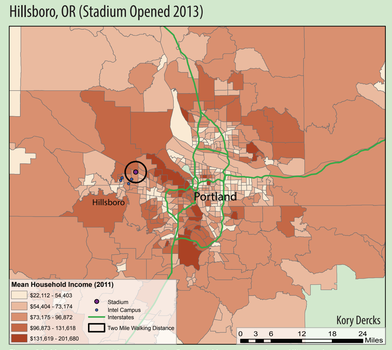

Figure 20. Mean Household Income for the Portland Metropolitan Area. Hillsboro's location to the west of Portland is depicted in this map. The stadium is located near four Intel campuses in the city that employ over 16,000 people. Similar to Frisco, the stadium is situated in an area with high mean household incomes. Data: U.S. Census

CONCLUSIONS & FUTURE RESEARCH

A noteworthy change in the nature of Minor League Baseball stadium site locations and orientations has occurred over the past two decades. Ballparks are increasingly found on the edge of central business districts rather than in suburbs or urban areas outside of downtowns. It reflects the rise in partnerships between city governments, urban planners, real estate developers, and franchise owners that seek to economically revitalize downtowns, increase the tax base of the city, and enhance the quality of life for residents by offering an affordable option for family entertainment during summer months (most teams play 70 home games in a season). An analysis of cities included in this study suggests that downtown stadiums can indeed play an important role in meeting these goals. Although downtown stadiums promote the construction of residential housing that is within walking distance, their centralized location within the metropolitan area requires them to have adequate parking and access to major highways. In order to provide a summary of the revelations gleaned from this research, a model of ideal stadium location and orientation was developed with the assistance of aerial reconnaissance and land use surveys conducted in the field (Figure 21).

Conducting this research revealed additional questions that will be examined in the future. Specifically, future work on this topic will incorporate public financing and gentrification, two controversial aspects of stadium-based redevelopment schemes that have broader societal implications.

Figure 21. A model representation of recent trends in Minor League Baseball stadium location and orientation. The newest downtown stadiums are sited on the west side of central business districts so that ticket holders are able to enjoy views of the city's skyline in between pitches. Model by Kory Dercks.

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