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Urban universities in the United States are embedded into their neighborhoods, physically and culturally, and can create tensions particularly when a campus undergoes expansion. Yet college administrators find ways to redevelop and expand their campus footprints to ensure the institution—and its campus experience—remain competitive. One area of campus expansion lies with athletics. Campus expansion, athletics or otherwise, are often accompanied by community backlash as neighboring residents can face a range of campus-based externalities including student behavior, perceptions of quality of life issues, and gentrification. Further, one can argue that the development of new athletic facilities does not align with the mission of universities, and may stoke tensions with adjacent communities, especially when land is in short supply. Therefore, we explored the development and effects of athletic-based capital projects on university-adjacent communities. The multi-case, mixed methods study examined ten universities with new on-campus football stadiums constructed since 1998. A review of institutional policies, local reporting, and tract-level Census data found that most universities took a proactive approach to navigating the impact of the football stadium to the urban community setting. Further, with respect to post-construction neighborhood change, we did not observe clear patterns in neighborhood demographic, socioeconomic, and/or housing variables as a consequence of the addition of an on-campus football stadium.

Keywords: neighborhood impact; anchor institutions; stadium development; urban planning; community relations

Urban universities in the United States are embedded into their neighborhoods—physically and culturally. The proximity of 'town and gown' has long proven contentious, particularly when a university's real estate demands lead to campus expansion (Carriere, 2011; Teaford, 2000). Contemporary expansion can be attributed to multiple factors, including enrollment growth as well as upgrading trends—often dubbed the university 'arms race' (Chapman et al., 2018). These changes are often accompanied by community backlash (e.g., Silverman et al., 2018). Residents in university-adjacent neighborhoods can face a range of campus-based externalities, including student behavior, impacts on property values and conditions, and gentrification (e.g., Ehlenz, 2018; Martin & Allen, 2009).

One area of expansive university capital projects is athletics. University athletics programs are building, renovating, and expanding facilities at an alarming rate—especially National Collegiate Athletic Association (NCAA) Division I institutions. Revenues associated with new facilities has created a culture of substantial facilities investment across NCAA Division I athletic programs. Athletics programs often serve as the front porch for the university (Bass et al., 2015; Fort, 2010; Toma & Cross, 1998; Twitchell, 2004), stoking an arms race to build bigger and better facilities for spectators, athletes, alumni, and donors (Bass, 2015). New facilities may improve recruiting strategies, which may yield a winning program and increased admissions applications for the university (DuMond et al., 2008; Klenosky et al., 2001; Magnusen et al., 2017). Currently, a small group of universities, including the University of South Florida, have explored the opportunity to build a football stadium on its campus, while other universities, such as the University of South Alabama and the University of Alabama-Birmingham, are building new stadium facilities. Temple University, which has a tumultuous history of campus expansion in its North Philadelphia neighborhood, recently sought to build its first ever on-campus football stadium; however, community backlash—including protecting neighborhood identity and concerns over behavior, trash, noise and light pollution—was so critical, the university halted stadium plans indefinitely (Newman, 2019). Countless other universities across the three divisions within the NCAA and National Association of Intercollegiate Athletics (NAIA) have expanded their football and athletics programs, requiring the development of athletics facilities.

Over the last 25 years, universities have repositioned themselves as anchor institutions. They are engrained into the fabric of a community through their large local employment base and expansive physical infrastructure, thereby rendering them less mobile than, for instance, large corporations (Ehlenz, 2017). Their immobility can also embody a source of tension, especially for urban campuses constrained by the built environment surrounding them. Yet college administrators find ways to redevelop, expand, and grow their campus footprints, in order to ensure the institution—and its campus experience—remain competitive. This includes investment in state-of-the-art campus facilities, as well as student-targeted housing, entertainment, and amenities both on and off-campus (e.g., Martin & Allen, 2009; Rickes, 2009; Roberts & Taylor, 2016). Universities that are predominately commuter schools have especially leaned on the development of athletics facilities to incentivize the growth of on-campus culture, distinguish themselves from their institutional competitors, and create a 'better college product' (Kelly & Dixon, 2011, p. 287). Athletics are a part of the campus experience and are a high commodity for many universities in terms of marketing, enrollment, and visibility. Yet, one can argue that the development of new and large-scale athletic facilities, such as football stadiums, does not align with the mission of universities of educating people, creating knowledge, and

influencing broader society. This misalignment may also stoke tensions with adjacent communities, especially when land is in short supply.

This study explored the development and effects of athletic-based capital projects on university-adjacent communities in the United States. The authors examined universities with on-campus football stadiums constructed within the last 20 years, employing a mixed-method approach that incorporated institutional policies, local reporting, and tract-level Census data.

Literature Review

Universities as Anchors

The physical location of universities within urban neighborhoods, as well as the town-gown relationship it inspires, has long been contentious. It is also evolving. In the post-World War II era, U.S. higher education underwent a period of rapid growth, fueled in part by federal research expansion and growing GI Bill enrollments (O'Mara, 2005). The expansion of campus footprints coincided with federal policies that supported land acquisition and clearance via Urban Renewal (Teaford, 2000). For many institutions, Urban Renewal provided the pathway to acquire and demolish adjacent low-income neighborhoods to make way for new campus facilities, such as teaching and research buildings, recreational facilities, and parking lots (e.g., Carriere, 2011; Winling, 2011). These investments stoked deep tensions between the university and its neighbors, including those displaced by expansion, that would prevail for decades (O'Mara, 2012).

In the wake of the deep divide between town and gown, university administrators and planners have pursued campus expansion via a more deliberate, negotiated processes. A number of case studies examined the ways institutions have engaged local communities in strategic expansion projects (e.g., Perry & Wiewel, 2005; Sungu-Eryilmaz, 2009). These efforts included public outreach and more transparent planning processes, as well as concessions that attempt to ensure some benefits for impacted communities (e.g., locating public-facing, ground-floor retail or dedicated community spaces in new campus buildings) (Ehlenz et al., 2014). Recent campus planning research also highlights the ways universities are shifting towards infill development strategies, eliminating the need for land acquisition at the campus edge (Hajrasouliha, 2017). Other strategies include adaptive reuse, joint venture projects that combine university and private sector interests, and larger-scale land acquisition coupled with more community-intensive processes (Coulson et al., 2014). Yet, these more targeted approaches continue to face criticism, as large institutions overshadow neighborhood interests and spur negative outcomes beyond the campus boundaries (Taylor et al., 2018).

Extending beyond the campus, universities have increasingly become more aware of—and involved within—their adjacent neighborhoods as well. Since the mid-1990s to early 2000s, universities have increasingly identified as *anchor institutions*, adopting missions and strategies that recognize the university's role beyond the (sometimes) metaphorical campus walls (Taylor & Luter, 2013). Anchor institution strategies vary widely, ranging from leveraging internal university assets (e.g., student volunteerism, community-based research, etc.) to more direct engagement with neighborhood issues related to the built environment, quality of life, and economic development (Ehlenz, 2018). Recent research highlights the potential for place-based anchor strategies—particularly housing and commercial investments—to align with neighborhood change, in some instances contributing to gentrification pressures (Ehlenz, 2017). And other scholarship has underscored the depth and diversity of town-gown relationships that fall within the bounds of anchor missions, including deeply-rooted university-community

partnerships (Britton & Aires, 2014; Ehlenz, 2020; Lambert-Pennington et al., 2011) to more contentious engagements and resident perceptions (Etienne, 2012; Silverman et al., 2018, 2019).

Taken together, university trends related to campus development and neighborhood-facing anchor institution strategies reinforce a porosity between campus and community that did not exist in earlier decades. It also introduces new questions about what it means when significant university investments, such as athletic facilities, occur on the campus fringe.

University Athletics-Based Capital Projects

Athletics-based capital projects are completed for a number of reasons. Often viewed as the front porch of a university, athletic departments offer an opportunity for a university to elevate its status among its peers beyond its academic reputations (Maxcy & Larson, 2015). Some research has found the success of athletic teams may positively impact university admissions, such as an increase in undergraduate applications (Chung, 2013; Pope & Pope, 2009; Toma & Cross, 1998) and higher quality incoming freshman applications (Chung, 2013; McCormick & Tinsley, 1987; Smith, 2009; Tucker, 2005). New facilities have also been connected to recruiting. Athletic administrators and coaches often anecdotally boast that new, state-of-the-art athletics facilities are needed to recruit top talent, and some research has found a positive connection between the two areas (DuMond et al., 2008; Klenosky et al., 2001; Magnusen et al., 2017). Financially, athletic success has aided in increased institutional giving (Baade & Sundberg, 1996; Goff, 2000; Grimes & Chressanths, 1994; Rhoads & Gerking, 2000), as well as increased giving to the athletic department, specifically (Stinson & Howard, 2007) with increased revenue potential when considering conference realignment (Maxcy & Larson, 2015).

Though athletics-based capital projects serve many universities well, they are also land-intensive and generate questions related to their impact on the surrounding communities, similar to their professional sport facilities counterparts. Coates and Depken (2008) and Baade et al. (2008) found that big time college football appear to have no real impact on either employment or income in the cities where those teams play. On the other hand, in a comparative case study of the football and men's basketball programs at the University of Florida and Florida State University, Baade et al. (2011) found that football shows a small positive gain in monthly sales tax data over a 25-year period for its community.

Given the position of anchor institutions within their communities, the roles of college facilities, and land constraints in urban communities, we sought to explore the development and effects of athletics-based capital projects on university-adjacent communities in the U.S. The research addressed the following research questions: 1) how have institutions navigated the addition of on-campus football stadium to an urban university campus, 2) what policies and/or community concessions, if any, have been adopted, and 3) how have proximate neighborhoods most impacted by on-campus football stadiums changed post-construction?

Methods

Research Design and Rationale

In an effort to examine the development and effects of athletic-based capital projects on university-adjacent communities, we employed a mixed-method, multiple-case study approach. We selected a multiple-case study design because 'evidence of multiple cases is often considered more compelling, and the overall multiple-case study is therefore regarded as being more robust'

(Yin, 2018, p. 54). Further, the examination of multiple cases provides the opportunity to compare and contrast cases (Yin, 2018). In this study, multiple cases could lead to a better understanding of how large-scale university development projects, such as on-campus football stadiums, may impact the surrounding community; this knowledge can provide insights to help shape future university-adjacent urban development projects.

The study's mixed-method approach enabled the examination of cases from various perspectives (Maxwell, 2013). Although quantitative data analysis can offer an efficient view of neighborhood change, it is limited by the available data and cannot offer a holistic perspective; qualitative data enables the researcher to draw inferences about each community that cannot be obtained exclusively through census data (Maxwell, 2013). Additionally, a mixed-method approach allowed us to concurrently explore direct and indirect variables that may relate to the impact of on-campus stadium development on neighborhood change (Rudd & Johnson, 2010). Neighborhood change is a complex subject that cannot be fully explained in quantitative or qualitative methodological approaches; therefore, the use of both methods can lead us into attaining a deeper understanding of the phenomena (Rudd & Johnson, 2010).

Case Selection

In the spirit of replication, where each case analysis yields similar results (Yin, 2018), cases were purposively selected based on a specific criterion. First, we utilized the Integrated Postsecondary Educational Data System (IPEDS) to establish consistent criteria for eligible colleges and universities (Ginder et al., 2018), including four-year, degree-granting institutions that are public or private not-for-profit and open to the general public. Additionally, we included the IPEDS-derived variable for the institution's 'degree of urbanization', which speaks to the urbanity of its host community. We limited eligible institutions to those located within more urban settings, including: large cities (250,000+ population); mid-sized cities (100,000-250,000 population); large suburbs (250,000+ population); and mid-sized suburbs (100,000-250,000 population).

Once we established an eligible population of colleges and universities, we incorporated relevant information about institutional athletic programs and stadiums to identify our case study sample. First, we focused on NCAA Division I Football Bowl Division (FBS) universities with football programs, with the rationale that these programs could produce the highest community impact based on size of programs and popularity. Second, among this group, we identified institutions that have built a new on-campus football stadium and/or welcomed a new football program to campus within the last 20 years. Third, we established a criterion that, prior to the development of the new on-campus stadium, eligible football programs must have played its home games off-campus.

Ten universities met our sampling criteria (i.e., four-year, public or private not-for-profit degree-granting institution open to the general public; degree of urbanization including large cities, mid-sized cities, large suburbs, and mid-sized suburbs; NCAA Division I FBS university with a football program; new on-campus football stadium built in the last 20 years, and/or welcomed a new football program; eligible football program previously played it home games off-campus) for our sample (Figure 1): Colorado State University (CSU; Fort Collins, Colorado), Tulane University (New Orleans, Louisiana), Baylor University (Waco, Texas), University of North Carolina – Charlotte (UNC-Charlotte; Charlotte, North Carolina), Old Dominion University (ODU; Norfolk, Virginia), University of Minnesota – Twin Cities (UM; Minneapolis, Minnesota), University of Akron (Akron, Ohio), University of Central Florida (UCF; Orlando, Florida), Southern Methodist University (SMU; University Park, Texas), and University of

Louisville (Louisville, Kentucky). Two of the eligible universities—UNC-Charlotte and ODU—represented instances where an institution introduced a new football program.

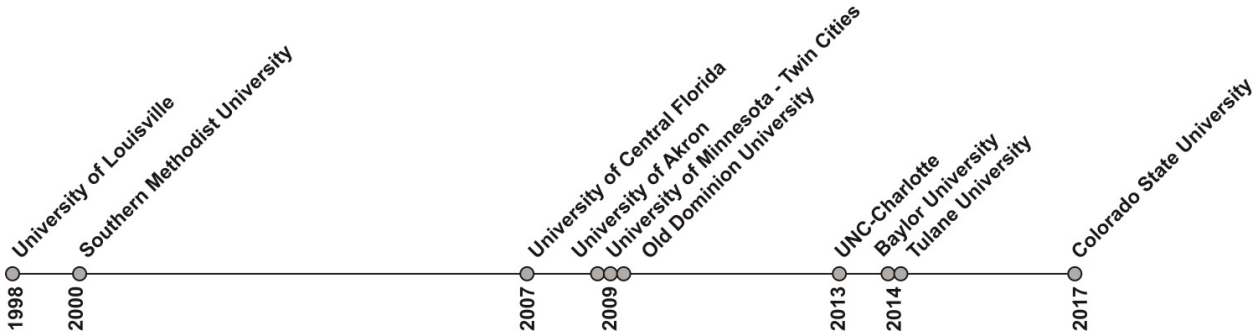


Figure 1.
Stadia Timeline

Data Collection

Qualitative data collection was conducted per case, and began with establishing a timeline of events from the conceptualization of an on-campus stadium until the stadium's opening date. From there, we reviewed news media reports from local major daily newspapers and university student newspapers to gain an understanding of the project's development over time and within the community. News reports were then triangulated with official documents from a number of sources such as university policy documents, official university reports and statements such as university master plans, meeting minutes, legislation, feasibility reports, maps, archival records, community websites, presentations, survey results, and contracts and agreements. The availability of official documents ranged based on the type of university (e.g., public versus private institution) and the amount of time that has passed since the stadium opened.

We supplemented the qualitative data with quantitative data from the U.S. Census and American Community Survey (ACS). For each case, we identified census tracts with centroids located within (1) one mile of the on-campus stadium center (point measure) and (2) within ¾ mile of the university campus boundary (buffer measure)[1]. The former represents stadium-adjacent neighborhoods; the latter are university-adjacent neighborhoods that offer a broader comparison. In both instances, we used Social Explorer to identify the target tracts and, subsequently, collect demographic, socio-economic, and neighborhood market data during three time periods: 2000 (Decennial Census using 2010 tract boundaries), 2009-2013 (5-year ACS), and 2014-2018 (5-year ACS). We use descriptive analyses to understand neighborhood-level change near our case universities and stadiums over a period time, focusing on indicators of shifting student populations and fundamental changes to the neighborhood composition.

[1] Recent assessments of university impacts on neighborhood change have relied on a similar ¾ mile buffer to identify 'campus-adjacent' neighborhoods, informed both by conventional standards about what is considered a walkable distance (i.e., would this neighborhood be considered walkable for students or other university-affiliated populations going to the campus?) and university-reported boundaries for neighborhood initiatives (e.g., Ehlenz, 2017).

Results

The following section outlines a summary of both the qualitative and quantitative results of the inquiry. Overall, the universities in our sample took a proactive approach to navigating the addition of a football stadium to the urban landscape which included public meetings and forums, intergovernmental agreements, the development of advisory boards, and game-day and neighbor management strategies. With respect to post-construction neighborhood change, we did not observe clear patterns in neighborhood demographic, socioeconomic, and/or housing variables as a consequence of the addition of an on-campus football stadium.

Colorado State University

Administrators at CSU initiated an on-campus stadium feasibility study, which was conducted in 2012 in conjunction with soliciting feedback from the CSU community, the public, and donors. A number of public forums, public meetings, and surveys yielded a general disapproval for the development of an on-campus stadium citing costs concerns, environmental impact, traffic issues, noise and lighting pollution from the stadium, and fan behavior. The university stepped back to do a full assessment of its stadium options (e.g., renovating the current off-campus stadium in various capacities, building an on-campus stadium in various capacities) (City of Fort Collins, 2014). After a few years of research and soliciting additional feedback, the university moved forward with the development of a pared down on-campus stadium project, securing its location in the south end of campus where the Plant Environmental Research Center and a number of parking lots stood, despite continued community protest (Lam, 2015; Lyell, 2014). Canvas Stadium opened in 2017.

Despite public involvement from the beginning, many community members and groups remained against the project for the duration of construction, demonstrating through rallies and protest marches (Lam, 2015; Lyell, 2014). In 2015, CSU worked with the city of Fort Collins to develop an intergovernmental agreement (IGA) on the impacts of the new stadium. The IGA included recommendations and good faith statements on limiting the type of events held at the stadium, neighbor relations including a good neighbor fund, street and infrastructure improvements to expand bike and pedestrian lanes, trash management, permit-only street parking, and the creation of a long-term stadium advisory group (The City of Fort Collins, 2015). The advisory group included members of the CSU community, neighborhood representatives, and local business community and was charged with examining actual impacts and community interactions of the stadium and its events.

The opening of CSU's stadium occurs late relative to the available Census data, coinciding with the last years of the most recent 5-year estimates (2014-2018). Thus, the neighborhood-level impacts (if any) are not yet readily apparent. In the years preceding the opening of Canvas Stadium, the campus and stadium-adjacent tracts grew modestly and were predominantly non-Hispanic White. The tracts to the west and north of the campus and/or stadium (tracts 2.01, 5.03, and 5.04), as well as the campus itself (tract 6), were heavily skewed towards college-aged young people, with at least half of the population falling between the ages of 18 and 24[2]. As expected, these tracts also possess higher poverty rates and lower incomes,

[2] The Census data offers data on population cohorts by age, with the 18-24-year-old category most closely aligning with the typical undergraduate population. Thus, we use this variable as a proxy for college-age students within university-adjacent neighborhoods (see Moos, 2015 for a precedent).

Table 1
Summary of Cases

Stadium name, Institution	Open date	Year approved by Board	Opening Seating Capacity	Current Seating Capacity	Approximate Undergrad Enrollment Year of Stadium Opening	Previous on-campus stadium?	Former stadium name, distance from campus*	Negotiation strategies
Canvas Stadium, Colorado State University	2017	2014	36,500	36,500	23,943	No	Sonny Lubick Field at Hughes Stadium (1968-2016), 3 miles	• Public forums, meetings, surveys • Intergovernmental agreement between the city and the university that included trash management, good neighbor fund, traffic and transportation management, the creation of a stadium advisory board, etc. • Permit-only street parking
Yulman Stadium, Tulane University	2014	2011	30,000	30,000	8,353	Tulane Stadium (80,000 seats) opened in 1926, demolished in 1980. Hosted the NFL New Orleans Saints from 1967-1974 and annual Sugar Bowl from 1935-1974.	Superdome (1975-2014), 4 miles	• Public meetings • Intergovernmental agreement between the city and the university (with community review) that included event limitations, operating hour limitations, light and sound restrictions, litter abatement, campus security, etc.
McLane Stadium, Baylor University	2014	2012	45,140	45,140	13,859	No	Floyd Casey Stadium (1950-2013), 3 miles	• City-led community meetings • Neighbor accommodations such as expanded roadways, bike lanes, and restricted parking • City ordinances added in adjacent neighborhood to allow commercial activity (e.g., selling parking) • Creation of city-appointed stadium authority board
Jerry Richardson Stadium, University of North Carolina – Charlotte	2013	2008	15,314	15,314	21,503	No	n/a	• Community forums with university community
S.B. Ballard Stadium, Old Dominion University	1936, renovated in 2008 and 2019	2005	20,118	22,480	18,253	Foreman Field (20,000 seats) opened in 1934.	n/a	• Land swap with the city for practice fields and additional athletic fields • City ordinances added in adjacent neighborhood to limit non-residents on game days • Additional law enforcement on game days
TCF Stadium, University of Minnesota – Twin Cities	2009	2006	50,805	50,805	29,921	Memorial Stadium (56,000 seats) opened in 1924 and was demolished in 1992.	Metrodome (1981-2008), 1 mile	• Public meetings and feedback on stadium environmental and community impact study • Use of eminent domain • City Council resolution requiring UM to consult with neighboring community associations and the city during stadium development process • Creation of a stadium-area advisory board charged with advising the university on issues related to stadium impact, minimum restrictions on concerts, a good neighbor fund, limited active stadium construction hours • Creation of an event management advisory committee charged with developing and implementing parking and transportation mitigation techniques • Game-day policies such as tailgating and alcohol management
Summa Field at InfoCision Stadium, University of Akron	2009	2007	30,000	30,000	23,277	No	Rubber Bowl (1940-2008), 5 miles	• Use of eminent domain and court challenges • Promoted as a part of community redevelopment and revitalization project which included an office park for an information technology and finance department, a hospital, luxury town homes for rent, a community learning center, and a cancer center
Bounce House, University of Central Florida	2007	2005	45,622	44,206	41,488	No	Citrus Bowl, 15 miles	• Public meetings and information sessions • Game day policies to address the prevalence of alcohol on campus • Traffic management including a no-park zone on a major thru-way and restricting traffic flow on another thru-way
Gerald J. Ford Stadium, Southern Methodist University	2000	1997	32,000	32,000	5,662	Ownby Stadium (23,000 seats) opened in 1926 and was demolished in 1998. Hosted SMU Football from 1926-1948 and 1989-1994.	Cotton Bowl (1948-1978, 1995-1999), 6 miles Texas Stadium (1979-1986), 10 miles	• Built 25 feet below street level • Post-game clean-up in neighboring communities • Additional signage and police on game days to direct fans to the appropriate parking area • Parking management, including the development of a parking garage and a partnership with local public transportation
Cardinal Stadium, University of Louisville	1998; expanded to 55,000 seats in 2008, expanded to 65,000 seats in 2019	1996	42,000	60,000	20,857	No	(Old) Cardinal Stadium (1957-1997), 2 miles	• Land swap between a railroad company and the state of Kentucky to secure unused railroad yards next to campus • A throughway to create a sports corridor

**Note: Distance from campus is approximate.*

Table 2

Summary of Stadium Location in Relation to Campus, Population of College-Aged People Living in Stadium-Adjacent Tracts, and Changes in the Housing Market in Stadium- Adjacent Tracts

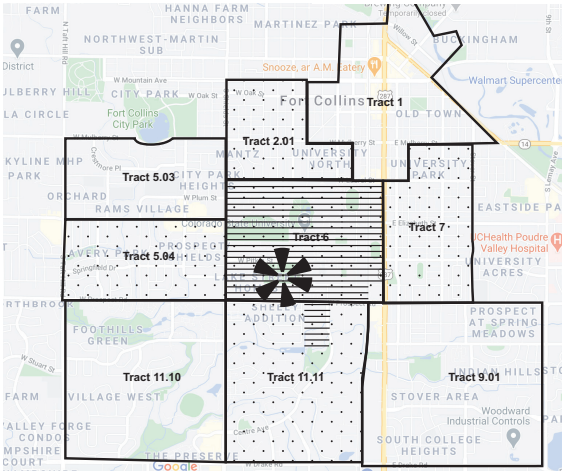
Institution	Stadium Location?[1]	Stadium-Adjacent Tracts: College-aged Population?[2]	Stadium-Adjacent Tracts: Change in Housing Markets?[3]
Colorado State University	• Campus and neighborhood adjacent	• Moderate share in nearest non-campus neighborhoods (approx. 20-30%)	• Increase in units • Moderate increase in rents and home values
Tulane University	• Campus and neighborhood adjacent	• Minor share of population (approx. 10%)	• Increasing vacancy rates • Increasing rents and home values
Baylor University	• Buffered from campus (river) • Adjacent to one neighborhood	• Minor share of population (approx. 15%)	• Decrease in units • Stable rents • Moderate increase in home values
University of North Carolina – Charlotte	• Buffered from campus (open space) • No residential neighborhoods within 1-mi buffer • Adjacent to major retail uses	• High share in tract (contains campus) (approx. 90%)	• Stable rents
Old Dominion University	• Campus adjacent • Neighborhood adjacent (north and west) • Buffered from eastern neighborhoods (highway)	• Minor share in stadium-adjacent tract (<20%)	• Increasing rents • Higher, stable home values
University of Minnesota – Twin Cities	• Campus adjacent • Buffered from neighborhoods (existing recreation facilities, rail corridor and industrial zone)	• Major share in closest neighborhood (approx. 90%)	• Recent housing construction (approx. 30-40% since 2010)
University of Akron	• Campus adjacent • Neighborhood adjacent (south and east) • Buffered from eastern neighborhoods (highway)	Mixed: • Closest neighborhoods increased to major and moderate shares (approx. 70% and 45%) • Further neighborhood remained stable (<20%)	• In closest neighborhood, higher level of housing construction (approx. 50% between 2000 and 2009) • Stable rents
University of Central Florida	• Campus adjacent • Largely buffered from adjacent neighborhoods (green space and major arterial)	• Major share in adjacent neighborhood (includes campus) (approx. 70%)	• In closest neighborhood, higher level of housing construction (approx. 50% between 2000 and 2009)
Southern Methodist University	• Campus adjacent • Neighborhood adjacent (south and west) • Buffered from eastern neighborhoods (highway and major retail uses)	• Minor share of population (< 10%)	• In adjacent neighborhood, high (and appreciating) home values
University of Louisville	• Campus adjacent • Neighborhood adjacent (south and west) • Buffered from eastern neighborhoods (fair grounds and highway)	• Minor share of population (< 20%)	• Stable, low rents and home values

[1] Relative to the campus and adjacent neighborhoods (i.e., tracts), where is the stadium located (e.g., connected to neighborhoods, buffered from neighborhoods)?

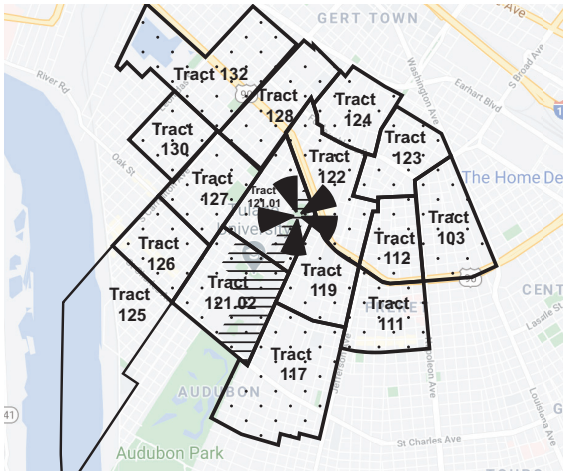
[2] This summary measure considers changes in the following variables during the study period (1990 to 2014-2018), which are generally aligned with the presence of college-aged young people: % college-aged population, 18-24 years old; % living below poverty; % of occupied households with college-aged householder, 18-24 years old; % non-family households.

[3] This summary measure considers market-based changes in median home values and median rents during the study period (1990 to 2014-2018).

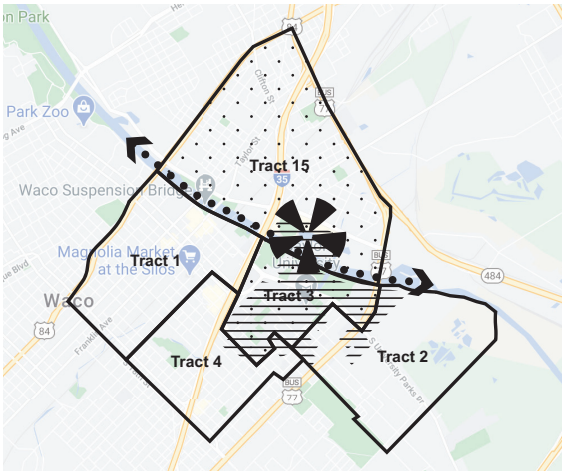
Canvas Stadium (2017), Colorado State University



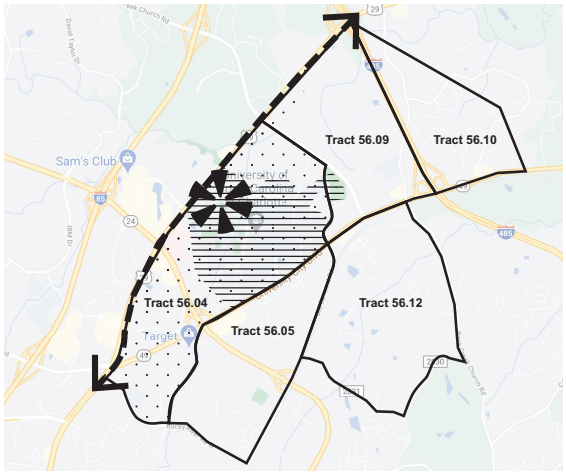
Yulman Stadium (2014), Tulane University



McClane Stadium (2014), Baylor University



Jerry Richardson Stadium (2013), University of North Carolina - Charlotte



Legend

- Census tract within university buffer
- Census tract within stadium buffer
- Campus
- Stadium
- Infrastructure corridor (e.g., highway, railroad)
- Natural corridor (e.g., river, open space)

Figure 2.
University Case Maps

even relative to other university-adjacent neighborhoods. Since 2000, homeownership rates in university-adjacent tracts fell below 30% (except for tract 9.01), while shares of non-family households exceeded 70% in most tracts. The neighborhood fabric reflects more of a single-family pattern in the tracts west and north of campus, where upwards of 60% of housing units are in 1-unit buildings (attached or detached); comparatively, other university and stadium-adjacent tracts have relatively few single-family style housing units (ranging from 14% to 45%).

Tulane University

Despite considerations to cut the football program in the early 2000's in relation to low attendance, Tulane officials began exploring the development of an on-campus football stadium in 2011 (Kushner, 2014). Tulane's football program played on campus at Tulane Stadium for most of the 20th century until its move to the Louisiana Superdome in 1974. Tulane Stadium, which hosted three Super Bowls, countless Sugar Bowls, major concerts, and the National Football League (NFL) New Orleans Saints, continued to operate on a smaller scale until its demolition in 1980. The site, located adjacent to the new football stadium, is currently home to several campus buildings including student housing, parking, and the recreation center. Despite this history, neighboring communities resisted the new project, citing adverse stadium impacts on the quality of life of the area. Neighbors also cited the size of the proposed stadium in relation to average attendance was disproportionate. Neighbor grievances were codified by the New Orleans City Council in 2012 who issued an interim zoning district (IZD) to block the construction of the stadium. The ordinance was recused after Tulane officials spent months soliciting feedback from the community after the IZD was approved (New Wave Staff, 2012). The feedback implemented included changes to stadium design such as a reduction in height and redesigning the light and sound systems (Kushner, 2014). Additionally, community members were asked to provide feedback on the IGA between Tulane and the city of New Orleans (Distribution, 2013). The final IGA included limitations on facility usage including concerts, football practice and games, and special events, time restrictions, light and sound restrictions, litter abatement, and campus security (The City of New Orleans, 2013). Yulman Stadium, which opened in 2014, was built on the northern part of campus where athletic facilities previously existed.

Yulman Stadium opened at the start of the 2014-2018 ACS estimates, offering perspectives into how the neighborhoods surrounding the stadium and university may have changed alongside Tulane's major investment. The neighborhoods are stratified into three groups: those that fall into the 1-mile stadium buffer only (three tracts); those within both the stadium and ¾ mile campus buffer (12 tracts); and those within the campus buffer, but are not stadium-adjacent (one tract). Neighborhood trends suggests those tracts within the stadium buffer alone (tracts 130 and 132 to the west and tract 103 to the east) have experienced the most change. Since 2000, these tracts have sustained substantial losses in the share of the Black population (falling from above 70% to less than 50% by the 2014-2018 period), coupled with growing shares of the white population (from 13-24% in 2000 to 34-45% in 2014-2018). These shifts are especially noteworthy because less than 10%, on average, of the population fall into the college-aged cohort. These tracts also had persistently higher levels of unemployment and substantially lower median household incomes relative to other tracts surrounding the university, which are at least two-times higher. Lastly, vacancy rates are much higher in the stadium-only tracts (ranging from 18% to 24% in 2014-2018) and there appears to be at least some housing market pressures. Two of the three tracts saw the most rent increase (24% to 35%) relative to other university-adjacent tracts; and one of those tracts saw the highest jump in median home

values (62%), although there was an upward trend for all university and stadium-adjacent tracts more broadly (many in the 25-35% range). Taken together, these trends suggest that perceptions and market forces have changed since Yulman Stadium was planned and constructed for the three tracts that were outside of the conventional university campus area.

Baylor University

The donor-led on-campus stadium project emerged in 2011 with an initial meeting between university officials and a stadium architecture firm. A feasibility study and fan survey were conducted soon after to gauge viability and interest (McCaw, 2011). McLane Stadium, which opened in 2014, was built on land previously purchased in the early 2000's when the university participated in the George W. Bush Presidential Library competition. Baylor lost the bid and planned to use the land for additional research facilities.

Positioned as a 'community events complex,' the city of Waco supported the project with a $35 million tax increment financing zone that covered public improvements around the stadium such as a foot bridge over the Brazos River and a public marina (Smith, 2012). During the two years leading up to the stadium opening, the university and city officials met with neighbors to address traffic and parking issues. In response to community feedback, the city built bike lanes along a main throughway, extended another main road, restricted parking around the stadium, and changed the zoning in the neighborhood that lifted restrictions on commercial activity, thus allowing for residents to charge for onsite parking at their homes (Smith, 2014). The city also established a Baylor Waco Stadium Authority, a city-appointed board, charged with general oversight of non-Baylor events (Fogleman, 2013).

By virtue of McLane Stadium's location across the Brazos River from the rest of Baylor's campus, only two tracts fall within a one-mile radius of the complex (tracts 3 and 15). Tract 3 contains the campus itself along with a cemetery and museum; several data points are unreported and, thus, we removed it from the analysis. Since 2000, tract 15 has lost nearly half of its population (40% decrease by 2014-2018), compared to modest declines (12-13% loss) or, in one case, a significant gain (74% increase) in other university-adjacent neighborhoods. The stadium-adjacent tract has long been a majority-Black neighborhood (70% in 2014-2018, down from 80% in 2000) with few college-aged residents, unlike other university tracts. Tract 15's economic variables indicate stability over the last 15-20 years, with similar poverty and educational attainment rates; the unemployment rate climbed significantly in the 2009-2013 period (aligning with an economic recession), but fell again into line with other tracts by 2014-2018. By comparison, housing indicators shifted within tract 15 with fewer housing units (21% decrease since 2000) and growing vacancy rates (31% in 2014-2018). These changes have occurred without the pressures of college-aged householders—they represent only 10% of all households (relative to much higher shares elsewhere)—and within a largely single-family neighborhood (80% of all units are 1-unit) with a high (and growing) share of homeowners (52%). While rents have remained relatively low over time, median home values have increased substantially from a below-average $33,000 to $82,000, bringing home values closer to those in other nearby tracts.

Broadly, the evidence suggests that tract 15 is not heavily impacted by Baylor's student housing demands. And, since the stadium's opening, there has been no clear evidence that economic benefits have trickled into the neighborhood via changes in median incomes or poverty rates. However, median home values have appreciated nearly 150%, making them more competitive with other university-adjacent tracts. This may serve as an early signal that a neighborhood change process is underway.

University of North Carolina – Charlotte

The addition of a new football program to UNC-Charlotte's athletic program was triggered in 2006 when the Board of Trustees authorized a feasibility study and the creation of a Football Feasibility Committee. The committee completed the study in 2008 and unanimously recommended the addition of men's football, outlining the impact, costs, revenues, and capital needs (UNC Charlotte Football Feasibility Committee, 2008). In anticipation of the stadium and new football program, UNC-Charlotte conducted initial community forums that included alumni, students, and faculty/staff as a part of the feasibility study data collection. University officials also held a number of town hall meetings with the campus community in 2011 to discuss plans surrounding the football program such as tailgating, parking and traffic, and ticketing.

Jerry Richardson Stadium, which opened in 2013, is located on the western edge of UNC-Charlotte's campus where university recreational fields were located. This site required less infrastructure adjustments. Only the campus tract itself (tract 56.04), which is predominantly comprised of college-aged students and is quite stable in most of the study indicators, is situated within a 1-mile radius of the stadium. The tract immediately to the west (tract 55.23) includes a large retail center that is directly adjacent from the stadium and limited residential; however, it is excluded from the study, as its centroid is located outside of our buffer. The remaining university-adjacent tracts surround the campus to the north, east, and south. On demographic variables, nearly 90% of the population within tract 56.04 is of college-age with little change to the racial and ethnic composition over time. The university-adjacent tracts also reflected stability in their populations, with lower shares of college-aged residents with one exception—tract 56.09 doubled its college-aged population between 2000 and 2009-2013 (increasing to 61%). Economic and housing indicators were also stable over time, with the more college-aged heavy tracts showing lower median household incomes, higher poverty rates, and higher vacancy rates relative to other university-adjacent tracts. From the market perspective, median home values and rents have remained fairly consistent since the 2009-2013 period, while nearly 30% of housing units were built after 2000 in tract 56.04 (with similar construction rates in the other university-adjacent tracts).

Old Dominion University

In 2009, ODU reinstated its football program after a 69-year hiatus. The university maintained Foreman Field, a Public Works project from the Great Depression era, which hosted ODU football from 1936 until 1941, graduations, concerts, ODU Field hockey and lacrosse until 2008. The facility was renovated in 2008 to accommodate the new football program and renamed SB Ballard Stadium. At this time, the university and the city of Norfolk negotiated an agreement for a land swap of 3-acres of land for practice and other athletic fields needed for 3-acres for a city community center (Minium, 2006). The mayor of Norfolk, who negotiated the deal, lived in the adjacent neighborhood and added stipulations that maintained some integrity of the community, making it easier for the adjacent community to support the addition of a football program (Minium, 2006).

The university completed another major renovation of the stadium in 2019, replacing a majority of the infrastructure, and adding 2,000 seats. The construction was limited to weekdays and Saturday until 7pm to minimize noise and neighbor disturbances.

SB Ballard Stadium is located on the northern edge of ODU's campus. While most of the study tracts are included within both the campus and stadium buffers, tract 24 is immediately adjacent to the stadium itself; tracts 24 and 26 are located east of the campus, but separated by a

highway. Tract 25 primarily contains ODU's campus. In both instances, the data confirms that these tracts are principally occupied by college-aged residents with low homeownership rates, high shares of non-family households, and other variables suggestive of college-aged people. We have removed tract 9801 from the study, as it is comprised of a large golf course and facilities. Broadly speaking, tract 26, buffered from the campus by a major arterial, shows the most significant change over the study period: the population increased by 73%, the share of college-aged people increased by 37%, and approximately 35% of its housing units were constructed during this time. By contrast, tracts 23 and 24 (located north of the stadium) have few college-aged residents (less than 20%) and remained stable with respect to demographic characteristics. Median incomes in these tracts shifted upwards since 2000, with more households making more than $125,000 in the 2014-2018 period than previous years; similarly, tract 23 gained more homeowners during this time (from 46% to 62%). Rent growth was strong in these tracts too, increasing approximately 25%; meanwhile, median home values in tracts 23 and 24 remained stable and higher relative to other tracts.

University of Minnesota – Twin Cities

Officials began to push for an on-campus stadium as early as 2000 with a number of proposals including a joint venture with the NFL Vikings, and a donor-led stadium. UM played on campus previously but moved to the Metrodome, located in downtown Minneapolis, in 1981. Ultimately, university officials went forward with its own plans, unveiling details of a stadium feasibility study in late 2003, despite budget issues facing the athletic department in the early 2000's. The university used the stadium project to propel the largest university expansion since the 1960's. The expansion, which also involved the use of eminent domain, included land for street reconstruction, parking, future research buildings, and recreation fields.

The stadium project experienced push back from neighboring communities (Johns, 2002). These groups vocalized concerns of traffic, parking, noise, safety, and general environmental impact (Johns, 2002). The Minneapolis City Council passed a resolution in 2002 requesting UM's Board of Regents consult with neighboring community associations and the city during the process. University officials began an environmental and community impact study in 2004, which provided communities the opportunity to participate in the process through public meetings and feedback on early drafts of the impact statement. Recommendations were finalized in 2005 and included the creation of a stadium area advisory board and an event management advisory committee (University of Minnesota, 2006). Additionally, a number of game-day policies were proposed such as tailgating policies and party patrollers to mitigate the issues with parking, noise, and safety.

TCF Stadium opened in 2009 on land previously used for parking lots along the northeastern edge of UM's campus. Three tracts fall within its 1-mile buffer. Tracts 1048 and 1049 are immediately south of the stadium and largely contain the campus itself. Tract 1039 is immediately west of the stadium and consists of a residential neighborhood; however, it is buffered from the stadium by several existing recreation facilities. The remaining university-adjacent tracts are either further west of the stadium or located across the Mississippi River.

Broadly speaking, several tracts surrounding UM experienced population growth since 2000, including the neighborhood closest to the stadium—nearly doubling in size between 2009-2013 and 2014-2018. Meanwhile, most tracts had a fairly consistent share of college-aged people over time with one exception: tract 1039 saw its college-aged population jump from 66% to 89% by 2014-2018. Coupled with climbing poverty rates, consistently low homeownership rates (1% in 2014-2018), and ongoing high shares of non-family households, the tract reflects the

hallmarks of a primarily college residential neighborhood. Housing unit construction offers the most notable shift for UM and its stadium-adjacent neighborhoods: approximately 30% to 40% of the housing stock in tracts 1039 and 1049 was built since 2010, signaling new investment and changes to the neighborhood composition.

University of Akron

Intentions of developing an on-campus stadium initially began in 2002, and a feasibility study was completed in 2004. Construction began in 2008 but was delayed due to litigation challenging the university's use of eminent domain for land needed for the stadium ("New football stadium causes unjust eminent domain," 2009). Several student dormitories were razed to make space for the on-campus stadium.

InfoCision Stadium, which opened in 2009, was developed in part due to the university's New Landscape for Learning campus enhancement program led by the university president. The university was also a part of the University Park Alliance (UPA), developed in 2001 by a large grant with a mission to revitalize and redevelop the 50-block area surrounding the university (Creating a New Landscape for Living, 2022). This area was plagued with problems as resident households were living under the poverty level, the median household income was half that of all city residents, and decreasing levels of home ownership (The City of Akron, n.d.). UPA began with the university, Summa Health System, and the city of Akron and grew to include several local private and public stakeholders. Some of its completed major projects included an office park for Summa Health System's information technology and finance department, Select Specialty Hospital, luxury town homes for rent, a community learning center, the Cooper Cancer Center, and InfoCision Stadium. Over an eight-year period, UPA invested almost $1 billion into the area and the university invested at least $500 million in campus improvements.

InfoCision Stadium is located at the southeastern edge of the campus. A highway separates the stadium from neighborhoods to the east, including portions of tract 5089 (the remainder of which includes Akron's campus), tract 5090, and tract 5031. Tracts 5017, 5041, and 5042 all fall within one mile of the stadium, located immediately south of the facility. These tracts represent the most residential neighborhoods surrounding the campus. The remaining university-adjacent tracts are situated to the east of the campus, which lie outside of the stadium buffer and include an array of institutional and non-residential land uses (tracts 5011, 5068, and 5083.01).

Stadium-adjacent tracts showed declining trends that reflect the ongoing economic struggles within Akron. Since 2000, these neighborhoods have continued to experience population loss, and some shifts in racial composition—two tracts saw declines in white populations and corresponding increases in Black populations; one tract experienced the inverse trend. Each of the stadium-adjacent tracts had differing shares of college-aged populations: tract 5042 was persistently low throughout the study period (approximately 17%), while tracts 5017 and 5041 saw their college-aged populations increase by roughly 50% during the study period (ending at 71% and 43%, respectively, in 2014-2018). In both cases, the tracts realized the most gains between 2000 and 2009-2013. Poverty rates for all three neighborhoods remained persistently high, with tract 5042 reaching the highest levels despite the lowest number of college-aged students. Housing indicators were also modest with limited rent growth and continued low homeownership rates. One notable change did occur for tract 5017: its housing stock expanded by 46% between 2000 and 2009-2013, coinciding with new college-aged residents. Collectively, these trends differ from the neighborhoods on the west side of the university (tracts 5011, 5068, and 5083.01). These tracts are mostly Black-majority

neighborhoods (with declining trends over the study period), low shares of college-aged residents (except tract 5083.01), high poverty rates, and sharply declining incomes—especially between 2000 and 2009-2013, which aligns with Akron's slow recovery from the Great Recession. Homeownership is exceedingly rare within these neighborhoods and the majority of housing units are located in multi-family, rather than single-family, configurations. It should be noted that UPA's vision dissolved after the project experienced leadership change and a loss of funding from a major supporter in 2013 (Lin-Fisher, 2021).

University of Central Florida

The exploration of an on-campus stadium began in January 2005 when the Board of Trustees authorized the completion of a feasibility study, though the idea informally came about in late 2004 within the athletics department (Damron, 2005a). The project was met with criticism by neighbors who were concerned about the proposed stadium location and its impact on the neighborhood (Board of Trustees, 2005a, 2005b). Several other campus locations not adjacent to any residential communities were proposed, but the university opted for the north campus location due to the proximity to other athletics facilities and the alumni center, along with the established infrastructure needed to support the project which included two planned parking garages (Damron, 2005b, 2005c).

The project was held up due to issues with the campus master plan, concerns from the community and state officials, and to ensure the financing plan was sound. While the university was not required by law to present its stadium plans to the public, it hosted a number of public hearings and information sessions. Community members continued to voice their concerns about the proposed location, noise and lighting issues, property value decline, and belligerent students and fans (Board of Trustees, 2005b; Deluzuriaga, 2005). The university adopted a few changes in response to the feedback including a no-park zone on a major thru-way, restricting traffic flow on another thru-way, and tailgating restrictions.

After the project was delayed further by other challenges including lawsuits filed by community members, a petition, delayed environmental permit, and the master plan amendment process, construction began the following March. The Bounce House opened in 2007.

Though neighbors did not prefer the location of the stadium, UCF's 80-acre arboretum serves as a sizable buffer from its eastern residential neighborhoods. Tract 165.07 is the only tract within the stadium's one-mile buffer, encompassing not only the neighborhoods to the east, but also the entirety of UCF's campus and the stadium itself. As such, many of the trends over the last 20 years are inclusive of on-campus investments and changes (and on-campus residents), as well as change in nearby neighborhoods. Since 2000, the population has increased dramatically (221%), with growth in college-aged residents (reaching 70% by 2014-2018). Taken together, this reflects UCF's large enrollment increases over the last 20 years. Similarly, the housing and economic indicators reveal the divide between the on-campus population—where UCF houses more than 11,600 students as of 2019 (Ginder et al., 2018)—and the proximate neighborhood, where median household incomes remain strong (nearly $91,000 in 2014-2018), poverty rates remain low compared to the other university-adjacent tracts, and homeownership rates are high (70% in 2014-2018). Notably, this neighborhood saw much of its construction during the 2000 to 2009 period (approximately 50% of its housing units were built during this time). Comparatively, the two tracts located within the university (but not stadium) buffer, located south and west of the campus (tracts 165.08 and 165.10) show more blended trends between town and gown. Tract 165.10 is more heavily populated by young people (remaining steady around 60% throughout the study period) and has characteristics that

consistently reflect college-aged residents, including much lower incomes, higher poverty rates, and essentially no homeownership options. Tract 165.08 has a smaller college-aged population (34% in 2014-2018, up 35% from 2000), with moderate median incomes, poverty rates, and homeownership levels that reflect a blended neighborhood.

Southern Methodist University

Throughout its rich history, SMU's football program played home games at several on and off campus stadiums in the Dallas area, including Ownby Stadium, an on-campus stadium, where SMU's football team played from 1926-1948 and 1989-1994 (Seifried & Tutka, 2016). The stadium was no longer in active use for the football program after 1994 once it was deemed non-compliant for Division IA football. Thus, a feasibility study was completed in May 1997 to weigh the option of renovating Ownby Stadium or building a new stadium. The university announced its intentions to build a new on-campus stadium in June 1997 on the site of Ownby Stadium. Along with the new stadium, the university incorporated an all-sports center that would house athletic offices, meeting space, and locker rooms. The university employed several measures to ensure it was accommodating its surrounding community. The stadium was built 25 feet below street level to help it blend into its surroundings, including the neighborhood. Additionally, university officials met regularly with neighborhood groups about the project, and notified community members that SMU may be interested in purchasing their homes in the future (Suhler, 1997). The city of University Park also worked with SMU to establish ordinances that regulated design aesthetics, signage, and lights in the new stadium (The City of University Park, 2000).

Parking was a major concern for the university as the space-constrained campus had roughly 5,000 parking spots in 1997, 600 of which had to be removed to make way for the stadium and all-sports center. SMU negotiated with the city of University Park to permanently displace 103 parking spots for stadium construction in exchange for a 400-car parking garage and loss property tax reimbursement from purchasing surrounding homes needed to expand (Barber, 1998; The City of University Park, 1998). To accommodate fans on game day, 4,000 on-campus parking spots were made available to season ticket holders while an additional 4,000 off-campus spots were also available with free shuttle buses. Additionally, SMU partnered with Dallas Area Rapid Transit (DART) to provide bus and light rail service to campus for students, faculty, and fans.

Gerald J. Ford Stadium, which opened in 2000, is located on the southern edge of SMU's campus. It abuts residential neighborhoods to the south and west and a U.S. highway to the east. While a number of tracts are located within one-mile of the stadium, two are most proximate to the facilities (tracts 194 and 196) with tract 197 situated nearby. Tract 193.02 extends north of the stadium, including the entirety of SMU's campus. Meanwhile, the North Central Expressway (US-75) serves as a barrier between the stadium and tracts 3 and 79.14—mostly comprised of retail uses.

The tracts closest to the stadium (tracts 194, 196, and 197)—excluding the campus tract—have low shares of college-aged residents, falling near or below 10% of the total population. These neighborhoods have seen modest population fluctuations, while their predominantly white racial compositions remained stable. These tracts continued to have higher median household incomes (upwards of $150,000), with corresponding low rates of poverty and high levels of educational attainment, and high homeownership (ranging from 75% to 91%). By comparison, the tracts east of the highway had lower median incomes (between $63,000 and $73,000) and substantially higher shares of rental housing (65% or more). The market

differences are also stark: the stadium-adjacent tracts, unlike any other case study, have median home values in the $1 to $2 million range—and these values have appreciated over time. Only the tracts on the other side of US-75 offer more moderate home values, hovering on either side of $150,000.

University of Louisville

Starting in 1989, the city and university conducted a number of studies and created a number of committees to explore the development of a new stadium facility. Ultimately, the committee secured a site adjacent to university's campus, exchanging unused railroad yard land owned by CSX Transportation for land in another part of the city, provided by the state of Kentucky (Jennings, 1996; Senate Bill 7, 1995). This land acquisition would expand campus, adding athletic facilities and parking lots. The stadium project received its final approval from the Board of Trustees after funding was secured in mid-1996, and Cardinal Stadium opened in 1998. The facility underwent two renovations since its opening in 1998: an expansion to 55,000 seats in 2008, and an additional 10,000 seats in 2019. The stadium also hosts high school football games, concerts, and international soccer matches.

In addition to the stadium, a throughway was expanded to provide more access and better traffic flow to the stadium and Churchill Downs, located about .25 miles from the new Cardinal Stadium. This expansion affected about 62 properties with an additional 25 homes and twelve businesses having to relocate, who were offered new homes or business locations and financial incentives, as required by law.

In the years following Cardinal Stadium's opening, the surrounding neighborhoods remained fairly consistent, with two exceptions. The stadium itself is adjacent to three residential tracts: tracts 40 and 41 to the south, and tract 37 to the west. Tract 71 is east of the stadium and effectively split into two areas: a residential area in the northern part of the tract (separated from the campus by a highway) and, adjacent to the stadium, a retail/entertainment district featuring the Kentucky State Fairgrounds, an amusement park, and several hotel and retail uses. The campus itself is contained with tract 53, which extends into residential areas on the north side of the university. Additional university-adjacent residential neighborhoods also lie north of the campus (tracts 35, 52, and 66).

Since 2000, two tracts (53 and 35) north of the campus (and furthest from the stadium) experienced the most growth, including substantial increases in population (ranging from 55% to 177%) and housing units (approximately 50% each). By comparison, the tracts nearest the stadium were largely steady. They did, however, see some shifts in the racial composition of the neighborhood, as the white population declined by roughly 25% and Black population increased nearly equivalent amounts. The stadium-adjacent tracts also had low shares of college-aged residents (falling below 20%) and comparatively lower educational attainment rates than other case neighborhoods (less than 15% had a Bachelor's degree or higher in 2014-2018); neighborhoods north of the campus had, on average, slightly higher number for both indicators. Median household incomes in the stadium-adjacent neighborhoods were moderately low (approximately $26,000 to $35,000), but slightly higher than other campus-adjacent tracts. The neighborhoods near Cardinal Stadium also had higher rates of homeownership than other nearby tracts, but those rates had declined since 2000 and were below 50%. Median home values and rents remained low, but steady through the study period, which stands in contrast to tracts 53 and 35 that realized increases in median rents (both tracts) and home values (tract 53 only) alongside population gains.

Discussion

This study explored the development and effects of athletic-based capital projects on university-adjacent communities in the United States, specifically with the addition of a football stadium to an urban campus environment. Nine of our ten cases built their stadium on existing university-owned land, highlighting the shift towards infill development to accommodate new institutional demands (Hajrasouliha, 2017). Only Louisville had to acquire additional land to accommodate stadium construction. Even with infill development, however, our case analysis illustrates the importance of strategic engagement with the surrounding communities for universities pursuing large-scale development projects (e.g., Perry & Wiewel, 2005; Sungu-Eryilmaz, 2009).

Institutions mostly navigated the addition of on-campus football stadium utilizing a proactive and strategic approach. A majority of the case universities held meetings and forums with relevant community members both before and during the stadium development process. Some meetings were more involved (e.g., requested feedback to designs, location, etc.), while others were limited to informational events. Despite the proactive public outreach, community members still generally disapproved of the stadium projects, highlighting quality of life concerns (e.g., parking, noise/light pollution, safety, environment impact, etc.). In response, we show how several universities adopted several concessions and policies and offer some benefits for impacted communities—drawing upon contemporary anchor institution practices (Ehlenz et al., 2014).

CSU and Tulane, two of the more recent stadium projects, adopted IGA's with the local government that outlined facility limitations and other community accommodations. In both cases, the community reaction to the project prompted elevated involvement by city officials on behalf of their constituents. The IGA's represented the communities needs and demands by outlining operational restrictions for the stadium. In other cases (i.e., UM, CSU, Baylor), universities established stadium advisory boards charged with examining impacts, managing community interactions of the stadium/events, and included representatives from the community, local government, police, and university. These cases highlight a more bureaucratic approach to managing the expansion with the involvement of local government officials and community members, and future research should explore community participation and activism in relation to campus expansion.

Universities also established game-day management policies and concessions in planning for the new on-campus football stadium to mainly addressed the anticipatory shift in campus operations on game-days to accommodate surrounding communities and ease the ingress and egress of fans. This included parking and traffic management such as implementing a permit system, working with the local government to limit neighborhood parking to residents only, and diverting traffic from neighborhoods. Tailgating policies and additional law enforcement were also common practice for game-day management. Other concessions put in place focused on neighbor/community management and included community post-event trash management plans, structural changes to the stadium, limited construction hours, and non-football events limitations in the new facility. These strategies could ease any tensions or future issues with the surrounding community. For example, a good neighbor fund was instituted at CSU and UM as a way to enhance and protect the beauty of communities next to their campuses. Our findings further show that universities as anchor institutions, are directly engaging with community issues related to university development and quality of life, often in a more strategic approach (Ehlenz, 2018; Ehlenz et al., 2014).

With respect to neighborhood change, we did not observe clear patterns in neighborhood demographic, socioeconomic, and/or housing variables after the introduction of an on-campus football stadium. In most instances, the data did not suggest stadium-adjacent neighborhood faced outsized gentrification or studentification pressures. That said, the pre-stadium neighborhood context and location also appears to be relevant to the experience of one university case versus another.

Stadium siting may be a contributing factor to neighborhood impacts: in many of our cases (n=7), stadiums were buffered from nearby residential neighborhoods by highways and rail corridors, rivers and open spaces, or retail areas. This physical buffer may have curtailed some of the negative externalities that could contribute to neighborhood change, such as excess traffic and trash (a potential detraction for local residents) or enhanced destination amenities (a potential attractor for investors). Stadium siting on the edges of university campuses also appeared to infer that, for many universities, their investments were not centered on student-heavy neighborhoods. In half of our cases, the stadium-adjacent tracts had only a small share of college-aged residents. Over time, a few cases appeared to become more student-centered; in others, the stadium-adjacent neighborhoods continued to host only a small share of young people. In some ways, this observation contradicts what we might expect given the importance of university athletics to campus life and student attraction. One possibility is that neighborhoods shift over a longer period of time—in other words, we could not observe compositional change over our study period relative to stadium opening dates. Future research should continue to study these stadium-adjacent neighborhoods to understand if their housing markets are more vulnerable to studentification over a long period of time.

What we do not capture in the Census data—and what was reflected in the qualitative data —are perceptions of changes in the quality of life for local residents. Increased light, noise, or trash (for example) may be part of the change experienced by stadium-adjacent neighborhoods, but the data does not suggest that any of those potentially negative externalities were enough to generate meaningful changes in demographic, socioeconomic, or market variables. This may be due to the location of the stadium and neighborhood composition before the stadium project, but could also be attributed to the strategic community involvement approach by many of the universities in our sample. Additionally, it is possible that some of those negative externalities will show up in housing market data over a longer horizon. But it is also possible that those nuances are either not widespread enough or bothersome enough to meaningfully change the trajectory. Future research should examine similar cases in a longitudinal capacity to examine the long-term impact of on-campus stadium development. Additionally, future research can expand on this study, examining how the addition of a large-scale sport facility impacts the broader community and city. Whereas other anchor institution strategies—particularly housing and commercial investments—have been associated with neighborhood change in adjacent communities, major athletics facilities—a substantial influx of capital infrastructure in its own right—do not appear to clearly spark decline or gentrification in the surrounding communities. In other words, even if neighborhoods are experiencing negative impacts to their quality of life, it may not be enough to alter property values or market trends. While qualitative experience is not less important than quantitative neighborhood metrics, it does require a different approach to measuring and responding to community impact. This finding highlights the value and importance of the negotiations and conversations with local stakeholders (e.g., Perry & Wiewel, 2005; Sungu-Eryilmaz, 2009).

Conclusion

The town and gown relationship remains a vital area of scholarship. Our study intended to further expand this area in addressing the development of large-scale athletic facilities on campuses in an urban environment. Athletics projects may come with skepticism in its relation to the university mission, yet the trend continues toward bigger and better stadiums and arenas. Though most of the football stadiums in this study were mostly infill development rather than new land acquisition, negative perceptions existed. Though local residents were concerned with many immeasurable negative externalities, the data does not suggest any of those potentially negative externalities were enough to generate meaningful changes in demographic, socioeconomic, or market variables. The perceptions of neighborhood change may be due to the location of the stadium and neighborhood composition before the stadium was built. It is possible that some of those negative externalities will show up in sales data over time. It is also possible that those nuances are either not widespread enough or bothersome enough to meaningfully change the trajectory.

References

Baade R., Baumann R., & Matheson V. (2008). Assessing the economic impact of college football games on local economies. *Journal of Sports Economics, 9*, 628–643. 10.1177/1527002508318363

Baade R. A., Baumann R. W., & Matheson V. A. (2011). Big men on campus: Estimating the economic impact of college sports on local economies. *Regional Studies, 45*, 371-380. 10.1080/00343400903241519

Baade, R.A., & Sundberg, J.O. (1996). Fourth down and goal to go? Assessing the link between athletics and alumni giving. *Social Science Quarterly, 77*, 789-803.

Barber, D. R. (1998, March 25). Agreement allows SMU to begin stadium work - Temporary building will displace 103 parking spaces. *The Dallas Morning News,* N1.

Bass, J. R., Schaeperkoetter, C. C., & Bunds, K. S. (Eds.). (2015). The 'front porch': Examining the increasing interconnection of university and athletic department funding. *Association for the Study of Higher Education, 41*(5). 10.1002/aehe.20023

Board of Trustees. (2005a, April 14). *April 2005 Minutes.* https://bot.ucf.edu/wp-content/uploads/sites/5/2012/05/04142005Minutes-1.pdf

Board of Trustees. (2005b, April 14). *November 2005 Minutes.* https://bot.ucf.edu/files/2012/05/11092005Minutes-1.pdf

Britton, J., & Aires, K. W. (2014). Planning for community engagement: Drexel University creates the Dornsife Center for Neighborhood Partnerships. *Planning for Higher Education*, *43*(1), 64–75.

Carriere, M. (2011). Fighting the war against blight: Columbia University, Morningside Heights, Inc., and counterinsurgent urban renewal. *Journal of Planning History*, *10*(1), 5–29. 10.1177/1538513210392882

Chapman, J. D., MacDonald, S. T., Arnold, A. G., & Chapman, R. S. (2018). An analysis of higher education facility expansion. *Journal of Business and Educational Leadership, 8*(1), 66-85.

Chung, D. J. (2013). The dynamic advertising effect of collegiate athletics. *Marketing Science*, *32*(5), 679-698. 10.1287/mksc.2013.0795

City of Fort Collins. (2014). *CSU Stadium Report.* https://www.scribd.com/document/248336499/City-of-Fort-Collins-CSU-Stadium-report

Coates, D., & Depken, C. O. (2008). Do college football games pay for themselves? The impact of college football games on local sales tax revenue, (SSRN Working Paper). New York, NY: Social Science Research Network. http://ssrn.com/abstract=1140271

Coulson, J., Roberts, P., & Taylor, I. (2014). *University Trends: Contemporary Campus Design* (1st Edition). Routledge.

Creating a New Landscape for Living. (2022). *The University Park Alliance.* https://www.uakron.edu/proenza/strategic_plan_initiatives/new_landscape_for_living.dot

Damron, D. (2005a, January 5). UCF stadium backer is big-time booster - Jerry Roth calls his idea 'a moneymaker'. *The Orlando Sentinel,* B1.

Damron, D. (2005b, July 26). Residents near UCF want alternate site for stadium. *The Orlando Sentinel,* B1.

Damron, D. (2005c, April 1). Study: Stadium for UCF worth it. *The Orlando Sentinel*. https://www.orlandosentinel.com/news/os-xpm-2005-04-01-0504010227-story.html

Deluzuriaga, T. (2005, November 10). Stadium at UCF could be up by '07 - University trustees approve the football field, if financing can be acquired. *The Orlando Sentinel,* A1.

Distribution. (2013, January 25). Neighborhood Association Presidents response to the draft Tulane stadium agreement and settlement agreement. https://saveourneighborhoods.files.wordpress.com/2013/01/response-jan18-stadium-agreement-12.pdf.

DuMond, J. M., Lynch, A. K., & Platania, J. (2008). An economic model of the college football recruiting process. *Journal of Sports Economics*, *9*(1), 67-87. 10.1177/1527002506298125

Ehlenz, M. M., Birch, E. L., & Agness, B. (2014). *The power of eds and meds: Urban universities investing in neighborhood revitalization and innovation districts*. Penn Institute for Urban Research.

Ehlenz, M. M. (2017). Gown, town, and neighborhood change: An examination of urban neighborhoods with university revitalization efforts. *Journal of Planning Education and Research*, 1–15. 10.1177/0739456X17739111

Ehlenz, M. M. (2018). Defining university anchor institution strategies: Comparing theory to practice. *Planning Theory & Practice*, *19*(1), 74-92. 10.1080/14649357.2017.1406980

Ehlenz, M. M. (2018). The university and its neighborhood: A study of place-making and change. *Journal of Urban Affairs,* 1-19. 10.1080/07352166.2018.1530568

Ehlenz, M. M. (2020). 'Can you imagine what's happened in Durham?': Duke University and a new university–community engagement model. *Journal of the American Planning Association*, 1–17. 10.1080/01944363.2020.1782766

Etienne, H. F. (2012). *Pushing back the gates: Neighborhood perspectives on university-driven revitalization in West Philadelphia*. Temple University Press.

Fogleman, L. (2013, November 19). Baylor Waco Stadium Authority established to lease new stadium year round. https://www.baylor.edu/mediacommunications/news.php?action=story&story=136017

Fort, R. (2010). An economic look at the sustainability of FBS athletic departments. *Journal of Intercollegiate Sport*, *3*(1), 3-21. 10.1123/jis.3.1.3

Ginder, S. A., Kelly-Reid, J. E., & Mann, F. B. (2018). *2017–18 Integrated Postsecondary Education Data System (IPEDS) Methodology Report* (No. NCES 2018-195; p. 28). Washington, D.C.: National Center for Education Statistics. https://nces.ed.gov/pubs2018/2018195.pdf

Goff, B. (2000). Effects of university athletics on the university: A review and extension of empirical assessment. *Journal of Sport Management, 14*, 84-104. 10.1123/jsm.14.2.85

Grimes, P.W., & Chressanths, G.A. (1994). Alumni contributions to academics: The role of intercollegiate sports and NCAA sanctions. *American Journal of Economics and Sociology, 53*, 27-41. 10.1111/j.1536-7150.1994.tb02669.x

Hajrasouliha, A. H. (2017). Master-planning the American campus: Goals, actions, and design strategies. *URBAN DESIGN International*, *22*(4), 363–381. 10.1057/s41289-017-0044-x

Jennings, M. (1996, June 20). 2 new sponsors added for football stadium. *The Courier Journal,* 15.

Johns, E. (2002, November 22). Local communities mostly oppose proposed stadium. *The Minnesota Daily.* https://mndaily.com/230479/news/metro-state/local-communities-mostly-oppose-proposed-stadium/

Klenosky, D. B., Templin, T. J., & Troutmam, J. A. (2001). Recruiting student athletes: A means-end investigation of school-choice decision making. *Journal of Sport Management*, *15*(2), 95-106. 10.1123/jsm.15.2.95

Kushner, S. (2014). Special section: Tulane's feeling right at home, back on campus at Yulman Stadium. https://www.nola.com/sports/tulane/article_d92c669d-991f-58a6-9afa-5dbae33b7a63.html

Lam, L. (2015, March 13). Colorado State students and Fort Collins community members protest on-campus stadium. *The Rocky Mountain Collegian.* https://collegian.com/2015/03/colorado-state-students-and-fort-collins-community-members-protest-on-campus-stadium/117246/?fbclid=IwAR08JBR_6s_XMwXrVU0LNHT7NJPueNi9zM9htsvUIMvSZAm-kJoNSVG5ac8

Lyell, K. (2014, August 7). Poll finds most oppose CSU stadium. *The Coloradoan.* https://www.coloradoan.com/story/news/local/csu/2014/08/07/poll-shows-majority-opposed-campus-csu-stadium/13753479/?fbclid=IwAR3_vFWebBhGymPaUPunK9-9H3-DHq-lZ_7W1xlRl6xcrpbWPtVQQBWqUjw

Lambert-Pennington, K., Reardon, K. M., & Robinson, K. S. (2011). Revitalizing South Memphis through an interdisciplinary community-university development partnership. *Michigan Journal of Community Service Learning*, *17*(2), 59–70.

Lin-Fisher, B. (2021, May 27). Jury finds in favor of former University Park Alliance group in 8-year-old lawsuit. *Akron Beacon Journal.* https://www.beaconjournal.com/story/news/2021/05/27/verdict-lawsuit-finds-favor-former-university-park-alliance-roger-carter/7429817002/

Magnusen, M. J., McAllister, C. P., Kim, J. W., Perrewé, P. L., & Ferris, G. R. (2017). The reputation playbook: Exploring how reputation can be leveraged to improve recruiting effectiveness in NCAA men's basketball. *Journal of Applied Sport Management*, *9*(2), 11-24. 10.18666/JASM-2017-V9-I2-8016

Martin, J., & Allen, M. (2009). Students in my backyard: Housing at the campus edge and other emerging trends in residential development. *Planning for Higher Education*, *37*(2), 34-43.

Maxcy, J. G., & Larson, D. J. (2015). Reversal of fortune or glaring misallocation: Is a new football stadium worth the cost to a university? *International Journal of Sport Finance, 10*(1), 62-87. 10.2139/ssrn.2382280

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Sage.

McCaw, I. (2011, November 8). Study, survey are next step toward on-campus stadium. *The Baylor Lariat*. https://baylorlariat.com/2011/11/08/study-survey-are-next-step-toward-on-campus-stadium/

McCormick, R. E., & Tinsley, M. (1987). Athletics versus academics? Evidence from SAT scores. *Journal of Political Economy*, *95*(5), 1103–1116. 10.1086/261505

Minium, H. (2006, April 21). ODU, Norfolk ink gridiron pact. *The Virginia Pilot,* B1.

Moos, M. (2015). From gentrification to youthification? The increasing importance of young age in delineating high-density living. *Urban Studies*, *53*(14), 2903–2920. 10.1177/0042098015603292

Newman, S. (2019, October 22). No matter how many games it wins, Temple shouldn't build a football stadium. *Philadelphia Magazine*. https://www.phillymag.com/news/2019/10/22/temple-football-stadium-opposition/

New football stadium causes unjust eminent domain. (2009, January 26). *The Buchtelite.* https://buchtelite.com/4870/uncategorized/new-football-stadium-causes-unjust-eminent-domain/

New Wave Staff. (2012, July 12). Meeting in the middle: IZD out, stadium agreement in. https://news.tulane.edu/news/meeting-middle-izd-out-stadium-agreement.

O'Mara, M. P. (2005). *Cities of Knowledge: Cold War science and the search for the next Silicon Valley*. Princeton University Press.

O'Mara, M. P. (2012). Beyond town and gown: University economic engagement and the legacy of the urban crisis. *Journal of Technology Transfer*, *37*, 234–250. 10.1007/s10961-010-9185-4.

Perry, D. C., & Wiewel, W. (2005). *The University as Urban Developer: Case studies and analysis*. ME Sharpe Inc.

Pope, D. G., & Pope, J. C. (2009). The impact of college sports success on the quantity and quality of student applications. *Southern Economic Journal, 75*, 750-780. 10.1002/j.2325-8012.2009.tb00930.x

Rhoads, T.A., & Gerking, S. (2000). Educational contributions, academic quality and athletic success. *Contemporary Economic Policy, 18*, 248-259. 10.1111/j.1465-7287.2000.tb00022.x

Rickes, P. (2009). Make way for millennials! How today's students are shaping higher education space. *Planning for Higher Education*, *37*(2), 7–17.

Roberts, P., & Taylor, I. (2016). The campus matters: Acquiring the competitive edge. *Planning for Higher Education*, *44*(3), 12-17.

Rudd, A. & Johnson, R. B. (2010). A call for more mixed methods in sport management research. *Sport Management Review, 13*, 14-24. 10.1016/j.smr.2009.06.004

Seifried, C., & Tutka, P. (2016). Southern Methodist University football and the stadia: Moving toward modernization. *Sport History Review, 47*(2). 10.1123/shr.2015-0018

Senate Bill 7. (1995). https://apps.legislature.ky.gov/lrcsearch

Silverman, R., Taylor, H., Yin, L., Miller, C., & Buggs, P. (2018). Perceptions of residential displacement and grassroots resistance to anchor driven encroachment in Buffalo, NY. *Urbanities*, *8*(2), 79-86.

Silverman, R., Taylor, H., Yin, L., Miller, C., & Buggs, P. (2019). There goes our family friendly neighborhood: Residents' perceptions of institutionally driven inner-city revitalization in Buffalo, NY. *Journal of Community Practice*, *27*(2), 168–187. 10.1080/10705422.2019.1616642

Smith, D. R. (2009). College football and student quality: An advertising effect or culture and tradition? *American Journal of Economics and Sociology, 68*, 553–579. 10.1111/j.1536-7150.2009.00639.x

Smith, J. B. (2012, July 12). TIF board OKs $35 million contribution to Baylor stadium. https://wacotrib.com/news/tif-board-oks-million-contribution-to-baylor-stadium/article_add2546c-9cf1-565d-ae61-cfe53ed9a904.html

Smith, J. B. (2014, November 30). McLane Stadium neighbors: Game days smooth, but area's future uncertain. https://www.wacotrib.com/news/higher_education/mclane-stadium-neighbors-game-days-smooth-but-area-s-future/article_83eac01e-59f1-56ea-813b-24e3cf8e025e.html.

Stinson, J. L., & Howard, D. R. (2007). Athletic success and private giving to athletic and academic programs at NCAA institutions. *Journal of Sport Management, 21*, 237–266. 10.1123/jsm.21.2.235

Suhler, J. N. (1997, December 21). Big plans at SMU: $215 million raised for facilities, programs, stadium. *The Dallas Morning News,* 37A.

Sungu-Eryilmaz, Y. (2009). *Town-Gown Collaboration in Land Use and Development*. Lincoln Institute of Land Policy. https://www.lincolninst.edu/sites/default/files/pubfiles/town-gown-collaboration-land-use-development-full.pdf

Taylor, H., & Luter, G. (2013). *Anchor Institutions: An Interpretive Review Essay*. Anchor Institutions Task Force. http://community-wealth.org/sites/clone.community-wealth.org/files/downloads/paper-taylor-luter.pdf

Taylor, H., Luter, G., & Miller, C. (2018). The university, neighborhood revitalization, and civic engagement: Toward civic engagement 3.0. *Societies*, *8*(4), 106. 10.3390/soc8040106

Teaford, J. C. (2000). Urban renewal and its aftermath. *Housing Policy Debate*, *11*(2), 443–465. 10.1080/10511482.2000.9521373

The City of Fort Collins. (2015). *Intergovernmental agreement related to an on-campus stadium.* https://source.colostate.edu/wp-content/uploads/2015/10/IGA.pdf.

The City of New Orleans. (2013). *Tulane Stadium agreement and settlement agreement.* https://tulanegreenwave.com/documents/2014/10/16/stadium-agreement.pdf

The City of Akron. (n.d.). *University Park.* https://www.akronohio.gov/cms/resource_library/files/f86afebe91dbbb74/universitypark.pdf

The City of University Park. (1998). *City Council Minutes.* https://info.uptexas.org/WebLink/DocView.aspx?id=1267&dbid=0&repo=Laserfiche

The City of University Park. (2000). *Ordinances*. https://info.uptexas.org/WebLink/DocView.aspx?id=1288&page=473&dbid=0&repo=Laserfiche&searchid=011afb34-8810-4860-b19a-51a92c41177c&cr=1

Toma, J. D., & Cross, M. E. (1998). Intercollegiate athletics and student college choice: Exploring the impact of championship seasons on undergraduate applications. *Research in Higher Education*, *39*(6), 633-661. 10.1023/A:1018757807834

Tucker, I. B. (2005). Big-time pigskin success. Is there an advertising effect? *Journal of Sports Economics, 6*, 222-229. 10.1177/1527002504263398

Twitchell, J. (2004). *Branded nation*. Simon & Schuster.

UNC Charlotte Football Feasibility Committee. (2008). *Recommendation to the Chancellor.* https://chancellor.charlotte.edu/sites/chancellor.charlotte.edu/files/media/football/Recommendation-Narrative.pdf

University of Minnesota. (2006). *Final Environmental Impact Statement.* https://conservancy.umn.edu/handle/11299/704.

Winling, L. (2011). Students and the Second Ghetto: Federal legislation, urban politics, and campus planning at the University of Chicago. *Journal of Planning History*, *10*(1), 59–86. 10.1177/1538513210392002

Yin, R. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage.