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Do cultural districts spur urban revitalization: Evidence from Louisiana☆

Javier E. Portillo[a], Gary A. Wagner[b,*]

[a] Assistant Professor of Economics, University of Louisiana at Lafayette, United States
[b] Acadiana Business Economist Endowed Chair and Professor of Economics, University of Louisiana at Lafayette, United States

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ABSTRACT

In the past two decades, cultural districts have become a popular instrument to encourage urban revitalization. Districts typically receive support such as grants, investments, or tax credits and, in this sense, are a variation of place-based economic development policies. In this paper, we examine the effect of state-designated cultural districts on transaction-level residential real estate prices in the metropolitan region of Lafayette, Louisiana. Using a difference-in-differences identification strategy that adjusts for staggered treatment timing, we find that residential properties within districts sell for 7% more after certification relative to nearby comparison group properties. The results are robust to extreme sale prices, alternative samples, and recently developed randomization inference techniques. Our results add to the literature showing that place-based policies can spur economic revitalization if they are carefully targeted toward amenities that residents value.

1. Introduction

The term place-based policy refers to a governmental effort directed at promoting economic development within a specified geographic area. Examples of such policies include urban redevelopment or revitalization efforts, infrastructure investments, empowerment zones, and opportunity zones (to name a few). Targeted areas often receive special support such as grants, investments, and tax credits. These policies, which often target areas that are languishing economically, aim to catalyze economic activity by encouraging and exploiting agglomeration economies and knowledge spillovers. However, evidence on the efficacy of these policies is mixed at best (e.g., Bartik, 2020 and Neumark and Simpson, 2015). In this paper, we explore the impact that state-designated cultural districts, a recent innovation in place-based policies, have on the value of residential real estate located within their boundaries.

Over the past two decades in the United States, cultural districts have become a popular instrument used by local governments to encourage urban redevelopment and revitalization. Typically, local and/or state agencies designate or certify

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* Corresponding author.
E-mail addresses: javier.portillo@louisiana.edu (J.E. Portillo), gary.wagner@louisiana.edu (G.A. Wagner).

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these districts through a formal process. The districts are then tasked with safeguarding, preserving, and promoting cultural resources. As of 2019, 17 states have legislatively created a cultural district program, establishing more than 340 unique cultural districts.[1] The criteria by which individual districts are established as well as the rules governing them may vary even within the same state. Some take local assets and context into consideration. Some are tied to existing attractions like parks, monuments, museums, galleries, or gardens; others are designated with the goal of creating a cluster of artists and businesses in a specific area (e.g., downtown).

In spite of differences in implementation, cultural district programs have similar goals: attracting artists and cultural enterprises to spur economic activity in the community; encouraging business development and job development to make the area more appealing; establishing an area as a tourist destination; promoting preservation and reuse of older buildings; enhancing the value of real estate; and fostering the development of local culture (National Assembly of State Arts Agencies (NASAA), 2015). Arguably, *the* goal common to all is community revitalization grounded in cultural activity. Despite the growing popularity of cultural districts, studies of their effectiveness are scarce. This may be due to the fact that the effectiveness of cultural districts can be more difficult to quantify and measure than that of place-based development initiatives like empowerment zones or tax increment financing districts, which are often tied to specific job or investment targets (National Assembly of State Arts Agencies (NASAA), 2018). For these reasons, most extant research exploring cultural districts evaluates efficacy using a qualitative or case-study approach (e.g., Le Blanc, 2010).

This paper expands the literature on cultural districts by providing some of the first evidence of their broader effectiveness as an urban revitalization tool. We do this by empirically examining how the designation of seven cultural districts in Lafayette Parish, Louisiana, affected the selling price of residential properties located within district boundaries. These properties tend to be older, have fewer amenities, and sell for significantly less than properties in other neighborhoods. Our identification strategy uses a difference-in-differences design that adjusts for staggered certification timing and compares residential sales within cultural districts to sales just outside of their boundaries. After adjusting for a plethora of observable and unobservable differences between properties, we find that residential homes within district boundaries sell for 7% more than nearby comparison group properties after certification. Our results are robust to extreme sale prices, selected sub-samples of cultural districts, and recently developed randomization-inference techniques.

After the first cultural district was certified in 2009, we also document a significant increase in culturally-related grant funding from multiple sources, including the National Endowment of the Arts, relative to the pre-certification period. Several other cultural events, such as the Southern Screen Film Festival, began shortly after certification and remain firmly in place today. If residents perceive that certifying a cultural district certification will ultimately succeed in securing greater funding and neighborhood investments or promote the creation of new cultural activities, then they may be willing to pay a premium to reside closer to these amenities. More generally, our results add to the literature showing that place-based policies can be effective tools to spur economic revitalization if they are carefully targeted toward amenities valued by residents.

2. Background

2.1. Related literature

The concept of a cultural district has been discussed under various contexts and to differing scales (e.g., Santagata 2002; 2006; 2011; Frost-Kumpf 1998; Brooks and Kushner 2001; Lazzeretti 2003). Within the U.S., cultural districts are perceived as aids to economic recovery or revitalization through arts and culture (Frost-Kumpf 1998). A driving force behind cultural districts is the notion of agglomeration and associated positive externalities. Thus, by setting up a district and introducing incentives where possible, local authorities may expect to attract talented individuals, incentivize investment, and promote business expansion or creation (Markusen, 2006; Florida and Mellander, 2009; Bereitschaft, 2014). As the district develops, so do agglomeration benefits with associated spillovers not only for culture-related businesses but for other sectors (Noonan, 2013; Markusen and Gadwa, 2010; Frost-Kumpf, 1998; Boal and Herrero, 2018).[2]

In Table 1, we show states that have legislatively established cultural district programs. Some of these programs leverage tax incentives to promote the establishment of cultural districts. As discussed later, the cultural district program in Louisiana makes use of sales tax credits and preservation tax credits. Other states use alternative, non-tax strategies that make use of both tangible and intangible benefits, including (i) recognition (local approval received by the state certifying that the cultural district is arts- and culture-oriented), (ii) technical assistance (local agencies overseeing designation may provide access to resources, guidance, and marketing for authorities interested in creating a district), (iii) stipends or grants (e.g., starting in 2017, California's pilot program offered districts a $5,000 stipend per district per year; the Maryland State Arts Council provides information on various grants available to support individual districts), and (iv) funding leverage (Okla-

[1] Other states have legislation enabling *local* governments to establish cultural districts with no formal role assigned to *state* agencies. Such states include: Maine, Mississippi, Missouri, Ohio, Virginia, and Wisconsin (National Assembly of State Arts Agencies (NASAA), 2015).

[2] Although it is outside of the scope of this paper, there are numerous studies that explore the broader relationship between culture and various economic outcomes (e.g., Alesina and Giuliano, 2015; Tabellini, 2010; Guiso et al., 2006; Frederking, 2002).

Table 1
Cultural Districts Across States with Established Legislation.

	Number of Cultural Districts	Established	Admission & Amusement Tax Exemption	Income Tax Credit	Preservation Tax Credit	Property Tax Credit	Sales Tax Credit
CA	14	2015					
CO	26	2011					
IA	35	2005			X		
IN	10	2008					
KY	6	2011					
LA	106	2007			X		X
MA	50	2010					
MD	28	2001	X	X		X	
NM	12	2007			X		
OK	7	2013					
RI*	9	1999		X			X
SC	8	2014					
TX	43	2009					
WA	8	2017					
WV	8	2005					

Source: National Assembly of State Arts Agencies. Arkansas and Connecticut have legislatively established a cultural districts program but have not yet registered a district. *"Rhode Island enacted legislation in 2013 extending the sales-tax benefits of Tax-Free Arts Districts to all artists and galleries working in Rhode Island, effectively making the entire state a cultural district" (National Assembly of State Arts Agencies (NASAA), 2015).

homa's grant program has 1:1 matching requirement and districts may participate in the program for up to five years and receive a maximum of $25,000).[3]

State agencies typically grant cultural district designation after ensuring that the proposed area meets certain criteria, which may include demonstrating potential to promote economic development. One way to assess the impact of cultural district programs on communities is to explore how the designation affects the selling price of nearby housing. If the district generates the intended economic and cultural activity and is perceived as an amenity by local residents, these externalities should be capitalized into the value of local real estate. More broadly, Malecki (2004) argues that cultural assets play a vital role in helping regions maintain or enhance their attractiveness as competition for talent and businesses intensifies.

A related strand of literature explores the impact that historic designation has on the selling price of properties. For example, Coulson and Leichenko (2001) find that the historic designation of individual homes in Abilene, Texas, substantially increases their price. They also report that having more historic-designated homes in a neighborhood (census tract) increases the price of non-designated homes, suggesting that spillovers associated with historic preservation may promote more widespread urban development and rehabilitation. Similarly, looking at neighborhoods in New York City, Been et al. (2016) find evidence of increasing property value within historic districts following their designation, but also of increasing property value in areas surrounding these districts. Using residential property transactions from Denver, Colorado, Zhou (2020) also finds that local and national historic district designations raise the selling prices for properties within, and surrounding these districts.[4] Franco and Macdonald (2018) explore the impact of various cultural heritage assets on property prices in Lisbon, Portugal. The authors find evidence that properties within and near conservation areas sell for a higher price, and that the positive externality decreases the further a property is from the conservation area. Koster and Rouwendal (2017) look at how investments in cultural heritage sites affect surrounding properties and find a positive impact as well. Nevertheless, other studies find negligible or even negative impacts on real estate prices following historic district designation. For instance, after instrumenting for historic designation, Noonan and Krupka (2011) find mostly negative effects on property values within a historic district using data from Chicago. Similarly, using home transaction data from the Boston-Cambridge-Quincy MSA, Heintzelman and Altieri (2013) also find a negative impact for homes within historic district. Meanwhile, Ahlfeldt et al. (2017) fail to find any evidence of a price effect for homes within a newly designated conservation area in England. However, there is an important distinction between cultural districts and the environments explored in the aforementioned research, that is: Cultural districts are not always tied to preservation efforts or associated with historic or cultural landmarks.[5]

[3] National Assembly of State Arts Agencies (NASAA) (2015) note that not all state governments are willing to relinquish (or divert) tax revenues– "a bill without a fiscal impact may have an easier path to enactment."

[4] Zhou (2020) was also interested in the potential collective actions costs associated with the designation of these districts, but fails to find evidence for this implication (insofar as the size of the district is able to capture such costs).

[5] Owners whose property is within historic districts may also need to abide by (potentially costly) regulations. There are no similar requisites for properties within cultural districts to the best of our knowledge.

Another related strand of literature considers place-based initiatives to stimulate targeted growth.[6] The federal Empowerment Zone (EZ) program, for instance, provides tax incentives for firms within a well-defined geographic boundary (namely, economically distressed areas) that hire local residents. There is mixed evidence regarding the efficacy of this program for increasing resident employment or reducing poverty (e.g., Neumark and Simpson, 2015 provide a summary of the various findings evaluating the impact of EZ designation.) However, there is some evidence that this program does increase land values. Hanson (2009) does not find gains in median property values following EZ designation using OLS, but does find a positive and statistically significant increase in property values when instrumenting for EZ designation.[7] Krupka and Noonan (2009) similarly investigate the impact of EZ designation on property values and find a robust positive effect on property values within the designated area. They also find evidence suggesting positive spillovers for residential properties surrounding (within 0.5 miles) the designated zone. Examining Detroit's Neighborhood Enterprise Zone Homestead program–a place-based policy targeted at residents and not firms–Hodge and Komarek (2017) find that properties within these zones sell for a higher price following designation.

Empirical work exploring the effects of cultural district formation on economic outcomes is somewhat scarce. In an early study, Brooks and Kushner (2001) discuss different typologies for cultural districts. Using a sample of eight cities over 17 years, they find a negative association between cultural districts and economic growth. Noonan (2013) explores the impact cultural districts have on various economic and demographic variables. Noonan finds evidence suggesting cultural districts benefit (median) property values, income, and employment for neighborhoods within and adjacent to them. Breznitz and Noonan (2018) look at how the number of arts schools and cultural districts relate to jobs in a given area. They find evidence of a positive relationship between number of art schools and cultural districts within a zip code and the number of arts- and culture-related jobs, but not the number of digital-media jobs. However, their findings were not robust as the estimated effect became insignificant once they included an interaction between the number of districts and the presence of a university with an arts program within a radius of 50 miles. More recently, Ferreira Neto (2021) explores why certain states enact cultural district legislation and others do not. His findings suggest that geographic competition and imitation help explain enactment patterns across states.

2.2. Cultural districts in Louisiana

The Louisiana Cultural Districts Program was created by the Louisiana legislature in 2007 and launched in 2008. The program enables local governments to designate a contiguous geographic area as a hub of cultural activity with the overarching goal of using tax incentives, technical assistance, and resources to spark community revitalization based on cultural activity.[8]

As shown in Fig. 1, the number of designated districts across the state has grown substantially over the last decade. In 2008, the year the program was launched, 38 cultural districts were designated in various parishes across the state.[9] By 2019, Louisiana was home to a total of 106 districts, by far the highest number of any state in the nation. The overwhelming majority of districts have been certified in south Louisiana and are located in three of the state's largest metropolitan statistical areas, Baton Rouge, New Orleans, and Lafayette. The state's nine MSAs are shaded different colors in Fig. 1.

Louisiana is one of five states that tie tax incentives to its cultural district program and there are three key incentives (see Table 1). The first exempts artists, who must reside in the district or maintain a permanent business within the district, from paying state and local sales taxes on original and unique works of art sold inside a district's boundaries.[10] The other two tax incentives are aimed at rehabilitating commercial and residential structures in the districts. The Residential Rehabilitation Credit, which was in place from 2007 through 2017, provided homeowners with a 25% credit against their state income taxes for qualified investments over $10,000. If the home was vacant, deemed to be blighted, or more than 50 years old, the tax credit could be as high as 50% of qualified investments. The credit was capped at $25,000 per structure and applications were reviewed and approved by the Division of Historic Preservation. Annual aggregate credits were capped, with the credits being granted on a first come, first served basis. The statewide cap in 2017 was $7.2 million.[11] The final key incentive, the Commercial Rehabilitation Tax Credit, provides tax credits of 20% on qualified investments exceeding $10,000 to rehabilitate income-producing buildings including commercial, industrial, or rental-residential properties that are at least 50 years old.[12]

[6] The literature on place-based economic development initiatives, broadly defined, is extensive so we focus only on the strands most closely related to cultural districts. See Bartik (2020) for an overview of the academic literature.

[7] Hanson finds that EZ designation has no effect on residents' employment or poverty once endogeneity concerns are accounted for. Hanson uses political representation as an instrument for a local area receiving EZ designation.

[8] Office of Cultural Development, Division of the Arts (2019, May 5). *Louisiana Cultural Districts*. https://crt.state.la.us/cultural-development/arts/cultural-districts/index.

[9] In Louisiana, a parish is the equivalent political subdivision of a county.

[10] The state legislature suspended the state tax exemption starting on July 2018 for the sale of unique art. However, local sales tax exemptions remain in place (Louisiana Office of Cultural Development (LOCD), 2020).

[11] Information on the tax credits was obtained from the Louisiana Division of Historic Preservation: https://www.crt.state.la.us/cultural-development/historic-preservation/.

[12] The commercial credit was 25% through 2017 when it was lowered to 20%. Although the document is somewhat dated, a good overview of the Commercial Rehabilitation Tax Credit is available here: https://www.crt.state.la.us/Assets/OCD/hp/taxincentives/state-commercial-tax-credit/State-Commercial-Booklet-10-15-14.pdf.

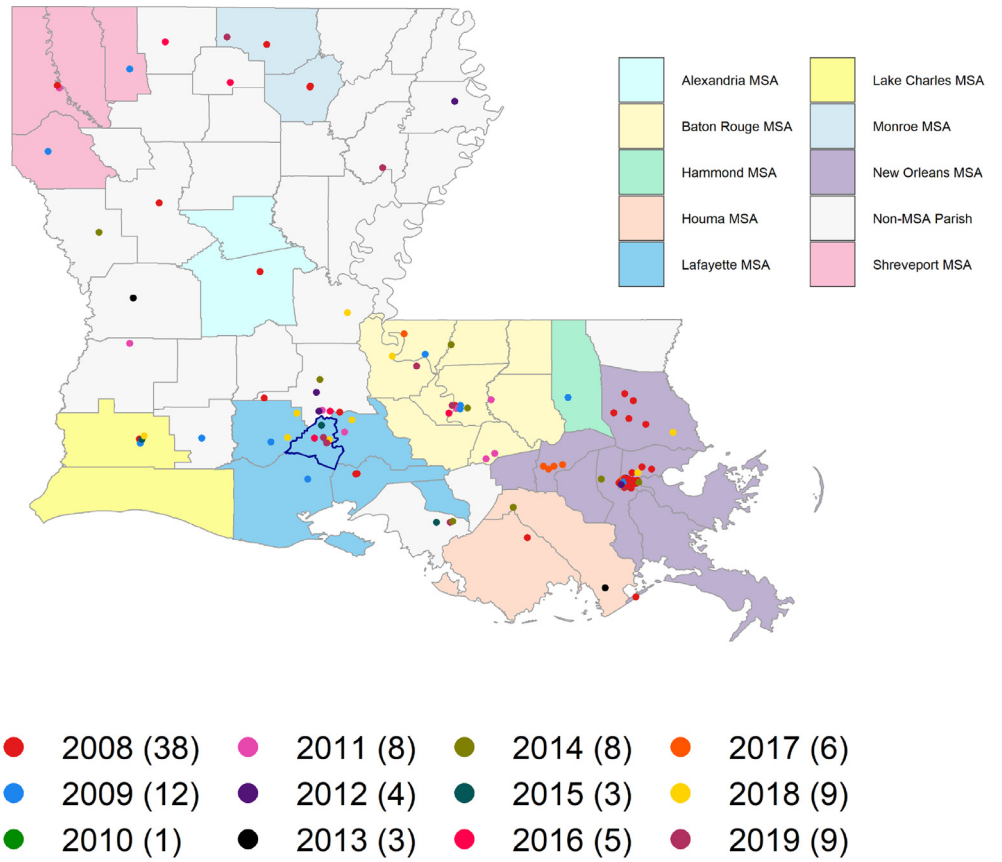

Fig. 1. Louisiana Cultural Districts by Location and Year of Certification.

Similar to residential credits, commercial property owners must apply through the Division of Historic Preservation and are limited to a maximum of $5 million in credits in a given year (which could apply to multiple properties). The state also caps total commercial credits available annually, but the limit greatly exceeds the residential cap. In 2020 for example, commercial credits were capped statewide at $120 million.[13]

In order for an area to achieve cultural district status, an application must be submitted by the local governing authority. The proposal will be evaluated by the Louisiana Office of Cultural Development (LOCD) to determine whether the mandatory criteria, as established by Louisiana law, are met. Such criteria include the following (Louisiana Office of Cultural Development (LOCD), 2020): (i) The district must be geographically contiguous; (ii) The district must be distinguished by cultural resources that play a vital role in the life, economic and cultural development of a community; (iii) The district must focus on an existing cultural anchor, such as a major art institution, art and entertainment businesses, an area with arts and cultural activities or cultural or artisan production; (iv) The district must be engaged in the promotion, preservation, interpretive and educational aspects of the arts and culture of the locale. If the proposed districts meets the above criteria, the LOCD attempts to further gauge the district's potential to promote artistic/cultural, community, and economic development.[14] If approved, the Local Governing Authority is required to provide annual reports on the district's performance back to the LOCD.

[13] The federal historic tax credit program is similar but requires a property to be listed in the National Register of Historic Places, or to be within the boundaries of a National Register Historic District. If a residential or commerical property within a cultural district is also eligible for a federal historic tax credit, the State of Louisiana allows the credits to be "stacked" on top of each other.

[14] The Application Guide provides further details for each of these areas. The evaluation criteria for artistic /cultural developments include the potential to: "Promote the arts and support artists; Encourage creativity and cultural activity; Attract artists and cultural industry workers; Potential for artists, housing, studio, and performance." The evaluation criteria for community development include the potential to: "Engage residents; Provide a sense of community; Serve as a gathering place; [Strengthen] community partnerships; Develop a positive image." Finally, the evaluation criteria for economic development includes the potential to: "Capitalize on cultural, economic and social assets; Revitalize a neighborhood or area; Enhance property values; Stimulate the economy; Draw tourists." (Louisiana Office of Cultural Development (LOCD), 2020).

The LOCD compiles information from the districts and produces an annual executive summary for the state. It should be noted that the first executive summary was published in 2010, two years after the program launched. While aggregated, the information in these reports nonetheless speaks to the role cultural districts play in local economies. For instance, an average of 2500 cultural events are held statewide annually across the various districts, with attendance estimated to be upwards of 4.5 million people. The average annual revenue generated from all districts is approximately $1.9 billion (nominal). Further, LOCD reports the number of new and closed businesses within districts boundaries and, based on available information, there has been a statewide average net increase of 386.3 businesses each year since 2010. Finally, as noted in 2019's annual report, "Since the Cultural District program began in 2008, there have been 1975 applications for commercial renovations of historic buildings in 69 different cultural districts in 37 parishes." The report further notes that "981 of the total 1975 applications had projects completed by the end of 2019, representing an investment over time of $2.28B in Qualifying Rehabilitation Expenses and another $791 million in Associated Costs."[15]

Given that Louisiana cultural districts directly target artists' sales and residential and commercial property renovations, studying changes in these specific economic outcomes due to certification would be ideal. However, such a study is not feasible because comparable data are not available prior to the districts' certification. An alternative strategy to assessing the impact of cultural districts is to test whether their establishment raises the value of residential properties within their boundaries. If the investments and cultural activities noted in the preceding paragraph signal gentrification or enhanced amenities, then people may decide to relocate their residences to the district, visit the district, attend events, eat at restaurants, and shop within its boundaries. One would expect this generalized desirability to be capitalized in the selling price of homes. We test this conjecture by collecting data for residential property sales in Lafayette Parish. Lafayette Parish is highlighted by the dark border within the Lafayette MSA shaded in blue in Fig. 1.

We focus on Lafayette Parish for several reasons. First, most of Louisiana's cultural districts are concentrated in three of the state's largest metropolitan statistical areas (MSAs) – New Orleans, Baton Rouge, and Lafayette. Of these, the Lafayette MSA is the only one in which the boundaries of every cultural district have remained intact since certification. For example, in Orleans Parish, home to the City of New Orleans, the boundaries for eight of the 25 cultural districts have expanded since initial certification. For credible empirical identification, this is problematic insofar as it may price in the expectation that residential properties just outside district boundaries will one day be brought inside. Within the Lafayette MSA, we further concentrate on Lafayette Parish because it is the only parish that generated sufficient residential sales transactions over the span of our sample. Lafayette Parish is home to the largest city in the region, Lafayette, and home to 50% of the MSA's 490,000 residents.

A second reason to focus on Lafayette Parish is that residents there and in neighboring areas apparently place a high value on cultural activities. The City of Lafayette is nicknamed "The Hub City" because it is the cultural center of the Acadiana region, home to Louisiana's Cajun and Creole heritages.[16] One illustration of the high value residents place on culture is the number of festivals, more than 30 yearly within city limits. These festivals may center on food and drink (e.g., Acadiana Po-Boy Festival, Scott Boudin Festival, Crawfish Festival, Opelousas Gumbo Cook-Off, Gulf Brew), music (e.g., Festivals Acadiens et Créoles, Zydeco Extravaganza, Latin Music Festival), and more (e.g., Bayou Vermilion Festival & Boat Parade, Acadian Culture Day, Creole Culture Day, Cajun & Creole Christmas). Lafayette also hosts the second largest Mardi Gras celebration in the nation (behind only New Orleans), with more than a dozen parades and balls annually. Another music festival, Festival International de Louisiane, is "the largest non-ticketed outdoor Francophone festival in the country celebrating the connections between Acadiana and the Francophone World," where "[h]undreds of performing and visual artists from 17 countries, along with Lafayette, LA's own artists, residents and visitors, converge on seven stages across Downtown Lafayette, LA for five days of world music."[17] Festival International routinely draws more than 350,000 visitors from more than 40 states and ten countries.[18] Lafayette area residents also self-report being among the happiest in the nation (Glaeser et al., 2016). We assume that local residents value cultural districts insofar as the districts help spur these and similar events in their neighborhoods. Conversely, to the extent that these activities and events are spurred by the underlying culture itself rather than by the formal designation of a cultural district, it is certainly plausible that residents may place little value on neighborhoods being formally certified as cultural districts because cultural activities are so abundant.

Table 2, reports the seven cultural districts located within Lafayette Parish, alongside their District ID, the date they were certified, and their size. The first to be certified was Downtown Lafayette (district 23), in 2009, a year after Louisiana launched the cultural districts program. The next was Carencro (district 34) in 2015, followed by Scott (district 68) in 2016, and McComb-Veazey (district 92) in 2018. In 2019, three districts were simultaneously certified: Greater Freetown, Oil Center, and University Gateway.[19] Cajun and Creole cultures are prevalent throughout Lafayette Parish (and the greater Acadiana

[15] The annual report may be accessed here: https://crt.state.la.us/Assets/OCD/arts/culturedistricts/annualreports/2019AR_ExecSummary.pdf (accessed: 10/14/20)

[16] Acadiana is a 22-parish region in southwest Louisiana recognized by the state legislature in 1971 for their "strong French Acadian cultural aspects." Lafayette is the largest city in Acadiana and the Lafayette MSA is double the size of the next largest MSA in Acadiana (Houma-Thibodaux).

[17] Lafayette Travel (10/14/2020). *Events in Lafayette, LA*. https://www.lafayettetravel.com/events/festivals/.

[18] Source: GuideStar. URL: https://www.guidestar.org/ViewEdoc.aspx?eDocId=4189890&approved=True

[19] Since 2011, certification happens once a year, typically in July.

Table 2
Lafayette Parish Cultural Districts.

Name	District ID	Certified	Area (miles)
Downtown Lafayette	23	12/1/2009	1.08
Carencro	34	7/1/2015	0.98
Scott	68	7/1/2016	0.77
McComb-Veazey	92	7/1/2018	2.00
Greater Freetown	102	7/1/2019	1.24
Oil Center	103	7/1/2019	0.70
University Gateway	104	7/1/2019	3.64

Source: Louisiana Department of Culture, Recreation & Tourism.

Region more generally), providing ample scope to link local efforts and traditions with resources afforded by cultural districts to achieve various goals. For example, the center of Lafayette's retail activity has shifted west over the past two decades, and downtown Lafayette, like many other downtowns, seeks to attract, bring back or retain businesses and professionals. Similarly, Carencro and Scott, suburbs to the north and west with populations below 10,000, have not experienced as much growth as communities south of the City of Lafayette and may seek to attract new residents and economic activity. Between 2010 and 2019, Scott and Carencro saw their populations expand by 0.01% and 25%, respectively, while the southern suburbs of Broussard and Youngsville expanded by 55% and 81%.

For its part, the Oil Center is a historically wealthy area in Lafayette established in the 1950s following the discovery of oil in south Louisiana. (More on this is below.) While at one time numerous oil companies had offices in the area, most have since relocated to Houston, leaving the Oil Center to transition toward service-oriented establishments. Medical services predominate. The three remaining districts, McComb-Veazey, Greater Freetown, and University Gateway, are either centered in, or adjacent to, some of the region's longstanding minority communities. For example, the Greater Freetown district shares a border with the larger Freetown-Port Rico Historic District, which was listed on the National Register of Historic Places in 2016. The region is one of Lafayette's original neighborhoods, known as a home to formerly enslaved people (Duro, 2015). Similarly, the McComb-Veazey district lies within one of the three original urban neighborhoods surrounding downtown. Its population was and is predominantly African-American. Over time the neighborhood has been separated somewhat from downtown, first by a railroad line built in the 1880s, and later by a divided highway built in the 1960s. Finally, the University Gateway district encompasses an area of urban mixed-use residential and industrial property just south of Interstate 10 that is bisected by a major north-south thoroughfare (University Avenue). Fig. 2 below provides a visual perspective on Lafayette City's districts in the top panel and a broader, parish-wide look in the lower panel.

In Panel A of Fig. 2, we show the locations of Lafayette's cultural districts, and their boundaries, near the city's downtown (Panel A excludes the Carencro and Scott cultural districts which are further out). As noted in the preceding paragraphs, the downtown Lafayette area is the cultural core of the Acadiana region. The Downtown cultural district (#23) is shown in blue and is home to many of the region's leading cultural assets such as the Acadiana Center for the Arts. It is also home to Parc International, an open-air entertainment venue for concerts and festivals constructed in 1995, that is home to Festival International de Louisiane and Downtown Alive!. Downtown Alive! is a free concert series that has held approximately 20 concerts annually since 1983 (with the exception of 2020). Parc International is the cultural focal point of downtown and, arguably, the entire region.

Each of Lafayette City's cultural districts is adjacent to at least one other cultural district. The McComb-Veazey district (#92) and the Greater Freetown district (#102) actually overlap with portions of the Downtown district. The University Gateway district (#104) is adjacent to the Downtown district to the north, and the Oil Center district (#103) is adjacent to Greater Freetown to the southeast. The areas encompassed by the Lafayette cultural districts represent the older, original portions of the city. It is likely that local decision-makers, perceiving the Downtown cultural district's success, chose to expand outward from it in order to revitalize more of the city.

Panel B zooms out and shows the centroids for all the cultural districts in Lafayette parish. We also show the six largest job centers (by census block groups) in the parish.[20] Unlike the typical monocentric city, Lafayette's downtown area is only the sixth largest job center, with the five remaining job centers sprawling to the southeast. The shift away from the downtown area as the primary job center traced the rapid growth of the oil and gas industry in the decades following the resources' discovery in the Gulf of Mexico in the mid-1940s. Lafayette's city (parish) population was about 19,200 (43,900) in 1940, before the discovery of oil. By 1970, the city and parish's populations had grown by 259% and 150%, respectively. Population growth in the U.S. over this same period was 54%.[21] This boom shifted the primary job center away from downtown in a southeasterly direction along state route 90 (known locally as Evangeline Throughway). This divided highway is

[20] We focus on the six largest job centers because the average number of jobs per census block group falls sharply, by more than 1500, between the sixth and seventh largest job centers. This seemed like the most natural way to characterize the region's top job clusters.

[21] All of our population figures are from the Census Bureau.

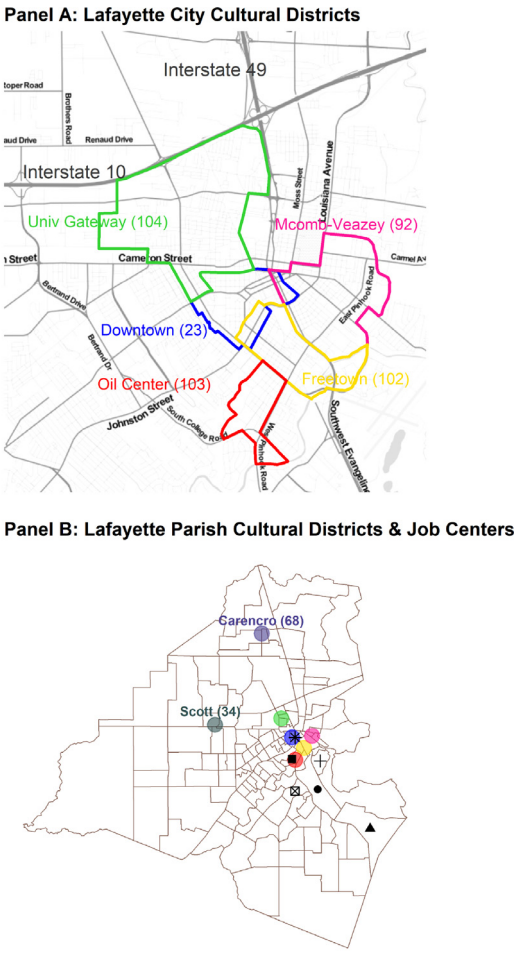

Fig. 2. Lafayette Parish Cultural Districts and Job Centers.

home to Lafayette Regional Airport, the largest in Acadiana, and provides direct access to the Gulf of Mexico 40 miles to the south. Oil and gas service companies found this location advantageous to support the rapid expansion of offshore oil drilling and exploration. The parish's two largest job centers, shown by the solid black circle and solid black triangle in Panel B of Fig. 2, are both along state route 90 to the city's southeast. Between 2002 and 2018, the largest job center was home to an annual average of almost 13,000 jobs. This is more double the number of jobs in the second largest job center and three times larger than the number downtown.[22] Present-day downtown Lafayette is home to an annual average of just over 4000 jobs, a large portion of which are jobs for various governmental agencies.[23]

[22] Data on the number of jobs, by employer location, are from the Census Bureau's Longitudinal Employer-Household Dynamics database. We aggregate data from the census blocks to the block group level. There are 5309 census blocks and 130 census block groups in the parish. The top job centers are unchanged if one only examines the period from 2002 to 2008 before the first cultural district was certified.

[23] There are two economic development agencies in Lafayette Parish that receive some public funding. The largest and oldest organization is the Lafayette Economic Development Authority (LEDA). It was created in 1971, has a parish-wide mission, and is (currently) funded by a 1.8 millage on the value of assessed property in the Parish. LEDA's annual budget is just shy of $5 million. The Downtown Development Authority (DDA) was founded in 1987 and focuses on the historic downtown core. It is funded by member dues from businesses that opt to join the organization and a small property tax millage on property in Lafayette City. The annual budget is roughly $450,000. Information about LEDA and its funding is available from the Louisiana Division of

3. Data and identification strategy

3.1. Identification strategy

To estimate the causal effect of cultural district certification on residential real estate prices, we use a hedonic difference-in-differences identification strategy. This strategy is common in studies that are interested in understanding whether property prices reflect or capitalize the value of various factors such local policies, nearby amenities like retail and transport access, or other characteristics like tax reforms (Wagner et al., 2017; Elinder and Persson, 2017; Pope and Pope, 2015; Fink and Stratmann, 2015). In the difference-in-differences framework, we compare residential properties that sold inside of cultural districts to properties that sold just outside of district boundaries. Compared to a traditional hedonic regression model, this approach is better suited to overcoming potential issues of omitted variable bias that might arise in districts where unobserved factors render housing either more or less expensive.

The difference-in-differences empirical model we estimate may be expressed as:

$$s_{ijt} = \alpha + \delta\, treatment_{ijt} + \eta\, post_{ijt} + \beta(treatment_{ijt} * post_{ijt}) + X_i\theta + CB_j\psi + Y_t\phi + \epsilon_{ijt} \quad (1)$$

where s_{ijt} is the log of the sale price of house i in neighborhood j at time t. X_i is a vector of observable housing characteristics for house i. CB_j is a vector of census block fixed effects to account for time-invariant neighborhood effects such as natural and urban amenities. Y_t is a vector of year-by-six month indicators variables. These time-fixed effects will adjust for seasonality and local business cycle fluctuations that affect all homes. Our housing data, which is described in more detail in Section 3.2, provides a wide range of observable characteristics and neighborhood amenities that we adjust for in Eq. (1) in addition to the time and census block fixed effects. These include subdivision fixed effects, high school district fixed effects, lot size fixed effects, age range of the home fixed effects, home type fixed effects (attached, detached, etc.), city fixed effects, and even fixed effects for the buyer's source of financing (cash, conventional loan, FHFA, VA, etc.). Appendix Table A.1 provides a detailed list of the fixed effects characteristics included in each regression that are not reported in the regression tables.

$treatment_{ijt}$ is an indicator variable that equals unity if home i sold at time t was located inside of a cultural district (even before it was certified) and equals zero otherwise. $post_{ijt}$ is equal to unity if home i sold at time t occurred after the district's certification. The difference-in-differences variable of interest, $treatment_{ijt} * post_{ijt}$, is therefore equal to unity if home i sold at time t was located within the boundaries of a cultural district and sold after the district's certification; it is equal to zero otherwise. β is the difference-in-differences parameter of interest.

Since cultural districts have been certified at different points in time, Goodman-Bacon (2018) has shown that (β) from Eq. 1 is the weighted average of all possible two-by-two difference-in-differences estimators in the data when the staggered certification timing is ignored. If there is any treatment effect heterogeneity or dynamics present, then β will be biased and will not equal the average treatment effect on the treated (Goodman-Bacon, 2018). In some instances, the bias can be so severe that the estimated sign of the treatment effect is reversed (Baker et al., 2021). The reason for the bias is rather intuitive. If one fails to adjust for staggered treatment timing, then units that are treated early in the sample become comparison units for groups treated later in the sample (Goodman-Bacon, 2018). As Baker et al. (2021) demonstrate through a simulation, if the treatment effect is positive but is not wholly incorporated within one period (so there are dynamic treatment effects), then the conventional (non-staggered) difference-in-differences estimate of β will be biased toward zero because a portion of the positive treatment effect from units that were treated early in the sample will be differenced away from the pre- and post-treatment difference of units treated later in the sample. Since it seems more plausible that any increase in home prices may occur over time after certification, rather than occurring immediately and remaining constant, we take steps to address staggered certification.

We follow the strategy recently employed by Cengiz et al. (2019), which Baker et al. (2021) refer to as a stacked regression estimator, that re-centers the data so that all treated units experience the treatment at the same time in the regression analysis. Baker et al. (2021) show that this approach, which is very simple to implement, performs as well as recently proposed estimators by Callaway and Sant'Anna (2021) and Sun and Sant'Anna (2020) in recovering the true treatment effect. To implement the stacked estimator, we treat all residential sales that occurred within each of the seven cultural districts as a distinct group. Next, we create a comparison group for each treatment group using residential sales that occurred just outside of the cultural district boundary. In essence, we assign every comparison group sale that occurred just outside of a cultural district boundary to be paired to a single treatment group. If the comparison sale is close to the border of multiple cultural districts, it is assigned to the district with whom it is closest (more on this in Section 3.2). We then filter residential sales for each treatment group and their corresponding comparison group to begin exactly seven years prior to the cultural district's certification.[24] This ensures that the treatment date is the same for every cultural district in the regression and that the pre- and post-treatment difference in sale prices for districts certified later are not being compared to previously

Administration: https://wwwcfprd.doa.louisiana.gov/boardsandcommissions/selectBoard.cfm. Information on DDA is available from the Louisiana Legislative Auditor: https://www.lla.la.gov/reports-data/index.shtml.

[24] Seven years prior to certification was chosen as the starting date for each of the treatment and comparisons groups for two reasons. First, the average length of homeownership in Lafayette Parish is slightly above seven years. Second, a longer pre-treatment period of sales will yield more power to test the validity of the parallel trends assumption holding in the pre-treatment period.

treated sales from another district. As a quick illustration, pre-treatment, treated and comparison group sales for Downtown Lafayette (#23) and McComb-Veazey (#92) begin on 12/1/2002 and 7/1/2011, respectively, seven years prior to their respective certification dates.

The key identifying assumption in the difference-in-differences framework, which is inherently untestable, is that the comparison group represents a suitable counterfactual for the unobserved potential outcomes in the treatment group. Said differently, the comparison group homes that sold outside of cultural district boundaries must be a valid counterfactual for homes within district boundaries if the districts had not been created. We follow the approach of Wagner et al. (2017) and Pope and Pope (2015) (among many others) that study the effects of local amenities on local real estate valuation and specify comparison group properties based on the distance of the home to the nearest cultural district border. That is, we define comparison groups as all residential properties sold within 0.25 miles, 0.50 miles, 0.75 miles, 1 mile, 1.5 miles, and 2 miles from a cultural district boundary. Expanding the set of potential comparison group properties allows us to shed light on any potential decaying price gradient while also exploring the robustness of our results. We limit the boundary to 2 miles because it seems reasonable that unobserved confounders between the treated and comparison group properties will become more of a concern as the distance between properties and district boundaries increases.

If the sale price trends between the treated and comparison groups do not differ in a meaningful way in the pre-treatment period, then this is the best evidence one can provide that the comparison groups are a suitable counterfactual for what would have prevailed in the cultural districts if certification did not occur. To provide evidence on the parallel trends assumption holding in the pre-treatment period, we follow Muralidharan and Prakash (2017) and explicitly test for differential trends *before* certification using a generalized version of Eq. (1) that allows the price of homes sold within each cultural district to follow a different trend than their respective comparison group. This specification can be expressed as:

$$s_{ijt} = \alpha + \delta\, treatment_{ijt} + \eta\, post_{ijt} + \beta(treatment_{ijt} * post_{ijt}) + X_i\theta + CB_j\psi + Y_t\phi + \sum_{d=1}^{7}\gamma^d(CD^d_{ijt} * pre^d_{ijt} * T) + \sum_{d=1}^{7}\eta^d(CD^d_{ijt} * pre^d_{ijt} * T^2) + \epsilon_{ijt} \quad (2)$$

where CD^d_{ijt} is an indicator variable for homes sold inside the boundaries of cultural district d, pre^d_{ijt} is an indicator variable that equals unity if the home sold in the pre-treatment period for cultural district d, and T is a six-month linear trend term. The product $(CD^d_{ijt} * pre^d_{ijt})$ equals unity for homes sold within cultural district d before certification and is zero otherwise. Hence, $(CD^d_{ijt} * pre^d_{ijt} * T)$ merely allows for the price of homes sold within cultural district d to have a different linear trend from their comparison group properties in the pre-treatment period (after conditioning on the covariates). Since a trend difference could also be non-linear, the product $(CD^d_{ijt} * pre^d_{ijt} * T^2)$ adds seven additional covariates that allow the price of homes sold within each cultural district to have a different quadratic trend from their comparison group homes in the pre-treatment period.

Imagine a hypothetical situation in which every comparison group is a perfect counterfactual for their treated group, implying that the parallel trends assumption holds perfectly in the pre-treatment period. In such a situation, the estimated coefficients on the differential trend terms in Eq. (2), γ^d and η^d, would all equal zero because their pre-treatment trends are identical (after conditioning on the covariates). In this case, Eq. (2) simply reduces to Eq. (1).

We estimate two versions of Eq. (2) for guidance on the parallel trends assumption; one that includes only the seven differential linear trend terms and one that includes the linear trend terms and adds the seven quadratic trend terms. We then conduct an F-test for the joint significance of the cultural district trend terms.[25] If we reject the null hypothesis that the differential trend terms jointly equal zero, then the parallel trends assumption is likely violated because Eqs. (1) and (2) differ in a meaningful way. Conversely, if we fail to reject the null hypothesis that the differential trend terms jointly equal zero, then this is evidence in support of the parallel trends assumption holding in the pre-treatment period.

3.2. Data

Our residential real estate data come from the Realtor Association of Acadiana, the multiple listing service for the Lafayette MSA. In addition to listing and final sale prices, the data include a wide range of structural characteristics for every home sold in Lafayette Parish and listed with a real estate agent from December 2002 through February 2021.[26] The structural housing attributes range from square footage and the number of bathrooms to whether the home has a sprinkler system or a pool. The data also include the postal address of each property, which we used to create longitude and latitude coordinates.

[25] In the specification that allows for differential quadratic trends, this is a test of the null hypothesis that $\gamma^d = \eta^d = 0\ \forall\ d$. We test the null hypothesis that $\gamma^d = 0\ \forall\ d$ in the linear trend specification.

[26] The Lafayette Parish Assessor began posting parish-wide tax parcel information in 2018. We cross-validated our sales data from the MLS with residential property sales recorded by the Assessor for 2018 and 2019. The MLS data captured a minimum of 88% of the sales, suggesting that our sample contains the majority of sales in the parish. While the assessor's data (for at least the years we examine) are more complete in terms of sales, they also lack many of the structural characteristics of the homes that we consider in the regression. For instance, whether the home has a sprinkler system, an outside kitchen, or was previously foreclosed upon is not readily available.

Table 3
Pre- and Post-Treatment Residential Sales by Cultural District.

District	Starting Sample Date	Ending Sample Date	Comparison Pre-Treatment	Treatment Pre-Treatment	Comparison Post-Treatment	Treatment Post-Treatment
Downtown Lafayette (#23)	12/1/2002	2/28/2021	190	152	364	176
Scott (#34)	7/1/2008	2/28/2021	1595	42	1283	51
Carencro (#68)	7/1/2009	2/28/2021	1201	52	984	40
McComb-Veazey (#92)	7/1/2011	2/28/2021	434	138	241	54
Greater Freetown (#102)	7/1/2012	2/28/2021	15	78	5	19
Oil Center (#103)	7/1/2012	2/28/2021	1800	36	474	5
University Gateway (#104)	7/1/2012	2/28/2021	1230	261	461	58

Table 4
Descriptive Statistics.

Variable	Mean Treatment	StdDev Treatment	Mean Comparison	StdDev Comparison	T-statistic
sales price ($000s)	115.20	85.56	203.40	134.11	-31.084***
average distance to job centers	3.45	2.29	5.60	3.07	-29.272***
number of bathrooms	1.84	2.28	2.24	1.65	-5.797***
central air	0.76	0.43	0.97	0.16	-16.763***
distance to Parc International	1.95	2.16	4.74	2.35	-41.294***
historic landmarks within 1 mile	8.37	7.13	1.08	3.09	34.463***
number of bedrooms	2.79	0.92	3.09	0.66	-10.847***
outside kitchen	0.01	0.11	0.03	0.18	-5.905***
percent owner occupied	85.31	9.03	91.66	6.40	-23.327***
pool	0.02	0.13	0.11	0.31	-18.296***
foreclosed property	0.13	0.33	0.06	0.24	6.434***
sprinkler system	0.01	0.11	0.04	0.19	-5.977***
square footage	1.40	0.62	1.76	0.66	-18.426***
square footage squared	2.36	3.03	3.53	3.37	-12.364***
two car garage	0.10	0.29	0.46	0.50	-36.288***
workshop	0.06	0.24	0.10	0.29	-4.244***

Sample includes all residential property sales within a cultural district or within two miles of a cultural district boundary. For each cultural district, treated and comparison sales start seven years before the certification date and continue through February 2021. There are a total of 1185 treated sales and 10,254 comparison sales. The column labeled T-statistic is the difference in means t-statistic between the treatment and the comparison group. *** denotes significance at the 1 percent level, ** at the 5 percent level, and * at the 10 percent level. Sales price is in thousands of 2020 dollars (deflated using the CPI). Square footage and square footage squared are in thousands. The following variables are indicator variables: central air (1 = yes); foreclosed property (1 = yes); pool (1 = yes); two car garage (1 = yes); outside kitchen (1 = yes); sprinkler system (1 = yes); workshop (1 = yes). All distances measured in miles. The location of historic landmarks is from the National Register of Historic Places. The number of jobs per census block group, used to calculate the average distance to job centers, are from the Census Bureau's Longitudinal Employer-Household Dynamics database. Percent owner occupied is the percentage of owner occupied housing units in the census block group. Data from 2009 to 2019 are from the American Community Survey 5-year samples. Values for all other years were imputed. All other data are from the Realtor Association of Acadiana.

Given the geographic boundaries of the cultural districts, we use GIS software to determine all residential sales that occurred within them. For residential sales that occurred outside of a cultural district, we calculate the minimum distance from each home to the boundaries of each of the seven cultural districts. We retain only comparison group sales that occurred within 2 miles of any cultural district boundary. As noted in Section 3.1, every comparison group sale is paired to its closest cultural district for the stacked regression design. Our largest potential sample size, which uses comparison group sales out to a distance of 2 miles, consists of 11,439 residential sales, where 1185 sales occurred within the boundary of a cultural district. Table 3 shows the number of pre- and post-treatment sales for each cultural district, their comparison group, and the starting and ending dates of sales for the stacked regression.

Table 4 shows descriptive statistics for homes sold within cultural districts and for the comparison group properties sold within 2 miles of cultural district boundaries. The column labeled “T-statistic” is the difference in means test statistic between the treatment and comparison groups. The mean real sale price (in thousands) in the treatment group ($115.20) is notably lower than the mean sale price in the comparison group ($203.40). We also show summary statistics in Table 4 for the housing characteristics that are explicitly used as regression covariates. For every characteristic (e.g. pool, square footage, bathrooms, bedrooms, percent owner occupied) the average difference between the treatment and comparison groups is statistically significant at the 1% level. Residential properties in cultural district neighborhoods are, on average, smaller, older, have fewer amenities, and are located in neighborhoods with more renters than comparison properties.[27] The choice

[27] At the time of this writing, Lafayette Parish had 31 properties listed on the National Register of Historic Places, with all 31 of those listings made in 1994 or earlier.

to locate cultural districts around the downtown areas of Lafayette, Scott, and Carencro is consistent with the notion that they may contribute to revitalizing these areas. Further, the distribution of property sales within the parish also suggests that the City of Lafayette has become less attractive to potential homeowners. In 2005 for instance, 71% of all residential sales within Lafayette Parish occurred with the City of Lafayette. That figure had fallen to less than 58% by 2020, which is even more noteworthy considering that the city's footprint in the parish expanded several times over this period from annexation.[28]

In addition to structural characteristics, we control for the home's average distance to the six job centers shown in Panel B of Fig. 2. To adjust for proximity to the region's major cultural assets (and, simultaneously, the historic urban core), we include the distance (in miles) from every home to the Parc International concert venue in downtown Lafayette. Since the timing of the certification of the Downtown Lafayette (#23) district in 2009 corresponds closely to introduction and expansion of Airbnb, we also adjust for the percentage of housing units in a census block group that are owner-occupied.[29] The differences in housing characteristics noted in the preceding paragraph reinforce the need for us to include a wide range of structural characteristics, location characteristics, neighborhood amenities, and unobservable fixed effects to adjust for systematic differences between properties in the treatment and comparison groups. The census block fixed effects will aid in controlling for highly localized time-invariant differences, while the (six-month x year) fixed-time effects control for time-varying differences affecting the local real estate market. Every empirical specification also adjusts for the full set of housing characteristics shown in Appendix Table A.1.

4. Results

4.1. Baseline results

The results of the difference-in-differences estimates of Eq. (1) are presented in Table 5. The dependent variable in every specification is the log of the real sale price. Each model was estimated with census block fixed effects, (six-month x year) fixed effects, city fixed effects, home age range fixed effects, lot size fixed effects, home type fixed effects, school fixed effects, buyer loan type fixed effects, subdivision fixed effects, and a constant term that is not reported. Standard errors, shown in parentheses below the coefficient estimates, are multi-way clustered following Cameron et al. (2011) at the census block level and cultural district dimension. The distance threshold for the comparison group properties increases as one moves from column (1) to column (6). The estimates in column (1) use properties within 0.25 miles of a cultural district as the comparison group, while the estimates in column (6) use all properties within 2 miles.

Each regression in Table 5 also reports two joint F-statistics to provide evidence in support of the parallel trends assumption. One F-statistic is the joint test statistic that results from allowing properties sold within each of the seven cultural districts to follow different linear trends from their respective comparison group in the pre-treatment period. The second F-statistic is the joint test statistic from allowing properties sold within each of the seven cultural districts to follow different quadratic trends from their respective comparison group in the pre-treatment period. Across all six specifications in Table 5, we fail to reject the null hypothesis that the differential trends in cultural district properties jointly differed from their comparison group properties in the pre-treatment period. Conditional on the covariates and fixed effects, this suggests that the comparison group properties are a suitable counterfactual for the unobserved potential outcomes of homes sold within the cultural district boundaries.

Many of the control variables are statistically significant at conventional levels and have the expected sign. Larger homes based on square footage sell for a higher price but at a decreasing rate. Homes with more bathrooms, a two-car garage, central air, an outside kitchen, and a sprinkler system also sell for significantly more. We also find, consistent with Wagner et al. (2017), that foreclosure properties sell at a substantial discount. According to the estimates in Table 5, our results imply that foreclosed homes sell for 41 to 47% less than do non-foreclosed listings, other factors being constant.[30]

In terms of proximity to the region's job centers, proximity to cultural assets in the historic downtown area, proximity to historic landmarks, and the percentage of owner-occupied housing in the census block group, we find no consistent

[28] Lafayette City and Parish governments voted to consolidate in 1992 and the change became effective in 1996. Hall et al. (2020) use the synthetic control method with parishes that did not consolidate to show that per capita income, population, and employment increased in the Lafayette Parish following consolidation. If our treated and comparison properties were similarly affected by the consolidation that occurred six years prior to the first residential sale in our sample, then the difference-in-differences approach should mitigate this potential source of bias.

[29] The percentage of housing units that are owner-occupied are available at the census block group level from the 5-year American Community Survey annually from 2009 to 2019. For each census block group, we use the observed percentage owner-occupied and imputed annual values for 2002–2008 and 2020–2021 using spline interpolation. We also contacted Airbnb and learned, unfortunately, that detailed historical listings of rentals in Lafayette Parish are not available because the region is too small. We did find one company, AirDNA, that has periodically scraped Airbnb listings in the parish, but these data do not begin until 2014. However, if Airbnb rentals are equally likely to be set up inside as just outside district boundaries, it is also plausible that the difference-in-differences approach would zero out any change capitalized into selling prices. One might also ask whether Airbnb listings would be attracted to these areas in the absence of cultural districts. In other words, the cultural district itself may serve as a selling point for individuals who seek to rent out their homes and help lure visitors. To the extent that this is true, the designation of a cultural district is achieving the policy-makers' goal of using the local culture and arts scene to promote urban redevelopment and revitalization.

[30] Because our dependent variable is the log of the real sale price, a unit change in a covariate leads to a $100 * (e^{\beta} - 1)$ percentage change in the sale price, where β is the estimated regression coefficient.

Table 5
Effects of Cultural Districts on Residential Home Sale Prices: Baseline.

	Dependent variable:					
	log(sale price)					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
square footage	0.726***	0.620***	0.567***	0.568***	0.578***	0.543***
	(0.042)	(0.061)	(0.069)	(0.067)	(0.053)	(0.047)
square footage squared	-0.081***	-0.058***	-0.047***	-0.047***	-0.046***	-0.039***
	(0.006)	(0.010)	(0.013)	(0.012)	(0.010)	(0.010)
number of bedrooms	0.018*	0.013**	0.012*	0.014**	0.014**	0.007
	(0.010)	(0.006)	(0.007)	(0.007)	(0.006)	(0.006)
number of bathrooms	0.002	0.003	0.003	0.004	0.002***	0.002***
	(0.002)	(0.003)	(0.003)	(0.004)	(0.001)	(0.001)
two car garage	0.068***	0.068***	0.049**	0.041**	0.037***	0.034***
	(0.018)	(0.023)	(0.021)	(0.019)	(0.013)	(0.008)
central air	0.248***	0.253***	0.254***	0.245***	0.226***	0.217***
	(0.019)	(0.026)	(0.032)	(0.035)	(0.046)	(0.044)
outside kitchen	0.069**	0.070**	0.085***	0.093***	0.089***	0.086***
	(0.029)	(0.030)	(0.025)	(0.019)	(0.020)	(0.009)
historic landmarks within 1 mile	0.008	0.008	0.007	0.006	0.001	0.002
	(0.034)	(0.011)	(0.012)	(0.011)	(0.010)	(0.010)
average distance to job centers	-0.532**	-0.199	0.028	0.039	0.009	0.011
	(0.260)	(0.143)	(0.109)	(0.089)	(0.060)	(0.041)
distance to Parc Lafayette	0.375	0.230*	0.031	0.021	-0.025	-0.040
	(0.251)	(0.118)	(0.106)	(0.075)	(0.063)	(0.049)
pool	0.009	0.036	0.045*	0.045	0.038*	0.038***
	(0.046)	(0.032)	(0.026)	(0.029)	(0.020)	(0.013)
workshop	0.038*	0.038**	0.047**	0.047***	0.048***	0.049***
	(0.021)	(0.016)	(0.021)	(0.017)	(0.018)	(0.009)
percent owner occupied	0.001	0.000	0.000	0.001	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
foreclosed property	-0.386***	-0.390***	-0.362***	-0.348***	-0.361***	-0.343***
	(0.033)	(0.025)	(0.022)	(0.024)	(0.019)	(0.014)
sprinkler system	0.067**	0.090**	0.095***	0.100***	0.064***	0.065***
	(0.034)	(0.039)	(0.031)	(0.022)	(0.022)	(0.017)
treatment	-0.084***	-0.100***	-0.113***	-0.115***	-0.113***	-0.117***
	(0.030)	(0.036)	(0.037)	(0.036)	(0.039)	(0.040)
post	-0.062***	-0.049*	-0.045**	-0.045**	-0.027**	-0.020*
	(0.021)	(0.026)	(0.021)	(0.018)	(0.013)	(0.010)
treatment*post	0.075***	0.063**	0.076***	0.074***	0.065***	0.063***
	(0.018)	(0.025)	(0.022)	(0.021)	(0.017)	(0.015)
N	2697	3835	4859	5574	7561	11,439
Adj. R^2	0.887	0.890	0.892	0.896	0.903	0.907
Comparison group distance threshold	0.25	0.5	0.75	1	1.5	2
P differential linear trend	0.832	0.728	0.665	0.660	0.679	0.596
P differential quadratic trend	0.436	0.444	0.426	0.421	0.411	0.323

Comparison group distance threshold is the boundary cutoff in miles for the comparison group properties. Terms in parentheses are standard errors clustered at the nearest cultural district and Census block group levels following Cameron et al. (2011). *** denotes significance at the 1 percent level, ** at the 5 percent level, and * at the 10 percent level. All models include an intercept, (six-month x year) fixed effects, census block group fixed effects, subdivision fixed effects, high school fixed effects, home type fixed effects, buyer loan type fixed effects, home age group fixed effects, lot size fixed effects, and city fixed effects that are not reported (see Appendix A). The rows differential linear/quadratic trends shows the joint F-statistic from regression models that allow for cultural district-specific different linear/quadratic trends in the pre-treatment period. The null hypothesis is that the pre-treatment differential trend terms jointly equal zero. See the notes to Table 4 for variable definitions.

evidence that these factors explain differences in treatment and comparison group sale prices after conditioning on our other covariates and fixed effects. One possible explanation for these findings, particularly with regard to distance to job centers, is that there are numerous job hubs in the parish and no interstate beltway that would significantly reduce commute times to any of them. Since a large share of the parish's population lives south of Interstate 10 and commutes on secondary roads, commute times are likely to be similar.

Turning our attention to the difference-in-differences variable of interest ($treatment * post$), the results show that residential properties located within cultural districts sell for a significantly higher price after certification relative to the comparison groups. In column (1) of Table 5 for example, our estimates suggest that the average price of a home sold within a cultural district increased by 7.7% relative to properties within 0.25 miles of a district boundary. The effect does not seem to dampen as the distance cutoff for the comparison group properties expands. Across all specifications, our estimates suggest

that sale prices for homes inside of cultural districts increase between 6.5 and 7.9% relative to comparison group properties, with the mean and median estimate just above 7%. Recall that homes in the cultural districts sell (on average) for $115,200 while properties in the comparison group sell for an average of $203,400, a difference of more 40%. So while our estimates imply that residential properties have experienced a meaningful bump in sale price representing capitalization of cultural district amenities, homes within the districts continue to sell for less (on average) than neighboring properties. Said differently, the formation of cultural districts has had only a minor effect on closing the value gap with nearby properties.

Although the available literature exploring cultural districts is limited, our capitalization estimates are slightly lower than the effects found in other recent studies of related placed-based policies. For instance, Noonan (2013) is the only prior work we are aware of that has studied the effect of cultural districts on property values. Using neighborhood-level rather than transaction-level data, he finds some evidence that cultural districts increase (median) property values between 8 and 10%. Studies looking at different types of place-based policies, such as Empowerment Zones (EZs) and historic districts, also find evidence of positive effects on property values. In terms of EZs, Krupka and Noonan (2009) find that EZ-designation increases median home values by an average of 20%. Examining historic designations, Been et al. (2016) find that the sales prices of properties increase by 17% on average following certification in New York City, whereas Zhou (2020) finds a 12 to 23% premium in Denver, Colorado.[31] In Detroit, Hodge and Komarek (2017) estimate a 6 to 10% bump in sale prices following the designation of the Neighborhood Enterprise Zone Homestead program.

4.2. Robustness checks

Work by Conley and Taber (2011), and more recently Mackinnon and Webb (2020), has shown that when there are few treated clusters in difference-in-differences regressions, inference can be unreliable insofar as conventional cluster-robust standard errors are misleading. In this section, we explore the robustness of our baseline results using alternative samples and a randomization-inference approach for difference-in-differences models proposed by Mackinnon and Webb (2020). Mackinnon and Webb (2020) show that specific gains from randomization-inference depend on many factors, including the number of treated clusters and degree of heterogeneity between clusters. Their simulations also reveal that randomization-inference strategies are more conservative than traditional cluster-robust standard errors.

To apply their strategy to our application, we continue to treat residential properties that sold within each cultural district as a distinct cluster. Since every comparison group sale is matched to its closest cultural district, we have a total of 14 clusters of residential properties, seven of them treated and seven untreated.

We use both the RI-β and RI-t procedures described by Mackinnon and Webb (2020) to obtain two different randomization-inference p-values for each difference-in-differences coefficient of interest. The procedures are similar conceptually but perform differently according to the total number of clusters, number of treated clusters, and degree of correlation between clusters (Mackinnon and Webb, 2020). Mackinnon and Webb (2020) note that the RI-t procedure is typically more conservative; we report both as a robustness check.

To perform the RI-β and RI-t procedures, we first randomly select (without replacement) seven of the 14 clusters to be the treated clusters. Since the timing of cultural district certification also varies, we then randomly assign the treated clusters (without replacement) to have one of the observed certification dates. Each of the seven comparison (or untreated) clusters are then randomly paired with a treated cluster. Finally, based on the (randomly assigned) certification date, we then filter pre-treatment sales in each treated and comparison group pair to be within seven years of their certification date. This ensures that every randomized dataset is constructed in the exact same manner as the baseline results in Table 5 that use the stacked regression design to address the staggered treatment timing.

With a given randomized dataset, we then estimate the (stacked regression design) difference-in-differences model given in Eq. (1). The RI-β p-value is formed using the distribution of randomized difference-in-differences coefficients of interest, β_r^*. Similarly, the RI-t p-value is formed from the distribution of randomized difference-in-differences cluster-robust t-statistics for the coefficient of interest, t_r^*.[32] For a given number of re-randomizations R, the randomized inference p-values (for a two-tailed test) are given by:

$$p_\beta^* = \frac{1}{R}\sum_{r=1}^{R}\mathbb{I}(|\beta_r^*| > |\hat{\beta}|) \qquad p_t^* = \frac{1}{R}\sum_{r=1}^{R}\mathbb{I}(|t_r^*| > |\hat{t}|). \tag{3}$$

Both p-values represent the proportion of re-randomization parameters (β or t) that are greater in absolute value than our estimated parameters. If our estimated parameters lie in the tail of their respective empirical re-randomized distribution, then this yields additional evidence against the null hypothesis of no treatment effect.

We report the results of our robustness checks in Table 6. For the sake of brevity, we only report the estimated treatment effect of interest in Table 6. All of the regressions included the same covariates and fixed effects as the regressions

[31] Been et al. (2016) do note that their effect is heterogeneous across neighborhoods depending on specific location within the city and development opportunities and restrictions tied with designation.

[32] Like the estimates in Table 5, standard errors in each of the RI-t randomizations are multi-way clustered at the census block level and closest cultural district dimension.

Table 6
Robustness Checks Using Alternative Samples and Randomized Inference.

Panel A: Baseline Results from Table 5						
	0.25 miles	0.50 miles	0.75 miles	1.00 miles	1.50 miles	2 miles
treatment*post	0.075	0.063	0.076	0.074	0.065	0.063
cluster-robust p	(0.000)***	(0.012)**	(0.001)***	(0.000)***	(0.000)***	(0.000)***
RI-β	[0.005]***	[0.035]**	[0.008]***	[0.008]***	[0.014]**	[0.012]**
RI-t	{0.017}**	{0.114}	{0.040}**	{0.043}**	{0.035}**	{0.024}**
N	2697	3835	4859	5574	7561	11,439
Panel B: Results Excluding Cultural District 23						
	0.25 miles	0.50 miles	0.75 miles	1.00 miles	1.50 miles	2 miles
treatment*post	0.066	0.069	0.078	0.075	0.065	0.06
cluster-robust p	(0.003)***	(0.022)**	(0.004)***	(0.004)***	(0.006)***	(0.013)**
RI-β	[0.018]**	[0.015]**	[0.004]***	[0.008]***	[0.014]**	[0.013]**
RI-t	{0.044}**	{0.094}*	{0.074}*	{0.091}*	{0.117}	{0.149}
N	2126	3089	4087	4794	6750	10,557
Panel C: Only Sale Prices Within 3 Standard Deviations of the Mean						
	0.25 miles	0.50 miles	0.75 miles	1.00 miles	1.50 miles	2 miles
treatment*post	0.079	0.066	0.074	0.072	0.063	0.06
cluster-robust p	(0.000)***	(0.005)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
RI-β	[0.004]***	[0.033]**	[0.011]**	[0.013]**	[0.017]**	[0.016]**
RI-t	{0.014}**	{0.080}*	{0.038}**	{0.041}**	{0.032}**	{0.035}**
N	2678	3800	4801	5491	7437	11,270
Panel D: Only Districts 34 and 68						
	0.25 miles	0.50 miles	0.75 miles	1.00 miles	1.50 miles	2 miles
treatment*post	0.066	0.062	0.062	0.059	0.052	0.049
cluster-robust p	(0.001)***	(0.000)***	(0.000)***	(0.006)***	(0.002)***	(0.058)*
RI-β	[0.154]	[0.152]	[0.172]	[0.191]	[0.199]	[0.197]
RI-t	{0.232}	{0.108}	{0.264}	{0.397}	{0.356}	{0.636}
N	999	1396	1901	2250	3094	5248
Panel E: Only Districts Certified After Expiration of Residential Tax Credit						
	0.25 miles	0.50 miles	0.75 miles	1.00 miles	1.50 miles	2 miles
treatment*post	0.070	0.090	0.100	0.091	0.077	0.066
cluster-robust p	(0.010)**	(0.008)***	(0.000)***	(0.002)***	(0.009)***	(0.049)**
RI-β	[0.072]*	[0.019]**	[0.015]**	[0.024]**	[0.039]**	[0.076]*
RI-t	{0.073}*	{0.092}*	{0.052}*	{0.090}*	{0.155}	{0.269}
N	1127	1693	2186	2544	3656	5309

The dependent variable in every specification is the log of the real sale price in thousands. Terms in parentheses are conventional cluster-robust p-values. Terms in square and curly brackets are randomized inference β and t p-values from Mackinnon and Webb (2020). *** denotes significance at the 1 percent level, ** at the 5 percent level, and * at the 10 percent level. See Appendix B for complete regression results.

reported in Table 5. Conventional cluster-robust p-values are reported below each coefficient in parentheses. The RI-β p-value is shown below each estimated coefficient in square brackets, while the RI-t p-value is shown in curly brackets. All randomization-inference p-values were formed from 100,000 re-randomizations.

Panel A in Table 6 re-estimates the baseline regression models from Table 5. Panel B excludes the Downtown Lafayette cultural district (#23) properties (and its comparison group cluster). This district is the urban core of the area and was certified almost six years before any other district. If we continue to find evidence of a positive price effect for residential sales within other districts, this may cast doubt on the perspective that a "downtown effect", or proximity to the region's major cultural assets, is driving the baseline results. Panel C explores the sensitivity of the baseline estimates to extremely high and low sale-price homes. We accomplish this by omitting properties (treated or comparison) whose sale prices fall outside of three standard deviations from the overall sample mean ($194,043). Panel D examines the only two cultural districts that are located outside of the City of Lafayette, Scott (#34) and Carencro (#68). This specification is helpful to determine if districts within the parish's largest city are driving our baseline results. Finally, Panel E includes only the cultural districts that were certified $after$ the residential rehabilitation tax credit expired in 2017. These districts include McComb-Veazey (#92), Greater Freetown (#103), Oil Center (#103), and University Gateway (#104). Continuing to find evidence of a positive price effect in these specifications would suggest that the residential tax credit is not the only mechanism driving observed increases. The dependent variable in every regression is the log of the real sale price (in thousands).

The results are generally robust across different samples, comparison groups, and randomization-inference procedures. Consistent with the simulations conducted by Mackinnon and Webb (2020), we also find the RI-t p-values to be more conservative than the RI-β p-values.

Considering the baseline specifications reported in Panel A, we reject the null hypothesis of zero treatment effect at the 5% level or better with 11 of the 12 randomization-inference p-values. In the only instance in which we fail to reject the null, at a distance of threshold of 0.50 miles, the RI-t p-value is 0.114.

Turning our attention to Panel B, we continue to find evidence of a positive treatment effect using randomization inference. Moreover, the estimated magnitude is quite similar to the specifications in Panel A that include the Downtown Lafayette (23) district. Across all specifications in Panel B, we find the sales price premium to be in the range of 6.2 to 8.1%, with an average estimate (mean or median) at 7%. Of the 12 randomization-inference p-values, we are able to reject the null at the 10% level or better in 10 of the 12 models. This suggests that the baseline results in Table 5 (and Panel A) are not being entirely driven by the Downtown Lafayette cultural district.

The final two robustness checks show estimates including only cultural districts outside of Lafayette City (Panel D) and including only districts certified after the residential preservation tax credit expired in 2017 (Panel E). The results in Panel D, which include Scott (23) and Carencro (68), continue to indicate a positive price effect in the range of 5 to 6.8%. However, we are only able to reject the null hypothesis that this effect differs from zero using a traditional cluster-robust p-value. The randomization-inference p-values are generally 0.25 or less, but they fall well outside of conventional levels of significance. Given that the estimated magnitude we find in Panel D is in line with our baseline estimates and that the conventional p-values are 0.01 or smaller for distances of 1.5 miles or less, we do not believe these results rule out the notion that cultural districts are ineffective outside of the City of Lafayette. Scott and Carencro are relatively small communities and, when combined, represent only 91 residential sales in the post-treatment period (see Table 3). One might be able to bring more credible evidence to bear on these communities as more residential sales occur.

Finally, Panel E focuses on only the City of Lafayette districts that were certified $after$ 2017. This includes McComb-Veazey (92), Greater Freetown (102), Oil Center (103), and University Gateway (104). The point estimates in these specifications are slightly larger than the other models, suggesting that sales prices increase between 8 and 10% after certification. The McComb-Veazey and Greater Freetown neighborhoods are some of the city's most economically depressed. In terms of statistical significance, the estimated sales price increase is significant at the 10% level or better using 10 out of the 12 randomization-inference p-values, including every comparison group within 1 mile. Since none of the properties that sold in any of these districts was ever eligible for a residential preservation tax credit (because it expired in 2017), this suggests that one or more mechanisms beyond this credit are also important factors in shaping how residents perceive the benefits of cultural districts.

4.3. Discussion

State-designated cultural districts are a relatively modern place-based policy variant. This type of policy typically enables designation of a continuous geographic area as a hub of cultural activity, meant to encourage arts- and culture-based urban redevelopment and revitalization. Overall, our results suggest the designation of cultural districts has been an effective revitalization tool in Lafayette Parish, Louisiana, at least in terms of appreciating residential property values. We find that properties within these districts sell for an average of 7% more following designation.

As mentioned in Section 2, cultural districts can make use of both tangible and intangible benefits to promote their own success. Intangible benefits may include recognition as a designated cultural district, technical assistance for businesses within district boundaries, and funding opportunities (such as outside grants). In Louisiana, the cultural district program's most tangible and salient benefits include: 1) sales tax exemptions for artists who sell one-of-a-kind artworks within a district's boundaries, and 2) tax credits for investment in historic buildings within district boundaries. The former likely attracts artists (or other talent) to the area while the latter promotes reuse of older buildings and may also encourage other additional investments. Given that the residential tax credit program had a (relatively) small cap for the number of cultural districts in the state and that we find evidence of a positive price effect in districts certified after it expired, this credit likely played a minor role (if any) in the districts' success. Anecdotal data corroborate this view. According to the Division of Historic Preservation, the state only received nine applications for the residential tax credit in Lafayette parish (approving eight) between 2010 and 2017. Six of the approved properties were in Downtown Lafayette (23), one was in Carencro (68), and one was in McComb-Veazey (92).[33] It seems unlikely that this small number of residential renovations would do much to enhance one's perception of the cultural districts.

In contrast, the commercial tax credit has been used somewhat more extensively. The Division of Historic Preservation has received 32 applications (25 were ultimately approved) across the parish's cultural districts since 2009, which is an average of less than 3 per year. The majority of applications have been in the Downtown district (25 applications), followed by Carencro and Greater Freetown (3 each), and University Gateway (1 application). Despite the limited number of applications, the qualified investment dollars have averaged about $700,000 per year. It is obviously difficult to put this figure

[33] Information on the residential and commerical tax credit applications was obtained from Adrienne Dickerson, a member of the tax incentive staff at the Louisiana Division of Historic Preservation. We will provide these data if requested.

into complete context without having data on investments made in these neighborhoods prior to certification. However, it does seem plausible that residents and potential residents may take notice of the commercial renovations and anticipate that additional investments or gentrification may follow.

In addition to the tax credits, the certification of cultural districts may also be seen as a catalyst to secure new sources of funding to support or expand cultural activities. According to USASpending.gov, the federal government's transaction level database of grants that dates back to 2000, multiple areas in Lafayette parish experienced an influx of cultural-related grant funding after the certification of the first cultural district in 2009. For organizations located in the Downtown Lafayette district for instance, total grant funding from the National Endowment of the Arts (NEA) equaled $122,268 for the period from 2000 to 2009 (an average of just over $12,000 per year). In just the first five years after the downtown district was certified, grants from the NEA had grown to more than $168,000, an average of more than $28,000 per year. In addition to federal funding, the Acadiana Center for the Arts, one of the region's leading cultural organizations, was awarded a $1.5 million grant in 2010 from the James Devin Moncus Family Foundation to support their programming.[34] This grant received considerable local attention as it was the largest single gift in the organization's history, being more than double the size of their typical annual operating budget.[35]

While there are also many examples of new activities that began in the downtown area after certification that continue to this day, arguably the most notable is the Southern Screen Film Festival, which began in 2011.[36] The Festival began as a way to highlight independent filmmakers and then expanded into a four-day event with a mission to "provide a platform for emerging and innovative storytellers of all types to sharpen their skills, showcase their craft, and share their creativity." The event now attracts submissions from around the world; the film Buried Treasure (2012), produced by Gonella Productions, was submitted for screening at the Southern Screen Film Festival as well as many others and received multiple awards including "Best of Film" at the Illinois International Film Festival, "Best Narrative Short" at the Rome International Film Festival, and the "Audience Choice Award" at Zero Film Festival, Los Angeles (https://gonella-productions.com/buriedtreasure, accessed March 10, 2021).

These are examples of district successes after certification that could lead individuals to hold a more favorable perception of the neighborhoods. The Downtown district has the longest track record so if residents view this district as being successful, they may reasonably anticipate that new cultural activities, grant funding, and other qualified investments will follow the more recently certified districts. Even if these districts are not as successful over time, residents may still perceive the districts as an institution that will continue to foster cultural activities and thus be willing to pay more for homes within a district's boundaries. Some of our results lend support to this notion as we continue to find a positive effect on selling prices when excluding the downtown cultural district and to some extent, when focusing only on districts outside of Lafayette city.

While not formally tested here, another channel that may help explain the popularity of cultural districts may be their impact on crime (if any). Business improvement districts (BIDs), which are another variation of place-based policies, have been linked with lower incidences of crime (e.g., Brooks 2008; MacDonald et al. 2010; Cook and MacDonald 2011). If cultural districts produce a similar effect within their boundaries, then it is possible that (a) local governments proliferate the use of cultural districts to not only promote economic revitalization but also to help reduce crime and (b) given the context of the present study, that individuals who value a safer environment will likely pay more for properties within these (potentially) safer neighborhoods. However, BIDs often work as a non-profit institution that supplement the provision of local public goods-such as policing and sanitation services-funded by self-imposed taxes or special assessments. To the best of our knowledge, no such efforts are explicitly made within Louisiana's cultural districts. Nevertheless, if cultural districts attract businesses, and these businesses make private expenditures to safeguard their assets, then crime could be deterred and such an effect would likely be capitalized into property values. This is an important avenue to consider in future research.

Relatedly, it may be possible that the composition of jobs within cultural district boundaries shift following certification over time, to more culture-oriented professions. How effective these districts are in promoting tourism and attracting visitors is yet another important consideration. These may serve as alternative avenues to (perhaps more directly) evaluate the effectiveness of cultural districts.

5. Conclusion

To support economic development including job growth, state and local authorities expend considerable resources on a variety of initiatives, including place-based policies. Among these policies are cultural districts which exploit the unique amenities of a particular area, often including its heritage. Using data from Lafayette Parish, Louisiana, this paper expands our understanding of the efficacy of cultural districts by examining the impact their designation has on the selling prices of residential properties. Our results show that, following a cultural district's certification, the selling prices of residential

[34] Source: FACE Magazine, Lafayette, volume 3, number 7, December 2010.

[35] Total revenues for the Acadiana Center for the Arts was $705,919 in Fiscal Year 2010. Their 2010 auditor's report is accessible here: https://app.lla.state.la.us/PublicReports.nsf/53ED4712B9D00C3886257847004BCF12/$FILE/0001D201.pdf, (accessed February 26, 2021).

[36] Sources: The Independent Reporter, June 24, 2011.

properties inside district boundaries appreciate by an average of 7% relative to properties outside. This evidence suggests that cultural districts are an effective tool to revitalize an otherwise economically distressed area.

Although we find robust evidence of a meaningful increase in sales prices for homes sold within cultural district boundaries, it is also important to bear in mind that a significant price gap between treated and comparison properties persists in our sample post-certification. It is possible that the gap will continue to close over time. If cultural districts remain successful and desirable, then selling prices for properties within these districts may continue to appreciate. Studies with a longer time horizon could help determine whether this is the case.

Moreover, because more than one-third of states have a formal, legislatively approved process to recognize cultural districts (see Table 1), more research into their impact is needed. This study focuses on a region that places particularly high value on culturally related activities and heritage. In such a region, it may be that cultural districts are more likely to succeed in their mission of spurring economic rehabilitation than are cultural districts elsewhere. Furthermore, Louisiana is one of five states that makes use of tax incentives to promote the development of cultural districts. These incentives include, for example, building rehabilitation credits and permission to sell original artwork without levying (local) sales tax. How effective cultural districts are in the absence of such incentives (National Assembly of State Arts Agencies (NASAA), 2018) and whether one type of tax incentive matters more than another are open questions. Additional research might look at the relative importance of state-designation (as considered in this study) and other-designation (e.g., local or private).

Finally, our analysis makes use of residential sales prices. While enhancing the value of local real estate is one of the goals normally outlined for a cultural district, there are other goals. Future studies may explore alternative variables of interest including wages, employment, or the number of new businesses near these districts.[37] Such variables may serve as an alternative way to gauge their effectiveness.

Declaration of Competing Interest

None.

Appendix A. Additional Home Characteristics

Table A.1
Home Characteristics Accounted for in Empirical Models.

High School	City	Age Group	Acreage Range	Home Type	Loan Type
Carencro	Carencro	new	0-0.5	Detached ngle mily	cash
Comeaux	Lafayette	1–3	0.51 99	Pre-Construction	conventional
Acadiana	Scott	4–10	1 99	Manufactured/Mobile	FHFA
Northside		11–20	3 99	Attached ngle mily	VA
Lafayette		21–30	6.99	Structure ly	Fmha
Southside		31–40	11.99		rural development
		all other	20.99		other

Note: Every regression also includes subdivision and census block fixed effects that are too large to report here. In the regressions using the full sample of comparison properties within 2 miles of a cultural district border, there are 737 subdivision fixed effects and 1424 census block fixed effects. All home characteristics shown in the table are from the Realtor Association of Acadiana.

[37] Wages, for instance, may be influenced by the agglomeration of individuals with certain skills (e.g., Cunningham et al., 2016). In as much as cultural districts promote the agglomeration of jobs grounded in arts, culture, or media, it is possible that spillovers occur and promote wage growth.

Appendix B. Robustness Check Regression Results

This appendix includes the full regression results for the robustness checks reported in Table 6. Panel A in Table 6 is identical to the baseline results presented in Table 5 so they are omitted. The results presented here are for Panels B, C, D, and E. It is worthwhile to note that we never reject the null hypothesis of differential pre-treatment sale price trends in any of these 24 additional regressions at the 5% level or better.

Table B.1
Excluding Cultural District 23 (Panel B in Table 6).

	Dependent variable:					
	log(sale price)					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
square footage	0.711***	0.537***	0.476***	0.482***	0.529***	0.498***
	(0.055)	(0.043)	(0.036)	(0.038)	(0.034)	(0.023)
square footage squared	-0.092***	-0.048***	-0.036***	-0.036***	-0.038***	-0.031***
	(0.013)	(0.008)	(0.009)	(0.009)	(0.005)	(0.005)
number of bedrooms	0.000	0.010	0.016*	0.018***	0.021***	0.012**
	(0.015)	(0.012)	(0.009)	(0.006)	(0.006)	(0.005)
number of bathrooms	0.037**	0.022***	0.023***	0.027***	0.002**	0.003**
	(0.016)	(0.006)	(0.007)	(0.005)	(0.001)	(0.001)
two car garage	0.087***	0.083***	0.055**	0.046**	0.043***	0.038***
	(0.027)	(0.029)	(0.027)	(0.023)	(0.015)	(0.008)
central air	0.239***	0.251***	0.252***	0.239***	0.216***	0.206***
	(0.030)	(0.039)	(0.046)	(0.051)	(0.061)	(0.057)
outside kitchen	0.055*	0.053	0.069**	0.079***	0.082***	0.078***
	(0.029)	(0.034)	(0.027)	(0.020)	(0.019)	(0.005)
historic landmarks within 1 mile	-0.004	0.005	-0.002	-0.001	-0.007	-0.005
	(0.036)	(0.019)	(0.019)	(0.016)	(0.013)	(0.014)
average distance to job centers	-0.370*	-0.054	0.135	0.116	0.061	0.054*
	(0.213)	(0.138)	(0.099)	(0.095)	(0.069)	(0.031)
distance to Parc Lafayette	0.209	0.094	-0.058	-0.039	-0.072	-0.083*
	(0.208)	(0.122)	(0.122)	(0.077)	(0.070)	(0.046)
pool	0.024	0.062**	0.059***	0.053*	0.043**	0.039***
	(0.055)	(0.024)	(0.023)	(0.031)	(0.020)	(0.013)
workshop	0.051**	0.056***	0.065***	0.060***	0.058***	0.053***
	(0.024)	(0.015)	(0.020)	(0.016)	(0.018)	(0.009)
percent owner occupied	0.001	0.000	0.000	0.001	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
foreclosed property	-0.361***	-0.369***	-0.344***	-0.332***	-0.351***	-0.334***
	(0.028)	(0.019)	(0.016)	(0.018)	(0.016)	(0.010)
sprinkler system	0.038	0.071*	0.086**	0.094***	0.059**	0.060***
	(0.026)	(0.042)	(0.034)	(0.024)	(0.023)	(0.019)
treatment	-0.071**	-0.090**	-0.104***	-0.107***	-0.103***	-0.107***
	(0.029)	(0.035)	(0.036)	(0.033)	(0.037)	(0.034)
post	-0.040**	-0.036	-0.028	-0.032**	-0.018*	-0.012
	(0.016)	(0.028)	(0.019)	(0.016)	(0.010)	(0.008)
treatment*post	0.066***	0.069**	0.078***	0.075***	0.065***	0.060**
	(0.022)	(0.030)	(0.027)	(0.026)	(0.024)	(0.024)
N	2126	3089	4087	4794	6750	10,557
Adj. R^2	0.897	0.899	0.901	0.904	0.910	0.913
Comparison group distance threshold	0.25	0.5	0.75	1	1.5	2
P differential linear trend	0.852	0.649	0.550	0.541	0.593	0.525
P differential quadratic trend	0.195	0.142	0.133	0.125	0.149	0.130

Comparison group distance threshold is the boundary cutoff in miles for the comparison group properties. Terms in parentheses are standard errors clustered at the nearest cultural district and Census block group levels following Cameron et al. (2011). *** denotes significance at the 1 percent level, ** at the 5 percent level, and * at the 10 percent level. All models include an intercept, (six-month x year) fixed effects, census block group fixed effects, subdivision fixed effects, high school fixed effects, home type fixed effects, buyer loan type fixed effects, home age group fixed effects, lot size fixed effects, and city fixed effects that are not reported (see Appendix A). The rows differential linear/quadratic trends shows the joint F-statistic from regression models that allow for cultural district-specific different linear/quadratic trends in the pre-treatment period. The null hypothesis is that the pre-treatment differential trend terms jointly equal zero. See the notes to Table 4 for variable definitions.

Table B.2
Excluding High and Low Sale Prices (Panel C in Table 6).

	Dependent variable:					
	log(sale price)					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
square footage	0.722***	0.660***	0.652***	0.661***	0.684***	0.666***
	(0.036)	(0.043)	(0.041)	(0.037)	(0.042)	(0.042)
square footage squared	-0.083***	-0.070***	-0.071***	-0.072***	-0.074***	-0.072***
	(0.007)	(0.007)	(0.006)	(0.005)	(0.006)	(0.006)
number of bedrooms	0.025*	0.021**	0.022***	0.023***	0.023***	0.015**
	(0.013)	(0.009)	(0.008)	(0.006)	(0.006)	(0.006)
number of bathrooms	0.002	0.003	0.004	0.005	0.002***	0.002***
	(0.002)	(0.003)	(0.004)	(0.004)	(0.001)	(0.001)
two car garage	0.068***	0.067***	0.057**	0.048**	0.042***	0.040***
	(0.023)	(0.025)	(0.023)	(0.022)	(0.014)	(0.009)
central air	0.246***	0.250***	0.250***	0.240***	0.221***	0.211***
	(0.019)	(0.028)	(0.034)	(0.038)	(0.048)	(0.047)
outside kitchen	0.071**	0.077***	0.077***	0.087***	0.087***	0.075***
	(0.030)	(0.026)	(0.025)	(0.019)	(0.021)	(0.012)
historic landmarks within 1 mile	0.010	0.009	0.006	0.006	0.000	0.002
	(0.033)	(0.011)	(0.013)	(0.012)	(0.011)	(0.011)
average distance to job centers	-0.550**	-0.166	0.010	0.024	0.005	0.011
	(0.240)	(0.133)	(0.110)	(0.091)	(0.066)	(0.053)
distance to Parc Lafayette	0.413*	0.195	0.052	0.039	-0.023	-0.036
	(0.249)	(0.130)	(0.120)	(0.086)	(0.069)	(0.061)
pool	0.009	0.035	0.036	0.045*	0.033**	0.035***
	(0.050)	(0.034)	(0.024)	(0.024)	(0.016)	(0.012)
workshop	0.043**	0.042***	0.052**	0.052***	0.053***	0.050***
	(0.021)	(0.016)	(0.021)	(0.018)	(0.017)	(0.009)
percent owner occupied	0.001	0.001	0.001	0.001	0.001*	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
foreclosed property	-0.383***	-0.388***	-0.358***	-0.342***	-0.354***	-0.338***
	(0.032)	(0.024)	(0.023)	(0.026)	(0.019)	(0.013)
sprinkler system	0.066*	0.078**	0.094***	0.097***	0.063***	0.064***
	(0.035)	(0.040)	(0.031)	(0.024)	(0.022)	(0.018)
treatment	-0.084***	-0.099***	-0.108***	-0.110***	-0.108***	-0.113***
	(0.031)	(0.035)	(0.033)	(0.033)	(0.036)	(0.038)
post	-0.058***	-0.047*	-0.044**	-0.043**	-0.026*	-0.019*
	(0.021)	(0.026)	(0.020)	(0.017)	(0.013)	(0.011)
treatment*post	0.079***	0.066***	0.074***	0.072***	0.063***	0.060***
	(0.018)	(0.023)	(0.021)	(0.020)	(0.016)	(0.015)
N	2678	3800	4801	5491	7437	11,270
Adj. R^2	0.883	0.886	0.886	0.890	0.897	0.902
Comparison group distance threshold	0.25	0.5	0.75	1	1.5	2
P differential linear trend	0.811	0.739	0.667	0.659	0.673	0.587
P differential quadratic trend	0.370	0.430	0.343	0.338	0.316	0.219

Comparison group distance threshold is the boundary cutoff in miles for the comparison group properties. Terms in parentheses are standard errors clustered at the nearest cultural district and Census block group levels following Cameron et al. (2011). *** denotes significance at the 1 percent level, ** at the 5 percent level, and * at the 10 percent level. All models include an intercept, (six-month x year) fixed effects, census block group fixed effects, subdivision fixed effects, high school fixed effects, home type fixed effects, buyer loan type fixed effects, home age group fixed effects, lot size fixed effects, and city fixed effects that are not reported (see Appendix A). The rows differential linear/quadratic trends shows the joint F-statistic from regression models that allow for cultural district-specific different linear/quadratic trends in the pre-treatment period. The null hypothesis is that the pre-treatment differential trend terms jointly equal zero. See the notes to Table 4 for variable definitions.

Table B.3
Excluding All Lafayette City Districts (Panel D in Table 6).

	Dependent variable:					
	log(sale price)					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
square footage	0.738*	0.723**	0.713***	0.753***	0.649***	0.598***
	(0.388)	(0.309)	(0.189)	(0.176)	(0.028)	(0.024)
square footage squared	-0.119	-0.097	-0.097**	-0.105**	-0.060***	-0.055***
	(0.105)	(0.080)	(0.047)	(0.044)	(0.012)	(0.001)
number of bedrooms	0.011**	0.007**	0.017***	0.020***	0.020***	0.016***
	(0.004)	(0.003)	(0.003)	(0.005)	(0.007)	(0.003)
number of bathrooms	0.075**	0.027***	0.029***	0.031***	0.002***	0.002***
	(0.036)	(0.003)	(0.001)	(0.004)	(0.000)	(0.001)
two car garage	0.015	0.012	0.007***	0.001	0.016***	0.027***
	(0.013)	(0.009)	(0.000)	(0.004)	(0.005)	(0.003)
central air	0.231***	0.274***	0.267***	0.276***	0.239***	0.208***
	(0.050)	(0.042)	(0.037)	(0.022)	(0.020)	(0.013)
outside kitchen	0.023	0.060	0.037	0.062*	0.093*	0.072***
	(0.071)	(0.068)	(0.066)	(0.038)	(0.050)	(0.008)
historic landmarks within 1 mile	-0.146***	-0.069***	-0.064***	-0.053***	-0.060***	-0.061***
	(0.003)	(0.019)	(0.005)	(0.015)	(0.006)	(0.004)
average distance to job centers	0.848**	0.863***	0.600***	0.429	0.427***	0.248**
	(0.372)	(0.265)	(0.009)	(0.297)	(0.127)	(0.120)
distance to Parc Lafayette	-0.980*	-0.884***	-0.653***	-0.366	-0.430**	-0.268**
	(0.533)	(0.199)	(0.061)	(0.230)	(0.172)	(0.132)
pool	0.091***	0.087***	0.099***	0.110***	0.074**	0.053*
	(0.003)	(0.021)	(0.021)	(0.034)	(0.034)	(0.028)
workshop	0.061	0.058***	0.078***	0.071**	0.080**	0.064***
	(0.053)	(0.019)	(0.023)	(0.028)	(0.036)	(0.017)
percent owner occupied	0.002	0.003***	0.003***	0.003***	0.003***	0.001**
	(0.003)	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)
foreclosed property	-0.371***	-0.368***	-0.339***	-0.318***	-0.330***	-0.317***
	(0.067)	(0.051)	(0.034)	(0.037)	(0.029)	(0.000)
sprinkler system	0.025	0.014	0.020	0.036**	-0.008***	-0.002
	(0.087)	(0.088)	(0.044)	(0.018)	(0.003)	(0.002)
treatment	-0.075***	-0.081***	-0.082**	-0.089**	-0.089*	-0.100**
	(0.016)	(0.028)	(0.034)	(0.043)	(0.048)	(0.047)
post	-0.014***	0.012*	0.022***	0.024***	0.028	0.003
	(0.000)	(0.006)	(0.008)	(0.007)	(0.026)	(0.023)
treatment*post	0.066***	0.062***	0.062***	0.059***	0.052***	0.049*
	(0.019)	(0.007)	(0.016)	(0.022)	(0.017)	(0.026)
N	999	1396	1901	2250	3094	5248
Adj. R^2	0.861	0.872	0.865	0.864	0.870	0.884
Comparison group distance threshold	0.25	0.5	0.75	1	1.5	2
P differential linear trend	0.190	0.241	0.189	0.234	0.244	0.233
P differential quadratic trend	0.385	0.357	0.356	0.378	0.408	0.408

Comparison group distance threshold is the boundary cutoff in miles for the comparison group properties. Terms in parentheses are standard errors clustered at the nearest cultural district and Census block group levels following Cameron et al. (2011). *** denotes significance at the 1 percent level, ** at the 5 percent level, and * at the 10 percent level. All models include an intercept, (six-month x year) fixed effects, census block group fixed effects, subdivision fixed effects, high school fixed effects, home type fixed effects, buyer loan type fixed effects, home age group fixed effects, lot size fixed effects, and city fixed effects that are not reported (see Appendix A). The rows differential linear/quadratic trends shows the joint F-statistic from regression models that allow for cultural district-specific different linear/quadratic trends in the pre-treatment period. The null hypothesis is that the pre-treatment differential trend terms jointly equal zero. See the notes to Table 4 for variable definitions.

Table B.4
Only Districts Certified in 2018 or Later (Panel E in Table 6).

	Dependent variable:					
	log(sale price)					
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
square footage	0.748***	0.496***	0.451***	0.446***	0.463***	0.455***
	(0.041)	(0.034)	(0.032)	(0.020)	(0.029)	(0.036)
square footage squared	-0.089***	-0.040***	-0.032***	-0.031***	-0.031***	-0.026***
	(0.009)	(0.005)	(0.006)	(0.004)	(0.001)	(0.002)
number of bedrooms	-0.012	0.011	0.015	0.016	0.021***	0.006
	(0.028)	(0.021)	(0.016)	(0.010)	(0.008)	(0.007)
number of bathrooms	0.011	0.014*	0.014	0.023*	0.021**	0.021***
	(0.008)	(0.007)	(0.013)	(0.013)	(0.009)	(0.005)
two car garage	0.099***	0.110***	0.086***	0.078***	0.063***	0.046**
	(0.038)	(0.018)	(0.030)	(0.027)	(0.018)	(0.019)
central air	0.242***	0.251***	0.250***	0.223***	0.204**	0.197**
	(0.046)	(0.063)	(0.075)	(0.081)	(0.095)	(0.093)
outside kitchen	0.040	0.050	0.084**	0.085**	0.069***	0.073***
	(0.042)	(0.059)	(0.037)	(0.036)	(0.022)	(0.009)
historic landmarks within 1 mile	0.019	0.020	0.015	0.007	0.000	0.000
	(0.041)	(0.020)	(0.020)	(0.021)	(0.015)	(0.014)
average distance to job centers	-0.337	-0.001	0.261*	0.105	-0.026	0.033
	(0.362)	(0.202)	(0.151)	(0.168)	(0.109)	(0.043)
distance to Parc Lafayette	0.301**	0.252*	0.150	0.005	-0.047	-0.051
	(0.132)	(0.140)	(0.183)	(0.128)	(0.115)	(0.084)
pool	-0.108***	0.015	0.031**	0.010	0.018	0.019
	(0.020)	(0.030)	(0.013)	(0.010)	(0.015)	(0.012)
workshop	0.057***	0.059**	0.058**	0.055**	0.042***	0.048***
	(0.019)	(0.027)	(0.029)	(0.022)	(0.014)	(0.009)
percent owner occupied	0.000	-0.001	-0.001**	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)
foreclosed property	-0.360***	-0.373***	-0.363***	-0.353***	-0.365***	-0.356***
	(0.034)	(0.023)	(0.021)	(0.009)	(0.007)	(0.004)
sprinkler system	0.073***	0.128**	0.141***	0.125***	0.082***	0.084***
	(0.009)	(0.050)	(0.028)	(0.027)	(0.030)	(0.020)
treatment	-0.153	-0.200**	-0.187**	-0.177	-0.152	-0.183**
	(0.118)	(0.095)	(0.089)	(0.119)	(0.111)	(0.082)
post	-0.039	-0.088	-0.074**	-0.072**	-0.037**	-0.023
	(0.054)	(0.058)	(0.031)	(0.031)	(0.017)	(0.029)
treatment*post	0.070***	0.090***	0.100***	0.091***	0.077***	0.066**
	(0.027)	(0.034)	(0.028)	(0.030)	(0.030)	(0.034)
N	1127	1693	2186	2544	3656	5309
Adj. R^2	0.889	0.897	0.903	0.910	0.919	0.922
Comparison group distance threshold	0.25	0.5	0.75	1	1.5	2
P differential linear trend	0.903	0.672	0.630	0.626	0.633	0.557
P differential quadratic trend	0.235	0.167	0.179	0.137	0.098	0.080

Comparison group distance threshold is the boundary cutoff in miles for the comparison group properties. Terms in parentheses are standard errors clustered at the nearest cultural district and Census block group levels following Cameron et al. (2011). *** denotes significance at the 1 percent level, ** at the 5 percent level, and * at the 10 percent level. All models include an intercept, (six-month x year) fixed effects, census block group fixed effects, subdivision fixed effects, high school fixed effects, home type fixed effects, buyer loan type fixed effects, home age group fixed effects, lot size fixed effects, and city fixed effects that are not reported (see Appendix A). The rows differential linear/quadratic trends shows the joint F-statistic from regression models that allow for cultural district-specific different linear/quadratic trends in the pre-treatment period. The null hypothesis is that the pre-treatment differential trend terms jointly equal zero. See the notes to Table 4 for variable definitions.

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