



Transit Oriented Development Study

VOLUME 4 | Park & Rides



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EXECUTIVE SUMMARY

Introduction

Houston's population is growing and changing in significant ways and Houston METRO is transforming its transit network to better meet the needs of the region, now and into the future. As this transformation occurs, many Houston residents – new and old – are seeking more walkable neighborhoods with access to quality transit. The Center for Transit Oriented Development estimates that demand for Transit Oriented Development (TOD) will represent at least one quarter of the US housing market by 2030.¹ As demand increases, property values are rising, and large parcels of vacant land are redeveloping all over Houston, often as denser, mixed use projects that seek to meet the market demand.

The completion of METRO's Red, Purple and Green light rail transit lines and the implementation of the New Bus Network presents an opportunity to build upon those infrastructure and service improvements in the community and help realize more sustainable development that encourages walking, biking and transit usage throughout the Houston area. These new investments and infrastructure are key starting points for enhancing urban and suburban communities with TOD, as transit is one of the region's assets that can be used to stimulate economic growth and durable, high return development. Partnerships and communication with public and private entities will be vital to ensure the success of these transit investments, and in turn will help developers create more value from their own investments.

Purpose of the Study

METRO initiated the Transit Oriented Development (TOD) study for selected Park & Rides in an effort to encourage new development opportunities around the Park & Ride facilities.

The primary objective of the Study is to determine opportunities for TOD in the area of METRORail stations and regional Park & Ride facilities which, if fully realized, will benefit from the region's investments in transit as evidenced by increased patronage. The key resources developed through this study will include:

- A marketing tool that METRO can take to developers to let them know what type of opportunities can be successful at specific METRORail stations and Park & Ride facilities;
- An initial market assessment at each of these locations; and
- Recommended actions that METRO, City of Houston, H-GAC and others should consider to improve development opportunities.

METRO has also taken steps to encourage TOD with the METRO Board adopted TOD Goals and Strategies in September 2012. Additionally, the City of Houston and the Houston-Galveston Area Council (H-GAC) share similar TOD-supportive goals and policies, which are further examined.

METRO in collaboration with H-GAC identified four Park & Rides for TOD evaluation. To determine which Park & Ride locations warrant an in-depth TOD analysis, H-GAC staff has made several on-site visits and reviewed data produced by METRO. Based on observations of existing conditions and examinations of land use, access and bike and pedestrian circulation within the 0.5-mile radius surrounding each location, H-GAC has recommended the Addicks, Kingwood, Kuykendahl, and Westchase Park & Ride facilities be evaluated. Property development potential exists in the vicinity of these facilities. This study attempts to capture market realities and the potential for TOD around the facilities.

METRO operates 26 regional Park & Ride facilities distributed throughout the METRO service area that are served by over 100 miles of High Occupancy Vehicle (HOV) and Diamond Lanes (**Figure ES-1**).

¹ "Hidden in Plain Sight," Center for Transit Oriented Development, 2006.

What is TOD?

TOD varies based on the unique qualities of communities. To maximize the potential for implementation, it will be important for METRO and other stakeholders to define what TOD means for specific transit facilities and the surrounding neighborhoods. For purposes of this report, TOD is broadly defined as development that includes a mix of residential, commercial, and institutional uses that is designed to maximize transportation options, including walking, biking, transit, and automobiles. TOD rethinks how we plan, fund, and build our communities in a manner that combines sustainable community planning practices, constructive development partnerships, and intelligent transportation choices. It can consist entirely of new development or infill development within existing neighborhoods, usually with a focus on the area within a half mile of a transit facility (about a ten minute walk).

TOD can occur at a wide range of scales and types of uses. This includes dense residential and office skyscrapers, as well as small-lot, single-family homes. TOD also typically includes a well-connected street network, safe accessibility by pedestrians and bicyclists, high quality transit service, and a balanced mix of uses that can satisfy the daily retail and service needs of residents and workers. In short, successful TOD must be compact with a focus on density and neighborhood walkability, connected both internally and externally with other major destinations, and development must be considerate of the human-scale and pedestrian environment. The goal is to surround transit facilities with vibrant, well designed neighborhoods where people can live, work, shop, and enjoy entertainment, all within a safe and pleasant walk to transit.

Why TOD?

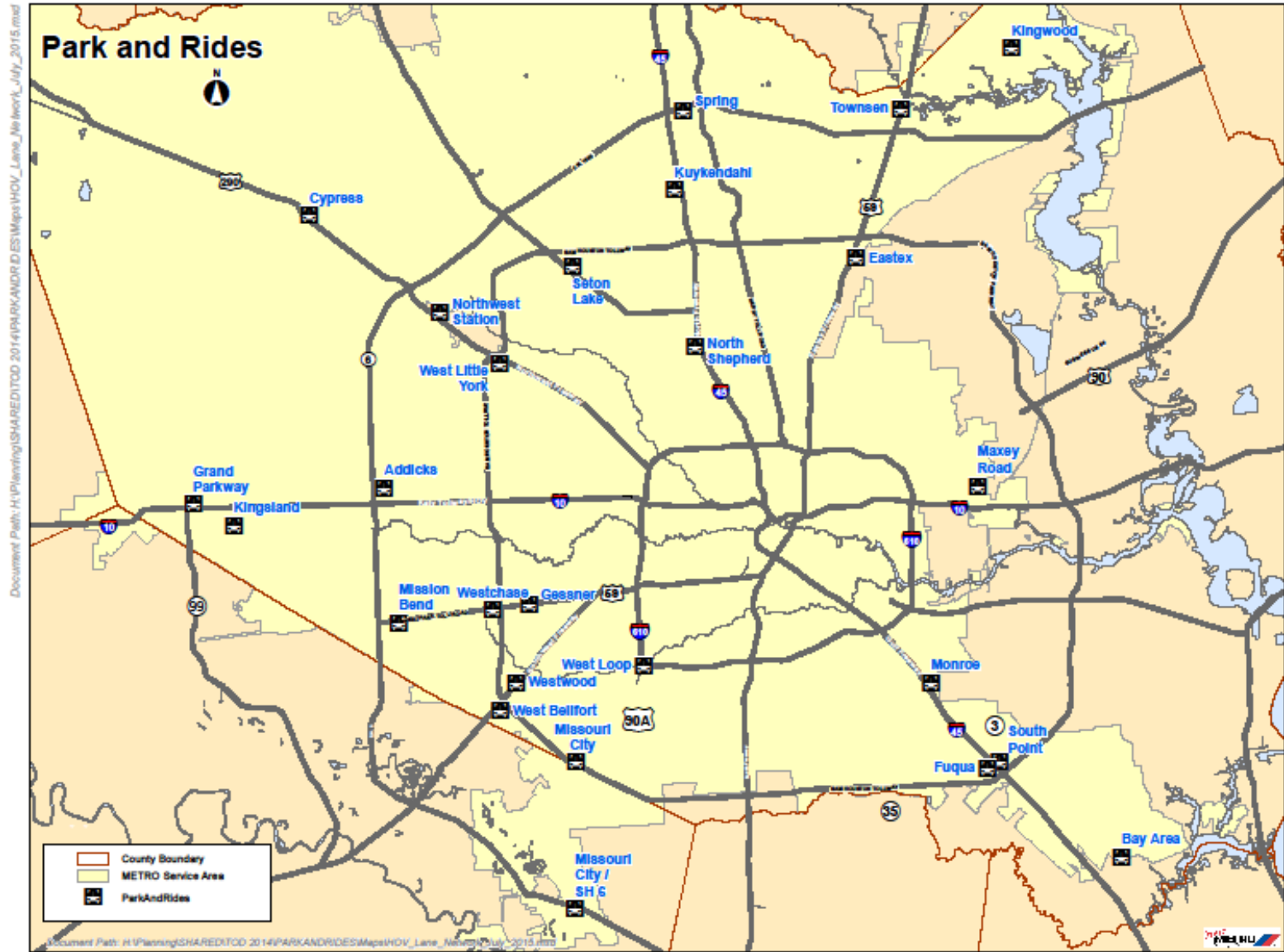
Benefits

TOD offers substantial benefits to community residents, developers, the local economy, public agencies and the transit system. Successful TOD can result in economic, transportation, health, and community benefits. By consistently identifying and communicating these benefits, METRO and other stakeholders can support the implementation policies and programs that will make TOD more likely to occur. The information below and in **Table ES-1** identifies more specific benefits in each of these areas.

Table ES-1: TOD Benefits

TOD BENEFITS	
Economy	<ul style="list-style-type: none"> Offers a higher return on investment for developers and financial institutions Better connects people and jobs Expands the range of housing options and retail types Generates new jobs, entrepreneurship, increased spending, tax revenues, and other economic spillover effects
Transportation	<ul style="list-style-type: none"> Expands choice of travel modes, decreasing automobile reliance Increases transit ridership Helps the transit system maximize service efficiencies Helps reduce traffic congestion on major roads
Health & Safety	<ul style="list-style-type: none"> Increases physical activity by encouraging walking and bicycling Improves air quality from reduced emissions Improves safety from reduced crash rates
Community	<ul style="list-style-type: none"> Increases property values Helps stabilize neighborhoods Lowers transportation costs allowing redirected spending Conserves land

Figure ES-1: METRO Park & Rides and HOV/HOT Lane Network



ADDICKS PARK & RIDE

Station Overview

Table ES-2: Addicks Park & Ride Summary of Recommendations

SUMMARY OF RECOMMENDATIONS	
<p>DEMOGRAPHIC PROFILE & AND DEVELOPMENT DRIVERS</p>	<ul style="list-style-type: none"> ▪ Located in a rapidly developing area of the Energy Corridor ▪ Home to many of the largest energy companies, and ancillary sectors engineering, exploration and production ▪ In excess of 62,000 jobs that have been created in the area, this is the major economic force in the CMA ▪ Man-made and natural growth barriers in the form of the IH 10, SH 6, and the Addicks Reservoir ▪ Plans for 4.6 Million sq.ft of office space to be built over the next few years on available large tracts of land, some of which are adjacent to the Park & Ride
<p>DEVELOPMENT TRENDS & POTENTIAL</p>	<p>MULTI-FAMILY</p> <ul style="list-style-type: none"> ▪ One 342-unit project under construction (Central Park West) is on Park Row Drive to the Park & Ride and has garages for the residents. ▪ The other project will have about 250 units and will be located just north of the Park & Ride across Park Row Drive. <p>HOTEL/ HOSPITALITY</p> <ul style="list-style-type: none"> ▪ There are no plans for new hotels in the 0.5-mile study area at this time. ▪ Stakeholders have expressed that a new high-end hotel with meeting and convention facilities is greatly needed in the area. With room rates increasing, occupancy decreasing and high-end hotel revenue being lost to outside of the CMA, this presents an excellent opportunity for an investment. <p>OFFICE</p> <ul style="list-style-type: none"> ▪ Development of over three million square feet of office space will potentially bring in 15,000 new employees. ▪ One of the new office sites is adjacent to the Park & Ride to the east (Transwestern at 1.5 million square feet) ▪ Just across Park Row Drive to the north (Core at 1.6 million square feet).

SUMMARY OF RECOMMENDATIONS

DEVELOPMENT OPPORTUNITIES

- Refer to **Table ES-3**

NEXT STEPS

- Short-term: include sharing the lot with area events, such as the Energy Corridor's Energy Fest.
- Medium term: Recommend that METRO identify their optimal transit needs through policy of shared use and joint development standards and access standards.
- Prioritize P&R site for development, conduct site specific analysis of required number of parking spaces, bus bays on the platform, and access standards.
- Long-term actions are the actual joint development activities: finding partners, lease agreements, development designs, and construction

INFRASTRUCTURE

- As the study area develops and more patrons park and stay in the area, a circulator to surrounding local office areas will be well used. The circulator concept is proposed in the master plan effort and suggested late model, attractive vehicles with a fixed schedule of pick up times.
- Add bike lanes to Park Row Drive linking the Park & Ride to the Buffalo Bayou Bike Trail via a future extension of Park Row Drive. Street, path, and intersection improvements include additional walkways along Park Way and Memorial Drive.
- Adding a bikeway along Addicks-Howell Road could benefit Wolfe Elementary students.

Figure ES-2: Energy Corridor Master Plan – Addicks Joint Development

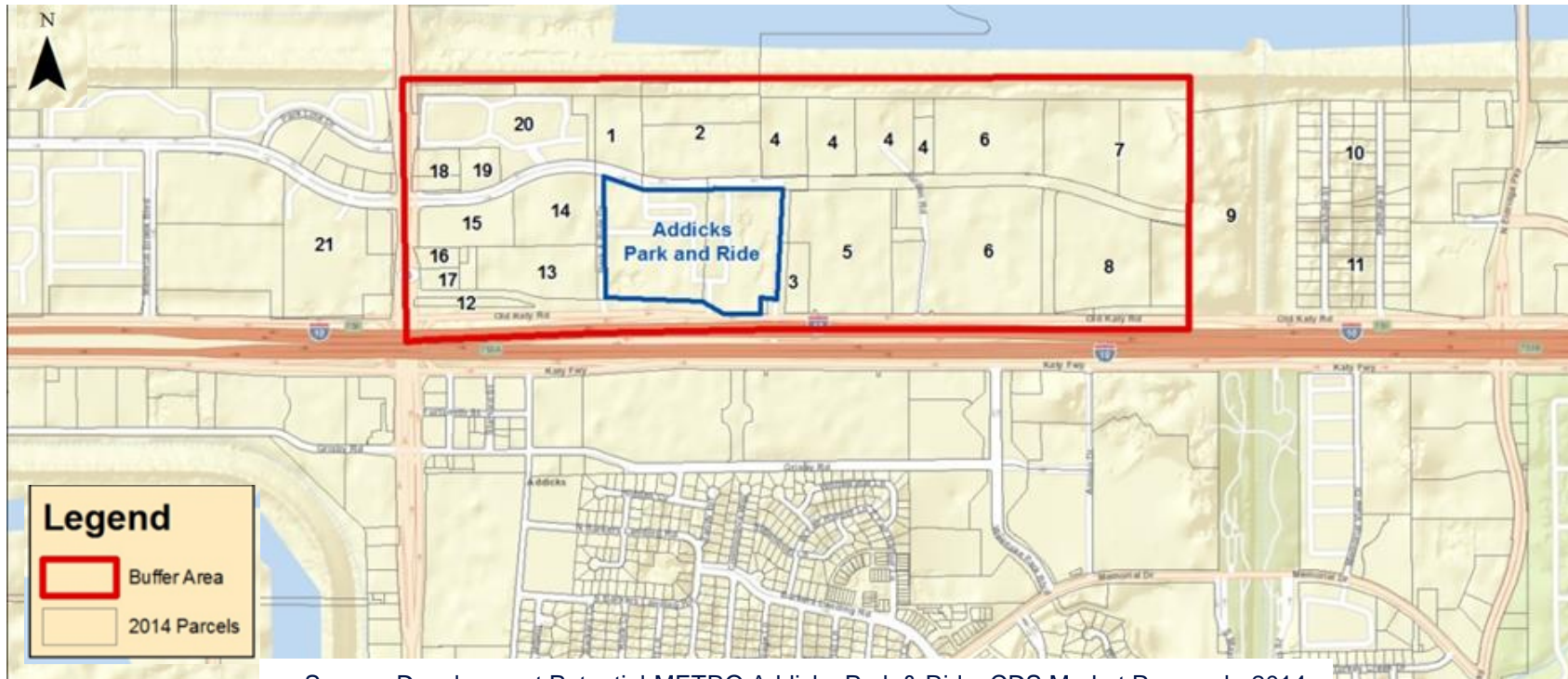
Source: Energy Corridor District Master Plan, 2015.

Joint development of the Addicks Park & Ride has short-term, mid-term, and long-term components. Short-term plans include sharing the lot with area events, such as the Energy Corridor’s Energy Fest, to make use of the lot during evenings and weekends and as a marketing tactic to focus attention of the potential of the facility for more than just a parking lot. Mid-term actions are composed of METRO drafting a policy of shared use and joint development standards identifying their optimal transit needs. Required number of parking spaces, bus bays on the platform, and access standards should all be elements of this policy. Once this policy is defined,

third party interests can better determine what level of joint development is suitable. Long-term actions are the actual joint development activities: finding partners, lease agreements, development designs, and construction.

External development opportunities include properties adjacent to or across the street from the Park & Ride. **Figure ES-3** and **Table ES-2** show the development at various locations that have the potential to take advantage of the Addicks Park & Ride.

Figure ES-3: Area Development



Source: Development Potential-METRO Addicks Park & Ride, CDS Market Research, 2014.

Table ES-3: Development Opportunity Sites Matrix

#	MAP KEY	#	MAP KEY
1	Vacant Land – Berstein Perwien; Land not for sale	10	McCaslin – Future apartments; no time frame or number of units
2	Land sold for apartments – Approximately 9 acres; possibly 225-250 units	11	Possible hotel site – May be Doubletree
3	South Texas Brick and Stone	12	Addicks 10 Business Park – 25,000 square feet
4	Core West – 1.6 million square feet of office; beginning construction fall 2014	13	Berstein Perwien – Partially developed office site; includes small office and Strayer University Katy Campus
5	Transwestern Pinnacle – Probable 1.5 million square feet of office planned; no time frame	14	Korean Central Presbyterian Church
3	MD Anderson Hospital – Hospital and medical office planned; possibly by 2017 likely later	15	Vacant Land – Berstein Perwien; Land not for sale
7	Worthing – Central Park West; 342 apartments under construction	16	Cattle Guard Restaurant
8	Wolff – Future office development; 452,719 square feet	17	Drury Inn & Suites ; 119 rooms
9	U.S. Corps of Engineers – land	18	Addicks United Methodist Church
		19	Homewood Suites Hotel ; 74 rooms
		20	Arcadian West Apartments ; 318 units
		21	Future Mercedes Benz Dealership – Former Sam’s Club existing building

Source: Development Potential-METRO Addicks Park & Ride, CDS Market Research, 2014.

KINGWOOD PARK & RIDE

Station Overview

Table ES-4: Kingwood Park & Ride Summary of Recommendations

SUMMARY OF RECOMMENDATIONS

DEMOGRAPHIC PROFILE & AND DEVELOPMENT DRIVERS

- Second largest master planned development in Houston with 15,000 acres and 70,000 plus residents.
- Is essentially built-out with only small areas of newer infill housing near the Park & Ride.
- The community has been a popular residential community due in part to the variety of wildlife including deer, fish, and birds that can be found in the 75 miles of greenbelts
- Median household income in the CMA is over \$92,000. The residents are older (median age in the CMA is 41) and affluent with a very high disposable income and effective buying income (EBI).

RETAIL

- High level of disposable income and the concentration of housing makes an excellent location for commercial/retail development.
- Site adjacent to the Park & Ride to the south, is planned for retail use (33.1960 acres). The site will be anchored by a new HEB Grocery and will total 240,000 square feet.

DEVELOPMENT TRENDS & POTENTIAL

SINGLE-FAMILY

- Royal Brook, a single-family development with about 1,300 to 1,500 new houses is planned for early 2016.
- Single-family attached housing has not done well in the Kingwood area, except for a new detached townhome project (The Villas of Kingwood) is located in the 0.5- mile radius and has sold 35 units in 2014.

MULTI-FAMILY

- Although the multi-family apartments in the CMA are 96 percent leased and rents are generally high, the chances of new apartments in the area of the 0.5- mile radius and the CMA are slim.
- The minimal land that is available is priced too high for viable apartment use.

SUMMARY OF RECOMMENDATIONS

OPPORTUNITY SITES

- Attached or small-lot single-family – townhomes or patio homes with pedestrian access to the Park & Ride. Design to incorporate greenbelt and natural drainage. Refer to **Table ES-5**
- Small-scale local professional office / medical uses, one-story, with surface-parking.
- INTERNAL: moderate density residential that serves as a buffer between the commercial development on the south and the single-family homes to the north and east.

NEXT STEPS

- Short-term: Pedestrian access, shared parking to Park & Ride facility should be explored for site adjacent to the Park & Ride to the south, planned for retail use.
- Medium term: Recommend that METRO identify their optimal transit needs through policy of shared use and joint development standards and access standards.
- Prioritize P&R site for development, conduct site specific analysis of required number of parking spaces, bus bays on the platform, and access standards.
- Long-term actions are the actual joint development activities: finding partners, lease agreements, development designs, and construction.

INFRASTRUCTURE

- Bike and pedestrian connections with the trail system to better connect the Park & Ride and the neighborhood.
- Enhancing bike sharing facilities at the facility and throughout Kingwood would help encourage bicycle use.
- Provide pedestrian crossing at Rustic Woods Drive and at West Lake Houston Parkway by the Park & Ride entrance to improve safety and convenience.
- Add painted striped lanes to extend trail over to public library. Integrate painted trail path with painted pedestrian designated walkways to coincide with sidewalks entrances along Rustic Woods Drive and West Lake Houston Parkway.

Figure ES-4: Kingwood Park & Ride Development Concept



Source: METRO, 2015.

Figure ES-5: Development Opportunity Sites

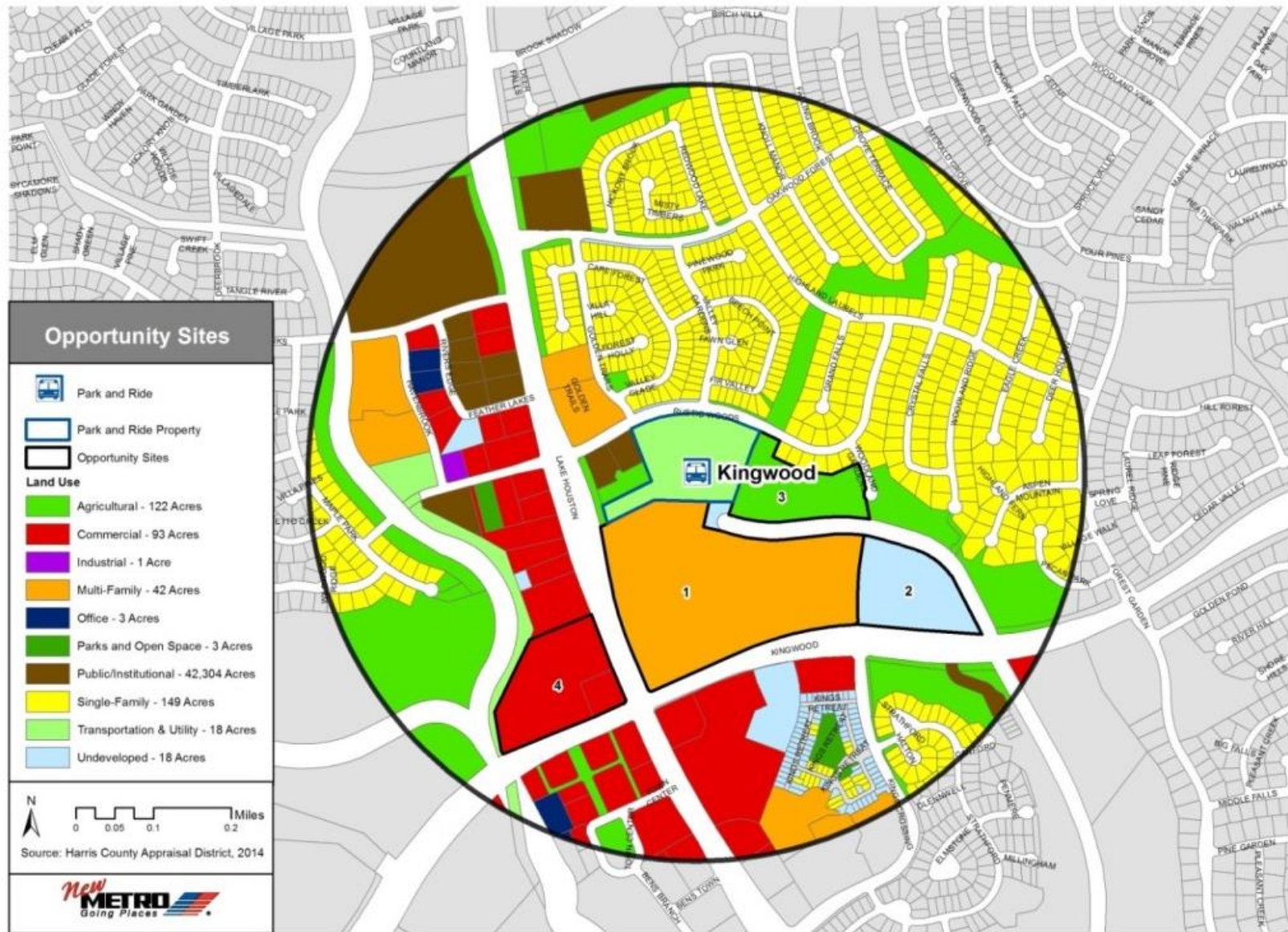


Table ES-5: Development Opportunities Matrix

SITE	DESCRIPTION	CURRENT USE	PROPOSED
1.	Apartment complex Approx. 240,000 sq. ft.	Apartment complex being demolished for new development	240,000 square feet of retail space (Main Street Kingwood). Anchored by an HEB Grocery and will include space for in-line stores and freestanding retail pads. Opportunity for Access to Park & Ride lot should be included
2.	Vacant land Approx. 364,000 sq. ft.	Property being held in reserve for future development	Small-scale local professional office / medical uses, one-story, with surface-parking
3.	Vacant woodland east of Park & Ride Approx. 300,000 sq. ft.	Designated as a greenbelt	Attached or small-lot single-family – townhomes or patio homes with pedestrian access to the Park & Ride. Design to incorporate greenbelt and natural drainage
4.	Northwest corner of Kingwood Drive and Lake Houston Drive Approx. 450,000 sq. ft.	Strip shopping center anchored by HEB, which is soon to be relocated across the street	Excellent opportunity for mixed use development: medium density residential with retail and dining

WESTCHASE PARK & RIDE

Station Overview

Table ES-6: Westchase Park & Ride Summary of Recommendations

WESTCHASE PARK & RIDE – SUMMARY OF RECOMMENDATIONS

DEMOGRAPHIC PROFILE & AND DEVELOPMENT DRIVERS

- Land uses within a 0.5-mile radius of the Westchase Park & Ride are predominantly office, vacant, and industrial uses.
- Most of the vacant land uses are to the north of Westpark Tollway.
- The Park & Ride is flanked by large office tracts occupied by Oak Park, a 220-acre master planned and deed restricted commercial development designed for large tract, corporate campuses.
- Roughly 97 percent of the estimated 56,169 employees commute outside of the CMA.

OFFICE

- Due to the current market conditions, it is unlikely that the Westchase Park & Ride 0.5-mile radius will see any new office space development in the short term. However, when local office building tenants are again expanding their workforce and demand for space increases, the 0.5-mile radius represents a good location for the construction of additional class A, low or high rise space.

MULTI-FAMILY

- An estimated 1,738 additional rental units (290 annually) will be needed in the CMA by 2019 to meet the current trends of population growth and shrinking persons per housing unit. Vacancy rates in the CMA are holding steady at 5.9 percent, while rents have increased as much as 16 percent over the five year average.
- Two class A complexes are scheduled for completion in 2015, adding 558 units to the current CMA inventory of 20,930 units.

DEVELOPMENT TRENDS & POTENTIAL

RETAIL

- There is some room for a limited amount of new retail space (10,000 to 20,000 sq. ft.), particularly if this space is fitted in to a mixed use project at a site with relatively high evening and weekend traffic counts, such as near Beltway 8.
- The demographics and market for the CMA are healthy and would support additional retail.
- However, challenges are that the 0.5-mile radius is dominated by office parks where retail development is typically limited by deed restrictions. In addition, many of these office parks are self-contained and, there is far too little traffic in the evenings and weekends when roughly 97 percent of the estimated 56,169 employees commute outside of the CMA.

WESTCHASE PARK & RIDE – SUMMARY OF RECOMMENDATIONS

<p>OPPORTUNITY SITES</p>	<ul style="list-style-type: none"> ▪ Some vacant, undeveloped parcels suitable for residential mixed-use and Refer to Table ES-7 ▪ INTERNAL: Located in the heart of the Westchase Management District and adjacent to a station on the future University Corridor light rail line, mixed-use development composed of commercial, professional, and high density residential uses is very possible.
<p>NEXT STEPS</p>	<ul style="list-style-type: none"> ▪ Short-term: Increase policing and security, work with the Westchase Management District to host area events at the Park & Ride. ▪ Medium term: Recommend that METRO identify their optimal transit needs through policy of shared use and joint development standards and access standards. ▪ Prioritize P&R site for development, conduct site specific analysis of required number of parking spaces, bus bays on the platform, and access standards. ▪ Long-term actions are the actual joint development activities: finding partners, lease agreements, development designs, and construction.
<p>INFRASTRUCTURE</p>	<ul style="list-style-type: none"> ▪ Add signed bike lanes to North Course Drive to connect with existing lanes along Harwin Drive and serve new developments underway to the south of the Park & Ride. ▪ Hike and bike trail: The Brays Bayou Connector Trail is reportedly going to be constructed in 2015. Structures could be installed at the Park & Ride to facilitate increased usage of this trail by commuters, including secure and/or covered bicycle parking. ▪ Event parking: The Westchase Park & Ride facility could offer and advertise event parking in conjunction with popular events or destinations Downtown, such as the Rodeo. METRO already offers this service with other lots; this service was requested for the Westchase Park & Ride as well. ▪ Better access to the Westchase Park & Ride site: Patrons and community members have discussed the difficulty of accessing the Park & Ride facility, particularly from Westpark Drive. Suggestions were made regarding an on/off ramp that directly services the lot, not unlike those at other Park & Ride facilities in the METRO service area. ▪ A future light rail station in the Westpark Drive corridor adjacent to the Westchase Park & Ride would encourage TOD.

Figure ES-6: Westchase Park & Ride Development Scenario



Source: METRO, 2015.

Figure ES-7: Development Opportunity Sites

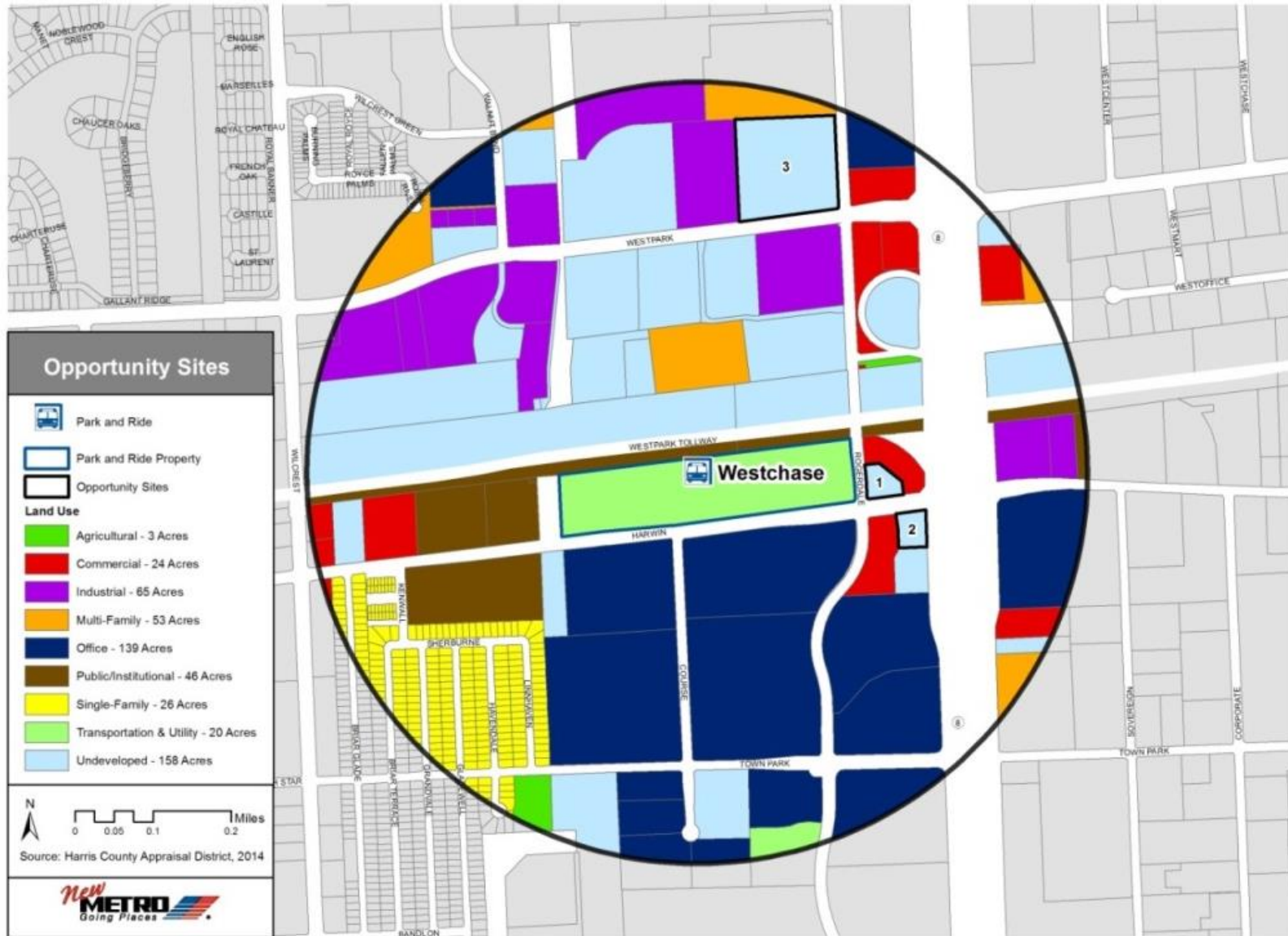


Table ES-7: Development Opportunities Matrix

SITE	DESCRIPTION	CURRENT USE	PROPOSED
1.	Harwin Drive Houston TX 77072 Approx. 46,000 sq. ft.	Vacant	Mixed Use – Residential/Commercial
2.	W Sam Houston Pkwy Houston TX 77072 Approx. 47,000 sq. ft.	Vacant	Mixed Use – Residential/Commercial
3.	3354 Rogerdale Road Houston TX 77042 Approx. 459,000 sq. ft.	Vacant	Residential/Mixed Use

KUYKENDAHL PARK & RIDE

Station Overview

Table ES-8: Kuykendahl Park & Ride Summary of Recommendations

SUMMARY OF RECOMMENDATIONS

DEMOGRAPHIC PROFILE & AND DEVELOPMENT DRIVERS

- Population within a 0.5-mile radius of the Park & Ride grew by 41.1 percent between 2000 and 2010. The number of households also grew by about 21 percent during the same time period.
- Short-term projections indicate that the population and households will continue to grow over the next four years at a rate of 9.5 and 8 percent respectively.
- Proximate to the activity center of Greenspoint, which reportedly contains over eighteen million square feet of office space.
- Good freeway access and high visibility of the site make it attractive for commercial.
- Large, undeveloped parcels available in the 0.5 mile- radius of the Park & Ride.

SINGLE-FAMILY

- Opportunity for smaller single-family residential infill developments. Homes in this area priced in the \$125k to \$175k range offer an affordable alternative to areas such as Cypress, Tomball, and The Woodlands. At the same time they offer a much shorter commute for those who work in the Greenspoint area or inside Beltway 8.

MULTI-FAMILY

- An estimated 1,216 additional rental units will be needed in the CMA by 2020 to meet the current trends of population growth and persons per housing unit.
- Vacancy rates for multi-family complexes in the CMA are at 6.0percent, down from a five year average of 10.0percent suggesting a growing demand for rental units in the area.

DEVELOPMENT TRENDS & POTENTIAL

RETAIL

- The vacancy rate and availability rate for retail space in the CMA is fairly high at 11.2 percent and 16.1percent, respectively. It is not anticipated that the area will see any new major retail development until local and regional prospects improve, and a considerable share of the vacant square footage is absorbed.
- In the medium to long term, retail development should be expected to occur slowly. Sites along Kuykendahl Road south of Rankin, next to the newly constructed Walgreens, could be an ideal location for additional, locally-oriented retail. Also, a new grocery store may also do well near the Park & Ride.

SUMMARY OF RECOMMENDATIONS

<p>OPPORTUNITY SITES</p>	<ul style="list-style-type: none"> ▪ Large number of vacant, undeveloped parcels suitable for multi-family residential (including mixed income) and commercial/ retail uses. Refer to Table ES-9 ▪ INTERNAL: Mixed use with retail and moderate density residential could face Kuykendahl Road with apartments farther back on the lot. Commuter parking lost from this development could be replaced with a garage adjacent to the bus platform
<p>NEXT STEPS</p>	<ul style="list-style-type: none"> ▪ Short-term: Pedestrian access, shared parking to Park & Ride facility should be explored for site adjacent to the Park & Ride to the south, planned for retail use. ▪ Medium term: Recommend that METRO identify their optimal transit needs through policy of shared use and joint development standards and access standards. ▪ Prioritize Park & Ride site for development, conduct site specific analysis of required number of parking spaces, bus bays on the platform, and access standards. ▪ Long-term actions are the actual joint development activities: finding partners, lease agreements, development designs, and construction
<p>INFRASTRUCTURE</p>	<ul style="list-style-type: none"> ▪ Add four to five foot sidewalks along Dominion Park, Brundage, Whistling Pines, Kirkstall, and Kuykendahl Drives. ▪ Include controlled pedestrian connections to the apartment communities immediately to the north and northwest of the Park & Ride facility; thus reducing parking demand within the parking lot. ▪ Longer term improvements may include dividing larger tracts into smaller block sizes may be necessary to reduce travel distances for both bicyclists and pedestrians between the transit facility and activity site. ▪ Smaller block sizes also increase available street frontage for retail elements on the ground floor of multi-level, mixed-use developments.

Figure ES-8: Kuykendahl Park & Ride Development Scenario



Source: METRO, 2015.

Figure ES-9: Development Opportunity Sites

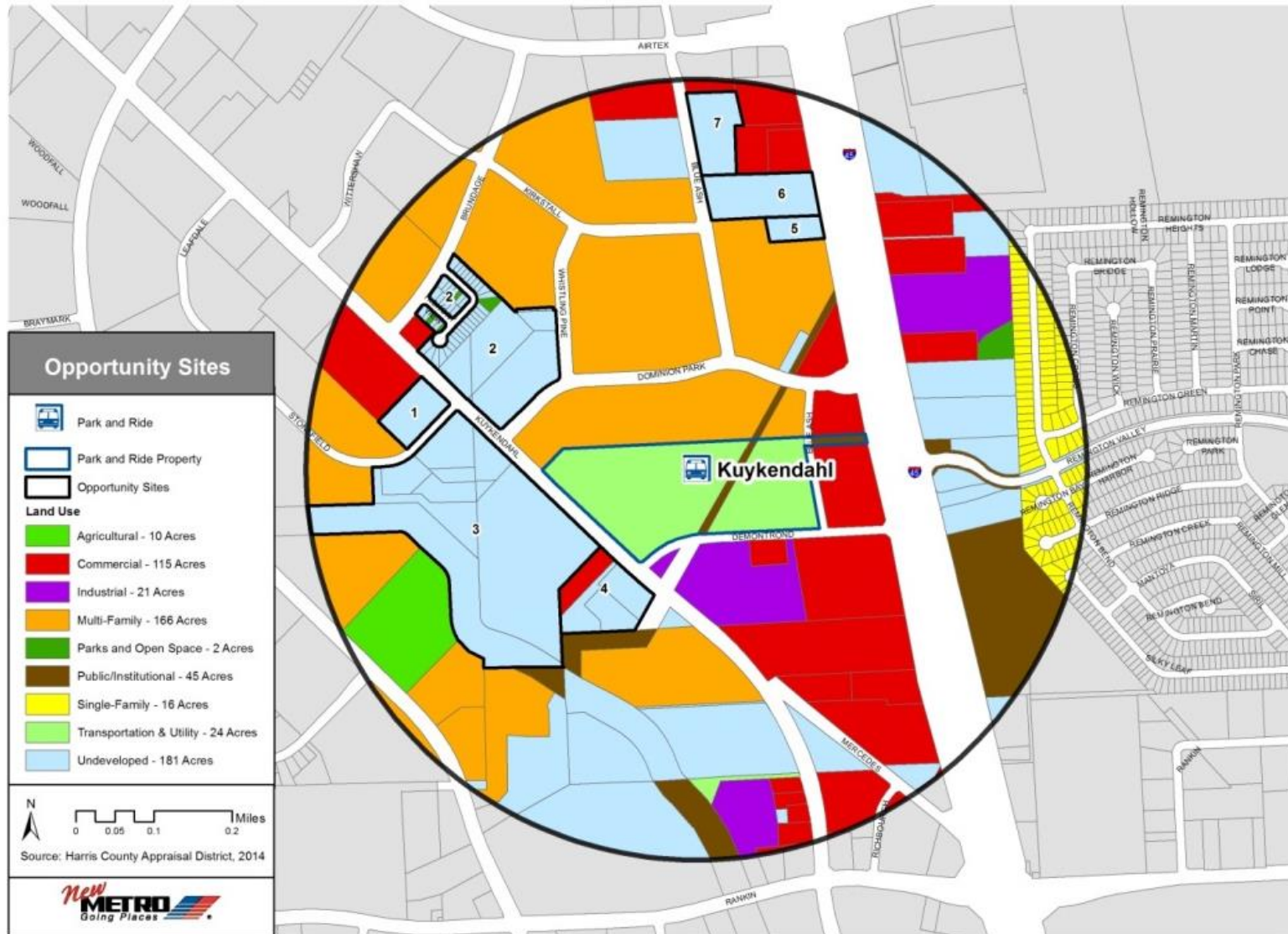


Table ES-9: Development Opportunities Matrix

SITE	DESCRIPTION	CURRENT USE	PROPOSED
1.	Northwest of Park & Ride at Kuykendahl Road and Stonefield Road; Approx. 113,000 sq. ft.	Undeveloped land	Multi-family residential
2.	Northwest of the Park & Ride at Kuykendahl Road and Dominion Park; Approx. 400,000-500,000 sq. ft.	Undeveloped land	Multi-family residential
3.	West and adjacent to the Park & Ride; Approx. 1 million sq. ft.	Undeveloped land	Affordable/mixed income multi-family housing
4.	Southwest and adjacent to the Park & Ride; Approx. 300,000-400,000 sq. ft.	Undeveloped land Storage rental	Commercial Retail
5.	North of the Park & Ride at Blue Ash and Kirkstall Drive; Approx. 166,000 sq. ft.	Undeveloped land	Commercial Retail
6.	North of the Park & Ride at Blue Ash and Kirkstall Drive; Approx. 222,000 sq. ft.	Undeveloped land	Commercial Retail
7.	North of the Park & Ride on Blue Ash Drive, south of Airtex Road; Approx. 53,000 sq. ft.	Undeveloped land	Commercial Retail

Park & Ride Area Improvements

Generally, the TOD districts and opportunity sites identified within the scope of this study require additions to the transportation network; block size reduction, pedestrian scaled amenities, and parking facilities. Finally, detailed traffic studies must be conducted before modifying the street network to include bike lanes.

Improvements in the vicinity of the Park & Rides to promote walkability and neighborhood access typically include the following:

- The increased presence of law enforcement along with lighting can convey a sense of safety.
- Smaller block sizes are necessary for both bicyclists and pedestrians to reduce travel distances between the transit facility and their destinations.
- Smaller block sizes increase available street frontage for retail elements on the ground floor of multi-level, mixed-use developments.²
- An adequate sidewalk network around transit facilities encourages walking.
- Connecting to bikeways and adding bike racks and storage facilities at the Park & Ride would promote bicycling.
- Bicycle sharing facilities at the facility in higher intensity, mixed-use areas would promote bicycle use.
- Signalized, signed and painted pedestrian walkways and crossings around the Park & Rides would provide safer pedestrian access.

² Peponis, J., Allen, D., French, S., Scoppa, M., & Brown, J., (2007). Street Connectivity and Urban Density: Spatial Measures and their Correlation. *Proceedings, 6th International Space Syntax Symposium, 4, 4-5.*

- Care should be taken to ensure both sidewalk accessibility and all ramps within the immediate vicinity of the Park & Ride meet all requirements of the American with Disabilities Act.

Specific improvements recommendations for each Park & Ride are identified in this report.

TOD STRATEGIES AND POLICY RECOMMENDATIONS

Perhaps the most critical first step in TOD planning is identifying a diverse set of stakeholders that need to be involved. An effective TOD plan will depend on the active involvement and input of an array of public agencies, private-sector developers and financial firms, non-profits, and community organizations.

METRO Short, Medium, & Long Term Strategies for Park & Rides

METRO can plan for coordinated and supplementary joint development of their Park & Ride facilities by taking short-term, mid-term, and long-term measures. In the short-term, METRO can work with the community, management districts, vendors, and other organizations to share the use of the parking area for social events, such as carnivals, festivals, and promotions during evenings and weekends. By sharing the lot during off-hours, METRO can market the lot as a center of activity and a destination beyond the weekday work hours.

In the mid-term METRO should identify the fundamental transit needs that must be preserved at each lot to ensure safe and efficient transit operations. This includes:

- Identifying the minimum amount of parking to be maintained to accommodate future demand,
- The optimum number of bus bays on the platform and:
- Sufficient bus and automobile access.

A facility with high development demand may require a garage for the transit patrons, which then frees up the rest of the lot for high-density residential or mixed-use development. Regardless of the intensity of development, METRO will prioritize operations to serve its patrons as opportunities for TOD or joint development are explored.

Long-term measures include the actual joint development agreement. METRO can enter into joint development agreements more easily once the operating parameters are established. Development itself can occur in phases over time, gradually increasing in intensity, but with a clear delineation of transit needs, developers know how much they need to invest to meet their goals without compromising the transit needs of the community.

Stakeholder Roles and Responsibilities

Local governments, such as the City of Houston, Harris County, and municipal management districts facilitate the community process with neighborhood stakeholders during the planning and development process. Local governments also possess multiple tools that are important to encouraging TOD such as urban design guidelines, land assemblage, building infrastructure, parking guidelines and management, and utilizing tax increment reinvestment zones (TIRZ) and municipal management districts. Lastly, local governments are responsible for the establishment of policy, regulations, and enforcement related to affordable housing issues.

Developers, including non-profit organizations such as neighborhood development corporations, are responsible for working with local governments to draft and finalize site plans, obtain necessary approvals, secure financing, complete land assembly, and manage construction of the project.

Funding partners are also an important stakeholder as traditional financial institutions typically provide financing that can be used toward infrastructure construction, the development of plans, and more. Funding partners can also include the MPO, state, and federal agencies. Non-profit organizations are also a valuable funding resource and include organizations that provide loans, grants, equity investments, policy support, and technical and management assistance.

The recommendations and strategies identified provide an opportunity for METRO to move beyond the information and analyses developed during the TOD study into actions that can help progress development opportunities in the station areas. METRO will play an active role in influencing transit supportive development by working directly with local jurisdictions, developers, property managers and other stakeholders who can benefit from TOD design and development.

Next Steps

Short and long term recommendations and strategies have been identified however, there are a series of activities that were introduced in the Study Phase of the TOD Project that must be undertaken in the immediate future as next steps to sustain the momentum gained from the study and keep the TOD partners engaged. The immediate next steps are:

1. Continue engagement with the Special Districts using the TOD Marketing Brochure and the framework reports - The deliverables of the study include a framework report as well as a marketing brochure. Both may be used to elicit development interest within the station areas, and to educate the community and other stakeholders on TOD potential in the station area. This would also give METRO the opportunity to continue the dialogue that was initiated with management districts and stakeholders as a part of the study.
2. Coordinate with the City of Houston (Planning, Public Works & Engineering and Economic Development Department), participating agencies and partners to set up the TOD Task Force. During the course of the study, METRO coordinated with the City of Houston's Planning Department and PWE (Public Works and Engineering) to discuss the potential role of multi-agency TOD working group. A group such as this would be instrumental in identifying policy and institutional barriers to TOD implementation and in exploring appropriate solutions.
3. Develop a TOD Pilot Project in coordination with the City of Houston's Economic Development Department - METRO and the City of Houston would coordinate in identifying a METRORail stations as a pilot location and developing a framework to implement a pilot study.

4. Coordinate with HISD and the universities to identify TOD opportunities – As part of METRO’s stakeholder engagement during the TOD study, the project will continue dialogue with HISD and the University of Houston to coordinate efforts with their respective master planning efforts.
5. Continue coordinating with the Housing Authority, LISC (Local Initiatives Support Corporation), the City of Houston’s Housing department and other stakeholders to identify barriers and potential solutions for more workforce housing close to transit.

Finally, long-term analysis of TOD should entail continual monitoring characteristics such as population, employment, housing tenure, racial and ethnic composition, median household income, housing costs, in-migration, journey-to-work and auto-ownership, among others. Working together with the tools identified in this document, METRO and other TOD stakeholders can make a lasting impact in the community, creating more sustainable communities with walkability, economic development, transit usage, and healthier neighborhoods.

1 Introduction

1.1 Project Overview

METRO initiated the Transit Oriented Development (TOD) study for select Park & Rides in an effort to encourage new development opportunities around the Park & Ride Facilities, specifically the Addicks, Kingwood, Kuykendahl, and Westchase Park & Rides. Property development potential exists in the vicinity of these lots. TOD is characterized by compact, walkable, mixed-use development at or near bus or rail transit facilities. TOD can contribute to the increased use of transit and improved access. The combination of these changes creates a more cohesive neighborhood and a sense of place. In addition, TOD leverages transit infrastructure investment to promote economic development and sustainable growth, thus creating value for both the public and private sectors. METRO's Board has taken steps to encourage TOD by developing TOD Goals and Strategies in September 2012. Additionally, the City of Houston and the Houston-Galveston Area Council (H-GAC) share similar TOD-supportive goals and policies, which are further examined.

1.2 Objectives

METRO's commitment to undertake this effort was a condition of the Full Funding Grant Agreement (FFGA) with the Federal Transit Administration (FTA), executed on November 28, 2011 for the construction of light rail transit lines. Associated with this effort, METRO will partner with H-GAC to highlight development and development opportunities around selected Park & Ride facilities that could serve as catalysts for increased development and transit ridership.

The primary objective of this study is to determine opportunities for TOD on and around promising Park & Ride facilities that can benefit from the region's investments in transit as evidenced by increased patronage. The TOD framework will demonstrate market potential of each Park & Ride facility in the current economic climate in Houston. The key items developed through this study include:

- A visioning and marketing tool provided to public and private developers that can stimulate ideas for quality urban infill development. This tool will also make the case for the economic viability for several development product types at specific METRO facilities;
- A market assessment and existing conditions analysis at each lot conducted by CDS Market Research (Appendices A-D); and
- Recommendations for leveraging existing policy or development tools or developing new actions that METRO, the City of Houston, H-GAC, respective special districts and others could consider toward improving development opportunities.

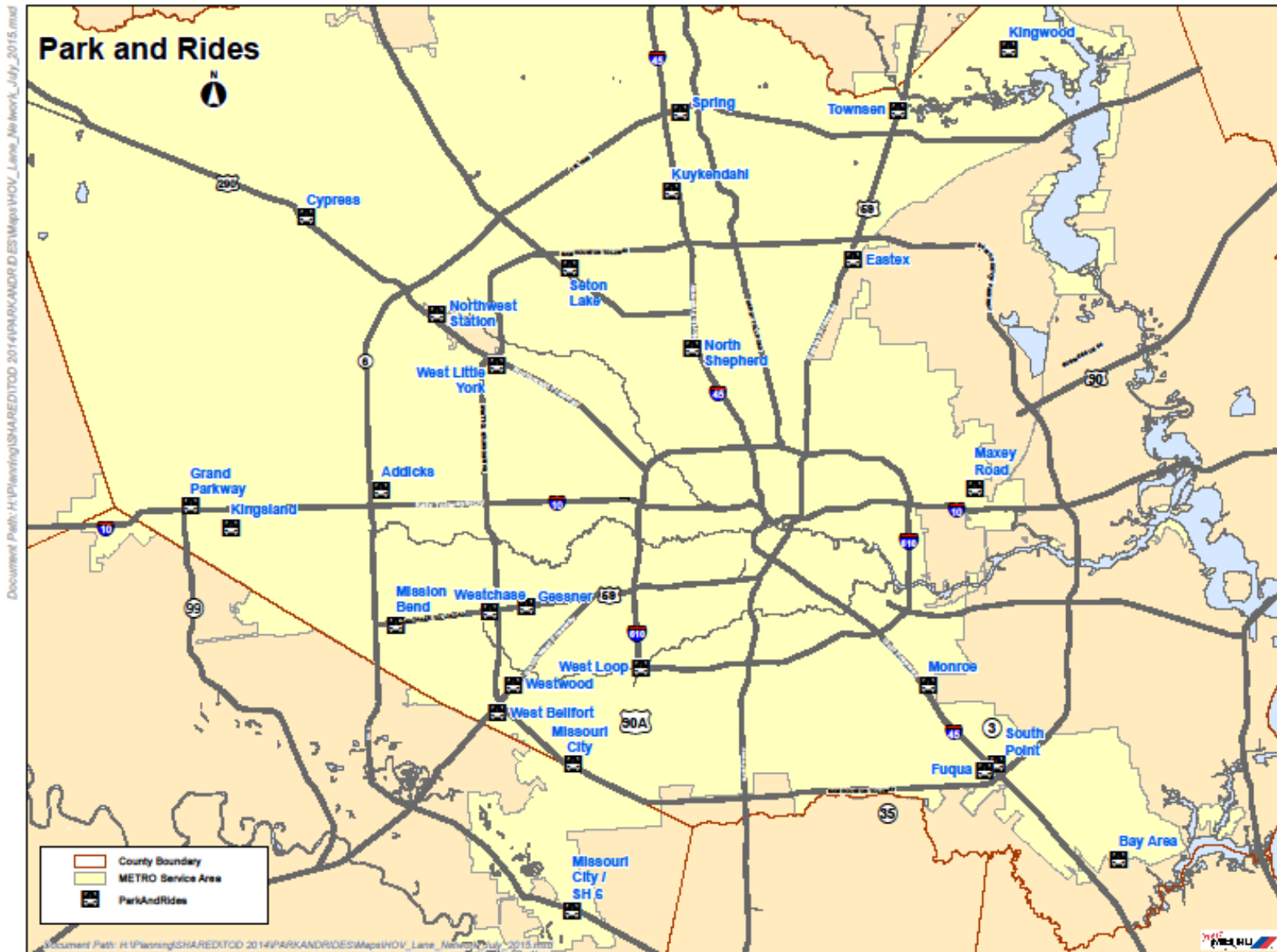
1.3 Approach

Several key approaches determined the direction for the overall project. This included identifying priority locations for the Study; conducting stakeholder interviews with both community stakeholders and the private development community and working in partnership with both the City of Houston and H-GAC.

1.3.1 Prioritizing Locations

METRO operates 26 regional Park & Ride facilities served by the METRO commuter bus system. The Park & Ride locations are distributed throughout the METRO service area and are served by over 100 miles of High Occupancy Vehicle/Toll (HOV/HOT) Lanes (**Figure 1-1**). In order to best use the resources available for TOD Study, it was important to prioritize and identify those METRORail stations and Park & Ride facilities that are the most suited for future growth, making them viable locations for further evaluation.

Figure 1-1: METRO Park & Ride and HOV/HOT Lanes



METRO, in collaboration with H-GAC, identified four Park & Rides for TOD evaluation. To determine which Park & Ride locations warrant an in-depth TOD analysis, H-GAC staff made several on-site visits and reviewed data produced by METRO. Based on observations of existing conditions and examinations of land use, access and bike and pedestrian circulation within the 0.5 mile radius surrounding each location, H-GAC has recommended that the Addicks, Kingwood, Kuykendahl, and Westchase Park & Ride facilities be evaluated (**Appendix A**).

1.3.2 Methodology and Milestones

The TOD study is comprised of four key milestones. The first step was to document the existing conditions which included examining current land use, population, employment, auto and pedestrian infrastructure within a 0.5-mile radius of the Park & Ride and looking at other factors that influence development around the Park & Ride.

The market assessments report is another key milestone in the study. Market assessments at each Park & Ride helped provide an economic outlook for various development types in the area. CDS Market Research has defined a Competitive Market Area (CMA) as the boundary that contains the majority of existing residential and commercial facilities influencing the future development of the area within a 0.5-mile radius of each facility. For purposes of this analysis, CDS researched primary and secondary data sources to measure current and projected population, household and demographic data relating to the 0.5-mile radius of the Park & Ride, the CMA and to comparisons with Harris County and the overall Houston Metropolitan Statistical Area (MSA).

As part of the market assessments for each Park & Ride, METRO conducted interviews with local developers and real estate experts, who provided insight into their market knowledge of the area. Each developer also shared their experience with developing or investing in the area, and discussed perceived and real barriers and opportunities to developing around the Park & Rides.

The next step was to use the existing conditions and market assessment data to identify development opportunities around the lots, exclusive of single-family residential property. Finally, in collaboration with the project

partners and including project data and interviews, a potential massing diagram was developed for each location that identified the types and mixes of land use that would encourage the use of transit, biking, walking, while still processing operational efficiency of the site. TOD scenarios were developed for each location.

1.3.3 Partners

METRO recognizes that in order to build upon previous efforts and fully understand development changes in the city as well as the transit facilities, the City of Houston and H-GAC as the Metropolitan Planning Organization (MPO) would need to provide technical assistance and guidance to the study. Therefore, the Technical Advisory Group (TAG) was created to review and evaluate technical work and provide study oversight to ensure that the goals and objectives of the study were being met. They also provide perspectives and guidance from both agencies as well as internal METRO staff.

1.3.4 Stakeholder Interviews

As part of the overall project process, the project teams met with community members, developers, management districts and key property owners to understand what their perceived barriers were to potential TOD projects in and around the METRO facilities.

1.3.5 Existing Studies

The Energy Corridor District provided value to this effort from the onset through the Energy Corridor Master Plan, currently in development. The plan being prepared by Sasaki Associates recommends improved internal circulation within the Energy Corridor and connections to the Addicks Park & Ride. The plan proposes a circulator route connecting the Park & Ride with major employers in the Energy Corridor, a concept consistent with the district's mobility vision. The plan also proposes joint development on the Park & Ride site with multi-family and office uses along with structured parking for the existing Park & Ride facility.

METRO along with project partners H-GAC, also coordinated a discussion with the Housing and Community Development Department, The Houston Housing Authority, Local Initiatives Support Corporation (LISC), and various departments within the City of Houston including Planning, Public Works and Engineering and Economic Development divisions.

1.3.6 METRO's New Bus Network

METRO is currently implementing bus service modifications by way of the New Bus Network (NBN) Initiative. The purpose of the NBN is to take a fresh look at the METRO service area and design a regional transit system from the ground up with a “blank-slate” approach. METRO is moving from a hub and spoke system routing connections through downtown to a grid system redesigned with proposed benefits such as:

- Easier to understand and use
- Connecting more people to more jobs
- Providing much better weekend service
- Better serves METRO's current riders
- Providing faster, more reliable trips
- Built to support future growth (METRO *Transit System Route Reimagining*, 2014)

The first phase of METRO's NBN changes became effective on August 16, 2015. It is important to note that this study was conducted prior to the implementation of the NBN; therefore NBN information was not available for this study.

2 Addicks Park & Ride

The Addicks Park & Ride is one of 26 regional Park & Ride facilities served by the METRO commuter bus system (**Figure 2-1**). The facility also accommodates cyclists and motorists with bike racks and 2,348 parking spaces, respectively.



The Addicks Park & Ride is located in a rapidly developing area of the Energy Corridor. The Energy Corridor is home to numerous energy companies and the related industries such as engineering, exploration and production. The Energy Corridor District, a 1,700-acre management district provides development support and marketing for the businesses in the Energy Corridor (**Figure 2-2**). New office developments are planned immediately to the north and to the east of the Park & Ride, which could mean more demand for multi-family housing and a higher demand for hotel/motel rooms.

For the purpose of this study, the CMA includes the Energy Corridor District and the Addicks and Barker Reservoirs, which are natural barriers to development (**Figure 2-3**).



Figure 2-1: Addicks Park & Ride

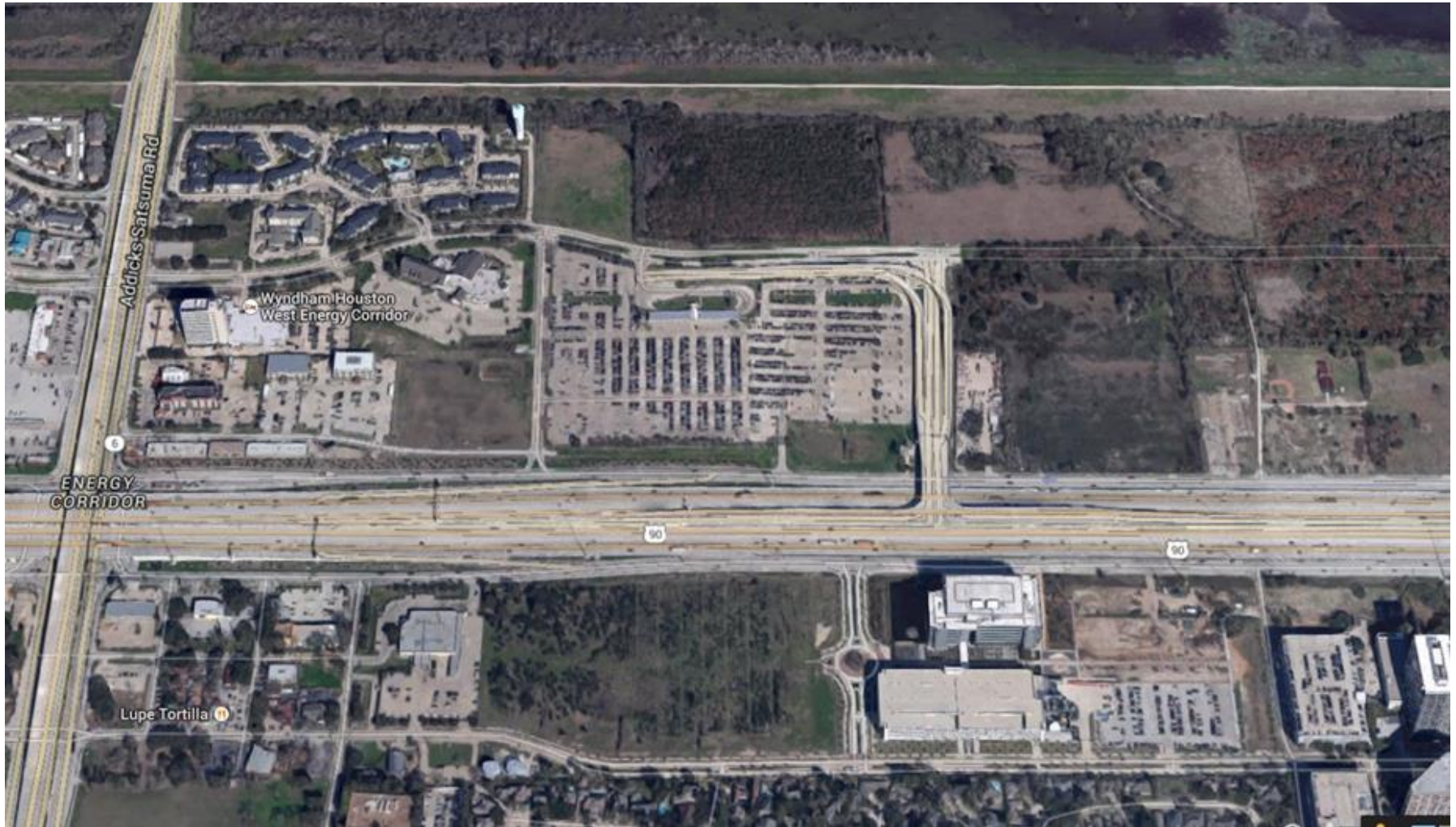


Figure 2-2: Energy Corridor Management District

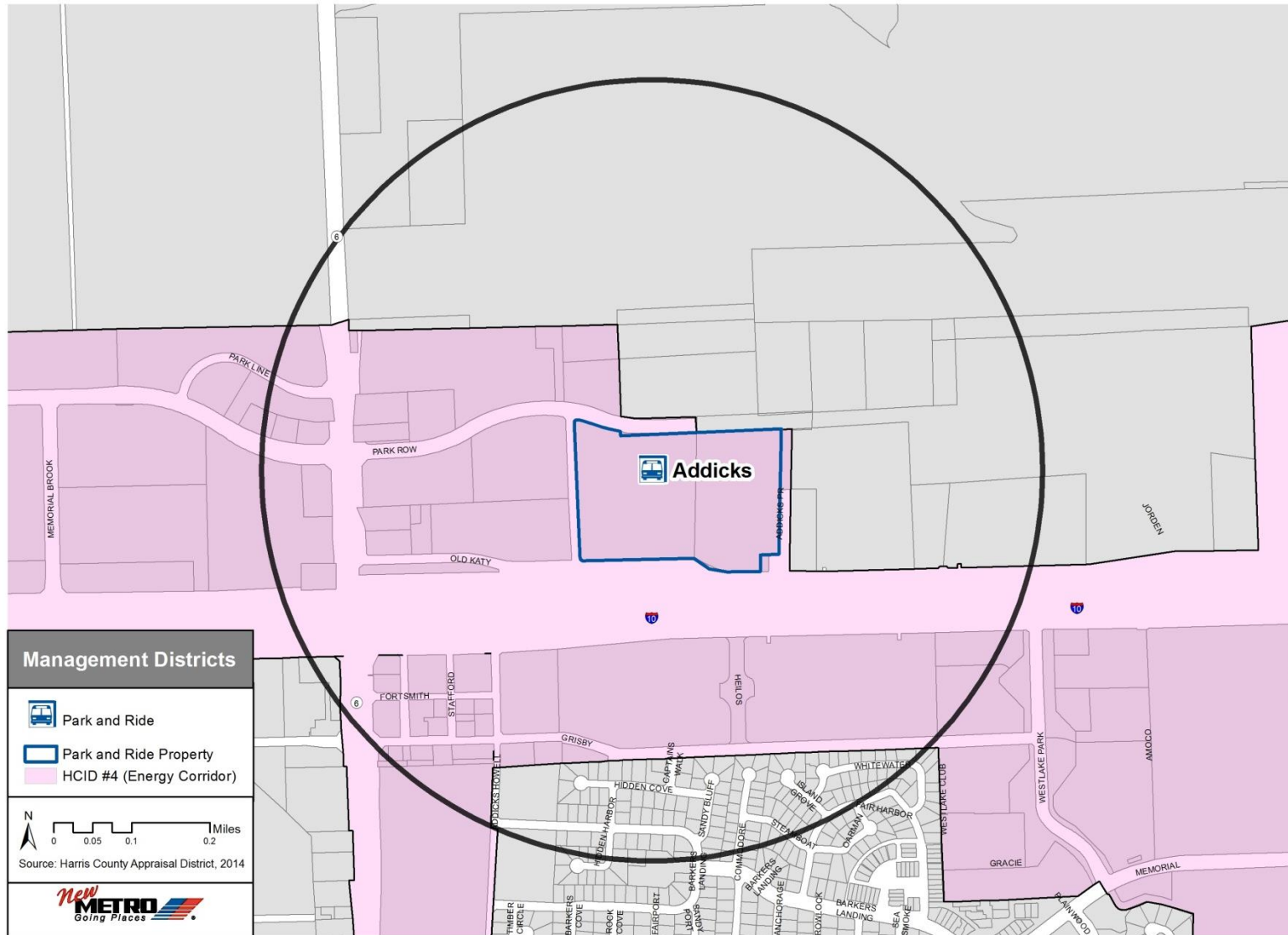
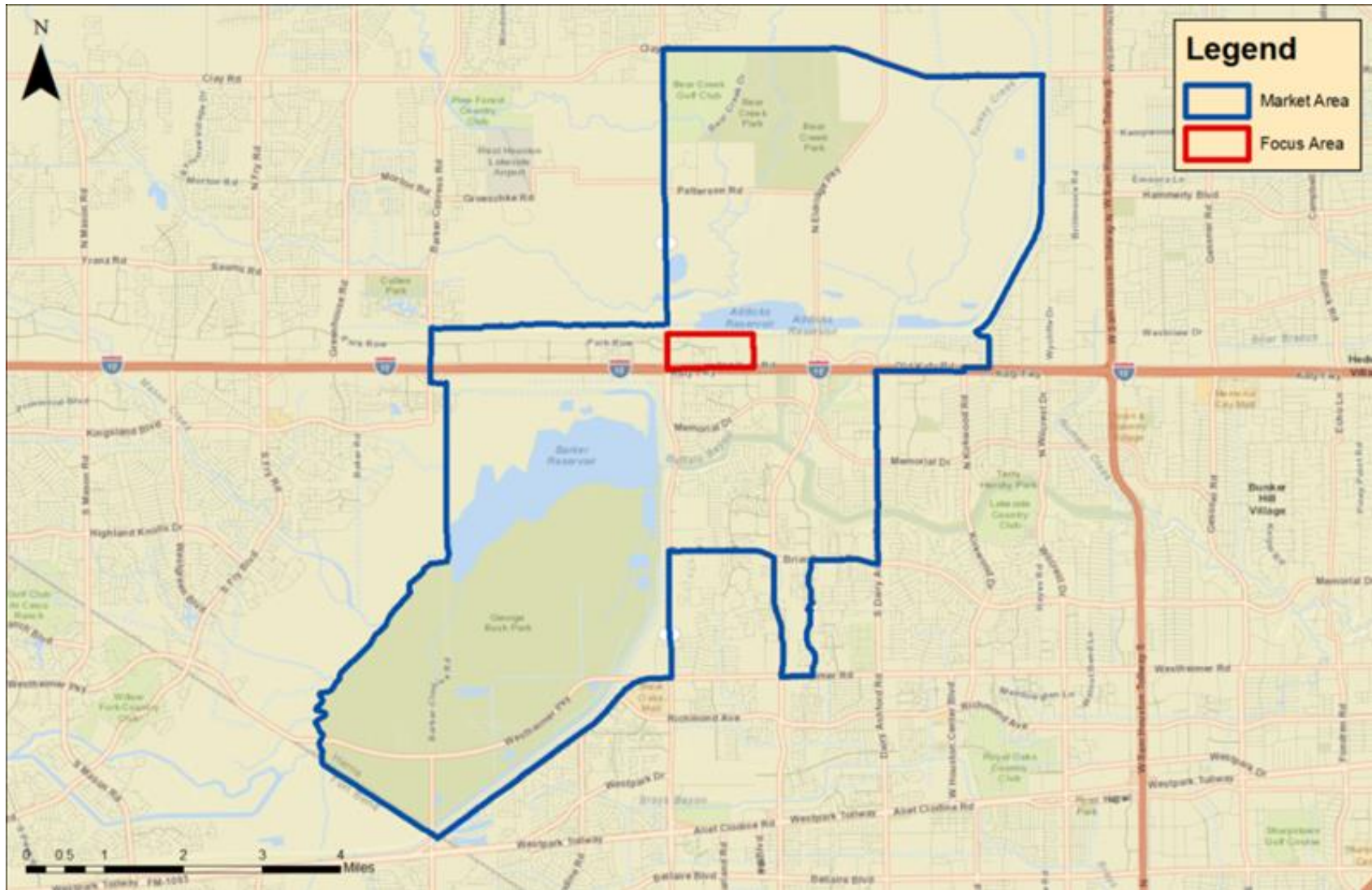


Figure 2-3: Study Area and CMA



Source: *Development Potential-METRO Addicks Park & Ride*, CDS Market Research, page 9, 2014.

2.1 Demographics

The total population growth in the CMA was slightly greater than that of both Harris County and Houston MSA; Growth in the number of households is only slightly lower than that of the population. The average household size is small, at only 2.27 which indicate a higher population of young singles and married couples in the area.

Approximately 49 percent of residents in the CMA over the age of 25 hold a Bachelors, Masters, Professional, or Doctorate degree. This is considerably higher than the averages in Harris County and the Houston MSA.

The major economic force in the Energy Corridor is the number of jobs located here; about 62,000 and the potential for 15,000 new jobs to be created in the next five to ten years. Most of current and future jobs are in oil and gas industry and will require professional degrees or specialized training.

Median household income and the effective buying income (EBI) per household indicate the potential for more residential development and commercial development to support the increasing population. The median household income within the CMA is \$64,338, higher than both Harris County and the Houston MSA at \$51,493 and \$56,573, respectively.



Table 2-1: Population and Household Historical Trends and Short-Term Projections

POPULATION	2000 CENSUS	2010 CENSUS	2014 ESTIMATE	2019 PROJECTION	GROWTH 00-10	GROWTH 10-14	GROWTH 14-19
CMA	32,160	42,146	45,295	49,534	31.1%	7.5%	9.4%
Harris County	3,400,578	4,092,459	4,285,034	4,626,152	20.4%	5.1%	8.0%
Houston MSA	4,693,161	5,920,016	6,251,248	6,776,664	26.2%	5.6%	8.4%

HOUSEHOLDS	2000 CENSUS	2010 CENSUS	2014 ESTIMATE	2019 PROJECTION	GROWTH 00-10	GROWTH 10-14	GROWTH 14-19
CMA	14,251	18,694	19,916	21,670	31.2%	6.5%	8.8%
Harris County	1,205,516	1,435,155	1,500,011	1,619,300	19.1%	4.5%	8.0%
Houston MSA	1,648,148	2,062,529	2,176,602	2,359,640	25.1%	5.5%	8.4%

Source: *Developmental Potential, METRO Addicks Park & Ride, CDS Market Research, 2015.*
American Community Survey Census Data 2012; PCensus for Map Info, Copyright 2013 Tetrad Corporation

2.2 Land Use

The Addicks Park & Ride is located on the north side of IH 10 just east of State Highway 6 (SH 6) and west of Eldridge Parkway. North of the Park & Ride lies the Addicks Reservoir and west of SH 6 is the Barker Reservoir, which comprises a large portion of the CMA. As the land use and location maps show (**Figure 2-4**), the area is a combination of office buildings, single and multi-family housing, with commercial/retail along the transportation corridors, and limited residential land uses.

Single-family residences are a small portion of the study area and with the demand for office and multi-family use, there is limited potential for detached housing. The only single-family use in the study area is a fully developed, stable neighborhood south of IH 10.

Multi-family development shows two Class A projects in the 0.5-mile study area. A 342-unit project is currently under construction to the north and the south of the Park & Ride and includes garages for the residents. Another project within walking distance will have about 250 units and will be located just north of the Park & Ride across Park Row Drive.

In addition, two new projects will add over three million square feet of office space to properties near the Park & Ride.

There are 3,378 hotel units located in the CMA and 490 (14.5%) are located within the study area. Commercial/retail development potential is limited within the study area with barriers north and south that limit access the study area.

Two institutional uses are within the 0.5-mile study area, Maurice L. Wolfe Elementary and Addicks United Methodist Church. These institutions are listed in **Table 2-2** and shown in **Figure 2-5**.

Table 2-2: Schools and Places of Worship

NUMBER	NAME	NOTES
1	Maurice L. Wolfe Elementary School	Elementary School
2	Addicks United Methodist Church	Christian – Methodist

The major economic force in the CMA is the amount of jobs in the area, which is in excess of 62,000; as well as the potential for new jobs. In the next five to ten years, there is the potential to create over 43,000 additional jobs³

Several natural and constructed barriers to development occur within the study area. The man made barrier of IH 10 to the south, the natural barrier of Addicks Reservoir to the north and the current gap in the street network to the east of the site, make the 0.5-mile study area difficult to access. Additionally, the lack of visibility from IH 10 makes it difficult to entice drivers into the study area. Finally, the location of Wolfe Elementary School in the southwest portion of the study area could limit dining and entertainment uses that serve alcohol, especially in Grisby Square.

Despite these barriers, the amount of vacant/undeveloped land north and east of the Park & Ride presents several opportunities for development. Several large tracts are well suited for development once Park Row Drive is completed and access to Eldridge Parkway is available.

³ These forecast are based on economic conditions at the same time of study development.

Figure 2-4: Land Use

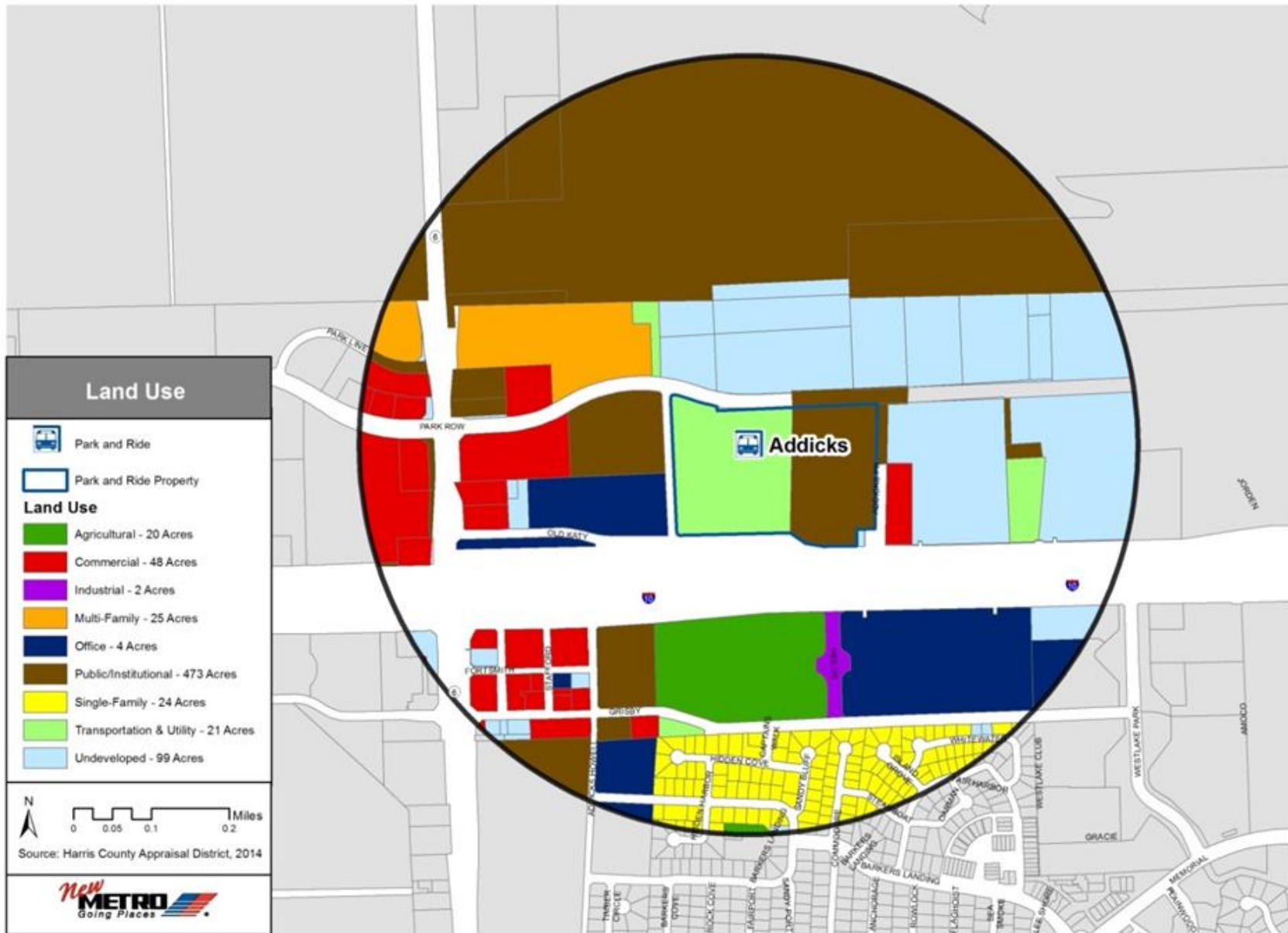
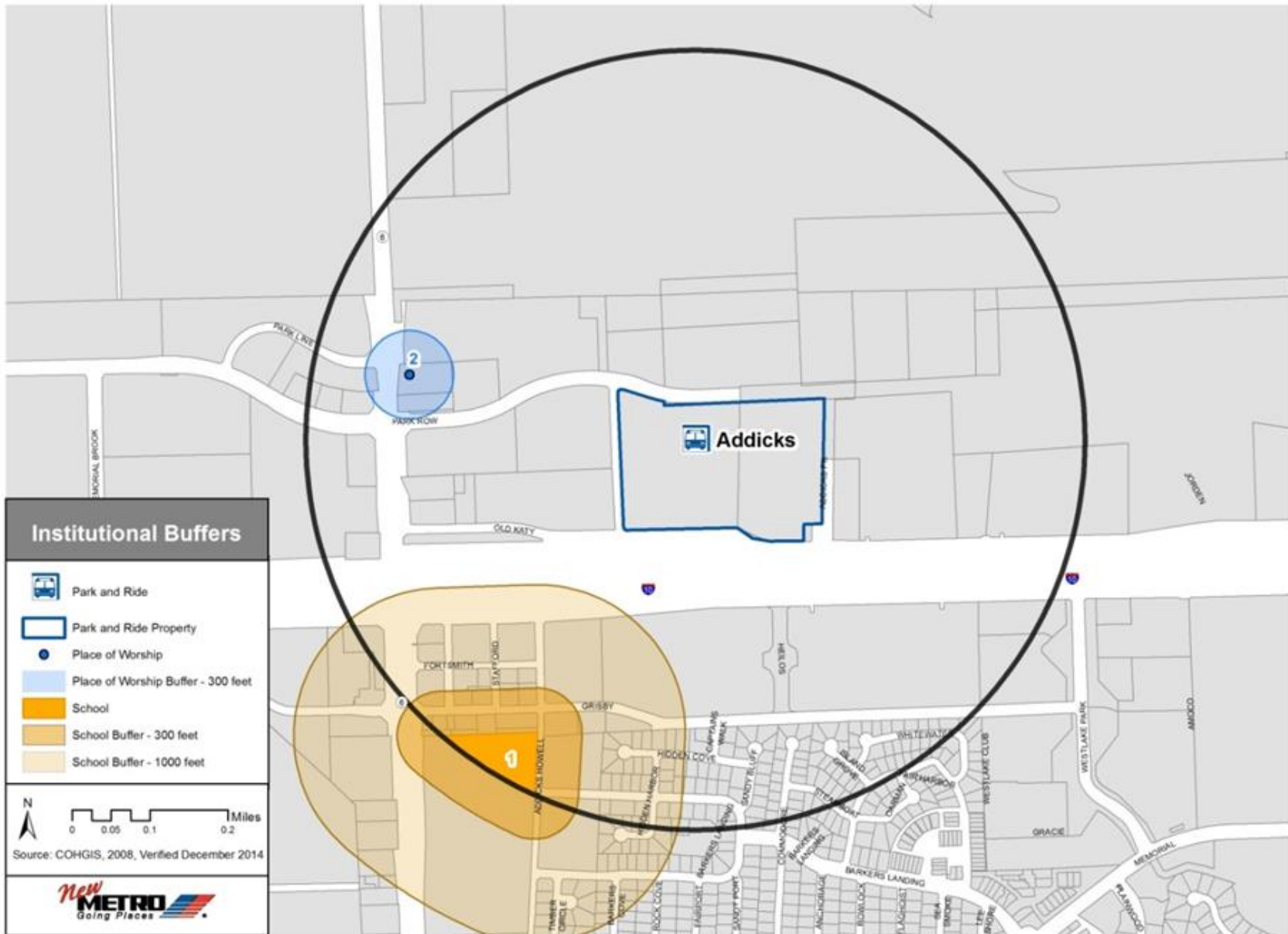


Figure 2-5: Schools and Places of Worship



2.3 Connectivity

With certain infrastructure and network connectivity improvements, the Addicks Park & Ride area and its surroundings can provide several opportunities for multimodal transit.

Sidewalks exist on Park Row Drive and both the IH 10 frontage roads. Properties south of IH 10 have sidewalks but crossing IH 10 is intimidating for most pedestrians. Sidewalks on the north-south streets accessing the Park & Ride and connecting the frontage road and Park Row Drive are discontinuous. **Figure 2-6** shows the sidewalks and major thoroughfares in the study area.

On-street parking is available on local streets, but the bulk of parking is provided by garages associated with office buildings or on commercial surface lots.

Table 2-3 summarizes the multimodal connectivity and accessibility of the facility.

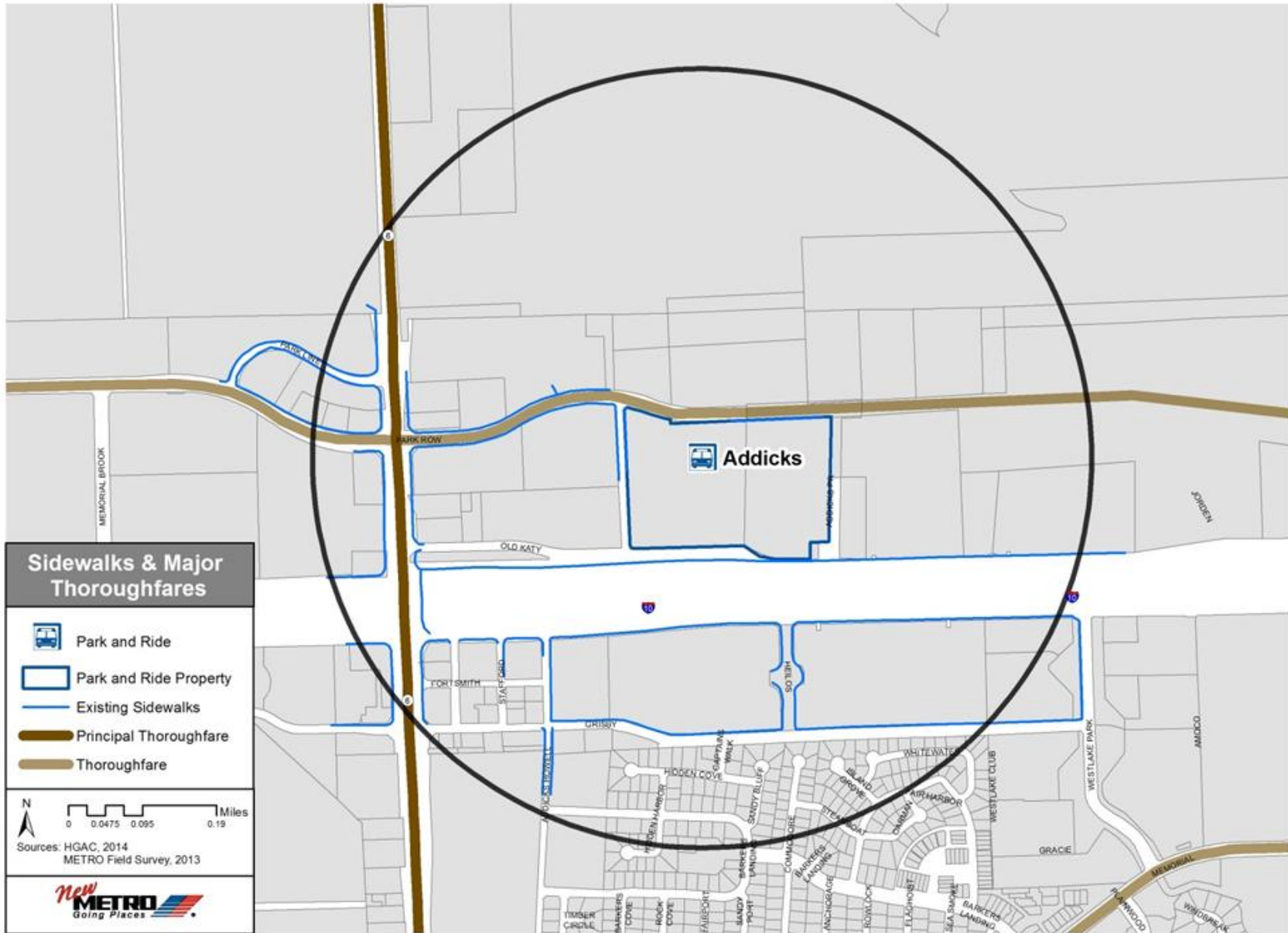


Source: Terry Hershey Park Bike Trails EnergyCorridor.org

Table 2-3: Connectivity and Accessibility

ACCESS	GOOD	FAIR
Street Grid		<ul style="list-style-type: none"> ▪ Park Row Drive is discontinuous. ▪ Access only from SH 6 or IH 10 frontage road
Pedestrian (Block Sizes)	<ul style="list-style-type: none"> ▪ Sidewalks connect nearby apartments. 	
Vehicles		<ul style="list-style-type: none"> ▪ High congestion on SH 6 and IH 10.
ADA	<ul style="list-style-type: none"> ▪ All the sidewalks are ADA compliant. 	
Bicycles		<ul style="list-style-type: none"> ▪ Bike trail connection to south of IH 10
Adjacent Parking	<ul style="list-style-type: none"> ▪ Sufficient parking for commuters 	
Kiss & Ride Drop Off	<ul style="list-style-type: none"> ▪ Sufficient drop-off space 	

Figure 2-6: Street Network and Sidewalks



2.4 Bus Routes and Bikeways

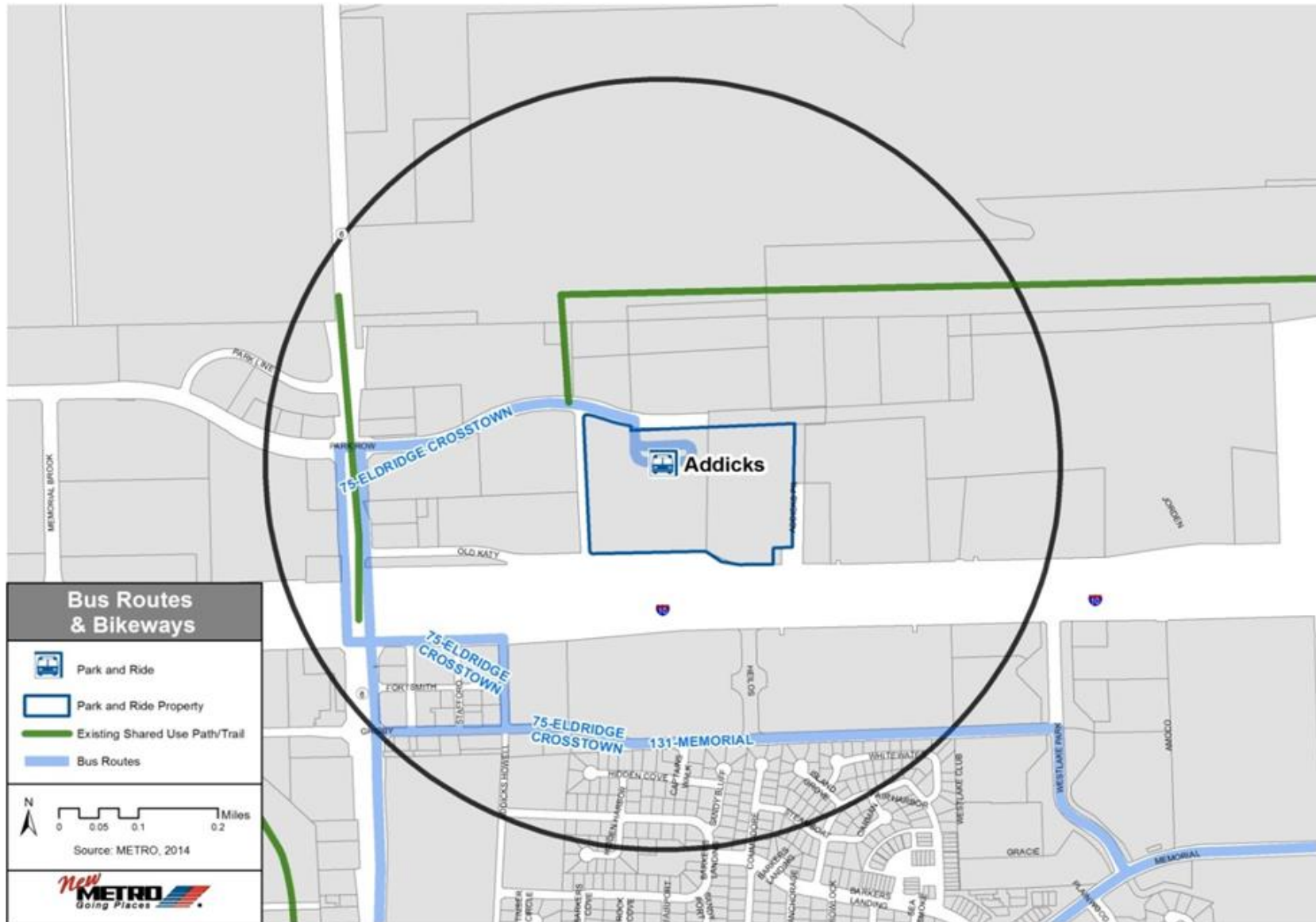
The Addicks Park & Ride is served by both local and commuter service (**Figure 2-7**). As part of the City of Houston, the Energy Corridor District is coordinating its plans with the City of Houston’s Bikeway Program which offers a 345-mile bikeway network that spans the city. These networks include bike lanes/routes, shared lanes, bayou trails, rail-trails, and other urban multi-use paths. The Terry Hershey Park trail crosses under IH 10 from the south and runs along the base of the Addicks Reservoir dam to connect to the Addicks Park & Ride. As of June, 2015, the utilization rate for Addicks Park & Ride was approximately 60 percent⁴.

The primary barrier to multimodal connectivity is the IH 10 freeway, which separates the Park & Ride from the core of the Energy Corridor employment. The discontinuous Park Row Drive allows automobile access to the Park & Ride from only SH 6 and the freeway frontage road. Pedestrian and bicycle access from south of IH 10 are possible but limited to the SH 6/IH 10 interchange or the spillway from Addicks Reservoir that passes under the freeway and connects to the bike trails along Buffalo Bayou. The constrained accessibility is highlighted in **Figure 2-10** for a quarter mile and half-mile.



⁴ Third Quarter Vehicle Count, Metropolitan Transit Authority of Harris County, June 2015.

Figure 2-7: Bus Routes & Bikeways



Note: Due to the timing of the implementation of New Bus Network, the Bus Routes and Bikeways map does not reflect METRO's current network.

2.5 Developer Interviews

The Energy Corridor Management District and developers with interests in the Energy Corridor were interviewed regarding the development opportunities in the study area. A summary of their comments is below:

- The largest concentration of vacant/undeveloped property lies north of IH 10 in the study area making the area attractive for development.
- The study area is isolated with limited access. The completion of Park Row Drive to Eldridge Parkway is important to opening up the property for development.
- Recent development of over 2,900 apartment units in the CMA has satisfied short term demand, but longer term demand may require additional multi-family housing.

Over 9 million square feet of office space is planned or in development in the CMA. Approximately 4.6 million square feet of office space is planned for energy related business and 1.5 million square feet is designated for



medical use, leaving approximately three million square feet.

2.6 Market Trends and Opportunities

The following section summarizes market findings and recommendations regarding the development outlook for the Addicks Park & Ride area⁵.

2.6.1 Market Trends (CDS Market Research)

Development of over three million square feet of office space in the 0.5-mile study area will potentially bring in 15,000 new employees. One of the new office sites is adjacent to the Park & Ride to the east (Transwestern at 1.5 million square feet) and one is just across Park Row Drive to the north (Core at 1.6 million square feet).

Both sites are within easy walking distance of the facility, although currently, the area is not pedestrian-oriented. Given the amount of new office development planned in the next five to ten years, a joint venture with the planned office space might be best viewed as an excellent long term investment.

Multi-Family Residential

The one 342-unit project under construction is not close to the Park & Ride and has garages for the residents. The other project will have about 250 units and will be located just north of the Park & Ride across Park Row Drive. The unit mix is mostly one bedroom (60 percent) and two bedrooms at (35 percent). This project, although not yet announced, may have the potential for shared investment of some form. Such thinking should be pursued by METRO for the Park & Ride site, as new office space will continue to generate new apartment demand.

⁵ *Development Potential, METRO Addicks Park and Ride, CDS Market Research, 2015*



Hotels

There are no plans for new hotels in the 0.5-mile study area at this time. Interviews with stakeholders and other parties all agree that a new high-end hotel with meeting and convention facilities is greatly needed in the area. With room rates increasing, occupancy decreasing and high-end hotel revenue being lost outside of the CMA, this presents an excellent opportunity for an investment. With 15,000 new employees in the study area and probably another 30,000 new employees in the CMA over the next five years, more high-end hotel rooms with meeting and convention facilities will be in demand.

Retail/Service Development

Retail/service development in the study area will be difficult. Despite hosting up to 15,000 mostly white collar jobs over the next five to ten years and being located in an area with household EBI of \$77,287, the study area is not well positioned for retail development between Addicks Reservoir and IH 10. The employees in the study area are only present during working hours Monday through Friday, leaving the essential evening and weekend trade periods empty.

As the study area develops and the east side access opens up along Park Row Drive restaurant demand may open up. Any amount of retail designed to appeal on weekends and nighttime will require some other

significant non-retail activity generator with 7-day per week, 18-hour per day appeal. Retail uses with longer activity hours may be possible fronting the freeway if property access from the frontage road can be improved.

The future of the oil industry and the upstream (exploration and production) sector specifically, has been affected by the dramatic slide in oil prices. The Energy Corridor in particular and Houston in general are starting to experience reduced workforce and greatly pulling back plans to hire new employees for upstream functions. New development of office buildings, multi-family residential and hospitality space within the study area is not recommended for the near term. Hopefully, as oil prices rise to more profitable levels over the next two to four years the vacant supply of office and multi-family will be absorbed and demand will increase enough to warrant new projects at the Addicks Park & Ride site.

2.6.2 Opportunity Sites



Development opportunities exist both internal and external to the Addicks Park & Ride facility. Internal opportunities include sharing the Park & Ride property with moderate density development such as:

- The Energy Corridor District Master Plan includes a concept for joint development on the Addicks Park & Ride property shown in **Figure 2-8**.
- The Park & Ride itself is well-located and of sufficient size to be a potential redevelopment site, suitable for office, multifamily, hotel, and possibly a small amount of daytime retail. Bus operations are not necessarily an inhibitor of adjacent uses if physical design is well-done.

Joint development of the Addicks Park & Ride has short-term, mid-term, and long-term components. Short-term plans include sharing the lot with area events, such as the Energy Corridor's Energy Fest, to make use of the lot during evenings and weekends and as a marketing tactic to focus attention of the potential of the facility for more than just a parking lot. Mid-term actions are composed of METRO drafting a policy of shared use and

joint development standards identifying their optimal transit needs. Required number of parking spaces, bus bays on the platform, and access standards should all be elements of this policy. Once this policy is defined, third party interests can better determine what level of joint development is suitable. Long-term actions are the actual joint development activities: finding partners, lease agreements, development designs, and construction.

External development opportunities include properties adjacent or across the street from the Park & Ride. **Figure 2-9** and **Table 2-4** show the development at various locations that have the potential to take advantage of the Addicks Park & Ride.

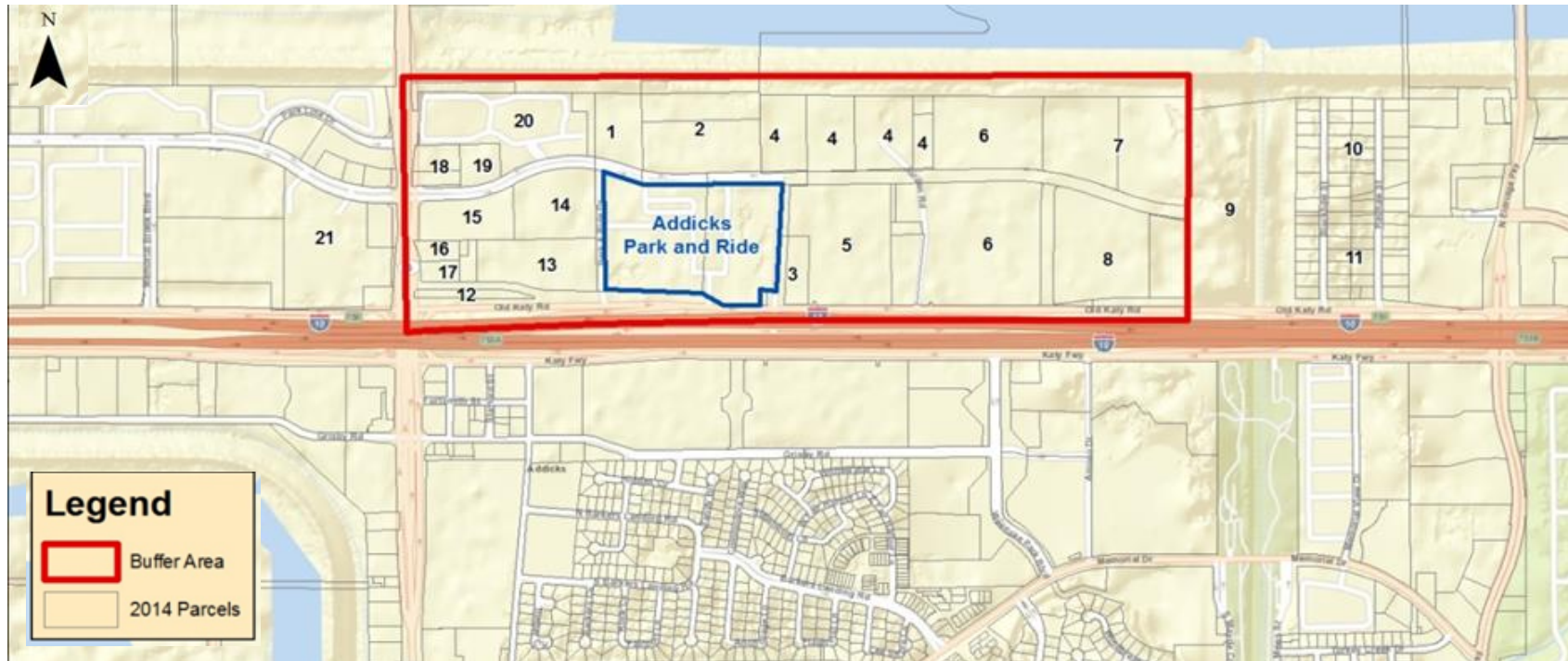


Figure 2-8: Energy Corridor Master Plan – Addicks Joint Development



Source: Energy Corridor District Master Plan Presentation, slide 70, 2015.

Figure 2-9: Area Development



Source: *Development Potential-METRO Addicks Park & Ride*, CDS Market Research, page 20, 2014.

Table 2-4: Development Opportunity Sites Matrix

#	MAP KEY	#	MAP KEY
1	Vacant Land – Berstein Perwien; Land not for sale	10	McCasin – Future apartments; no time frame or number of units
2	Land sold for apartments – Approximately 9 acres; possibly 225-250 units	11	Possible hotel site – May be Doubletree
3	South Texas Brick and Stone	12	Addicks 10 Business Park – 25,000 square feet
4	Core West – 1.6 million square feet of office; beginning construction fall 2014	13	Berstein Perwien – Partially developed office site; includes small office and Strayer University Katy Campus
5	Transwestern Pinnacle – Probable 1.5 million square feet of office planned; no time frame	14	Korean Central Presbyterian Church
3	MD Anderson Hospital – Hospital and medical office planned; possibly by 2017 likely later	15	Vacant Land – Berstein Perwien; Land not for sale
7	Worthing – Central Park West; 342 apartments under construction	16	Cattle Guard Restaurant
8	Wolf – Future office development; 452,719 square feet	17	Drury Inn & Suites ; 119 rooms
9	U.S. Corps of Engineers – land	18	Addicks United Methodist Church
		19	Homewood Suites Hotel ; 74 rooms
		20	Arcadian West Apartments ; 318 units
		21	Future Mercedes Benz Dealership – Former Sam’s Club existing building

Source: *Development Potential-METRO Addicks Park & Ride*, CDS Market Research, pages 20-21, 2014.

2.7 Park & Ride Improvements

Targeted investments in sidewalk infrastructure, roadway drainage, pedestrian scale lighting, bike facilities, and structured and/or on-street parking can help to facilitate the connections between TOD and the transit facility. Detailed traffic studies must be conducted before modifying the street network to include bike lanes.

Figure 2-10 shows the one-quarter mile walkshed, the area covered by following existing sidewalks and shared-use paths.

The following short and medium term improvements may enhance multi-modal connectivity in and around the facility:

- As the study area develops and more patrons' park and stay in the area, a circulator to surrounding local office areas will be well used. This concept is proposed in the Energy Corridor Management District's (ECMD) master effort (2015). Further coordination with the ECMD would be required to assess operations and cost.
- Add bike lanes to Park Row Drive linking the Park & Ride to the Buffalo Bayou Bike Trail via a future extension of Park Row Drive.
- Street, path, and intersection improvements include additional walkways along Park Way and Memorial Drive.
- Adding a bikeway along Addicks-Howell Road could benefit Wolfe Elementary students.

Longer term improvements include:

- The Energy Corridor District has proposed a new structure crossing IH 10 with open space, park amenities for convenient and safe pedestrian and bicycle access over the freeway.
- Widening sidewalks along IH 10's frontage road to improve safety.
- Coordinate with Energy Corridor Management District and the City of Houston to integrate new road segments into planned developments to reduce block sizes and relieve congestion levels on arterial roadways.

- The Park & Ride itself is well-located and of sufficient size to be a potential redevelopment site, suitable for office, multifamily, hotel, and possibly a small amount of daytime retail. Bus operations are not necessarily an inhibitor of adjacent uses if the physical design includes sufficient accommodations for the transit activities and incorporates them into the design of the development.



Figure 2-10: Accessibility Walkshed



3 Kingwood Park & Ride

The Kingwood Park & Ride is located in Kingwood, Texas, and is the second largest master planned community in the region with estimates of 60,000 to 70,000 residents within 15,000 acres. The community has been a popular residential community due in part to 75 miles of greenbelts and 500 acres of private parks and nature preserves. The community is essentially built-out with only small areas of newer infill housing near the Park & Ride, while new tract housing development is concentrated to the northeast of the facility.



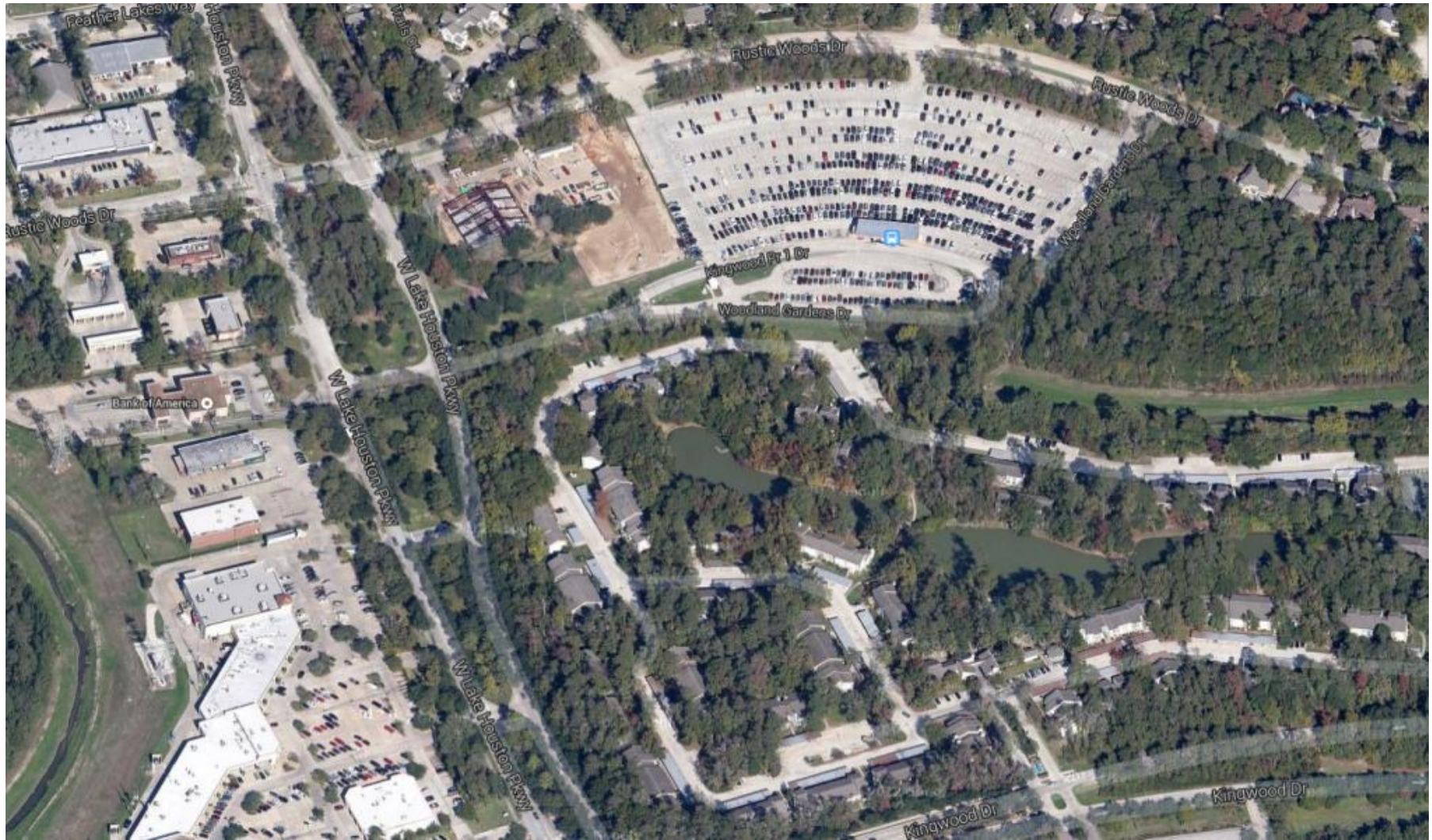
The Kingwood Park & Ride is located roughly four miles east of U.S. Highway 59 just north of the intersection of Kingwood Drive and West Lake Houston Parkway (**Figure 3-1**). The Park & Ride extends north to Rustic Woods Drive and includes access for ingress and egress. Within the 0.5-mile radius of the Park & Ride are Kingwood Drive and West Lake Houston Parkway, which serve as the primary travel corridors and contain retail, medical office, and service sites.

One special district that could provide development assistance is the Lake Houston Tax Increment Reinvestment Zone (TIRZ #10), formed when the



City of Houston annexed Kingwood in 1996 (**Figure 3-2**), and the associated Lake Houston Redevelopment Authority later formed to assist the City in implementing area capital improvement projects.

Figure 3-1: Kingwood Park & Ride



Source: *Development Potential-METRO Kingwood Park & Ride*, CDS Market Research, page 1, 2015.

Figure 3-2: Lake Houston Tax Increment Reinvestment Zone (TIRZ #10)

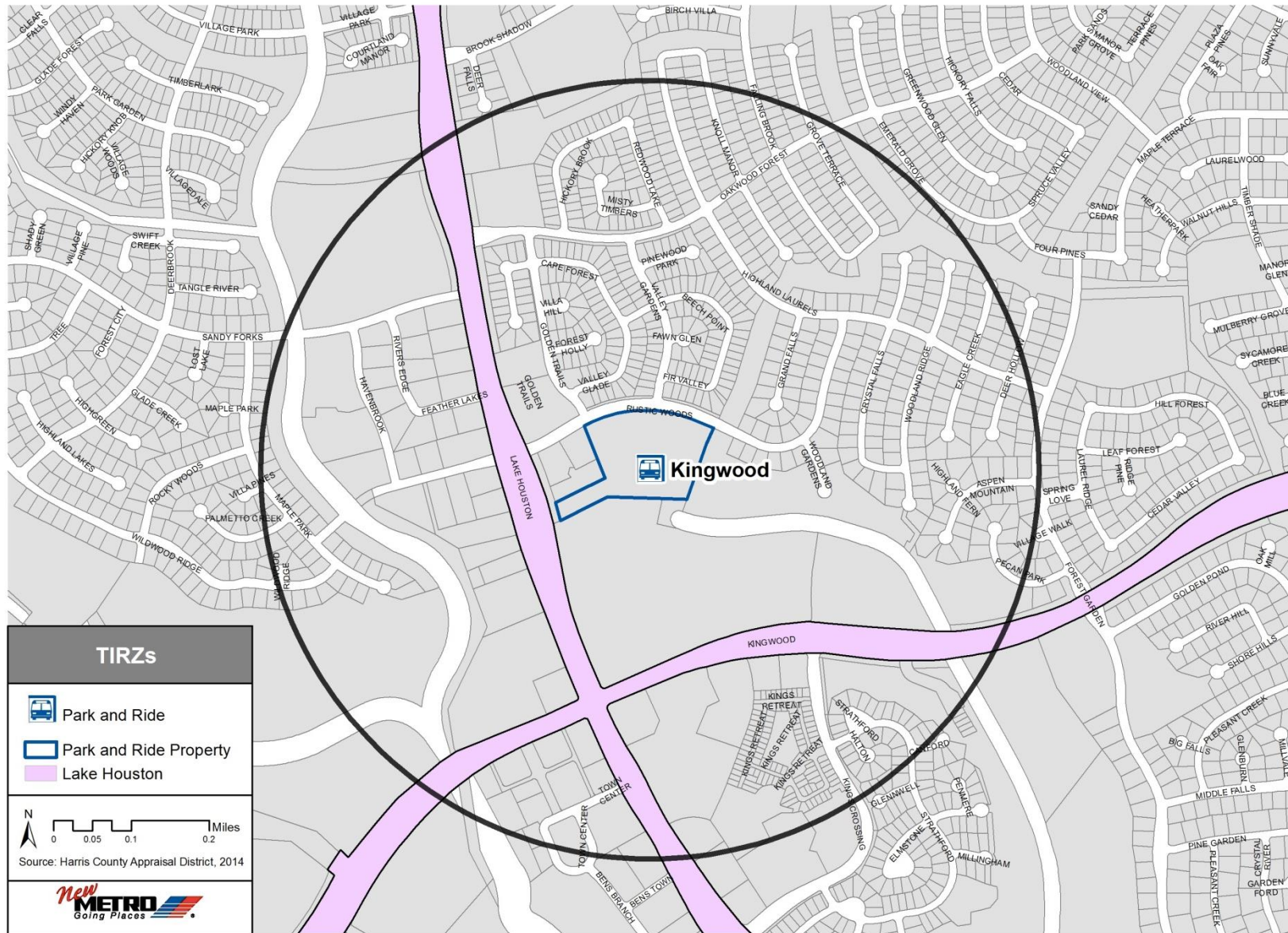
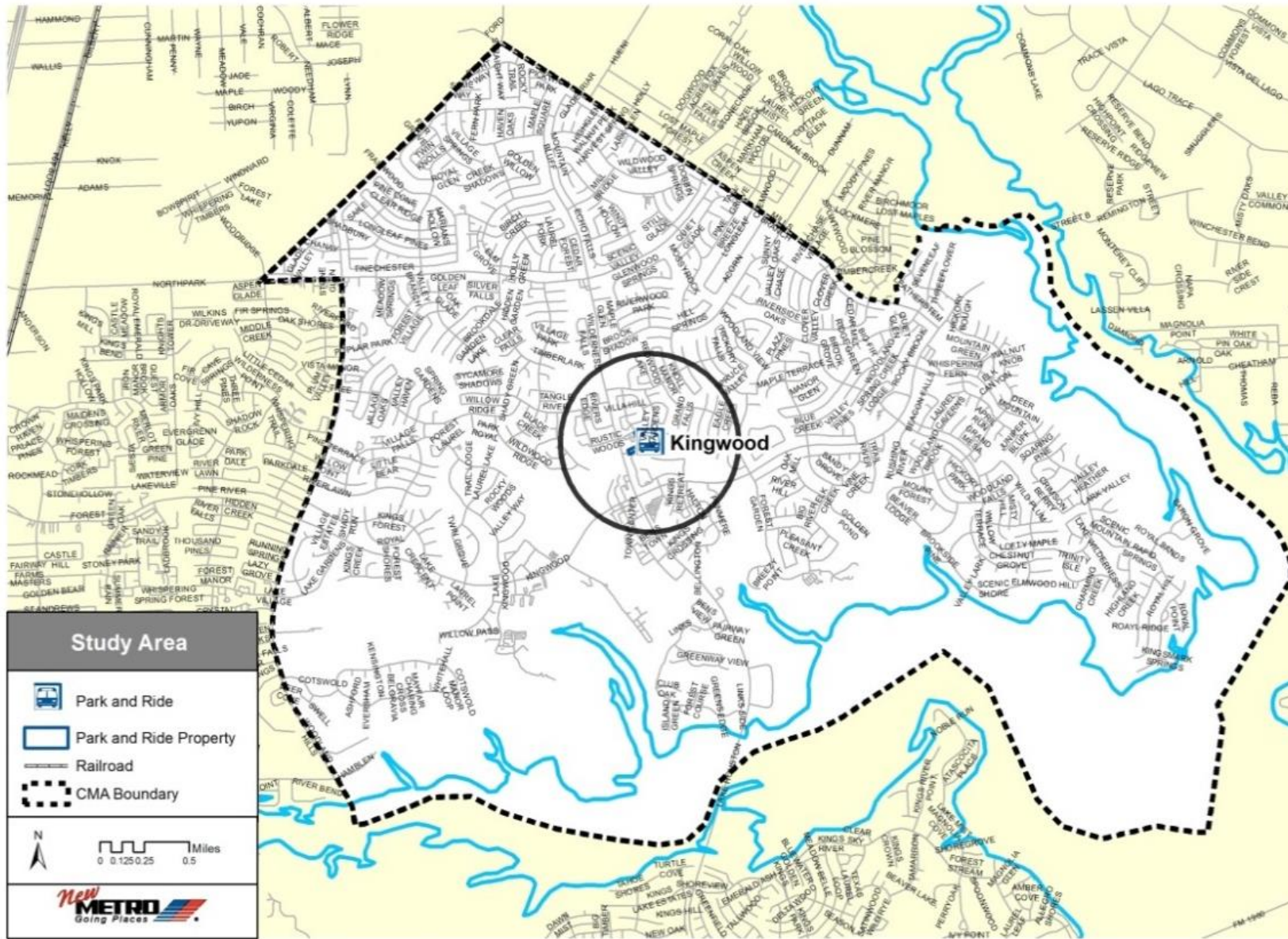


Figure 3-3: Study Area and CMA



3.1 Demographics

Between the 2000 and 2010 Census, the 0.5-mile radius had lost 6.3 percent of its population but gained 3.7 percent in households. Further, both total population and households will increase through 2019 with the

increase in households being greater. This means that the number of persons per household is decreasing in the area as shown in **Table 3-1**.

Table 3-1: Population and Household Historical Trends and Short-Term Projections

POPULATION	2000 CENSUS	2010 CENSUS	2014 ESTIMATE	2019 PROJECTION	GROWTH 00-10	GROWTH 10-14	GROWTH 14-19
0.5 Mile Radius	3,739	3,503	3,625	3,823	-6.3%	3.5%	5.5%
CMA	38,278	38,555	40,034	42,378	0.7%	3.8%	5.9%
Harris County	3,400,578	4,092,459	4,285,034	4,626,152	20.4%	5.1%	8.0%
Houston MSA	4,693,161	5,920,016	6,251,248	6,776,664	26.2%	5.6%	8.4%

HOUSEHOLDS	2000 CENSUS	2010 CENSUS	2014 ESTIMATE	2019 PROJECTION	GROWTH 00-10	GROWTH 10-14	GROWTH 14-19
0.5 Mile Radius	1,430	1,483	1,574	1,691	3.7%	6.1%	7.5%
CMA	13,098	14,360	15,158	16,265	9.6%	5.6%	7.3%
Harris County	1,205,516	1,435,155	1,500,011	1,619,300	19.1%	4.5%	8.0%
Houston MSA	1,648,148	2,062,529	2,176,602	2,359,640	25.1%	5.5%	8.4%

Source: Developmental Potential, METRO Kingwood Park & Ride, CDS Market Research, 2015. American Community Survey Census Data 2012; PCensus for Map Info, Copyright 2013 Tetrad Corporation.



Approximately 49 percent of residents in the 0.5-mile radius area over the age of 25 hold a Bachelors, Masters, Professional, or Doctorate degree. Thirty three percent of the population within the 0.5-mile radius holds a Bachelors Degree which is higher than the county and MSA average.

The median annual household income in the 0.5-mile radius is \$85,240, considerably higher than that of both Harris County and the Houston MSA. The EBI averages approximately \$105,000; again well above the County and MSA averages of \$62,049 and \$72,575, respectively. The higher than average educational attainment and income indicate a professional job-oriented population.

3.2 Land Use

Land uses within the 0.5-mile radius of the Kingwood Park & Ride are predominantly single-family detached homes. Some limited multi-family apartment complexes and commercial/retail/service locations are concentrated along corridor streets. Most commercial facilities are located along West Lake Houston Parkway (**Figure 3-4**). Currently, the community is mostly developed with small areas of newer infill housing near the Kingwood Park & Ride and new tract housing developments concentrated to the northeast of the facility. The community environment poses a barrier to TOD potential being near the Kingwood Park & Ride. Kingwood is best known for being a community that exists in harmony with nature. Kingwood's heavily wooded acreage is canopied with tall pines and magnolias, along with 20 other types of shade trees.

The 404-unit Kings Crossing Apartments, located immediately south of Kingwood Park & Ride, has been removed for construction of a 240,000 square-foot retail complex. This leaves the 152-unit Oaks of Kingwood northwest of the Park & Ride as the only managed multi-family housing complex in the 0.5-mile radius.



Three of the four quadrants around the intersection of West Lake Houston Parkway and Kingwood Drive are geared toward retail/services with approximately 91 locations. The southwest corner is known as Town Center and has a large pedestrian-oriented area with shopping and restaurants.

One school and one church fall within the study area and will have little effect on land uses near the Park & Ride and the Town Center commercial area (**Table 3-2 and Figure 3-6**).

Table 3-2: Schools and Places of Worship

NUMBER	NAME	NOTES
1	Greentree Elementary School	Elementary School
2	Kingwood Bible Church	Christian – Non-denominational



Figure 3-4: Land Use

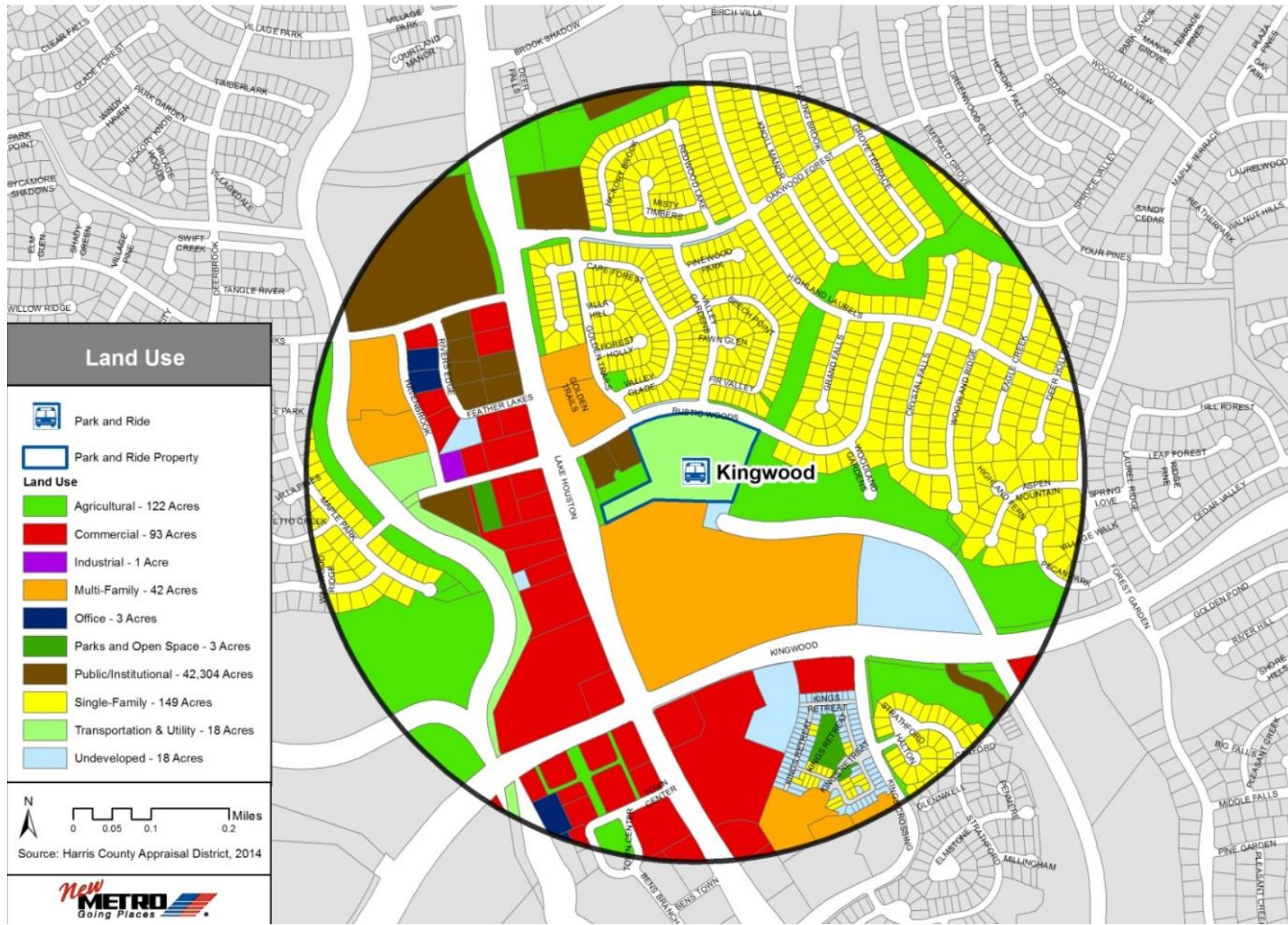
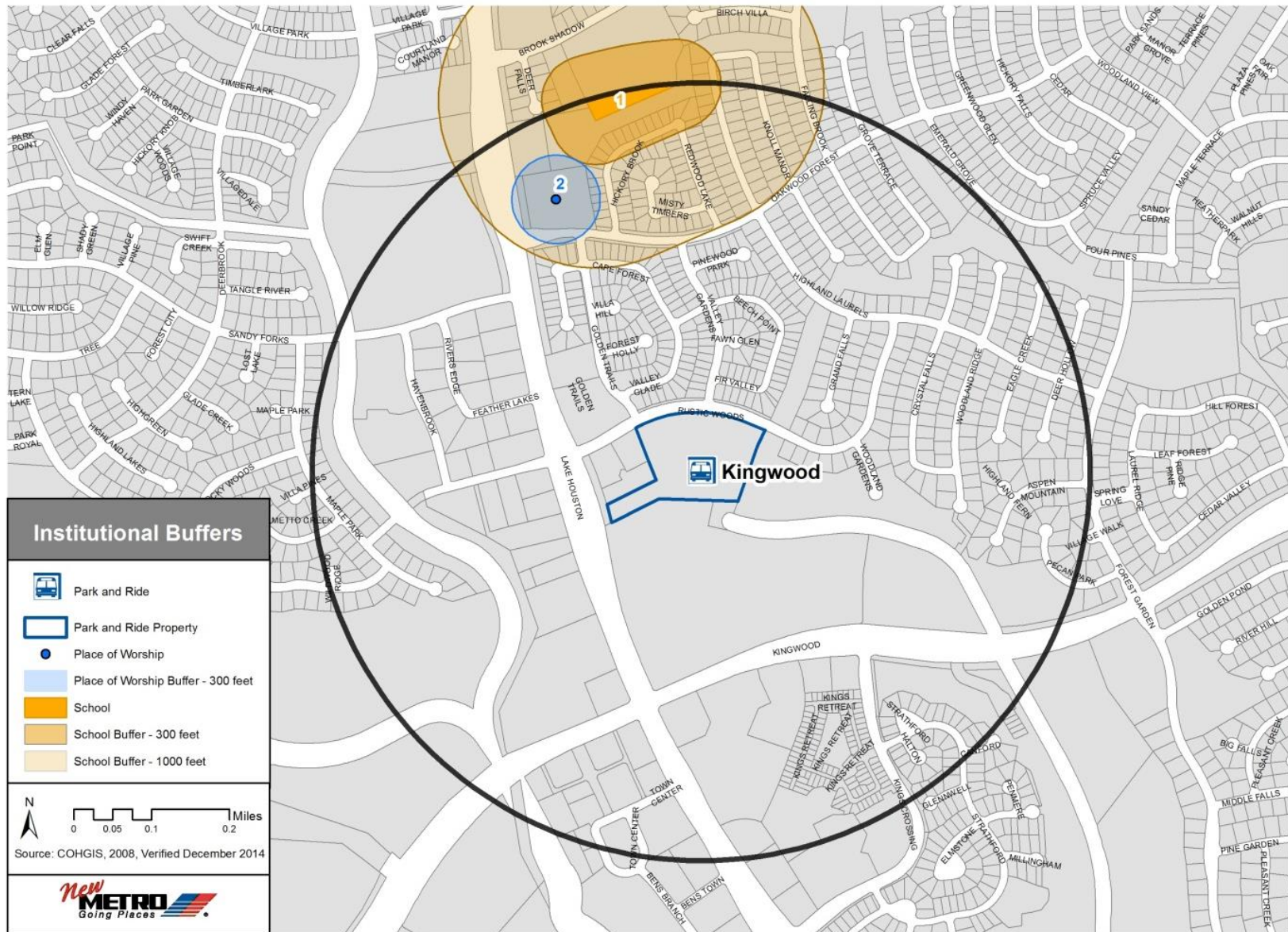


Figure 3-5: Schools and Places of Worship



3.3 Connectivity

Sidewalks within the 0.5-mile radius of Kingwood Park & Ride are also limited along the major thoroughfares of West Lake Houston Parkway and Kingwood Drive; with no sidewalks within the residential communities. As a traditional suburban development Kingwood has a discontinuous, curvilinear street pattern with cul-de-sacs. The few through streets are limited to collectors and major thoroughfares. **Table 3-3** summarizes the multimodal connectivity and accessibility of the facility. **Figure 3-6** shows the sidewalks and major thoroughfares in the study area (METRO).



3.4 Bus Routes and Bikeways

The community is not served by local fixed bus routes, however, METRO Bus Routes 255 Kingwood and 259 Kingwood/Townsen/Eastex transport riders from the Kingwood Park & Ride to destinations in downtown Houston. **(Figure 3-7)** The Park & Ride has 1,034 spaces and has a utilization rate of approximately 57%⁶.

Extensive bikeways are located within the 0.5-mile radius of Kingwood Park & Ride, and follow the major thoroughfares of West Lake Houston Parkway and Kingwood Drive.

⁶ Third Quarter Vehicle Count, Metropolitan Transit Authority of Harris County, June 2015.

Table 3-3: Connectivity and Accessibility

ACCESS	GOOD	FAIR	POOR
Street Grid			<ul style="list-style-type: none"> Curvilinear, discontinuous streets and cul-de-sacs Sidewalks limited to major streets
Pedestrian (Block Sizes)			<ul style="list-style-type: none"> No standard block sizes and few through streets
Vehicles	<ul style="list-style-type: none"> The facility was designed for auto access 		
ADA		<ul style="list-style-type: none"> Sidewalks in the neighborhood and P&R are ADA compliant 	
Bicycles	<ul style="list-style-type: none"> Numerous bike trails throughout neighborhood Direct connection to P&R 		
Adjacent Parking	<ul style="list-style-type: none"> P&R has 1,034 spaces 		
Kiss & Ride Drop Off	<ul style="list-style-type: none"> Kiss & Ride drop-off spaces are provided 		

Figure 3-6: Street Network and Sidewalks

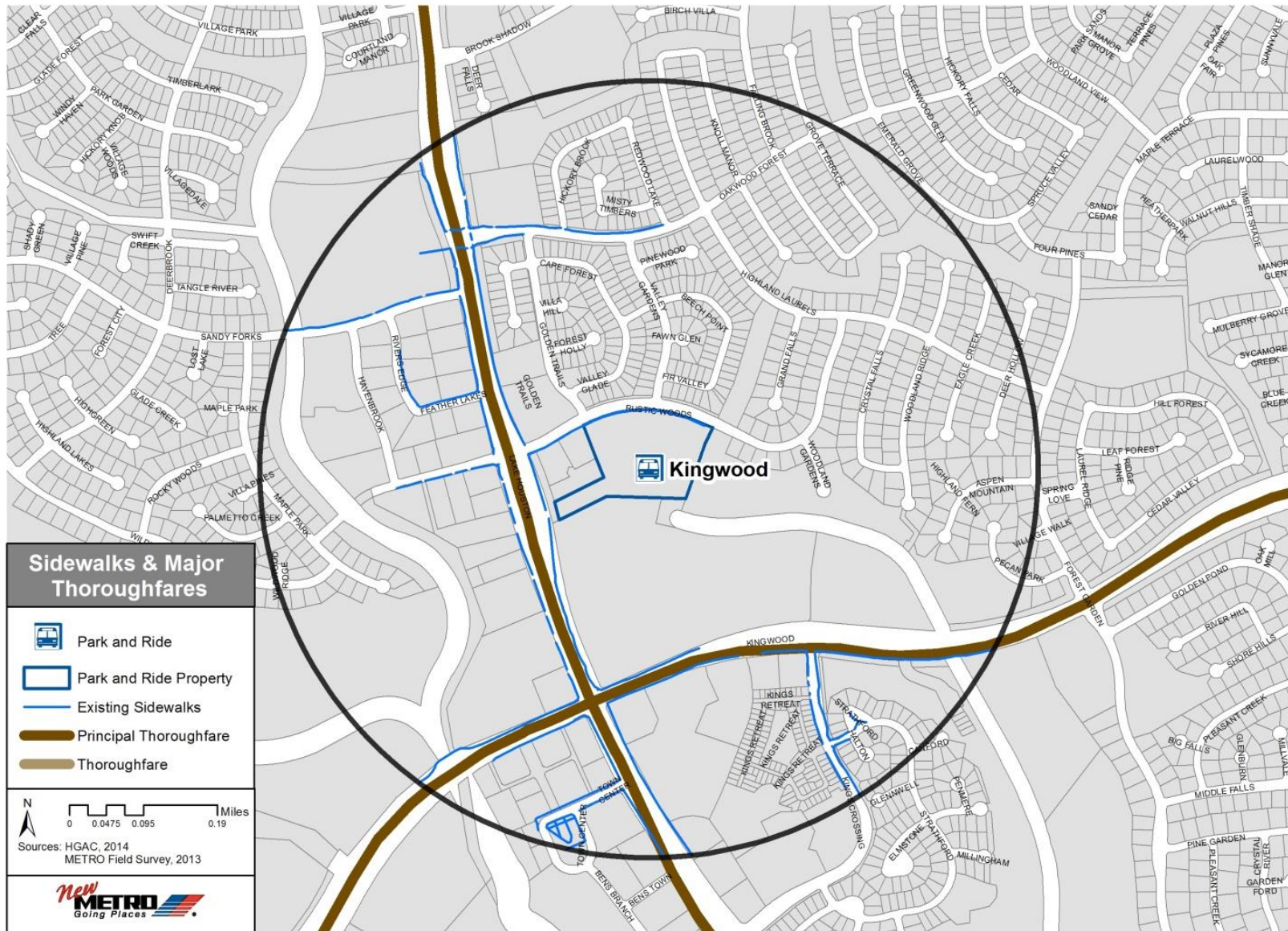


Figure 3-7: Bus Routes & Bikeways



Note: Due to the timing of the implementation of New Bus Network, the Bus Routes and Bikeways map does not reflect METRO's current network.

3.5 Developer Interviews

As part of the overall project process, the project teams met with real estate professionals to assess what their perceived barriers were to potential TOD projects in and around the Park & Ride. Their comments are summarized below:

- The immediate neighborhood is stable with limited opportunity for redevelopment.
- Main Street Kingwood and the future area will add in excess of 240,000 square feet of retail space, enough to satisfy demand for the foreseeable future.
- Townhomes have not sold well in Kingwood; however, if small lot housing was developed on site it would be an advantage for those who would utilize the Park & Ride service.
- New detached townhomes in the vicinity have proven their popularity in part to being located within walking distance of the shopping, restaurants and services in the immediate area.

3.6 Market Trends and Opportunities

The following summarizes detailed market findings and recommendations regarding the development outlook for the Kingwood Park & Ride area⁷. Prior to any development activity, the local economic development organization, the Lake Houston TIRZ, should be contacted to supply information about the area and what development options and financing programs may be available.

3.6.1 Market Trends (CDS Market Research)

As a master planned community, the areas for non-residential uses in Kingwood are restricted, and the area near the Park & Ride (near the intersections of Kingwood Drive and West Lake Houston Parkway) is the commercial hub for the entire eastern portion of the community, which includes nearly 60 percent of all residents.

Single-Family Housing

Kingwood is nearly built-out in areas close to the Park & Ride. Only small pockets of available land for new housing exist near the Kingwood Park & Ride. Friendswood Development, the original developer of Kingwood, has purchased or controls about 500 acres in the far northeast corner of the CMA, which is being developed as Royal Brook subdivision. Houses are currently under construction and are planned for early 2016.

Multi-Family Housing

Although the multi-family apartments in the CMA are 96 percent leased and rents are generally high, the chances of new apartments in the area of the 0.5-mile radius and the CMA are slim. The price of the minimal land that is available is too high for viable development. This, coupled with the 1,000 to 2,000 new apartment units along the U.S. Highway 59 corridor on less expensive land make it unlikely that new apartments will be developed in the Park & Ride area or the CMA.



⁷ Development Potential METRO Kingwood Park & Ride, CDS Market Research, 2015.

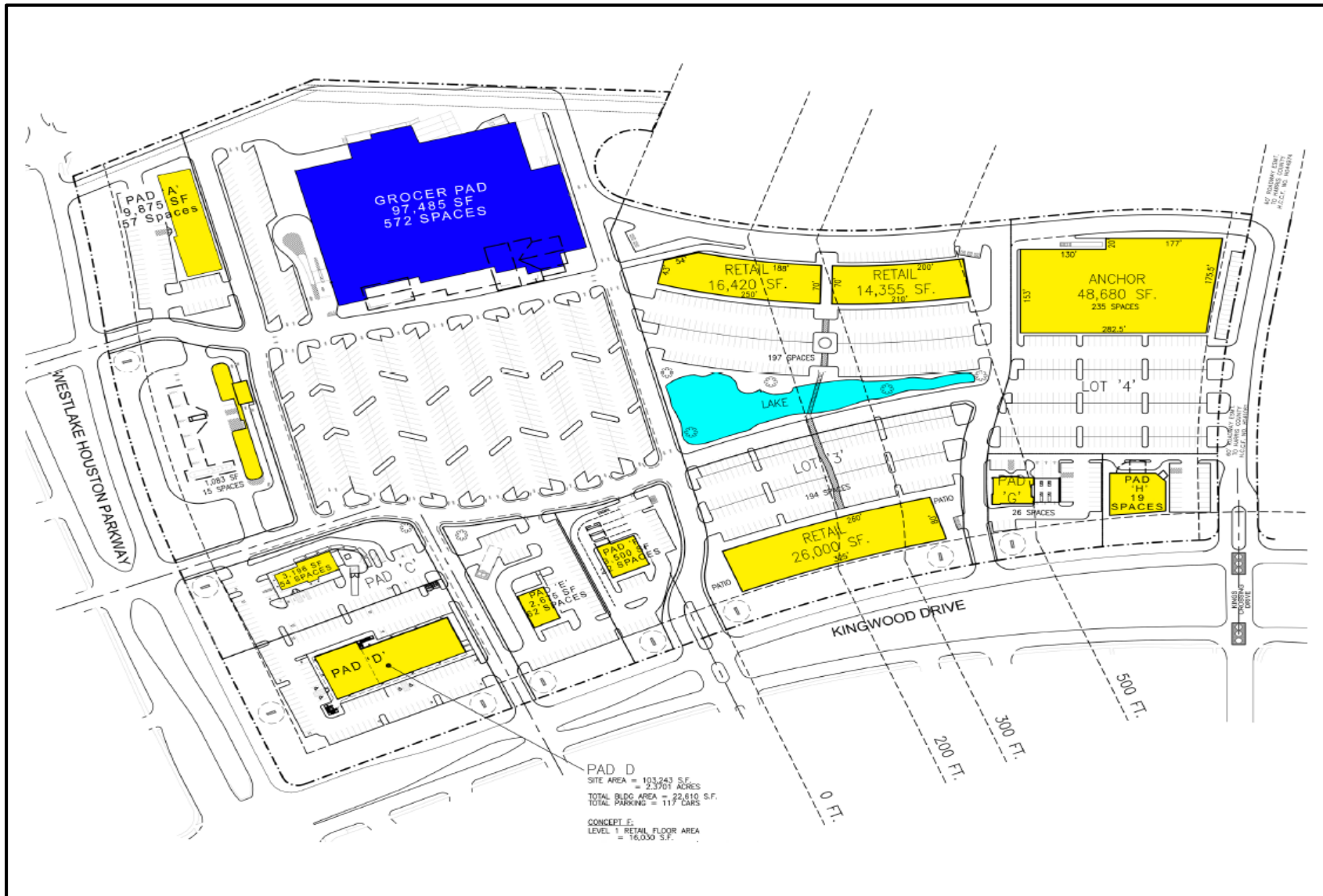
Retail

The high level of disposable income of the residents, the concentration of housing and the minimal land available for development make the 0.5-mile radius an excellent location for commercial/retail development. Retail locations in the CMA are 99.6 percent leased with higher-end users.

*Directly south of the Kingwood Park & Ride is a 33 acre apartment complex that is being redeveloped into 240,000 square feet of retail space (Main Street Kingwood). This space will be anchored by an HEB Grocery and will include space for in-line stores and freestanding retail pads (**Figure 3-8**). The existing apartments are being taken down and the new construction is scheduled to start in late 2015. Additionally, when HEB closes its store on the northwest corner it will afford an opportunity for the purchase of a 61,000 square foot large store space by a large single store or a combination of smaller box-type stores.*



Figure 3-8: Proposed Development



Source: Lovett Commercial, 2014.

3.6.2 Opportunity Sites

Development opportunities exist both internal and external to the Kingwood Park & Ride facility lot. Development on the Kingwood Park & Ride would need to be compatible with the surrounding neighborhood, which is residential with some apartments. The new development to the south is commercial and fronts on Kingwood Parkway. The most feasible development that can be expected on the Park & Ride facility itself is moderate density residential that serves as a buffer between the commercial development on the south and the single-family homes to the north and east. To serve as a buffer and to enable the residential uses to have access to the commercial and retail development to the south, the existing bus platform would need to be relocated to the west side of the lot as shown in **Figure 3-9**. The Park & Ride could also provide overflow parking for the adjacent development during evenings and on weekends.

If joint development were to be considered at the Kingwood Park & Ride, short, medium and long term actions would need to be determined. METRO may coordinate with the community to make use of the lot for area events and as a marketing tactic to focus attention of the potential of the facility for more than just a parking lot.

Mid-term actions are composed of METRO drafting a policy of shared use and joint development standards identifying their optimal transit needs. Required number of parking spaces, bus bays on the platform, and access standards should all be elements of this policy. Once this policy is defined, third party interests can better determine what level of joint development is suitable. Long-term actions are the actual joint development activities: finding partners, lease agreements, development designs, and construction.



Figure 3-9: Kingwood Park & Ride Development Concept



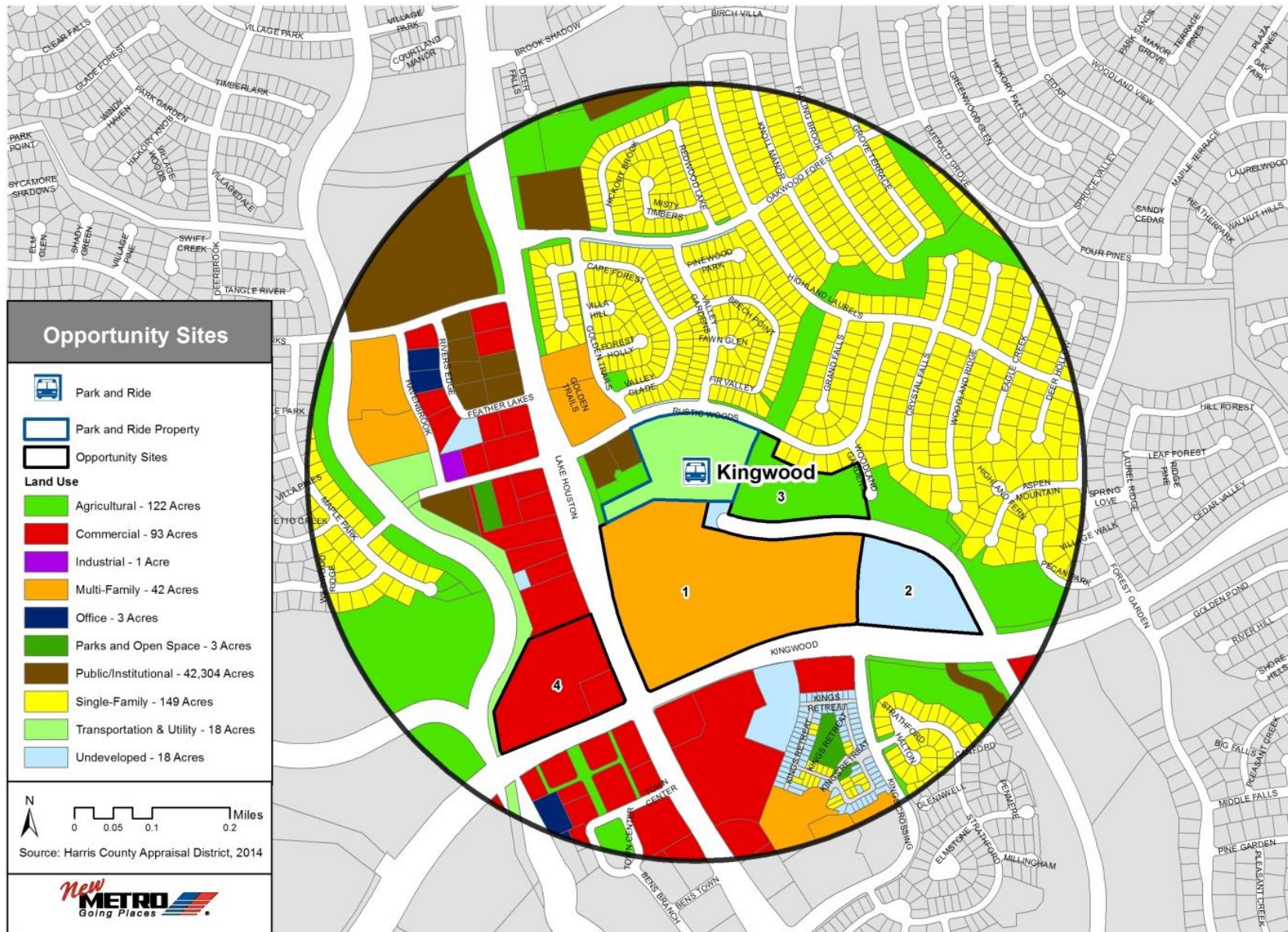
Source: METRO, 2015.

External development opportunities include properties adjacent or across the street from the Park & Ride. An opportunity matrix has been prepared describing the development opportunities at various locations that have the potential to take advantage of the METRORail station shown in **Table 3-4** and **Figure 3-10**.

Table 3-4: Development Opportunities Matrix

SITE	DESCRIPTION	CURRENT USE	PROPOSED
1.	Apartment complex Approx. 240,000 sq. ft.	<ul style="list-style-type: none"> Apartment complex being demolished for new development 	<ul style="list-style-type: none"> 240,000 square feet of retail space (Main Street Kingwood). Anchored by an HEB Grocery and will include space for in-line stores and freestanding retail pads. Opportunity for Access to Park & Ride lot should be included
2.	Vacant land Approx. 364,000 sq. ft.	<ul style="list-style-type: none"> Property being held in reserve for future development 	<ul style="list-style-type: none"> Small-scale local professional office / medical uses, one-story, with surface-parking
3.	Vacant woodland east of Park & Ride Approx. 300,000 sq. ft.	<ul style="list-style-type: none"> Designated as a greenbelt 	<ul style="list-style-type: none"> Attached or small-lot single-family – townhomes or patio homes with pedestrian access to the Park & Ride. Design to incorporate greenbelt and natural drainage
4.	Northwest corner of Kingwood Drive and Lake Houston Drive Approx. 450,000 sq. ft.	<ul style="list-style-type: none"> Strip shopping center anchored by HEB, which is soon to be relocated across the street 	<ul style="list-style-type: none"> Excellent opportunity for mixed use development: medium density residential with retail and dining

Figure 3-10: Development Opportunity Sites



3.7 Park & Ride Improvements

Targeted investments in sidewalk infrastructure, roadway drainage, pedestrian scale lighting, bike facilities, and structured parking can help to facilitate the connections between TOD and the transit facility.

Figure 3-12 shows the one-quarter mile walkshed, the area covered by following existing sidewalks and shared-use paths.

The following short and medium term improvements may enhance multi-modal connectivity in and around the facility.

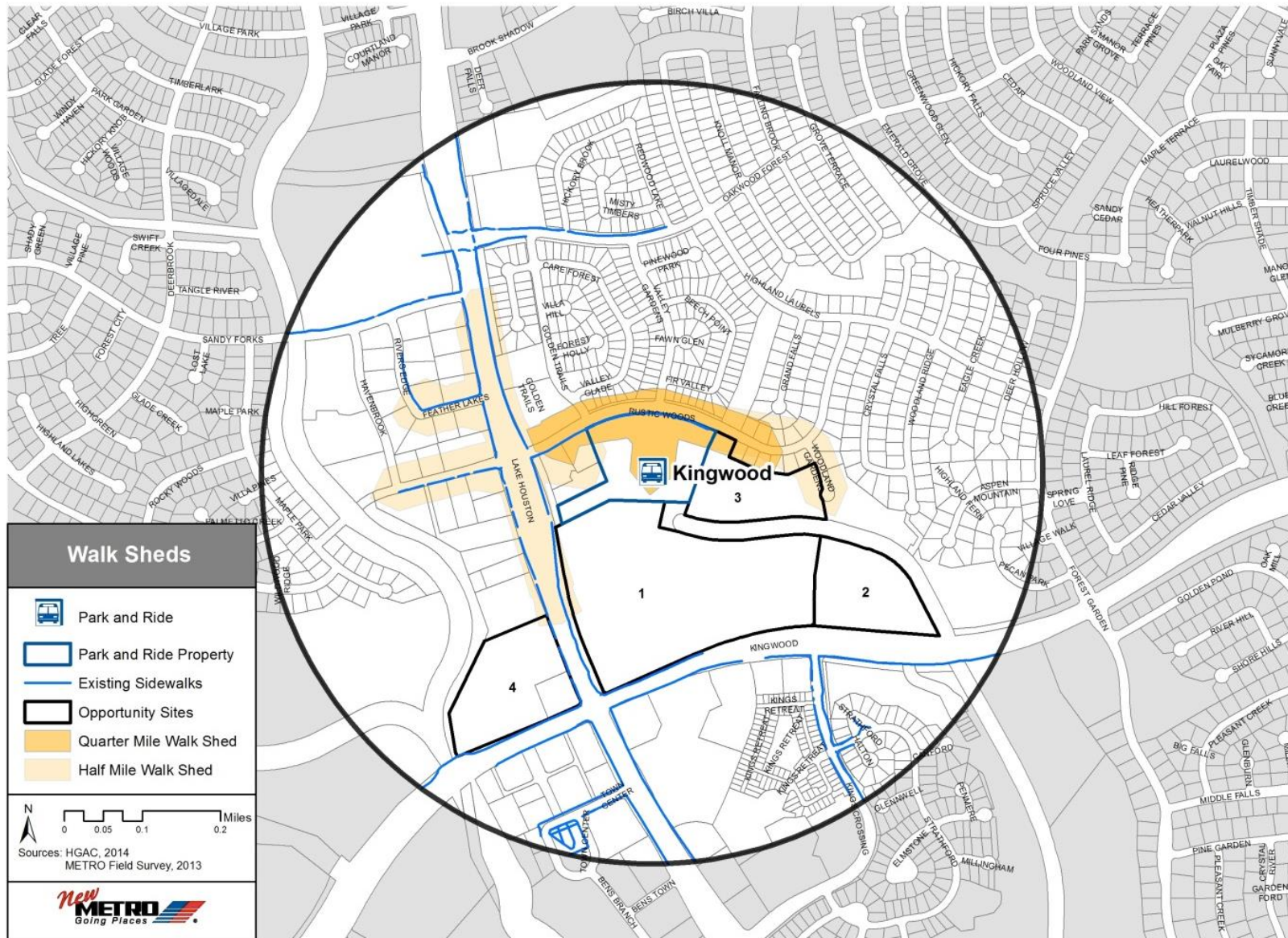
- Bike and pedestrian infrastructure connecting the Park & Ride with the trail system, the sidewalk network and the residential neighborhoods will provide an alternative mode for Park & Ride users.
- While some bike racks exist at the Park & Ride, enhancing bike sharing facilities at the Park & Ride and throughout Kingwood where possible would help encourage bicycle use and reduce automobile dependence.
- Provide a pedestrian crossing at Rustic Woods Drive and at West Lake Houston Parkway by the Park & Ride entrance to improve safety and convenience.
- Add painted striped lanes to extend trail over to the public library. Integrate a painted trail path with painted pedestrian designated walkways to coincide with sidewalks entrances along Rustic Woods Drive and West Lake Houston Parkway.
- Finally, care should be taken to ensure both sidewalk accessibility and all ramps within the immediate vicinity of the Park & Ride meet all requirements of the American with Disabilities Act.



Longer term improvements are noted below.

- Coordinating with the developer of Main Street Kingwood and the development under construction to the south of the Park & Ride to provide pedestrian access from the development, will help METRO customers access the facility without having to drive a few hundred feet. This will reduce parking demand. Further, the master plan could be developed such that the new street grid on the development site is well aligned with pedestrian connections within the Park & Ride facility.

Figure 3-11: Accessibility Walkshed



4 Westchase Park & Ride

The Westchase Park & Ride is a twenty acre site with 1,468 parking spaces, and is located at the northwest corner of Harwin Drive and Rogerdale Road. Within a 0.5-mile radius of the Park & Ride, the Westpark Tollway, Beltway 8, Harwin Drive and Westpark Drive serve as major routes for traffic and commerce. The area contains a mix of residential uses, office buildings, industrial sites, and a few retail locations.

The Park & Ride has six bus bays, a canopy, information kiosks, and includes bike racks (**Figure 4-1**). METRO local bus route 132 Harwin serves the facility.

The Westchase Park & Ride is located in the Westchase Management District, which was set up to promote economic development, mobility, public safety, and beautification. The Park & Ride is also in the Southwest Houston Tax Increment Reinvestment Zone (TIRZ #20) that was created to promote mobility to the Sharpstown area, redevelop the Sharpstown Mall, and reimburse expenses for the development of a section of the Westchase District. **Figures 4-2** and **4-3** show the Park & Ride in relation to the special districts.



Figure 4-1: Westchase Park & Ride



Source: METRO GIS, 2015

Figure 4-2: Westchase Management District

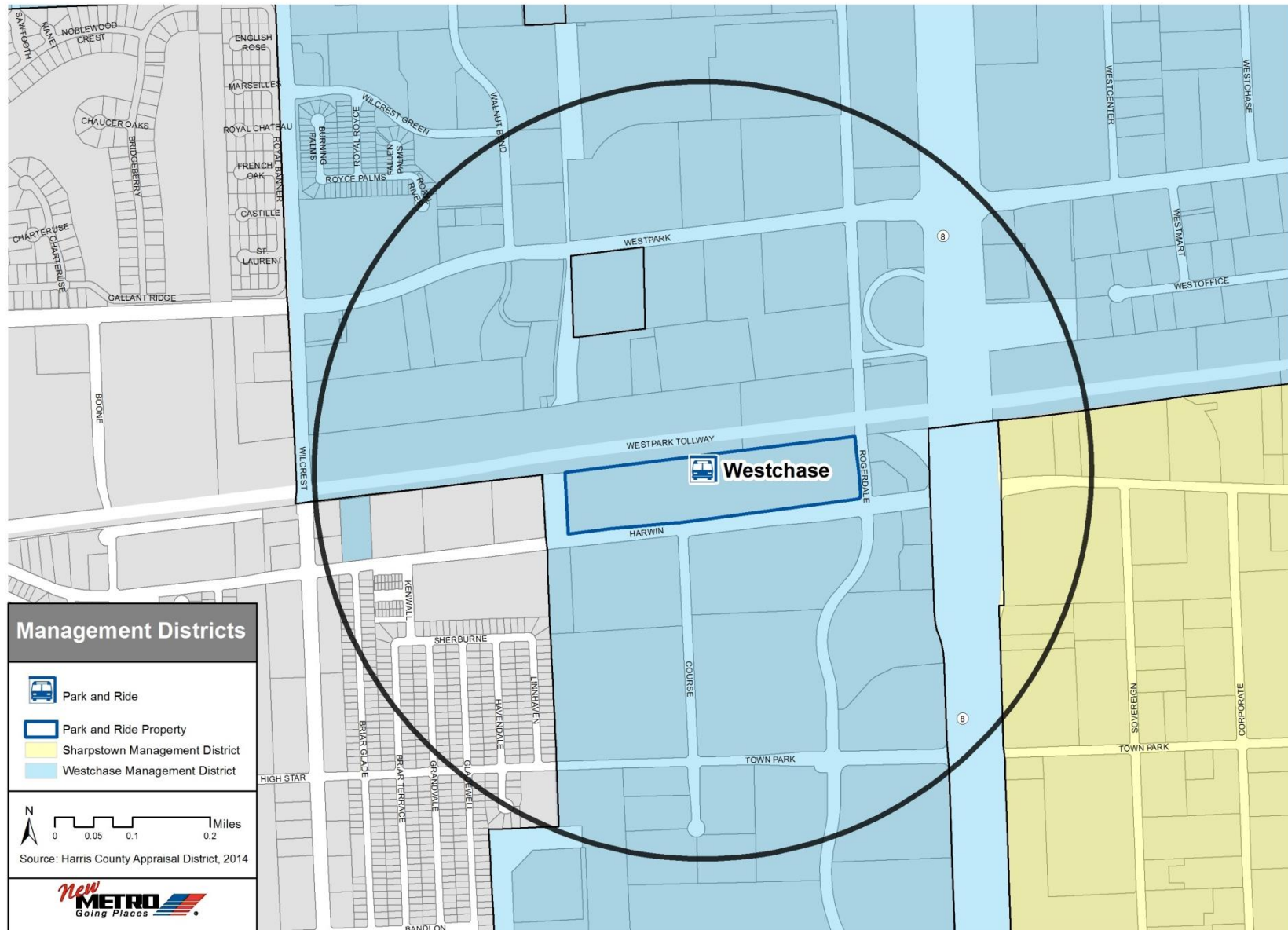
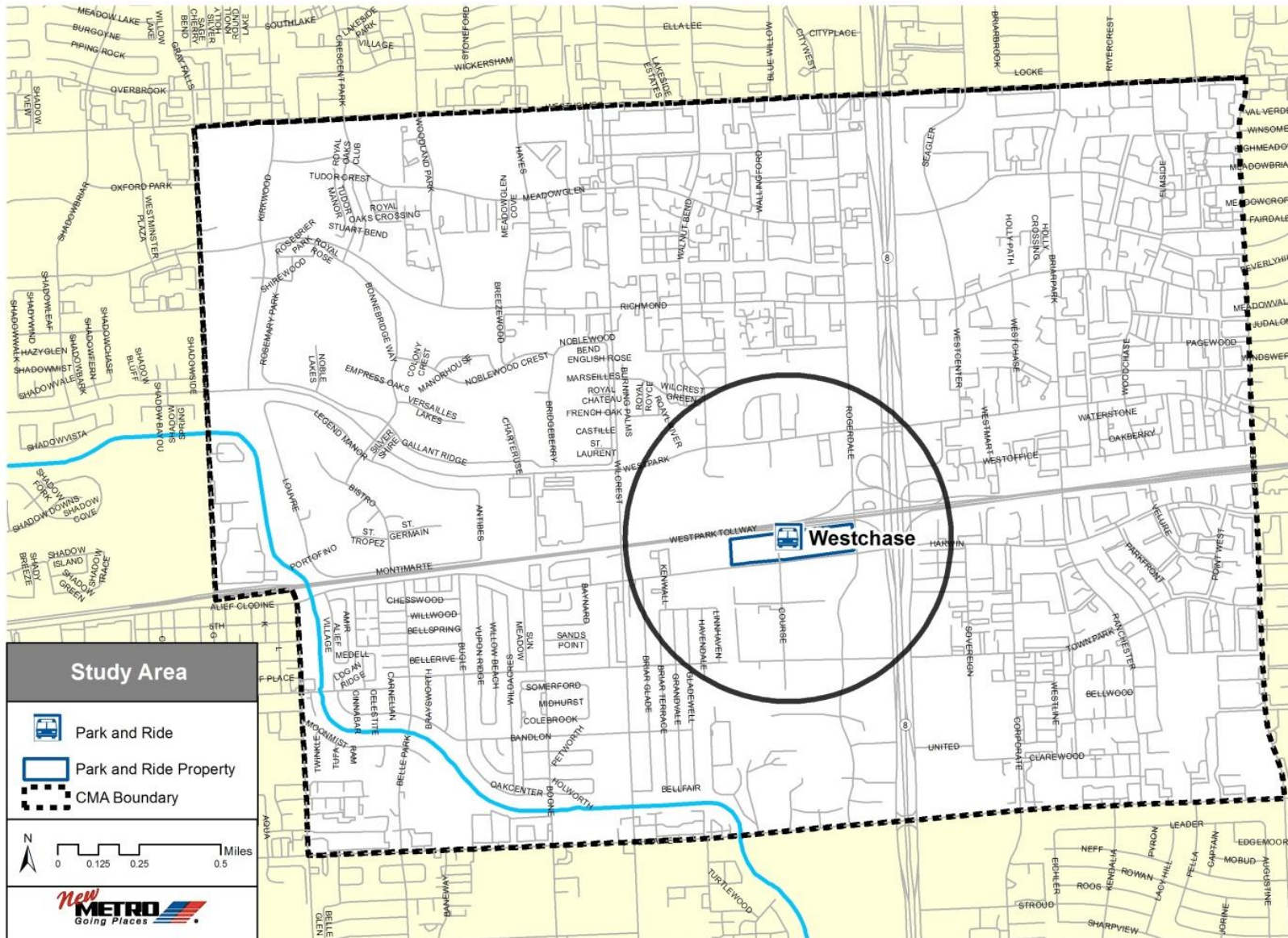


Figure 4-4: Study Area and CMA



4.1 Demographics

Census data reveals that the population within a 0.5-mile radius of the Park & Ride declined by 3.5 percent between 2000 and 2010. The number of households grew by about 6.3 percent during the same time period. Short-

term projections indicate that the population and households in the 0.5-mile radius will continue grow over the next four years by 5% and 6%, respectively. **Table 4-1** provides a comparison between population and household growth within a 0.5-mile of the Park & Ride, the CMA, the Houston MSA, and Harris County.

Table 4-1: Population and Household Historical Trends and Short-Term Projections

POPULATION	2000 CENSUS	2010 CENSUS	2014 ESTIMATE	2019 PROJECTION	GROWTH 00-10	GROWTH 10-14	GROWTH 14-19
0.5 Mile Radius	759	732	751	786	-3.5%	2.6%	4.7%
CMA	45,620	54,633	58,276	63,145	19.8%	6.7%	8.4%
Harris County	3,400,578	4,092,459	4,285,034	4,626,152	20.4%	5.1%	8.0%
Houston MSA	4,693,161	5,920,016	6,251,248	6,776,664	26.2%	5.6%	8.4%

HOUSEHOLDS	2000 CENSUS	2010 CENSUS	2014 ESTIMATE	2019 PROJECTION	GROWTH 00-10	GROWTH 10-14	GROWTH 14-19
0.5 Mile Radius	208	221	230	243	6.3%	4.0%	5.8%
CMA	20,428	23,023	24,441	26,452	12.7%	6.2%	8.2%
Harris County	1,205,516	1,435,155	1,500,011	1,619,300	19.1%	4.5%	8.0%
Houston MSA	1,648,148	2,062,529	2,176,602	2,359,640	25.1%	5.5%	8.4%

Source: *Developmental Potential, METRO Westchase Park & Ride, CDS Market Research, 2015. American Community Survey Census Data 2012; PCensus for Map Info, Copyright 2013 Tetrad Corporation.*

Harris County and the Houston MSA increased in both population and households' in the CMA and the 0.5-mile radius. This trend is largely due the fact that commercial and office land uses are predominant in the area around the Park & Ride.

Over 16 percent of residents in the 0.5-mile radius area over the age of 25 hold a Bachelors, Masters, Professional, or Doctorate degree.

Twenty-two percent of the population within the 0.5-mile radius earns between \$35,000 and \$49,999 annually. About six percent of households in the 0.5-mile radius earn over \$100,000 annually.



4.2 Land Use

Land uses within a 0.5-mile radius of the Westchase Park & Ride are predominantly office, vacant, and industrial uses. The Park & Ride is flanked by large office tracts occupied by Oak Park, a 220-acre master planned and deed restricted commercial development designed for large tract, corporate campuses. Large undeveloped tracts of land are located to the north of the Park & Ride but are disconnected from the Park & Ride by the Westpark Tollway and surrounded by industrial uses. **Figure 4-5** illustrates the land uses surrounding the Park & Ride.

According to the Harris County Appraisal District (HCAD), there are zero schools and one place of worship located within the 0.5-mile radius of the Westchase Park & Ride. The locations of the institutional facilities present within the 0.5-mile radius are listed in **Table 4-2** and depicted in **Figure 4-6**.

Table 4-2: Places of Worship

NUMBER	NAME	NOTES
1	Abundant Life Cathedral	Church – Non-denominational
2	Abundant Life Cathedral, Inc.	Administrative Office

Figure 4-5: Land Use

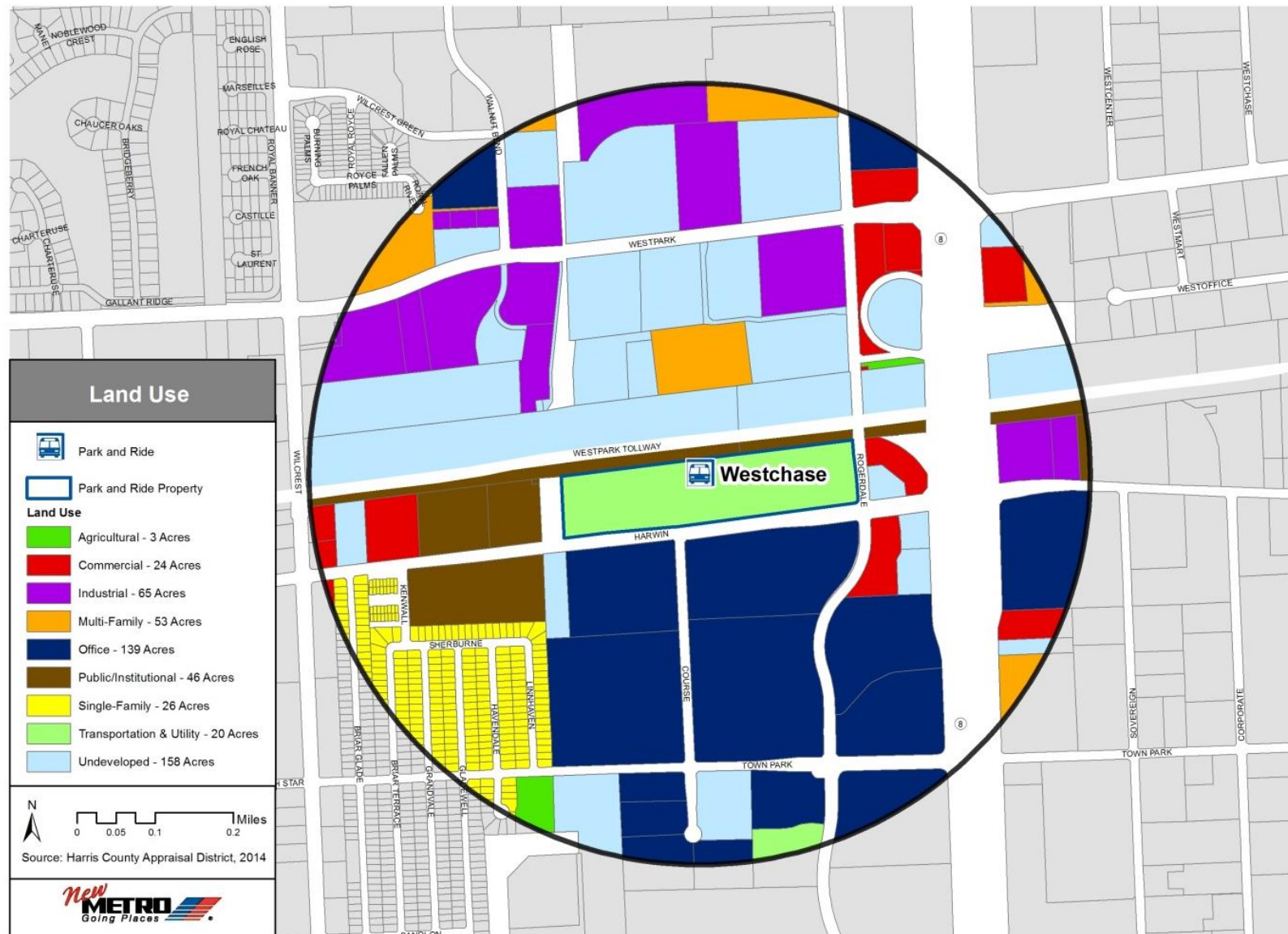
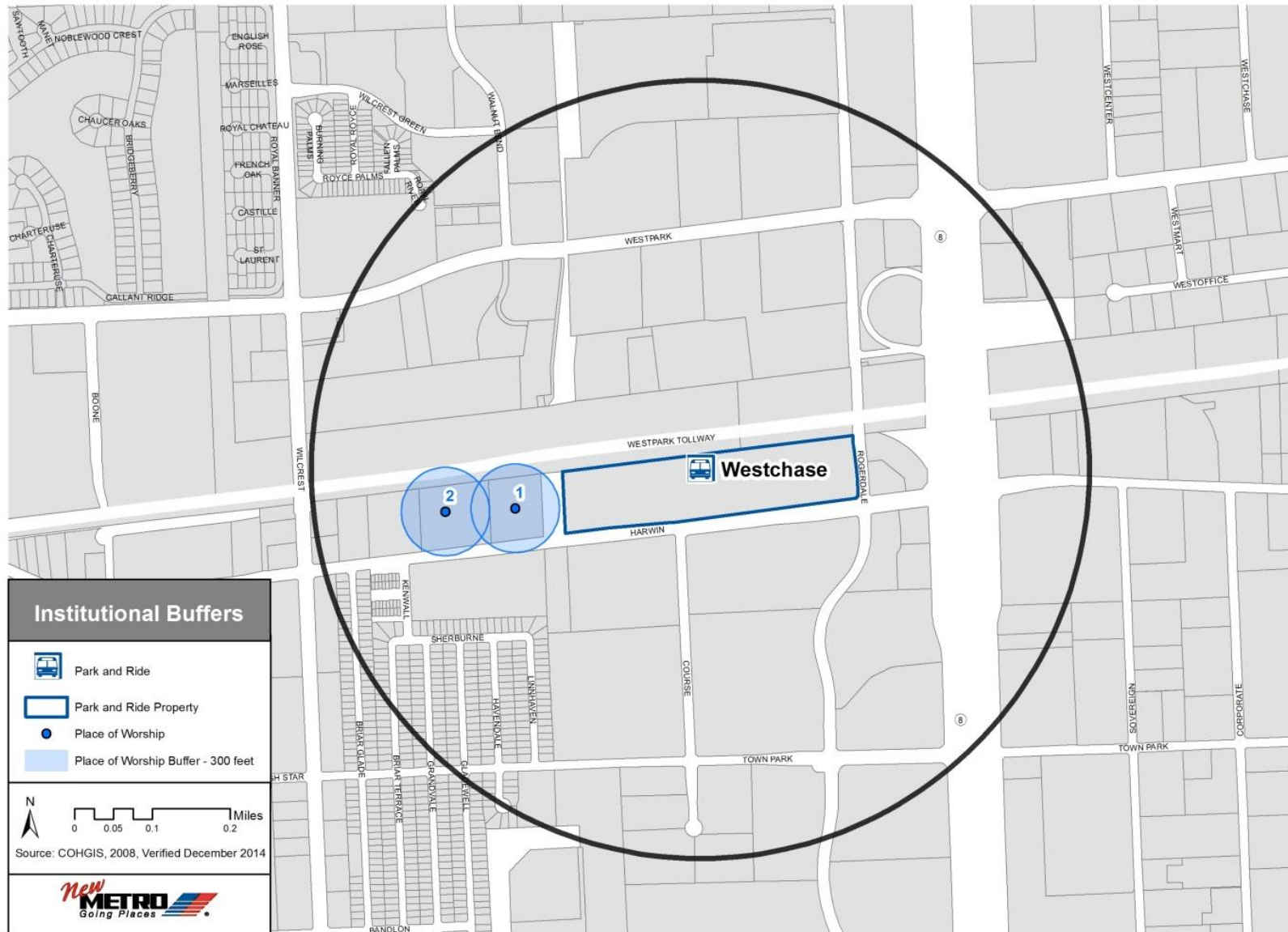


Figure 4-6: Schools and Places of Worship



4.3 Connectivity

Figure 4-7 shows the sidewalks and major thoroughfares in the study area (METRO). The major highways and major thoroughfares around the Park & Ride include Beltway 8 (north/south), Harwin Drive and Westpark Drive (east/west) within the 0.5 mile radius. Drivers may access the transit facility from three entrances along Harwin Drive. A fourth entryway is located at

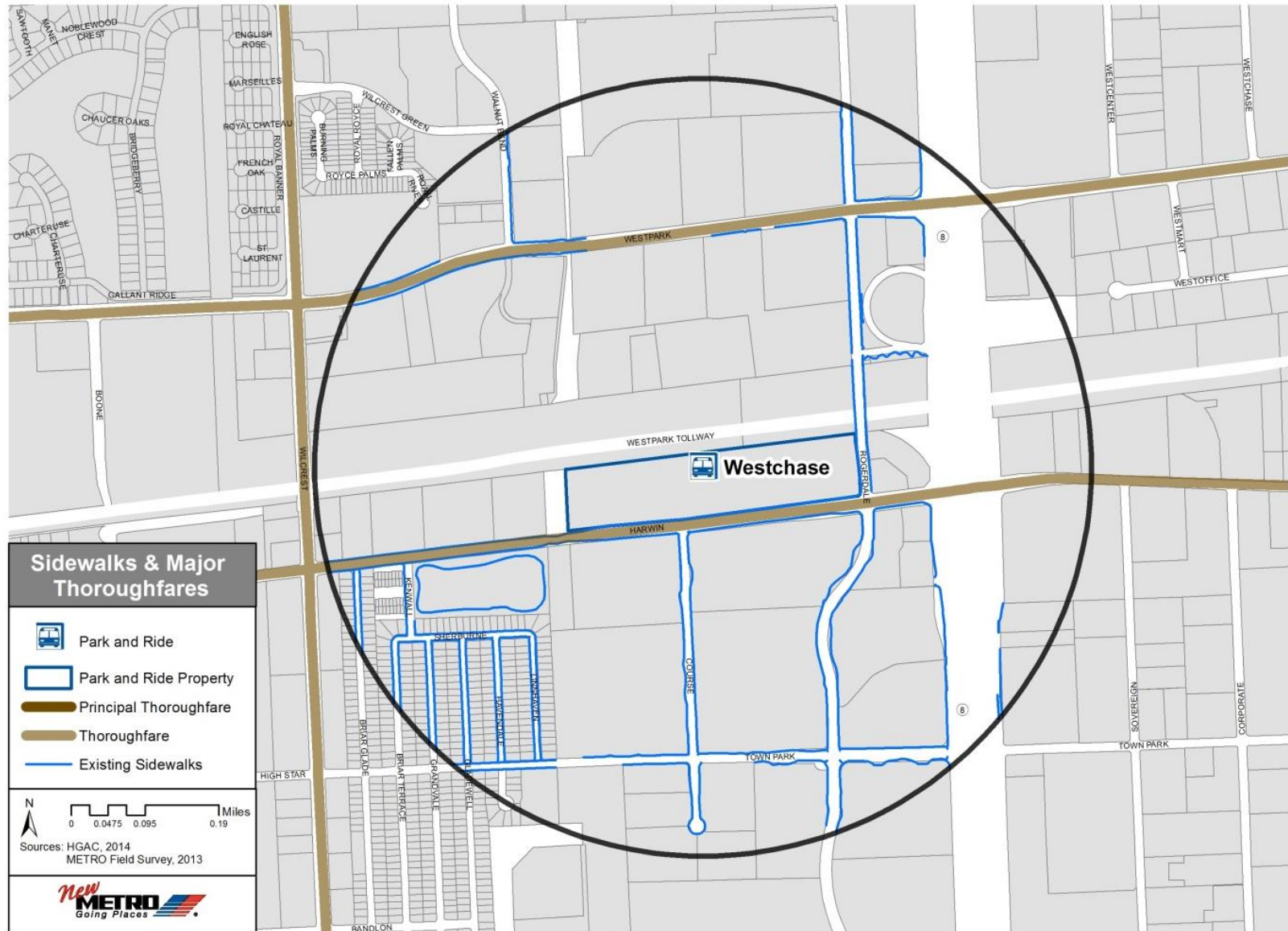
the intersection of Harwin Drive and North Course Drive, and a fifth entryway is located along Rogerdale Road.

Sidewalks within the 0.5-mile radius of Westchase Park & Ride are also concentrated along the major thoroughfares, in the residential neighborhood to the southwest and along Rogerdale Road. Table 4-3 summarizes the connectivity and accessibility of the Park & Ride.

Table 4-3: Connectivity and Accessibility

ACCESS	GOOD	FAIR	POOR
Street Grid			<ul style="list-style-type: none"> No street grid around the Park & Ride except neighborhood to southwest
Pedestrian (Block Sizes)			<ul style="list-style-type: none"> Sidewalks on roadways, but few roadways in study area Block sizes very large
Vehicles		<ul style="list-style-type: none"> Auto access along two sides of facility Two sides blocked by a ditch and Westpark Toll Road 	
ADA		<ul style="list-style-type: none"> ADA ramps on sidewalks 	
Bicycles		<ul style="list-style-type: none"> Bike lane on Harwin Drive, Wilcrest Drive. 	
Adjacent Parking	<ul style="list-style-type: none"> P&R has 1,468 spaces 		
Kiss & Ride Drop Off	<ul style="list-style-type: none"> Drop-off space in P&R 		

Figure 4-7: Street Network and Sidewalks



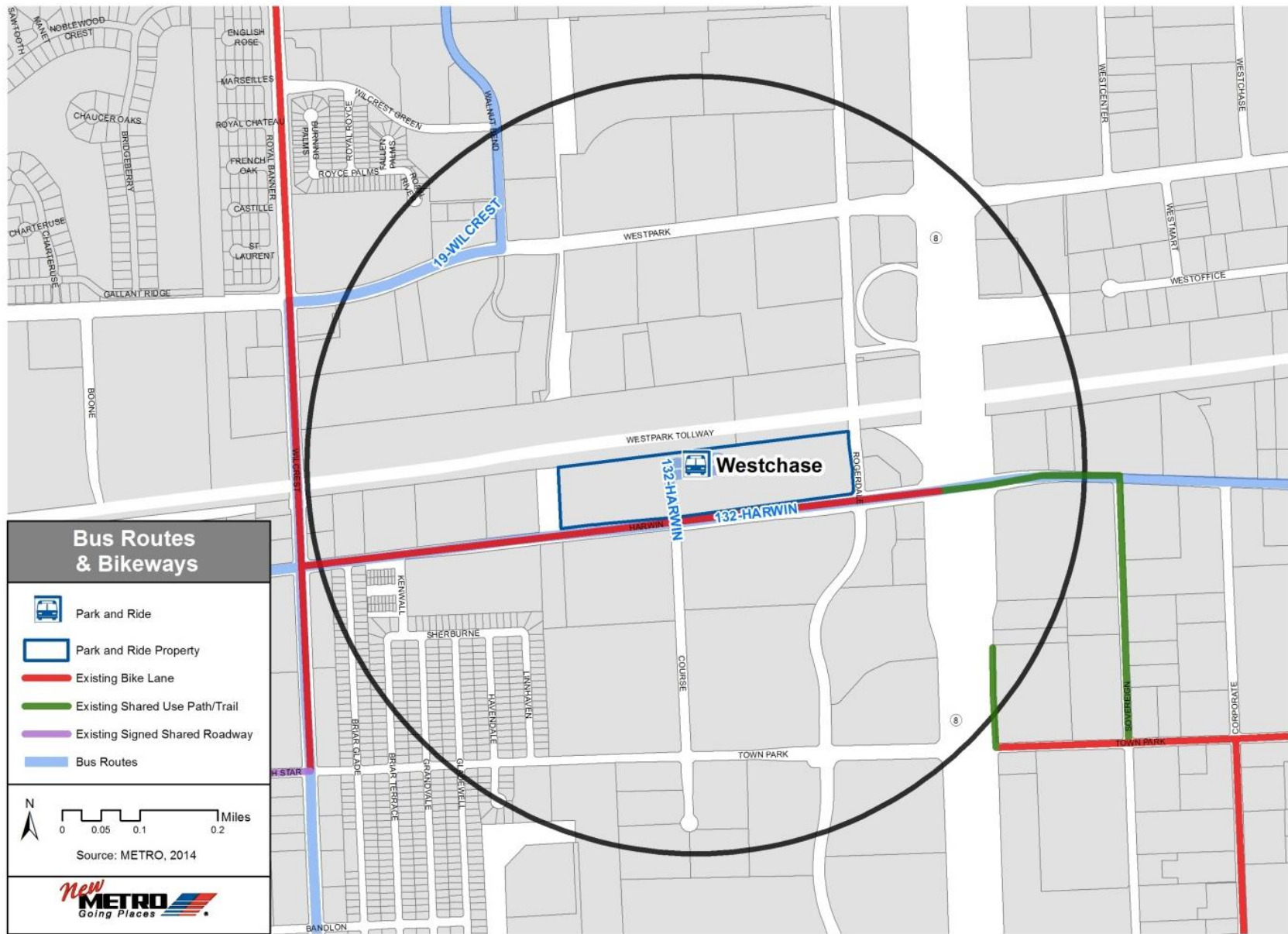
4.4 Bus Routes and Bikeways

Figure 4-8 shows the bus routes and bikeways in the study area. The Park & Ride has 1,468 spaces and a utilization rate of approximately 10 percent⁸.



⁸ Third Quarter Vehicle Count, Metropolitan Transit Authority of Harris County, June 2015.

Figure 4-8: Bus Routes & Bikeways



Note: Due to the timing of the implementation of New Bus Network, the Bus Routes and Bikeways map does not reflect METRO's current network.

4.5 Developer Interviews

As part of the overall project process, the project teams met with the Westchase Management District and real estate professionals to assess the perceived barriers to a potential TOD project in and around the Park & Ride. Their comments are summarized below:

- The area around the Westchase Park & Ride could support a limited amount of additional multi-family, retail, and office space, but the high concentration of energy related companies in this current economic situation makes short term development less likely.
- The study area is within a close proximity to Beltway 8 and Westpark Tollway providing easy access for clients and employees. A potential connection to the Brays Bayou trail could be an asset. However, access from the Westpark Toll Road and areas to the north is limited.
- The demographics and market in the CMA are healthy and would support additional retail businesses, ideally in the vicinity of Westheimer Road or Bellaire Boulevard. Currently, mixed-use office and retail is under construction at Harwin Road and Beltway 8.
- The redevelopment of the Westchase Park & Ride facility similar to Cypress Station at the Cypress Park & Ride could encourage mixed-use development in the immediate area.



4.6 Market Trends and Opportunities

The following summarizes detailed market findings and recommendations from the Westchase Park & Ride Development Potential Report⁹.

⁹ *Development Potential METRO Westchase Park & Ride*, CDS Market Research, 2015.

4.6.1 Market Trends (CDS Market Research)

Multi-Family Housing

An estimated 1,738 additional rental units (290 annually) will be needed in the CMA by 2019 to meet the current trends of population growth and shrinking persons per housing unit. This need for additional units is corroborated by the survey presented earlier, which shows vacancy rates in the CMA holding steady at 5.9 percent, while rents have increased as much as 16 percent over the five year average. Two class A complexes are scheduled for completion in 2015, adding 558 units to the current CMA inventory of 20,930 units. While long term trends may suggest the need for additional rental units in the area, in the short term it is unlikely that any new multi-family projects will be announced and/or constructed. Given the uncertain expectations of Houston's short term economic forecast amidst falling oil prices, would-be investors and developers are likely to wait until the outlook becomes more positive.

Retail

The demographics and market for the CMA are healthy and would support additional retail. However, the ideal location for any major retail project in the CMA would be closer to Westheimer Road or Bellaire Boulevard. These traffic routes have become major corridors for commercial activity and are expected to remain as such. The Westchase Park & Ride 0.5-mile radius, like much of the CMA, is dominated by office parks where retail development is typically limited by deed restrictions. In addition, many of these office parks are self-contained and reportedly few of the office employees leave for lunch to patronize local businesses. Additionally, there is far too little traffic in the evenings and weekends when roughly 97 percent of the estimated 56,169 employees commute outside of the CMA. Despite these challenges, there is some room for a limited amount of new retail space (10,000 to 20,000 sq. ft.), particularly if this space is fitted in to a mixed use project at a site with relatively high evening and weekend traffic counts, such as near Beltway 8.

Office

Low oil prices have affected occupancy rates. In the short-term there will be higher vacancy rates and lower rents. Both have already begun to slip from 2014 highs. The Westchase area is particularly exposed to low oil prices due to the concentration of jobs in the energy industry, but at the same time many of the buildings are either owner occupied or single occupancy with long term leases. This means that most tenants are likely to stay in place. However, the sublease market for office space in the Westchase area is expected to grow as a number of tenants with unused space increases. The increased availability of sublease space will drive down all lease rates, having the most impact on buildings that are multi-tenant with shorter term leases. Due to the current market conditions, it is unlikely that the Westchase Park & Ride 0.5-mile radius will see any new office space development in the short term. However, when local office building tenants are again expanding their workforce and demand for space increases, the 0.5-mile radius represents a good location for the construction of additional class A, low or high rise space.



Briarlake Plaza in Westchase District, Energy Corridor District, 2015

4.6.2 Opportunity Sites

Development opportunities exist both internal and external to the Westchase Park & Ride facility.

The Westchase Park & Ride has the potential to receive substantial development. Located in the heart of the Westchase Management District, mixed-use development composed of commercial, professional, and high density residential uses is very possible. **Figure 4-9** shows a long range development scenario incorporating all these activities on the property with transit patron parking in garages located near the existing bus and future rail platforms.

If joint development were to be considered at Westchase Park & Ride, short, medium and long term actions would need to be determined. METRO may coordinate with the Westchase Management District to make use of the lot for area events and as a marketing tactic to focus attention of the potential of the facility for more than just a parking lot.

Medium-term actions are composed of METRO drafting a policy of shared use and joint development standards identifying their optimal transit needs. Required number of parking spaces, bus bays on the platform, and access standards should all be elements of this policy. Once this policy is defined, third party interests can better determine what level of joint development is suitable. Long-term actions are the actual joint development activities: finding partners, lease agreements, development designs, and construction.

External development opportunities have been identified for properties around the Park & Ride. An opportunity matrix has been prepared describing the development opportunities at various locations that have the potential to take advantage of the Westchase Park & Ride shown in **Table 4-4** and **Figure 4-10**.

Table 4-4: Development Opportunities Matrix

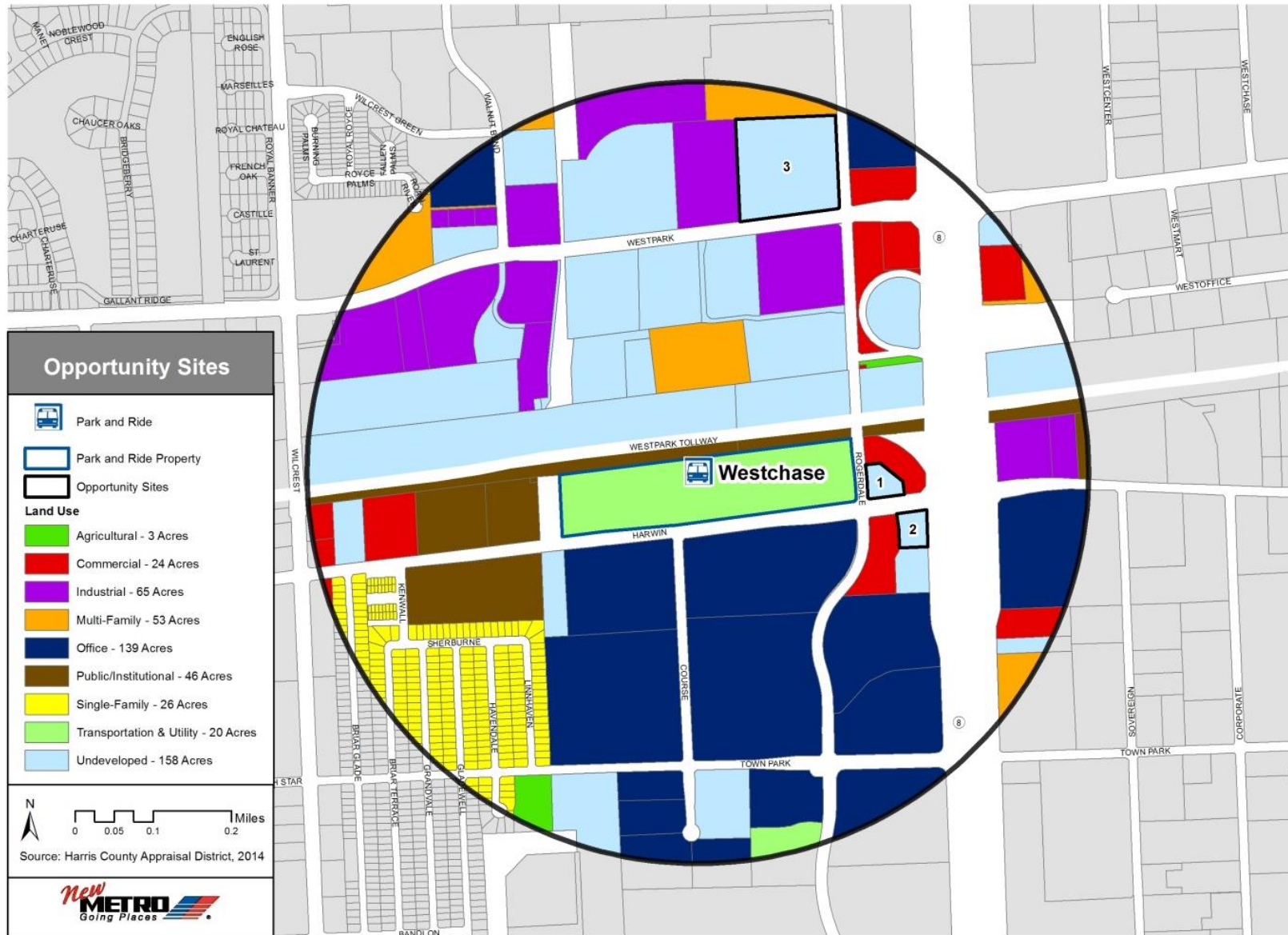
SITE	DESCRIPTION	CURRENT USE	PROPOSED
1.	Harwin Drive Houston TX 77072 Approx. 46,000 sq. ft.	Vacant	Mixed Use – Residential/Commercial
2.	W Sam Houston Pkwy Houston TX 77072 Approx. 47,000 sq. ft.	Vacant	Mixed Use – Residential/Commercial
3.	3354 Rogerdale Road Houston TX 77042 Approx. 459,000 sq. ft.	Vacant	Residential/Mixed Use

Figure 4-9: Westchase Park & Ride Development Scenario



Source: METRO, 2015.

Figure 4-10: Development Opportunity Sites



4.7 Park & Ride Improvements

The following infrastructure improvements would facilitate TOD in the Westchase Park & Ride area. Targeted investments in sidewalk infrastructure, roadway drainage, pedestrian scale lighting, bike facilities, and structured parking can help to facilitate the connections between TOD and the transit facility.

Figure 4-11 shows the one-quarter mile walkshed, the area covered by following existing sidewalks and shared-use paths.

The following short and medium term improvements may better multi-modal connectivity in and around the facility.

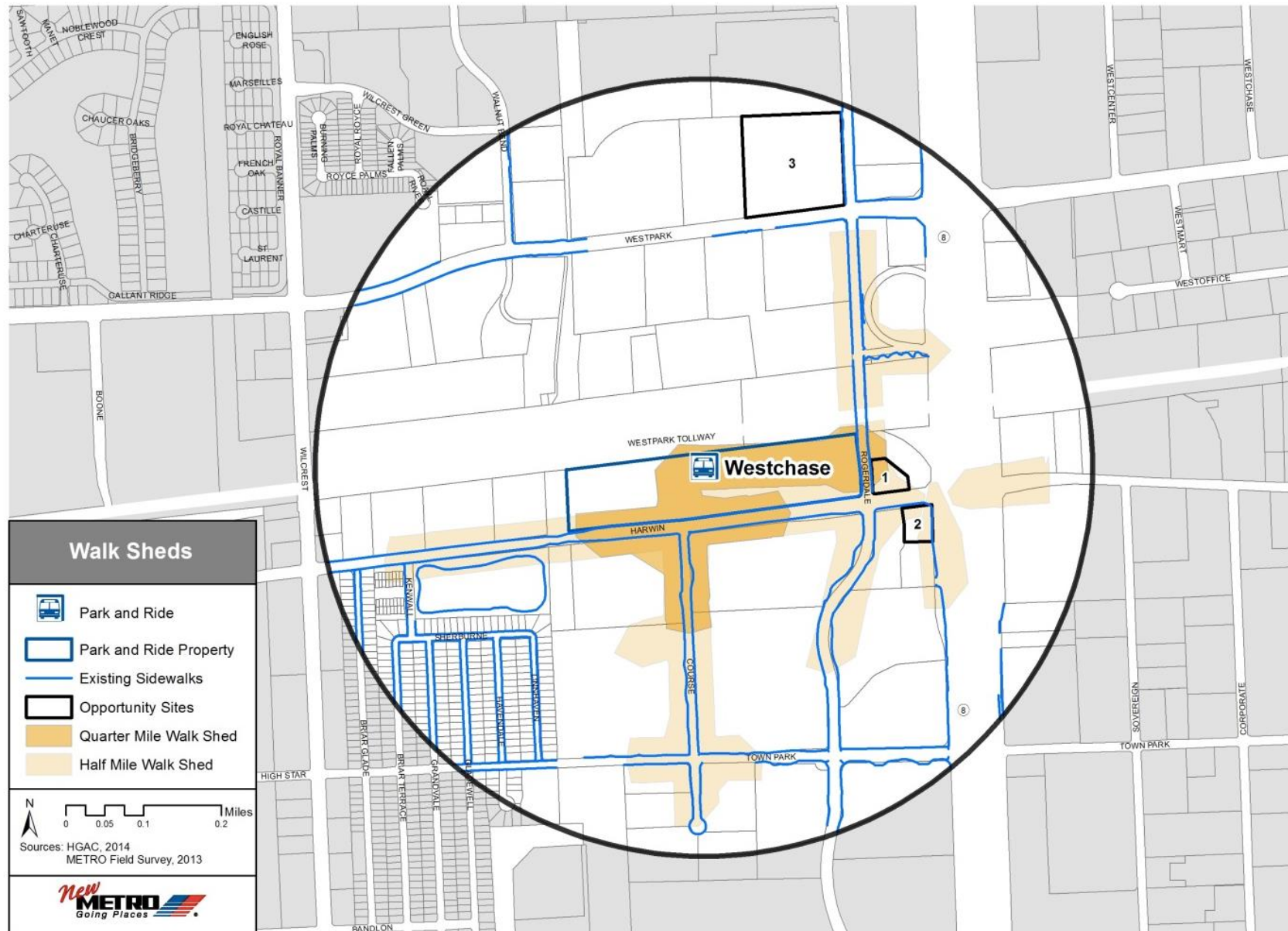
- Adding signed bike lanes to North Course Drive to connect with existing lanes along Harwin Drive will help serve new developments to the south of the Park & Ride.
- Structures could be installed at the Park & Ride to facilitate increased usage of the Brays Bayou Connector Trail which is reportedly going to be constructed in 2015. This trail is intended to connect multiple public assets including the Metro Park & Ride facility.. The Westchase Park & Ride lot could offer and advertise event parking in conjunction with popular events or destinations Downtown, such as the Rodeo. METRO already offers this service with other Park & Ride lots; this service has been requested for the Westchase Park & Ride as well.

Longer range improvements in and around the facility are noted below.

- Improving access to the Park & Ride, for instance by an on/off ramp that directly services the lot, would create a direct connection from Westpark Drive.
- A future light rail station in the Westpark Drive corridor adjacent to the Westchase Park & Ride would encourage TOD.



Figure 4-11: Accessibility Walkshed



5 Kuykendahl Park & Ride

The Kuykendahl Park & Ride is located over 17 miles to the northwest of downtown Houston near the southbound side of IH 45. The Park & Ride is a two level facility with five bus bays located on the upper level (**Figure 5-1**). Drivers may access the transit facility from two entrances along Demontrond Street and Blue Ash Drive. There is one entrance to the parking lot from Kuykendahl Road.

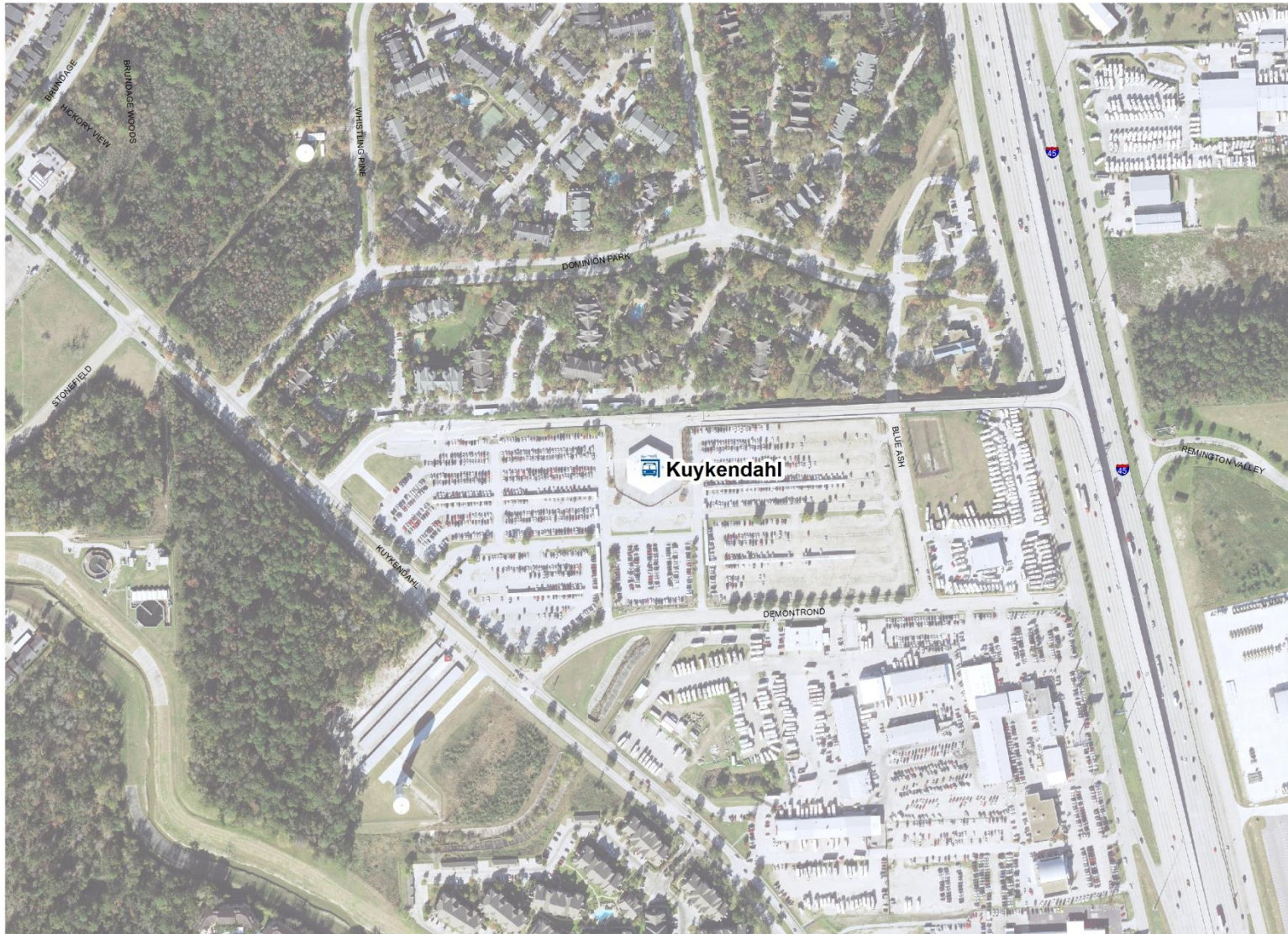
The upper level of the transit facility is linked to the IH 45 Express Lanes via a two-way ramp which permits commuter buses to enter and exit the passenger boarding area unimpeded by local traffic. The ramp also connects with Kuykendahl Road and permits high-occupancy vehicles and toll users to access the express lanes.

The Kuykendahl Park & Ride falls within two special districts that could be factors in TOD. The first is the Greater Greenspoint Management District (GGMD), which was created to ensure economic prosperity and promote

quality of life for its employees and residents. The GGMD connects public and private sectors to attract quality growth and development. The second special district is the Greater Greenspoint Tax Increment Reinvestment Zone (TIRZ #11). The goal of TIRZ #11 is to revitalize blighted areas, reposition the retail sector, and develop vacant property (TIRZ #11 Project Plan, 1999). **Figures 5-2** and **5-3** show these special districts.



Figure 5-1: Kuykendahl Park & Ride



Source: METRO GIS, 2015

Figure 5-3: Greater Greenspoint Tax Increment Reinvestment Zone (TIRZ #11)

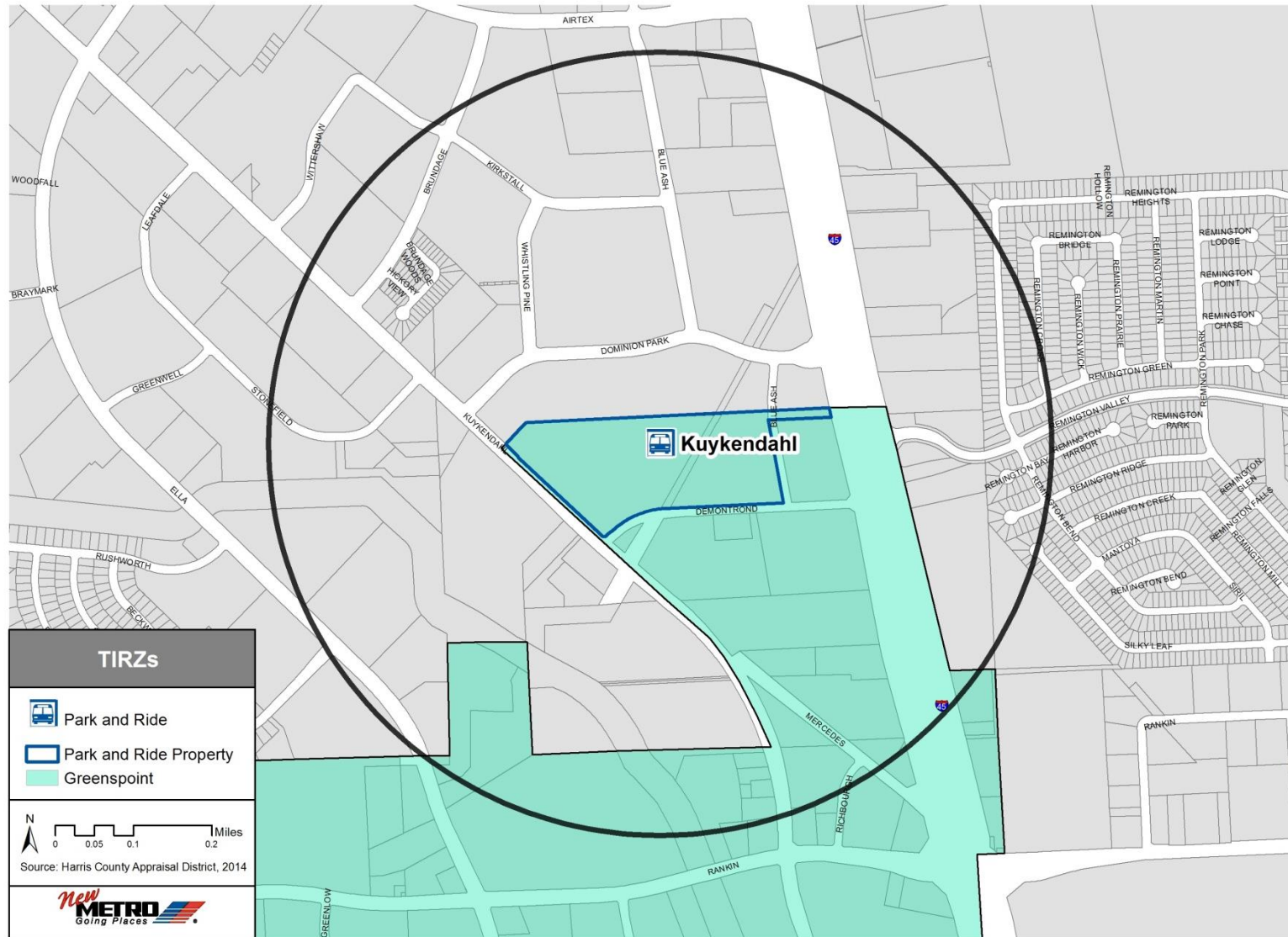
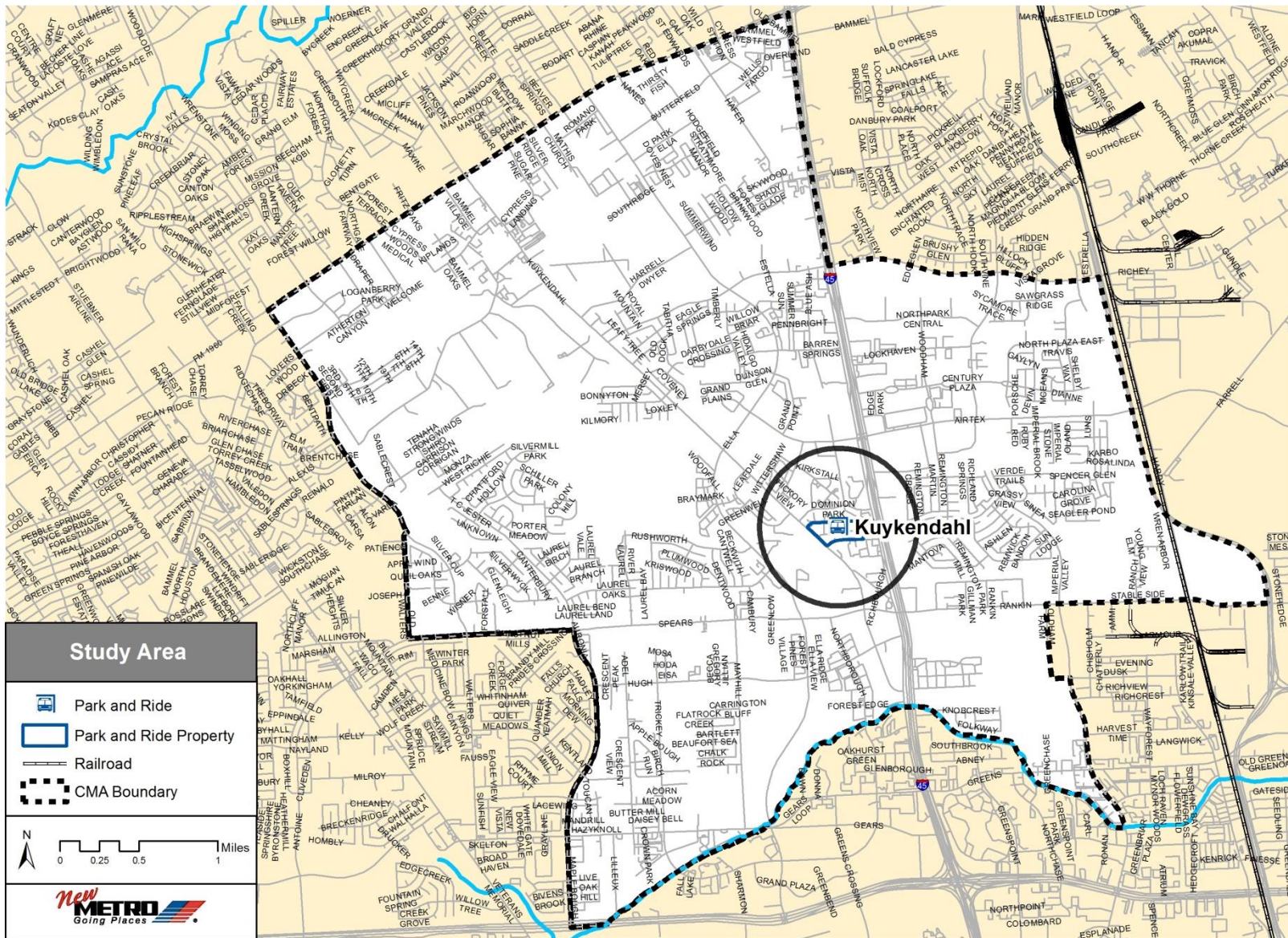


Figure 5-4: Study Area and CMA



5.1 Demographics

Census data reveals that the population within a 0.5-mile radius of the Park & Ride grew by 41.1 percent between 2000 and 2010. The number of households also grew by about 21 percent during the same time period. Short-term projections indicate that the population and households will continue to grow by 9.5 and 8 percent, respectively by 2019, far exceeding that of the Houston MSA and Harris County. Population increase for both the 0.5-mile radius and the CMA is greater than the increase in number of households. This combination of factors indicates growth in the area and an increasing density per dwelling unit.

Approximately 9 percent of the study area population has a Bachelor's degree and 31 percent have a high school diploma/GED. The educational attainment in the study area is slightly lower than the County and MSA averages. The median annual household income in the 0.5-mile radius is \$33,645, whereas in Harris County it is \$51,493, and in the Houston MSA it is \$56,573. About 4 percent of households in the 0.5-mile radius earn over \$100,000 annually.

Table 5-1: Population and Household Historical Trends and Short-Term Projections

POPULATION	2000 CENSUS	2010 CENSUS	2014 ESTIMATE	2019 PROJECTION	GROWTH 00-10	GROWTH 10-14	GROWTH 14-19
0.5-Mile Radius	2,246	3,169	3,404	3,727	41.1%	7.4%	9.5%
CMA	32,842	57,656	65,184	73,946	75.6%	13.1%	13.4%
Harris County	3,400,578	4,092,459	4,285,034	4,626,152	20.4%	5.1%	8.0%
Houston MSA	4,693,161	5,920,016	6,251,248	6,776,664	26.2%	5.6%	8.4%

HOUSEHOLDS	2000 CENSUS	2010 CENSUS	2014 ESTIMATE	2019 PROJECTION	GROWTH 00-10	GROWTH 10-14	GROWTH 14-19
0.5-Mile Radius	1,185	1,432	1,513	1,634	20.9%	5.6%	8.0%
CMA	13,760	20,046	22,325	25,130	45.7%	11.4%	12.6%
Harris County	1,205,516	1,435,155	1,500,011	1,619,300	19.1%	4.5%	8.0%
Houston MSA	1,648,148	2,062,529	2,176,602	2,359,640	25.1%	5.5%	8.4%

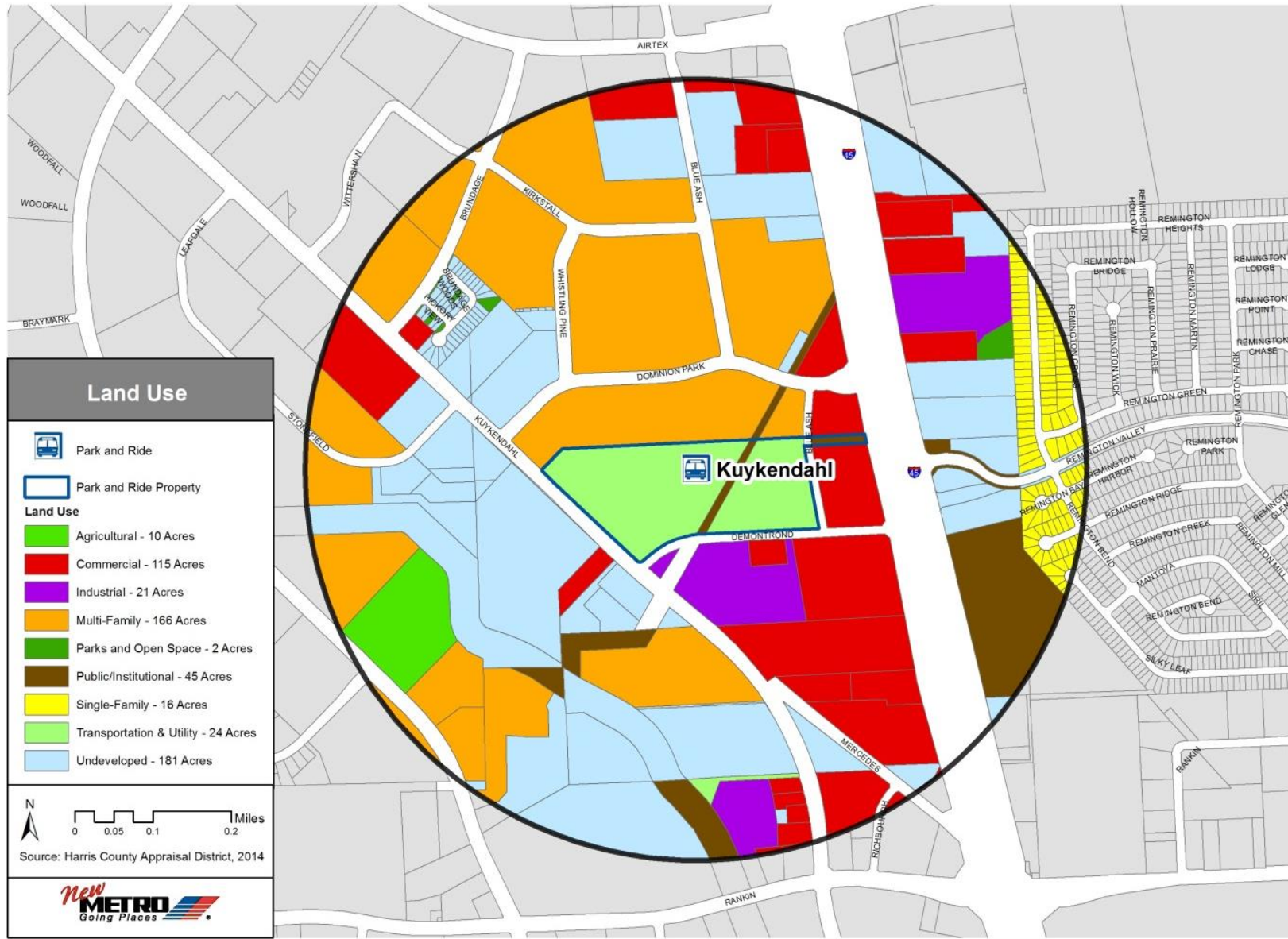
Source: *Developmental Potential, METRO Kuykendahl Park & Ride, CDS Market Research, 2015. American Community Survey Census Data 2012; PCensus for Map Info, Copyright 2013 Tetrad Corporation*

5.2 Land Use

Land uses within a 0.5-mile radius of the Kuykendahl Park & Ride are predominantly multi-family apartment complexes to the north, northwest, and southeast. The Park & Ride is flanked by large commercial tracts owned by the Demontrond Automotive Group, Inc. dedicated to automobile dealerships and mobile home retail and repair shops. Commercial/retail/service locations are concentrated along Blue Ash Drive to the north of the Park & Ride. Large undeveloped tracts of land are located to the southwest, northeast, and south of the Park & Ride. **Figure 5-5** illustrates the land uses surrounding the Park & Ride. Several multi-family apartment communities lie to the north of the Park & Ride, but are physically disconnected from the transit facility due to the lack of connecting road or sidewalk infrastructure. About 1500 multi-family units and about 350,000 square feet of commercial spaces lie within the 0.5- mile radius of the Park & Ride.



Figure 5-5: Land Use



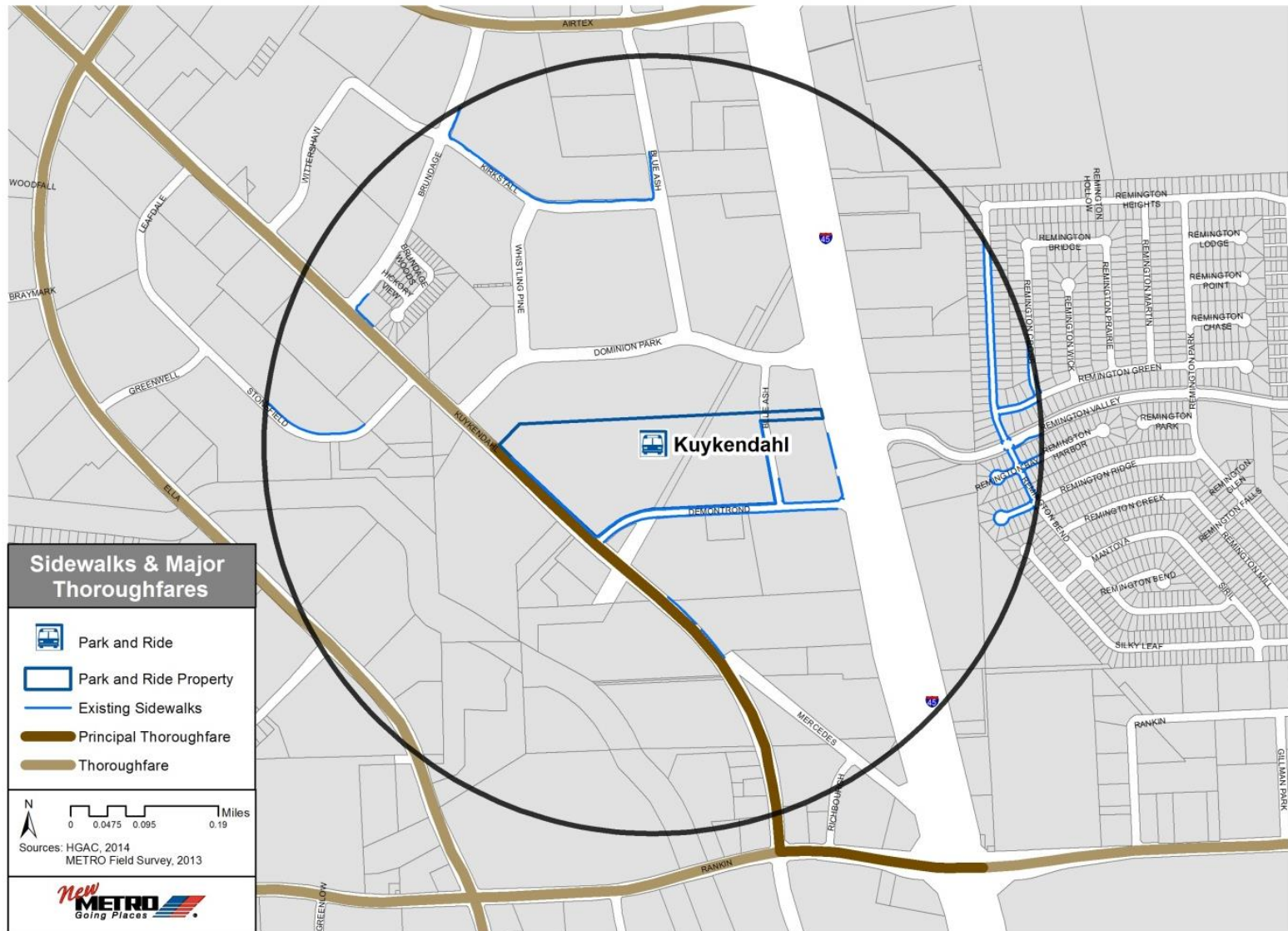
5.3 Connectivity

The Kuykendahl Park & Ride is located in the IH 45 corridor and has access from the frontage road on the east and Kuykendahl Road on the west.

Sidewalks within the 0.5-mile radius of Kuykendahl Park & Ride are limited and concentrated along collectors and major thoroughfares, such as Kuykendahl Drive, the west side of Blue Ash Drive, and both sides of Demontrond Street. **Figure 5-6** shows the sidewalks and major thoroughfares in the study area (METRO).



Figure 5-6: Street Network and Sidewalks



5.4 Bus Routes and Bikeways

Figure 5-7 shows the bus routes and lack of bikeways in the study area (METRO). The Park & Ride has 1,034 spaces and generates approximately 506 daily riders, for a utilization rate of approximately 57 percent¹⁰. Table 5-2 summarizes the multimodal connectivity of the Park & Ride.

No bike lanes serve the facility but there are two bike racks near the rotunda that can accommodate up to ten total bicycles.

Table 5-2: Connectivity and Accessibility

ACCESS	GOOD	FAIR	POOR
Street Grid			<ul style="list-style-type: none"> No street grid exists.
Pedestrian (Block Sizes)			<ul style="list-style-type: none"> Sidewalks are discontinuous along Kuykendahl Streets to the north form large blocks with no sidewalks
Vehicles		<ul style="list-style-type: none"> Much of the property hasn't been developed Roadway network is limited and discontinuous 	
ADA			<ul style="list-style-type: none"> Ramps exist on the few sidewalks in the study area
Bicycles			<ul style="list-style-type: none"> No designated bicycle facilities in the study area
Adjacent Parking	<ul style="list-style-type: none"> Parking available in Park & Ride 		
Kiss & Ride Drop Off	<ul style="list-style-type: none"> Kiss & ride drop off spaces provided 		

¹⁰ Third Quarter Vehicle Count, Metropolitan Transit Authority of Harris County, June 2015.

5.5 Developer Interviews

Real estate professionals were interviewed regarding TOD potential around the facility and provided the following assessment:

- The numerous multi-family units around the Park & Ride have the perception of high crime and may discourage some single-family development.
- New multi-family development is likely to hold off until the local economy shows more consistent strength.
- The good access to and the site visibility are its assets and could be attractive to commercial development.
- The location could be a good fit for small-scale retail since the major retail centers are relatively close at Greenspoint and FM 1960.

5.6 Market Trends and Opportunities

The following summarizes detailed market findings and recommendations from the Kuykendahl Park & Ride Development Potential Report¹¹.

5.6.1 Market Trends (CDS Market Research)

Single-Family Housing

The area surrounding the Kuykendahl Park & Ride contains many vacant and undeveloped lots. Most of the lots are relatively small and spread throughout the CMA, making additional large scale residential developments unlikely. However, there is an opportunity for smaller single-family residential infill developments. Homes in this area priced in the \$125k to \$175k range offer an affordable alternative to areas such as Cypress, Tomball, and The Woodlands. At the same time they offer a much shorter commute for those who work in the Greenspoint area or inside Beltway 8.

Multi-Family Housing

An estimated 1,216 additional rental units will be needed in the CMA by 2020 to meet the current trends of population growth and persons per housing unit. This need for additional units is confirmed by the survey presented earlier, which shows vacancy rates for multifamily complexes in the CMA at 6.0 percent, down from a five year average of 10.0 percent. This would suggest a growing demand for rental units in the area. However, while long term trends may suggest the need for additional rental units in the area, it is unlikely that any new multi-family projects will be announced and/or constructed in the area. Given the uncertain expectations of Houston's short term economic forecast amidst falling oil prices, would-be investors and developers are likely to wait until the outlook becomes more positive.

Retail

The vacancy rate and availability rate for retail space in the CMA is at 11.2 percent and 16.1 percent, respectively. Because of these fairly high vacancy and availability rates, it is not anticipated that the area will see any new major retail development until local and regional prospects improve, and a considerable share of the vacant square footage is absorbed. When the market does return, retail development should be expected to occur slowly. Sites along Kuykendahl Road south of Rankin, next to the newly constructed Walgreens, could be an ideal location for additional, locally-oriented retail. Also, a new grocery store may also do well near the Park & Ride. One area that may drive future retail demand is the development of industrial sites. Industrial development is moving forward on several sites in or nearby the CMA, including Pinto Park—which when fully built out will have over nine million square feet of building space on 971 acres. Tenants and businesses at these future facilities will bring new investment and jobs to the area, inducing new residential and retail development.

¹¹ Development Potential METRO Kuykendahl Park & Ride, CDS Market Research, 2015.

5.6.2 Opportunity Sites

Development opportunities exist both internal and external to the Kuykendahl Park & Ride lot.

The Kuykendahl Park & Ride lot could provide a location for future retail development. The lot is well utilized and retail space could be creatively inserted into the existing Park & Ride structure through renovation, or combined with a new multi-family project (and development costs could be shared).

A potential development scenario of the Kuykendahl facility is shown in **Figure 5-8**. Consistent with the character of the area, mixed use with retail and moderate density residential could face Kuykendahl Road with apartments farther back on the lot. Commuter parking lost from this development could be replaced with a garage adjacent to the bus platform.

If joint development were to be considered at Kuykendahl Park & Ride, short, medium and long term actions would need to be determined. METRO may coordinate with the Greater Greenspoint Management District to make use of the lot for area events and as a marketing tactic to focus attention of the potential of the facility for more than just a parking lot.

Medium-term actions are composed of METRO drafting a policy of shared use and joint development standards identifying their optimal transit needs. Required number of parking spaces, bus bays on the platform, and access standards should all be elements of this policy. Once this policy is defined, third party interests can better determine what level of joint development is suitable. Long-term actions are the actual joint development activities: finding partners, lease agreements, development designs, and construction.

External development opportunities have been identified for properties around the Park & Ride. An opportunity matrix has been prepared describing the development opportunities at various locations that have the potential to take advantage of the Park & Ride shown in **Figure 5-9** and **Table 5-3**.



Figure 5-8: Kuykendahl Park & Ride Development Scenario



Source: METRO, 2015.

Figure 5-9: Development Opportunity Sites

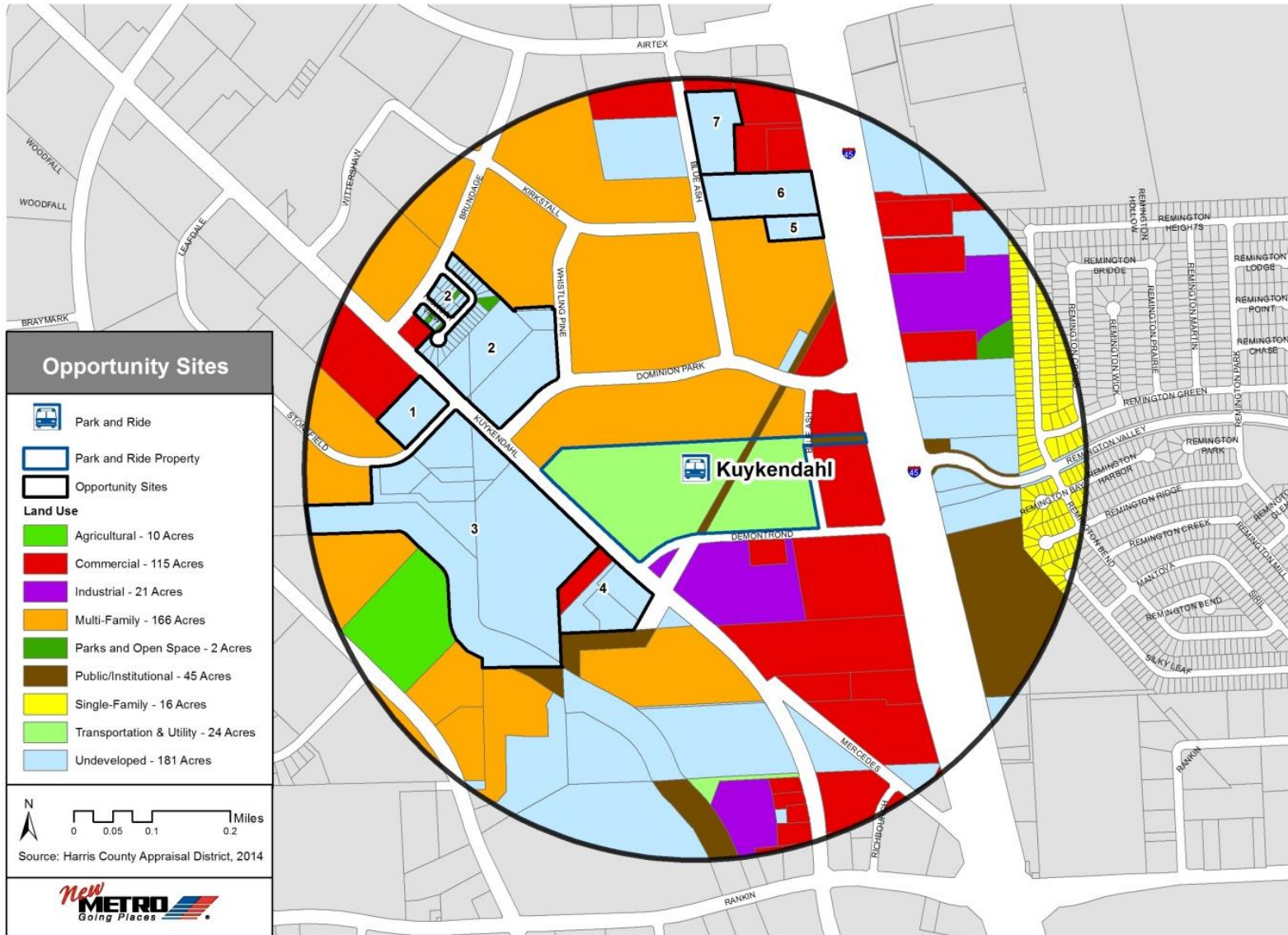


Table 5-3: Development Opportunities Matrix

SITE	DESCRIPTION	CURRENT USE	PROPOSED
1.	Northwest of Park & Ride at Kuykendahl Road and Stonefield Road; Approx. 113,000 sq. ft.	Undeveloped land	Multi-family residential
2.	Northwest of the Park & Ride at Kuykendahl Road and Dominion Park; Approx. 400,000-500,000 sq. ft.	Undeveloped land	Multi-family residential
3.	West and adjacent to the Park & Ride; Approx. 1 million sq. ft.	Undeveloped land	Affordable/mixed income multi-family housing
4.	Southwest and adjacent to the Park & Ride; Approx. 300,000-400,000 sq. ft.	Undeveloped land Storage rental	Commercial Retail
5.	North of the Park & Ride at Blue Ash and Kirkstall Drive; Approx. 166,000 sq. ft.	Undeveloped land	Commercial Retail
6.	North of the Park & Ride at Blue Ash and Kirkstall Drive; Approx. 222,000 sq. ft.	Undeveloped land	Commercial Retail
7.	North of the Park & Ride on Blue Ash Drive, south of Airtex Road; Approx. 53,000 sq. ft.	Undeveloped land	Commercial Retail

5.7 Park & Ride Improvements

Targeted investments in sidewalk infrastructure, roadway drainage, pedestrian scale lighting, bike facilities, and structured parking can help to facilitate the connections between TOD and the transit facility.

Figure 5-10 shows the one-quarter mile walkshed, the area covered by existing sidewalks and shared-use paths.



The following short and medium term improvements may enhance multi-modal connectivity in and around the facility.

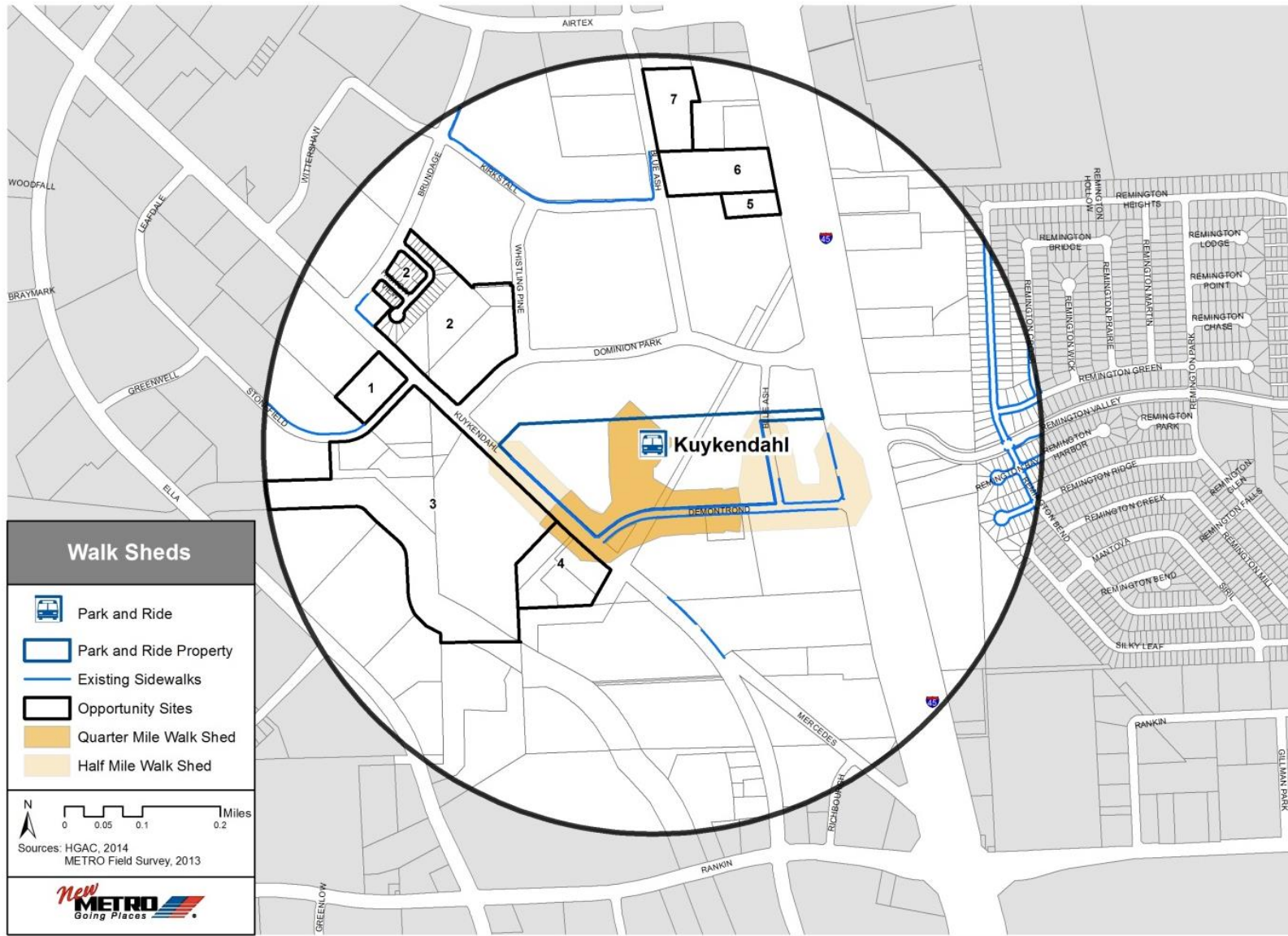
- Adding four to five foot sidewalks along Dominion Park, Brundage, Whistling Pines, Kirkstall, and Kuykendahl Drives would help connect future potential development to the facility.
- Currently residents of the multi-family development immediately to the north and northwest of the Park & Ride facility do not have an access point or a pedestrian gate to allow them to walk or bike to

the Park & Ride; thereby forcing them to drive to the facility. Coordinating with residential communities to install a controlled pedestrian access point within the perimeter of the development could help residents access the Park & Ride without depending on an automobile.

- Sidewalk accessibility and all ramps within the immediate vicinity of the Park & Ride should meet all requirements of the American with Disabilities Act.
- Longer term improvements may include:
- Dividing larger tracts into smaller block sizes may be necessary to reduce travel distances for both bicyclists and pedestrians between the transit facility and activity site.
- Smaller block sizes also increase available street frontage for retail elements on the ground floor of multi-level, mixed-use developments.¹²

¹² Peponis, J., Allen, D., French, S., Scoppa, M., & Brown, J., (2007). Street Connectivity and Urban Density: Spatial Measures and their Correlation. *Proceedings, 6th International Space Syntax Symposium*, 4, 4-5.

Figure 5-10: Accessibility Walkshed



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6 TOD STRATEGIES AND POLICY RECOMMENDATIONS

6.1 Why Transit Oriented Development?

6.1.1 Benefits

TOD offers substantial benefits to community residents, developers, the local economy, public agencies and the transit system. Successful TOD can result in economic, transportation, health, and community benefits. By consistently identifying and communicating these benefits, METRO and other stakeholders can support the implementation policies and programs that will make TOD more likely to occur. The information below and in **Table 6-1** identifies more specific benefits in each of these areas.

ECONOMY

TOD connects people and jobs. By bringing jobs, housing, and services closer together and linking them with transit, TOD can help shorten travel times and improve connections between people and jobs. For the last few decades, business development and job growth has been expanding outward in suburbs and exurbs, leaving the working poor in inner cities and older suburbs either unable to access those jobs, or spending a large portion of their income and time traveling to work. Redirecting the majority of growth to areas served by transit will help alleviate this spatial disconnect between the location of jobs and the homes of the labor force. Additionally, as TOD expands the range of housing options and retail types, this in turn helps attract new residents and businesses from outside the city and region.

TOD can be more profitable for developers and investors than traditional, suburban development. Land acquisition and construction costs may be higher, especially for urban infill, but higher-density projects produce more

Table 6-1: TOD Benefits

AREA	BENEFITS
Economy	<ul style="list-style-type: none"> Offers a higher return on investment for developers and financial institutions Better connects people and jobs Expands the range of housing options and retail types Generates new jobs, entrepreneurship, increased spending, tax revenues, and other economic spillover effects
Transportation	<ul style="list-style-type: none"> Expands choice of travel modes, decreasing automobile reliance Increases transit ridership Helps the transit system maximize service efficiencies Helps reduce traffic congestion on major roads
Health	<ul style="list-style-type: none"> Increases physical activity by encouraging walking and bicycling Improves air quality from reduced emissions Improves safety from reduced crash rates
Community	<ul style="list-style-type: none"> Increases property values Helps stabilize neighborhoods Lowers transportation costs allowing redirected spending Conserves land

residential units for sale or rent as well as greater retail square footage. Developments centered around transit infrastructure are designed to attract a percentage of residents and retail customers that will use transit, allowing developers to replace some parking spaces with higher return uses. Furthermore, depending on the TOD or joint development role METRO takes in a project, the agency could see direct returns on investments through rents or other fees, which would add an additional source of revenue.

TOD has been shown to attract higher rates of jobs and companies due to the diverse labor supply in close proximity and easy access through multiple modes of transportation. Local entrepreneurs, who thrive on foot-traffic, can take advantage of the business opportunities afforded by the compact development, smaller building footprints, and pedestrian traffic within TODs. This effect would be considerably stronger if TOD is part of a larger, comprehensive economic development strategy geared towards growing small business and supporting local entrepreneurs. All of this can benefit local jurisdictions in the form of higher revenues from ad valorem and sales taxes generated by these projects.

TRANSPORTATION

METRO, in particular, has a direct benefit in the development of TOD around its infrastructure and services. Not only is increased ridership a proven benefit, but longer-sustaining ridership levels with increased fare-box revenues have been shown in other cities with TOD. The long-term transit ridership gains would enable METRO to potentially reduce the operating cost per passenger or invest in higher quality service. By locating transit services near greater concentrations of housing, METRO could also maximize service efficiencies, which would allow for greater funding flexibility for the agency. Regionally, ridership-generating TOD enables reduction or better management of congestion on major roadways, which can free up capacity for other travelers including freight and truck travel.

HEALTH

The transportation system is a major part of the built environment and currently poses barriers to better health. The Centers for Disease Control and Prevention (CDC) and American Heart Association (AHA) advocate for changes to the built environment, street level design and community

development that promote opportunities for physical activity as strategies to combat obesity and heart disease. Implementing TOD would help address these issues by enabling and encouraging alternative modes of transportation, including walking, biking and transit.

TOD also has the capability to improve air quality by shifting automobile trips to walking, bicycling and transit trips which in turn decreases the emissions from vehicle usage. Cleaner air leads to fewer symptoms and illnesses for those suffering from asthma and other chronic respiratory conditions. Health professionals and advocates have become new partners in promoting and planning for active transportation. Well designed TOD will encourage multiple modes of transportation in a context that creates a safer environment. This is done through roadway and pedestrian realm design, lighting, signage and ancillary facilities that reduce conflict points and places high importance on visibility and safety of pedestrians and bicyclists.

COMMUNITY

Benefits to the City and community include increases in property values due to proximity to transit, high-quality retail, and job access, as well as new community investments. Well designed and developed TOD that is inclusive of affordable housing opportunities and new business development can also stabilize neighborhoods in the long-term and help manage the pressures from gentrification. Public agencies, affordable housing advocates, and private developers should act decisively to plan and coordinate affordability incentives and/or subsidies to secure long-term the availability of affordable housing adjacent to transit facilities. Households tend to experience a decrease in costs, in both time and money, for traveling between home, work, shopping, and other activities. Household income not spent on gas, parking, and car payments can be saved or redirected to spending at local businesses. TOD and infill development generally use existing infrastructure, and would maximize the public sector's return on investment for any new or expanded infrastructure. Whether infill or not, TOD consumes less land than low-density, car-oriented growth, thus reducing the need to convert open spaces into new development.

6.2 Who Is Involved with TOD?

6.2.1 Agency Roles & Responsibilities

Perhaps the most critical first step in TOD planning is identifying a diverse set of stakeholders that need to be involved. The success of TOD rests as much on analyzing, directing, and meeting market demand as it does on sound land use and transportation planning. An effective TOD plan will depend on the active involvement and input of an array of public agencies, private-sector developers and financial firms, non-profits, and community organizations. **Table 6-2** provides a general overview of the types of stakeholders that might be involved in TOD planning and implementation and their likely roles.

There are several roles METRO can play in the TOD process. First and foremost, the transit agency's primary responsibility is to provide high quality transit service and ensure safe operations of and access to its transit facilities. While TOD principles generally enhance access and safety, as the land owner of the transit facilities, METRO should not encourage any development that doesn't enhance its facilities. METRO is also a development partner through its joint development capabilities. Joint development was successfully utilized in the development of the Cypress Park & Ride. METRO is also capable of providing planning support with local governments to develop around METRO facilities by sharing information about its facilities and services, collaborating with local governments and potentially matching funds in certain instances.

In addition to meeting with community stakeholders and developers, the TAG facilitated meetings with different stakeholders including the City of Houston Public Works and Engineering and Economic Development divisions as well as the public and private entities working to advance affordable housing initiatives and projects in the region. These meetings provided valuable insight on current challenges and opportunities to progressing TOD projects and guided the development of study recommendations.

METRO'S JOINT DEVELOPMENT STRATEGIES FOR PARK & RIDES

METRO can prepare for coordinated and supplementary joint development of their Park & Ride facilities by taking short-term, mid-term, and long-term measures. In the short-term, METRO can work with the community, management districts, vendors, and other organizations to share the use of the parking area for social events, such as carnivals, festivals, and promotions during evenings and weekends. By sharing the lot during off-hours, METRO can market the lot as a center of activity and a destination beyond the weekday work hours.

In the mid-term METRO should identify the fundamental transit needs to be preserved at each lot to prevent potential joint development from consuming too much parking area or restricting access and rendering the lot obsolete. Identifying the minimum amount of parking to be maintained, the optimum number of bus bays on the platform, and sufficient bus and automobile access can provide all parties a clear picture of the thresholds and economies of scale that make various levels of development feasible. A facility with high development demand may require a garage for the transit patrons, which then frees up the rest of the lot for high-density residential or mixed-use development. Regardless of the intensity of development, METRO will still be able to continue operations and protect their investment.

Long-term measures include the actual joint development agreement. METRO can enter into joint development agreements more easily once the operating parameters are established. Development itself can occur in phases over time, gradually increasing in intensity, but with a clear delineation of transit needs, developers know how much they need to invest to meet their goals without compromising the transit needs of the community.

Local governments, such as the City of Houston, Harris County, and municipal management districts facilitate the community process with neighborhood stakeholders during the planning and development process. This is also an important point where METRO and local governments should work together. Local governments are also responsible for developing the regulatory environment, implementing policies, plans, financing tools and issuing permits, which make them a crucial partner in areas adjacent to transit facilities.

Table 6-2: Roles and Responsibilities

ACTIVITY	METRO	LOCAL JURISDICTION	NON-PROFIT	DEVELOPER	MPO	STATE	FEDERAL AGENCIES	COMMUNITY
Market TOD Opportunities	X	X	X					
Policy	X	X			X	X	X	
Incentives for TOD	X	X		X				
Ensure Sufficient Infrastructure is in Place	X	X		X				
Assembling Land for TOD	X	X	X	X				
Financing & Funding	X	X		X	X	X	X	
Planning, Partnering, Project Development near transit	X	X	X	X				
Affordable Housing	X	X	X	X		X	X	
Permitting		X						
Construction	X		X	X				
Neighborhood Revitalization / Preservation		X	X					X
Advocacy	X		X		X			X

Local governments also possess multiple tools that are important to encouraging TOD such as urban design guidelines, land assemblage, building infrastructure, parking guidelines and management, and utilizing TIRZs and municipal management districts. Lastly, local governments are responsible for the establishment of policy, regulations, and enforcement related to affordable housing issues. METRO should be committed to encouraging a diverse range of housing options, including affordable units in close proximity to its transit services. METRO should work with local governments to understand the affordable housing needs of the communities and encourage TOD/joint development that addresses affordable housing goals of local communities and the region.

Developers, including non-profit organizations such as Avenue CDC, are responsible for working with local governments to draft and finalize site plans, obtain necessary approvals, secure financing, complete land assembly, and manage construction of the project. Through METRO's joint development policy, the transit agency could also have a direct relationship with developers. In joint development circumstances, developers would typically be responsible for integrating METRO's facilities into the development, providing primary funding for infrastructure associated with the joint development, and ensuring all approvals are in place.

Funding partners are also an important stakeholder as funding can be for infrastructure construction, development of plans, and more. Funding partners can span from the MPO (Houston-Galveston Area Council), state (Texas Department of Transportation, Texas Department of Housing and Community Affairs, etc.) and federal agencies (Federal Transit Administration, Housing & Urban Development, etc.). Typically federal funding sources will flow through a local government sponsor such as the City of Houston, METRO, Harris County, H-GAC, etc. Non-profit organizations are also a valuable funding resource and include organizations such as Avenue CDC, Covenant Community Capital Corporation, and the Local Initiatives Support Corporation (LISC) who provides loans, grants, equity investments, policy support, and technical and management assistance. METRO should coordinate with potential funding partners in the development of TOD supportive policies, community plans, and infrastructure projects.

As infrastructure funding or development financing for TOD-related projects has not been widely utilized in Houston yet, it is important to identify the main sources and mechanisms most commonly utilized. While there are several funding opportunities and financing mechanisms available to be utilized in the TOD context, the utilization of those mechanisms vary based on the unique characteristics of the specific TOD plan, site or neighborhood. On a basic level, the categories of funding tools include direct fees, debt, credit assistance, equity, value capture, and grants and other philanthropic sources.¹³ It is essential that METRO, local jurisdictions, other funding partners and developers understand the various funding tools available and their applicability, as well as explore innovative uses of the financing mechanisms.

6.3 Where Are We Now?

The history of development in Houston is much like that of cities across the US that started with pre-war streetcar suburbs and transitioned to auto-oriented suburban expansion development. These patterns have created barriers and challenges to overcome in order to facilitate and implement successful TOD in Houston. The recent light rail expansion, implementation of the New Bus Network, increasing redevelopment, policy changes and market trends all provide an opportunity to leverage the recent infrastructure investments made by METRO. Improved transit service can support changes in the communities that will promote increased safety, walkability, multimodal trips and long-term vibrant neighborhoods.

For METRO, the role of the agency in TOD and joint development has been limited. In 2012, the agency identified that TOD and joint development are desired around its facilities and adopted TOD and Joint Development Goals and Strategies. METRO's Park & Ride Area Planning effort can serve as the first step for the agency to move from a supportive role to an actor that actively participates in planning, pursuing and evolving TOD in Houston.

¹³ "Infrastructure Financing Options for Transit Oriented Development," Environmental Protection Agency, 2013.

Additionally, the policy context at the City of Houston plays an important role. Many times zoning is utilized to regulate and encourage the growth in an area to be conducive to or directly initiate TOD. As the City of Houston does not have zoning, ordinances instead are utilized for planning, and if designed in a supporting manner, can achieve similar results. **Table 6-3** identifies primary challenges from policies and regulations, agency involvement and past developments that currently affect the feasibility of TOD opportunities in Houston.

While Houston is not known as a city with planning, largely meaning land use controls, a substantial amount of planning occurs from the neighborhood to regional levels. Plans and reports relating to mobility, transit, bicycle and pedestrian infrastructure, neighborhood revitalization, environmental quality, parks, sustainability, access management, healthcare, strategic and community plans, hazard mitigation, livable centers, goods movement, sub-regional plans, wetland conservation and many more have been developed in the Houston area to inform and create well-built, functional, livable communities. The structure, processes, and content vary in each of the planning efforts, which can lead to inconsistent implementation and coordination. There is also an extensive regulatory environment that projects must comply with.

Most recently, the City of Houston has made great strides in refining its policies on how the City can encourage better urban growth that supports and encourages walkable areas and transit usage within its existing framework. Updates to the Major Thoroughfare and Freeway Plan, revisions to Chapters 26 and 42, the Complete Streets Executive Order, as well as the completion of the Houston Urban Framework Report all signal a concerted effort to address some of barriers to TOD through multiple mechanisms to encourage greater density, mixed use, flexibility for parking requirements, context sensitive street design, and encouraging transit usage. Additionally, Houston is currently developing its first General Plan that will tie together existing plans and goals, define successful outcomes and develop strategies to enhance neighborhoods and support growth and development.

The City of Houston’s improvements to the development and coordination of plans, policies and regulations to support and encourage TOD have only recently been implemented. Some recent developments are making use of

Table 6-3: TOD Challenges

AREA	OBSERVED CHALLENGES
Regulations	<ul style="list-style-type: none"> Regulations affecting TOD are applied through different mechanisms and are not typically designed for flexibility (TOD is the hard path to follow, not the easy one) Standard building setbacks prevent bringing structures close to the street in many cases Building codes for mixed uses tend to require an overdesign of residential uses Parking requirements influence the amount of space required for development and site design
Transportation Network	<ul style="list-style-type: none"> Amenities in the pedestrian realm are lacking in many areas, which discourages walking Discontinuous bicycle facilities make biking a challenge and frequently creates conflicts with auto traffic Growing congestion leads to requests for more roadway capacity

the Transit Corridor Ordinance and other development policies that create more mixed use development and walkability, but, with some notable exceptions, their connection to transit is generally lacking. Additionally, many of the improvements to Chapter 42 and 26 ordinances that would encourage TOD are optional. Without stronger incentives or requirements, partnership and funding tools, TOD may be slow to be realized in Houston.

AREA	OBSERVED CHALLENGES
Regulations	<ul style="list-style-type: none"> Regulations affecting TOD are applied through different mechanisms and are not typically designed for flexibility (TOD is the hard path to follow, not the easy one) Standard building setbacks prevent bringing structures close to the street in many cases Building codes for mixed uses tend to require an overdesign of residential uses

and development of goals and recommendations that should be enacted in order to realize TOD. Plans can provide long or short-term recommendations and may refer to one specific site or corridor, or may look at a larger area. Plans also provide important information about existing conditions, barriers, best practices and potential solutions. Policies refer to the responsibilities of the agency as well as regulations or other top-level priorities that impact the manner in which development occurs. Programs are the specific tools that are utilized to fund, incentivize and implement projects. The following **Tables 6-4** through **6-6** identify the most relevant plans, policies, and programs driven by various public entities that impact TOD implementation.

While the plans, policies, and programs outlined in the tables above identify strategies to support TOD implementation, outdated design guidelines and regulatory barriers persist which limit comprehensive and coordinated development of TOD over a wider area. As noted during the interviews with developers and the market assessments, many of the factors that would typically be a part of a TOD project required variances or carried elevated financial risks and regulatory burdens for the developer. Some of these challenges discussed briefly below should be addressed through multi-agency coordination in order to most effectively support the implementation of TOD projects.

- METRO's TOD Goals and Strategies document could identify specific action-oriented strategies to more clearly direct staff activities. By clarifying METRO's position and priorities, developers and partners such as management districts and community stakeholders could better understand the opportunities and the role METRO can play in TOD projects.
- METRO will need to develop access management plans for rail stations, Park & Rides, and transit centers which integrate transit facility entrance/egress areas into the adjacent sidewalk and bike lane network. Currently, transit facilities have entrance/egress areas which may force pedestrian to walk in the opposite direction from activity centers and sites for potential TOD.
- METRO should also craft an internal policy describing which stations should have Park & Ride access and leverage the results of such an analysis to coordinate with the city and developers on

shared parking opportunities and parking benefit districts. Revenue generated within the parking benefit districts could be leveraged to fund additional infrastructure improvements in the surrounding area.

- The City of Houston's Chapter 42 could better address the unique elements and regulatory needs of TOD. Elements that can positively impact TOD are included in the Subdivision Ordinance, but the ordinance does not recognize TOD as its own development typology that has a variety of more specialized regulatory needs and options that are not currently or most adequately covered in the existing ordinance. Some cities have recognized this and set up a specific review process for projects that meet certain TOD standards allowing better coordination and expedited reviews as an incentive to developers.
- Parking requirements can be a significant impediment to TOD projects due to the high costs to the developer and the impact that parking requirements can have on site layouts and access requirements. Section 26 of the Code of Ordinances provides some options for reduced parking requirements, but these options require several additional steps before being implemented. Often they require a more regional approach that extends beyond the scope of a particular project. Additional accommodation in Section 26 that specifically addresses projects that meet a TOD standard would further allow developers to make the best use of available development space without the cost and constraints of the existing parking requirements, while also not burdening adjacent parking demand as more people can utilize transit for their trips.

Table 6-4: TOD Relevant Plans

AGENCY	ITEM	INFORMATION
City of Houston	Urban Corridor Planning Report & ULI Assessment	Establishes several recommendations and a strategy to implement TOD - ULI provides analysis of development impacts and consequences of the Urban Corridors Planning Proposal
City of Houston	Urban Houston Framework	Guide to integrate land use and transportation planning by coordinating land development standards with new transit investments, and by providing affordable housing in dense areas around new transit lines.
City of Houston	Major Thoroughfare and Freeway Plan	Identifies roadway classification and future needs
City of Houston	General Plan	Presents outcomes and strategies for growth and development conducive to TOD
H-GAC	Our Great Region 2040	Identifies strategies that are relevant to mixed-use, multimodal development
H-GAC	Livable Centers Program	Smaller area plans that develop projects to create a multimodal environment and emphasize mixed use development
H-GAC	Regional Transportation Plan	Identifies regional priorities for transportation investments and regional performance measures in support of TOD investment
City of Houston / H-GAC	Mobility plans	Identifies projects that promote better mobility, and to consider and develop a multi modal classification for streets within the study areas
METRO	Bike & Ride Access & Implementation Plan	Identifies multimodal connectivity and programs to support increased access to transit for bicyclists and pedestrians

Table 6-5: TOD Relevant Policies

AGENCY	ITEM	INFORMATION
METRO	Transit Oriented Development Goals & Strategies	Identifies elements of TOD projects supported by METRO and strategies to enhance TOD viability around METRO services. Includes Joint Development Guidelines, Policies and Procedures that guide marketing, solicitation, and negotiation, as well as define developer and METRO responsibilities.
City of Houston	Ch. 42 (151 - 159; 163)	Identifies minimum setback lines and preservation of existing building setbacks
City of Houston	Ch. 42 Transit Corridor Development (Article IV)	Optional regulations to enhanced development options adjacent to designated Transit Corridor Streets
City of Houston	Ch. 42 Article III - Div. 4	Planning Standards - minimum lot size /building line ordinance
City of Houston	Parking Regulations (Sec. 26-500, 498, 503)	Minimum parking spaces, shared parking requirements and allowances
City of Houston	Building Codes	Identifies uses and required standards/regulations for development
City of Houston	Complete Streets Policy	Improves pedestrian and bicycle amenities that can facilitate safer access, feasibility of transit and enhance TOD opportunities
Local Jurisdictions	Zoning Regulations	Zoning regulations (or ordinances) that reduce parking, encourage mixed uses and higher densities can encourage (or hinder if not appropriate) TOD

Table 6-6: TOD Relevant Programs

AGENCY	ITEM	INFORMATION
METRO	Capital Improvement Program	Use to develop better transit facilities, access improvements and amenities that support TOD
METRO	FTA-Assisted Joint Development	Allows grant funding through planning and capital assistance programs and allows property previously acquired to be used for Joint Development
METRO/City of Houston	Transportation Infrastructure Financing & Innovation Act (TIFIA)	Financing program through credit assistance, could be used to aid in developing transportation infrastructure and potentially affordable housing inclusions in overall TOD
City of Houston	PWE Infrastructure Design Manual	Influences the pedestrian and bicycle environment and roadway design
City of Houston	HOPE Program	Aids homeownership in revitalization zones - which could aid affordable housing development within TOD
City of Houston	Land Assemblage Redevelopment Authority	Acquisition, assemblage, management, marketing, development & disposition of properties
City of Houston	Ch. 380 Agreements	Economic and other incentives for new, pedestrian friendly multi-family residential mixed use development (Ex: Downtown Living Initiative)
City of Houston	Parking Benefit Districts	Can be used to allow parking revenues to be used for public amenities, including those that would encourage transit usage and TOD feasibility
City of Houston	Multi-family housing incentives	Inclusion of affordable housing - programs include low interest loans, grants and tax incentives
City of Houston	ReBuild Houston	Pay-as-you-go funding mechanism to maintain and plan upgrades to infrastructure
City of Houston	Municipal Management Districts (MMD)	To finance facilities, infrastructure and services supplemental to the City
City of Houston	Tax Increment Reinvestment Zones (TIRZ)	Aid in financing redevelopment and encouraging development
H-GAC	Surface Transportation Program (STP) Funds	Can flex funding to transit projects; eligibility includes streetscape improvements, sidewalks, trails, new connectivity for redeveloped TOD

AGENCY	ITEM	INFORMATION
<i>Table 6-6: TOD Relevant Programs (continued)</i>		
H-GAC	Congestion Mitigation/Air Quality (CMAQ) Funds	Projects reducing travel demand including TOD could qualify; can flex funding to transit
TDHCA	Low Income Housing Tax Credit Program (LIHTC)	LIHTC provides incentives for the development or rehabilitation of affordable rental housing based on population. Largest federal subsidy for affordable housing, helping one-sixth of all multi-family housing nationwide
H-GAC / TxDOT	Transportation Alternatives Program (TAP) Funds	Includes transit accessibility & community improvements
Local Jurisdictions	Community Development Block Grant (CDBG)	Community development financing mechanism, encourages developing viable communities
Local Jurisdictions	Capital Improvement Program	Used to develop pedestrian and bicycle access as well as utilities necessary for TOD
LISC	Go-Neighborhoods	Revitalization initiative that addresses multiple aspects of creating a sustainable community
LISC	Loans & Real Estate Financing	Provides pre-development, acquisition, construction, mini-permanent, and bridge loans to Community Development Corporations (CDCs), nonprofit real estate developers and other partners

- Building codes are currently set to conform to the most restrictive code for the entire structure. This has negative impacts when attempting to build a mix of uses within a single development and results in higher build out costs. For example a residential portion of a TOD would be subject to the more rigorous code requirement if there were a restaurant included in the project. Flexibility within the building code would make mixed use projects more feasible for developers. For example, form based codes are widely utilized in multiple cities with successful TOD. In the Dallas-Fort Worth region, twelve municipalities have enacted form-based codes to facilitate TOD projects. The City of Dallas has developed Form Districts (Chapter 51A, Article 13) that focus on building form and development standards that facilitate mixed use development by identifying separate requirements for the various uses that can be combined in one building.

Addressing these and other challenges will require multiple partners in both the public and private sectors. The following section outlines steps that METRO and others can take to support the development of more TOD projects that create benefits for all the stakeholders involved.

6.4 How Can We Capture the Opportunity?

The timing of this report is opportune for METRO and the Houston area. With the recent extension of the METRORail Red Line, the completion of the Purple (Southeast) and Green (East End) light rail lines, and implementation of the New Bus Network, the opportunities for TOD in Houston are growing and are ripe for implementation. In order to move TOD opportunities toward realization, METRO, local agencies, funding partners, and developers have various capabilities and responsibilities that need to be acted upon.

The recommendations presented here (**Tables 6-7** through **6-10** below) identify actions that METRO could utilize with various stakeholders that would aid in the implementation and development of TOD. These recommendations have a broad range, from better education and awareness of opportunities, to partnering in order to develop or enhance METRO property. The following strategies encourage METRO to play an active role in and influence transit supportive and TOD by working directly

with local jurisdictions, developers, property managers and other stakeholders who can benefit from TOD design and development. These strategies have been grouped into four overarching recommendations for METRO: encouraging development that supports increased transit ridership, developing partnerships and actively coordinating with stakeholders, supporting multimodal access to the transit network, and leveraging METRO infrastructure and investments. The recommendations are then further broken down into three categories of strategies: evaluate, coordinate, and educate. “Evaluate” recommendations refer largely to analysis that supports next steps for METRO; “Coordinate” recommendations state opportunities to work with partners and internal departments to move TOD forward; and “Educate” recommendations refer to marketing and getting the word out about opportunities.

Table 6-7: Recommendations to Encourage TOD

ACTION	IMPLEMENTATION ACTION	KEY PARTNER(S)
EVALUATE	<ul style="list-style-type: none"> ▪ Revise existing TOD Goals and Strategies to include action driven new strategies for METRO Board approval to authorize staff to better pursue TOD opportunities. ▪ Identify and communicate to key partners and stakeholders the needs of surrounding transit facilities for the inclusion of mixed-income or affordable housing opportunities utilizing findings from the market assessments. 	<p>Internal</p> <p>Local Jurisdictions, Developers, Housing Authority, CDCs</p>
COORDINATE	<ul style="list-style-type: none"> ▪ Coordinate multi-departmental resources to focus on increased levels of development near METRO services (ex: METRO's Real Estate or Service Planning departments could inform and help focus marketing or planning efforts). ▪ Evaluate and coordinate parking requirement updates in Chapter 26 with the City of Houston to encourage greater use of land and TOD development opportunities (ex: create parking benefit districts around transit facilities). ▪ Coordinate with the City of Houston and developers to evaluate and strengthen Chapter 42 of the City's Land Development Ordinances to further encourage development that encourages transit supportive corridors inclusive of high-frequency bus service, greater density, and mixed-use development (ex: expedited review process, or separate review process for TOD projects). ▪ Coordinate with the City of Houston on the development of the Major Thoroughfare and Freeway Plan (MTFP) to identify priority transit corridors and opportunities for right-of-way preservation (ex: future BRT routes, high frequency corridors). 	<p>Internal</p> <p>City of Houston</p> <p>City of Houston</p> <p>City of Houston</p>
EDUCATE	<ul style="list-style-type: none"> ▪ Promote TOD opportunities through education, coordination and marketing to and with stakeholders. ▪ Develop interactive maps and tools to promote better location choices. Tools could include interactive maps, such as "Where should I live so I can get many places in 30 minutes via transit?" or "Where should I locate my business so that my employees have good transit access?" 	<p>Management Districts, Local Jurisdictions</p> <p>Developers, Realtors, Businesses</p>

Table 6-8: Recommendations to Support Multi-modal Access

ACTION	IMPLEMENTATION ACTION	KEY PARTNER(S)
EVALUATE	<ul style="list-style-type: none"> Develop guidelines & programs to facilitate greater integration of METRO facilities and services within neighborhoods (ex: improved access to facilities by improving pedestrian access and implementing recommendations from METRO’s Bike & Ride Access and Implementation Plan). 	Internal
	<ul style="list-style-type: none"> Optimize parking at METRO facilities by re-evaluating and prioritizing proximity to activity centers, local feeder bus service, and multimodal connectivity. 	City of Houston
	<ul style="list-style-type: none"> Manage the use and construction of METRO parking facilities to balance vehicle access with opportunity for TOD to maximize ridership and minimize the need for single-occupancy vehicle trips in the TOD area. 	Internal
COORDINATE	<ul style="list-style-type: none"> Near-term: Support grant applications that promote TOD enhancing access for TIP (Transportation Improvement Program), federal discretionary, or other funding 	Internal
	<ul style="list-style-type: none"> Long-term: Work with H-GAC to align project evaluation and funding levels for the TIP to support TOD projects 	H-GAC, Local Jurisdictions
	<ul style="list-style-type: none"> Support prioritization of capital projects that would improve multimodal access to key transit nodes (ex: grants or City of Houston ReBuild Houston funding). 	Local Jurisdictions
EDUCATE	<ul style="list-style-type: none"> Communicate to developers and other stakeholders transit services to support transit friendly location decisions. 	Developers
	<ul style="list-style-type: none"> Promote and prioritize pedestrian and bicycling connections and amenities at key transit nodes. 	Local Jurisdictions

Table 6-9: Recommendations to Leverage Investments

ACTION	IMPLEMENTATION ACTION	KEY PARTNER(S)
EVALUATE	<ul style="list-style-type: none"> Develop methodology to evaluate TOD potential of existing/potential property. 	Internal
	<ul style="list-style-type: none"> Strategically plan for opportunities for land banking, corridor preservation and joint development or current facilities as well as future corridors defined through a long-range planning effort. 	Internal
	<ul style="list-style-type: none"> Utilize surface parking as a strategic land bank for potential TOD opportunities, and utilize shared and joint-use parking when available and feasible to reduce costs to build and maintain parking facilities. 	Developers Internal
	<ul style="list-style-type: none"> Identify capital projects that can be funded or developed from land sales or swaps. 	Internal
	<ul style="list-style-type: none"> Allow for and potentially add warrants to the disposition of surplus property for TOD purposes and maximum asset utilization. 	Developers
	<ul style="list-style-type: none"> Utilize joint development revenues to support additional Joint Development or TOD projects, programs and infrastructure. 	Internal
COORDINATE	<ul style="list-style-type: none"> Utilize joint development as a means to maintain control of and receive long-term revenue from METRO assets. 	Developers
	<ul style="list-style-type: none"> Increase the asset utilization of METRO–owned property through public-private or public-public development agreements that support TOD principles. 	Developers Local Jurisdictions
EDUCATE	<ul style="list-style-type: none"> Educate developers and stakeholders on joint development opportunities. 	Developers
	<ul style="list-style-type: none"> Market and solicit proposals for joint development opportunities. 	Developers

Table 6-10: Recommended Stakeholder Partnerships

ACTION	IMPLEMENTATION ACTION	KEY PARTNER(S)
EVALUATE	<ul style="list-style-type: none"> ▪ Work with local governments to identify additional incentives for TOD (ex: review Transit Corridor Ordinance to see if it is delivering desired outcomes, and if not, how to help). ▪ Develop and disseminate information as to how TOD relates to planning and design of transit projects, and METRO’s project development process. ▪ Establish a framework for developing partnerships with private developers on Joint Development projects where METRO property would be utilized. ▪ Explore value capture opportunities by partnering with management districts and TIRZs. 	<p>Local jurisdictions</p> <p>Internal</p> <p>Developers</p>
COORDINATE	<ul style="list-style-type: none"> ▪ Work with developers and property managers to designate buildings as “transit friendly” based on a set of established criteria. ▪ Provide METRO staff expertise, data and resources to external agencies and stakeholders to assist in ongoing development efforts around METRO facilities. ▪ Support TOD efforts by the H-GAC through the Livable Centers program and other initiatives to develop projects that link transit services with future growth in the region and are consistent with the Regional Transportation Plan. ▪ Work with advocacy groups and social service providers to promote TOD education and best practices. ▪ Work with stakeholders (such as HUD, City of Houston Housing Authority, the Hospital District, and CDCs) in the development of transit supportive, mixed-use development that include affordable housing opportunities. ▪ Work with partners to identify and promote funding tools to finance TOD infrastructure. ▪ Work with stakeholders to identify and explore potential public-private or public-public partnerships, as well as pilot projects. 	<p>Developers, Property Managers Various</p> <p>H-GAC</p> <p>Advocacy groups Social service</p> <p>Housing Authorities, CDCs</p> <p>Local Jurisdiction H-GAC Various</p>
EDUCATE	<ul style="list-style-type: none"> ▪ Actively promote the transit network to major real estate groups such as the Urban Land Institute, National Association of Realtors, and CREW Network. ▪ Support, encourage, and potentially convene a multi-stakeholder committee that includes METRO, City of Houston departments, H-GAC and other stakeholders that focuses on TOD issues, funding and development opportunities. 	<p>Real Estate Community</p> <p>Various</p>

6.5 Next Steps

Short and long term recommendations and strategies have been identified; however, there are a series of activities that were introduced in the Study Phase of the TOD Project that must be undertaken in the immediate future as next steps to sustain the momentum gained from the Study and keep the TOD partners engaged. The immediate next steps are:

1. Continue engagement with the Special Districts using the TOD Marketing Brochure and the framework reports - The deliverables of the study include a framework report as well as a marketing brochure. Both may be used to elicit development interest within the station areas, and to educate the community and other stakeholders on TOD potential in the station area. This would also give METRO the opportunity to continue the dialogue that was initiated with management districts and stakeholders as a part of the study.
2. Coordinate with the City of Houston (Planning, Public Works & Engineering and Economic Development Department), participating agencies and partners to set up the TOD Task Force. During the course of the study, METRO coordinated with the City of Houston's Planning Department and PWE (Public Works and Engineering) to discuss the potential role of multi-agency TOD working group. A group such as this would be instrumental in identifying policy and institutional barriers to TOD implementation and in exploring appropriate solutions.
3. Develop a TOD Pilot Project in coordination with the City of Houston's Economic Development Department - METRO and the City of Houston would coordinate in identifying a Park & Ride as a pilot location and developing a framework to implement a pilot study.
4. Coordinate with HISD and the universities to identify TOD opportunities – As part of METRO's stakeholder engagement during the TOD study, the project will continue dialogue with HISD and the University of Houston to coordinate efforts with their respective master planning efforts.
5. Continue coordinating with the Housing Authority, LISC (Local Initiatives Support Corporation), the City of Houston's Housing

department and other stakeholders to identify barriers and potential solutions for more workforce housing close to transit.

Finally, long-term analysis of TOD should entail continual monitoring characteristics such as population, employment, housing tenure, racial and ethnic composition, median household income, housing costs, in-migration, journey-to-work and auto-ownership, among others. Working together with the tools identified in this document, METRO and other TOD stakeholders can make a lasting impact in the community, creating more sustainable communities with walkability, economic development, transit usage, and healthier neighborhoods.

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