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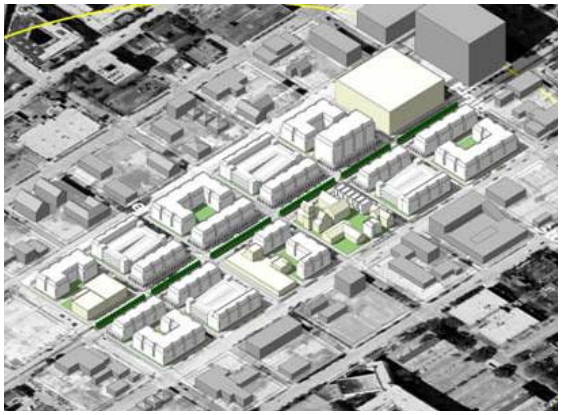
Building Houston's Competitive Edge:

Transit-Oriented Development for the Ensemble/HCC Station



U.S. EPA Smart Growth Implementation Assistance

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CONTENTS

EXECUTIVE SUMMARY **1**

1 INTRODUCTION **6**

1.1 The Opportunity in Midtown 6
1.2 Smart Growth Implementation Assistance 6

2 TRANSIT-ORIENTED DEVELOPMENT **9**

2.1 The Demand for TOD, Nationally and in Houston 9
2.2 Elements of Successful TOD 10

3 ENSEMBLE/HCC DEVELOPMENT: A PROTOTYPE **14**

3.1 Organization of the District 15
3.2 Pedestrian Areas 16
3.3 Parking and Streets 18

4 MARKET DEMAND FOR TOD AT THE ENSEMBLE/HCC STATION **20**

4.1 Market Demand 20
4.2 Impact of Construction Costs 20
4.3 Finances of Higher Density 21
4.4 Spurring the Market 22
1. Spurring the Market through a Placemaking Premium 22
2. Spurring the Market through Appropriate Parking Ratios 23
3. The Combined Impact of Placemaking and Improved Parking Ratios 23

5 STRATEGIES FOR ENSEMBLE/HCC DISTRICT **25**

5.1 Transit-Oriented District 25
5.2 Improved Use of Public Right-of-Way 26
5.3 Leadership 28
5.4 Land Assembly 28
5.5 Neighborhood Plans 29
5.6 Fund and Invest in Affordable Housing along the Rail Line 30
5.7 Branding and Special Events 31
5.8 Joint Agreements based on Development Guidelines 31
5.9 H-GAC can Partner in Producing Mode Share and Emissions Improvements 32

6 CONCLUSION: A CHARGE TO HOUSTON **34**

APPENDIX A: SMART GROWTH IMPLEMENTATION ASSISTANCE VISIT: DETAILS **35**

APPENDIX B: TOD PARKING DISTRICT STRATEGIES **37**

Establish a TOD Parking District 38
Conduct Travel Behavior Research 39
Clarify Shared Parking and Joint Parking Ordinance 40
Extend and Broaden Off-Site Parking Allowance 41
Increase On-Street Parking Supply 42
Reduce Residential Parking Requirements and Unbundle Parking Supply 43
Reduce Commercial Parking Requirements 44

US EPA ARCHIVE DOCUMENT

APPENDIX C: TRANSIT-ORIENTED DEVELOPMENT DISTRICT STRATEGIES 45

Current Conditions 45
Possible Strategies 46
Define Boundaries for TOD 46
Develop Guidelines for Pedestrian Improvements 47
Create TOD Design Guidelines 52
Preserve the Street Network 53
Improve Street Crossings 54

APPENDIX D: FINANCIAL ANALYSIS OF DEVELOPMENT ON CITY-OWNED BLOCKS IN THE ENSEMBLE/HCC STUDY AREA 56

APPENDIX E: POTENTIAL ENSEMBLE STATION BUILDING TYPES 60

APPENDIX F: ENSEMBLE/HCC WORKSHOP PACKET 61

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

EXECUTIVE SUMMARY

Houston's Midtown could be home to new city residents, a vibrant and prosperous neighborhood serving as the center of gravity for Houston's entrepreneurial professionals. All the elements are in place for this neighborhood to take off: prime location between downtown, the Texas Medical Center, and the Museum District; an excellent street network; and high-quality service by METRORail.

Unfortunately, a few barriers are keeping Midtown from developing to its full potential. These include: lack of a clear development strategy around the transit stations; parking ordinances that restrict development options; and the high cost of construction. Houston could address these barriers and stimulate a stronger market in Midtown in the short-term by:

- Offering sidewalk and street improvements in exchange for transit-oriented development that welcomes pedestrians and shoppers to the neighborhood around the transit station,
- Changing parking requirements within a designated transit-oriented development (TOD) area, and
- Rewarding the pioneer developers who work together to commit to TOD-supportive design guidelines.

In other words, by making a few small changes, Houston could generate more development by the private sector in the immediate future.

By fully redeveloping Midtown, Houston would leverage its investment in light rail to improve the city's competitiveness in the global market; develop a vibrant and valuable city tax base; create a major Houston destination to attract both young professionals and entrepreneurial businesses; reduce the pressure to develop large areas of natural lands; and support development without creating additional runoff to Houston's storm drains and bayous.

The Project

Houston competes with national and international cities for a top-notch workforce and leading businesses. In an era when "knowledge workers" and other highly sought-after employees can live anywhere they choose, quality of place is assuming greater competitive importance. Indeed, cities around the country are recognizing this and making great neighborhoods a key aspect of their marketing. They recognize that mixed-use neighborhoods, town centers, and residential neighborhoods with lively, convenient retail, restaurants, and transportation choices are very popular, particularly among younger workers.

Based on Houston's expected expansion of the light-rail system, current demographics around the light-rail stations, and projected household changes, estimates show that the demand for homes in Houston within half a mile of a transit station will grow from the current level of about 12,000 to over 166,000 by 2030. If development around the stations and rail lines is well planned and executed, fulfilling this demand for transit-oriented housing can create a competitive edge for Houston.

If Houston does not aggressively develop and implement visions for the areas around the new and expanding number of transit stations, the city will lose the opportunity that its investment in transit has created. Missing this opportunity could mean losing benefits for residents, developers, METRO ridership, and the city's broader economic competitiveness. Cities around the nation are learning that constructing a transit line and stations is only one step in creating neighborhoods around those stations that work. High-

quality, high-property-tax-generating development that best supports transit investment, and maximizes the return on that investment, does not just happen on its own.Public and private partnerships, cooperation between city agencies and the transit authority, coordinated development between landowners, and focused investments in the public realm around the transit station are necessary keys to successful transit-oriented development (TOD).

To help Midtown envision how to take advantage of its transit stations, the Gulf Coast Institute, Main Street Coalition, and Texas A&M partnered to apply to the Smart Growth Implementation Assistance (SGIA) program created by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA).

The Ensemble/HCC station area was selected as a prototype of Midtown development opportunities. The local team's goals in requesting SGIA assistance included:

- Providing more riders for the light rail system,
- Creating attractive housing options for the young professionals Houston seeks to attract,
- Using existing roads and sewer investments for dense residential development,
- Increasing the city tax base, and
- Building long-lasting neighborhoods with strong public attractions.

The Consultant Team worked with the workshop participants to:

1. Examine transit-oriented development market opportunities in Midtown and around the Ensemble/HCC station (page 9);
2. Develop a conceptual development plan for transit-oriented development around the Ensemble/HCC station (page 14); and
3. Discuss challenges and strategies necessary for implementation of TOD in Midtown (page 25).

Market Findings

Based on the market analysis, the Consultant Team determined that the "highest and best use" for the Ensemble/HCC station area was a mix of residential and retail uses oriented to the transit station. The research found that the potential for office development was quite limited, given currently high vacancy rates and relatively low rents in Houston. Furthermore, the Ensemble/HCC area has already experienced investment in new residential-only and mixed-use residential developments. The market analysis also identified the Ensemble location as advantageous for residential uses given its proximity and easy transit access to several employment centers, such as downtown and the Texas Medical Center.

Other specific market findings:

Current construction costs limit building types

Due to the current housing market, the cost of construction materials, and Houston's parking regulations, the only building type that seems to be financially feasible to build in Midtown today is townhouses. Other potential building types, such as four- to five-story residential buildings (like Post

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Midtown) or six- or more story towers, are too expensive to build or would require significant public subsidies.

Spurring TOD requires targeted investment

Other cities have found that targeted investments in placemaking and reduced parking requirements within one-quarter to one-half mile of a transit station help catalyze more development by the private sector in the short term. Cities can take these actions without subsidizing the market or creating zoning (page 20).

- An investment in **placemaking** around the Ensemble/HCC station to create wide sidewalks, plant mature street trees, add on-street parking to all streets, reinstate removed street crosswalks, and encourage ground-floor retail along Main Street could generate a value premium of 20 percent. At this premium, other building types become feasible – such as the five-story building that wraps around a parking garage in the middle of the block.

- Changes to the **parking requirements** within a designated TOD to require one parking space per unit, instead of the current two spaces per unit, could also improve development potential. Requiring fewer parking spaces lowers the cost of construction and helps solve design constraints. With this change, both townhouses and the five-story building create moderate land values.

- The potential **combined impact** of a moderate 10 percent premium generated by investments in placemaking and reduced parking requirements can have an even greater influence on development opportunities in Midtown. With these changes, many more building types become financially feasible, with the five-story building with a wrapped parking garage generating the highest land values.

These estimates are for comparison only and should not be considered market prices in Midtown, but the analysis clearly illustrates the potential to catalyze more urban-type development at the Ensemble/HCC station in the current market. When brought together, clear steps towards targeted and high-quality investment in the public right-of-way, changes to city ordinances to ensure zero building setbacks within the TOD, and reduced parking requirements can help ensure that development around the transit station is successful. All these actions are consistent with Houston's culture and can sharpen the city's competitive edge in the short term.

Strategies

The Team worked with the workshop participants and drew from their national experience to develop strategies appropriate for Houston to best support and encourage TOD at transit stations. Some of the strategies include:

Create a Transit-Oriented District

Due to the presence of transit, the focus on pedestrian access, and the desire for a fine-grained mix of uses, transit-oriented districts tend to have a different set of development policies than conventional suburban development. Two major elements of a transit-oriented district can be reflected in city ordinances that govern these areas:

1. Parking District: The city, TIRZ, Management District, and the Parking Authority can partner to create special off-street parking requirements for the transit-oriented district and include new on-

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street parking spaces in total requirements. Reduced parking requirements would allow more development to occur and potentially allow residents the option of purchasing a parking space for their unit instead of the cost being mandated. Metro could partner with these entities to build a parking garage in exchange for joint development agreements on TOD guidelines (page 18 and Appendix B).

2. Pedestrian District/ Public Right-of-Way: The Departments of Public Works and Planning have a clear mandate on improvements to and guidelines for public rights of way. The city can designate a transit district within which it will partner with the TIRZ, the Management District, or developers to create a coordinated investment plan for improvements to sidewalks, on-street parking, crosswalks, and other public areas (page 16 and Appendix C).

Assemble Land

Identified by many workshop participants as a barrier to TOD around the Ensemble/HCC station, land assembly is a significant challenge to successful TOD in cities where multiple owners control small parcels. Participants discussed how the assembly of a three- to four-block area would facilitate TOD by allowing a developer to concentrate parking onto one or two blocks (along with some retail and residential development) and use the remaining blocks for more intensive residential development and no parking. A number of different entities, such as the city, Midtown TIRZ, developers and local owners, and METRO can partner to assemble land without subsidizing the market (page 28).

Provide / Provide for Affordable Housing

Workshop participants identified the importance of affordable housing in Midtown as a key concern – as evidenced by the requirement that one-third of all TIRZ funds be directed to such housing. Investment in affordable housing in the Ensemble/HCC TOD can serve two purposes:

1. provide needed affordable housing within Midtown; and

2. catalyze development of market-rate housing in the TOD by stimulating the housing market immediately surrounding the station.

The Midtown TIRZ and the local churches can play primary roles in this effort to ensure that working individuals or families can afford to live in an area with transportation choices (page 30).

Catalyze Joint Agreements based on Development Guidelines

The city can be a catalyst for TOD, providing incentives or agreements to reward those taking the highest risk. The city could provide incentives to developers who best adhere to the elements of TOD and allow the pioneer projects to compete for the incentives. The incentives could also be attached to development guidelines created by the city, TIRZ, or the developers to establish a predictable development process for the TOD (page 31).

Houston's competitive edge is at stake. As stated at the ULI District luncheon by Brian Leary, Vice President for Design and Development at Atlantic Station in Atlanta, Georgia, "Other cities are being proactive partners in public/private development… to the degree Houston doesn't, they are behind." The city can choose to take advantage of its investment in light rail to propel Houston's economy and quality of life into the national market for leading businesses and professionals, or it can choose business as usual. Successful TOD happens when different players work together; transit and development need to complement each other and be devised in concert. Midtown TIRZ, Midtown Management District, and

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METRO have the opportunity to be major players in making this happen. City agents, such as the Planning Department, Department of Public Works, and the Mayor's Office can work with each other and these entities to create the partnerships important for TOD to be successful and the city to get the high-quality housing and neighborhoods it needs.

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1 INTRODUCTION

Houston competes with national and international cities for a top-notch workforce and leading businesses. In an era when "knowledge workers" and other highly sought-after employees can live anywhere they choose, quality of place is assuming greater competitive importance. Indeed, cities around the country are recognizing this and making great neighborhoods a key aspect of their marketing. They recognize that mixed-use neighborhoods, town centers, and residential neighborhoods with lively, convenient retail, restaurants, and transportation choices are very popular, particularly among younger workers.

Many locals say that Houston does not have enough of these places, potentially putting the city at a competitive disadvantage. Houston's investment in the first METRORail line along Main Street creates the opportunity to plan these great urban neighborhoods and for the city of Houston to be more nationally competitive. The city has the chance to build that competitive edge today.

1.1 The Opportunity in Midtown

The neighborhoods that attract a young professional population tend to be urban, vibrant districts that combine homes, restaurants, shops, and entertainment. Midtown is primed to become such an area. Historically a residential neighborhood, the Red Line now runs through Midtown, connecting the city's two major economic engines: downtown and the Texas Medical Center (TMC). With its small blocks, location between downtown and TMC, a complete grid network of streets, and frequent light-rail service, Midtown already has the bones to be a national destination for entrepreneurial young professionals. Redevelopment in Midtown can also provide much-needed workforce housing for the city, increase the city's tax base, and use the city's existing infrastructure more cost effectively.

Investment by the Midtown TIRZ and the Midtown Management District is prompting residential development at Midtown's edges, and eclectic restaurants and shops are opening – all in spite of remaining challenges to development. Midtown has the potential to be the urban bedroom community for downtown and TMC. Local landowners, the Midtown TIRZ and Management District, community members, and others have worked hard to get to this point, and they clearly see Midtown's additional potential. Working together, they applied to EPA's Smart Growth Implementation Assistance program for assistance in identifying potential next steps.

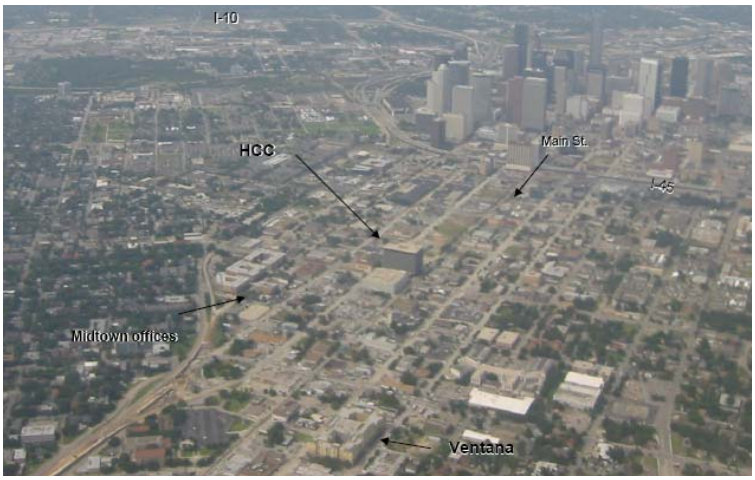

Figure 1: Aerial view of Midtown

1.2 Smart Growth Implementation Assistance

The U.S. Environmental Protection Agency (US EPA) and the National Oceanic and Atmospheric Administration (NOAA) partnered to solicit applications to the Smart Growth Implementation Assistance (SGIA) program. Applications come from communities that want to create compact, mixed-use development and need the help of national experts to support implementation of local development plans. Houston was selected as a 2006 EPA-NOAA SGIA recipient because of the clear opportunity to work

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with local landowners on transit-oriented development around the new Midtown light-rail stations in order to help the city reach its community, economic and environmental goals.

Figure 2: Main Street in Midtown Houston

A local partnership of the Main Street Coalition, Gulf Coast Institute, Texas A&M Sea Grant, Midtown Management District, and many others (See Appendix A for workshop sponsors, local partners, and consulting team members) invited the consulting team assembled by EPA (the Team) to work with local landowners to develop economic development strategies for the district around the Ensemble/HCC light-rail station. The Ensemble/HCC station area was selected as a prototype of Midtown transit-oriented development opportunities where redevelopment is already beginning.

Midtown's place in history as the second residential neighborhood of Houston, then called Southside, established the strong structure of an area now in need of revitalization. Once home to large Victorian houses, the neighborhood fell into disrepair by the 1990s. The creation of the Midtown Redevelopment Authority in 1994, helped to lead a change in Midtown that envisions "reviving the original residential nature of the area with both new construction and the preservation/restoration of historical structures."[1] The authority's work with landowners, residents and community leaders created the Midtown vision for a "pedestrian oriented district where entertainment facilities, sidewalk cafes, specialty shops, museums and libraries once again capture the attention of Houstonians and visitors alike." The vision aspires to create "a community at the core of our city."

Based on this vision, the local partners worked with the Team to conduct a workshop on development strategies. The Team consisted of:

- Dena Belzer and Nadine Fogarty, Economists, Strategic Economics
- Jim Charlier, Transportation Planner, Charlier Associates
- Tim Van Meter, Architect/Urban Planner, Van Meter Williams Pollack

Additional support was provided by William Schroeer, ICF International, and Ilana Preuss and Geoffrey Anderson of the US EPA.

Centered on the Ensemble/HCC station, the workshop took place July 11th-13th, 2006, and convened landowners, developers, Midtown board members, local residents, city officials, and business leaders to:

- Examine transit-oriented development market opportunities in Midtown and around the Ensemble/HCC station;
- Develop a conceptual development plan for transit-oriented development around the Ensemble/HCC station; and
- Discuss strategies necessary for success.

[1] See "Midtown Houston," www.houstonmidtown.com.

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Workshop participants identified transit-oriented development (TOD) in the Ensemble district as an opportunity to create greater value for landowners and meet several public objectives such as providing housing close to downtown and the Texas Medical Center, increasing the city's tax base, making Houston more competitive, and protecting the environment. A number of Houstonians at the workshop said they were looking for neighborhoods where they could take light rail to work downtown and be able to walk out from their homes to restaurants and shops. Participants said they were looking for a different kind of neighborhood, but found that their only option was to move to a suburban neighborhood and drive to work.

Workshop participants worked with the Team to create a development plan for TOD at Ensemble/HCC that would help the area realize these opportunities within the context of Houston and Midtown markets. The Team worked with the local stakeholders to ensure that the plan would be consistent with Houston's culture in which the private developer often leads such initiatives. The discussions focused on ways to support Houston's policy of no zoning, while creating a more predictable development environment for private investment in Midtown.

This report:

- Describes elements of successful TODs,
- Presents an illustrative development program for a TOD around the Ensemble/HCC station that incorporates those elements,
- Describes the current and future market for TOD type development in the Midtown area, and
- Offers strategies for supporting high-quality development with the light-rail line in Houston.

The strategies are consistent with Houston's entrepreneurial and independent culture and its view of the roles of the public and private sectors in development of the city. The strategies are also tailored to be viable in the context of the Midtown market. The appendices provide additional detail as noted in the text. As Houston expands its light-rail system, these strategies may be applicable to other locations in the system.

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2 TRANSIT-ORIENTED DEVELOPMENT

Metropolitan areas across the nation are building or planning new and expanding rail, bus, or streetcar systems. According to the American Public Transportation Association, public transportation use has increased 25 percent since 1995. By 2005, there were already over 3,300 transit stations throughout the country, with over 700 stations proposed for construction.

Figure 3: METRORail at Ensemble/HCC station

2.1 The Demand for TOD, Nationally and in Houston

Recent demographic analysis by the Center for Transit-Oriented Development (CTOD) estimates that more than 6 million households currently live within half a mile of a transit station and that the demand to live within that transit zone will grow to about 16 million households by 2030.[2]

The growing demand for homes near transit is a function of many changes, including demographic shifts to an aging population and fewer households with children. Demand is also growing as a result of rising gas prices, needed relief from congestion in certain regions, and consumer desire for neighborhoods with convenience and accessibility to shopping, work, and entertainment.

Public and private leaders increasingly see transit as an investment in a valuable amenity that makes the region more competitive, saves individuals money, and helps decrease future congestion. Many regions are also initiating programs to support TOD around the new stations to maximize both public and private benefits from the expanding systems, such as reduce household transportation costs, maximize the value of development at the station, provide more workforce housing, and generate more development. Programs to support development around transit stations in Portland, Oregon; Atlanta; Austin; and Denver are creating partnerships between the city, rail provider and the private sector to support the highest increase in land value and development created by TOD around their rail systems. However, development does not succeed merely because it is near a transit station. There is an art to successful development around transit, and cities can learn from comparable regions to improve the chances that they will succeed.

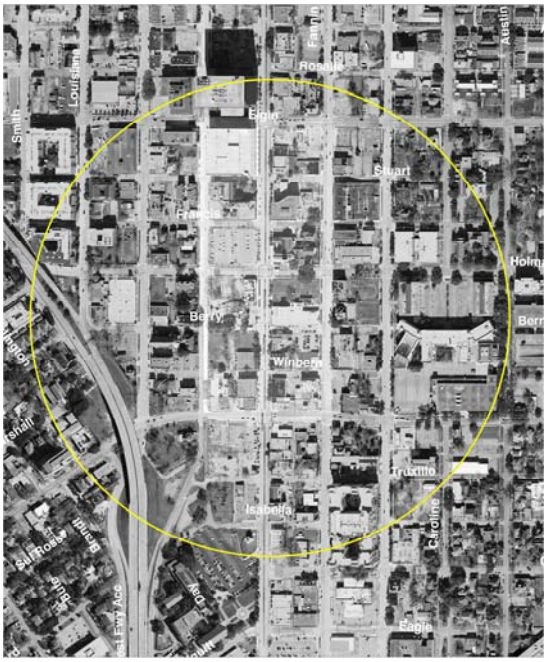

Figure 4: One-quarter mile radius from Ensemble/HCC station

Based on Houston's expected expansion of the light-rail system, current demographics around the light-rail stations, and projected household changes, CTOD

[2] Center for Transit-Oriented Development estimates.

estimates that the demand for homes in Houston within half a mile of a transit station will grow from the current level of about 12,000 to over 166,000 in 2030.[3]

An initial scan clearly demonstrates the potential to create revitalized neighborhoods around the Midtown stations, as exemplified by the Ensemble/HCC station. These neighborhoods are close to downtown in the core of the region; have the potential for moderately urban development; retain their small, urban block structures for convenient car and pedestrian mobility; and are on a rail line with frequent service. The Urban Land Institute notes that these elements offer the best opportunity for "transit supportive development,"[4] another name for TOD. Midtown has obvious potential but would have a greater likelihood of success with leadership to focus on certain elements to realize its full TOD potential.

2.2 Elements of Successful TOD

Each area of the country defines transit-oriented development slightly differently, but most universal elements are included by the Center for Transit Oriented Development's definition of TOD as development that:

- Is within one-quarter to one-half mile of a transit station;
- Is linked by a strong network of walkable and bikeable streets;
- Contains a rich mix of uses – homes, offices, shops, entertainment;
- Has the appropriate amount of parking for a strong transit-served location; and
- Has density appropriate to its transit and regional location.

Transit-oriented districts in core areas are distinguished by a rich life along the sidewalks with shops and restaurants, public spaces, and places to meet and gather. Successful districts invest in "placemaking"[5] to support the district's identity as a destination. Each station area will be surrounded by a different type of development. For instance, TOD will look different in downtown Houston than at a Main Street destination like Ensemble/HCC. A major urban center such as the Texas Medical Center will look different from both.

Figure 5: High-quality pedestrian place

A mix of homes, shops, entertainment, and offices at a station or along a rail line encourages more investment and increases development opportunities. Both property value in a TOD and ridership derived from the TOD will be more likely to grow when its buildings relate to each other in scale, connect well with the sidewalk and

[3] *Ibid.* Assumes bus-rapid transit lines will convert to light rail by 2030.
[4] Urban Land Institute, *Developing Around Transit*, 2004.
[5] Investments that support placemaking include high-quality public right-of-way with wide sidewalks, on-street parking, public gathering places, and street trees.

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street, and create a consistent building edge. The TOD also can provide appropriate uses to complement its location along the rail system – homes and shops at one station with offices at another. This type of development places equal priority on pedestrians, bicyclists, transit users, and drivers, thereby improving mobility for everyone. Buildings in a TOD create a welcoming and interesting streetscape that encourages people to walk to the transit station, to stores, to work, or to visit friends. The mix of shops, homes, and offices lets people "link" trips – arriving once (either by transit or by car) in the district and walking between shops or between shops and home.

Characteristics of successful TODs include:

- High-Quality Pedestrian Environments - The best areas for pedestrians are "pedestrian places" characterized by interesting storefronts, a mix of uses close together, wide sidewalks and public areas buffered from traffic by trees and parked cars. These are areas where the pedestrian is equally as important as other modes of transportation, and can easily access rail, cars, buses or other modes. Since resources are limited, however, not all areas can be designated as the highest priority for investment. More distant pedestrian areas (more than one-quarter mile from a transit station) may be designated as a secondary priority to invest in adequate sidewalks that are safe for children and the elderly. These pedestrian areas may not provide all the amenities and visual interest as the center of the pedestrian area.

  The Ensemble/HCC station is relatively close to the two adjacent transit stations and can be considered part of a transit corridor that extends along Wheeler, Ensemble/HCC, and McGowen. The type of development that occurs at Wheeler and McGowen will also influence what happens at the Ensemble/HCC station. The Ensemble/HCC area can strive to develop a pedestrian place within the one-quarter mile TOD around the transit station. Pedestrian-supportive environments may be more appropriate for the area about one-quarter to one-half mile from the station, improving pedestrian access to the development around the Ensemble/HCC station. The transit corridor between the stations can also be pedestrian supportive.

- Interconnected Transit - Creating a successful TOD requires connecting many different forms of transportation. Commuter train lines, regional and inter-state transportation access, local bus service, and private systems should all be connected to improve the performance of each individual type of transportation.

  Houston has already done a good job of tying together existing transit systems with the Red Line, including the Texas Medical Center private transportation service, the Greyhound bus station, and the Metro bus system.

- Connected Street Network - The street network is a critical component of TOD. A dense network of small streets provides a good foundation for TOD. Giving people many routes across the neighborhood streets, rather than concentrating traffic along one corridor, improves traffic circulation. In addition, a network of smaller streets provides multiple alternative routes, which improves access for emergency services and helps to mitigate congestion. Streets should be designed for use by multiple modes of transportation, emphasizing pedestrian safety and accessibility.

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Midtown has a historic (Figure 6), strong network of small blocks that will greatly support successful TODs. This asset is costly for other communities to create, and its presence lets Ensemble/HCC begin with a strong foundation.

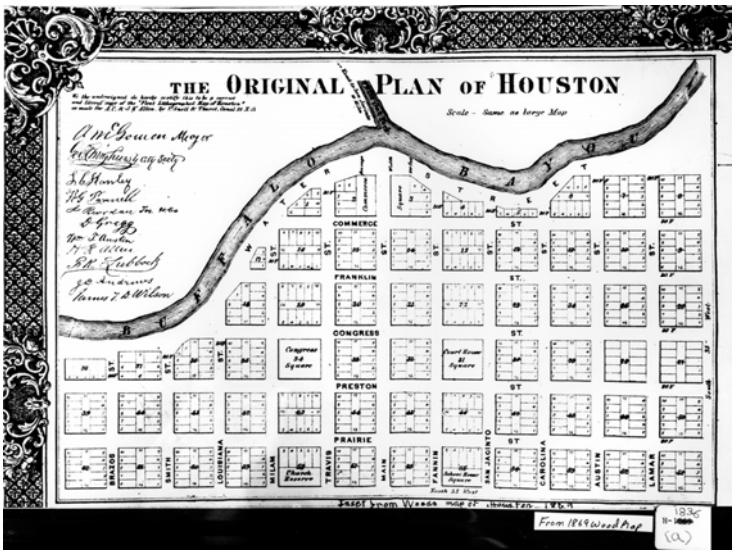

Figure 6: The original plan of Houston and its street network

- Mix of Land Uses - Some TODs center more on commercial uses, others on jobs or homes, but all contain a certain mix of uses to generate and support a vibrant pedestrian place. Concentrations of housing create demand for the transit, and pedestrians using the rail system create demand for shops and restaurants. The foot traffic helps create a place with different activities during the day and evening throughout the week. This activity increases security and attracts people to the neighborhood. The mix of uses also provides neighborhood amenities and services such as neighborhood-serving shops and restaurants.

  The Ensemble area already has some mix of uses with the Ensemble Theatre, local churches, and restaurants and bars. TOD at Ensemble/HCC can support continued diversity of local-serving retail and provide needed housing around the station.

- Increased Density – Relatively high residential or job densities better support increased transit ridership, generate more foot traffic for shops, and create the potential to provide a more diverse set of housing options, according to the Urban Land Institute.[6] Certain minimum densities are required to support different types and qualities of transit service. Light rail needs a minimum density of 9 to 12 residential units per net acre or 125 employees per net acre to be begin to be economically feasible. Densities higher than these minimums increase the likely success of the light rail system and the value of the properties along its corridor. Moderately higher densities, such as four- to six-story residential buildings also better support placemaking and help ensure a more vibrant neighborhood.

  Recent development in Midtown is predominantly townhouses, with some four-story residential construction at the edges. Moderately urban buildings, such as these four-story projects, along the rail line on Main Street would enhance Ensemble/HCC as an urban residential neighborhood, while townhouses may be more appropriate a block or two from the station.

- High-Quality Building Design – Buildings need to be appropriate to the type of TOD in which they are located. For TODs in the core of a metropolitan area, ground floors should be relatively transparent (many windows and doors) to make the view along the sidewalk more interesting and to attract passing drivers. Buildings should always be oriented to the street, and maximum setbacks (or build-to lines) should be set (such as one foot setback for ground floor commercial buildings versus to ten feet for residential). This orientation promotes pedestrian activity and increases the security along the street.

[6] Urban Land Institute, *Developing Around Transit*, 2004.

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TOD at Ensemble/HCC can continue to redevelop existing historic buildings, such as the Ensemble Theatre, and add new buildings designed appropriately for a core location. A commercial corridor along Main Street could ensure strong pedestrian activity and provide a great amenity for higher density residential development along Main Street.

- Appropriate Parking – When cities build TOD, a major goal is to make it easier for people to walk or bicycle in the district, while still accommodating drivers who visit, work, or live in the area. Well-placed and appropriate quantities of parking are vital. On-street parking is critical for retail in a TOD to provide convenient, short-term parking for customers, protect pedestrians from traffic, and reduce parking spaces needed in garages or lots.[7] Putting parking lots or garages behind buildings or in the center of the block makes the streetscape more attractive and is safer for pedestrians. Ground-floor retail or residential entrances, instead of parking lots or garages, should line the street. The Urban Land Institute notes TOD standards where residential parking requirements can be reduced to one space per unit, and retail parking reduced to 3.5 to 3.8 spaces per 1,000 square feet. Some cities will waive parking requirements with in-lieu fees that the city uses to construct shared parking in appropriate locations through a parking district or Business Improvement District.

  The central location of the Red Line in Midtown and its connection to the major employment centers can support a parking district and new parking standards for an Ensemble/HCC TOD. A mixed-use neighborhood will allow people to walk, bike, or use the light rail and will reduce the need for some parking spaces. (See Appendix B for more details on a parking district.)[8]

Residential and retail development around the Ensemble/HCC station can make best use of existing destinations such as Houston Community College, Ensemble Theatre, local churches, and destination restaurants and clubs to create a strong neighborhood that serves downtown and the Texas Medical Center.

[7] *Ibid.*

[8] For a detailed resource on parking, see also US Environmental Protection Agency, "Parking Spaces/Community Places," 2006, http://www.epa.gov/dced/parking.htm.

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3 Ensemble/HCC Development: A Prototype

The local partners and the Team organized a workshop for the Ensemble/HCC station area. The Team worked with local workshop participants (residents, business owners, developers, city officials) to envision redevelopment at Ensemble/HCC that incorporates best practices of TOD from comparable cities. The workshop's goals were to:

- Develop an understanding of the Midtown market and its implications for TOD in the Ensemble/HCC area;
- Create an illustrative development program that meets the goals set out in the charge and succeeds within the context of the current and future market;
- Develop an illustrative physical design that would accommodate the program, include the design elements that make TOD work, and accommodate the traffic and parking requirements of the development program; and
- Develop strategies that the public and private sectors can use to create a strong neighborhood and high value development opportunities within the Ensemble/HCC station area and broader Midtown.

The workshop events were all open to the public and included a wide variety of participants from the Ensemble neighborhood, Midtown, and Houston at large, and representatives from the business community, public sector, landowners, developers, and brokers.

Workshop participants worked with the Team to expand the vision for the Ensemble/HCC district as outlined in the Main Street Master Plan and Midtown's vision statement. The workshop participants focused on development program possibilities for the twelve blocks along Main Street (two blocks wide and six blocks long) centered around the Ensemble/HCC station, while acknowledging that the TOD would extend farther into Midtown.

Participants envisioned buildings of four to five stories along Main, Travis, and Fannin and their cross streets in the center of the district. These buildings would be the center of the TOD, with ground-floor shops along the street front on Main, Fannin or Travis Streets and residential units above. Shops and restaurants would serve the neighborhood and help create a welcoming sidewalk that encourages people to walk. Neighborhood residents could choose to walk to the Ensemble/HCC station or drive to reach work or entertainment downtown, while customers could park in short-term, on-street parking to shop or choose to take the train.

Building types a block away from the center could vary from four- to five-story buildings to townhouses or live-work spaces that support the Ensemble area's eclectic culture. Parking garages would be in the center of select blocks, shielded from the sidewalk by buildings wrapped around the garage sides. Areas for people to walk, gather, and socialize would have the same priority as areas for driving and parking.

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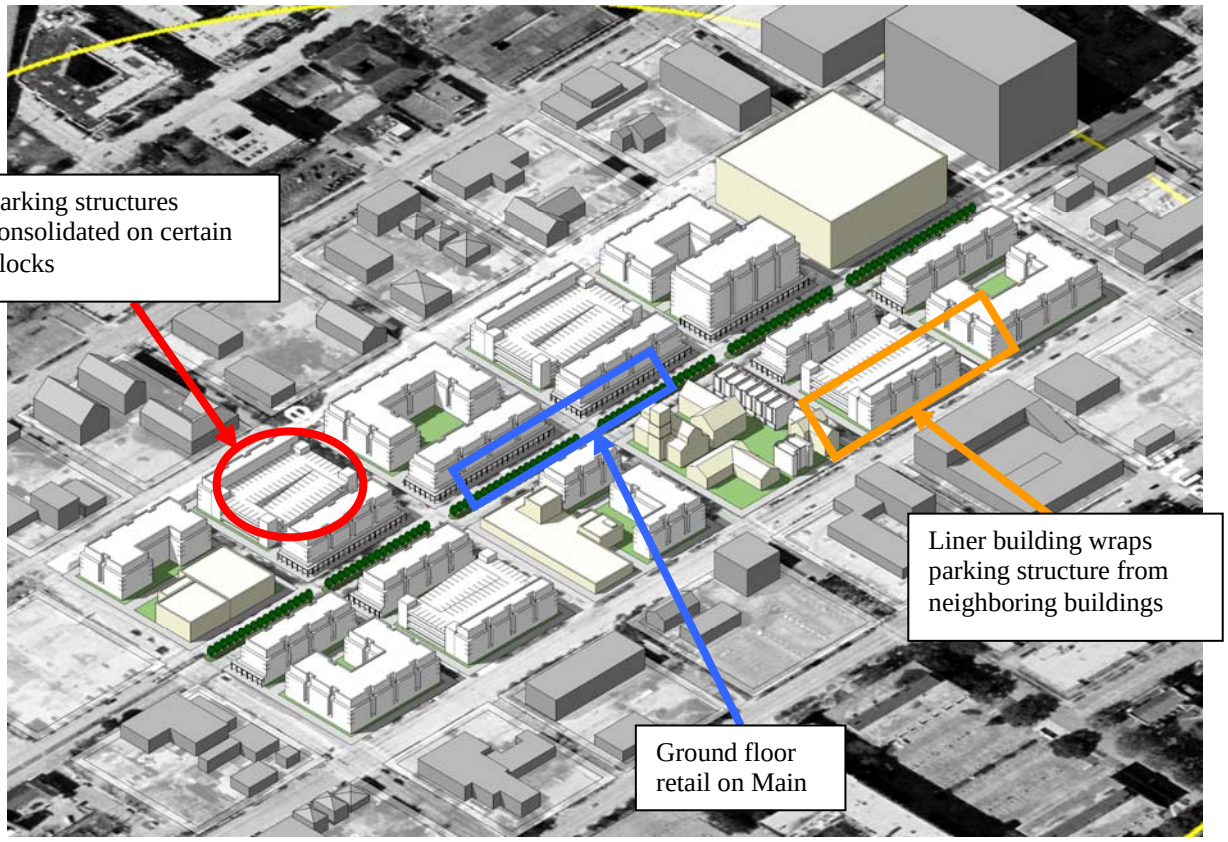

Figure 7: Ensemble/HCC Workshop vision for TOD

The following sections summarize the discussions and findings of the workshop, based on input from the participants and consultant team.

3.1 Organization of the District

The Ensemble/HCC TOD district can be defined as the area within roughly one-quarter mile of the rail station. This could be an area bounded by Rosalie on the north, Louisiana on the west, Isabella on the south, and Austin on the east, with adjustments for the presence of the freeway and its ramps.

- Main Street would likely have the most intensive development in the TOD district. As the location most accessible by the light rail, a convenient area for people to concentrate, and a busy street, Main Street properties will likely have the highest density of the district. This exposure makes Main Street an attractive location for neighborhood shops, restaurants and public gathering spaces, and taller buildings.

- Ground-floor retail development can be built to the sidewalk edge, and solely residential buildings can have a moderate setback. (See building types in Appendix C.) According to the market study (see Market section below), retail would likely be neighborhood serving, as opposed to destination retail. This means pedestrian-friendly stores that reflect the eclectic interests of the Ensemble district. The stores may not cater exclusively to the people in the neighborhood, but they will serve as an important amenity to create a pedestrian-oriented place. Retail would likely be attracted to locations with strong visibility on Main Street, as well as higher volume streets such as Fannin and Travis.

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- With Midtown's small block lengths of 200-250 feet, development will be most efficient if residential development is concentrated on certain blocks and other blocks house residences and the parking for the neighboring blocks. People would walk an average of 100 feet or less (from the middle of one block to the next), past interesting shops, restaurants, the local coffee shop, and the dry cleaners, to reach their cars. This combination allows more developable space on some blocks and reduces the per space cost of parking construction for the entire district.

- Liner residential buildings can wrap the parking structures to shield neighboring buildings. This would help ensure that both Travis and Fannin are attractive streets and not the backside of Main Street development. Liner buildings on Travis and Fannin could be residences with frequent entrances, or mixed use buildings with ground floor retail, to create a welcoming pedestrian environment.

Figure 8: Detail of building footprints on two prototypical blocks of the TOD

Figure 8 illustrates how buildings might be structured on a set of blocks. Block Three is developed with four-story residential units and retail along the ground floor on Main Street. The interior of the block is accessible by pedestrian paths that permeate the block and provide a semi-private space in the block's interior. Block Five is built to accommodate the parking for both blocks of development, with residential units or office space along Main Street. The parking structure is wrapped with additional residences. A public plaza on the primary corner at Main Street could be a neighborhood gathering place.

3.2 Pedestrian Areas

As described in Section 3, the vitality and market success of a TOD district lie in creating a pedestrian destination. TOD thrives in a place where people can congregate, meet along the street, and feel protected from the traffic. People search out vibrant places with a mix of stores, restaurants, theatres, public plazas, and shaded places to sit.

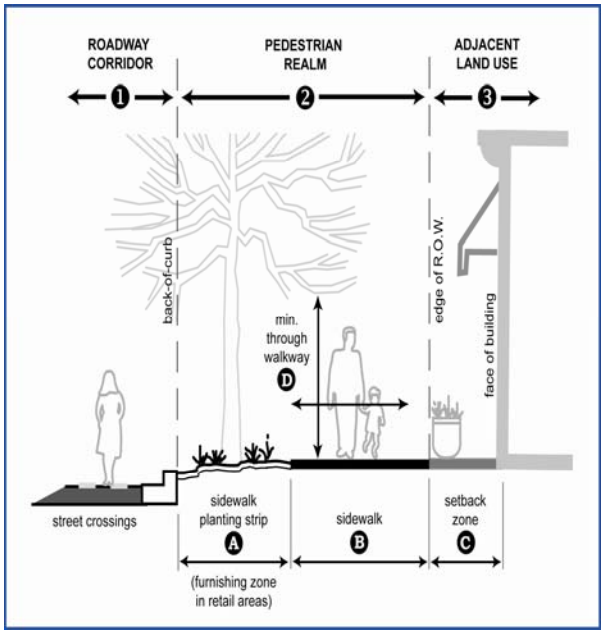

Figure 9: Right-of-way organization from the street to the building

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Cities include a number of elements to create an attractive pedestrian plan such as:

- Interconnecting streets with a complete network of pedestrian crosswalks; where all streets connect through the neighborhood; and on-street parking is available on every block. These elements of the corridor support people who choose to walk to shops or the transit station in a safe environment and with the most direct routes for cars, bicyclists, and pedestrians.

- Sidewalk planting strips and street furniture between on-street parking and the sidewalk to protect and shade pedestrians. The planting strip is an important element of the infrastructure necessary for people to feel comfortable walking along the sidewalk.

- Wide sidewalks with enough room for two or more people to walk together or room for sidewalk cafes. Wide sidewalks make people feel safer walking along the street, leave room for people to window shop along their way, and sit outside at local restaurants and cafes.

- Build-to lines for each building type or road type to create a consistent line of buildings along the sidewalk. The buildings that line the streets of a TOD create places with interesting storefronts and residential entrances that encourage people to linger along the street, visit with neighbors, or walk through the area to reach the light-rail station.

- Ground-floor transparency for retail creates a welcoming and interesting pedestrian place. First-floor designs should relate to people passing by on foot. Some TOD guidelines suggest that about 75 percent of commercial ground-floor street frontage be transparent (windows and glass doors). The high level of transparency engages people and improves security for pedestrians and on-street parking.

- Frequent entrances along both retail and residential streets encourage more "ownership" of the sidewalk and improve security. Store fronts should encourage multiple entrances along each block front. Residential buildings should have ground-floor entrances for each first-floor unit, along with building entrances for upper-floor units. Neighbors and shop owners are more engaged with people passing by, ensuring more "eyes on the street" and making the district more secure.

Coordinated investments in the pedestrian areas and ground-floor design guidelines for the Ensemble/ HCC district would help to support a successful TOD and create a destination in the Houston market. These investments in placemaking can attract premiums of 10-20 percent in the local market, as discussed in Section 4. For this reason, development within one-quarter mile of a rail station is the prime location in which the city, Midtown, and other neighborhood districts can choose to concentrate pedestrian and design improvements. The increase in property values will repay the investment and likely create a much larger tax increment that benefits the entire area.

Figure 10: Shops with good transparency to attract shoppers

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3.3 Parking and Streets

The success of a TOD and the placement and amount of parking provided are integrally connected. Treating parking in the same-as-usual manner at Ensemble/HCC will require developers to waste scarce developable land on more parking than is needed. As described earlier, parking in a TOD has different needs than conventional development, and should be treated differently.

A coordinated TOD parking plan for the Ensemble/HCC district could allow developers to build shared parking structures, include on-street parking in space requirements, and establish different parking requirements for TOD. The plan could organize, facilitate, monitor, and provide parking at a district or larger scale; as a utility, similar to the water system or roads. The plan would support more intensive use of the Midtown parcels, a stronger pedestrian place, and greater property value growth for the city.

Appendix B has a detailed discussion about a potential Ensemble/HCC parking district. The key elements of a parking district that will support successful TOD at Ensemble/HCC are listed below.

- Concentrate parking on certain blocks to leave other blocks free for development. Small blocks around Ensemble/HCC present parking challenges and limit development options if all parking must be provided on each parcel developed. Parking can be more economically provided by concentrating it—doing so helps solve design problems for building construction and reduce the cost of constructing parking spaces (each space costs less in larger parking structures). This will require some form of cooperation between blocks. In cases where one owner controls multiple blocks there is no challenge, such as Post Midtown, but the city or district could provide a structure for joint development agreements for blocks with multiple owners.

- On-street parking on all streets will provide important short-term spaces for ground-floor retail and buffer pedestrians from the street traffic. Certain streets, such as Millam, Travis, and Fannin, are too wide for a TOD. Adding diagonal, on-street parking to these streets (as opposed to parallel parking on all other streets) will give the district more than 60 on-street spaces per block and safer road speeds for a pedestrian area.

Figure 11: Diagonal on-street parking

- TOD parking requirements allow developers to construct fewer spaces in a district with strong pedestrian areas, convenient light rail access, and a mix of shops, homes and work around the station or along the rail line. TODs around the country are reducing parking requirements to maximize development potential and take advantage of the documented reduced demand for parking spaces. Some areas are considering removing all parking requirements and allowing the market to determine the demand and price of parking spaces. A TOD parking district would reduce (or remove) residential and commercial parking requirements, allow on-street spaces to count towards parking requirements, and make off-street parking requirements more flexible.

Successful redevelopment at Ensemble/HCC can include these elements to support greatest increase in the tax base for the city, best profit for the development sector, and best community development for the

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neighborhood. Each element needs to be applied in coordination with the market demand for TOD in Houston and the capacity of Houston to catalyze “best use” of the developable lands around current and future light-rail stations.

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4 MARKET DEMAND FOR TOD AT THE ENSEMBLE/HCC STATION

Any development program must be economically feasible now and in the future as Midtown progresses. With this in mind, the Team's economic experts evaluated the current market conditions, including demand for TOD-type living, possible rents/sales for this type of development, and current land and construction costs. With this information, the Team was able to determine to what degree the market, at this point and with current requirements, is likely to provide transit-oriented development. The research confirmed what stakeholders related to the Team during the workshop—current conditions make TOD difficult and make other products more appealing to construct. This conclusion is corroborated by what has recently been built: principally low-density townhouses and strip commercial development.

4.1 Market Demand

Analysis conducted by the Center for Transit-Oriented Development estimates that there will be demand for more than 166,000 housing units within half a mile of a transit station in Houston by 2030. The estimate is based on Houston's plans to expand the light-rail system, the types of households and homes currently within half a mile of a transit station, and projected demographic changes for Houston.[9] This analysis suggests that there will be a great deal of demand for residential development near the Ensemble/HCC Station and at other transit stations throughout Houston.

The Team evaluated the potential for office, residential, retail, and other land uses in the Ensemble/HCC study area using published industry reports, interviews with local experts, and other data sources. The analysis also took into consideration the potential role of the station in the context of other stations along the corridor.

Based on the analysis, the Team determined that the "highest and best use" for the station area was a mix of residential and retail uses oriented to the transit station. The research found that the potential for office development was quite limited, given currently high vacancy rates and relatively low rents in Houston. Contributing to this is the market perspective that downtown and locations closer to the TMC would generally be more attractive as office locations. Furthermore, the Ensemble/HCC area has already experienced investment in new residential-only and mixed-use residential developments. The market analysis also identified the Ensemble location as advantageous for residential uses given its proximity and easy transit access to several employment centers, such as downtown and the TMC.

4.2 Impact of Construction Costs

The primary reason that townhouses are the standard residential product being developed in the Ensemble/HCC Station area is the high cost of development - particularly the high cost of development at any other density. Historically, the price for a residential unit is fairly steady over time with a moderate rate of growth, while construction prices are more volatile. The recent spike in construction costs is unprecedented and created an imbalance in development possibilities. Over time, construction costs will likely grow more slowly or may even decrease, and unit prices will continue to grow steadily. In the long term, more moderately urban buildings (such as four to five stories) will become financially feasible to build as revenues from unit sales catch up to construction costs. The length of time to reach this new balance of costs is unknown. Two major factors affect the financial feasibility of different building types in the current market:

[9] CTOD assumes all lines will be light-rail by 2030.

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- *Construction material costs* are a financial barrier to higher-density projects, which tend to cost more per square foot than single-story development. For instance, if an average residential unit at 900 square feet can sell for about $173,000 at the Ensemble/HCC TOD, a developer of townhouses (stick built) would be willing to pay about $17 per square foot of land, while a developer of a six- or more story building (steel and glass) would need to *be paid* about $110 per square foot for a feasible project. Development at five stories with a wrapped parking garage, which can still be stick built, would need to be paid about $14 per square foot of land. [10]

- In addition to this cost, higher-density projects in Midtown will require *structured parking* instead of a surface parking lot. Construction of parking for a townhouse would cost about $5,000 per space, while parking in a building of four stories of residential units over a parking garage would cost about $15,000 per space.

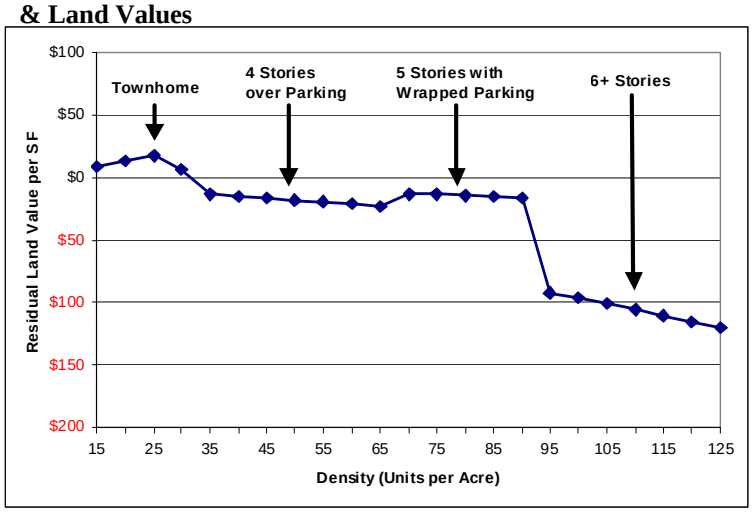
The addition of structured parking construction costs to the high cost of the development program makes the urban-type project unfeasible in Midtown today, but this imbalance will change over time.

In the meantime, property values rose dramatically around the Ensemble/HCC station area during the past few years. The typical price per square foot for land in the Midtown area grew from $4 per square foot in the early 1990s to more than $50 per square foot in 2006. This is in part due to land speculation fueled by the new light-rail line, with some buyers purchasing land in anticipation of higher land values in the future. But the main reason for this dramatic growth is that developers of townhouse and low-density commercial projects can afford to pay more for land. These products have lower construction costs and generate a profit for the developer at current land prices.

4.3 Finances of Higher Density

Conventional wisdom might suggest that a developer would be willing to pay a higher price for land to build a more intensive development. More units or square feet of retail would bring in more revenue and allow the developer to pay more for the land. But revenues from the development (rents or sale of units) need to be high enough to offset the higher costs of construction described above. Revenues may catch up with construction costs over the long term to enable developers in Midtown to build moderately urban buildings (such as the five-story building in the example

Figure 12: Current Relationship between Residential Density & Land Values



[10] Note: these are approximate land values intended to illustrate the current relationship between density and land value, and do not necessarily represent actual land values for parcels in the study area. The consultant team used the land residual analysis method to estimate the value of land given a specific development program. The "residual land value" of a property is derived by estimating the value of the total development and then deducting the costs associated with building the project. These costs include all of the direct and indirect costs of development, as well as the developer's profit margin estimated at 12% for purposes of this model. Direct costs include construction costs and contractor fees; indirect costs include all other costs such as architect and engineering fees, legal costs, insurance, taxes and other miscellaneous costs.

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above), but this development type is not feasible in Midtown today because the units cannot demand a high enough rent or sale price to cover the costs of construction.

Figure 12 illustrates the trade-off between land values and project building types given the current market in Midtown. Potential land cost is calculated by estimating the value of the project and deducting the hard and soft costs of building the project. The remaining dollar value is an estimate of the land cost the project can support. As shown in Figure 12, townhomes with densities under 30 units per acre currently generate the highest land values, due to their lower construction costs relative to other types of development. As the project density increases to different building types, the costs of construction more heavily outweigh any value of development. For instance, using the same unit size, a developer would be willing to pay $17 per square foot for land to build townhouses, while a developer would need to *be paid* $18 per square foot of land to build four stories of residential over parking in the current market.

4.4 Spurring the Market

Although the current climate for moderately urban building types around the Ensemble/HCC station is not financially feasible, there are ways that this type of development could become feasible in the shorter-term. The city can create conditions where the private sector can succeed sooner and create a public benefit. Two strategies that could improve the feasibility of different types of residential development are:

1. Creating a TOD district around Ensemble/HCC with the mechanisms to promote placemaking, and

2. Allowing lower parking ratios.

1. Spurring the Market through a Placemaking Premium

The experience of cities across the nation shows that high-quality, pedestrian-friendly districts can support higher price points in the marketplace. Places such as Atlantic Station, Georgia; Reston Town Center and Arlington, Virginia; Denver, Colorado; and others illustrate that coordinating pedestrian investments and building quality can increase the value of development at a greater rate than comparable projects. This "placemaking premium" typically means that projects can achieve rents or sales prices that are 10 to 20 percent above similar products offered elsewhere. Thus, if property owners can create a critical mass of high-quality development, along with streetscape improvements and good pedestrian linkages to the transit station, it could improve the potential for development in the study area significantly.

Figure 13: Potential Impact of Placemaking on Land Values - 20% Premium

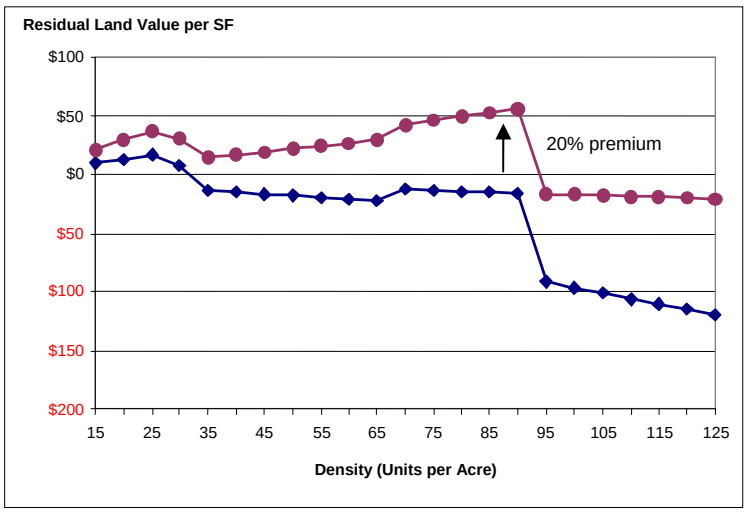

Figure 13 illustrates this relationship by showing the effects of generating a 20 percent premium. Using the base assumptions from above, this illustration shows the highest land value can be derived from a five-story building with structured parking. For instance, using the same 900-square-foot

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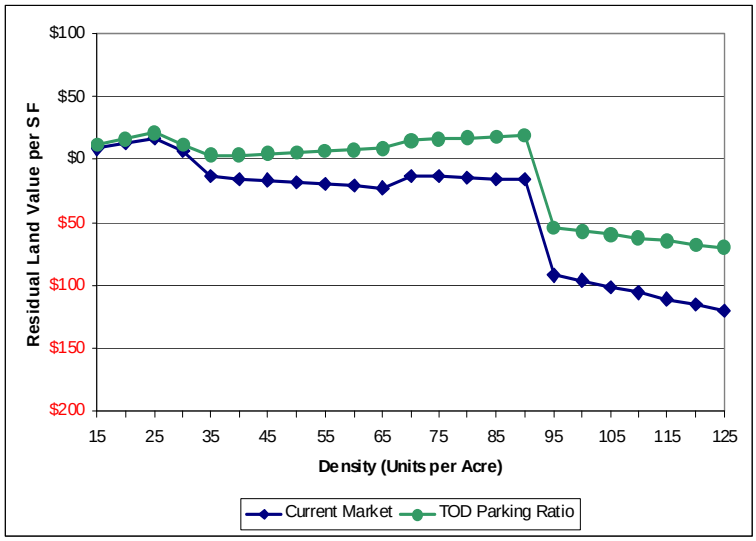
unit, a developer would be willing to pay $46 per square foot to build a five-story building with wrapped parking, or $37 per square foot for townhouses in Midtown with strong placemaking investments.

2. Spurring the Market through Appropriate Parking Ratios

Proximity to the transit station is not only an important neighborhood amenity that can increase project revenues; it also provides an opportunity to lower construction costs by reducing the number of parking spaces provided with each residential unit. Studies show that households within half a mile of a transit station demand less parking, and cities around the country have responded by lowering parking requirements in transit districts; many require one space per residential unit.[11] A TOD parking district around Ensemble/HCC and throughout Midtown could reduce the regulatory requirements from two to one parking space per unit for all residential projects.

Figure 14 shows the impact on project feasibility of reducing project parking from an average of two spaces per unit to one space per unit. This change favors both townhouse development and the five-story building with structured parking – demanding a price of about $21 per square foot of land for townhouses versus about $16 per square foot to build the five-story building. This means that a change in city policy or a parking district specific to the TOD to reduce parking requirements could catalyze more development options around Ensemble/ HCC in the short-term. Development opportunities would expand from the current context where townhouses are the only viable project to a development environment where five-story buildings with wrapped parking become an economically feasible option with no public subsidies.

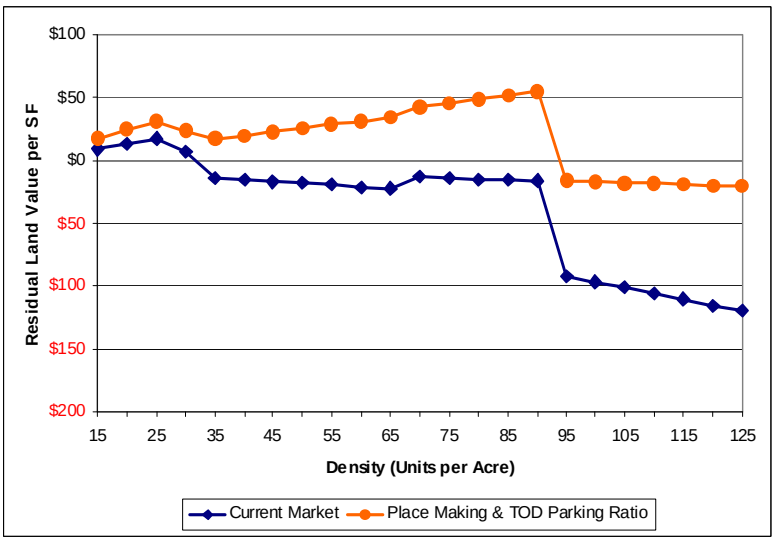
Figure 14: Potential Impact of Reduced Parking Requirement – One Space per Residential Unit



3. The Combined Impact of Place-making and Appropriate Parking Ratios

The potential impact of both reduced parking and a (more modest) 10 percent price premium is shown in Figure 15. In this case, parking requirements are reduced to one space per unit, and investment in the pedestrian spaces and a coordinated

Figure 15: Combined Impact of Placemaking and Reduced Parking – 10% Revenue Premium and One Parking Space per Unit



[11] Urban Land Institute, *Developing Around Transit*, 2004.

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vision for the district generate a 10 percent premium in rent and sale prices.

These two factors combined would make it feasible and most profitable to develop an urban district of five-story buildings with structured parking wrapped mid-block closest to the transit station, with the potential for varied residential building types as development is located farther from the station. In this scenario, a developer would be willing to pay about $46 a square foot to build a five-story building, while the land value for townhouses would be about $31 per square foot. Buildings six stories and higher would still be unfeasible in this context, requiring the developer to be paid about $19 per square foot of land (versus the current market where it would require a subsidy of about $110 per square foot to be feasible).

TOD around the Ensemble/HCC station is not financially feasible today given the current Houston climate, which has no mechanisms to coordinate and create synergy in development and little experience making public investments for pedestrian spaces. The city provides no parking ratios that recognize that districts served by transit function differently from those not served by transit. The city, Midtown TIRZ, Midtown Management District, METRO, landowners, and the development community can address these issues to maximize the city's use of the light-rail line, create a dynamic place to attract young professionals, increase the city's tax base, realize economic opportunities for its landowners and developers, and make the community more viable and more attractive. All the stakeholders have an opportunity, but to realize this opportunity they must address each of these issues.

An Ensemble/HCC district that will generate the greatest increase in property values and best use of the citizens' investment in light rail will need support and direction from two positions:

- Targeted and coordinated effort to create a *place*. This will include investments in sidewalks, public gathering places, on-street parking, and crosswalks.

- Provision of a TOD parking district that allows one parking space per residential unit, maximizes on-street parking, and coordinates joint and shared parking facilities.

The city, Midtown TIRZ, Midtown Management District, and METRO can help the Ensemble/HCC district work towards these strategies without a subsidy of the market. It is unrealistic to think that the public partners can force the market to operate in ways that are less profitable for the private sector, all for the sake of public benefit. The market study above shows that the city, TIRZ, Management District, and METRO can create conditions where the private sector could be more successful in the short-term. Employing strategies such as a parking district or coordinated investments in pedestrian improvements can expand development options in Midtown. These steps can support private success while creating public benefit in Midtown and the city. Additional details about tools available to the city, the TIRZ, Management District, METRO, and the landowners to create these conditions for success are discussed in the next section.

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5 STRATEGIES FOR ENSEMBLE/HCC DISTRICT

TOD offers Houston the potential to create vibrant, active neighborhoods that are attractive to young professionals and people looking for more choices in housing styles and ways to get around. By creating new neighborhoods near transit, the city can 1) maximize its investment in the light-rail line by increasing ridership and 2) expand the tax base by making productive use of underutilized land. To spur TOD at the Ensemble/HCC station and in Midtown, the city can pursue several strategies that send a clear signal to the development community that the city has a vision for the area and can provide a predictable development environment.

Based on the workshop participants and meetings with city and Midtown leadership, the Team noted some strategies that could support successful redevelopment in Midtown. These strategies can be used independently or in combination. TOD will have a greater likelihood of success when multiple strategies are coordinated for a targeted approach to development along the light-rail system. Each strategy will need further discussion by the local stakeholders to reach consensus on the best approach for Houston.

5.1 Transit-Oriented District

Due to the presence of transit, the focus on pedestrian access, and the desire for a fine-grained mix of uses, transit-oriented districts tend to have a different set of development policies than conventional suburban development.

Key to the district will be designating the location and extent of the area within which special policies and measures will be applied. For the Ensemble/HCC station, the city can designate an area that is roughly a quarter mile in radius around the station. This could be an area bounded by Rosalie on the north, Louisiana on the west, Isabella on the south, and Austin on the east, with adjustments for the presence of the freeway and its ramps. This area is shown in Figure 16. A growing number of cities are designating districts to encourage TOD—including San Diego; Seattle; Mountain View, California; and others—and use a range of tools to catalyze development.[12]

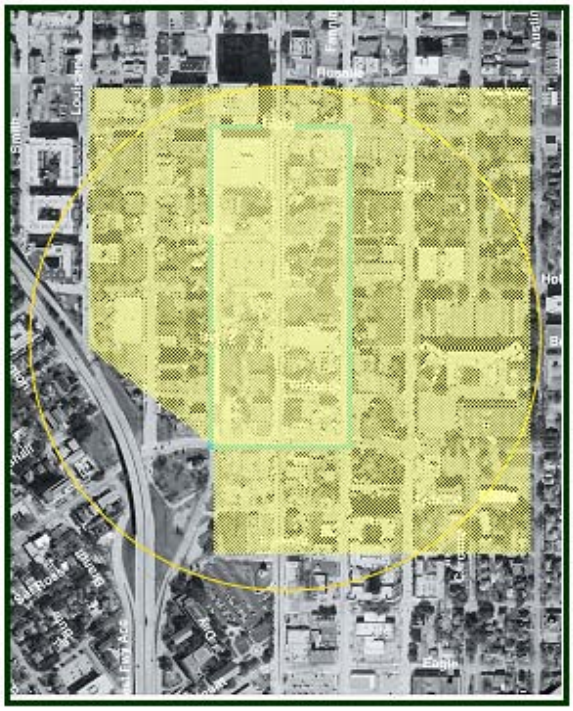

Figure 16: Potential area for TOD designation

The two major elements of a transit-oriented district are included below and can be reflected in city ordinances that govern these areas:

1. Transit-Oriented Pedestrian Areas - Successful TODs provide easy and multiple access points to the station for pedestrians while still allowing for movement of motor vehicles. Investments in pedestrian areas should place a priority on the area closest to the transit station. One method to define these priorities is:

[12] See TCRP Report 102, "Transit Oriented Development in the United States," 2004.

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- Pedestrian Places - Areas within a 1,000 to 1,320 foot walking range (actual path distance) of stations can be designated as pedestrian places and be a priority for funding pedestrian improvements. Pedestrian places are characterized by wide sidewalks, clear signage, lighting and other safety measures, and numerous gathering places. In these areas, the focus is on the pedestrian while still providing opportunities for motor vehicles to move throughout the area.

- Pedestrian-Supportive Areas - Areas within one-quarter to one-half mile of the station can be pedestrian-supportive areas with guidelines to ensure a protected sidewalk and a right-of-way that provides adequate space for pedestrians. While farther away from the transit station, these areas are still well within the distance that people are willing to walk to reach transit.[13]

  Appendix C contains additional details for a Transit-Oriented District.

2. Transit-Oriented Parking District - Create special off-street parking requirements for the transit-oriented district. Possible approaches include:

   - Create a TOD provision in the parking code applicable in the future to all TODs at stations along high-capacity transit corridors (but applicable today only to Main Street/Red Line). Allow and set conditions for designation of parking districts within TODs. Set location and extent criteria for TODs and parking districts. This would be done as part of an overall transit-corridor overlay ordinance.

   - Create a Parking Management Area (PMA) just within the Ensemble/HCC station TOD, using the existing parking code. Use lessons learned from this experience to guide the implementation of PMAs in other station areas around the city.

Appendix B contains details on potential changes to Houston's current parking definitions for shared and joint parking, off-site parking allowance, on-street supply, and residential and commercial parking requirements for a TOD District.

5.2 Improved Use of Public Right-of-Way

Successful transit-oriented districts make all transportation—walking, biking, transit, and driving—more accessible and convenient. They do this by fostering strong pedestrian-supportive environments, as described above, and creating numerous route options, a strong connection between places, and good overlap between modes. The Ensemble/HCC station area already has the "bones" necessary to create this environment, but it could go further by improving use of the public right-of-way. Right-of-way standards can incorporate plan view drawings, cross sections, and perspectives to show minimum design treatments for streets and the surrounding buffer and sidewalk areas. These strategies can be included in a TOD District for Ensemble/HCC or throughout Midtown, as set out above. Strategies include:

1. Maintain all street connections in Midtown – Midtown's short blocks, at 200 to 250 feet, are one of its greatest assets. The small block size improves access for pedestrians while providing drivers multiple routes to downtown. However, small blocks can be more difficult to redevelop than large blocks. As a result, the street network may come under pressure over time as

[13] For detailed information about the design elements for good pedestrian places, see "Trans-Formation: Recreating Transit-Oriented Neighborhood Centers in Washington, DC: A Design Handbook for Neighborhood Residents," Office of Planning, 2002, http://www.planning.dc.gov/planning/cwp/view,a,1282,q,569523,planningNav,|32341|.asp

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developers propose closing and vacating streets to create larger building sites. Any approval of street closures or vacations within the TOD district would be detrimental to its development.

2. Add diagonal, on-street parking to select streets - Some roads (particularly Millam, Travis, and Fannin) are too wide for a vibrant pedestrian place around the transit stations. Wider streets can encourage faster traffic, and without on-street parking, the pedestrian has no buffer from the passing vehicles. This can make walking feel unsafe and uncomfortable. To both improve the pedestrian street environment as well as provide more efficient parking for vehicles, the city can provide diagonal, on-street parking on these wider streets. Angled parking accommodates more spaces than parallel parking, and parked cars along the curb can help to slow traffic. (See Figure 11 on page 18.)

3. Widen the sidewalks within the transit-oriented district to create an organized pedestrian space – Studies across the country show that developments that create vibrant pedestrian places garner a premium over comparable developments. Success of these places is largely based on the space between the driving lanes and the buildings. This space needs to be organized with on-street parking, a sidewalk planting strip to buffer people from the cars, and a wide sidewalk to the build-to line. These investments will be instrumental in fostering a pedestrian environment that strengthens development opportunities and increases property values for the city and landowners.

   Sidewalk widths and functions will vary depending on the surrounding land uses. In the heart of the transit-oriented district, sidewalks are not only a place to walk, they can also be places for outdoor café seating and window shopping. While it is important to have connected sidewalks throughout residential areas, they will typically be narrower than those in a denser mixed-use setting. If funding is limited, the city can target its initial investments in the pedestrian areas near the transit stations.

Figure 17: Crosswalk at METRO station

4. Add crosswalks to all intersections in the transit area - Several of the cross streets that no longer connect across the METRORail Red Line corridor also do not have crosswalks across Main Street. In these places, the raised, landscaped median prevents safe pedestrian crossings of Main Street. This appears to have been a cost-saving measure. Crosswalks similar to the one in the photo at right can be added wherever they are missing in the TOD district to support pedestrian access and circulation throughout the transit area.

Figure 18: Current organization of sidewalks in Midtown

5. Consolidate and bury utilities as appropriate for an urban place - While burying utilities is expensive, poorly placed poles can disrupt the sidewalks and diminish the pedestrian place necessary for successful transit-area development. As it plans sidewalk and street

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replacement, the city can look at opportunities to consolidate all utilities on poles and bury the utility lines.

5.3 Leadership

Ensemble and Midtown need a champion. The city and the Midtown TIRZ and Management District can continue to create conditions that allow the private sector to succeed in redeveloping Midtown while creating public benefits. METRO has the chance to support development patterns that best increase ridership and the financial viability of the light-rail system. The private sector has profit to gain by working with neighboring landowners and the public sector. But strong leadership from one or many of these stakeholders is necessary to establish the Ensemble/HCC area (or Midtown) as a place destined for predictable and high-quality development.

- METRO, the city, and the Midtown TIRZ and Management District have important roles as leaders responsible for development around the new light-rail line. As an investment of city taxpayers' money, the light-rail line needs to maximize city returns by focusing on development that best supports ridership. Steps towards reaching these goals include:
    - establishing certainty in the development community that redevelopment of Midtown is a city and METRO priority;
    - supporting Midtown efforts to invest in pedestrian-supportive sidewalks and on-street parking; and
    - marketing the importance of TOD at Ensemble/HCC and other stations to Houston's competitiveness in the global market.
- Landowners and developers can create their own destiny for Midtown by establishing a new entity (e.g., non-profit organization or locally sponsored business improvement district) to market and brand Midtown. Cooperation by existing owners would signal to the development sector, the city, and METRO that Midtown is ready for investment and can create greater certainty for redevelopment efforts. This effort could be led by the development sector, local residents, and/or the major institutions around Ensemble (such as the churches or the college).

5.4 Land Assembly

Many cities face the challenge of creating a financially successful TOD in an area where owners generally control small parcels. Small-parcel ownership makes it more difficult to establish an equal quality of building design, ensure a phased release of products to maximize profits, and secure the best use of land close to a station. In other cities, such as Portland, Oregon; Washington, D.C.; and Dallas, public-private partnerships help support successful TOD by assembling large parcels or coordinating entire districts.

Developers at the Ensemble/HCC workshops expressed the need for a critical mass of land to be assembled for purchase or partnership around the Ensemble/HCC station to allow a financially feasible mixed-use development. Participants discussed how the assembly of a three- to four-block area would facilitate TOD by allowing a developer to concentrate parking onto one or two blocks (along with some retail and residential development) and leverage the remaining blocks for more intensive residential development and no parking. The conceptual layout of the Ensemble station area, created with participant input, illustrates how select blocks could maximize parking opportunities, while other blocks could maximize residential development. (See Figure 7 on page 15.)

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Stakeholders that can play a part in this assembly of land include:

- Midtown TIRZ – The TIRZ could leverage funding to purchase a set of blocks near the station at market rate and resell it at a new (assembled) market rate to a developer. The TIRZ would profit from the sale price of assembled land and reap the benefits of the tax increment increase generated from new mixed-use development.

- Developers – Landowners surrounding the Ensemble station could broker a development partnership whereby jointly developed land would be master planned to realize the profit margin of placemaking. The master plan, similar to the conceptual plan from the workshop, would designate locations to concentrate parking to leverage higher intensity uses on certain blocks. To encourage cooperation for TOD, the development agreement would be based on the percentage of land owned in the assembled area and not on the ultimate use on each parcel. Furthermore, a local church could play a role as the broker of the master plan or the assembler of land.

- METRO – METRO has the capacity to assemble land within 1,500 feet of any rail station. Although this may not be politically feasible, it may be an opportunity for METRO to hold out both a stick (the threat of assembly) and carrot (development partnership) to landowners in a three- to four-block area around the station to engage in a development partnership.

5.5 Neighborhood Plans

The Main Street Master Plan created a general vision for Midtown as an urban residential neighborhood that can support downtown and the TMC. The plan establishes the downtown context for Midtown but lacks detail about the character of the neighborhoods, the scale of development around the transit stops, and the expectations for neighborhood amenities. The city, in partnership with landowners and developers around Ensemble, can create a more specific neighborhood plan for the area that describes a detailed vision for the redevelopment of Midtown. The plan, while not an enforceable document, could be tied to various incentives to get development consistent with the plan's vision. A specific area plan, with enough detail and attached incentives, would signal that the city is committed to redeveloping Midtown.

Elements that can be considered for a neighborhood specific area plan at Ensemble/HCC include:

- Quality and detail of sidewalk space. A coordinated strategy can ensure attractive sidewalks and space for an active pedestrian area.

- Location of public spaces. The Parks Board can work with Midtown landowners to consolidate open space requirements into a series of community parks. Urban parks will enhance the value of properties in Midtown and increase the premium derived from residential development. A coordinated plan would allow each owner to maximize development on the parcel and support the creation of high quality parks in the district.

- Consistent build-to lines. Blocks in a TOD that have a consistent building edge better define the sidewalk and street for a more inviting pedestrian place.

- On-street parking designations. Parking along the street – both diagonal and parallel – helps protect pedestrians from nearby traffic and provides store customers with vital short-term parking.

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- Ground-floor character for retail on Main Street and residential buildings on other streets. A retail front along Main Street will help direct pedestrians to the light rail as a backbone of the pedestrian and commercial life of the district. Streets parallel to Main Street, such as Fannin and Travis, can also support neighborhood retail, while the cross streets are most appropriate for housing.

- Location and quantity of off-street parking. Reduced parking requirements and a coordinated district strategy to locate parking are important to support best use of the property closest to the light-rail station.

5.6 Fund and Invest in Affordable Housing along the Rail Line

Workshop participants identified the importance of affordable housing in Midtown as a key concern, as evident by the requirement that one-third of all TIRZ funds be directed to such housing. Investment in affordable housing at the Ensemble/HCC TOD can serve two purposes:

1. provide needed affordable housing within Midtown and not transfer these homes to other neighborhoods; and

2. catalyze development of market-rate housing at the TOD by stimulating the housing market in the blocks immediately surrounding the station.

Studies show that investment in affordable housing in TODs provides people with a housing choice but also with the choice to use transit. Households that can use transit are more likely to reduce their household spending on transportation, which averages 17 percent of all household spending in the U.S.

Opportunities for investment in affordable housing at the Ensemble station include:

1. Midtown TIRZ project plan requires one-third of all investments be dedicated to affordable housing. The TIRZ has an opportunity to invest in affordable housing along the rail line for both families and individuals to ensure a mixed-income neighborhood that sustains Midtown. Options for the TIRZ include:
   - Purchase property and develop its own affordable units,
   - Purchase property to assemble land for a larger development agreement that includes mixed-income units,
   - Partner with developers to subsidize affordable units,
   - Leverage other available funds from the city, state, and federal governments to fund affordable housing and mixed-income development, and/or
   - Broker investment in pedestrian improvements in exchange for a developer including affordable units.

2. Churches are a significant and important presence around the Ensemble station. Trinity Episcopal Church, Holy Rosary Church, and South Main Baptist Church own land within the transit area and are interested in expanding their holdings. The churches could partner in the development of affordable housing for their members, bring their members back into the neighborhoods surrounding the churches, make their locations more secure and attractive, and benefit from a newly invigorated neighborhood.

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5.7 Branding and Special Events

Urban destinations that are branded and marketed to developers and the public profit from a greater awareness of the district and a distinctive identity in the local retail and housing markets. Atlantic Station in Atlanta, Georgia, benefited from such a strategy: it established a presence in the region, branded the district clearly, and programmed special events in the neighborhood that are held throughout the year. Branding the Ensemble area and of Midtown in general will help highlight successful redevelopment along the light-rail line. A marketing campaign that shows a reinvigorated Ensemble area will heighten interest and exposure for both the neighborhood and the rail line.

Through the efforts of the Midtown Management District, the identity of Midtown within the region has been growing over the past decade. The TIRZ and the Midtown Management District can further expand work to brand and market Midtown by partnering to employ a marketing expert for the District, in-house or as a consultant. Branding can be used on all Midtown signs and for all events. The district can organize numerous public events throughout the year to bring people to Midtown and elevate people's awareness of and interest in the neighborhoods.

5.8 Joint Agreements based on Development Guidelines

Houston's somewhat unique position of being a large American city without zoning provides both opportunities and challenges. On the one hand, unlike most cities, Houston does not need to revise badly out-of-date zoning rules to get the kind of development it seeks. However, without zoning, it can be difficult to provide certainty to landowners and developers who might not know what kind of development could be built next door to their properties.

A potential solution to this issue could be for the city or a local government corporation to support joint agreements among parties based on TOD-supportive guidelines. These agreements can help the city or corporation target light-rail station areas in Midtown for investments based on performance measures for a vibrant pedestrian place. The city can choose to act as a catalyst for TOD, providing incentives to the first projects or agreements in a TOD to reward those taking the highest risk. Incentives do not need to be provided over the long term. One example is in the Pearl District in Portland, Oregon – the city created a joint development agreement with over 40 landowners to master plan the district and provided infrastructure and amenity incentives in exchange.

Alternatives for Ensemble/HCC could include:

- Developer reimbursements for infrastructure improvements can be competed and tied to an agreement on mixed-use development with strong pedestrian areas. This connection is reasonable as the experience of other cities shows that this development type will create the greatest return on investment for the city.

- City or TIRZ planning can create development guidelines for districts surrounding transit stations. Groups of developers that choose to adhere to TOD guidelines can receive city or TIRZ investments in parking variances and pedestrian improvements.

- The city, TIRZ or METRO can provide incentives to a group of landowners who create a joint plan on building form (height, build-to lines, first-floor transparency) and placemaking (sidewalk, outdoor amenities, plazas). Priority can be given to groups with a minimum amount of developable acreage. One such incentive could be the construction of a parking garage by METRO or the city one block back from Main Street that could accommodate most parking requirements of the joint plan.

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5.9 H-GAC can Partner in Producing Mode Share and Emissions Improvements

Investments by the Houston-Galveston Area Council to improve transit and pedestrian travel will help the city reach multiple community goals and help the region address its current status as a non-attainment area for ozone. Research by EPA has quantified the potential improvement in the transportation and environmental performance of a development if located to produce regional and transit accessibility: locating development on regionally central infill sites can produce substantial emissions benefits when compared with locating that same development on greenfield sites on the fringe of the developed area. In a variety of case studies, per capita vehicle miles traveled (VMT) associated with a development site were reduced by as much as 61 percent at infill sites compared with the greenfield sites, and NO_x emissions were reduced by 46 to 51 percent.[14] In Dallas, according to EPA guidance for Clean Air Act State Implementation Plan analysis, TOD at South Side on Lamar would reduce emissions by between 37 and 62 percent compared to the same amount of development in greenfield suburban areas.[15,16] See the adjoining box on the Atlantic Station case for the potential emissions benefits of development at a scale more similar to that which Midtown could see.

The North Central Texas Council of Governments (NCTCOG) in the Dallas-Fort Worth region established a unique program called the Sustainable Development Funding Program to better use existing transportation capacity and improve access management and rail mobility. NCTCOG uses funds from the Congestion Mitigation and Air Quality (CMAQ) program to target transportation improvements that support TOD. The program places a priority on investments that provide "direct access to existing or programmed transit centers or provide mobility for an existing or zoned area with

Emissions from Infill versus Suburban Development Sites:
The Atlantic Steel Case

EPA analyzed the likely transportation and emissions impacts of locating a new development at an infill site (formerly used by Atlantic Steel) compared with several likely suburban sites. EPA used Atlanta's regional travel model and EPA's MOBILE 5 emissions model to analyze the likely effects of developing each site with the same amount and mix of development. EPA concluded that, depending on which suburban site is considered, development on the infill site would result in the following savings:

- VMT savings of 15-52 percent
- NOx emissions savings of 37-81 percent
- VOC emissions savings of 293-316 percent

Transit share of work trips were projected to be significantly higher at the Atlantic Steel site: 27 percent of work trips made by transit compared with the regional average of approximately 8 percent and the 0-13 percent transit share that would result from development at the suburban alternatives.

The project, now called Atlantic Station, opened in 2006, and its transportation performance is being tracked.

Source: U.S. Environmental Protection Agency. November 1, 1999. "Transportation and Environmental Analysis of the Atlantic Steel Development Project." Prepared by Hagler Bailly.

[14] William Schroeer and Eliot Allen, "The Transportation and Environmental Impacts of Infill vs. Greenfield Development: A Comparative Case Study Analysis," Washington, DC: U.S. Environmental Protection Agency, EPA 231-R-99-005, 1999. www.epa.gov/dced/pdf/infill_greenfield.pdf

[15] US EPA, *Comparing Methodologies to Assess Transportation and Air Quality Impacts of Brownfields and Infill Development*, EPA-231-R-01-001, 2001. http://www.cleanairinfo.com/airinnovations/guidance/_Guidance.htm

[16] See also Development, Community, and Environment Division, *Our Built and Natural Environments: A Technical Review of the Interactions between Land Use, Transportation, and Environmental Quality*, United States Environmental Protection Agency, Washington, DC (EPA 231-R-01-002), 2001. http://www.epa.gov/smartgrowth/pdf/built.pdf

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a mix of uses accessible by walking."[17] By similarly targeting its investments, H-GAC can support TOD in Houston in pursuit of regional air quality goals. For more information about the investments leveraged by NCTCOG, see the Listening Sessions report.[18]

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[17] See North Central Texas Council of Governments, "Potential Bicycle and Pedestrian Project Criteria," 2003, http://www.nctcog.org/trans/sustdev/bikeped/2005_update/New%20bike-ped%20funding%20criteria.pdf.

[18] See North Central Texas Council of Governments, "TOD Implementation Listening Session," 2006, http://www.nctcog.org/trans/sustdev/landuse/funding/TODImplementationGroup062906.pdf.

6 Conclusion: A Charge to Houston

Houston is about to embark on a vast extension of its successful light-rail system. Investment in and leadership for development around the existing rail stations will help create public support for future station-area development or preservation. Momentum is building, but many groups will have to work openly together to make the light-rail, and private development around it, succeed for Houston. The opportunity to plan for and catalyze "best use" of this land for the city's competitive edge will not come again.

Landowners, developers, citizens, and local advocacy organizations have an opportunity to work with public agencies like H-GAC, METRORail, Department of Planning, Department of Public Works, and the mayor's office to coordinate investments that will create great neighborhoods at each station and promote Houston's competitiveness in the global market. These stakeholders can come together to develop strategies that will best leverage Houston's entrepreneurial culture and help ensure the city does not miss out on the chance to use its light rail for the benefit of its citizens and business community.

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Appendix A: Smart Growth Implementation Assistance Visit: Details

Partners and sponsors that funded the workshop

Partners

Gulf Coast Institute
Main Street Coalition
Texas A&M Sea Grant Extension

Sponsors

METRO
Midtown Management District
Trinity Episcopal Church
US Environmental Protection Agency
Urban Land Institute – Houston

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ICF / EPA Consulting Team

Dena Belzer, Principal
Strategic Economics

Ms. Belzer specializes in connecting regional economic and demographic growth trends to real estate development activity and local policy initiatives. Ms. Belzer's work draws upon a traditional urban economics framework and innovative analytical techniques to provide strategies for addressing growth and development-related issues. Ms. Belzer is an expert on transit oriented development, fostering mixed-use districts, and local-serving retail attraction. She has helped to establish best practices for transit oriented development in multiple communities as well as writing extensively on the topic.

Jim Charlier, President
Charlier Associates, Inc.

Mr. Charlier is a nationally recognized transportation planning professional with 31 years experience in local, regional and statewide settings across the country. He has provided transportation planning services to clients throughout the United States and is a frequent speaker, lecturer and facilitator on urban transportation planning challenges and opportunities. Mr. Charlier obtained BS and MS degrees from Iowa State University in 1972 and 1975 and is a certified planner (AICP).

Brian Leary, Vice President of Design and Development
Atlantic Station L.L.C.

Since joining Atlantic Station in 1997, Brian Leary has developed the master plan into a national model for smart growth and new urbanism. Prior to joining the Atlantic Steel redevelopment team, Leary worked for Central Atlanta Progress (CAP). With CAP and COPA, Inc., the non-profit development arm for the Centennial Olympic Park area, Leary helped with the continued implementation of the Westside Tax Allocation District (TAD), Centennial Park area special public interest (SPI) overlay zoning district and expansion of the Downtown Improvement District (DID).

Tim Van Meter, Architect/Partner
Van Meter Williams Pollack

Mr. Van Meter's experience has ranged widely from buildings, to landscape designs, to urban designs for districts and neighborhoods. As a partner in Van Meter Williams Pollack, Tim has focused on mixed use developments, urban infill projects and affordable housing. He has led the design team on many of the firm's complex design projects, formulating the program, building consensus and developing design solutions. Projects include: affordable housing developments; industrial reuse plans; mixed use projects; public housing revitalization plans; transit oriented communities; as well as interior architecture and corporate facilities. Tim works closely with clients and communities to formulate programs and development strategies.

William Schroeer, Vice President, ICF International, managed the ICF consulting team.

Ilana Preuss and Geoff Anderson of the Development, Community and Environment Division represented the US EPA.

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APPENDIX B: TOD PARKING DISTRICT STRATEGIES

Motor vehicle parking is a challenging issue in urban environments. Parking is expensive to build, consumes valuable land, and can force significant design compromises. At the same time, the need to provide parking cannot be ignored if urban places are to thrive. The key is to provide "the right amount" of parking – too little parking affects the viability of retail and too much parking wastes space and money. All of these issues are magnified in transit oriented development (TOD) areas, where the pedestrian and transit modes are made preeminent.

Figure B-1. Example of partially vacant parking lot in Midtown

Since the cost of parking can be disproportionate to its benefits, a good parking strategy requires an integrated approach. A good parking strategy approach must address all five parking elements:

1. on-street parking supply (one of Midtown's most valuable assets),
2. off-street parking (should be treated as a public utility),
3. enforcement (currently not a problem but will increase in importance as parking becomes more valuable),
4. pricing/funding/finance (how much users pay, who funds development, and how parking is financed), and
5. modal relationships (high level of transit can significantly reduce parking demands). (See Figure B-2)

Ignoring one point of the star will only put increased pressure on the other elements, so a comprehensive strategy is needed to address all parking issues together.

The following strategies will help Midtown address the challenges associated with creating the appropriate amount of parking for a TOD district like the Ensemble/HCC area.

1. Establish a TOD Parking District
2. Conduct Travel Behavior Research
3. Clarify Shared Parking and Joint Parking Ordinance
4. Extend and Broaden Off-Site Parking Allowance
5. Increase On-Street Parking Supply
6. Reduce Residential Parking Requirements
7. Reduce Commercial Parking Requirements

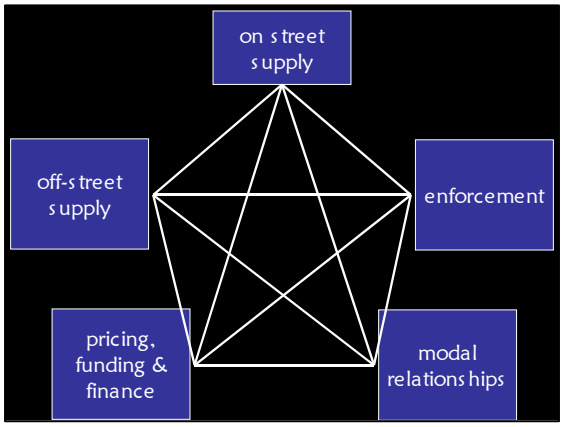

Figure B-2. Interrelationship of Parking Elements

These strategies are described in the following sections.

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Establish a TOD Parking District

Since parking is one of the largest costs associated with development, keeping parking costs down is a key to TOD in the Ensemble/HCC area. This issue is even more critical because of small block sizes in Midtown and rapidly increasing construction costs. The current parking ordinances require a set amount of parking for a given amount of square footage or per unit, which assumes all trips will be by private automobile and does not estimate trip savings from a neighborhood's mix of uses or its access to transit. Although variances can be granted on a case-by-case basis, the current rules represent a barrier to better development around the transit station.

Solution: A comprehensive parking strategy, starting with the designation of a TOD Parking District, would provide flexibility in achieving the right balance of parking in Midtown. Once this district has been designated, a special set of off-street parking requirements can be developed. The zone closest to the transit station is appropriate for reduced off-street parking requirements because of the convenient access to transit with frequent service. Studies show that people who live within a half a mile of a transit station with frequent service and safe, attractive sidewalks are more likely to use transit or walk. With the choice of multiple modes of transportation, these same households are likely to own fewer cars than households in conventional suburban developments.

The parking district delineates the area influenced by the transit station in which there is likely to be a higher level of transit use, walking and other forms of transportation. Because behavior changes in proximity to a transit station, it is both reasonable and cost effective to allow developers to explore alternatives for supplying the appropriate amount of parking. Defining a parking district allows a neighborhood-wide approach to parking, which is more cost effective than requiring individual developers to find site-specific solutions. A good parking strategy can help to reduce traffic. Putting stores, services, workplaces, and homes closer together, as well as sharing parking among several businesses, allows people to park once to accomplish multiple errands.

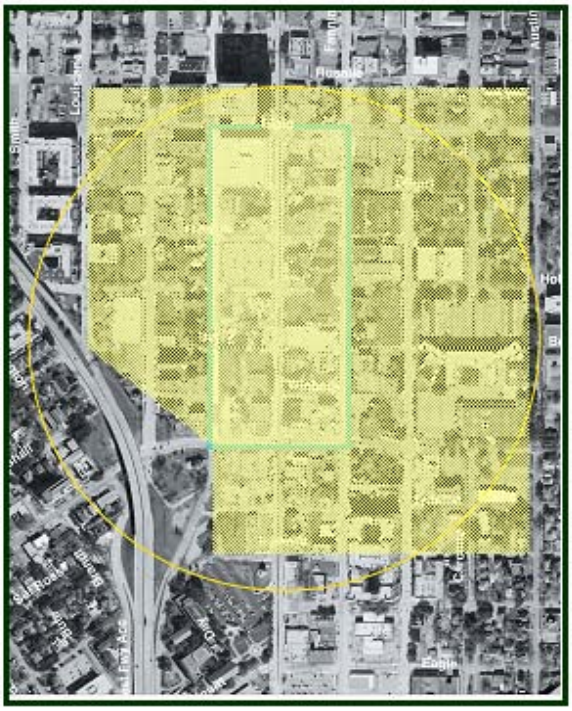

Figure B-3. TOD Parking District

As Houston develops its high capacity transit network, it will need to have adequate tools for guiding parking policy and investment in its station areas. Houston can then decide on one of two approaches for creating the special TOD:

1. Create a TOD provision in the Parking Code applicable in the future to all TODs at stations along high capacity transit corridors (but applicable today only to Main Street/Red Line). Allow and set conditions for designation of parking districts within TODs. Set location and extent criteria for TODs and parking districts. This could be done as part of the development of an overall transit corridor overlay ordinance.

2. Create a Parking Management Area (PMA) just within the Ensemble/HCC station TOD, using the existing Parking Code. Use lessons learned from this experience to guide the implementation of PMAs in other station areas around the city.

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A parking district at Ensemble/HCC could extend about one quarter mile from the station. The boundaries for an Ensemble/HCC TOD parking district could be as follows: bounded on the north by Rosalie, on the west by Louisiana and the freeway (Spur 527), on the south by Isabella, and on the east by Austin. (This area corresponds roughly to a 1200 to 1300 foot range north-south and east-west, and is slightly more than that to the corners of the rectangular area.) Figure B-3 illustrates the potential district. Similar parking districts could be established within one quarter mile of the other Midtown stations to support TOD in Midtown.

Benefits of a parking district could be provided to those developers committing to urban-type development, such as four to five story mixed-use or residential buildings. Parking benefits could also be used as incentive for a group of developers to commit to TOD design guidelines. Alternatively, the parking district could be used as a designated area where developers can build parking or pay in-lieu of the parking spaces for the city to build a shared parking garage off Main Street.

Additional Resources: The State of California has conducted an in-depth study of the benefits of reduced parking in TOD areas.[19] This study cites examples in Portland, Oregon, and Vancouver, British Columbia where parking requirements were reduced in designated areas around transit.

Conduct Travel Behavior Research

Although national and regional studies have demonstrated that well designed TODs require less parking, promote increased use of alternative transportation, and reduce automobile ownership[20], local conditions can influence the actual changes. Furthermore, some of the mobility measures and strategies necessary for successful TODs can be controversial, especially upon first implementation within a city. Therefore, Houston may want to ground any changes in policies and procedures on locally gathered data to ensure the proposed recommendations reflect the needs of Midtown.

Solution: Houston could conduct a travel diary for residents of the District to determine current travel behavior within the influence zone of the METRORail Red Line in the Main Street corridor (about one quarter to one half mile from the transit stations). The results would be used to calibrate some of the specific measures described later. The city leadership may be more inclined to consider these measures if they reflect local data about how the transit system is changing travel behavior and, as a result, public mobility needs within the TOD district.

Additional Resources: Boulder conducts a biannual travel diary survey to track the travel patterns and mode selection of its residents. Participants in the survey are asked to keep a log of all their trips on a randomly assigned day. These surveys have helped the city track trends over time and evaluate the effectiveness of its programs. See Figure B-4 for an example of a travel diary.[21]

[19] See http://www.dot.ca.gov/hq/MassTrans/tod.htm.
[20] See http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_102.pdf
[21] See http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=467&Itemid=1657

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2003 Travel Diary

Please record all of your trips, whether you are a passenger, driver, or pedestrian.
The information on the first row is included only as an example. Please refer to the instructions if you are not sure how to record your trip.

Name: **Address:** _____ **City/State/Zip:** **DIARY DATE:** _____	**STARTING POINT ADDRESS** **Street Address:** **City/State/Zip:** _____ **Nearest Cross Streets:** **&** _____	**I did not leave the house today:** ❑ **If using motor vehicle, list odometer reading:** at beginning of day: at end of day: _____

trip #	DESTINATION (address, building or nearest cross streets)	trip start time hour:min	trip start time am/pm	trip end time hour:min	trip end time am/pm	trip purpose	travel method	est. trip miles	number of people in vehicle (inc. yourself) children	number of people in vehicle (inc. yourself) adults
example	Foothill Elementary Broadway & Grape	7:13	AM	7:22	AM	1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10.change travel mode 11. other:	car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit (route(s): _____ 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:	3 miles	1	1
1	_____ _____ & _____	__ : __		__ : __		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10.change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit (route(s): _____ 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:			
2	_____ _____ & _____	__ : __		__ : __		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10.change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit (route(s): _____ 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:			
3	_____ _____ & _____	__ : __		__ : __		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10.change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit (route(s): _____ 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:			

Figure B-4. Example of Travel Diary[22]

Clarify Shared Parking and Joint Parking Ordinance

As described in the previous section, parking requirements can be one of the most expensive aspects of infill development. Two of the tools available for reducing parking costs include shared parking and joint parking. Houston's current parking ordinance defines shared parking as applying to a single property ownership with multiple intended uses. This definition is too narrow and could be broadened to allow the shared parking credit (and associated reduced parking requirement) to be based on the mix of uses within the TOD Parking District.

Solution: The city of Houston could revise the current ordinance to draw a distinction between "joint" and "shared" parking.

The revised code should define "joint" parking as a parking facility that is being used to meet the parking requirements of more than one specific and known development project. This definition is similar to the current "shared parking" definition in the parking ordinance today. Joint parking encourages different developers to work together to provide parking. Since the cost per space of larger parking facilities is lower than the cost per space of smaller facilities, joint parking projects help to make more development projects more economically viable. The city of Houston could retain the provisions requiring documentation of leases to ensure the parking facility is serving the intended purpose.

[22] Source: http://www.bouldercolorado.gov/files/Transportation_Master_Plan/modal_shift.pdf.

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"Shared parking" should be defined as the result of different parking uses with peak demand throughout the day. Shared parking is based on the simple idea that different destinations attract customers, workers, and visitors during different times of day. An office that has peak parking demand during the daytime, for example, can share the same pool of parking spaces with a restaurant whose demand peaks in the evening. As a result, the total amount of required parking for an area may be reduced.

Shared parking reduces the cost of providing parking, and frees up additional land for development. This efficiency is critical for getting high quality development, particularly given the parcel sizes in the Midtown area.

The concept of shared parking should be kept distinct from "internal capture," which is addressed in another section below. Part of the strategy to address parking costs is to encourage businesses to share parking where appropriate.

The specific amount of reduction by use mix could be specified either in the PMA or in the Transit Corridor Overlay Ordinance, depending on which approach the city adopts.

Additional Resources: Many communities currently allow for shared parking and joint parking. For example, Montgomery County, Maryland, allows for shared parking to meet minimum parking requirements under certain conditions.[23] The county uses the formula provided in Figure B-5 to estimate reduced parking demand due to shared parking. The State of California has also developed a process for determining shared parking.[24]

Calculating Parking for Mixed-Use Developments
(Montgomery County, Maryland)

	Weekday		Weekend		Nighttime
	Daytime (9 a.m. - 4 p.m.)	Evening (6 p.m. - 12 a.m.)	Daytime (9 a.m. - 4 p.m.)	Evening (6 p.m. - 12 a.m.)	(12 a.m. - 6 a.m.)
Office	300*	30	30	15	15
Retail	168	252	280*	196	14
Entertainment	40	100*	80	100*	10
TOTAL	508	382	390	311	39

* Peak demand by use.
Source: Smith 1983, page 7.

Figure B-5. Shared Parking Calculation for Montgomery County, MD

Extend and Broaden Off-Site Parking Allowance

The Ensemble/HCC TOD area is characterized by small blocks and even smaller ownership parcels. Requiring on-site provision of off-street parking in redevelopment and infill projects will make many TOD projects physically impossible and financially infeasible, force inappropriately low density development, or encourage property consolidation with "mega-blocks" as a precondition to development. All of these outcomes would be inconsistent with the desire to have the station area become a TOD. In

[23] See http://www.epa.gov/smartgrowth/pdf/EPAParkingSpaces06.pdf
[24] See http://www.dot.ca.gov/hq/MassTrans/doc_pdf/TOD/Parking%20and%20TOD%20%20Report.pdf

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urban places, especially transit-oriented urban places, parking should be considered a public utility on a for-fee basis, not a "free" feature of urban buildings and development parcels.

Solution: The city could revise the parking ordinance within the TOD Parking District to extend and broaden the off-site parking allowances. By allowing more liberal off-site parking policies, the city will allow developers the flexibility to pursue more creative, cost effective parking alternatives. In addition, more liberal off-site parking policies will allow developers to cooperate on shared parking and joint parking arrangements described in the previous section.

The current Parking Code includes the following off-site parking provisions:

- 75% of parking must be on-site. The allowable 25% offsite parking must be within 500 feet of an entrance and must be backed by a lease.
- Exception: 100% off-site parking is allowed if the location is within 250 feet of an entrance and is backed by a lease.

The suggested revisions to the TOD Parking District allowances could be:

- 75% of residential parking must be within 300 feet of an entrance and must be backed by a lease.
- 25% of non-residential parking must be within 300 feet of an entrance.
- 100% of non-residential parking must be within the boundaries of the TOD Parking District.
- On-street parking on property frontage should count towards the total parking requirement.

Additional Resources: The city of Wilton Manors, Florida created an overlay district that allows mixed-use development and shared parking in planned off-site public parking structures. These changes encouraged a more diverse mix of land use, decreased vacancies, and helped revitalize the flailing local economy.[25] Cities such as San Diego, California and Eugene, Oregon allow for even longer maximum distances for off-site parking.[26]

Increase On-Street Parking Supply

As development increases in Midtown, demand for parking will increase. Although there is currently sufficient parking, on-street parking will become a more valuable commodity in the future. In addition, adequate on-street parking is necessary to support storefront retail. As it is currently configured, Midtown does not maximize the amount of on-street parking possible.

Solution: Successful TODs are mixed-use districts with vibrant streets, a strong ground-floor presence including storefront retail, and

Figure B-6. Example of On-street Parking

[25] See Case Study http://www.epa.gov/smartgrowth/pdf/EPAParkingSpaces06.pdf, see general information at http://www.wiltonmanors.govoffice2.com/

[26] See Case Study at http://www.ci.concord.nc.us/devserve/UDO_0.asp; see municipal code at http://clerkdoc.sannet.gov/legtrain/mc/MuniCodeChapter14/Ch14Art02Division05; see example of shared parking off-site agreement at http://www.sandiego.gov/development-services/industry/pdf/parkagree.pdf

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an active pedestrian environment. Key to creating such an environment is maximizing on-street ("storefront") parking (See Figure B-6).

As Midtown searches for cost effective parking strategies, on-street parking will provide one of the most inexpensive options. In addition, metered on-street parking provides a revenue stream that can be reinvested in the neighborhood for additional public space improvements.

The city could work to increase the number of on-street parking spaces wherever possible within the TOD Parking District. This goal could be accomplished by converting parallel parking to diagonal parking on wide east-west streets, adding parking to north-south streets, and avoiding the proliferation of driveways along all public streets within the TOD district.

On-street parking is another tool that serves multiple purposes in supporting the development of a vibrant retail/mixed-use neighborhood. First, it can help define the boundaries of the mixed-use area. A change in the corridor to on-street parking signals the beginning of the mixed-use district. Second, parked cars provide a buffer between the vehicle travel lanes and the sidewalk. This helps pedestrians feel safe walking and visiting shops in a relaxed setting. Third, travel speeds tend to fall with on-street parking.

Additional Resources: Arlington County, Virginia uses a variety of tools to manage on-street parking, including short-term meters (e.g., 30 minutes, one hour, two hours), long-term meters (e.g., four hours), and signs. Prior to implementing any of these tools, a study must be conducted to determine which tool will have the greatest benefit given the local land-use needs. In general, short-term meters are appropriate for retail areas with high turnover, long-term meters are appropriate near office settings, and signed parking controls (e.g., two hour limits) are appropriate in park or recreational areas.[27] Places like Atlantic Station in Atlanta, Georgia provide visitors with a range of parking options, from short-term on-street parking to a large underground parking garage. The city of Orlando has an innovative program for on-street parking in the Southeast Sector of the city.[28] Also, the city of Longview, California has an on-street parking ordinance for its downtown that can be used as a resource.[29]

Reduce Residential Parking Requirements and Unbundle Parking Supply

The current residential parking requirements do not encourage the high-density development community members say they want. In addition, the current ratios do not reflect reduced vehicle ownership associated with proximity to a transit station. If the current codes are maintained, either excess parking will be built or lower density, lower value housing will likely be developed. Either outcome will lead to lower tax revenues for the city and a less successful TOD.

Solution: The city of Houston could reduce the off-street minimum parking requirements for residential redevelopment and infill projects within the parking district. Experience in TODs around the U.S. indicates that parking space requirements could be reduced to one space per dwelling unit in TOD areas with a significant on-street parking supply.[30] The city could use this number as a reduced standard, or the reduction could be based on survey research conducted within the district as described in a previous section. As shown in the example survey, participants report the number of non-automobile daily trips

[27] See www.arlingtonva.us/departments/environmentalservices/dot/traffic/parking/EnvironmentalServicesPolicy.aspx
[28] See www.cityoforlando.net/planning/deptpage/sesp/sespguid.htm
[29] See www.ci.longview.wa.us/government/muncode/longvw11/longvw1150.htm
[30] See onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_102.pdf, www.epa.gov/smartgrowth/pdf/EPAParkingSpaces06.pdf , www.dot.wisconsin.gov/localgov/docs/smart-growth-parking.pdf

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taken and also provide information on the number of automobiles owned per household. These results could be used to document the basis for a reduction in the required residential parking supply.

It is likely that developers of residential projects and mixed use projects with a residential component will be reluctant to attempt projects with reduced parking supply – at least until the market for TOD in Houston is clarified by actual experience. For a few years, the city could assume that even if residential parking supply minimums were lowered, projects would be built with more than the minimum amount of parking.

For that reason, the city could take steps in its parking code to "unbundle" residential parking supply from the sale or lease of residential units. In other words, parking supply built as part of residential projects or mixed-use projects with a residential component could be available for sale or lease on the open market. Over time, the actual supply of parking committed to residential uses would likely drop of its own accord as a result of lower auto ownership rates within the transit-served area combined with normal market forces.

Additional Resources: Unbundling parking costs has occurred successfully in other areas of the country, such as the Harbor Square development in Bainbridge Island, Washington and the Van Ness and Turk Developments in San Francisco.[31]

Reduce Commercial Parking Requirements

In well-designed TODs, less parking is required based on the clustering of different uses. Mixed-use development provides a synergy that allows people to park once to run multiple errands. Commercial areas are also unique in that they mostly require short-term parking. Based on these factors, maintaining the current level of minimum parking for commercial purposes could lead to an oversupply of parking in the Ensemble/HCC area. Excess parking makes locations less pedestrian friendly, wastes valuable development space, and reduces tax revenues.

Solution: The city of Houston could reduce the off-street minimum parking requirements for commercial (e.g., retail, restaurant, office, entertainment) redevelopment and infill projects within the TOD district. This reduction could be based on an "internal capture" rationale. Internal capture occurs when homes are built near stores, services, and workplaces. Since people are more likely to walk or bicycle to their destinations, particularly if combined with more attractive and comfortable sidewalks, people will opt to make fewer automobile trips. This definition of internal capture should be kept distinct from "shared parking" described in a previous section.

Additional Resources: Many transit-oriented areas across the country have successfully reduced the number of parking spaces required for commercial parking. Arlington County, Virginia provides a good example where minimum parking requirements are based on the distance from the transit station.[32]

[31] See http://www.epa.gov/smartgrowth/pdf/EPAParkingSpaces06.pdf
[32] Ibid.

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APPENDIX C: TRANSIT-ORIENTED DEVELOPMENT DISTRICT STRATEGIES

A coordinated strategy to set priorities for transit-oriented development (TOD) at the Ensemble/HCC station or in Midtown will create more certainty in the market for redevelopment and help ensure synergy among developments to build a thriving residential neighborhood serving downtown and the TMC.

Current Conditions

As it currently exists, the Ensemble/HCC station area does not fulfill its potential as an exciting, livable neighborhood that is transit-oriented. Issues contributing to this include:

- Fast-moving traffic on some roads, such as Fannin or Travers Streets, intimidates pedestrians.
- Lack of on-street parking puts pedestrians right next to traffic, making them feel unprotected along the street.
- Street crossings on Main Street are infrequent.
- Sidewalks are frequently at the immediate back of the curb.
- No sidewalk furniture is provided at the center of the transit area.
- Buildings are inconsistently set along the street – often too far from the sidewalk edge.
- Few awnings are provided to protect pedestrians from the elements.
- Sidewalks have narrow walkways obstructed by utility poles and landscaping.

Figure C-1. Ensemble/HCC station area

Yet, the district has many advantages already in place that will make TOD easier to create in the short term and with less investment than needed in comparable sites. Existing assets of the Ensemble/HCC area include:

- Frequent transit service
- Attractive, well-designed stations
- Small block sizes
- Some narrow roads with slower travel speeds
- Vertical curbs along the streets
- Crossings on Main Street that are textured and colored to calm traffic
- Small curb radii at intersections for shorter street crossing distance
- Some buildings with appropriate setbacks of 0 to 2 feet from the sidewalk

Midtown can leverage these advantages for Ensemble/HCC to become a successful TOD along the expanding light-rail system. Strategies can be employed at Ensemble/HCC as a pilot case for TOD in Midtown or can be the basis for a more comprehensive strategy for TOD in Houston.

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Possible Strategies

The following strategies would help improve the likelihood of success for a TOD in the Ensemble/HCC station area and support an urban residential neighborhood with high value and high-quality development.

1. Define the TOD Boundaries
2. Develop Guidelines for Pedestrian Improvements
3. Create TOD Design Guidelines
4. Preserve the Street Network
5. Improve Street Crossings

Define Boundaries for TOD

Business-as-usual development in the Ensemble/HCC area will almost certainly result in a hodgepodge of low-density development that creates low property tax values for the city. The area would likely be characterized by overabundant, unattractive surface parking, limited retail, and limited foot traffic, a pattern inconsistent with the vision for the area as expressed by the stakeholders. To fulfill that vision, make development in the Ensemble/HCC area more economically competitive, and create a vibrant neighborhood destination, the city can best support TOD by creating a different set of policies to guide growth around the station area.

A TOD is different from conventional suburban development and requires different policies to succeed. For instance, in a TOD, visitors are more likely to travel (take the LRT or drive and park) once and visit several shops, and residents are more likely to walk from home to visit local stores. This travel pattern lowers the demand for parking and allows parking requirements to be reduced. Traffic is likely to be lighter than traffic generated by the same amount of development in a suburban format for the same reasons.

Buildings function differently in an urban TOD because the sidewalk needs to be defined by the building edges and the buildings need to relate to the street. This makes building design, building setbacks or build-to lines, and building heights much more important to support TOD success. Also, investment in high-quality infrastructure needs to be given a higher priority in a TOD. Public investment in high-quality transit stations, attractive light-rail cars, and appealing pedestrian areas in the TOD will make a tremendous difference in the private sector's success in building a TOD.

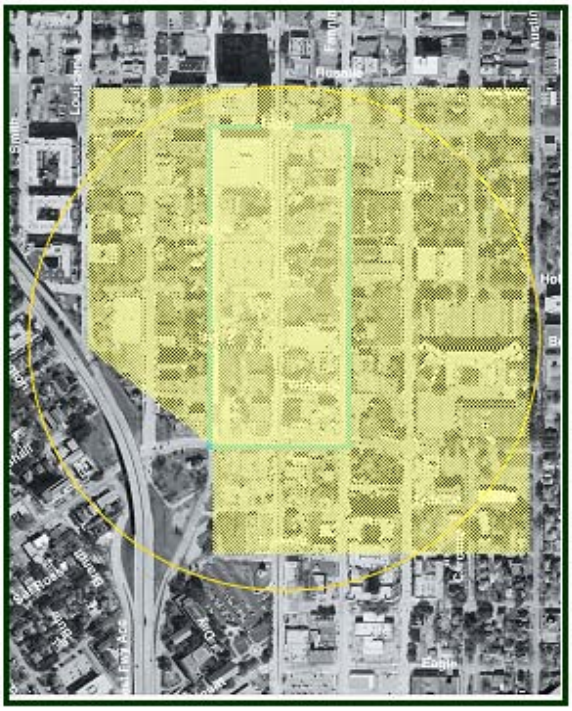

Figure C-2: Potential area for TOD designation

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Clearly delineating the boundaries of transit-oriented development around the Ensemble/HCC station is a first step towards identifying the unique needs of the TOD. The boundaries can define the area in which TOD ordinances or guidelines will be applied.

Solution: For the Ensemble/HCC station, the city can designate a TOD area that is roughly a quarter mile in radius around the station. This could be an area bounded by Rosalie on the north, Louisiana on the west, Isabella on the south, and Austin on the east, with adjustments for the presence of the freeway and its ramps. This area is shown in Figure C-2.

Establishing a TOD boundary will help create a level playing field for all developers interested in investing in this area, thereby encouraging investment in high-quality, mixed-use, urban development in the Ensemble/HCC area.

Additional Resources: Denver has completed an extensive process of defining and categorizing TOD areas along its entire light-rail line.[33] This process helped the city determine the appropriate policies and programs for each station type. Concord, NC, has also created TODs to encourage mixed-use development within a certain radius of light-rail stations.[34]

Develop Guidelines for Pedestrian Improvements

The current suburban treatment of the public realm along Midtown streets (Figure C-3) overly emphasizes landscaping, places utility poles poorly, and inhibits pedestrian circulation.

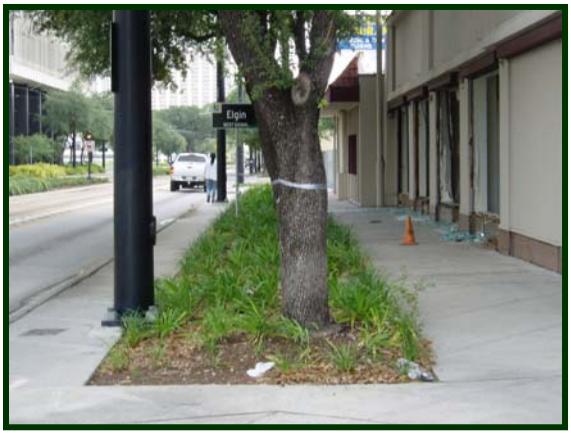

Figure C-3. Current Midtown pedestrian space

To create a mixed-use, pedestrian-friendly, attractive neighborhood (e.g., to create a place), Midtown will need to guide future decisions about public infrastructure design and its relationship to site planning and design. These decisions should be made in a consistent manner that sets priorities within the TOD. As the Midtown area continues to redevelop, thousands of small and large design and planning decisions will affect the pedestrian environment. Since areas with placemaking have been shown to command a price premium of 10 to 20 percent in markets across the U.S., allowing development to go forward on an ad hoc basis could lead to a significant loss in value creation from development and the associated tax revenues.[35]

Solution: As Midtown redevelops, it can consider design guidelines for the pedestrian realm that would describe in words and images what type and quality of improvements the area wants and will support. The guidelines can illustrate the important connection between the building and the street and the pedestrian areas along the street. Reaching a consensus on the vision for TOD to establish these guidelines is critical for the success of Midtown.

[33] See http://www.denvergov.org/TOD/
[34] See http://www.smartgrowth.state.md.us/pdf/Final%20Parking%20Paper.pdf, http://www.ci.concord.nc.us/devserve/UDO_0.asp
[35] See http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_102.pdf

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One way to guide these decisions and choices would be to prioritize investments in pedestrian improvements using two categories of pedestrian areas:

1. **Pedestrian Place:** Midtown could develop guidelines for pedestrian improvements that would make the area within a 1,000 to 1,320-foot walking range of the stations a pedestrian place. This is the area most immediate to the station and most important to establish a strong pedestrian environment for a successful TOD. This area should be characterized by wide urban sidewalks and pedestrian plazas (Figure C-4). While cars certainly cross through the area, they should not be allowed to dominate. Limited public or METRO funding would best support TOD by being directed towards investment in this area. Guidelines that support build-to lines up to the sidewalk, parking lots behind buildings, and sidewalk improvements would make the neighborhood a more engaging place.

2. **Pedestrian Supportive:** Midtown could develop separate guidelines for the remaining area in the TOD, which is approximately 1,320 to 2,640 feet from the station, as a pedestrian-supportive environment. This area would provide adequate sidewalks and be safe for people of all ages, but may not include all the amenities and visual interest of the pedestrian place. The investments are important to allow pedestrians to easily access the transit station from a larger area. This area is next in line for investment, after the area closest to the transit station is designed with appropriate pedestrian improvements. (See Figure C-5)

Figure C-4. Pedestrian Place Example - Boston, MA

Figure C-5. Pedestrian Supportive Example - Boulder, CO

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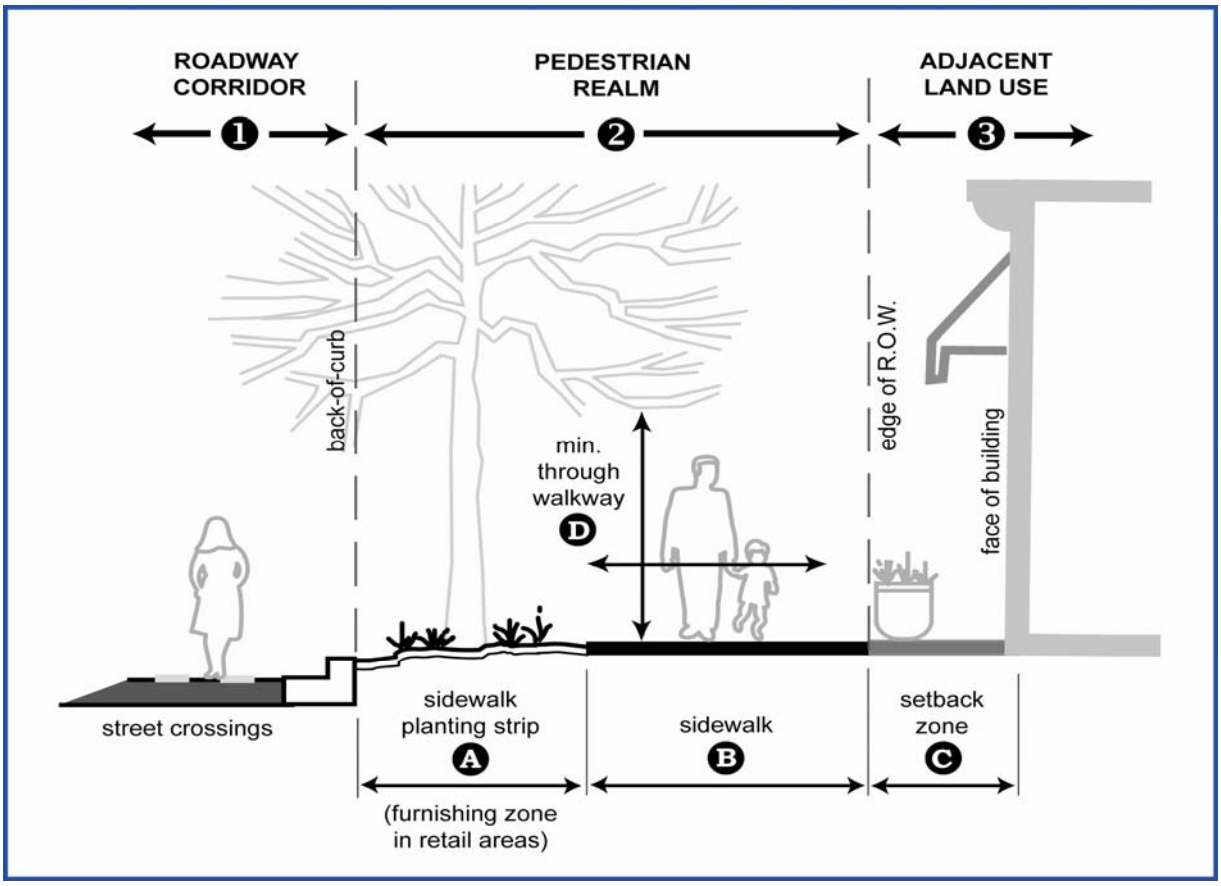

Figure C-6. Organization of an Urban Street Environment

The guidelines can incorporate plan view drawings, cross sections, and perspectives to show minimum design treatments in each pedestrian category. All aspects of the urban street environment should be addressed, and the pedestrian realm within the street environment should be organized coherently (Figure C-6).

Elements to be addressed include:

- All streets have sidewalks on both sides with appropriate traffic calming measures.
- The street environment is well organized and includes a sidewalk planting strip next to the street, a walking zone, and a short or zero setback/build-to line up to the building.
- Mature street trees in tree wells or planters create a canopy of shade for the pedestrian and ensure clear line of sight across the street.
- Each transit station has a high-quality design, shelter, and benches.
- Well-placed street lighting covers all public areas.
- On-street parking is provided on both sides of the street.

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In addition, the design guidelines can address the following questions[36]:

- Is access to transit maximized? Do sidewalks connect transit to neighborhood destinations?
- Is there adequate lighting at store entrances, sidewalks, and streets to ensure safety?
- Are lighting, trees, and landscaping strategically placed to help create a comfortable pedestrian environment along streets and buildings?
- Does the site's design allow for the intensification of densities over time?

The Midtown Tax Increment Redevelopment Zone (TIRZ) and the Midtown Management District can play central roles in overseeing the development and implementation of the pedestrian improvement guidelines. The Management District can help facilitate collaboration on the guidelines by ensuring businesses and residents are appropriately represented. The TIRZ can provide part of the financing for street and sidewalk improvements needed to make Midtown sidewalks consistent with the new guidelines and recoup its investment through the increase in property tax generated by the successful TOD.

Additional Resources: Areas throughout the country have successfully adopted voluntary design guidelines. For example, in El Camino Real, CA, the *El Camino Real Design Guidelines* are not regulatory, but provide guidance to an existing review process (Figure C-7). While they are not a *rule book*, they provide a very useful *play book* for local development. The ultimate value of the design guidelines is their clarity. No citizen, public official, or developer could reasonably fail to understand the ultimate goal of the master plan – and that is a first condition for the implementation of any community vision. The development community continues to be strongly supportive because the guidelines promote high-quality design and a distinctive corridor image, which in turn have increased property values along El Camino Real. Roughly a dozen new redevelopment projects have occurred along the 4.3-mile stretch since the design guidelines were implemented.[37]

Private-sector developers partner with public agencies and the transit authority to invest in station-area improvements. In Washington, DC, a partnership between the transit authority, the city, and private interests invested over $90 million to build a new transit station. The partnership with the private sector built a new station at a higher quality than would otherwise been built by the transit authority alone. For more information, see http://www.wmata.com/about/expansion/nyave.cfm.

[36] Adopted from Baltimore City of Planning's "Baltimore Smart Growth: A reference guide to Baltimore City policies that promote urban livability and sustainable redevelopment". See http://www.ci.baltimore.md.us/government/planning/images/SmartGrowthReport.pdf

[37] See http://www.city.palo-alto.ca.us/planning-community/el-index.html

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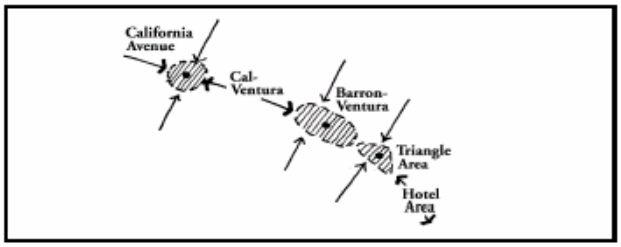
1.4. GUIDING PRINCIPLES

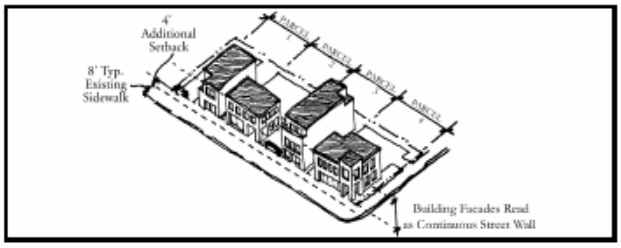
The South El Camino Real Design Guidelines provide direction for enhancing the quality of El Camino Real. While the guidelines address issues and details ranging from lot coverage and site planning to the treatment of parking lots and facade details, there are several overriding design principles which provide the guiding framework for new projects:

1. Create a pattern of pedestrian-oriented "nodes" linked by corridors.



2. Create a pedestrian-oriented 12-foot sidewalk along El Camino Real featuring trees, planters and seating.

3. Bring buildings up to the sidewalk to reinforce the definition and importance of the street.



4. Public amenities such as a wider sidewalks, outdoor seating or outdoor dining are encouraged where appropriate.

5. Buildings should have a minimum height of twenty-five feet in order to provide a presence in scale with El Camino Real. Two -and three-story buildings are strongly encouraged.

9.1 ADMINISTRATIVE DRAFT May 2002 *South El Camino Real Design Guidelines City of Palo Alto*

Figure C-7. El Camino Real Design Guidelines Excerpt

Source: http://www.city.palo-alto.ca.us/planning-community/el-index.html

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Create TOD Design Guidelines

Houston's decision to not zone land uses plays an important role in allowing any mix of uses along the transit line and elsewhere. This will be a strong asset for TOD because the city does not need to work with antiquated zoning codes, like those found in other regions, to create the opportunity for mixed use around the transit station. The market will supply the necessary information to define the types of land uses around each station.

However, this lack of codes is also the greatest challenge to establishing a cohesive identity for a TOD such as Ensemble/HCC. Within the current planning context, buildings can be set back from the sidewalk at any location, parking lots can be provided on any portion of the lot, and buildings can turn their backs on streets. Each of these items needs to be addressed for a successful TOD.

Solution: The relation of buildings to the sidewalk, the street, and the pedestrian are all vital to a cohesive and vibrant TOD. Midtown and Houston can consider creating TOD design guidelines for development around the Ensemble/HCC station. The guidelines can be applied to all development within the boundaries outlined in Section 1 above. This can create more predictability for developers who can expect high-quality development throughout the TOD. The guidelines can also help ensure that buildings within the TOD be best suited for the pedestrian improvements identified in Section 3. The guidelines can establish some consistent elements between buildings and the street, while ensuring that each private developer retains the right to design a building and its uses.

Elements used in comparable TOD design guidelines to best support private investments include:

- Buildings are oriented to the street and placed at maximum setbacks or build-to lines appropriate for an urban location. For instance, retail ground floors can have a zero lot line, while buildings with residential ground floors can have maximum ten-foot setbacks with front stoops within the setback zone.

- Retail street frontages have frequent doors and windows inviting pedestrians inside. Some TOD guidelines recommend 75 percent of the retail ground floor be transparent from doors or windows.

- Awnings or arcades are provided along the length of the retail ground floor to shelter pedestrians from rain or sun.

Figure C-8: Post Midtown – exemplifies TOD design

- Parking is provided in structures in the center of the block or in parallel or diagonal spaces along the street.

- No large parking lots, landscape buffers, or fencing are allowed along the sidewalk.

- Primary, direct, inviting, and interesting pedestrian access is provided from sidewalks to adjacent buildings for all building types.

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One method of implementing TOD design guidelines in Houston can engage the Midtown TIRZ, Management District, METRO, or the city. The public partner can offer to fund pedestrian improvements along a block or set of blocks as an incentive to a group of landowners/developers around a transit station to commit to the TOD design guidelines.

Additional Resources: Baltimore's transit-oriented development checklist can provide additional ideas for TOD design guidelines.[38] A few include:

- Are active uses, such as retail and public facilities, clustered near transit facilities?
- Do architecture and attractive open space create a focus around the transit center?
- Are buildings and public spaces oriented towards sidewalks and streets?
- Are buildings located at the street line with entrances and active uses opening to sidewalks?
- Are amenities, such as storefront windows, awnings, and lighting, present to help create a comfortable pedestrian environment along streets and buildings?
- Are active uses, such as retail, located on the ground floor and directly connected to sidewalks?
- Are automobile-oriented uses, such as parking lots, gas stations, or drive-thrus, discouraged near transit centers?

Preserve the Street Network

While Midtown's small blocks make the area relatively easy for pedestrians to traverse, they can be more difficult to redevelop than large blocks. Therefore, the street network will come under pressure over time as developers propose closing and vacating streets to create larger building sites. Eliminating any portion of the street network would compromise one of Midtown's greatest assets: its comprehensive, distributed street grid.

To encourage increased pedestrian traffic, Midtown may also be tempted to close streets to automobile traffic to create pedestrian malls. Two-thirds to three-quarters of all pedestrian malls fail. Pedestrian malls require a very specific set of characteristics to succeed. Unless there is an existing east-west street that is already an established pedestrian destination filled with people on weekends and weeknights, closing streets to create a pedestrian mall is a high-risk endeavor and is not advisable.

Figure C-9. Eighth and Pearl Street, Portland, OR

Solution: The city should not close any streets in an effort to revitalize Midtown. The current small blocks and the grid of

[38] Adopted from Baltimore City of Planning's "Baltimore Smart Growth: A reference guide to Baltimore City policies that promote urban livability and sustainable redevelopment". See http://www.ci.baltimore.md.us/government/planning/images/SmartGrowthReport.pdf

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the street network in Midtown are valuable assets for the city. The value of this asset is further heightened within the TOD. It is one of the greatest advantages to TOD in Midtown. The city should not approve any street closures or vacations within the TOD.

A street network with more intersections is usually good for businesses. More intersections create more block faces, corner lots, and smaller parcels for stores and offices. They also help improve visibility to the street, create more sidewalk frontage, and additional storefront on-street parking to support local businesses. Maintaining the existing street network is critical for the economic viability of the Ensemble/HCC area.

Additional Resources: Many cities have successfully redeveloped small, historic blocks into mixed-use projects. For example, the 100-year-old blocks in the Eighth and Pearl Street neighborhood in Portland, Oregon, are comparable in size to many lots in Midtown (Figure C-9). These 200-foot blocks were preserved and protected during the infill development that has made this neighborhood a successful, revitalized area.[39]

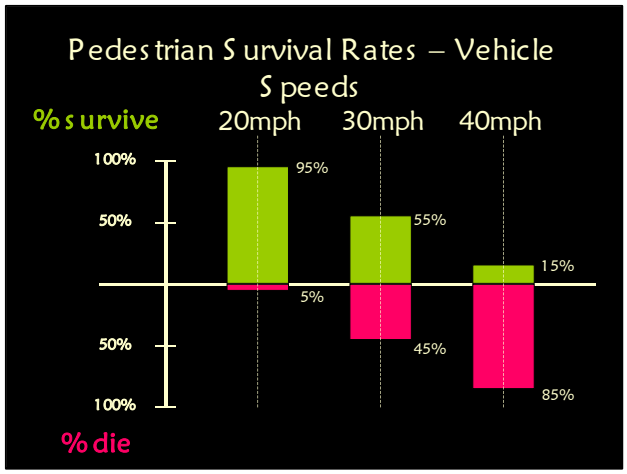

Figure C-10. Pedestrian Survival Rates

Improve Street Crossings

Street crossings are a fundamental aspect of whether an area can be considered successful transit-oriented development. Lack of street crossings can create one of the biggest barriers to pedestrian circulation in a TOD. If street crossings are wide and traffic is moving relatively fast (more than 30 miles per hour), the street crossing is dangerous for pedestrians to cross (Figure C-10).

Areas that do not support pedestrian movement tend to attract less foot traffic for shops and restaurants, thereby undermining the economic vitality of a neighborhood. Street environments that are hostile to pedestrians discourage the use of transit, which reduces ridership and wastes taxpayer dollars used to create this public infrastructure.

Solution: To fully realize the transit potential of the area, the pedestrian environment can be improved and pedestrian needs set as a priority.

Successful TODs improve and expand mobility for all modes of transportation. The city can begin by improving street crossings in the Midtown area. Midtown needs a pedestrian environment that is safe, comfortable, and highly accessible for people of all ages and physical ability. A primary barrier to safe pedestrian circulation in Midtown is the current handling of street crossings.

Three improvements related to pedestrian crossings will help to create a pedestrian district:

Figure C-11. Example of a Pedestrian Friendly Crosswalk

[39] See http://www.epa.gov/smartgrowth/case/eightp.htm

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- Pedestrian crosswalks can be added at intersections wherever they are missing in the TOD to facilitate easy pedestrian access and circulation (Figure C-11). Several of the cross streets that no longer connect across the METRORail Red Line corridor also do not have crosswalks across Main Street. In these cases, a raised, landscaped median prevents safe pedestrian crossings of Main Street (Figure C-12). This feature appears to have been a cost-saving measure. Pedestrian crossings have been provided at some streets where there are no traffic signals, so the lack of crosswalks at some locations does not appear to have resulted from a theory that pedestrians should be allowed to cross only at signalized intersections (which would be a faulty premise in this corridor).

Figure C-12. Example of Missing Crosswalk

- Pedestrians can be allowed to cross side streets parallel to Main Street when trains are passing through intersections. The current signal timing program for traffic signals along Main Street stops all other travel when trains are given the "green light" to move through intersections. While this design might make sense for motor vehicles as a safety precaution, it is not clear why pedestrians are not allowed to move across side street intersections parallel to the tracks when trains are coming through those intersections (Figure C-13). Stopping all vehicular travel when trains are present but allowing pedestrian crossings of side streets would appear to be safe and logical.

- Houston can revisit the decision to treat the streets parallel to Main as primary arteries for vehicles. For example, Milam Street, Travis Street, Fannin Street, and San Jacinto Street have been converted to one-way flow for higher speed automobile travel. In a TOD, pedestrians must have easy, safe access to transit stations. However, many of the intersections along these streets have no crosswalks, and the streets are wide with fast-moving traffic. As a result, streets are difficult for pedestrians to cross except at signalized intersections, which are spaced fairly widely apart in this area. As shown in Figure C-10, the faster traffic is moving, the less likely a pedestrian will survive impact with a car. Making the Ensemble/HCC station area a TOD may require revisiting these traffic flow decisions. TODs should not be bisected by streets that pedestrians cannot safely cross.

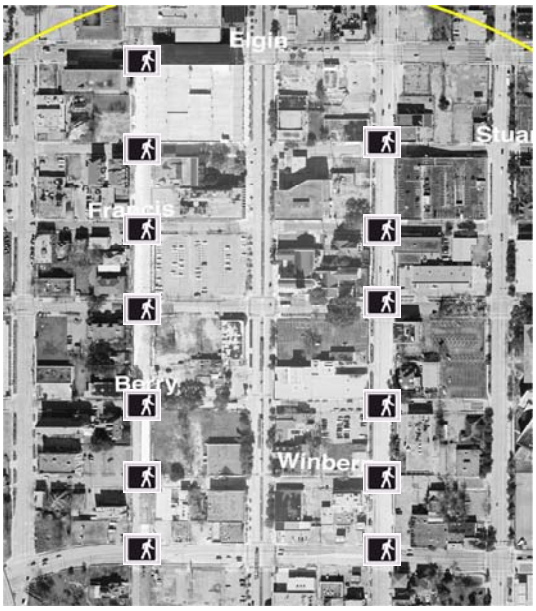

Figure C-13. Signal Crossings Parallel to Main Street

Additional Resources: Cambridge, MA has developed a comprehensive pedestrian plan,[40] which includes a number of initiatives to improve pedestrian safety in crosswalks. As part of this program, the city is extending curbs, raising crosswalks, improving crosswalk markings, and adding countdown signals.[41]

[40] See http://www.ci.cambridge.ma.us/CDD/et/ped/plan/ped_plan.html
[41] See http://www.ci.cambridge.ma.us/CDD/et/ped/prog/ped_xwalk.html

APPENDIX D: FINANCIAL ANALYSIS OF DEVELOPMENT ON CITY-OWNED BLOCKS IN THE ENSEMBLE/HCC STUDY AREA

The consultant team evaluated the financial feasibility of development in the study area by testing development programs for the two city-owned blocks bounded by Main, Stuart, Travis and Holman Streets. These blocks currently house the Public Works Office and associated parking lot. In the future it may be possible to redevelop the blocks with more intensive uses, which could include a new office for the Public Works Department. Alternatively, the Public Works Department could be moved to a different location, assisted by revenue from sale of the land to a developer.

Two development scenarios were tested:

> **Scenario A:** a mixed-use residential and retail project with 206 residential units averaging 1,000 square feet in size. The five-story building would include 25,000 square feet of retail and 206 structured parking spaces.
>
> **Scenario B:** a five-story mixed-use building with 100,000 square feet of office space for the Public Works Department, 164 residential units and 12,500 square feet of retail. The project would also include 462 structured parking spaces.

Both scenarios assume that the project would receive a 10 percent price premium for residential units due to placemaking efforts undertaken in conjunction with surrounding property owners and the City. The parking requirements were assumed to be one space per residential unit and three spaces per 1,000 square feet of commercial space. A portion of the commercial requirement is assumed to be met through on-street parking. In addition, Scenario B includes significantly less parking than currently utilized by the Public Works Department, and would likely require a shared parking strategy with the Houston Community College parking garage. A more detailed discussion of the financial assumptions used in the pro forma analysis is provided below in the section Methodology.

Scenario A: Mixed-Use Residential and Retail

Scenario A tests the feasibility of a five-story residential and retail development on the two city-owned blocks, which is representative of the most likely type of higher-density development that is likely to occur in the study area. The results of the analysis are summarized below. As shown, the project generates a residual land value of approximately $3 million, or $30 per square foot.

Total Value of Project	$43,800,000
Total Direct Costs	- 29,400,000
Total Indirect Costs & Financing*	- 11,400,000
Total Development Costs	$40,800,000
Residual Land Value	$3,000,000
Land Value per Square Foot	$30

*Includes 12% developer profit.

Scenario B: Mixed-Use with Public Works Offices, Residential and Retail

Scenario B tests the feasibility of joint development of a mixed-use project that includes 100,000 square feet of new office space to house the Public Works Department. The analysis assumes that the City

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maintains ownership of the land, and grants a developer the right to build the residential and retail components. The developer would agree to pay the City an amount equal to the residual land value of the residential and retail components of the project. The developer would also agree to build the office component for a fee. The results of the analysis are provided below.

As shown, the total cost to build the new Public Works Department offices and associated parking is estimated to be $18.6 million. This amount includes a fee to compensate the developer for building the office component of the project (estimated at 8 percent of total cost). The value of the residential and retail components is estimated to be $31.9 million, and the estimated cost is $30.9 million (including a 12 percent profit margin for the developer). This leaves approximately $1 million in revenues from development, which represents the amount a developer would pay for the right to build on the land. This payment could be used to offset the cost to build the new Public Works offices.

Estimated Cost to Develop Public Works Offices*	$18,600,000
Value of Residential & Retail Component	$31,900,000
Cost to Build Residential & Retail Component**	-$30,900,000
Funds Available to Assist with Cost to Build Public Works Offices (Residual Value)	$1,000,000

**Includes direct costs, indirect costs, financing costs and developer fee.
*Includes developer profit.

Alternatively, the City could give the land to a developer in return for building offices and associated parking for the Public Works Department. The City could either pay the developer the amount necessary to make it possible to build the offices ($17.6 million), or agree to a long-term lease with a rent that would compensate the developer for constructing the building. Strategic Economics estimates that the City would need to agree to pay approximately $23 per square foot per year in rent (full service) in order to make the project feasible.[42]

Methodology

Strategic Economics used a static (single-year) pro forma analysis to calculate the residual land value generated under two development scenarios. Following are key assumptions about development costs and project revenues used in the analysis.

Revenues

The value of residential and retail space was estimated using an income capitalization approach. The Public Works Department offices were not assumed to generate revenues. Below are key assumptions about revenues from residential and retail.

- Residential

The analysis assumed that residential units would be rental apartments rather than condominiums. Renters are typically more likely to locate in an area that is in the process of transitioning to become a more established residential neighborhood, in part because they often choose a neighborhood based on proximity to their place of employment. Based on current asking rents for area apartments, rents were

[42] Estimated assuming an 85 percent building efficiency ratio and an 8 percent capitalization rate.

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assumed to be $1.85 per square foot net, based on an 85 percent building efficiency ratio. Net income was estimated assuming a 5 percent vacancy rate and 30 percent of gross income paid as operating expenses. The value of the apartments was estimated using a 7.5 percent capitalization rate. The resulting estimated value of apartments was $192 per net square foot. As described previously, the analysis assumed a 10 percent premium above current rents, or $212 per net square foot.

- Retail

Retail rent was estimated to be an average of $2.50 per square foot per month, triple net. Net operating income was estimated assuming a 5 percent vacancy rate and 10 percent non-reimbursable expenses. Based on an 8.5 percent capitalization rate, the estimated value was $300 per square foot (net).

Development Costs

Cost assumptions were developed for each scenario based on information from Van Meter Williams Pollack and interviews with local developers.

- Direct Costs

Construction cost assumptions used in the pro forma analysis are presented in the table on the following page.

- Indirect & Financing Costs
    - Permit fees were estimated as 0.25 percent of project value, based on information from the Public Works Department website.
    - Impact fees were estimated based on the schedule provided on the Public Works Department website.
    - Architecture and engineering consultant fees were estimated at 4.5 percent of direct costs.
    - Developer overhead was estimated at 3 percent of direct costs.
    - Miscellaneous indirect costs, including legal, taxes, insurance and other costs, was estimated at 8 percent of direct costs.
    - Financing costs were estimated assuming 80 percent of costs would be financed with a 20-month construction loan. The analysis assumed a 7.5 percent interest rate, a 1 percent construction loan fee, and an average outstanding balance of 55 percent.

- Developer Profit
    - The residual land value for each development program was calculated assuming a required developer return of 12 percent on total development cost.

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Direct Cost Assumptions

Item	Unit	Amount
Site Preparation		
Demolition	Per Gross Sq. Ft.	$5
Site Development	Per SF Land	$3
Construction		
Housing Construction	Per Gross Sq. Ft.	$105
Retail Construction	Per Gross Sq. Ft.	$105
Office Construction	Per Gross Sq. Ft.	$110
Structured Parking	Per Space	$14,000
Tenant Improvements		
Retail	Per Gross Sq. Ft.	$20
Office	Per Gross Sq. Ft.	$20
Other		
Contingency	% Direct Costs	3%

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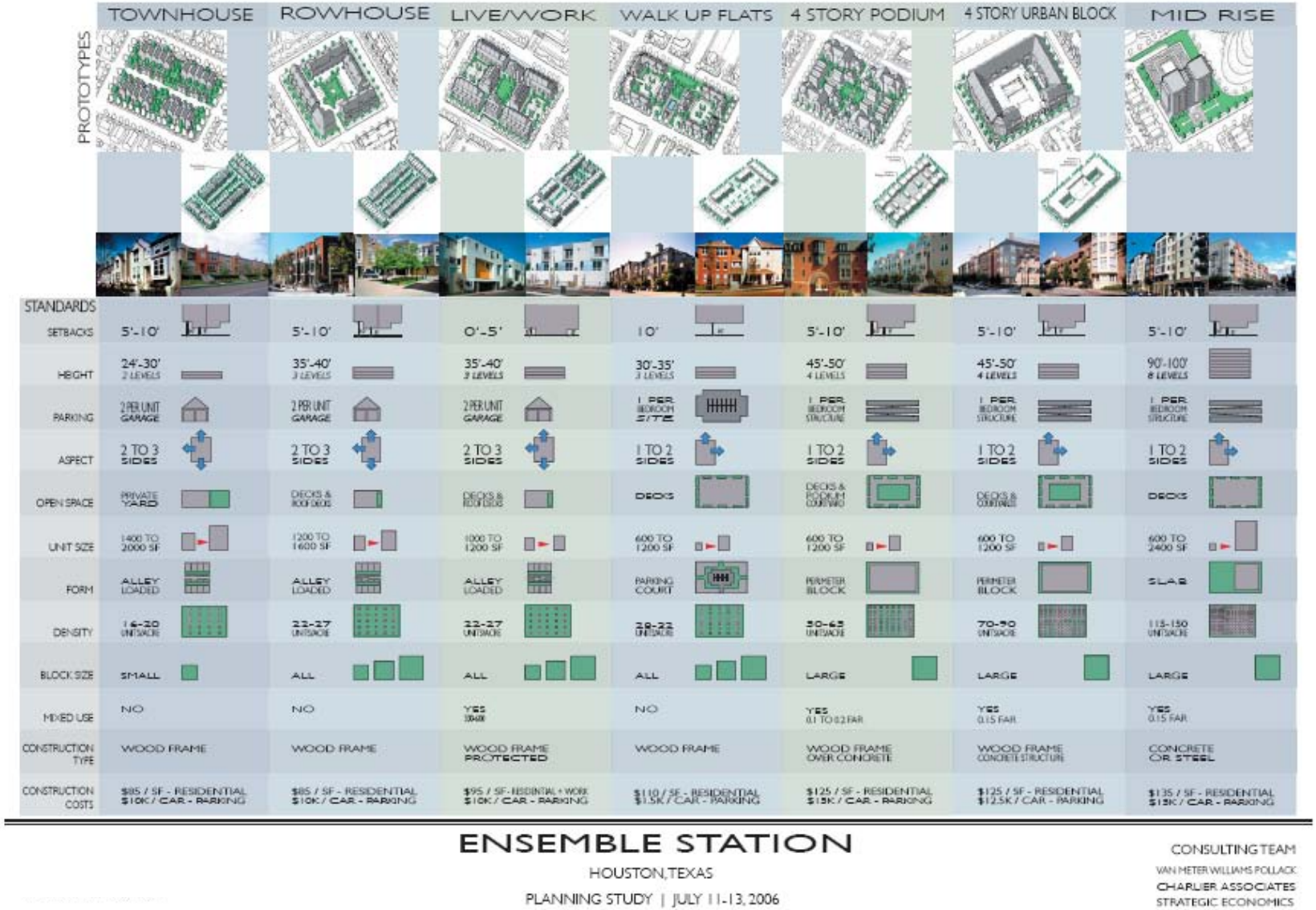
APPENDIX E: POTENTIAL ENSEMBLE STATION BUILDING TYPES



APPENDIX F: ENSEMBLE/HCC WORKSHOP PACKET

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Ensemble/HCC Tomorrow

Dear Midtown Stakeholder,

I hope you'll join me and many of your friends and colleagues for a facilitated workshop on July 11-13 at Trinity Episcopal Church at Main and Holman to discuss and consider ideas and strategies for the area around the Ensemble/HCC light rail station. We will thoroughly review and analyze the marketplace and area near the station and envision possible development opportunities for all types of urban projects.

The event will be hosted by the partners you see below and will be conducted by national experts in market analysis, financial feasibility, mixed-use development and transportation.

As you know, Midtown has matured and it is now ready for redevelopment around this station. First, we will try to define the market around the station. How and what kind of a mix of uses would help create a destination there? How could alternative parking requirements support a more financially successful development program? How can we make things happen?

Among other things, we'll hear from Brian Leary, Vice President for Design and Development at Atlantic Station in Atlanta, who will speak about strategies for redevelopment around light-rail stations and examples of the financial success of urban, mixed use development. We'll also hear transportation expert Jim Charlier, who will discuss parking strategies and reduced requirements generally used at rail stations.

But mostly we want and need your input, opinions and insight. Please come share with other landowners and stakeholders your vision for redevelopment along Main Street at the station and in the surrounding area.

Sincerely,

Ed Wulfe
Chairman, Main Street Coalition

Partners
Gulf Coast Institute
Main Street Coalition
Texas A & M

Sponsors
METRO
Midtown Management District
Trinity Episcopal Church
US Environmental Protection Agency
Urban Land Institute-Houston

Ensemble/HCC Tomorrow

What is the market for development around the Ensemble/HCC station?

Midtown is primed for redevelopment along the highly successful light rail line. What is the market for development around the Ensemble/HCC station? How can a mix of uses help create a city destination at the station? How could alternative parking requirements support a more financially successful development program? How can we make things happen there?

The availability of developable land around the Ensemble/HCC station and the interest of local landowners to work together can create the basis for economic opportunity. The cooperative effort will promote private opportunities, benefit City fiscal needs, support increased public benefit from the station, increase transit ridership and help spur transit-oriented redevelopment throughout Midtown.

In this effort, local landowners and stakeholders will work with national experts to generate an economic development strategy for the light rail station area and to devise steps and designs to spur development on surrounding properties.

The partners will support the landowners and stakeholders in these ways:

1. Develop market analysis to ensure that any development strategy is responsive to the Houston and Midtown markets.

2. Based on the market analysis, different development programs will be explored. The alternatives will highlight potential combinations of residential, office, and retail uses that could be supported in the district.

3. Using the development program, create a design alternative that maximizes marketability and ensures best return on the public investment in light rail. This alternative will focus on building typology and streetscape and will include a district parking plan.

4. Produce financial feasibility analysis based on a portion of the development program and design alternative. The initial analysis will outline fiscal benefits to the owners and city.

<u>Net Result</u>: Presentation to private owners of a set of development options for collaboration through which each may realize greater economic benefit.

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Ensemble/HCC Tomorrow

Redevelopment Workshop Schedule

When: July 11-13, 2006
Where: Trinity Church (1015 Holman St. at Main)

Participate in the entire agenda or drop in for portions.

Tuesday, July 11
6:30 - 8:30 pm
Kick-off – *Development Success Around Light Rail and Parking Strategies*
Brian Leary, Vice President for Design and Development at Atlantic Station in Atlanta will speak about strategies for redevelopment around light rail stations and the financial success of transit-oriented development.

Transportation expert Jim Charlier will describe opportunities associated with transit-oriented development including parking savings, enhanced walking environments and improved household mobility.

Wednesday, July 12
9 – 11 am
Market Analysis and Design
Work with market analyst, Dena Belzer and award-winning architect/planner Tim Van Meter to review a demand analysis conducted for the Ensemble/HCC area and use it to develop ideas for a conceptual land development plan for the light-rail station area.

1– 5:30 pm
Drop in
Drop in to the workroom as the consultant team develops the concept plan based on participant ideas and the supporting parking district plan. Or attend focus group sessions:

> 1 – 3 pm Parking: Meet with Jim Charlier to discuss how parking strategies operate in coordination with urban development, light-rail stations and mixed use.
>
> 3 - 5:30 pm Development Constraints & Opportunities: Meet with Brian Leary and Dena Belzer to discuss the primary barriers to mixed use, dense development in Midtown and the best opportunities for redevelopment.

6:30 – 8 pm
Informal Pin-up
Review the state of work and see the initial stages of the land development concept plan and parking district plan. Provide ideas and comments to help shape the plans as they are finalized the next day.

Thursday, July 13
11:30 – 1:30 pm
Final Presentation - ULI Luncheon at Hilton Americas
Attend the ULI Luncheon to meet with other local landowners and developers, see the final land development concept plan, parking district plan and review the financial feasibility analysis of a select portion of the District. (Register at: www.uli-houston.org)

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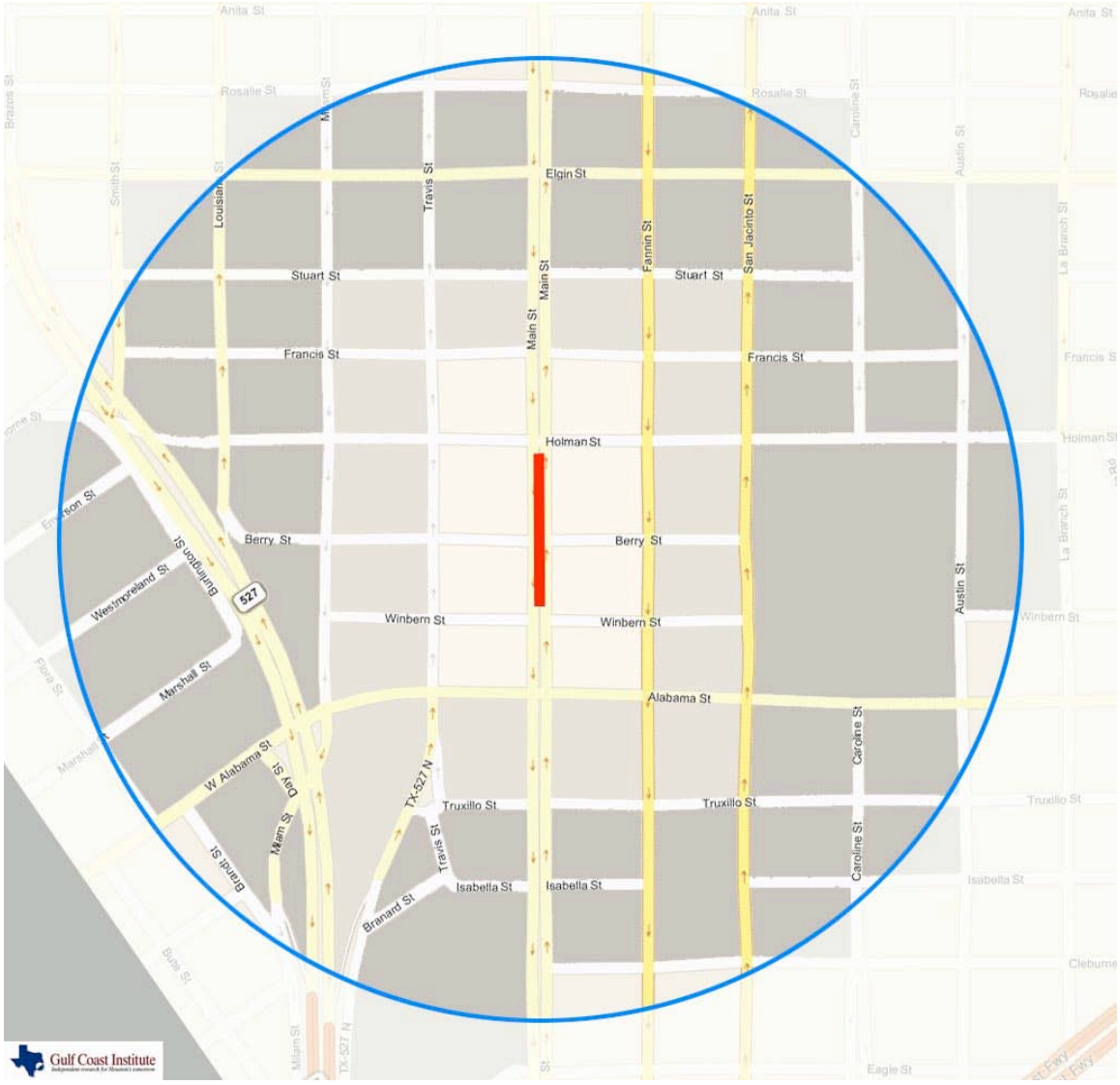
Ensemble/HCC Tomorrow

Study Area



The study area includes properties within a quarter-mile radius of the Ensemble/HCC light rail station. This is the traditional distance that people are willing to walk to destinations that have a rich mixture of services, jobs, entertainment, and transit opportunities. The focus will be on the first tier of blocks around the station.

ULI Houston

ULI Houston District Council Luncheon

Opportunities for Mixed-Use Development in Houston:
Lessons Learned from Atlantic Station & Three-Day Houston Workshop

Speaker:
Mr. Brian Leary
Vice President,
Design & Development
Atlantic Station, LLC
Atlanta, GA

Thursday, July 13, 2006

11:30 – 12:00: Registration
12:00 – 1:30: Luncheon

Hilton Americas-Houston
Ballroom of the Americas
1600 Lamar
Houston, TX 77010

Atlantic Station is a 138-acre mixed-use and transit-oriented development, being built in Midtown Atlanta. The project, which is on the former site of a steel mill, is said to be the nation's largest remediation of a brownfield, and when fully built out will include 6 million square feet of office space, 5,000 residential units, 2 million square feet of retail and entertainment, 1,000 hotel rooms, and 11 acres of public parks.

Brian Leary, Atlantic Station LLC's VP for Design & Development, developed the master plan for the project, and has been selected by the U.S. Environmental Protection Agency's Development, Community and Environment Division to lead a team of experts including Dena Belzer, Strategic Economics; Jim Charlier, Charlier Associates, Inc.; and Tim Van Meter, Van Meter Williams Pollack; to come to Houston to facilitate a 3-day workshop July 11th-13th. The workshop will focus on the area surrounding the HCC/Ensemble station as a pilot case to examine market conditions and opportunities for mixed-use development. For our ULI luncheon on July 13th, Mr. Leary will provide an overview of the Atlantic Station project and lessons learned, as well as a summary of the Houston workshop results and the implications of those results for transit-corridor planning in Houston.

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ULI–the Urban Land Institute
1025 Thomas Jefferson Street, N.W.
Suite 500 West
Washington, D.C. 20007-5201
800-321-5011
www.uli.org

ULI Houston

District Council Meeting
Thursday, July 13, 2006
Meeting Code: 8113-0702

Registration Types and Fees:
Please circle applicable rate below

	Member	Non-Member
Private	**$45**	**$60**
Public/Non-Profit	**$35**	**$50**
Young Leader	**$35**	**$50**
Student	**$35**	**$50**

Sponsor -Complimentary (see below)

Pre-Registration Deadline:
Monday, July 10th, 2006
After Monday, July 10th, please call 713-349-8821. All registration fees increase $10 after pre-registration deadline.

Confirmations will be emailed. Sorry, fax, checks and P.O.'s received after the registration deadline will not be included in meeting registry or guaranteed a prepared name badge.

Refund requests must be submitted in writing no later than the above registration deadline; refund requests will not be accepted after this date.
Fax request to: 202-624-7147.

SPONSORS: Please e-mail name and contact information for complimentary attendee to coordinator@houston.uli.org

REGISTRATION FORM

Payment Methods: *(Please check the appropriate box)*

☐ **REGISTER/PAY ONLINE**

- **Register online by visiting www.uli.org.**
- **Payment can be made by credit card.**
- **If you register and pay online, you will not need to fax this form.**

☐ **CREDIT CARD:**

- **FAX: 1-800-248-4585**

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- **Card Number:** _____
- **Exp. Date:** _____
- **Signature:** _____

☐ **CHECK:**

- **CALL: 1-800-321-5011** – If paying with check, telephone registration is required to ensure inclusion in the registry of attendees and to obtain a prepared name badge.
- **Make Checks Payable to: ULI Houston**
- **Mail check with completed registration form to:**
  ULI Houston District Council
  Department 304
  Washington, DC 20055-0304

☐ **PURCHASE ORDER: (Public Agencies Only)**

- **FAX: 1-800-248-4585** - Fax copy of signed P.O. and completed registration form to ensure inclusion in meeting registry of attendees and to obtain a prepared name badge.
- **Payment to follow by check payable to: ULI Houston**
- **Mail check with Purchase Order & original registration form to:**
  ULI Houston District Council
  Department 304
  Washington, DC 20055-0304

IMPORTANT: The following information must be completed (unless registering online- see above):

ULI Member ID # (if applicable) _____

Name _____ **Informal Name for Badge** _____

Title _____

Company _____

Address _____

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8113-0702
** Email is required in order to receive a confirmation**
For multiple registrations, please duplicate this form.