

2

Main Street Planning Strategy

This chapter introduces the Planning Strategy and describes the Pedestrian Realm/Mobility Plan, the Land Development Concept Plan and Infrastructure Plan.

D2.1

The Combined Pedestrian Realm/Mobility/Land Development Concept Plan

The diagram on the facing page illustrates the combination of the Pedestrian Realm/Mobility Plan and the Development Concept Plan, which are described in detail in the sections that follow. The Urban Design Plan for the North Corridor illustrates broader elements of the Corridor that will eventually result in Transit Oriented Development and connections to the surrounding community.

Main Street is the location of the first seven miles of the Houston LRT system and the Plan illustrates this quite clearly. The corridor passes through a number of different neighborhoods of different scales and character. The impact of the Transit Street on adjacent neighborhoods is minimized because it runs through areas that are already urbanized and, in some cases, are single use areas such as the office areas downtown and the medical centre area. Large, open parking lots and underdeveloped parcels of land characterize those areas that are not urbanized. As a result, the development-potential areas are relatively continuous throughout the Corridor. An important area of high development potential is the Midtown area. It has already seen some new pedestrian-friendly mixed use

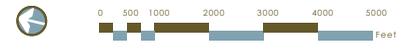
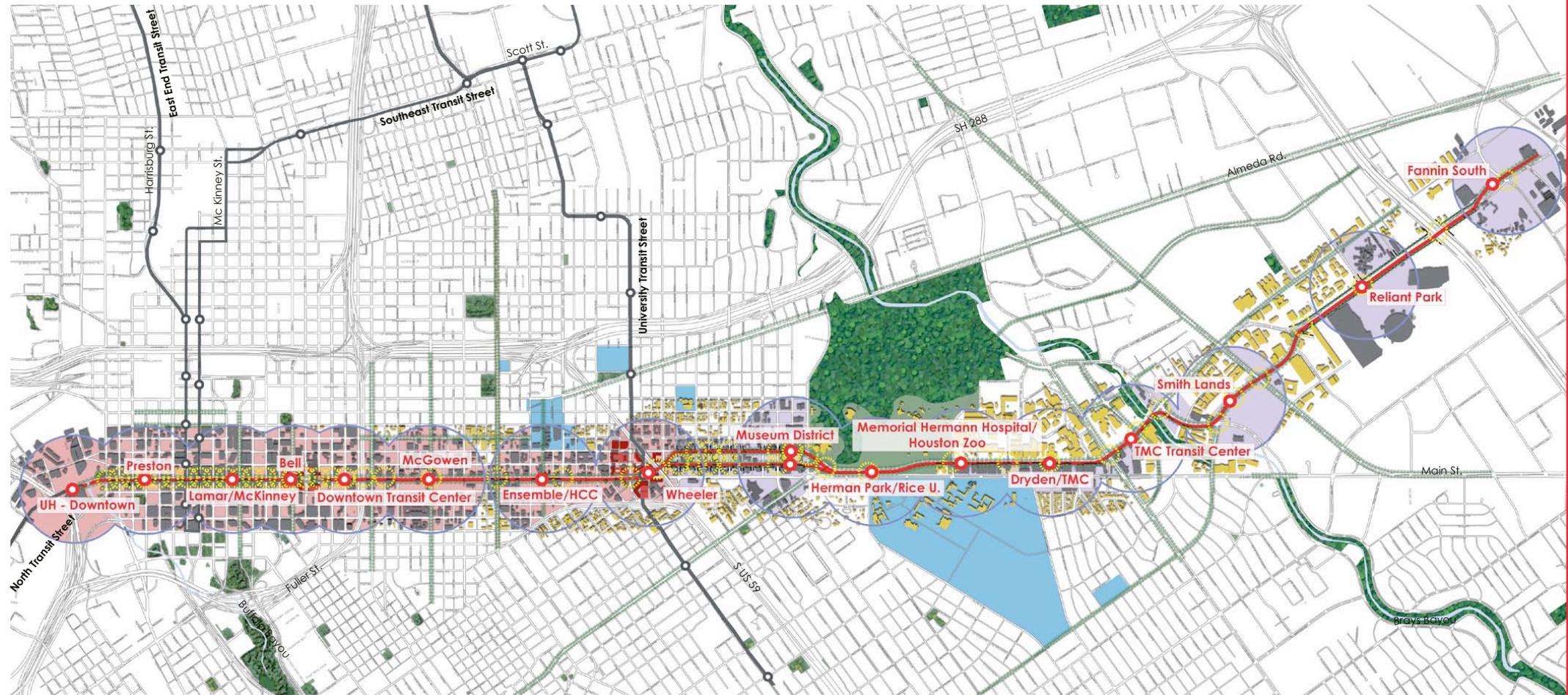
development occur. The areas of Midtown next to transit are still not fully developed, and the plan suggests that the pedestrian scaled streetscape elements be provided as soon as possible to enhance the development activity in the area, and to set the standard for the pedestrian realm. The objective of the plan for this Corridor is to establish an urban pedestrian-friendly condition that attracts riders to the transit line and allows for easy connections to the stations from a five-minute walking distance.

The Main Street Corridor encompasses a number of buildings of historic value. These should be seen as opportunities for development using these structures to establish a link to Houston's past. A good example is the Sears Store at Wheeler Station, which could be used as the framework for redeveloping the entire block while preserving this important historic link.

The Plan indicates a number of connections from the adjacent areas to the Transit Stations. These Corridors have been identified as primary streets and walkways for upgraded landscape where it doesn't exist and for increased sidewalks and cycling amenities.

Pedestrian Realm/Mobility/Development Concept Plan Main Street

- | | |
|--|--|
| Stable Area | Link Streets |
| Opportunity Area 1 - Downtown | Demonstration Plans |
| Opportunity Area 2 - Corridor | Built Form Edge |
| Park | Stations |
| School | Proposed Pedestrian Crossing |
| Existing Pedestrian Crossings | |



D2.2

Pedestrian Realm/ Mobility Plan

The Pedestrian Realm/Mobility Plan illustrates recommendations to improve and enhance the pedestrian realm and mobility conditions within the Main Street Corridor. The goal of these recommendations is to provide a safe, vibrant, attractive and highly functional pedestrian experience along the Main Street Corridor Transit Line (Main Street, Fannin, San Jacinto) adjacent to proposed Transit Stations/Transit Centers and along key connecting streets.

Beautiful, tree lined, pedestrian focused streets are the framework of the Pedestrian Realm/Mobility Plan. Collector streets comprise a large percentage of public space and as such must be enhanced and treated as important public places. When streets function well, they are lively places where cafes, corner flower shops, public art and gardens create vibrant outdoor rooms. They are the place where the eyes of the community view the activities of the street and serve as frontage for developments.

Foremost, the undeveloped areas of the Main Street Transit Line Streets are recommended for substantial pedestrian realm enhancements: Main, Fannin and San Jacinto.

Segments of key intersection streets connecting the Main Street transit line to area pedestrian destinations described above, recommended for pedestrian realm enhancements are detailed on the Plan.

Streetscape enhancements should include street tree plantings with the ambition to create a continuous pedestrian canopy. Street trees will clearly identify the important circulation streets and will provide shade to clear, wide, continuous sidewalks extending from back of curb to building fronts along the Transit Line and connecting streets. In addition, pedestrian level lighting and street furnishings are appropriate on these streets.

Lighting along the Southeast Corridor Rail Line is recommended to be consolidated, as possible onto the catenary poles to be installed for the electrical service to the light rail cars. Both street lighting and pedestrian lighting can be attached to these catenary poles effectively. Consolidating lighting on these poles will avoid the visual clutter and expense of multiple poles.

Special-needs enhancements to existing crosswalks should include audible and flashing LED systems throughout this heavily traveled corridor.

The intent of the pedestrian oriented street hierarchy is to provide an integrated, multi-modal transportation network for all residents and businesses that is safe, convenient and efficient.

Current bike lanes serving the Main Street Corridor area should be connected to Transit Stations. These existing bike lanes are also recommended to be widened to AASHTO standards to improve their functionality and safety for bikers.

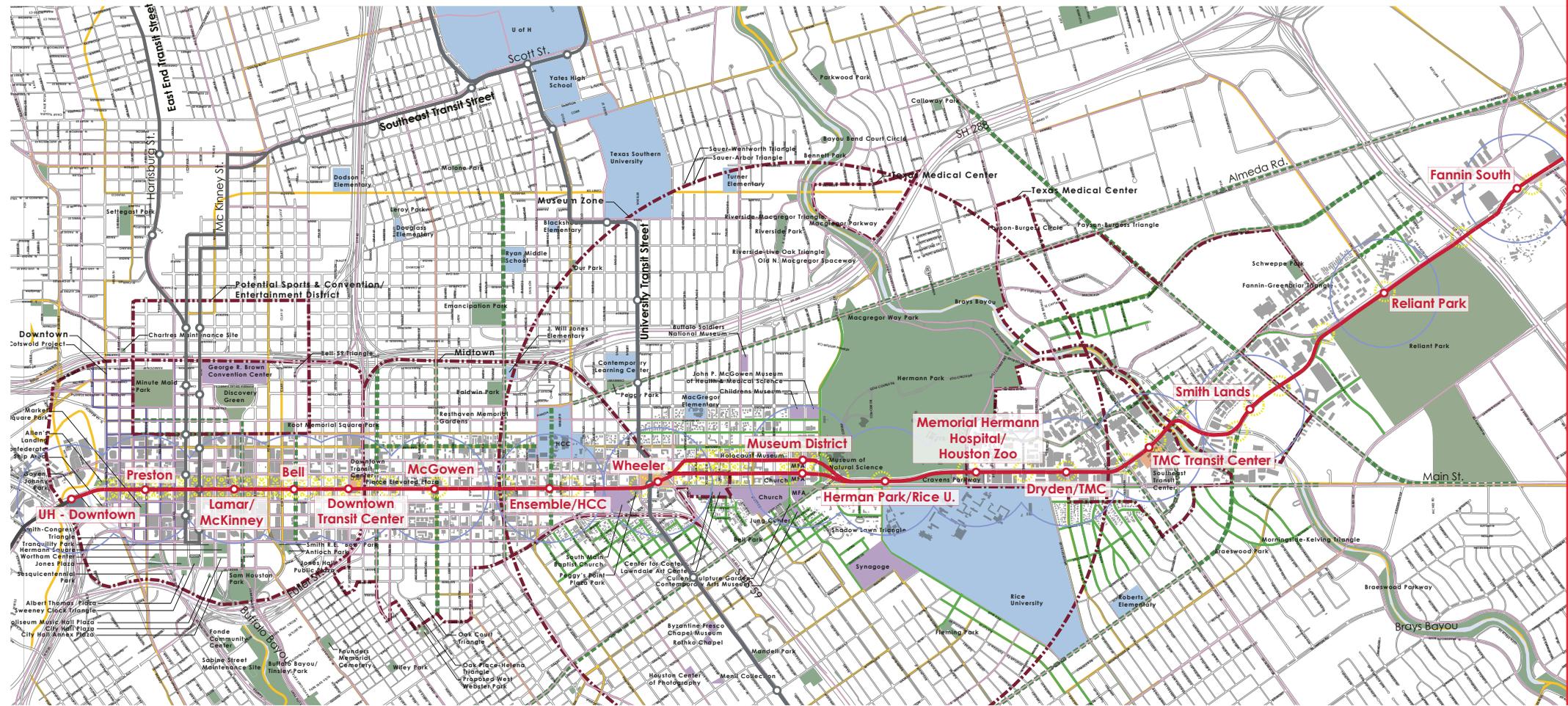
Bus lines should be connected to the proposed Transit Stations and Transit Centers with appropriate Bus Shelters provided.

Discovery Green and Hermann Park are ideally located on the Transit Corridor and provide key focal points and existing public spaces. These regional parks will continue to provide amenities for adjacent Transit Oriented Development.

Urban Squares are smaller scale publicly accessible open spaces that should be located in association with Transit Oriented Development. These small plazas are more urban in nature and do not include active/sports facilities. Urban Squares are generally accessible to public use, often privately owned and may be gated or well lit for night security. These squares are primarily paved with planting areas, shade trees, planters, public art, fountains and seating for passive, outdoor enjoyment.

Pedestrian Realm/Mobility Plan Main Street

- | | | | | |
|---|---|---|--|--|
| <ul style="list-style-type: none"> Bayou Schools Open Space Cemetery Institutional Buildings Metro Transit Center | <ul style="list-style-type: none"> Trail/Bikeway Tree Lined Streets Bus Routes Existing Pedestrian (Signalized) Crossing Major Thoroughfare per COH Major Thoroughfare Plan 2006 | <ul style="list-style-type: none"> 5 Minute Walking Distance to Station Building Footprint Proposed Pedestrian (Unsignalized) Crossing Proposed Open Space | <ul style="list-style-type: none"> Proposed Trail/Bikeway Streetscape Enhancement (Pedestrian Connector Street) Main Street Transit Street Connecting Transit Street | <ul style="list-style-type: none"> District |
|---|---|---|--|--|



D2.3

Land Development Concept Plan

The Land Development Concept Plan divides the Main Street Corridor into three categories based on their development potential:

Development Opportunity Area 1 - Downtown

– The Downtown is likely to experience large-scale redevelopment activity as a result of the planned transit facilities and proximity to the City center. It includes existing employment, office and commercial uses – uses that are typically subject to more frequent redevelopment. The Downtown also includes vacant and underdeveloped lands within the 1/4 mile station radius where Transit Oriented Development is most probable.

Development Opportunity Area 2 - Corridor

The Downtown is likely to experience large-scale redevelopment activity as a result of the planned transit facilities and proximity to the City center. It includes existing employment, office and commercial uses – uses that are typically subject to more frequent redevelopment. The Downtown also includes vacant and underdeveloped lands within the 1/4 mile station radius where Transit Oriented Development is most probable.

Stable Areas Stable Areas are comprised of the predominately residential neighborhoods, parks and the

major university campuses within the Southeast Corridor Study Area. Stable Areas are those areas that are not likely to experience large-scale redevelopment activity as a result of the planned Urban Corridor. Areas designated as Stable include existing stable residential neighborhoods, existing parks and open space as well as significant institutional uses both within and outside of the 1/4 mile stations radius.

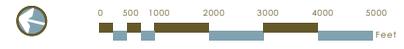
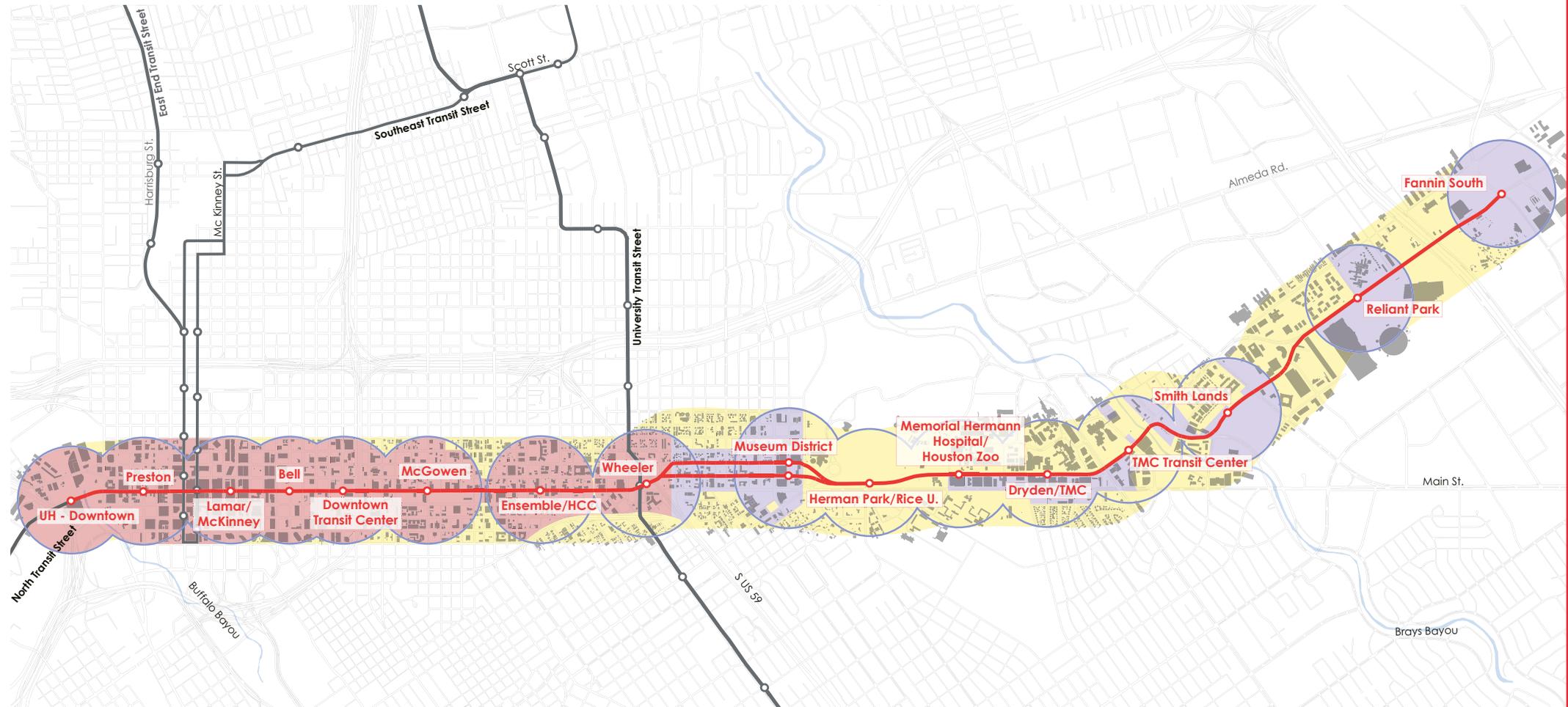
D2.3.1 Demonstration Plans

Three Demonstration Plans for prototypical sites were prepared to demonstrate conceptually how Transit Oriented Development could manifest itself given the context and condition of the Main Street Corridor.

The following diagrams provide a collection of images including a site plan, photographs of development precedents and photo simulations of large lot redevelopment, a large lot with minimum frontage on the Transit Line and a large through lot.

Land Development Concept/Infrastructure Plan Main Street

- Main Street Transit Street
- Connecting Transit Street
- 5 Minute Walking Distance to Station
- Development Opportunity Area 1 - Downtown
- Development Opportunity Area 2 - Corridor
- Stable Areas



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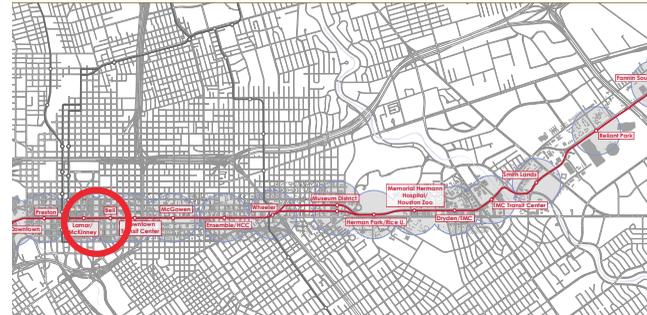
Large Through-Lot

Main Street from Clay Street to Pease Street including the Bell Street Station.

This site is located on the east side of Travis Street and is an example of large through-lot development.



Existing Site Conditions



Location of site in corridor



Demonstration Plan created during the workshop

Site Characteristic

- The site comprises approximately 526,464 sf of area (12 acres);
- The site has 886 linear feet on Main Street; and,
- The area surrounding the site is a mix of high rise, multi-level, mixed-use buildings, with surface parking.

The Program

- The program for the site is a development with six towers including residential, office and hotel uses over retail and rear structured parking.

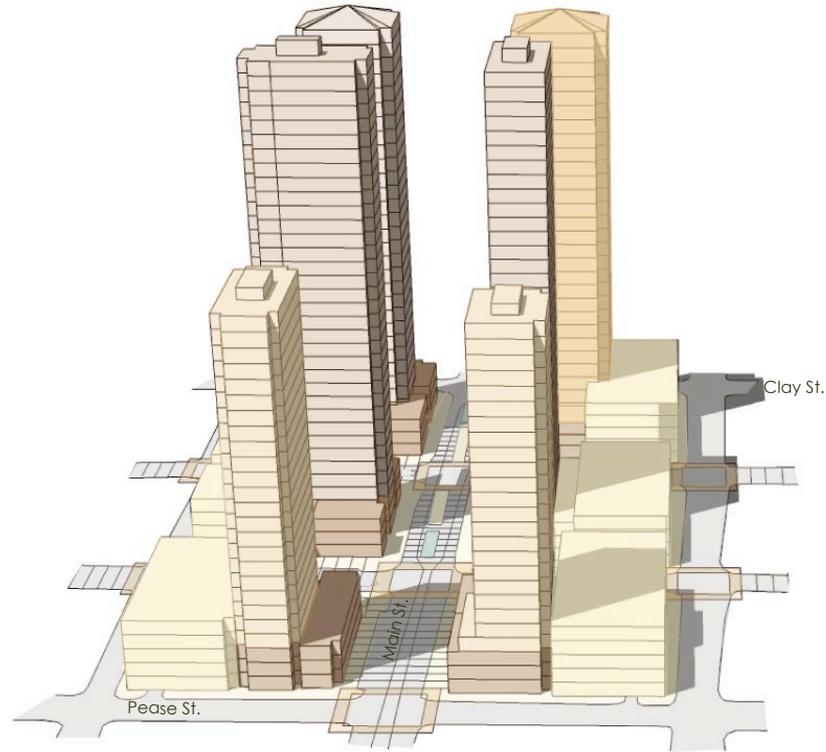
The Design Solution

- A range of 25-35 storey buildings along Main Street; and,
- Accommodate parking to the rear of the site with 5 storey structured parking buildings, and,
- Retail facing "Transit Street" establishes a pedestrian friendly condition.

The Results

- 886 linear feet of frontage on the Transit Corridor;
- 112,500 hotel;
- 885,844 office;
- 329,427 sf of retail;
- 569 apartments; and,
- Parking structures at 667,755 sf.

Demonstration Plan Main Street



3D model of demonstration plan



Photomontage illustrating the potential enhanced streetscape and built form at Pease Street



Precedent - Residential, office and hotel uses over retail



Precedent - Link to open space at rear of building from main street



Precedent - 3-storey residential units with retail at grade

2 Large Through-Lot

Main St at Wheeler St

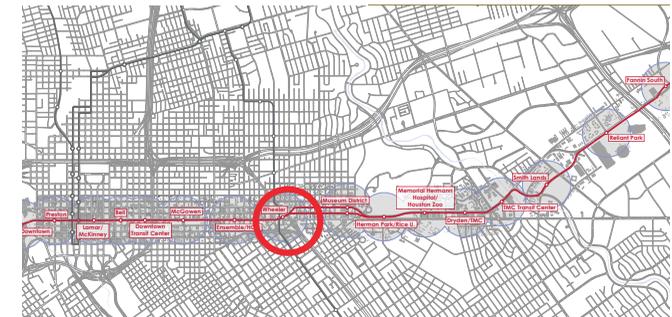
Located by S US 59 Freeway, this site is an example of large through-lot development.



Existing Site Conditions



Demonstration Plan created during the workshop



Location of site in corridor

Site Characteristic

- The site comprises approximately 1,122,716 sf of area (25.76 acres);
- The site has 1,600 linear feet on Main Street and 1,445 linear feet on Wheeler Street;
- The area surrounding the site is primary residential, vacant land with some retail; The site is also the location of the historic Sears and a inter-modal transit station; and,
- The existing Wheeler station is on the site and it is here where the University line will cross.

The Program

- A program for the site contains a mix of transit supportive office and multi-family residential over retail and structured parking. The objective for the site is to create a major node of development at this important site.

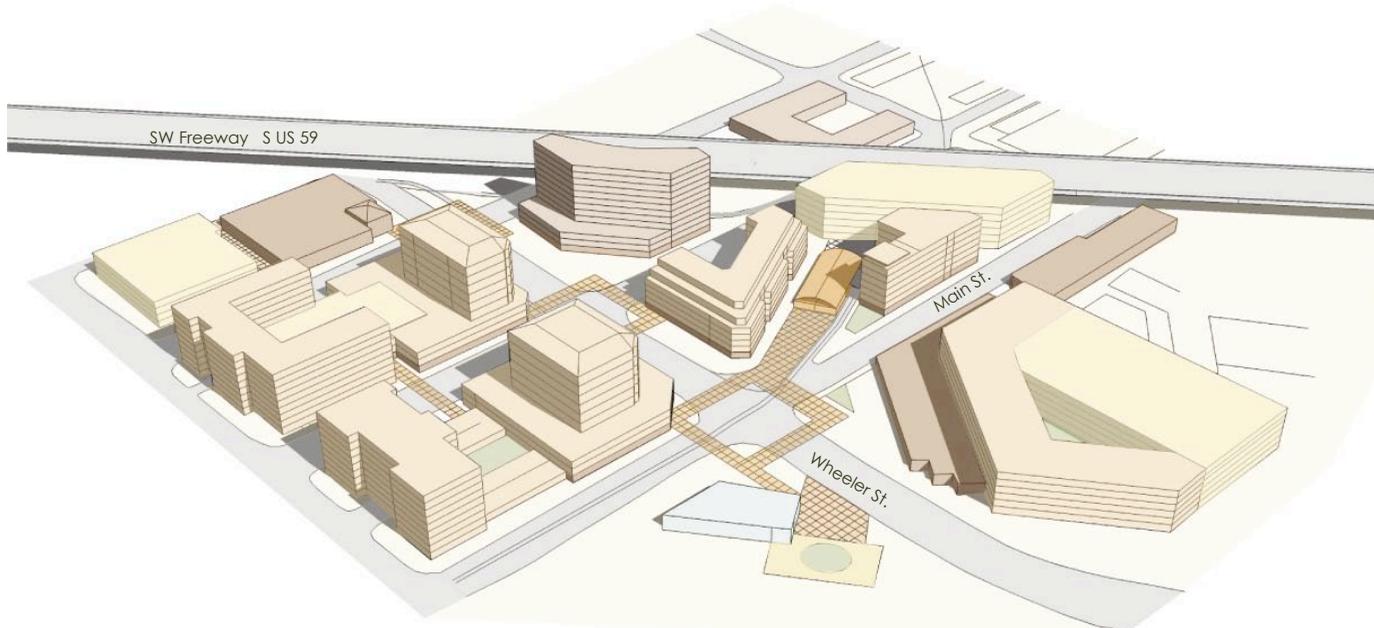
The Design Solution

- A site plan including 4 mixed-use multifamily blocks and 1 office block serving the inter-modal transit station. The station will be an important transit focus for the city.

The Results

- 1,600 linear feet of frontage on the Transit Corridor;
- 222,609 office;
- 215,959 sf of retail;
- 1,202 apartments; and,
- parking structures at 212,124.

Demonstration Plan Main Street



3D model of demonstration plan



Photomontage illustrating the potential enhanced streetscape and built form at Main Street and Wheeler



Precedent - Transit station surrounded by range of uses



Precedent - Mid-rise residential structures



Precedent - Retail facing street creates a pedestrian friendly condition

D2.3.2 Development Analysis

The following analysis is intended to test underlying development economics in the Main Street Corridor market context. A development proforma is generic in nature and not intended to represent specific site feasibilities. The form and scale of development, (a high rise residential condominium) is indicative of the type of residential transit-oriented development one would expect could expand over time in this area, particularly with the proposed transit enhancements. As well, office demand could be expected to grow with the provision of improved transit services.

Development Scenario 1 High Rise Residential Condominium Project

Description of Development

A generic development proforma was prepared for a 200-unit, 20-storey (excluding structured parking) condominium apartment project. There is an equal mix of 1-bedroom units (average 900 sf) and 2-bedroom or 2-bedroom+ units (average 1,500 sf), for an overall unit size average of 1,200 sf. The assumed site measures 1 acre (5.5 times site coverage), with a ratio of 1.25 parking stalls per unit. The total development time horizon is 36 months from land acquisition to full occupancy. The proforma details are summarized on the following page.

Comparable Properties and Market Parameters

Two existing high rise apartment projects with units for resale were identified near the proposed Hermann Park and Dryden transit stops in the Main Corridor area; one at 1400 Hermann Drive, the other, known as The Spire, at 2001 Holcombe Boulevard.

The Hermann Drive building had a 1,728 sf unit had an asking price of \$299,900 (2 bedrooms), while a 1,310 sf unit at The Spire had an asking price of \$279,900 (2 bedrooms). These prices equate to roughly \$174 psf and \$214 psf, respectively.

In addition to resale product, there are several new mid and high-rise projects currently being constructed throughout the Medical District and in proximity to the Main Corridor. By early 2008 over 900 condominium/apartment units (which have already begun construction and are listed for sale) will have completed construction. Each of these projects are within a 1.5 mile radius of Hermann Park and no farther than 3/4 of a mile from Main Street. Notably, Mosaic at Hermann Park is a high-rise condominium building with two towers totaling 788 units. Mosaic is located at on the eastern side of Hermann Park, at 5925 Ameda Road. Other projects of note include: 5001 Fannin, The Collective at Baldwin Park, and Serento, with Serento's units (high-end) being listed at prices of around \$265 psf. Overall, new condominium pricing appears to range from \$200 to \$300 psf across the market, depending upon location and building quality/finish.

As outlined in the corridor overview above, based upon MLS data from the Houston Association of Realtors, the average resale townhouse/condominium price in the MLS District 17 corresponding most closely with the Main Street Corridor was in the range of \$191,500 through September 2007. Notably, the average resale single family house price is approaching \$675,000 through the first nine months of this year – up sharply from around \$610,000 at the same time one year ago. This pricing structure indicates the rationale for continued condominium construction as a means to supply new housing for this local market.

Proforma Results

Understandably, the economic price required to justify new construction of condominium apartments in this area is within the range of current pricing at comparable projects, and at a premium to resale product of similar character. The development proforma presented below suggests a required sale price of around \$279,000, or \$232 psf. There is, of course, the possibility of upgrading or downgrading the quality of building finish to appeal to a certain target market, depending upon the depth of demand.

Some observations regarding the proforma for this type of project include the following:

- Hard construction costs (including parking) represent just over 70% of total project costs. The cost of parking accounts for roughly 6% of the total end unit price.
- Total land costs represent roughly 16% of the end unit price – this assumes land values of roughly \$6.5 million per acre (\$27 per square foot buildable) plus

Development Scenario 2 High Rise Office Project

Description of Development

A generic development proforma was prepared for a 25-storey, 500,000 sf office building with ground floor retail space. The land area of the site measures 2 acres, and there is a parking ratio of 2.5 stalls per 1,000 sf. The envisioned development time horizon is 45 months from land acquisition to full occupancy, including 30 months of construction. The proforma details are summarized on the following page.

Comparable Properties

There is presently one office building under construction in the Central Business District known as Pavilions Tower, a nine storey building measuring 207,000 sf. The reported asking net rent for space in this building is \$25.00 psf. There are also three buildings proposed ranging in size from 580,000 sf to 1 million sf, with reported asking rental rates of roughly \$30.00 to \$34.00 psf (no pre-leasing is reported in these three projects as at 2007 Q3).

In the CBD, the average asking Class-A gross rental rate is approximately \$32.50 psf (\$21.50 net psf plus \$11.00 psf additional rent), indicating roughly, a \$3.50 psf spread up to the \$25.00 psf being sought at Pavilions Tower and up to a \$13.00 psf spread to the buildings proposed. Of course, new buildings would command a market rate at the top of the rental rate spectrum given their age, quality of building finishes, and other factors.

Rising construction costs have obviously impacted the viability of new office construction in the CBD, despite improving market conditions and rising rental rates. This is evident in the rental rate spread between Pavilions Tower, which is under construction, and the required rental rates for the three proposed buildings.

Proforma Results

The development proforma suggests a required net rental rate in the range of \$28.00 psf to economically support new construction. This is slightly above the asking rate for Pavilions Tower (which likely has lower contractually secured construction cost guarantees), but remains less than rates quoted for the other proposed projects. Notably, the three proposed projects slightly or considerably larger than the proforma office building, which totals 500,000 sf, and the building character and appearance of these proposed buildings have not been taken into account.

Some observations regarding the proforma for this type of project include the following:

- Hard construction costs (including structured parking) represent 66% of total project costs. These costs are projected, and would vary depending on the ultimate class/caliber of the building design and architectural features.
- As specified in the proforma, land costs represent roughly 12% of total project cost. Again, land costs may vary widely depending on location within the Main Street Corridor, but have a relatively limited impact on project costs compared to hard construction costs.
- Understandably, a developer needs to profit from any development at a rate consistent with the risk. The proforma takes into account total project costs of approximately \$140 million (\$280 psf) and assumes a 10% profit margin on the total project (higher when leveraged equity is considered).

Economic Rent Calculation - High Rise Offices Main Street

Assumptions

Timing Assumptions		
Land Acquisition		01-Jan-08
Planning Period		6 months
Construction Commencement		03-Jul-08
Construction Period		30 months
Substantial Completion		31-Dec-10
Cost of Vacancy Period		9 months
Full Lease-Up		30-Sep-11
Total Development Period		45 months
Interest Rate		
Interim Financing	6.00%	
Building Areas		
Number of Buildings		1
Number of Storeys		25
Floor Plate	20,000 sq.ft.	
Gross Building Area	500,000 sq.ft.	
Site Coverage	5.74 times	
Land Area	2.00 acres	
	<u>G.B.A.</u>	<u>G.F.A.</u>
Office	96%	480,000
Retail	4%	20,000
Other	0%	0
TOTAL	100%	500,000 sq. ft.
		465,000 sq.ft.
Parking Ratio		
2.5 stalls per	1,000 sq. ft. of G.F.A.	1,250 stalls

Project Costs

	\$ 000's	PSF
Land		
Purchase Price	\$13,068	\$26.14
Additional Land Costs	\$653	\$1.31
Land Carrying Costs	\$2,470	\$4.94
TOTAL	\$16,191	\$32.38
Construction & Fringe		
Hard Construction Costs	\$76,718	\$153.44
Parking	\$16,250	\$32.50
Architect. & Engineer.	\$5,113	\$10.23
Site Improvements	\$261	\$0.52
Const. Contingency	\$4,648	\$9.30
Municipal Fees	\$130	\$0.26
Development Interest	\$6,187	\$12.37
TOTAL	\$109,309	\$218.62
Cost of Vacancy		
	\$1,031	\$2.06
Deferred		
Tenant Allowances	\$10,000	\$20.00
Leasing Costs	\$2,000	\$4.00
Financing Costs	\$1,485	\$2.97
TOTAL	\$13,485	\$26.97
TOTAL PROJECT COSTS	\$140,016	\$280.03

Required Price/Rent Calculations

Required Return on Investment	10%
Required Face Rent	\$28.00 PSF
Required Net Effective Rent (1)	\$25.92 PSF

Conclusions Regarding Development Analysis

The above proforma analysis demonstrates the required sales price for a new high density condominium development. When assessing this development proforma, it is important to note it reflects new building costs which generally exceed market affordability for many area residents, although it would certainly be expected that such a development would draw upon a broad population base of Houston residents that would consider relocating to a more downtown environment.

The average resale condominium price in the Main Street Corridor area was approximately \$191,500 based upon year-to-date sales activity data provided by the Houston Association of Realtors, while the proforma above generates a required sale price of around \$278,400 (for 1,200 sf at \$232 psf). With a median household income of roughly \$42,900 across the Main Street Corridor, the affordable house price, at the median, is roughly \$167,000, and the affordable monthly housing rent is \$1,145 – vastly below the types of prices or rents required to justify new construction. A household income of over \$71,500 is required to afford the condominium unit described in the proforma, and nearly 30% of area households meet this threshold. The affordability model incorporates a 6% interest rate, 30 year amortization, 20% down payment, and a calculation of monthly principal, interest and taxes, with the assumption that 32% of gross monthly income can be dedicated to housing costs.

In order to facilitate more rapid development of higher density development along this corridor, considerable “assistance” might have to be considered – perhaps in the form of financial subsidies for development in the form of reduced building permit fees for certain development density thresholds.

Lastly, although it is not explicitly examined in the proforma here, the availability of quality public schooling is clearly an important criterion within the City for attracting families to higher density forms of housing in established central areas.

D2.4

Infrastructure Overview

Based on the research of the existing Main Street Corridor Infrastructure it appears that a number of water mains along the Corridor are at the end of their lifespan. Additionally, the dates of construction of the sanitary sewer lines suggests that there are segments along the Corridor that have also likely reached the end of their life span.

Given that the Corridor is a mix of higher density office, commercial, institutional and residential uses, continued monitoring and assessment of infrastructure capacity is recommended as redevelopment along the Corridor proceeds.

It is hoped that a standard for lighting the streets and the pedestrian realm will be implemented throughout all of the Corridors as the lines are being built.

D2.5

Pedestrian Oriented Guidelines

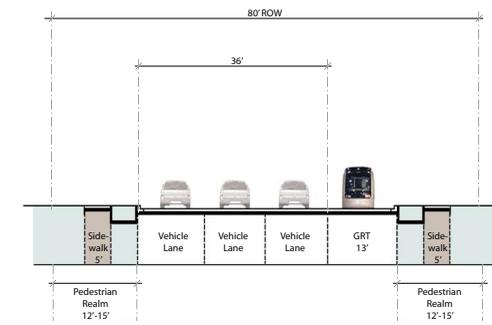
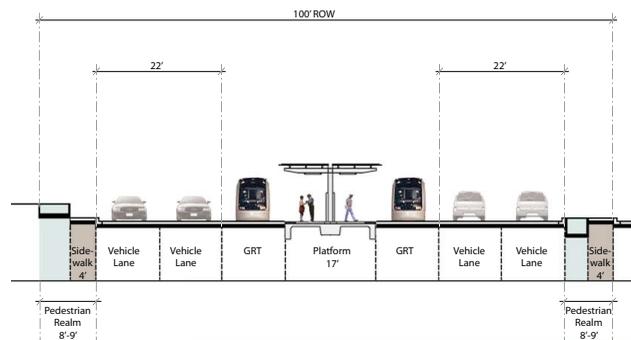
To better understand the urban design impact of the new transit on the existing streetscapes, sections have been developed through various locations along the Main Street Corridor, illustrating the existing condition of the street from the face of buildings on each side. A section showing the new streetscape has been constructed as a comparison.

The sections have been selected to indicate typical conditions on the Transit Street to show the impact of the LRT. Additional sections have been developed to illustrate the connecting streets and indicate both existing conditions and proposed improvements with a high level of attention to the pedestrian realm. The importance of these streets as primary pedestrian ways cannot be overstated. These streets are envisioned as the principle links between the Transit Street and the surrounding neighborhoods, as well as the location of bus routes.

D2.5.1 Pedestrian Character Transit Street

The sections that illustrate the Transit Street conditions have been taken at Greenbriar and Smithland as well as at Fannin Streets where it meets Southmore Street. The existing conditions for the Main Street Corridor are different in that transit already exists. These two conditions illustrate the street condition where transit is at the center of the street as in Greenbriar/Smithland or at the outside

edge in a one-way condition as on Fannin. The sections illustrate the impact of the proposed pedestrian realm in this corridor. They show the importance of a consistent pedestrian realm, with buildings at its edge, to generate a healthy pedestrian environment. The sections indicate a 15' pedestrian realm. However there are locations in the corridor where that has been expanded with a wider sidewalk. Guidelines suggest a build-within line that allows for more setback from the curb.

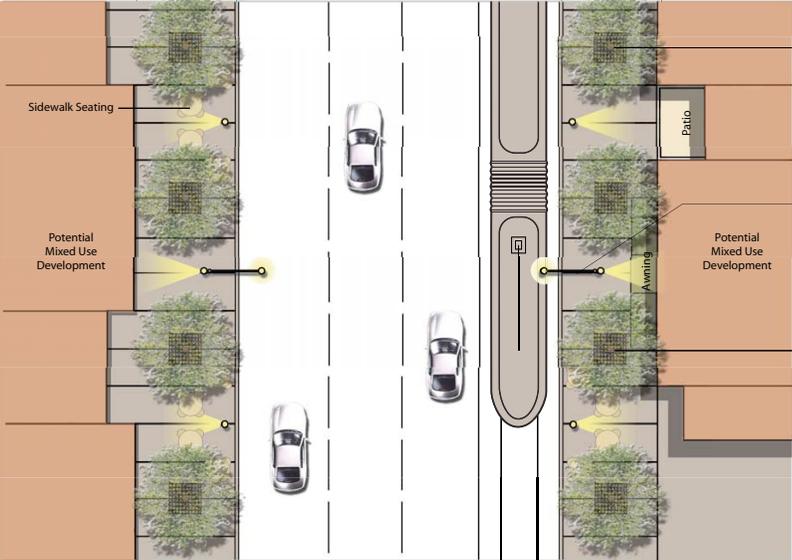
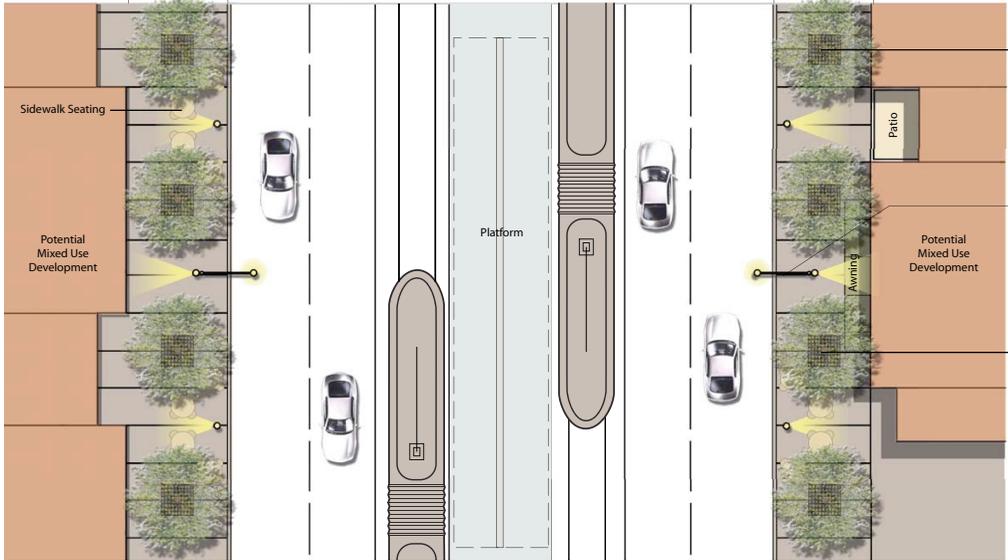
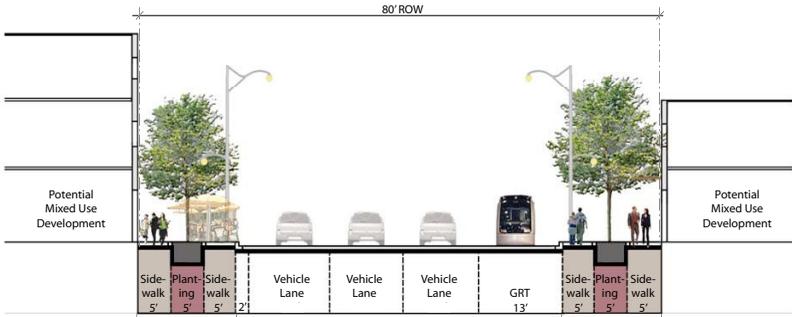
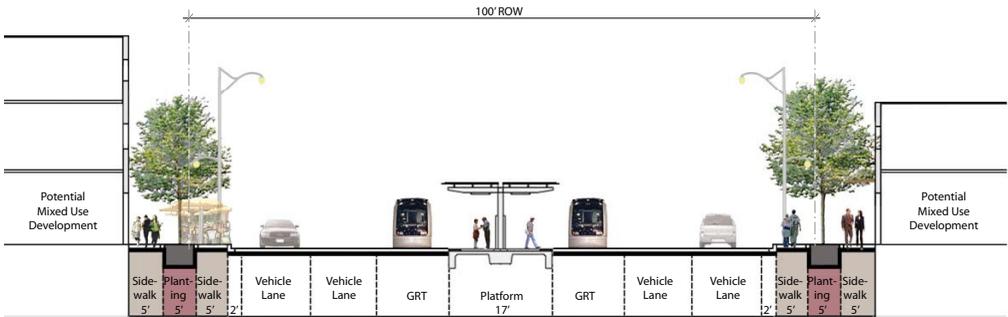


Main St. Corridor Existing Conditions w/ Transit Platform- Greenbriar at Smithland



Main St. Existing Conditions- Fannin St. at Southmore St.

Pedestrian Character Transit Street, Offset Station Platforms Main Street

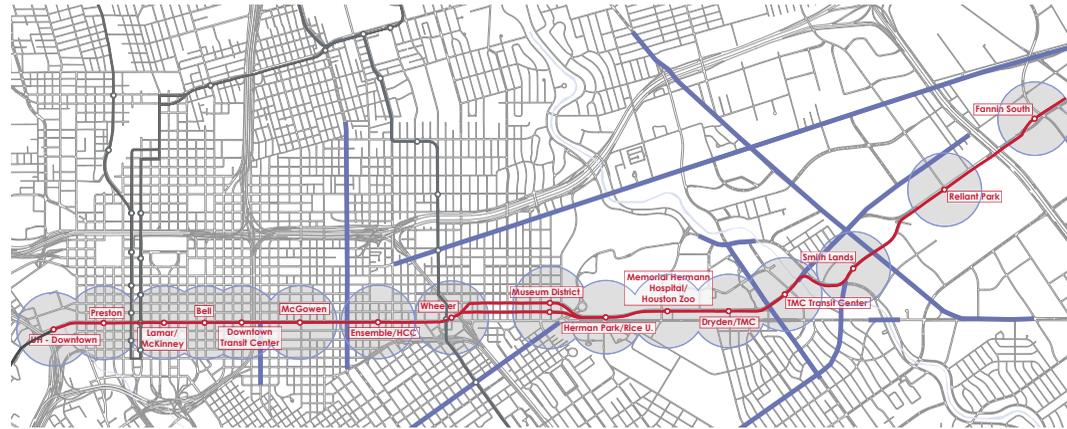


Main St. Corridor Proposed Section with Transit Platform- Greenbriar St. at Smithland Station

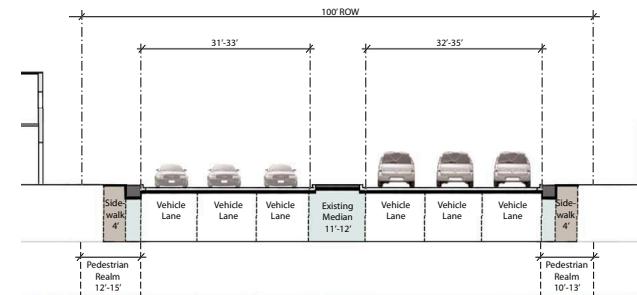
Main St. Corridor Proposed Section- Fannin St. at Southmore St.

D2.5.2 Pedestrian Character Major Thoroughfare

Major Thoroughfare right-of-ways are typically 80 to 100 feet, and include 48 feet of pavement divided by a median of 14 to 32 feet. Rarely has a connected sidewalk system been provided. Mayor Thoroughfares that intersect with the Transit Street have been identified as Pedestrian Character Major Thoroughfares because they have the potential to provide a crucial connection from area focal points neighborhoods and schools to transit stations. A continuous and connected sidewalk system been provided. A prototype street cross section indicates the following:



Pedestrian Character Major Thoroughfares

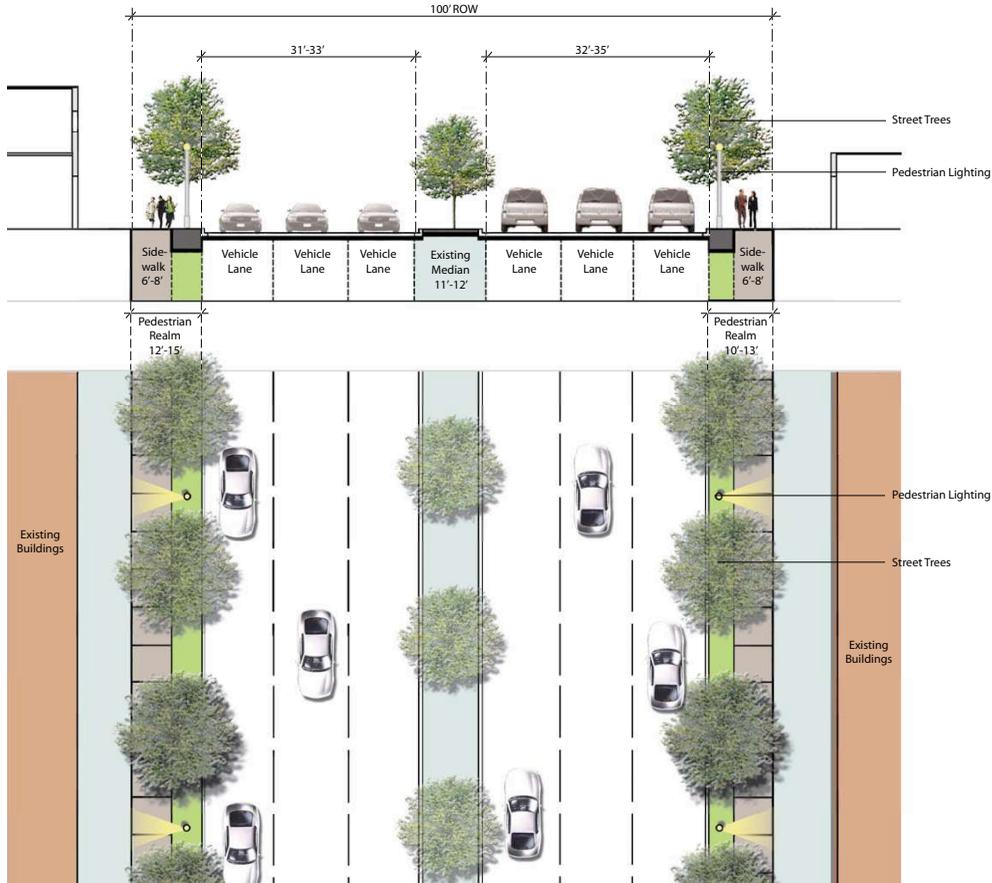


Main St. Corridor Existing Conditions- Old Spanish Trail

Pedestrian Character Major Thoroughfare, Commercial Main Street



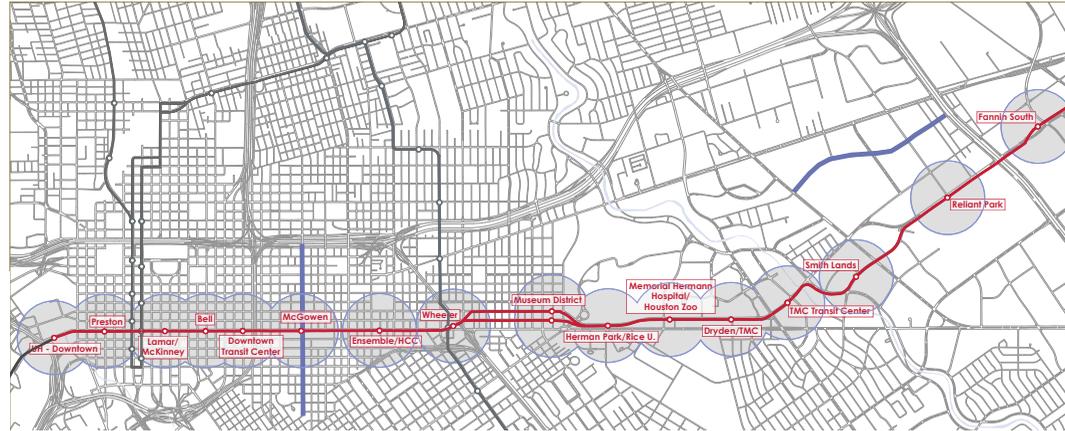
Main St. Corridor Proposed Section- Old Spanish Trail (Only in designated redevelopment areas)



Main St. Corridor Proposed Section- Old Spanish Trail

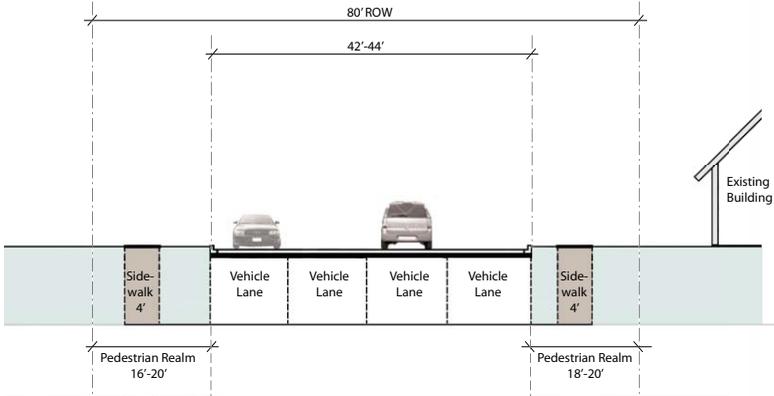
D2.5.3 Pedestrian Character Major Collector

Major Collectors range from 60 - 80 feet, and include 44 feet of pavement, and ditches on both sides. Rarely is a continuous and connected sidewalk system provided. McGowen has been identified as a Pedestrian Character Major Collector because it is an important parallel street to the Transit Street and edge to neighborhoods. A prototype street cross section indicates the condition:

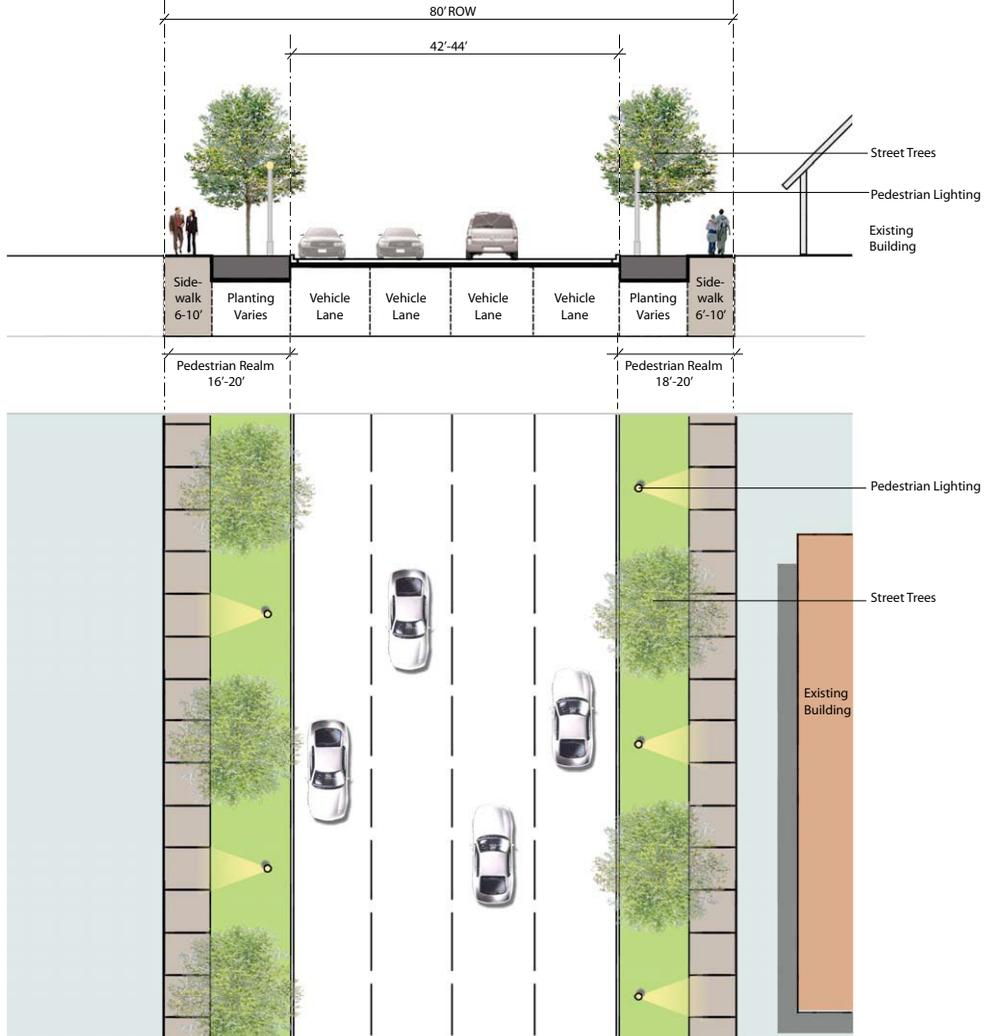


Pedestrian Character Major Collector

Pedestrian Character Major Collector Main Street



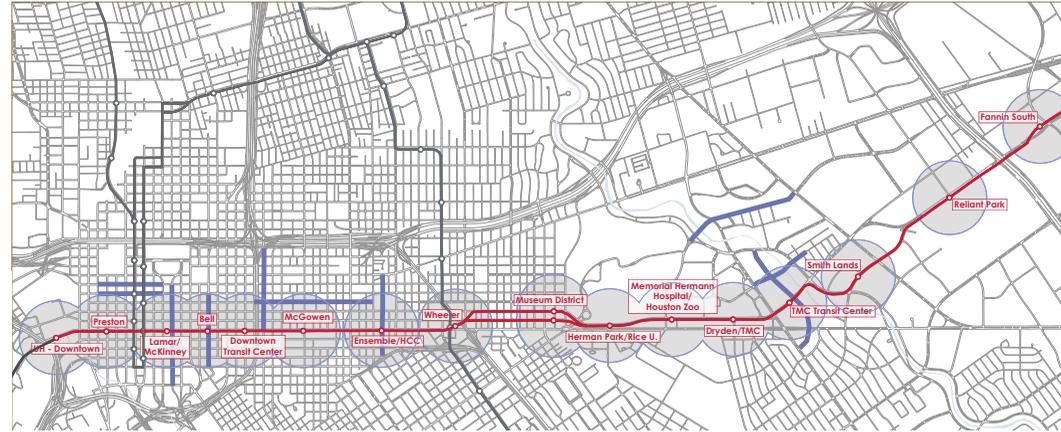
Main St. Corridor Existing Conditions- McGowen St.



Main St. Corridor Proposed Section- McGowen St.

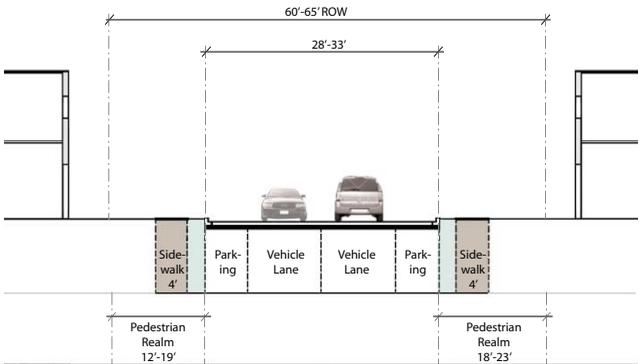
D2.5.4 Pedestrian Character Local Street

Local street right-of-ways are typically 60 feet, and include 22 feet of pavement. Some local streets have ditches on both sides. Rarely are sidewalks provided. Some local streets that intersect with the Transit Lines have been identified as Pedestrian Character Local Streets because they have the potential to provide a crucial connection between the transit stations and a local pedestrian traffic generator, such as a school, recreation centre, public park or place of worship. A prototype street cross section for a Pedestrian Character Local Street is shown here:

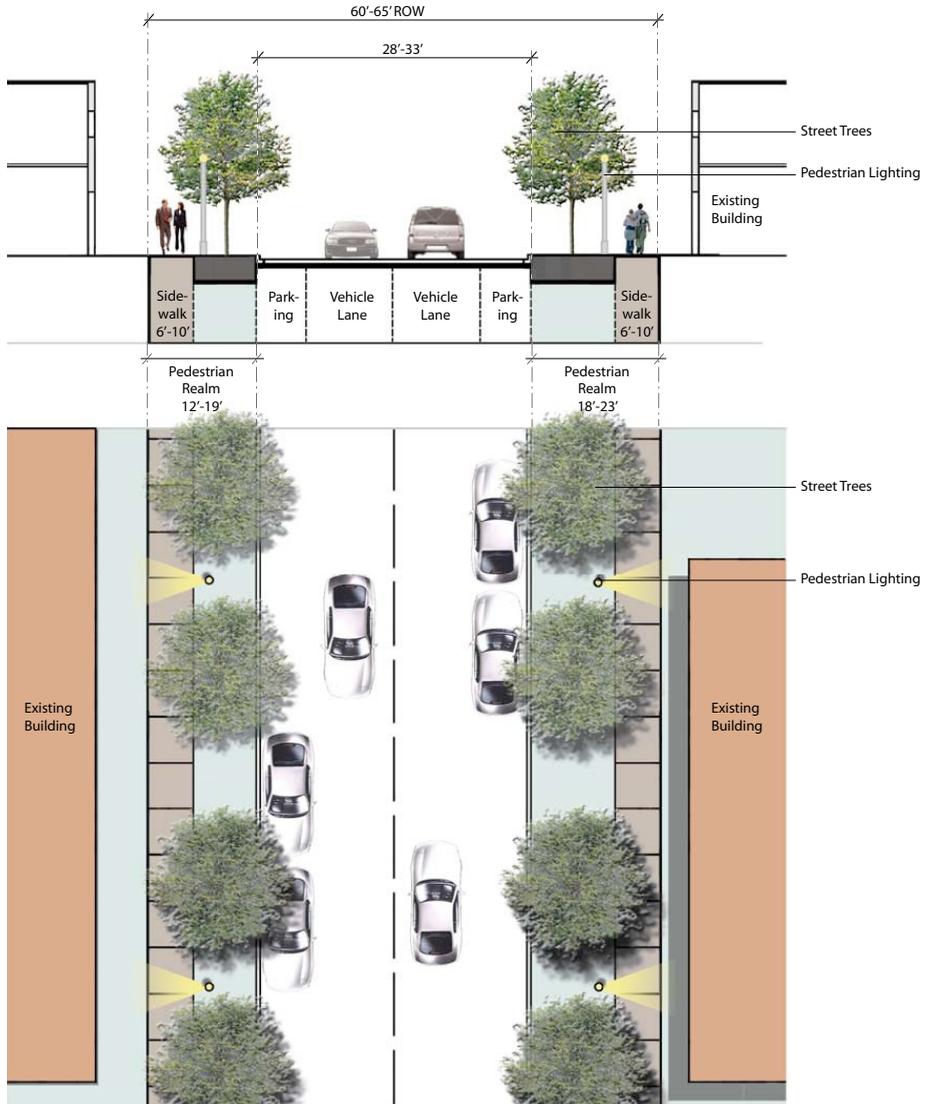


Pedestrian Character Local Street

Pedestrian Character Local Street Cross-Section/Plan Main Street



Main St. Corridor Existing Conditions- Berry St.



Main St. Corridor Proposed Section- Berry St.