Transit Adjacent Development and Neighborhood Change in Houston
Executive Summary

Transit investments are critical to connecting people to opportunity, but they can also alter the development trajectory of an area. This study explores how land use has changed between 2010 and 2016 in transit adjacent development (TAD) areas of Harris County, Texas, defined as census block groups within 1 mile of transit hubs—light rail stations, transit centers, and Park & Ride locations. It undertakes this exploration with an eye toward understanding whether or not transit investments, and the TAD that accompanies them, impact gentrification patterns.

Overall, we find that neighborhood changes in transit-adjacent neighborhoods are most dramatic in areas that are already experiencing or that are likely to experience gentrification. Even as they are changing, gentrifying TAD areas still have affordable homes that house residents with lower-incomes. But the possibility of potential displacement grows as development occurs and housing prices rise. Addressing potential displacement will require the creation of policies that give residents of all income levels the ability to live in transit-connected communities.

Key Findings:

- Transit-adjacent areas that are vulnerable to gentrification saw declines in industrial land use and growth in commercial and residential uses—in other words, they saw more mixed-use, likely higher-amenity development.
- New residential development in transit-adjacent areas likely to gentrify tended to transition from undeveloped lots (likely the site of recent demolitions) to new homes.
- In case study communities such as the Second Ward and Near Northside, the vast majority of total land-use changes in the community occurred in the transit-adjacent locations.
- Transit-adjacent areas that are not likely to gentrify or that have already gentrified grew more residential in nature and continued to attract white, higher-income residents.

- Overall, TAD areas near light rail stations and rail-connected transit centers are experiencing gains in commercial and single-family lots. There is also growth in undeveloped lots and newly platted lots, setting the stage for more redevelopment.
- Two-thirds of Census block groups located in transit-adjacent areas are likely to gentrify, based on previous Kinder Institute research.
The population growth of Houston and Harris County presents a critical need for more equitable access to high-quality affordable housing, transportation infrastructure, and public amenities. Housing and commercial development near transit lines are often touted as an ideal way to address both affordable housing issues and to help connect residents to jobs. In Houston, like many other large cities, transit adjacent areas provide convenient access to downtown and major job centers and as such, new light rail developments have been found to spur residential and commercial developments and to some extent, increase property values. Moreover, Houston and many other cities have passed ordinances meant to encourage this type of transit adjacent development. However, increased public and private investment in places with high demand for housing and easy access to transit can also compound challenges for low-income, long-time residents to keep up with the rising costs of living in their neighborhoods. Given that a range of positive and negative outcomes can emerge from these investments, it is critical to understand how these investments affect neighborhoods in the Houston region.

This report looks at a broader category of transit adjacent development (TAD) areas, which is a term that represents unplanned developments near transit investments. The TAD area boundary used in this study focuses on areas within 1 road-network-mile of transit nodes. In this report, a transit node is defined as a METRO light rail station, transit center, or Park & Ride. This report looks at both land use as well as demographic change in TAD areas.

Land use categories are often designated by government entities as a way to understand current uses and to plan for future developments. Land-use change analysis is one of the many ways to understand the impact of transportation investments on surrounding areas. This report tracks where shifting concentrations of land uses or demographic characteristics emerged between 2010–2016. It also looks at trends within transit adjacent areas and gives special focus to areas vulnerable to gentrification. The “vulnerable” designation builds from the findings of previous Kinder Institute research on neighborhood change in Harris County. This work identified areas of the county that were likely to gentrify in the near future and found that the number of people using public transit in a given area was a statistically significant factor in measuring susceptibility to gentrification.

The land use and demographic shifts discussed here document a process of neighborhood change. This report does not delve into issues of displacement which typically focuses on the forced relocation of residents for any num-
Transit Adjacent Development and Neighborhood Change in Houston

A transit adjacent development (TAD) area includes block groups with centroids within 1 road-network-mile of METRO light rail stations, transit centers, and Park & Ride locations (Figure 1). Bus stops are not considered because of their relative mobility and the fact that they are less likely to be major hubs that can attract development. This does not mean that major bus line corridors cannot impact development. The network distance approach accounts for actual travel routes, not straight-line distances, and thereby better represents how people move on a daily basis.

METRO has three light rail lines, which began operating with the Red Line in 2004. In subsequent years, the Red Line was expanded north and the Green and Purple lines were built and opened by 2015. The Park & Ride locations all opened before the year 2010, except the El Dorado location (opened in 2017), Missouri City Hwy 6 (in 2011) and Quitman (in 2013). All transit centers opened before the year 2010, except the Burnett TC location. Figure 1 makes it clear that while TAD areas can be found across the METRO service area by far the most concentrated examples are along the light rail lines.

Identifying Vulnerable Transit Adjacent Development Areas

This study expands on a previous Kinder Institute report, “Neighborhood Gentrification across Harris County: 1990 to 2016,” which identified tracts as vulnerable to neighborhood change and analyzed the susceptibility of those tracts to gentrify in the future. “Neighborhood Gentrification” looked at neighborhood change from 1990–2016. This report builds on that work in two ways. First, it uses the final decade of the earlier report’s analysis, 2010–2016, as its timeframe. Second, it uses the analysis of the previous report to hone in on those TAD areas identified as vulnerable to gentrifica-
tion. Figure 2 shows in red the census block groups that are both vulnerable to gentrification and within TAD areas. While the previous study identified 358 tracts as vulnerable across the county, 79 of those (22%) are inside TAD areas. At an even more granular level, within the 225 census block groups in TAD areas, 164 of those (65%) are also vulnerable to gentrification. It is at the block group level that this report will focus. For each of the 225 block groups, we identify how concentrations of particular land use and socio-demographic characteristics have changed over the study period. This allows us to compare those rates to the broader county and to non-TAD areas. The case studies discussed later in this study focus on TAD-area block groups that are susceptible to gentrification and that have significant changes in land use and demographic concentrations.

Measuring Change

Land-use and demographic change is measured in two ways in this study. First, by percent change, which is useful to provide a snapshot of two different periods of time, but harder to compare against other areas or to the county as a whole. Second, we measure concentration change. This provides a more comparable idea of change by showing how a given area’s demographic and land use concentrations increase or decrease over time and how they compare to the county average. This report pays particular attention to areas where the concentration of a particular land use or demographic characteristic was below the county average in 2010 and increased above the county average in 2016.
These changes are tracked through two broad comparisons in this report. First, by comparing vulnerable TAD block groups to non-vulnerable TAD areas and the county and second, by comparing changes across areas adjacent to the different types of transit hubs.

**Study Limitations**

There are several limitations to this study. First, the following analysis builds on a previous Kinder Institute work and mirrors the timeline used, which is 2010–2016. Because of this, some of the most recent development occurring in transit adjacent areas is not included. Given that the full impacts of transit investments on land use can take more than six years, the full outcomes of Houston’s earlier investments are not captured here. Second, because of the previous limitation, the analysis does not aim to conclude whether transit adjacent areas attract more overall development compared to those outside, but only to document the changes that have occurred to this point. Third, land use analysis relies solely on the appraisal district definition of land use on a particular plot of land or parcel. Given that Houston does not have strict land-use zoning, a parcel’s use can change relatively easily, even before a use change has occurred. For example, an industrial site in 2010 could be classified as a commercial site in 2016 even if its actual use has not changed. This is most likely to occur for commercial and industrial uses, so final numbers presented here, especially at the smaller scale of the case studies, may slightly be off. Fourth, this study uses land use categories as assigned by the city of Houston, which does not have a category for mixed-use. This means that a mixed-use development with retail on the first floor and housing above it may sit on land designated as commercial. Because the designations do not capture both uses, land use analysis does not capture density nor reflect the number of available home units. With these limitations in mind, this method and study provide one way to observe the neighborhood change dynamics experienced near local transit investments.
Since 2010, Harris County has become less industrial, more commercial and more residential. In general, there was no significant divergence in the ways land use concentrations changed in TAD areas and those outside. Figure 3 shows land use percent change based on the number of land parcels/lots (left) and square miles of land area (right). In 2016, more parcels were recorded as single-family, commercial, or as lots with a new account, which likely signifies a new subdivision or replat of a former lot. The land area devoted to these uses likewise increased. While there are fewer undeveloped lots, the remaining lots are getting larger or have been consolidated. Note that undeveloped lots captured here may represent vacant or undeveloped lots waiting for construction. This trend captures both the continued growth of development in previously undeveloped agricultural or natural areas and the infill conversion of previously developed lots.

Some of these shifts may also reflect Houston’s lack of use zoning. Whereas zoning in other cities would likely limit the ease with which a residential property could transition to commercial or an industrial to commercial, fewer hurdles exist to such shifts in Houston. Despite this, Houston has areas where land use mix is limited. In most cases these are predominately residential areas protected by deed restrictions.
Neighborhood Change in Transit Adjacent Areas

In Houston, the percentage of people taking transit to work has been found to be one of the statistically significant factors impacting a neighborhood’s likelihood of gentrifying. Of the 225 block groups located within 1 mile of transit corridors, 146 of those (65%) have also been identified as vulnerable to gentrification; and 104 of all TAD block groups (46%) have been identified as having over a 50% chance of gentrifying in the future. Given this reality, residents may be wary of the impacts that new transit investments can have on their communities or question whether they will be able to access the benefits of investments. In some cases, transit investments have effects on neighborhood change by increasing property values, generating more commercial and residential developments and leading to more walkable urban design. Concerns over who benefits from investment near transit are closely connected with the potential for gentrification. This section looks at changes within TAD areas, with a specific comparison between those block groups identified as vulnerable to gentrification and those not.

Land Use Percent Change

While there were not any significant departures between the county’s overall land use change and TAD areas, within TAD block groups there were differentiations between areas vulnerable and not vulnerable to gentrification. Non-vulnerable areas saw a significant shift toward becoming less diverse in their land use mix between 2010 and 2016, similar to the overall development pattern that reflects a move toward a stable residential pattern in deed-restricted areas.

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Figures 3a and 4 show the percent change of each land category from 2010–2016 in TAD areas, broken out by vulnerability to gentrification. Vulnerable TAD areas have seen the largest reduction in industrial land and an increase in the number of undeveloped lots, likely resulting from demolitions. Vulnerable TAD areas are seeing a higher rate of undeveloped lot creation compared to the county average, suggesting that redevelopment is occurring rapidly in those areas. Non-vulnerable TAD areas have seen increasing concentrations of single-family and new accounts, likely the result of replatting and subdividing of formerly larger lots. These trends are also in line with county averages in these areas (Figure 3). Non-vulnerable TAD areas are also seeing a reduction in the number of undeveloped lots, indicating the construction of new buildings on those lots. Across both vulnerable and non-vulnerable TAD areas there has been a significant increase in land designated for commercial use.

**Land Use Concentration Change**

This section looks at how the concentration of certain land uses in TAD areas has changed between 2010–2016 and compares that to the county average. Figure 5 displays the type of changes that occurred in block groups that went from having no land use concentration out of step with the county average in 2010 to ones that had above county average concentrations in 2016. Across the county as a whole, concentrations of new lots and commercial emerged. In the county, 45% of the change is attributed to increased concentration of parcels with...
new account numbers pointing to the immense pace of new subdivisions on the periphery. Non-TAD areas in the county have slightly higher concentrations of single-family, multi-family and undeveloped uses.

Areas vulnerable to gentrification still have concentrations of land categorized as industrial even though the overall number of industrial lots decreased by 18, resulting in 613 lots for 2016. At the same time, the share of concentration of commercial use is much higher here compared to others. Examples where these dynamics have happened are older neighborhoods like Near Northside, Third Ward and OST South Union, all of which are well-served by transit but are also areas with disproportionately higher concentrations of industrial lots.

Figure 6 shows a change in concentration in transit adjacent areas delineated by vulnerability to gentrification. Transit adjacent areas that see a change in concentration make up 13% of the overall change in the county. The percentage in Figure 6 shows the composition of each change within its own boundary. Vulnerable TAD saw more change in commercial, single-family and undeveloped lots. Meanwhile, non-vulnerable TAD saw greater concentrations of new accounts lots and slightly higher numbers of industrial lots. The significant increase of commercial concentration and lack of increase in residential use in Figure 6 may not capture mixed-use developments where parcels are categorized as commercial but have residential units on the upper floors. This includes neighborhoods like Midtown, Downtown, the Medical Center and increasingly, Near Northside, Third Ward and OST/South Union.
FIGURE 7 Single-family parcels origin

FIGURE 8 Multi-family parcels origin

FIGURE 9 Land parcels origin
Residential Land Use
Digging into residential land use in more detail can provide additional information about the ways that residential properties are being developed in TAD areas. Figures 7 and 8 show the origins of both single- and multi-family lots in 2016 in both vulnerable and non-vulnerable TAD block groups. In both areas, most new residential lots, whether multi-family or single-family, come from either new accounts or undeveloped lots. Figure 7 looks at the origins of new single-family lots. In vulnerable TAD areas, the majority of new single-family lots are coming from undeveloped parcels, likely areas of previous demolition. In non-vulnerable TAD areas, new accounts make up the largest source, indicating more replatting of former lots.

Figure 8 shows the same breakdown of parcel origin in vulnerable and non-vulnerable TAD areas based on the origin of multi-family parcels. Here patterns are a bit different than for single-family. In non-vulnerable TAD areas, the picture is much the same as for single-family, with almost all new multi-family parcels coming from new accounts. In vulnerable TAD areas, though, new multi-family parcels are being created by a much closer mix of formerly single-family lots, undeveloped lots, commercial lots and new accounts. In TAD areas vulnerable to gentrification, multi-family development appears to be claiming a wide range of land-uses and transforming neighborhoods.

Figure 9 further illustrates this pattern by showing how lots have transformed in TAD areas since 2010. Vulnerable TAD areas have seen major shifts away from residential and toward undeveloped or commercial land. In non-vulnerable TAD areas, the shift from single-family parcels to commercial or undeveloped still exists but is occurring at a much lower rate.

Demographic Change
Looking just at land use change gives an incomplete picture of the ways that neighborhoods are changing adjacent to transit investments. Layering on demographic shifts is another important part of understanding this transition. This section uses the same concentration measure to document how the populations of TAD areas have changed from 2010–2016. Overall, transit adjacent block...
groups saw greater concentrations in affordable rents and the non-Hispanic white population compared to block groups outside TAD areas (Figure 10). This again reflects the complicated nature of neighborhood change, as the affordable rents make it possible for more residents to live next to important transit, but the proximity of those communities to opportunities can also lead to greater rates of racial and economic change among residents.

Examining just vulnerable and non-vulnerable TAD areas magnifies how vulnerable areas are experiencing more neighborhood change pressure. Vulnerable TAD areas have more block groups with a higher concentration of change in affordable rents, renters, low-income families, and people using public transit (Figure 11). Meanwhile, non-vulnerable TADs have greater concentrations of people that are non-Hispanic white and college-educated, likely indicating that neighborhood change and gentrification has already occurred to a great extent.

**Change by Transit Type**
Access to different types of transit can also affect the type of developments that tend to occur nearby. Areas near the combination of rail and a transit center and rail only are the places where the most change is occurring (see Figure 12, 13). It is important to note that most of this change has occurred along METRORail’s Red Line, where development has had more than a decade to mature. Bus-only transit centers and Park & Ride lots have seen some commercial lot gains, but almost no other significant shifts.
Areas near rail stations and rail with a bus transit center saw the greatest loss of industrial use but gained more new undeveloped and new account lots.16 This increase may represent parcels in 2010 that were divided into smaller lots or combined into larger ones, but may remain undeveloped or are undergoing construction in 2016. Non-rail transit centers saw a loss of industrial use, but gained in commercial and saw slight gains in multi-family and new account lots. Meanwhile, areas near Park & Rides saw a small amount of loss of industrial and multi-family lots. At the same time, these areas gained more land used for commercial and industrial use. These hubs also tend to be along highways, where land-use diversity is less significant.

As for residential lots, most of the single-family lots across all areas come from either undeveloped lots or those with new accounts (see Figure 14). Rail only and rail with bus transit centers see the most change from lots with new accounts into single-family. Although the share of single-family gain in non-rail transit centers and Park & Ride locations is small, most of its new single-family lots come from undeveloped lots. This is to be expected since most of these facilities are located in the outer parts of the city adjacent to newer development.

Across all transit types, single-family lots mostly became either commercial or undeveloped, mirroring patterns in TAD areas in general (Figure 15). Most notable is the change from single-family to undeveloped lots in areas adjacent to a transit center (27%) followed by just rail (20%), rail with a transit center (17%), and Park & Ride (12%). Most of the loss in multi-family lots near the Park & Ride facilities shown in Figure 15 is because of the change to undeveloped lots. Areas near both rail and transit centers as well as those near just transit centers have greater shares of single-family changed to commercial lots.
The neighborhood case studies (Figure 16) looked at in this section were chosen based on whether or not the neighborhood had TAD block groups with a likelihood to gentrify above 50% according to the Kinder Institute’s “Neighborhood Gentrification” report. They were also selected based on whether the area had seen a concentration change in land use and demographics. As a caveat, some of the land use category changes recorded from 2010–2016 have not resulted in a change of building type. It just reflects the status of the parcel itself in the eyes of the county appraisal district. In some cases, specific lots may have a multi-family or commercial designation, but have a different actual use.

The case study neighborhoods reflect a range of the shifts explored earlier in this report and represent the complicated nature of neighborhood change. Of all the selected neighborhoods, Third Ward had the biggest growth in the concentration of affordable rents. It also had the lowest concentration of people commuting by transit (Figure 17). In Second Ward, Near Northside and OST/South Union, more people were commuting by public transit, but, at the same time, there were new concentrations of households owning at least three cars. Racial and ethnic shifts were also different. Second Ward saw new concentrations of college-educated individuals, but only the Near Northside had new concentrations of non-Hispanic white individuals.

Second Ward Neighborhood

The Second Ward neighborhood is located east of Downtown. The neighborhood is currently served by the Green Line, with stations that bring service within a half-mile of much of the neighborhood (see Figure 26). Half of the neighborhood, especially around the Lockwood/Eastwood and Cesar Chavez/67th St. stations, is considered highly susceptible to gentrification based on the Kinder Institute’s earlier analysis. Recognizing this, METRO identified the Second Ward station, Lockwood/Eastwood station, and Cesar Chavez/67th St. stations as sites where Transit Oriented Development (TOD) could thrive. The change in transit adjacent areas accounts for 94% of the neighborhood’s total change between 2010 and 2016. The neighborhood saw the biggest change in the concentration of new account and undeveloped lots in the time period (Figure 18).

Of all the selected neighborhoods, Second Ward has the most diverse housing stock and also saw the most socio-demographic changes. Of the nearly 6,000 housing units, 48% are single-family detached, 12% are single-family attached, 24% are small multi-family (under 5 units) and 15% are large multi-family units. During the 2010–2016 period, the area made some modest gains in the concentration of affordable rents, although the median gross rents and the share of households renting remained relatively stable. Home values rose slightly, although they remained low relative to the county. Despite housing costs staying relatively stable, this neighborhood saw a drop in the concentration of low-income families and became more college-educated. The concentration of low-income families dropped from 1.7 times that of the county to 1.55 times.
**Selected neighborhoods**

- Selected neighborhoods
- Rail station
- Transit Center
- Rail line
- Block groups highly susceptible to gentrification
- Transit adjacent areas

**Demographic concentration shift across selected neighborhoods**

- Affordable rents
- Renters
- Low income families
- Commute by public transit
- Non Hispanic White
- College educated
- 3-car households

- Second Ward
- Near Northside
- Third Ward
- OST South Union
Second Ward land use concentration change

Second Ward land use in 2010
Figures 19 and 20 show land-use composition in 2010 and 2016, respectively. As of 2016, Second Ward became more residential, more commercial, and less industrial.

A significant portion of its industrial lots changed to additional commercial uses in 2016. Figure 21 shows the largest percent share of land-use change within Second Ward and areas within and outside of TAD. The chart only shows categories where there is considerable change.

Almost all of the new single-family lots in 2016 came from either new accounts (11%) or previously undeveloped lots (17%). The latter happened only in transit adjacent areas. Some single-family lots became undeveloped (3%)—all in transit adjacent areas—an indication of the demolition of single-family detached units. Similarly, most of the commercial lots in 2016 changed from industrial, mostly within a mile of transit locations. There was no significant difference in changes by transit type.
The neighborhood also represents another direction of change. In other neighborhoods a lot may be divided into two or more smaller lots. Part of this neighborhood actually saw the opposite with smaller lots combined into larger ones. Figures 22 and 23 show two different views of a new apartment complex and the Compass Stadium, both combinations of previously undeveloped and industrial lots.

Near Northside Neighborhood

The neighborhood is located north of downtown and is well served by the Red Line. METRO identified the Quitman/Near Northside station, Moody Park station, Cavalcade station and North Line TC/HCC station in its North Corridor report as potential sites for TODs. The neighborhood has a higher than average number of renters, but the demand
The average sale price for a single-family townhome has increased by approximately 70% from 2010 to 2014. The Near Northside neighborhood saw changes in both undeveloped and new account land-use concentration—mostly along the rail line (Figure 24). These changes were also somewhat more clustered in the south part of the neighborhood where many important public facilities and services, like schools, libraries, community centers, and organizations, are located.

Figures 25 and 26 show land use in 2010 and 2016, respectively. Transit adjacent lots that changed from 2010–2016 make up 80% of all changes in the neighborhood. Within this timeline, the neighborhood has become less industrial, more commercial and has seen growth in undeveloped lots. It also lost residential lots, with 17% of all the changed single-family lots becoming undeveloped in 2016 (Figure 27).
Near Northside example of 2010 land use change

Near Northside example of new account 2016

Street view Hillstar St and Cetti St.

Terry St and Boswell St street view

Terry St and Boswell St homes on the market
Figures 28 and 29 show a comparison of land use where a mix of previously multi-family, industrial, and undeveloped lots in 2010 changed into mainly single-family lots in 2016. An example of the resulting newly constructed single-family houses can be seen in Figure 30, which in this case are homes that are a part of a development done by Avenue CDC, a non-profit affordable housing developer. A portion of the houses in this subdivision, visible in Figures 28 and 29, are subsidized to make them affordable to households making below 80 percent area median income and are aimed at helping long-term residents stay in the neighborhood.

Overall, Near Northside is a neighborhood undergoing many transitions with lots that were categorized as undeveloped and possibly undergoing construction within the 2010–2016 timeline. Figures 31 and 32 show another example of lots that were vacant or undeveloped in 2010 and are now the location of two new townhomes.

OST/South Union Neighborhood

OST South Union is located in the southeast part of Houston. It is served by the Purple Line as well as a bus-only transit center. The neighborhood was also identified as one highly susceptible to gentrification.21 The majority of the people living in the neighborhood are non-Hispanic blacks (77%), followed by Hispanic or Latino (18%), with 79% of those residents having at least a high school degree. Over 50% of residents are housing-cost burdened, or spend more than 30% of their income on housing costs. From 2010–2016, the neighborhood saw a slight decrease in the concentration of low-income families.

In terms of land use, the neighborhood has a diverse mix of single-family and multi-family units but two block groups in the neighborhood (highlighted in yellow in Figure 33) saw a change in concentration of residential lots in 2016. At the same time, these block groups experienced a decrease in the concentration of households using public transit—with greater change in the block group outside of the single-mile boundary.

Figures 34 and 35 show land-use composition in 2010 and 2016, respectively. The neighborhood saw 112 new account lots with most transformed into commercial, undeveloped or, residential—mostly single-family lots (Figure 36).

The neighborhood overall saw the highest change from industrial to commercial lots, followed by residential-related changes (Figure 36). Most residential lots in 2016 came from either undeveloped or new account lots. The change almost doubled in transit adjacent areas. A closer look shows that most of the undeveloped lots in 2010 came from the transformation of single-family lots.
Within transit adjacent lots, land-use change near rail had a higher share of undeveloped to residential and new account and undeveloped to commercial. Meanwhile, transit centers had more new account residential parcels, greater change from residential to undeveloped and commercial, and more industrial to commercial and new account undeveloped lots.

**Third Ward Neighborhood**

Third Ward is located just east of Midtown and the Museum District. The neighborhood is highly accessible by both light rail and bus. A large portion of the neighborhood has been identified as highly susceptible to gentrification. METRO’s southeast TOD plan includes areas near Elgin station and Leeland station as sites for potential TOD. Over the study period, the neighborhood experienced a shift in the concentration of undeveloped lots and commercial lots. Just outside of the Kinder Institute’s Third Ward CTA boundary, the area experienced a change in concentration of residential lots and in some block groups, a combination of undeveloped, new account and residential lots (Figure 37).

Similar to Near Northside, Third Ward has become less industrial and more commercial. Figures 38 and 39 show the land use composition in 2010 and 2016, respectively. The neighborhood saw an increase in undeveloped lots and a decrease of single- and multi-family lots.

Figure 40 shows that most land-use changes were the addition of new accounts that either turned into sin-
Transit Adjacent Development and Neighborhood Change in Houston

Most of the commercial lots in 2016 came from undeveloped lots (3%) compared to from Industrial lots (2%), and new account (2%).

Figures 41 and 42 show land use in 2010 and an overlay of new accounts in 2016. Altogether these provide a snapshot of the land-use change in the neighborhood where new developments have replaced lots of different land uses. For example, a lot designated for multi-family in 2010 on Hadley Street changed to a row of undeveloped lots with a new account. Nearby lots however have been transformed into a row of single-family townhomes (Figure 43).
**FIGURE 40** Third Ward share of land use change from 2010–2016

- Commercial to Undeveloped
- No account to Single-Family Residential
- No account to Undeveloped
- Single-Family Residential to Undeveloped
- Undeveloped to Commercial
- Undeveloped to Single-Family Residential

**FIGURE 41** Third Ward example of land use in 2010

**FIGURE 42** Third Ward example of land use change in 2016

**FIGURE 43** Street view of Hadley St and Hutchins St
Tools and Strategies for Displacement-Cautious Development

This analysis has shown that the communities around the Houston area’s transit investments are not changing completely out of step with areas removed from transit. At the same time, a deeper look at transit adjacent areas vulnerable to gentrification demonstrates how quickly neighborhoods are changing. Several approaches could be taken to ensure that needed investments in transit are coupled with efforts to ensure longtime residents have access to the opportunities such investments provide.

There is often a desire to induce development near transit areas. This development is usually shaped by local government regulations and incentives, but is driven by the private market. While plans to increase density, mixed-use housing, and activities near transit areas come from recognizing the opportunity to capitalize on access to transit, new developments do not always equally benefit everyone. Long-time residents often bear witness to rapid physical, social, and cultural neighborhood change. For homeowners, increased property values can have both positive and negative impacts. For renters, displacement from gentrifying neighborhoods is more common. Disregarding displacement risk can further perpetuate inequity. Therefore, redevelopment strategies near transit should be integrated with efforts to preserve affordable housing and long-term residents who want the choice to stay.

Efforts to preserve affordable housing typically utilize two approaches: regulation of the private housing market and preserving publicly subsidized or naturally occurring affordable housing. The first focuses on the “rules of the game” that can limit price hikes and evictions with strategies such as rent control, conversion control and transfer taxes. Rent control is a mechanism that guards existing renters against rent increased by landlords. Conversion control regulates the conversion from low-income housing to market-rate housing that often occurs after the termination of various government subsidies. Meanwhile, transfer taxes provide the ability to capitalize on home and commercial building sales to fund affordable housing projects. The second approach focuses on preserving existing affordable housing, whether the units are publicly subsidized or privately held. Strategies that can help here are the establishment of a housing trust fund to acquire and protect units or the expansion of public subsidy programs.

An integrated housing and transportation development approach means that an assessment of the transportation needs of current low-income residents should be a part of future analysis for new housing projects near transit. Leadership also matters. Leaders can foster successful outcomes by organizing efforts toward the goal of linking housing affordability and transportation; and by keeping housing and transportation integration on the agenda at planning meetings.

Houston has established a Transit Corridor Ordinance to encourage property owners that wish to avoid certain requirements in Chapter 42 to go through the Transit Corridor Performance Standards process. The policy outlines a voluntary adherence to a form-based code for approximately 10,369 land parcels within a quarter-mile radius from the rail stations. However, as of 2014, only five new developments opted-in. Additionally, METRO
has also explored the real estate market potential of Transit-Oriented Developments (TOD) within a half-mile radius of several rail stations as well as Park & Ride locations. The potential for joint development identified by METRO will need to include affordable housing as one of its goals. Both of these approaches focus on private-market development types that prioritize mixed-use, higher density, and commercial activities—but do not always have affordability in mind.

Houston and Harris County also have an opportunity to integrate affordable housing and transit during the Hurricane Harvey recovery process. Houston has already made proximity to transit a priority in its first multi-family request for proposals using recovery funds. In addition to the allotments that Houston and Harris County received from the United States Housing and Urban Development Department (HUD), the State of Texas has an additional $4.7 billion for resilient infrastructure projects that could also help make a stronger housing-transit connection. Proximity to public transportation is a key component of smart siting for housing projects funded with HUD Community Development Block Grant-Disaster Recovery funds. As such, to achieve both goals of affordable housing coupled with sustainable building practices, the City of Houston has an opportunity to focus its efforts on inclusive, transit-adjacent housing development.

Additionally, other existing tools can present great opportunities to prevent displacement and encourage the creation of more affordable housing. The City of Houston recently created a Community Land Trust that could be focused over time on areas near transit to help counteract possible displacements. Other potential policy strategies include a partnership with traditional economic development tools such as tax abatements. In Houston, tax abatements are available for developments in areas recognized as needing investments in real estate to increase job opportunities, reduce poverty, and redevelop the overall neighborhood. Most of the areas served by METRO also have management districts and Tax Increment Reinvestment Zones (TIRZs), which present the opportunity for collaborations on housing and transportation projects that also provide safeguards against displacement.
Appendix—Methodology

Land Use Change
Since most of METRO’s service area is located within Houston, the general land use codes were generated based on how Houston assigned its land-use categories for its planning purposes. This step generated nine land-use categories and identified parcels that either changed or experienced no change between 2010 and 2016. Several issues arose due to the difference in the way the land uses were assigned and therefore use codes were matched with HCAD’s state class codes and satellite images to determine its final land-use category. Parcels that were not able to be identified were categorized as “uncategorized” in 2016.

To account for potential changes in parcel shape and sizes, we link the account numbers for each year with respective shapefiles, but used the 2016 shapefiles for our final analysis. This step captures new account numbers in 2016 that did not exist in 2010 and we categorized these as “New account.” It is possible that the land parcels that previously existed in 2010 were split into two or more parcels in 2016. According to HCAD, in a sale that involves splitting out between an original owner and another party, the owner keeps the original account number and the buyer gets a new account number. If the sale involves more than two completely different owners, then the original account is deleted and each owner gets a new account number. The land-use change analysis measures change by the concentration of each land use compared to the county, raw percent change and land use mix.

Concentration Change
This analysis uses the location quotient method to identify block groups where a particular land use has been more concentrated compared to the rest of the county. It is used to provide neighborhood level context and describes whether the study areas in 2010 already have conditions of a transit-adjacent development and whether there is a shift in 2016. The analysis considers only block groups with a concentration index of 1 or above and looks at the changes from 2010 to 2016. A positive value represents an increase in the concentration of land use in each block group. There are cases where the number of lots may have increased, but the concentration itself decreased. This suggests that the location of these lots are more dispersed throughout the county compared to the study area. For each census block group, we focus on identifying block groups with a concentration of changes into Commercial and Office, Single-family Residential, Multi-family Residential and those from Undeveloped and Industrial in TAD areas compared to Harris County.

Percent Change
This analysis looks into percent change during the year 2010–2016 based on the number of land parcels and its land area designated for a particular land use.
ENDNOTES


9. Ibid.

10. Ibid

11. Location quotients examine the share of some factor in a small area to the same share of the same factor in a larger area. By using location quotients for our socio economic, land use, and housing costs (and their changes), we can understand the status of neighborhoods in relationship to the whole county and understand if changes are happening relatively quickly or slowly in neighborhoods compared to the county.


13. Land parcels with account numbers in 2016 but did not exist in 2010 were categorized as “New account.” When lots are sold into two or more smaller lots, a new account number is given to new owners.

14. Choudary, et.al. 2018


16. These are account numbers that previously did not exist in 2010 according to HCAD FAQ

17. Choudary, et.al. 2018


21. Choudary, et.al. 2018

22. Choudary, et.al.2018


29. “Build it Forward: Housing Recovery after Hurricane Harvey.” City of Houston Draft Local Action Plan Summary (June 7 2018). Pg. 9

30. City of Houston, Notice of Funding Availability, Disaster Recovery Multifamily Program Round 1, Solicitation T28910.

32 Community Development Block Grant Disaster Recovery (CDBG-DR) Toolkits, p. 5
33 Ibid. pg. 7
34 http://www.houstontx.gov/ecodev/tax_abatements.html
35 Houston’s City Council generated Tax Increment Reinvestment Zones (TIRZs) to encourage new investment in an area by setting aside tax increment financing to fund to finance public improvements within each TIRZs’ boundary
36 HCAD. pdatalhcad.org/Definition_help.doc
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