

# 2

## East End Planning Strategy

This chapter introduces the Planning Strategy and design guidelines for the Corridor.

### A2.1

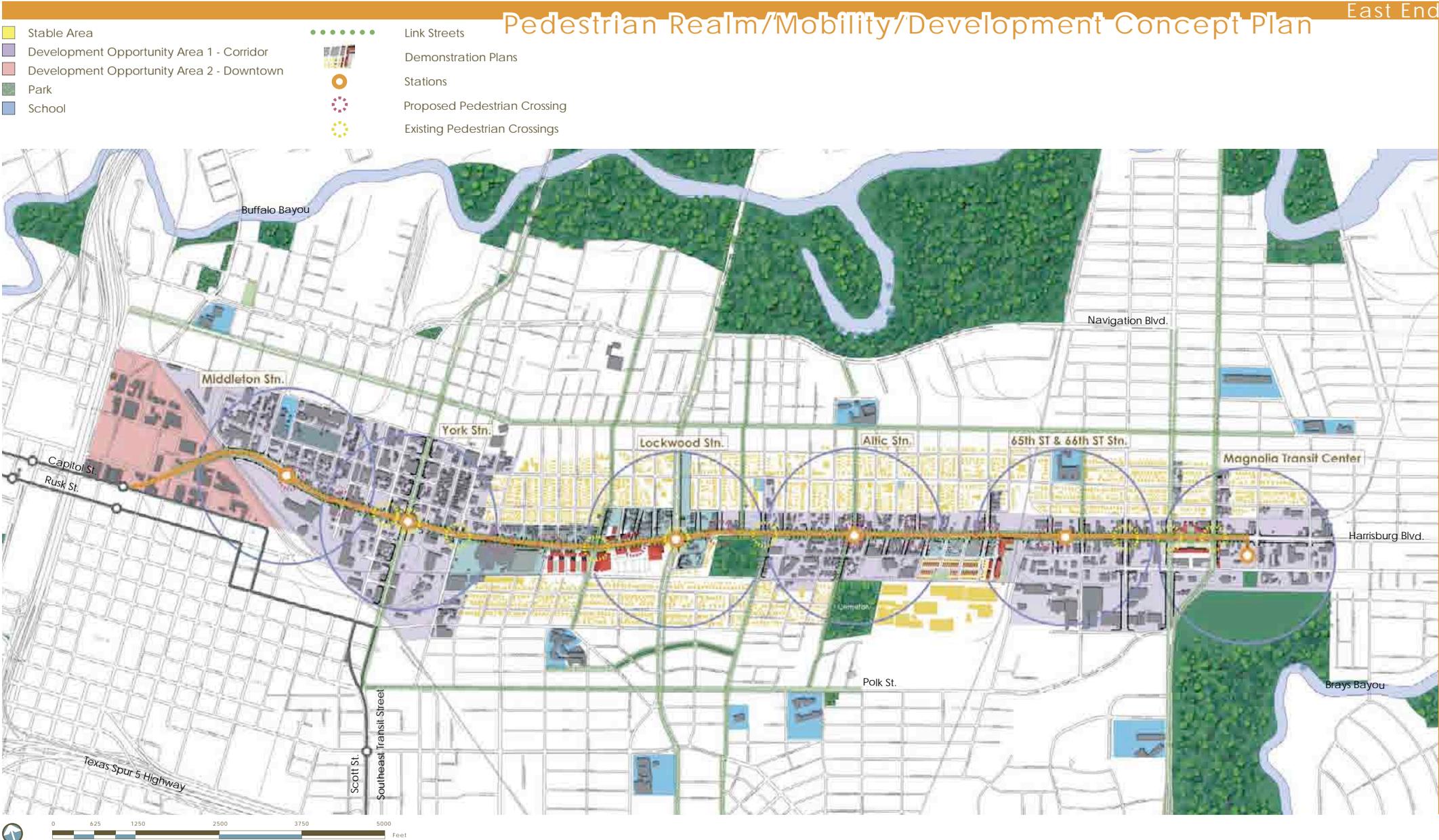
## The Combined Pedestrian Realm/ Mobility/ Land Development Concept Plan

The diagram on the facing page overlays the Pedestrian Realm/Mobility Plan and the Land Development Concept Plan, which are described individually in more detail in the sections following. The Combined Plan brings into focus the broader elements along the Corridor that will eventually result in Transit Oriented Development and the potential linkages to the surrounding community.

In addition to illustrating Development Opportunity Areas where redevelopment associated with the Urban Corridors should be focused, it also delineates Stable Areas that should be protected for the impacts of redevelopment.

The Combined Plan, through the illustration of the “built to” line, also provides a sense of the scale of the street resulting from future Transit Oriented Development.

Finally, the Combined Plan illustrates the importance of a developed and connected pedestrian realm that includes a system of open spaces linked to transit. The early development of sidewalks and landscape reinforces the linear nature of the Corridor as a linked transit line.



## A2.2

### Pedestrian Realm/ Mobility Plan

The Pedestrian Realm/Mobility Plan illustrates recommendations to improve and enhance the pedestrian realm and mobility conditions within the East End Corridor. The goal of these recommendations is to provide a safe, vibrant, attractive and highly functional pedestrian experience along the East End Corridor Transit Line (Harrisburg Boulevard), 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 the largest percentage of public space, and as such, must be enhanced and treated as important public places. When they function well, they are lively places where cafes, flower shops, gardens and public art create a vibrant outdoor space. They are the places where the eyes of the community are on the activities of the street, the frontage for development and the addresses of businesses.

Harrisburg Boulevard is the main spine with key north/south connecting streets also identified for streetscape enhancement. The connecting streets, such as York, North Eastwood and Baywood, provide important links to adjacent community destinations such as parks, schools, community facilities and trails.

Streetscape enhancements should include street tree planting, with an ambition to create a continuous canopy. Street trees would clearly identify the important streets and public places and would provide shade to clear, wide, continuous sidewalks extending from back of curb to building fronts along Harrisburg Boulevard and adjacent to a tree boulevard on connecting streets. In addition, pedestrian level lighting and street furnishings are appropriate.

Lighting along the East End Corridor Line is recommended to be consolidated, if 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.

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.

Ample pedestrian crosswalks are crucial to the perception of accessibility to both sides of the Harrisburg Transit Street. Great care must be taken to provide safe, well-marked, and unimpeded crossing opportunities especially within retail zones. Bulb-outs reduce crossing distances and should be designed where on-street parking is proposed.

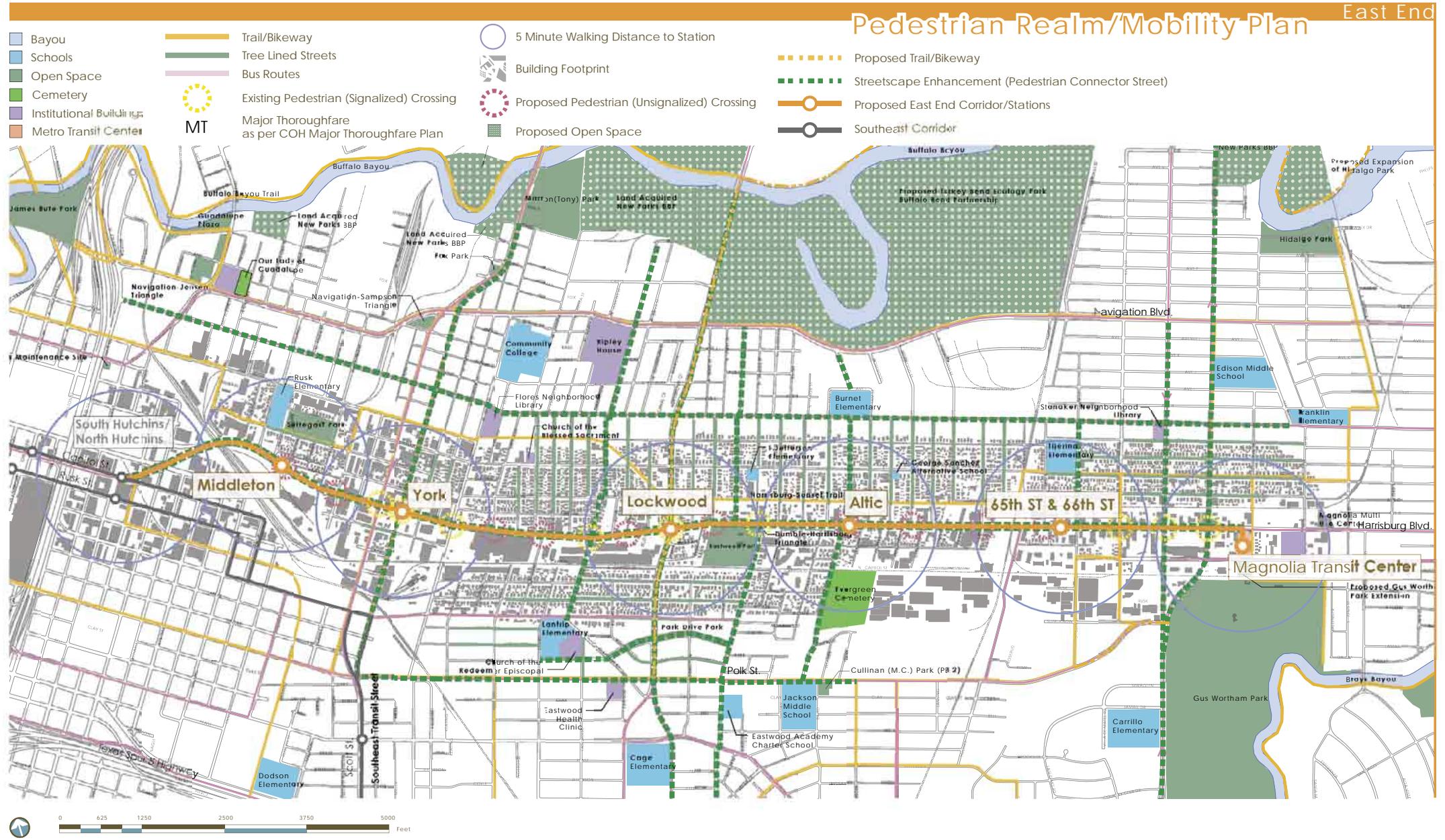
Current bike lanes serving the East End Corridor area should be connected to transit stations. These existing bike lanes are also recommended to be widened to AASHTO

standards to improve their functionality and safety for cyclists.

Eastwood Park is ideally located on Harrisburg Boulevard to provide a key focal point and existing public space. It can provide an amenity 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.

The East End Corridor is framed by two major open space systems: one planned along the Buffalo Bayou, and one existing along Brays Bayou. The Buffalo Bayou Partnership is working to secure and develop a linear park facility along the Bayou extending from Guadalupe Plaza to Hildalgo Park. This future linear park will provide an enormous amenity to the East End as well as to the City. Even in its undeveloped state, Buffalo Bayou provides canoeing, fishing, hiking and biking within an amazingly densely vegetated area. An extension of the Buffalo Bayou hike/bike trail, from Lockwood east to Hildalgo Park, is recommended to provide access to future Buffalo Bayou park facilities to the eastern half of the Corridor. A second extension of the Brays Bayou Trail through Gus Wortham Park is recommended to connect this extensive regional trail to Magnolia transit station.



## A2.3

### Land Development Concept Plan

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

#### Development Opportunity Area 1 - Corridor

The Development Opportunity Area 1 is concentrated at the eastern portion of the Corridor and comprises mainly older underdevelopment industrial and employment lands. Development Opportunity Area 1 flanks the entire length of the Corridor, covering a narrow portion (half block depth) along the north side of Harrisburg between Harrisburg and the existing Hike and Bike Trail, which consists primarily of smaller scale commercial and retail uses. The identified Development Opportunity Area 1 – Corridor also covers a wider portion (three to four block depth) along the south side of Harrisburg, which consists of a mix of larger scale employment and industrial blocks. Development Opportunity Area 1 also extends along some of the north-south roadways north of Harrisburg where commercial uses have encroached into Stable residential Areas.

#### Development Opportunity Area 2 - 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 areas- 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 and parks on the north and south of the East 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 station radius.

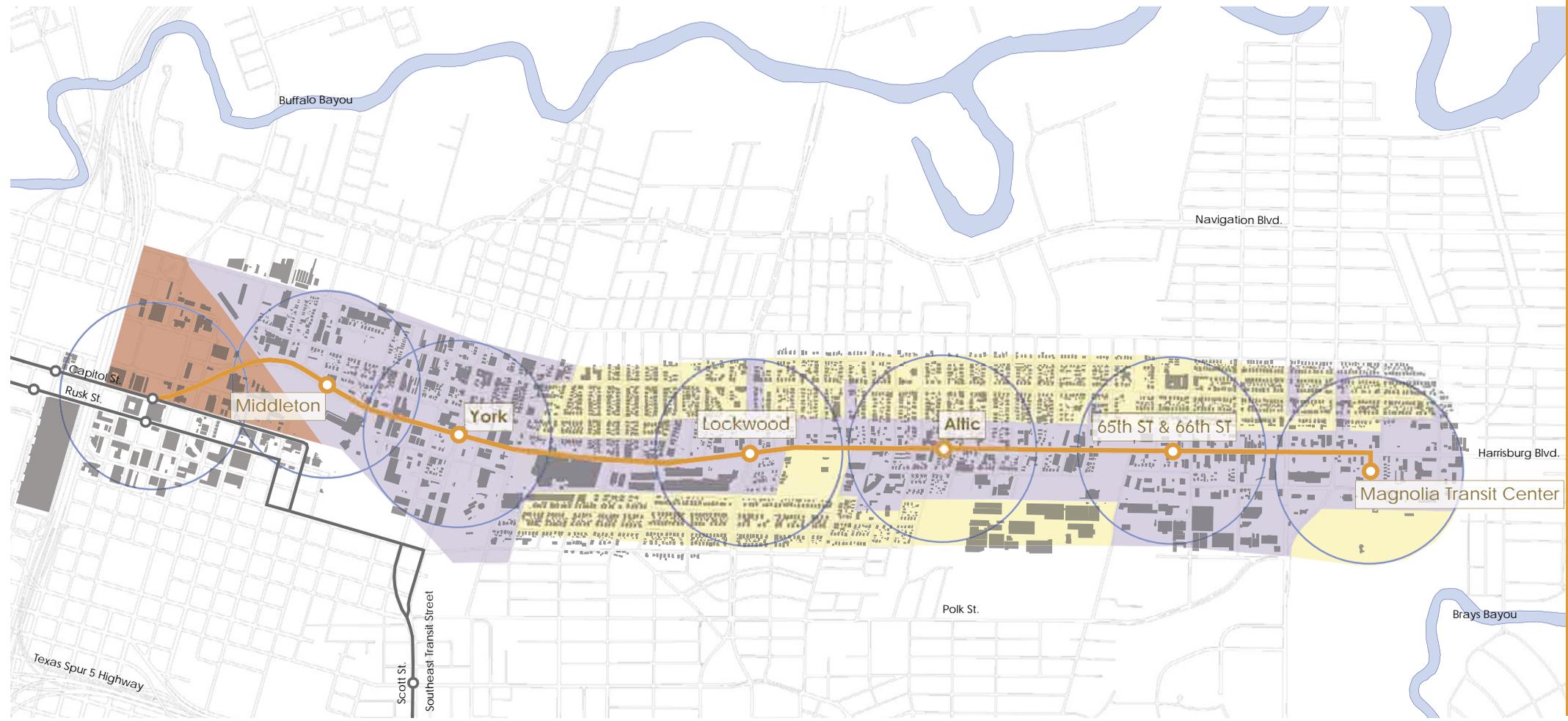
#### A2.3.1 Demonstration Plans

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 East End 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 East End

-  East Corridor
-  Southeast Corridor
-  5 Minute Walking Distance to Station
-  Development Opportunity Area 1 - Corridor
-  Development Opportunity Area 2 - Downtown
-  Stable Area





# Large Lot

Harrisburg Boulevard at South Lockwood Drive

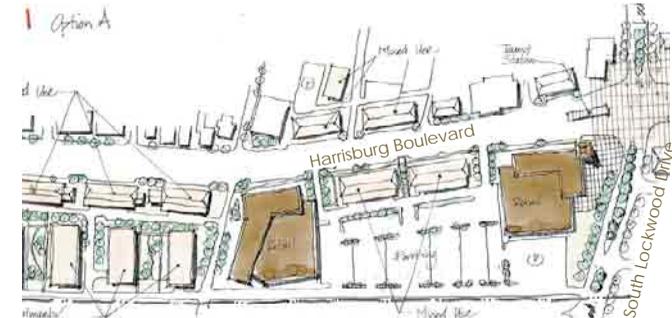
This site, sometimes referred to as the Stewart & Stevenson industrial area, is an example of a large lot prototype.



Existing site conditions



Location of site in corridor



Demonstration Plan created during the workshop

## Site Characteristic

- The site encompasses approximately 416,545 sf of land (9.5 acres);
- an extensive length of frontage on Harrisburg Boulevard (1,490 linear ft);
- a proposed transit station adjacent to the site;
- full lot depth backing onto a railway;
- the surrounding area includes industrial (on adjacent lands), the Eastwood community (to the north) and low rise residential (on the south side of Harrisburg Boulevard); and,
- the site is privately owned.

## The Program

- A program for the site includes residential, retail and “big box” retail stores;
- a second option develops the site as a balance of multi-family homes and mixed use with residential over retail; and,
- the location adjacent to a proposed station lends itself to the creation of an open space focus for the site.

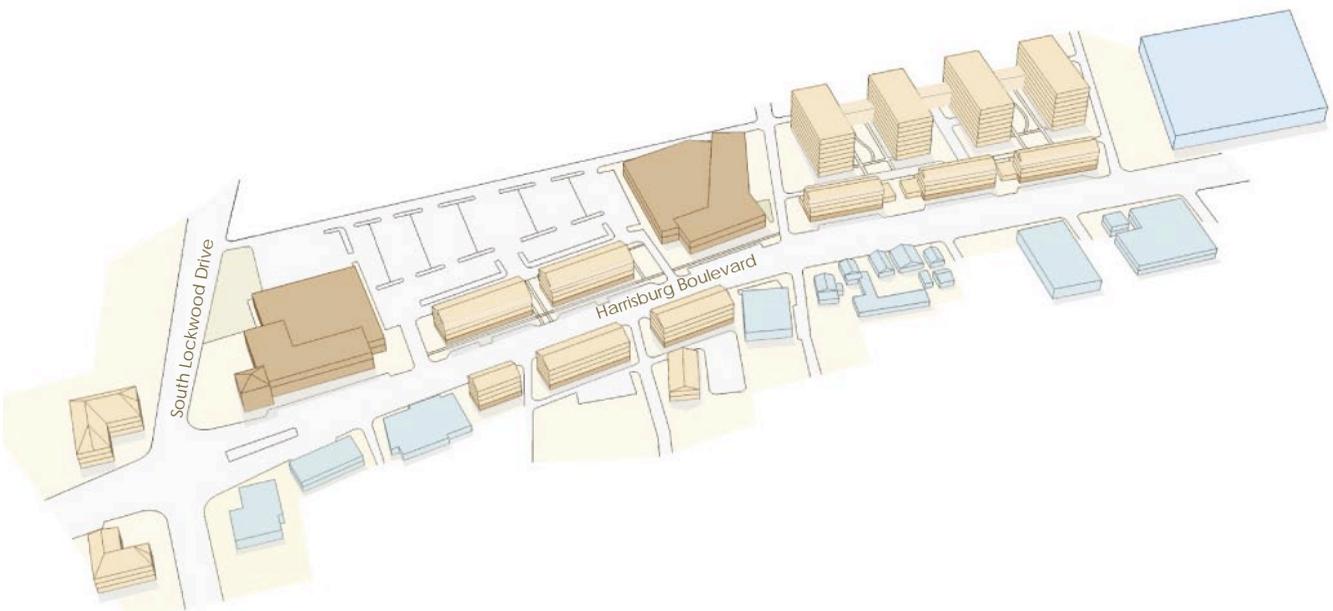
## The Design Solution

- A phased site plan for the area includes two “big box” retail stores, residential multi-family residential units and parking at grade. The second phase produces a site that is mixed use with residential uses over retail.

## The Results

- A mixed use TOD form of development adjacent to the Lockwood Station;
- retail stores adjacent to the street;
- a mix of housing;
- two large format retailers at 77,000 and 71,000 sf;
- 26,750 sf of mixed use retail;
- approximately 100 apartments in mixed use buildings;
- 136 apartments in stand alone buildings; and,
- 288 parking spaces at grade.

# Demonstration Plan East End



3D model of demonstration plan



Photomontage illustrating the potential enhanced streetscape and built form on Harrisburg Boulevard just west of South Lockwood Dr.



Precedent - Grocery store with pedestrian activity at grade



Precedent - Mid rise apartments



Precedent -Three story apartments over retail

# 2 Large Lot with Minimum Frontage

## Hughes Tool Site

This site is located on the south side of Harrisburg Boulevard adjacent to the railroad tracks. The site is a portion of the former Hughes Tool site and is an example of a Large Lot with Minimum Frontage. In this case, it is a large interior site with limited frontage.



Existing site conditions



Location of site in corridor



Demonstration Plan created during the workshop

### Site Characteristic

- The site encompasses approximately 337,250 sf of area (7.7 acres);
- the site has 180 linear feet of frontage on Harrisburg Boulevard;
- the west edge of the site is formed by the railway line;
- the area surrounding the site is a mix of industrial and residential to the north; across Harrisburg is a retail strip center that is empty; and,
- the site is privately owned.

### The Program

- The program for the site is primarily residential with a mix of single-family homes on small lots, multi-family residential and mixed use apartments over retail. The objective is to front Harrisburg Boulevard with development, locate parking structures adjacent to the railway as a buffer and create a community of mixed housing in a compact walkable neighborhood.

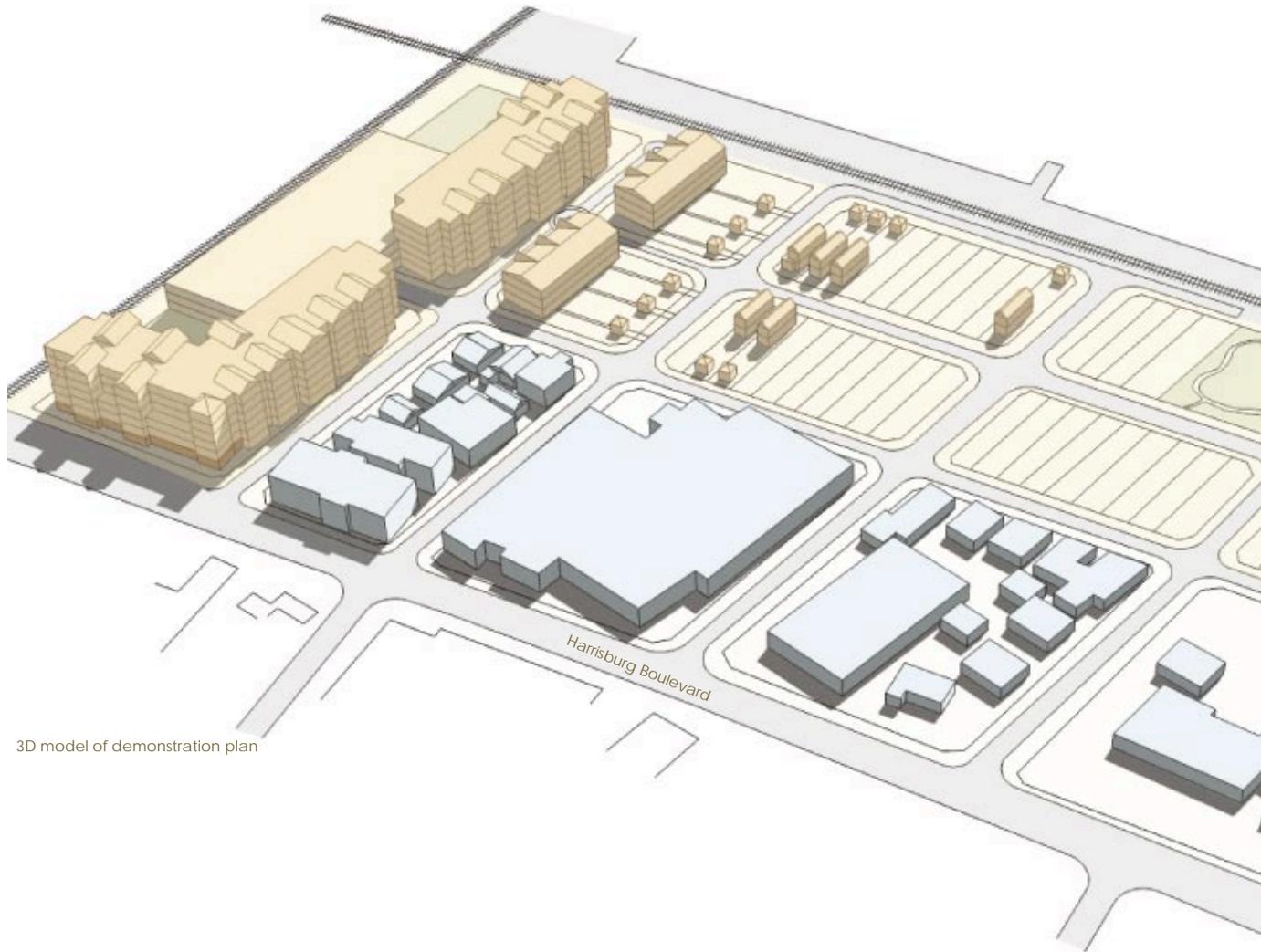
### The Design Solution

- A neighborhood of single-family homes on small lots on the interior of the site;
- the extension of existing north/south streets into the new neighborhood;
- townhouses adjacent to the single-family homes as a transition to the higher mixed use buildings on the west edge of the site;
- mixed use residential over retail on the west of the site and,
- structured parking serving the mixed use development and acting as a buffer to the railway line.

### The Results

- 5200 sf of retail;
- 217 apartments with one half acre of private open space;
- 12 townhouses;
- 50 single family lots;
- a half acre parkette; and,
- structures adjacent to the railway as a buffer and create a community of mixed housing in a compact walkable neighborhood.

Demonstration Plan East End



3D model of demonstration plan



Precedent - Apartment building courtyard



Precedent - Townhouses as suggested on plan



Precedent - Small Lot single-family homes

# 3 Large Through Lot

## Harrisburg at Wayside

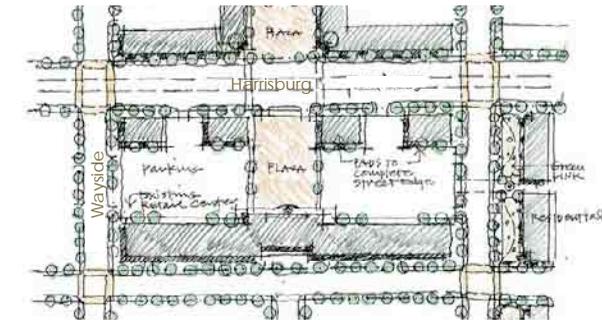
Located near the east end of the Corridor, the site is the location of a retail strip center on the south side of Harrisburg Boulevard that includes some food pads. Across the street is a McDonald's restaurant. The site is a prototypical large through-lot on the north, and a series of narrow through-lots on the south.



Existing Site Conditions



Location of site in corridor



Demonstration Plan created during the workshop

### Site Characteristic

- The site encompasses both sides of Harrisburg Boulevard and includes approximately 194,900 sf of area;
- the area around the site is predominantly non-residential to the north with Gus Wortham Park in proximity;
- the south side of Harrisburg is restricted by a railroad right of way which limits the site depths to approximately 180' of depth; and,
- on the north side, the site is bound by Capital Street, which is a collector.

### The Program

- The program for the site includes intensified uses in a mixed use form;
- there is a desire to generate a "meeting place" on the development site in the form of a plaza or a park to be a focus for the neighborhood as well as the site; and,
- the potential to connect the transit line with the open space to the north is to be accommodated.

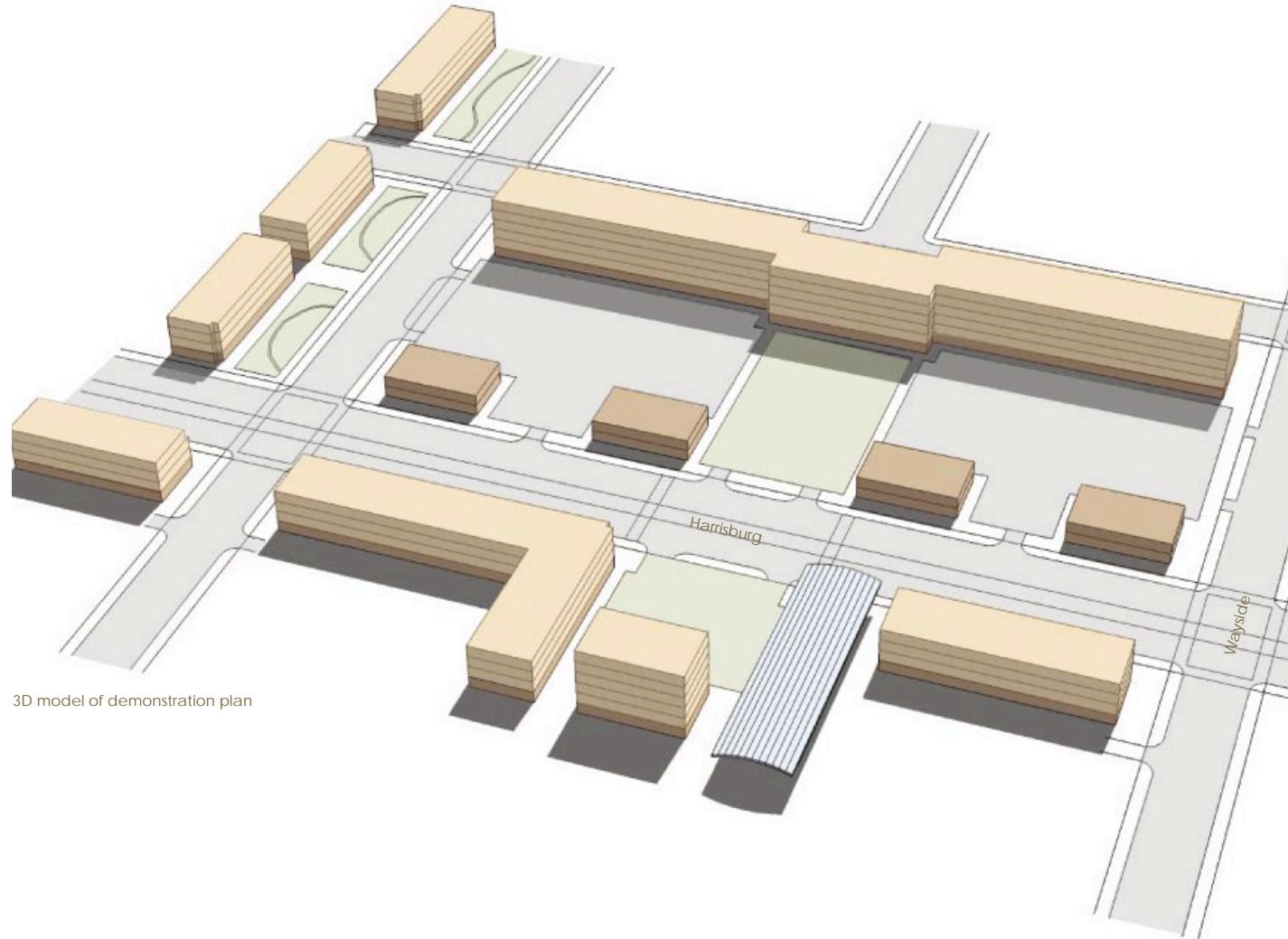
### The Design Solution

- Infill retail development and mixed use adjacent to Harrisburg Boulevard;
- structured parking in later phases to allow for higher density mixed use;
- development of a small public space on the north side directly across from a semi-public space on the south to produce a neighborhood focus; and,
- green connections to Gus Wortham Park adjacent to Sgt. Marcia.

### The Results

- A TOD mixed use development near an intermodal station;
- Almost 700' of frontage on the Transit Corridor developed on both sides;
- South of Harrisburg Boulevard - 100 Apartments, 30,885 sf of retail in mixed use on the south side, 16,000 sf of existing retail retained, an urban plaza; and,
- North of Harrisburg Boulevard - 71,000 of mixed use development and stand alone buildings, 300 apartments, 275 parking spaces at grade, an urban plaza and gathering space.

# Demonstration Plan East End



3D model of demonstration plan



Precedent - Low rise mixed use



Precedent - Two story retail



Precedent - Urban square

### A2.3.2 Development Analysis

The following analysis is intended to test underlying development economics in the East End Urban Corridor market context. The development proformas are generic in nature and are not intended to represent specific site feasibilities. The development scenarios (infill townhouses site and a mixed use mid-rise residential and retail project) may be indicative of the type of Transit Oriented Development that could be expected over time in this area. Office buildings, for example, are unlikely to drive denser development in the East End Urban Corridor given the absence of an existing nearby office node.

#### Development Scenario 1 Infill Townhouse Project

##### Description of Development

A generic development proforma was prepared for a 40-unit, three story townhouse project. The assumed site measures two acres, and the units average 1,800 sf. There is one parking stall per unit, although additional surface parking may be available on a driveway, on-street parking or shared communal lot. The total development time horizon is 16 months from land acquisition to full occupancy. The proforma details are summarized on the following page.

##### Comparable Properties and Market Parameters

Two existing townhouse development projects were identified in or close to the East Corridor area; one at 93 Sidney Street, with the other known as Leeland Gardens, on Pease Street. The Sidney Street townhouse unit was 2,300 sf, and had an asking price of \$299,000. The Leeland Gardens townhouse unit was just less than 1,800 sf and had an asking price of \$249,000. The prices for the two comparable projects are \$130 psf and \$140 psf, respectively. These projects are generally equal to or larger than the units proposed in the development proforma illustrated below.

New projects in the area, however, face considerable pricing pressure from the existing housing stock. As outlined in the corridor overview above, based upon MLS data from the Houston Association of Realtors, the average resale townhouse/condominium price in 2007 was in the range of \$221,000. In contrast, single family homes were in the range of \$127,000 (generally older supply compared to the newer townhouse/condominium units that transacted).

##### Proforma Results

Not surprisingly, the economic value required to justify new construction of townhouses in this area reflects current pricing at comparable projects. The development proforma presented below suggests a required sale price of around \$253,000, or \$141 psf, compared to current asking prices for similar projects (albeit closer to downtown) in the \$130 to \$140 psf range. There may be a potential to downgrade the finish and corresponding price for the project, closer to the \$200,000 per unit range.

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

- Hard construction costs (excluding parking) represent 57% of total project costs. The cost of parking accounts for an additional 4% of total end unit price. This represents a relatively small component since it is assumed the parking is at grade or structured underneath the units. Underground parking, although it can permit higher densities, results in considerably more cost.
- Total land costs represent roughly 14% of total end unit price – this represents land values of roughly \$630,000 per acres plus some carry costs. A more dense development, provided it can be successfully marketed, will generally achieve lower land costs per sf, helping to reduce end unit prices (although for a different type of project).
- Municipal development fees are generally very minor in Houston and do not greatly impact end unit prices.
- Of course, a developer needs to profit from any development at a rate consistent with the risk. Taking into account total project costs of over \$9 million and assuming a 12% profit margin on the total project (higher when leveraged equity is considered), the required sale price per unit is \$253,000 – translating to \$141 per sf.

Of note, the generic proforma outlined above can achieve relatively high densities (20 units per acre) and still provide at least one parking space per unit. There may be an opportunity to design additional surface parking, either in front of each unit, on a street or some communal parking lot. A key consideration regarding the market feasibility for this type of development project is the potential demand generated by proximity to the Transit Line. There are

Economic Rent/Price Calculation- East Corridor Townhouse Residential East End

clearly a number of cost-competitive housing options in this area. In order to entice existing or new residents to a new development in the East Corridor, the availability of enhanced public transit and associated mixed use development as an amenity will have to be emphasized. The ability to reduce car ownership may also assist with affordability if efficient public transit can be utilized.

Assumptions

<u>Timing Assumptions</u>				
Land Acquisition			01-Jan-08	
Planning Period			4 months	
Construction Commencement			03-May-08	
Construction Period			12 months	
Occupancy			01-May-09	
Total Development Period			16 months	
<u>Interest Rate</u>				
Interim Financing			7.00%	
<u>Building Areas</u>				
Number of Units			40	
Average Unit Size			1,800 sq.ft.	
Number of Storeys			3	
Ground Floor Coverage			24,000 sq.ft.	
Gross Building Area			72,000 sq.ft.	
Site Coverage			0.83 times	
Land Area			2.00 acres	
<u>Residential Units</u>				
	<u>G.B.A.</u>	<u>Avg. Size</u>	<u>G.F.A.</u>	<u>G.L.A.</u>
Bach & 1 Bedroom	0%	0	0	0
2 & 2+ Bedroom	100%	1,800	72,000	72,000
Other	0%	0	0	0
Total	100%	1,800	72,000	72,000 sq.ft.
<u>Parking Ratio</u>				
	1.00 stalls per residential unit			40.0 stalls

Project Costs

	\$ 000's	Per Unit
<u>Land</u>		
Purchase Price	\$1,260	\$31,500
Additional Land Costs	\$63	\$1,575
Land Carrying Costs	\$123	\$3,087
Subtotal	\$1,446	\$36,162
<u>Construction &amp; Fringe</u>		
Hard Construction Costs	\$5,765	\$144,129
Parking	\$389	\$9,719
Architect. & Engineer.	\$400	\$10,000
Site Improvements	\$261	\$6,534
Const. Contingency	\$308	\$7,692
Municipal Fees	\$15	\$385
Development Interest	\$35	\$874
Subtotal	\$7,173	\$179,334
<u>Sales &amp; Marketing</u>		
Sales Commissions	\$324	\$8,100
Marketing & Advertising	\$100	\$2,500
Subtotal	\$424	\$10,600
Total Project Cost	\$9,044	\$226,096

Required Price/Rent Calculations

Required Return on Investment	12%
Required Average Sale Price	\$253,227 Unit

## Development Scenario 2 Large Mixed Use (Residential/Retail) Project

### Description of Development

A generic development proforma was also prepared for a mixed use project on a 9.5 acre site with two apartment buildings (assuming 236 units) with internal above-grade structured parking, along with two retail pads (approximately 148,000 sf combined). Streetfront retail space is anticipated on the ground floor of the apartment buildings, plus potential landscaped open space at the site.

There are roughly 750 surface and structured parking spaces serving the project including 3.5 spaces per 1,000 sf of leasable retail area, along with one parking space per residential unit. The residential proforma describes two, six story buildings, but the built form could be converted to a four story podium set back to an eight story tower, incorporating structured parking, with only limited (increased cost) impact on construction costs. Additionally, some of the parking could be accommodated one level below grade, lowering the overall building height, but this is a more costly alternative. In the development proforma the residential condominium units have an average size of 1,010 sf, but this includes a mix of one and two bedroom units ranging from 850 sf to 1,250 sf.

### Comparable Properties

Two mid rise apartment projects currently being marketed were identified in or near the East Corridor area; one known as Navigation Place, at 2424 Navigation Street and the other known as Keystone Lofts, at 1120 Texas Street.

The Navigation Place property has a 1,624 sf unit with an asking price of \$285,000 (2 bedrooms), while a 1,405 sf unit at Keystone Lofts has an asking price of \$259,900 (2 bedrooms). These prices equate to roughly \$175 psf and \$185 psf, respectively. Notably, these two examples are larger than the units proposed in the development proforma illustrated below.

There is a five story apartment condominium project (redevelopment) currently under development called Herrin, located at 2205 McKinney that has 52 units (39 presently still listed for sale) ranging in size from around 700 sf to 1,300 sf (mostly in the 800 sf to 900 sf range). The prices range from roughly \$135,000 for smaller units on lower floors up to \$240,000 sf for large upper level units, equating to approximately \$180 to \$200 psf. Notably, this is the second time a developer has attempted to renovate this historic property into residential lofts.

*"In 2000, the former owner began building out units there and selling them for prices ranging from the high \$100,000s to more than \$600,000. But the Sept. 11 attacks halted sales. And the area never became the thriving residential district area developers had hoped... In addition to the condos having lower prices [than when originally marketed], Spencer Partnership Architects is redesigning the building to make the units smaller, with most of them containing one bedroom and having between 700 and 900 square feet." (Source: Houston Chronicle)*

### Proforma Results

Based upon the development proforma, a required sale price of approximately \$160,000 is established for the condominium apartment units. This equates to a price of roughly \$160 psf, which is near the lower end of the current market average range (in part due to savings on land and parking costs associated with a mixed use development). For the retail space, the proforma generates a required economic net rental rate in the range of \$17.00 psf net, which is within the asking market rent range (based upon a recent market survey of retail space across the local submarket), and recognizes the age and quality of the proposed construction.

As was presented in the proforma for the townhouses above, hard construction costs and land costs represent roughly 70% of the total project costs. While different grades of finish and construction quality can be considered, there is relatively little that can be done to influence these fundamental development parameters.

The key cost saving in this development scenario, and one that can be used to help lower the end unit prices/rents, is the sharing of parking. The creation of a rapid transit alternative to private car use and the ability to share parking with different demand peaks, allows less land to be devoted to parking and higher development densities than could otherwise occur. It is still recognized that considerable parking is required (parking requirements have been reduced only partly). These elements have allowed pricing for the residential units, for example, to be near the lower end of the current market range for new projects in and near the area.

Economic Rent Calculation - Mixed Use Residential & Retail Development East End

Assumptions

<u>Timing Assumptions</u>				
Land Acquisition		01-Jan-08		
Planning Period		6 months		
Construction Commencement		03-Jul-08		
Construction Period		12 months		
Substantial Completion		01-Jul-09		
Cost of Vacancy Period		2 months		
Total Development Period		20 months		
<u>Interest Rate</u>				
Interim Financing		7.00%		
<u>Building Areas</u>				
		Residential Units		Retail Space
Number of Units		236		-
Number of Buildings		2		2
Average Unit Size		1,010 sq.ft.		-
Number of Storeys		6		1
Floor Plate		29,959 sq.ft.		148,000 sq.ft.
Gross Building Area		359,510 sq.ft.		148,000 sq.ft.
Site Coverage		0.58 times		0.36 times
Land Area		9.50 acres		9.50 acres
<u>Residential Units</u>				
	<u>G.B.A.</u>	<u>Avg. Size</u>	<u>G.F.A.</u>	<u>G.L.A.</u>
Bach & 1 Bedroom	60%	850	120,360	111,935
2 & 2+ Bedroom	40%	1,250	118,000	118,000
<u>Retail Space</u>				
Retail	100%	-	148,000	148,000
Total	-	1,637	386,360	377,935 sq.ft.
<u>Parking Ratio</u>				
1.00 stalls per residential unit				236 stalls
3.50 stalls per 1,000 sq. ft. of G.F.A.				518 stalls

Project Costs

	Residential Units		Retail Space		Blended Total	
	\$ 000's	Per Unit	\$ 000's	PSF	\$ 000's	PSF
<u>Land</u>						
Purchase Price	\$2,980	\$12,625	\$3,700	\$25.00	\$6,680	\$17.29
Additional Land Costs	\$149	\$631	\$185	\$1.25	\$334	\$0.86
Land Carrying Costs	\$328	\$1,392	\$408	\$2.76	\$736	\$1.91
Total Land	\$3,457	\$14,648	\$4,293	\$29.01	\$7,750	\$20.06
<u>Construction &amp; Fringe</u>						
Hard Construction Costs	\$21,493	\$91,073	\$10,503	\$70.97	\$31,996.56	\$82.82
Parking	\$3,066	\$12,991	\$715	\$4.83	\$3,780.67	\$9.79
Architect. & Engineer.	\$1,596	\$6,764	\$729	\$4.93	\$2,325.52	\$6.02
Site Improvements	\$828	\$3,507	\$745	\$5.03	\$1,572.52	\$4.07
Const. Contingency	\$1,228	\$5,203	\$561	\$3.79	\$1,788.86	\$4.63
Municipal Fees	\$8	\$32	\$26	\$0.18	\$33.92	\$0.09
Development Interest	\$138	\$586	\$372	\$2.51	\$510.09	\$1.32
Total Construction & Fringe	\$28,357	\$120,157	\$13,651	\$92.24	\$42,008.14	\$108.73
<u>Sales &amp; Marketing</u>						
Sales Commissions	\$1,430	\$3.70	-	-	-	-
Marketing & Advertising	\$590	\$1.53	-	-	-	-
Total Sales & Marketing	\$2,020	\$5.23	-	-	-	-
<u>Cost of Vacancy</u>						
	-	-	\$65	\$0.44	-	-
<u>Deferred Costs (Leasing)</u>						
Tenant Allowances	-	-	\$2,220	\$15.00	-	-
Leasing Costs	-	-	\$592	\$4.00	-	-
Financing Carry Costs	-	-	\$308	\$2.08	-	-
Total Deferred	-	-	\$3,120	\$21.08	-	-
Total Project Costs	\$33,834	\$143,365	\$21,129	\$143	\$54,963	\$142

Required Sale Price Calculation

Required Return on Investment	12%
Required Apartment Condominium Average Sale Price	\$160,569 Per Unit
Required Retail Average Net Rent	\$17.13 Per Square Foot

## Conclusions Regarding Development Analysis

The above proforma analyses demonstrate the required sales price or rent for a selection of new projects. When assessing these development proformas, it is important to note they reflect new building costs which generally exceed market affordability for many area residents. In the East Corridor, for example, the income levels and stock of single-detached housing available for resale places a considerable constraint on market demand for new construction.

The average price of existing homes in the corridor is far below that required for almost any type of new housing development. The average single detached house price in the East Corridor area was \$127,000 in 2007. In contrast, new townhouses require a sales price of roughly \$250,000, which is priced comparative to a much larger, single detached house on a relatively sizeable lot.

With a median household income of roughly \$29,200, the affordable housing price, is \$114,000 and the affordable monthly housing rent is \$800 – far below the types of prices or rents to justify new construction. Of course, some new construction has and will continue to take place in this corridor, catering to a subset of the existing and potential new residents that can afford and are seeking the lifestyle associated with transit oriented development, but this appears to be only a smaller niche market at present. 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.

The general inequities between economic feasibility and market pricing for higher density forms of housing suggest the following:

- Transit Oriented Development along the East Corridor is likely to be incremental. Substantial and broad market demand for Transit Oriented Development will not appear overnight even with the emplacement of new rapid transit along this Corridor.
- New rapid transit along the Corridor will likely increase demand but higher density forms of housing (and subsequently commercial space demand) is likely to remain a niche (hopefully a growing niche) market that appeals to users which have accepted (and can afford) a more urban housing lifestyle.
- In order to facilitate faster development of the medium and higher density development along this Corridor, considerable “assistance” might have to be considered – perhaps in the form of financial subsidies for development or ongoing occupancy costs and reduced parking costs.
- Lastly, although it is not explicitly examined in the proformas here, the availability of quality public schooling is clearly an important criterion within the city for attracting families to higher density forms of housing.

The analytics presented herein describe generic development proformas. These models neither specifically reflect existing land parcels, nor the timing of an anticipated

project. Additionally, they do not attempt to portray the transit-supportive design standards discussed in earlier sections of this report. Rather, the proformas are intended to illustrate the feasibility of new construction given existing market conditions.

Cost of factors such as wider sidewalk allowances, an increased urban/civic space requirement, specific building design standards and other considerations are generally more than offset by the saving achieved through the required provision of fewer parking spaces. In conclusion, transit-oriented development policies themselves are not a financial obstacle to new construction.

## A2.4

---

# Infrastructure Overview

Based upon the research of the existing east corridor infrastructure, the base infrastructure is sufficient to serve the Corridor.

The existing infrastructure serves a community that is a mix of industrial and residential users along the Corridor. The size of the infrastructure that serves industrial users is sufficient to accept more intense infill development as the Corridor redevelops.

Even though there is adequate capacity in the system, the City has received several complaints about water quality in this Corridor. The water service needs to be improved in this area for new development with new small-sized (8"-12") water lines across the Corridor from Nagle to Lockwood.

Areas that are presently predominantly residential in nature will require careful analysis to determine the level of increased capacity that might be needed. The incremental nature of redevelopment will allow for the renovation of watermains and sanitary sewers to occur as development is proposed. At this time, the City is unable to provide a detailed evaluation of available capacity along the Corridor. As the development progresses along the corridor, the City will assess the system capacity on a case-by-case basis. This is particularly important within 1600' of the station locations.

## A 2.5

# Design Guidelines for TOD

### Introduction

The successful realization of the Urban Corridor Plan requires that the guidelines for new development outlined in this chapter form the basis of the City's new planning regime for Transit Oriented Development. The guidelines clarify the City's expectations and provide the framework for the coordinated and consistent review and evaluation of applications for Transit Oriented Development within the East End Corridor.

The guidelines correspond with the Development Opportunity Areas as delineated by the Land Development Concept Plan and provide a series of mandatory requirements and optional guidelines for the design of pedestrian realm; buildings; parking, access and service facilities; and, engineering/infrastructure standards.

The following describes the overarching principles and objectives that form the basis of the guidelines in each of the Development Opportunity Areas:

#### Streetscapes/Pedestrian Realm

The guidelines for streetscapes are complex and include provisions for the pedestrian realm, which may include public and private lands, and is comprised of sidewalks, publicly accessible and visible open spaces, as well as the paved component of the street (the area between the curbs), including the portion that accommodates the transit facility, and other streets that are important to feed the transit system. In addition, public parks in proximity to the transit facilities require additional attention as key components of the pedestrian realm.

#### Buildings

The guidelines for buildings include all forms of development on lands considered to comprise the "private realm". The guidelines include provisions for the transition between development within the identified Development Opportunity Areas and the Stable Areas.

#### Parking, Access and Service Facilities

Parking, access and service facilities have been identified as a vital issue in establishing an urban environment and visually pleasing streetscapes in

conjunction with Transit Oriented Development. In addition, parking is a crucial element in influencing the cost of Transit Oriented Development. Urban development typically requires less parking than suburban forms of development, and also provides opportunities for shared parking. Higher density built form demands parking in structure.

#### Engineering

One of the primary objectives of the Urban Corridor Plan is to develop a comprehensive approach to development. An important component of that process is to standardize the implementation of engineering design standards.

Development Opportunity Area 1- Corridor Mandatory

A2.5.1 Development Opportunity Area 1 Corridor

Guidelines within the Development Opportunity Area 1- Corridor include a combination of mandatory development requirements, optional design guides and optional performance standards that, if achieved, make a particular development eligible for a series of additional performance benefits.

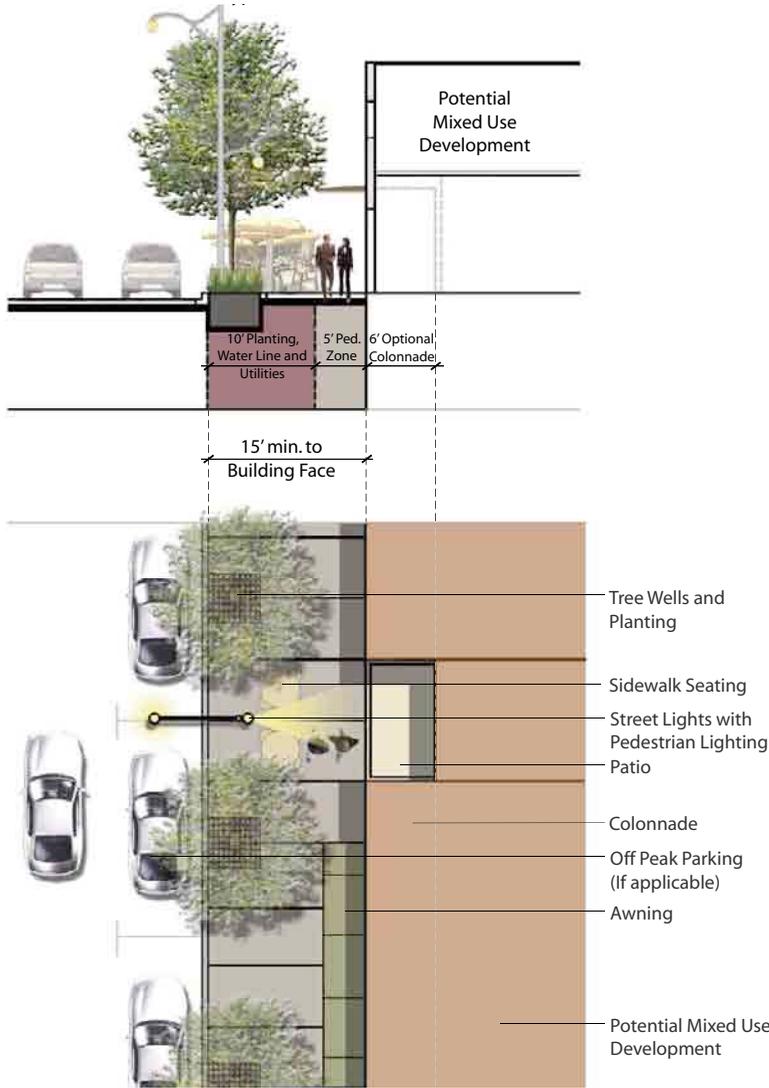
**Mandatory**  
Mandatory Development Requirements within the defined Development Opportunity Area 1.

Statement of Application: Applies on sites that abut the Transit Street and are within 1/4 mile of a transit station

Pedestrian Realm

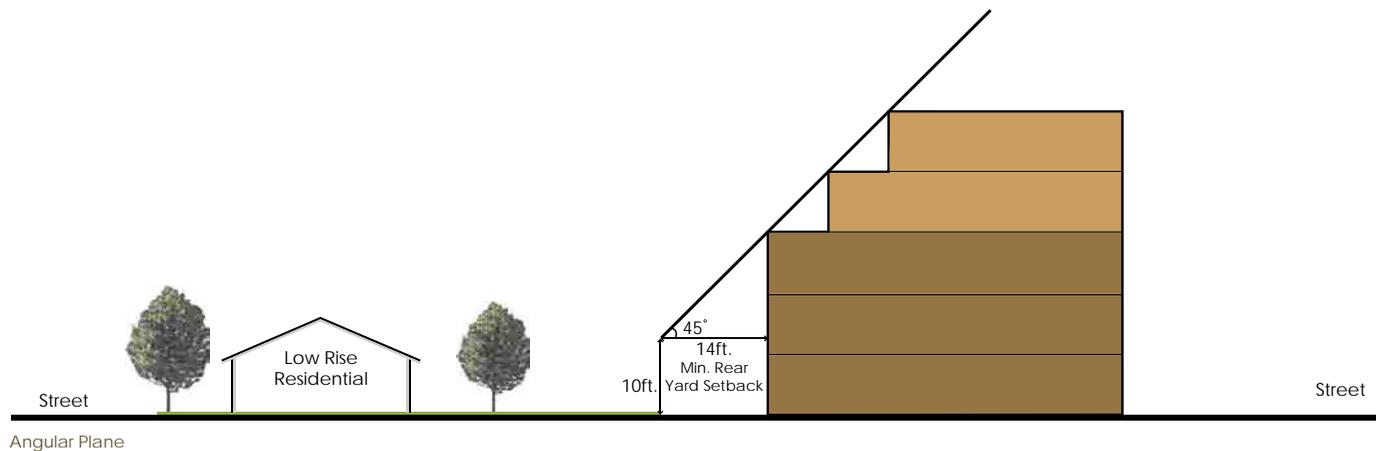
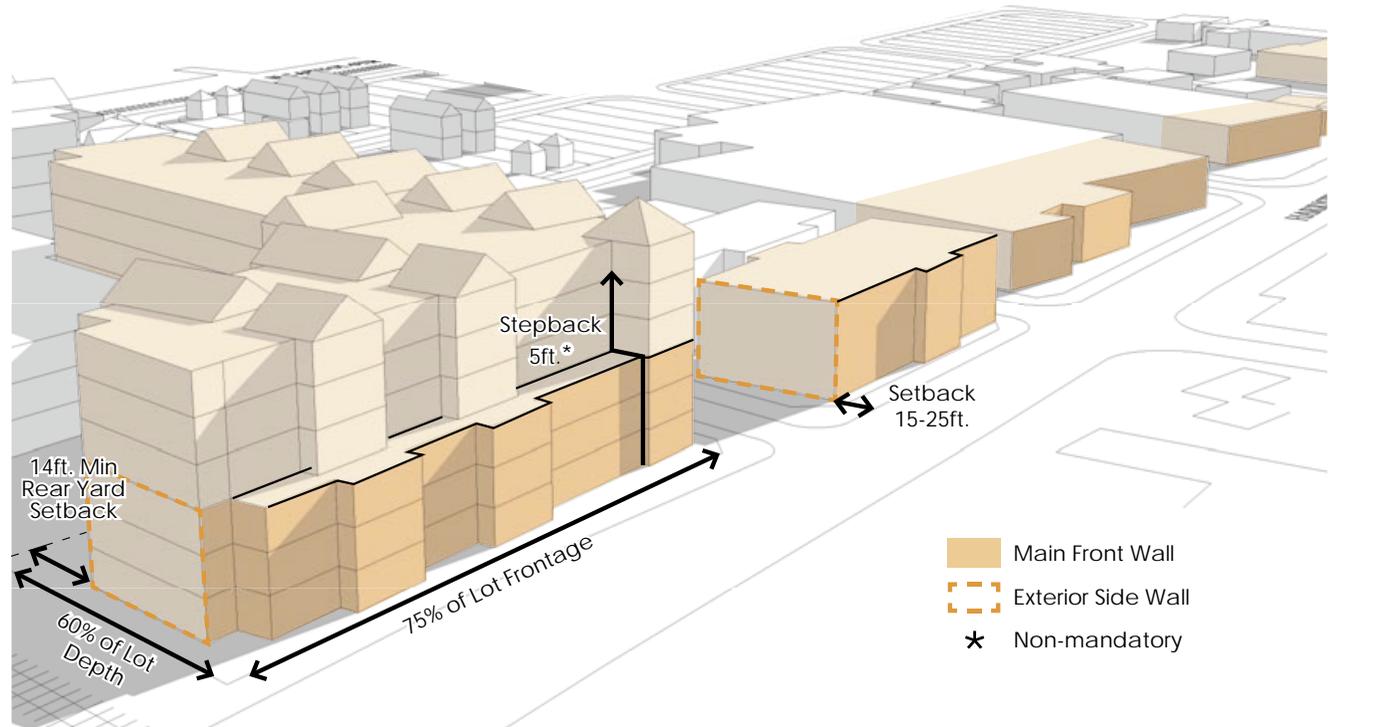
1. All buildings, with the exception of street facing townhouse units, shall be developed with a substantial portion of their front and exterior side façades between 15 and 25' of the back-of-curb. It is understood that where a parcel has three sides abutting a public street, the build-within concept may not be achieved on the third side.
2. Street facing townhouses with no street facing garage shall ensure that the main front wall of the unit be built within 15 and 30' of the back-of-curb.
3. Where front garages are proposed, the main front wall of the building shall be built within 20 and 40' of the back of the curb.

4. The exterior side build-within zone for street townhouses shall be between 15 and 30' of the back edge of the curb.
5. In locations where the public street right-of-way is equal to, or greater than the required 15', the build-within zone shall be established from the edge of the street right-of-way and shall be between 0 and 10'.
6. On corner parcels, the exterior side yard shall also include a build-within zone located between 15 and 25' from the back edge of the curb, and the main exterior side wall shall occupy a minimum of 60% of the depth of the parcel, within the build-within zone. On shallow lots, the City may consider, on a site-by-site basis, an allowance for a rear driveway.
7. In all Transit Street Configurations, 15' from the back-of-curb is required for the pedestrian realm.
8. Where the rear yard or interior side yard of a Transit Oriented Development site abuts a single detached house, an angular plane shall be implemented to control the height of the building. The angular plane shall be established as follows:
  - a TOD site will be evaluated according to an analysis of adjacency and proximity to a threshold level of existing single-family detached homes, transit street frontage, deed restrictions, and other non-discretionary factors. If the site falls within certain criteria, an angular plane determined from a line corresponding to a certain number of feet above grade from the parcel line(s) abutting the single family properties and extending at a certain angle into the subject property from this above-grade line shall establish the maximum height of buildings on the subject site.



Typical Pedestrian Realm Section

## Mandatory DOA 1 - Corridor



9. All residential buildings with direct access to dwelling units from the street, shall be elevated a minimum of 2' 6" to provide privacy and a sense of entry to the unit. The maximum elevation from grade to the entrance landing shall be 5'.
10. On all lands fronting onto a public street, a Major Thoroughfare and/or a Major Collector, the minimum built frontage requirement shall be 75% of the parcel frontage and shall be occupied by the main front wall of a building within the build-within zone.
11. Notwithstanding the requirements for a minimum built frontage, where a publicly accessible and usable open space is provided abutting a front and/or exterior side parcel line, the frontage occupied by the publicly accessible and usable open space shall be counted toward the minimum built frontage requirement.
12. A minimum of 75% of the main front wall shall be at grade and, on a corner parcel, an exterior side wall at grade of any non-residential building shall consist of windows and entranceways that facilitate visibility into the building.
13. The City shall not accept cash-in-lieu of required street trees, unless a substantiated technical reason is provided that precludes street tree planting. Where cash-in-lieu of street trees is accepted, the monies received shall be utilized in coordination with the Parks and Recreation Master Plan to enhance tree cover in a local public park, or along the Transit Street within 1/4 of a mile of the development site from which the cash-in-lieu of street trees was accepted.

DOA 1 - Performance Standards Non-Mandatory

**Non-Mandatory**  
 Non-Mandatory Development Requirements within the defined Development Opportunity Area 1.

**Performance Standards**

Statement of Application: Optional Performance Standards apply on sites within 1/4 mile of a transit station. Developments that achieve all of Performance Standards will be eligible to utilize Performance Benefits as defined.

**Development Blocks**

- 14. For all large scale Transit Oriented Development projects (defined as projects on development blocks or parcels that are greater than 5 acres in size), the maximum development block or parcel size shall be approximately 5 acres in area. In all cases, there shall be no minimum development block or parcel area.
- 15. No development block or parcel frontage on a street shall exceed 600'. In all cases, the minimum development block or parcel frontage shall be 25'.
- 16. Large scale Transit Oriented Development projects shall provide public streets, or publicly accessible private streets, to subdivide any development block or parcel greater than 5 acres in size into smaller development blocks or parcels in accordance with this policy.

**Buildings**

- 17. The minimum density for any Transit Oriented Development project shall be a Floor Area Ratio of 1.00.
- 18. There shall be no specified maximum density.

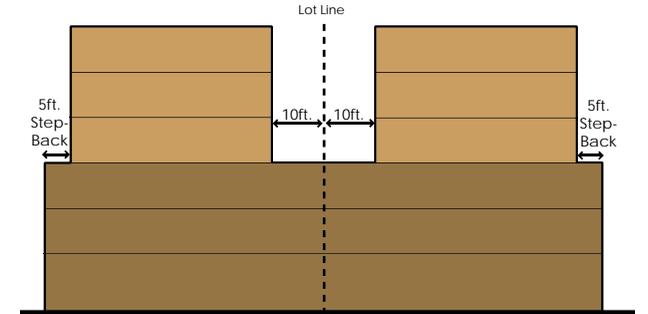
- 19. The minimum height for any Transit Oriented Development building shall be two stories, or 18', whichever is greater. Buildings on corner sites shall be a minimum of three stories, or 27', whichever is greater.
- 20. There shall be no specific height limit.
- 21. Where any Transit Oriented Development building abuts a street, the building height shall be established as follows:
  - ▣ the main front wall and/or exterior side wall shall be permitted up to three stories (or 27', whichever is greater) within the corresponding build-within zone; and,
  - ▣ for any main front wall and/or exterior side wall above three stories (or 27', whichever is greater), the building shall be stepped back from the main front wall and/or the exterior side wall of the base building by a minimum of 5'.
- 22. Buildings of up to three stories may be built with zero setbacks to interior side parcel lines. Exterior side yards shall conform to the described build-within zones.
- 23. Buildings above three stories may include a zero interior side yard setback for the base building of three stories, but building side walls must be set back a minimum of 10' from the interior side yards for that component of the building above three stories.
- 24. The City will encourage a transitional rear alley or easement process, coupled with access management from pedestrian and transit streets, on a block-by-block basis, where possible and appropriate.



Street Wall Building, Toronto, Canada



Streetscape/Pedestrian Realm, Bethesda, MD



Space between Buildings

## Non-Mandatory DOA 1 - Performance Benefits



Restaurant seating - Temporary encroachment, Bethesda, ML



Colonnade, South Lake, TX



Public parking garage in a private condominium, Toronto, Canada

### Encroachments

25. Permanent encroachments shall be considered for permitting on a site-by-site basis, subject to design performance standards (to be developed) that consider such features as shade / weather protection, pedestrian clear zone width, space for street tree canopy, right-of-way proportions, utility clearances, etc.
26. The amount of any permitted encroachment shall be established by the City on a site-by-site basis, and in consideration of the following criteria: the encroachment enhances pedestrian comfort by providing shade and/or protection from the rain; and, the encroachment does not impede pedestrian movement, and maintains an unobstructed sidewalk area of a minimum width of 5'.

### Parking

27. General public parking (surface lots and / or structured parking facilities) to serve TOD areas will be provided to augment the supply of parking.
28. On-street parking shall be promoted within all of the Urban Corridors.
29. The City shall pursue opportunities for the establishment of on-street parking in partnership with adjacent landowners where the spaces are provided on a combination of public land and private property, with public access to the parking spaces secured through agreements with the City.
30. Surface parking, loading areas, drive-through lanes and servicing facilities shall not be permitted in front of Transit Oriented Development buildings. Surface parking, drive-through lanes and/or servicing facilities may be permitted in an interior side yards, and are permitted within the rear yard.
31. Surface parking, loading areas, drive-through lanes and servicing facilities, where permitted, shall be appropriately screened from view from the street. Surface parking lots shall respect the build-within

zones. Where surface parking must be provided, the visual impact of large surface lots shall be mitigated by a combination of setbacks, and significant landscaping including: pavement treatments, low walls or decorative fencing, landscape, trees and lighting throughout parking lots and along the edges.

32. Parking is encouraged to be provided in structures, either above, or where possible, below grade. Where a parking structure is above grade, it shall include a façade with active uses at grade and appropriate architectural articulation. Entrances to below grade or structured parking and service areas should occur within the building.
33. Access to parking and servicing areas should occur off side streets or service lanes and to the side or rear of buildings, where possible.
34. It is an objective of the City to limit access driveways to individual sites adjacent to the Transit Street. The City shall encourage shared access driveways and, preferably, shared rear lane access for all Transit Oriented Development. Where new development is proposed, the City shall require a minimum of 100' between access driveways onto the Transit Streets.

### Performance Benefits

Statement of Application: Performance Benefits are available to developments within 1/4 mile of a transit station that achieve all of the Performance Standards and generate no undue adverse impacts on the stability of adjacent Stable Areas.

### Parking

35. For all retail and service commercial uses, including restaurants - a minimum of 2.0 and a maximum of 4.0 spaces/1,000 square' of Gross Leaseable Floor Area; reductions in current parking standards to this

DOA 1 - Design Guidelines Non-Mandatory

- minimum shall be graduated over time.
- 36. For hotels/inns - a minimum of 1.0 and a maximum of 1.25 spaces per room.
- 37. For all office uses - a minimum of 2.0 and a maximum of 3.0 spaces/1,000 square' of Gross Leaseable Floor Area.
- 38. For all condominium-based residential uses, a minimum of 1.0 and a maximum of 1.75 spaces per unit, inclusive of visitor parking.
- 39. For all fee simple residential uses – a minimum/maximum of 2.0 spaces per unit.
- 40. Where a public parking facility is developed, Transit Oriented Developments within 300' the City may reduce the minimum parking requirement, in recognition of the enhanced public parking supply. The reduction of the minimum parking requirement shall be determined by the City on a case-by-case basis.
- 41. Parking requirements for any individual development do not necessarily need to be provided on the same parcel, or on a parcel contiguous to the development. Required parking for any Transit Oriented Development may be provided on any parcel within 300' of the development that is being served by the parking facility.
- 42. Where a Transit Oriented Development is unable, or does not wish to provide all of the required parking spaces, the City may accept cash-in-lieu of the parking spaces. The minimum parking requirement shall be used to calculate any parking space deficiency. The cost of each parking space shall be established by the City, and may be waived for any specific development, at the discretion of the City. The funds raised through this provision shall be utilized by the City's Parking Authority solely for the purchase of property for public parking and/or the building of public parking structures in proximity to the Transit Street where the fees were collected.

Design Guidelines

Statement of Application: Non-mandatory development guidelines.

Pedestrian Realm

- 43. Buildings shall be connected to the street - by proximity, by the location of windows and entranceways, and the level of architectural detail.
- 44. Buildings shall be sited and organized to create a street space scaled to the pedestrian, and organized to present an appropriate façade to all adjacent streets to provide interest and comfort at ground level for pedestrians.
- 45. Main building entrances shall, wherever possible, be oriented toward adjacent streets to provide convenient access to pedestrians and public transit; buildings, and their main public entrances, shall be located close to the front and exterior side property lines, on-street parking, and the public sidewalk.
- 46. Buildings are to be generally sited parallel to the public street and along the edges of parks and open spaces. The public faces of these buildings are to align with neighboring buildings in a manner that defines these spaces with a consistent building face lining the street.
- 47. Non-residential buildings shall, to the greatest extent possible, front onto adjacent streets, be flush with grade and provide an active use at grade in order to promote pedestrian activity.
- 48. Buildings shall provide active façades that include windows and entry features and, where appropriate, outdoor cafés and restaurants, community services, retail stores and display windows.
- 49. Street tree planting should form a continuous canopy along the street. Tree species should be selected by the applicable TIRZ/MMD to reinforce the role of the various street hierarchies within the



Public parking garage, South Beach, FL



Michigan Avenue, Chicago, IL

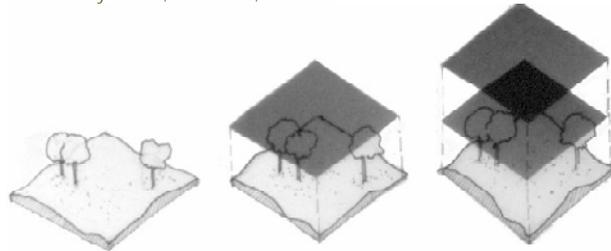


Pedestrian activity, Toronto, Canada

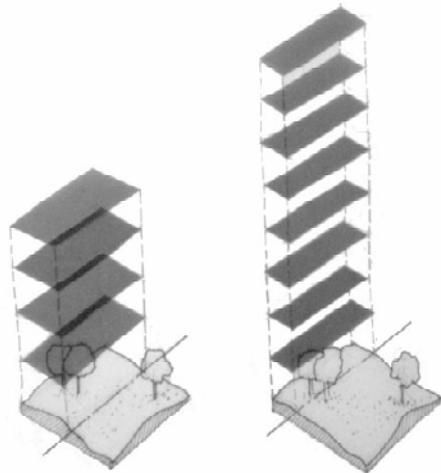
## Non-Mandatory DOA 1 - Design Guidelines



Humber Bay Shores, Etobicoke, Canada



Site, FAR of 1.0 means that the total floor area of a building is one times the gross area of the lot. FAR of 2.0 means the floor area is two times the gross area of the lot



Cover 50% of the lot, at FAR of 2.0 and the building is 4 stories. Cover 25% of the lot at 2.0 and the building is 8 stories.

Urban Corridors and to visually and thematically distinguish the Urban Corridors from one another. In instances where no TIRZ/MMD exists, the City will select the trees that they will plant.

50. Street trees should have a minimum size of 45 gal. and be planted 30' on-center. Trees should be located in open planting pits where space permits and with wells sized at a minimum of 5'x10'. The planting pits should be filled with shrubs, perennials and annual plants. Planting pits should be edged with a low wall and/or fence.
51. Where space is limited, trees should be planted in continuous trenches. The rootball should be protected with a tree grate, ground cover or material such as gravel.
52. Where there is no room for street trees, consider a vertical shade element planted with vines to add special landscape treatment to the street.
53. Coordination of utilities, especially overhead power lines will be required during the design phase of street tree planting.
54. Consider a palette of the street furnishings, newspaper boxes, notice boards, bicycles racks, flower pots, luminaires and poles that will visually and thematically distinguish the each particular Urban Corridor from the others.
55. Concentrate mailboxes, vending machines, trash cans, and recycling bins in single locations to create active public space and minimize visual clutter.

### Public Parks

56. Provide public amenities such as washrooms and field house where appropriate.
57. Provide programmed activities for a range of ages and demographics with emphasis on children and youth.
58. Provide a balance of passive and active park space

and provide for the maximum program flexibility in the design of the parks.

59. Incorporate a greening strategy that includes tree planting and seasonal horticultural displays.
60. Incorporate sustainability practices both in terms of capital projects and operations.
61. Provide wayfinding and program information displays as well as heritage interpretation and public art.

### Gateways

62. Gateways shall be either architectural, stand-alone features, or landscape treatments that define the main entrances to the Urban Corridors.
63. Features shall be lit to enhance their legibility at night.
64. The scale of the gateway shall be large enough to be visible from a car at a distance of at least 300'.
65. Gateways shall enhance and not compete with surrounding existing architectural and natural features.

### Buildings

66. Corner building designs shall articulate, define and enhance the intersection at which it is located by enhancing the building's presence at each corner.
67. Buildings should 'turn' the corner, i.e. they should have primary, articulated façades towards both streets and should be visually different from adjacent development.
68. Large areas and continuous rows of monotonous and repetitive façades shall be avoided. A more textured architectural quality can be achieved by introducing variation in certain elements of the façade treatment.
69. Variation in three-dimensional elements, such as

DOA 1 - Design Guidelines Non-Mandatory

balconies, bay windows and porches, cornices, window trim, entrances and the articulation of the building mass, shall be used to create a dynamic façade.

- 70. Variation and articulation in the building mass including horizontal and vertical setbacks, such as step backs at the upper stories, shall be established.
- 71. A pedestrian weather protection system including awnings, canopies, colonnades, or front porches along the sidewalk edges and adjacent to the urban squares/plazas and at entrances to buildings shall be considered. The City will promote Temporary or Permanent Encroachment Permits for both signage and awnings.

Signage and Lighting

- 72. Signage will address the amount and type of illumination, size, materials, typography and design.
- 73. Signage should be an integral part of the architecture of a building.
- 74. Signs should be designed to complement the building and enhance the visual appeal of the street.
- 75. Signs should be designed in consideration of nearby residential uses, in terms of size, materials, and location.
- 76. The ratio of sign band to building mass should be restricted such that the signage does not dominate the façade.
- 77. Mobile box signage is not allowed.
- 78. Neon lights are allowed when they do not dominate the signage and have no negative impacts on nearby residences.
- 79. Exterior lighting shall be designed to promote

pedestrian comfort, safety and provide a high quality ambiance. In addition, accent lighting is required to emphasize built form and landscape elements. Pedestrian scale lighting shall be provided adjacent to streets, walkways, pedestrian routes, and in parks and courtyards.

- 80. Internally lit canopies are strongly discouraged.
- 81. Commercial façades should be appropriately lit.
- 82. Pedestrian realm signage and lighting should be coordinated. Pole mounted pedestrian light fixtures with a light source at 12 to 15' high and a spacing of 30 to 50' is recommended.

Mid-Block Pedestrian Connections

- 83. Mid-block pedestrian connections shall be provided within larger development parcels. These are intended to be designed as pedestrian landscaped lanes and should be lit, landscaped and maintained for public.
- 84. Mid-block pedestrian connections shall provide a fine grain of pedestrian circulation and an important connection between two streets.
- 85. Mid-block pedestrian connections shall lead to public destinations such as schools, parks and public transit stations.
- 86. Mid-block pedestrian connections shall provide an address to individual residential or business frontages along their lengths.



Pedestrian weather protection, Bethesda, ML



Signs, Winter Park, CO



Mid-block pedestrian connection, Houston, TX

## Non-Mandatory DOA 1 - Design Guidelines

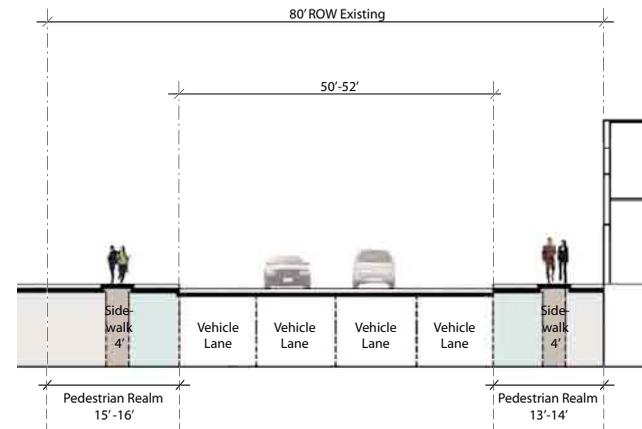
### A2.5.1.a Pedestrian Character Transit Street

To better understand the urban design impact of the new transit on the existing streetscapes, sections have been developed through various locations along the East Corridor illustrating the existing condition of the street between buildings façades. 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.

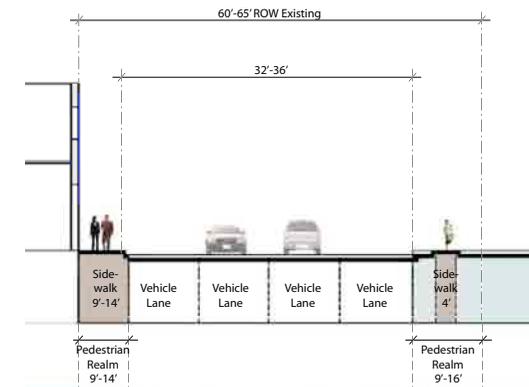
The sections that have been selected to illustrate typical conditions in the East Corridor are at key locations on Harrisburg Boulevard. The first is taken at Harrisburg Boulevard and Hutcheson Street. As can be seen in the image, the existing street accommodates four lanes of traffic in an 80' right of way. For the most part the sidewalks are 4' wide and discontinuous. Buildings are low and set

back from the street. The new street will continue to carry four lanes of traffic but with an LRT line in the middle of the street. The stations are between the two lines at this point and the pedestrian realm is 15' wide and is continuous. Locating buildings at the edge of the pedestrian realm generates a strong pedestrian zone along the street.



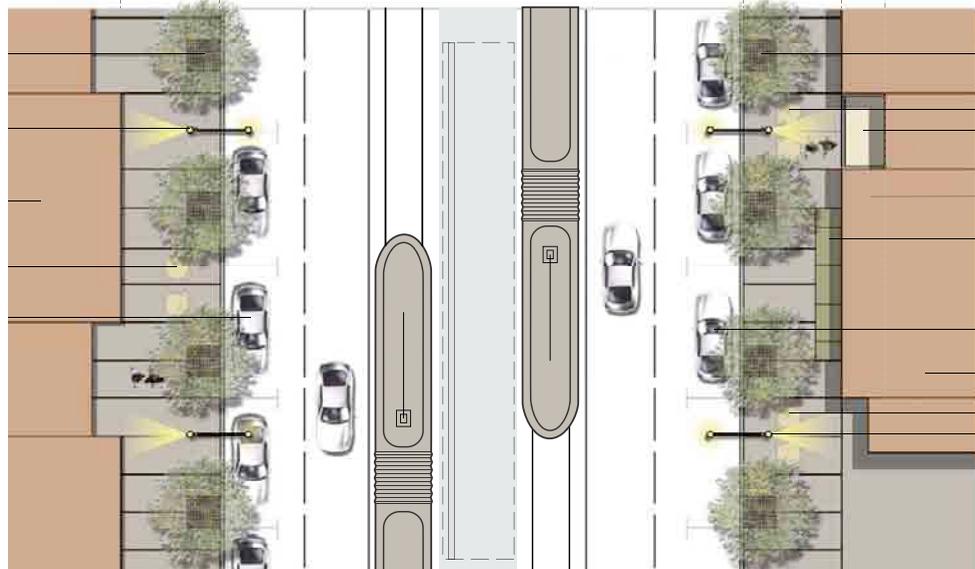
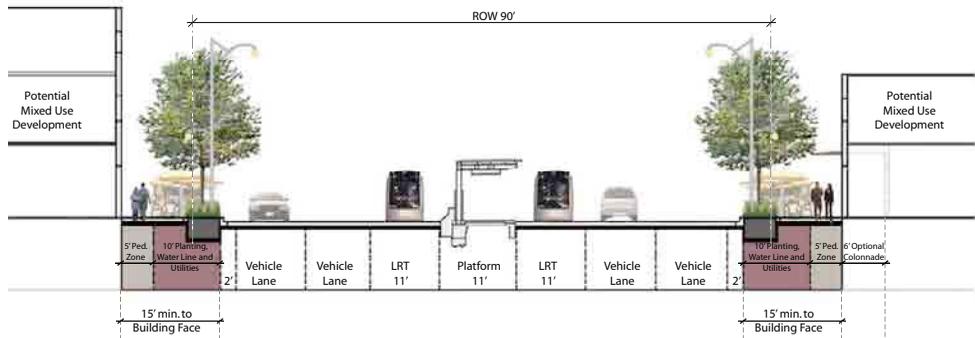
East Corridor existing conditions - Harrisburg at Hutcheson St.

The second condition is located at Harrisburg and Grace Street. The existing condition is an example of a narrow street with buildings in close proximity to the street edge. In this case, the new street will be widened to 76' in width and will accommodate four lanes of traffic with the LRT at the center.

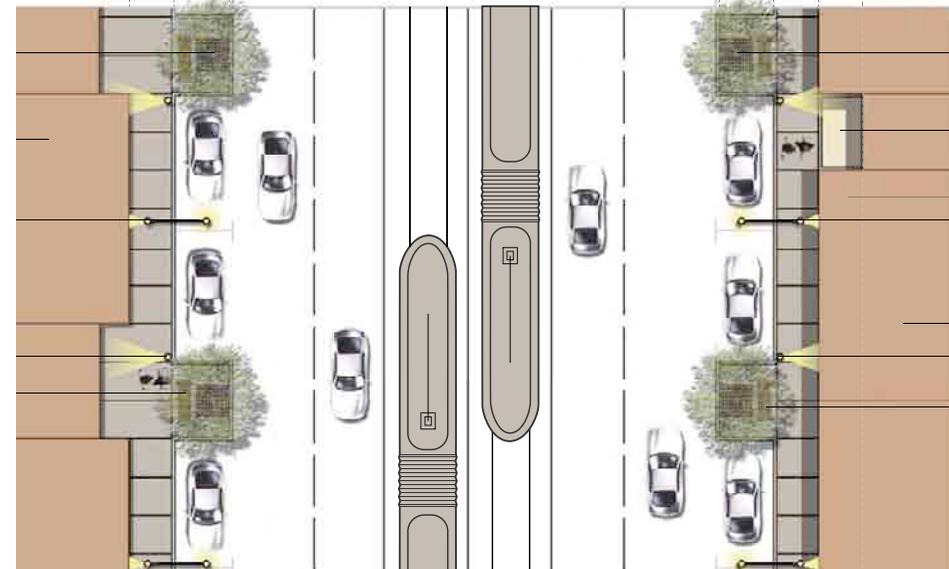
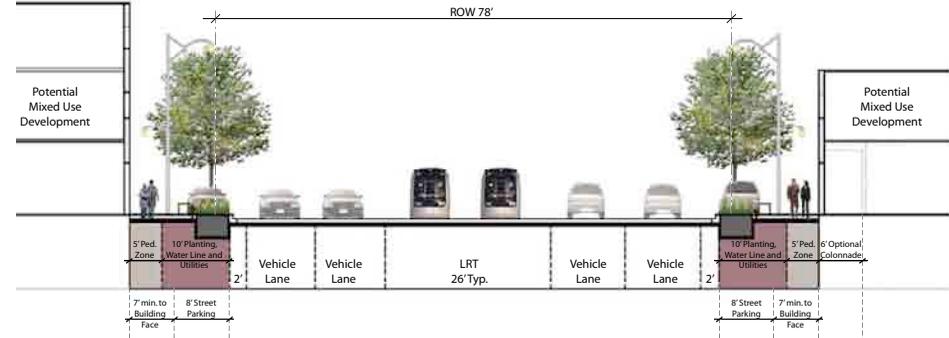


East Corridor existing conditions - Harrisburg at Grace St.

DOA-1 - Pedestrian Character Transit Street, Offset Station Platforms East End



East Corridor proposed section - Harrisburg at Hutcheson St.



East Corridor proposed section - Harrisburg at Grace St.

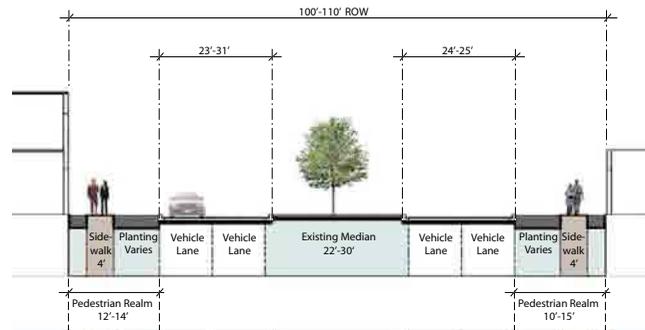
## Non-Mandatory DOA 1 - Design Guidelines

### A2.5.1.b Pedestrian Character Major Thoroughfare

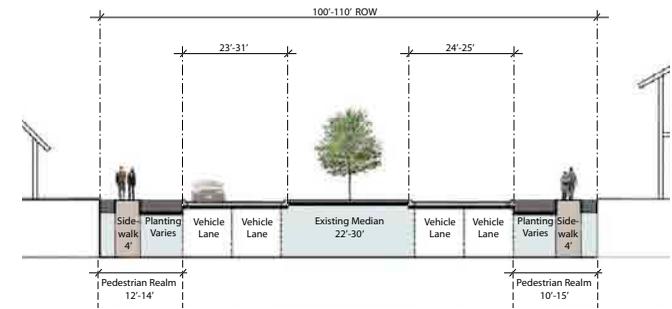
- 87. The hard surface of the sidewalk (the pedestrian realm) shall be a minimum of 15' wide, measured from the back-of-curb to the main front wall and/or exterior side wall of any adjacent building. This requirement may include components of the public right-of-way and/or private lands, as described in the discussion of the build-within zone.
- 88. The design of the 15' pedestrian realm shall include a "furnishing zone" for utilities, street furniture and street lighting adjacent to the curb, and a minimum 7', 6" unimpeded pedestrian sidewalk.
- 89. At all street intersections there shall be provisions for pedestrian crossings of the transit facility, regardless of whether or not the intersection is signalized. In addition, provisions for mid-block pedestrian crossings must be considered at intervals of approximately 300'. There shall never be a condition where distances between pedestrian crossings of the facility exceed 600'. Countdown pedestrian head signals shall be provided for at all signalized crossings.
- 90. It is understood that the development of the required 15' pedestrian realm will occur over a long period of time, in conjunction with private sector redevelopment projects. In the interim, the City should build a connected sidewalk on the public component of the right-of-way concurrent with the development of the transit facilities. The maximum width of the pedestrian realm in this interim condition shall be 15', to be measured from the back-of-curb to the edge of the right-of-way.



Pedestrian Character Major Thoroughfares



East Corridor existing conditions - commercial area, Lockwood St.



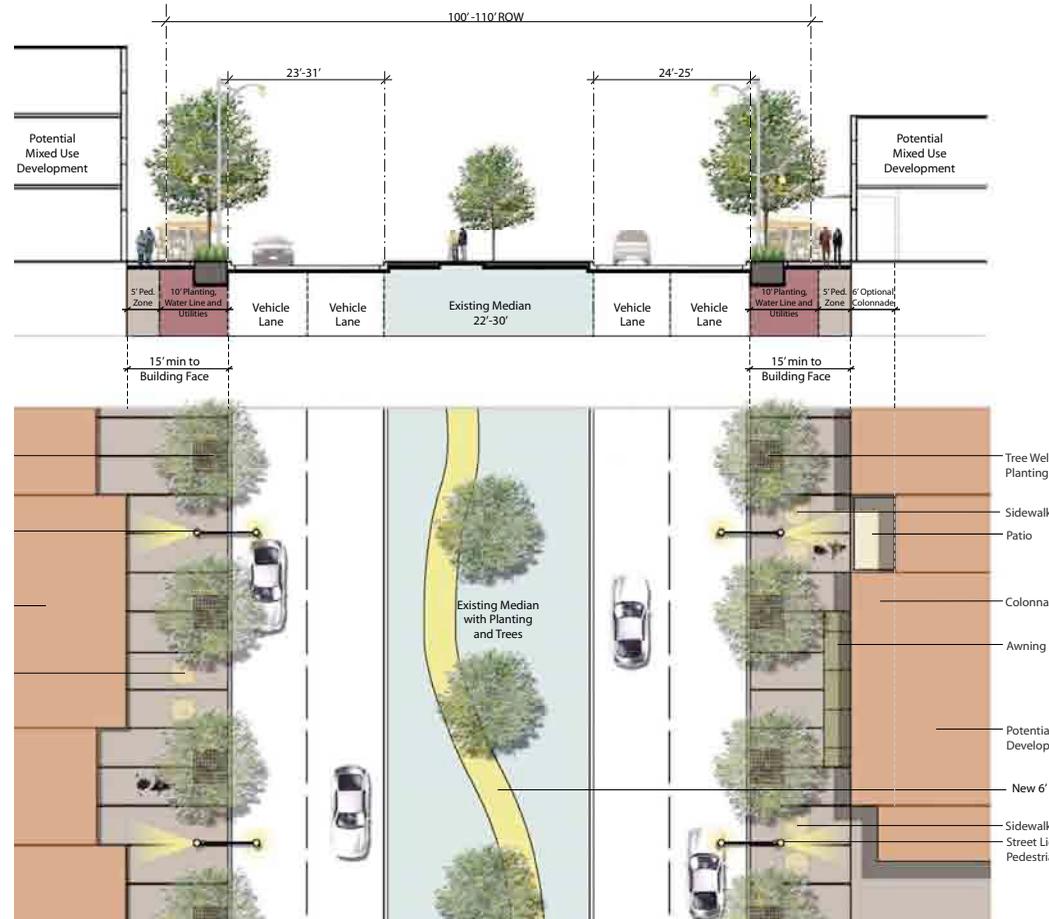
East Corridor existing conditions - residential area, Lockwood St.

DOA 1 - Pedestrian Character Major Thoroughfare, Commercial and Residential Areas East End

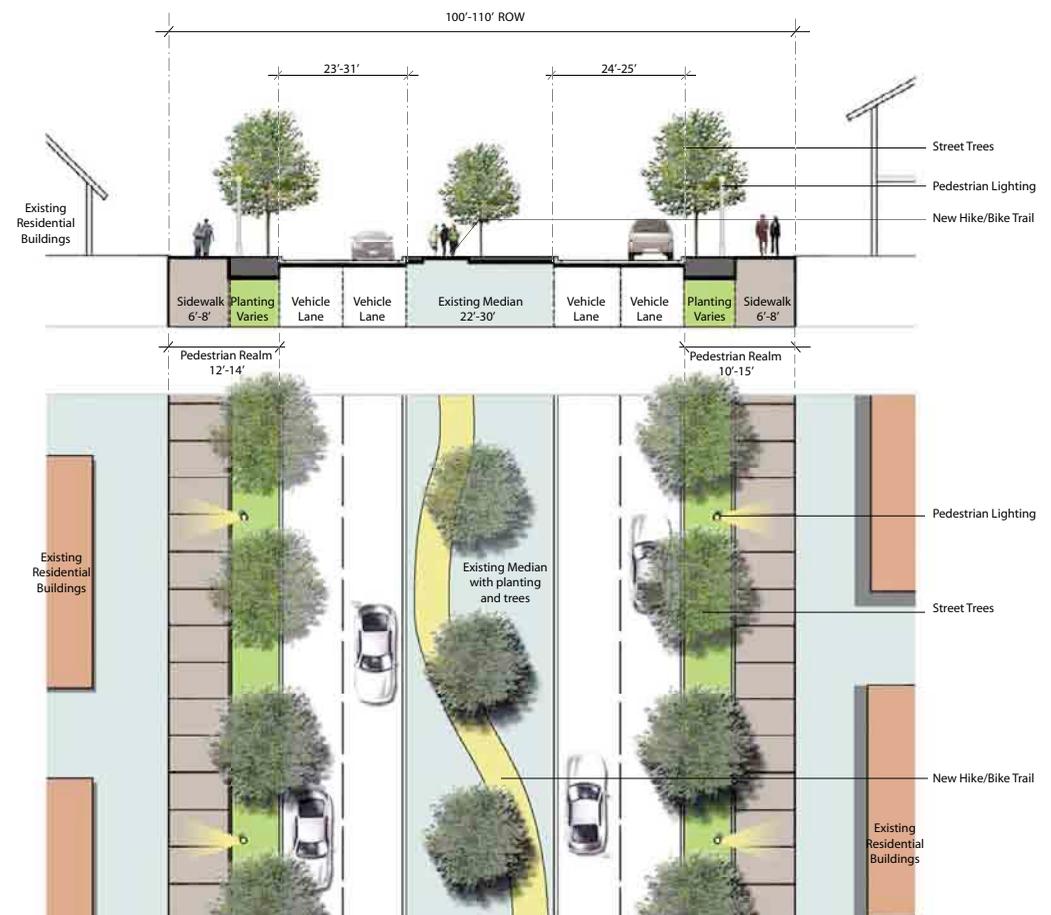
Major Thoroughfare rights-of-way are typically 80 to 100', and include 48' of pavement divided by a median of 14 to 32'. Rarely has a connected sidewalk system been provided. Major Thoroughfares that intersect with the

Transit Street have been identified as Pedestrian Character Major Thoroughfares because they have the potential to provide a crucial connection from area focal points, such as neighborhoods and schools, to transit stations.

A continuous and connected sidewalk system been provided. A prototype street cross section indicates the following:



East Corridor proposed section - Lockwood St. - commercial area



East Corridor proposed section - Lockwood St. - residential area

Non-Mandatory **DOA 1 - Design Guidelines**

**D2.5.1.c**  
**Pedestrian Character Major Collector**

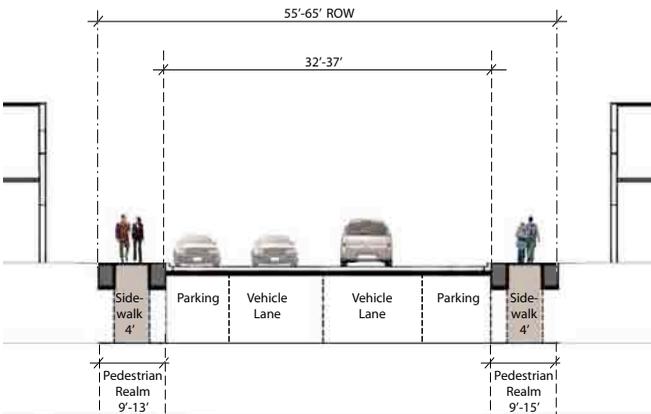
- 91. The pedestrian realm shall be a minimum of 8' wide, measured from the back-of-curb to edge of the right-of-way.
- 92. The pedestrian realm shall include a minimum 6' wide sidewalk measured from the edge of the right-of-way. The sidewalk shall be continuous and extend across driveways.
- 93. The pedestrian realm shall include a planted boulevard with street trees next to the curb.
- 94. The planted boulevard should also be the location for utility poles, placed on the same alignment as the street trees.

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

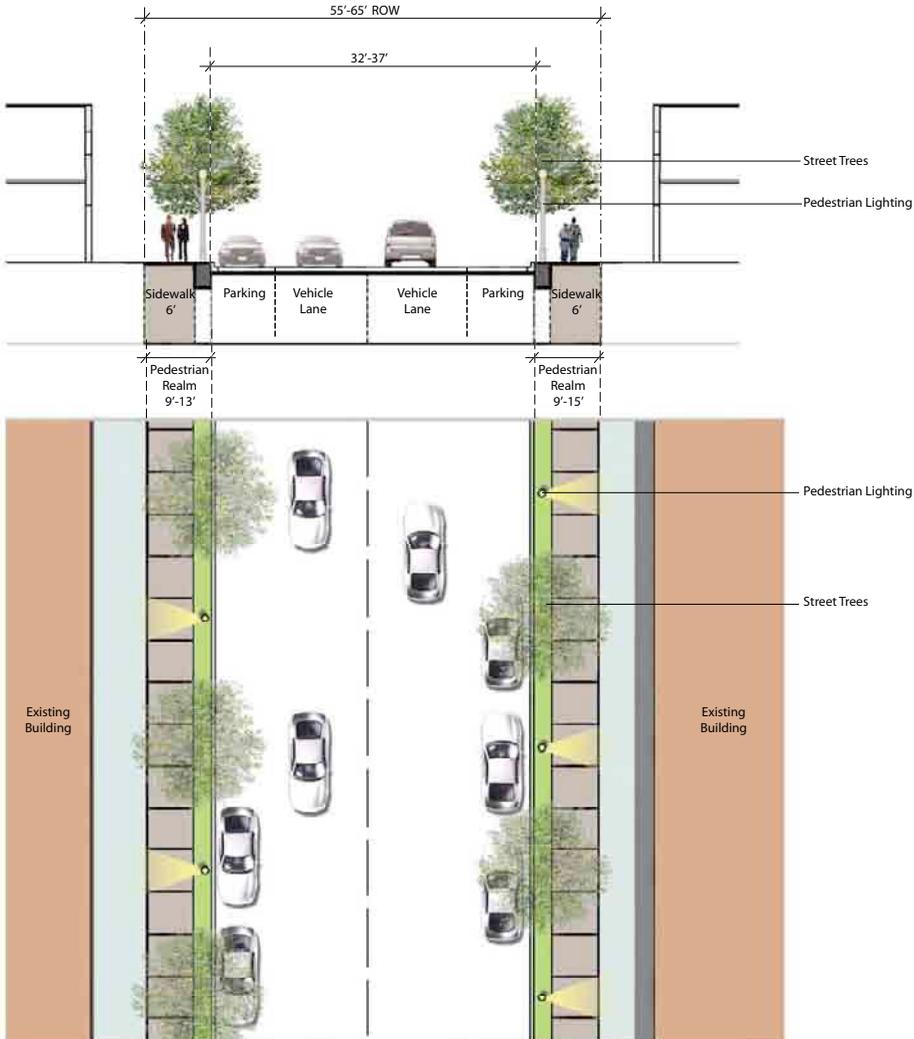


Pedestrian Character Major Collector

DOA 1 - Pedestrian Character Major Collector East End



East Corridor existing conditions - Canal St.



East Corridor proposed section - Canal St.

## Non-Mandatory DOA 1 - Design Guidelines

### A2.5.1.d

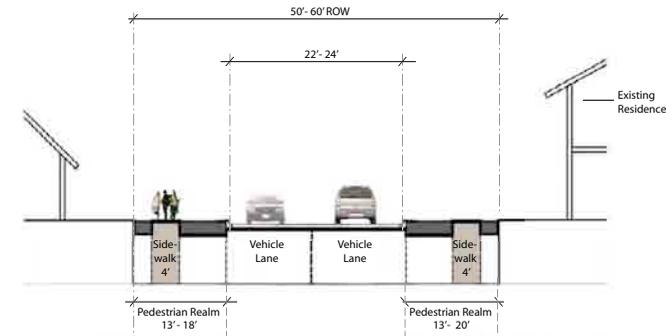
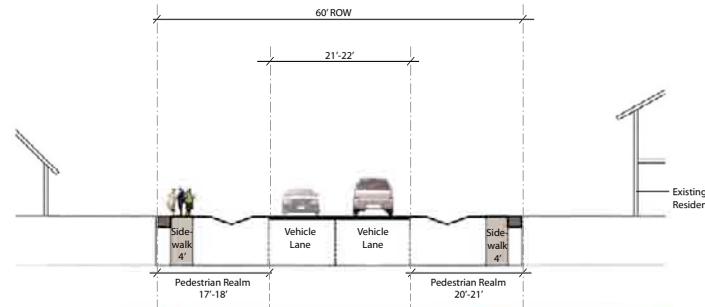
#### Pedestrian Character Local Street

95. The pedestrian realm shall be a minimum of 19' wide, measured from the back-of-curb or the edge of the outside vehicle lane to the edge of the right-of-way.
96. The pedestrian realm shall include a minimum 6' wide sidewalk. The sidewalk shall be continuous and extend across driveways.
97. On Pedestrian Character Local Streets with curbs, the pedestrian realm shall include a planted boulevard with street trees next to the curb.
98. The planted boulevard shall also be the location for utility poles, placed on the same alignment as the street trees.
99. On Pedestrian Character Local Streets with road side ditches, the tree shall be planted on the outside edge of the ditch adjacent to the sidewalk.
100. On Pedestrian Character Local Streets with road side ditches, utility poles shall be placed adjacent to the edge of the right-of-way.

Local street rights-of-way are typically 60', and include 22' of pavement. Some local streets have ditches on both sides. Rarely are sidewalks provided. Some local streets that intersect with the Transit Street 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 center, public park or place of worship. A prototype street cross section for a Pedestrian Character Local Street with and without a ditch indicates the following:



Pedestrian Character Local Street

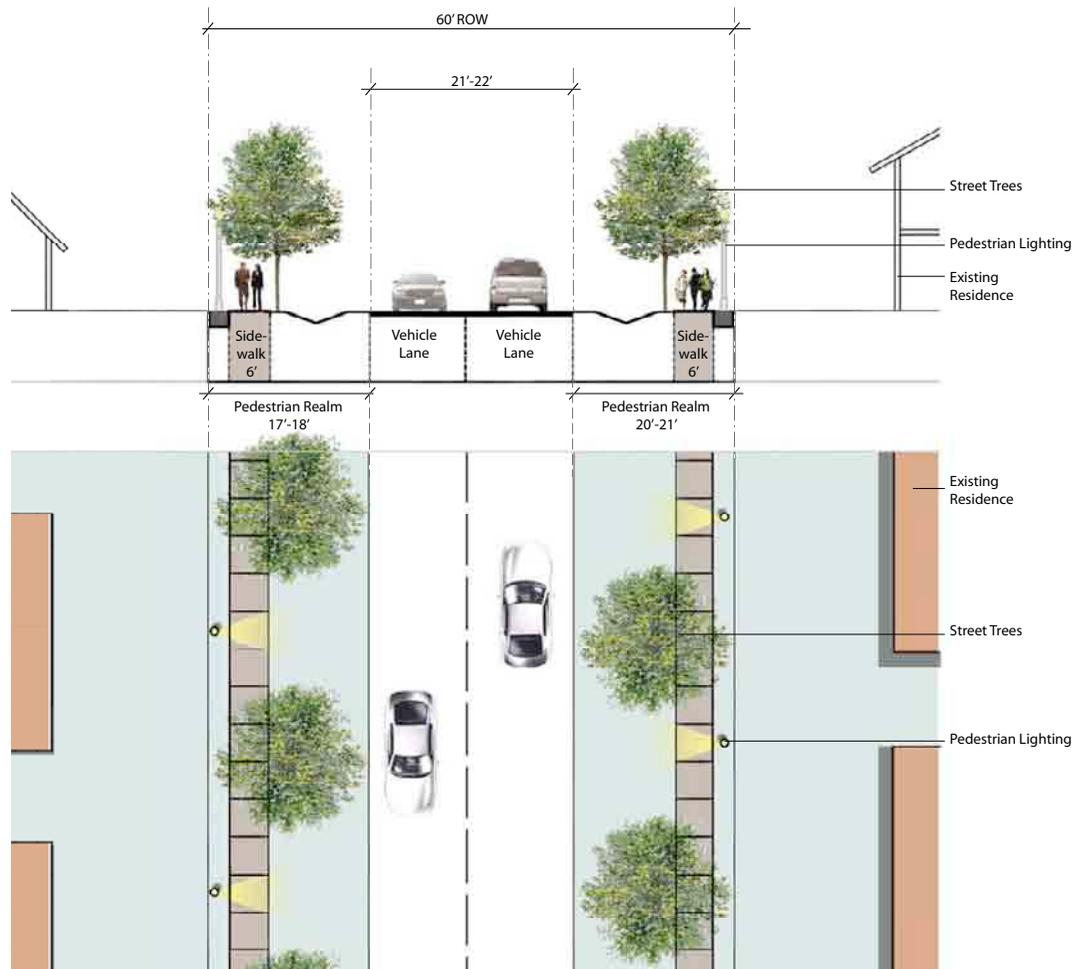


East Corridor proposed section - Eastwood St. with no curb

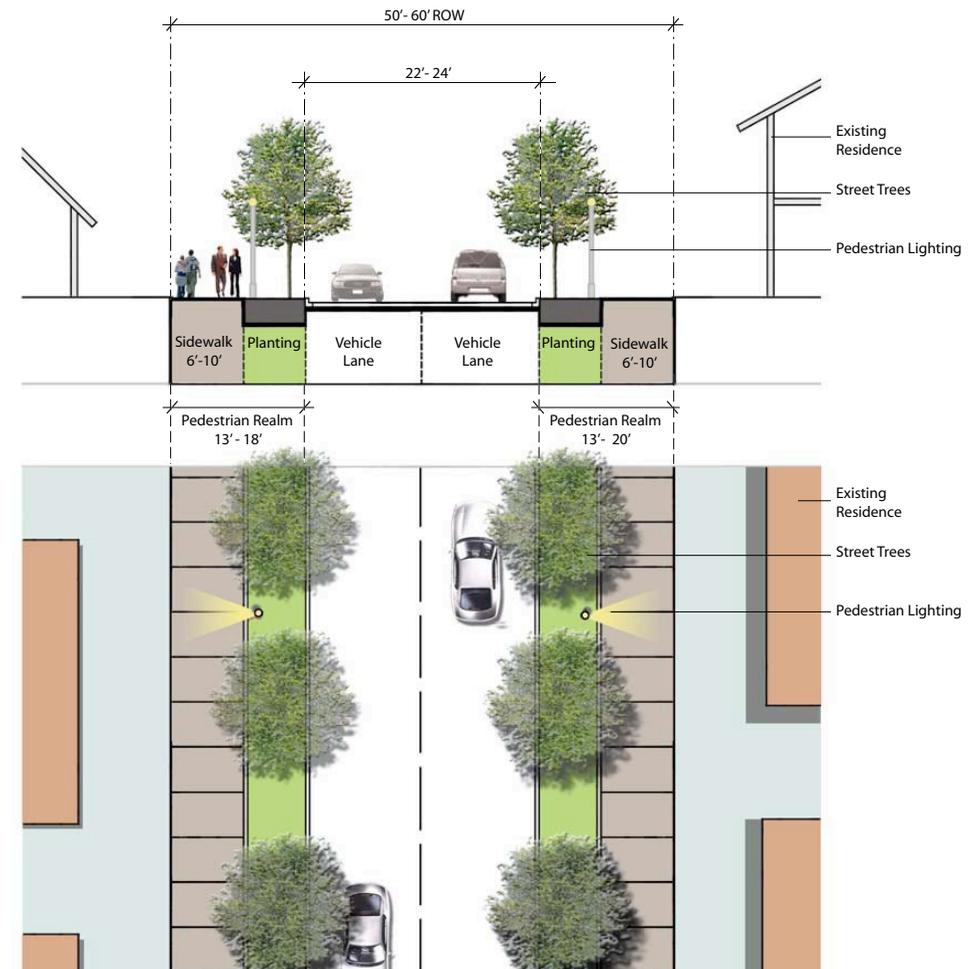


East Corridor proposed section - Eastwood St.

Pedestrian Character Local Street Cross-Section/Plan East End



East Corridor proposed section - Eastwood St. with no curb



East Corridor proposed section - Eastwood St. with curb

## Non-Mandatory DOA 1 - Design Guidelines

### Engineering / Infrastructure

- 101. The width of travel lanes along streets with transit should generally be 10-11' in width,
- 102. Alleys should be designed to provide a 12'-0" paved surface,
- 103. No access should be allowed from the street for new developments fronting onto the street with transit,
- 104. All new development fronting on to streets with transit should indicated space for the provision of alleys or access to the site from side streets.
- 105. A plan for access to sites fronting onto the Transit Street should be developed by the proponent before construction of the Transit Line showing the following:
  - ▣ The preferred location for access into site along the line.
  - ▣ A phasing plan for combined access over time.
  - ▣ A phasing plan for the implementation of alleys or service lanes.
- 106. Provision for crosswalks between stations should be an integral part of the design of the streets with transit. The maximum distance between a station and a crosswalk shall be 1/4 of a mile.
- 107. The radius of corner conditions should be determined with the pedestrian in mind. Tighter radii corners slow traffic speeds and protect pedestrians.
  - ▣ Along the streets with transit corner radii through streets should be no more than a 25'-0" radius.
  - ▣ For non-through streets intersecting the Transit Street corner, radii should be reduced to 20'-0".
- 108. Bicycle lanes should be explored as part of the design, access and phasing plans for the corridor streets. Where there is not enough room for bike lanes on Transit Streets, they should be part of the design of the connector streets that access stations.
- 109. Infrastructure services need to be developed with future intensification of the corridors in mind,
- 110. Infrastructure should be implemented as transit is being built.
- 111. The implementation and design of infrastructure should be carried out comprehensively by including all departments of the City, as well as utility providers.
- 112. All utilities should be buried along the corridors.
- 113. Consideration should be given to burying utilities under alleys.
- 114. Where it is impossible to bury utilities, the location of above ground components must be coordinated with the design of the pedestrian realm following the following guidelines:
  - ▣ Utility poles and transformers shall be located where they do not impact on the movement of pedestrians.
  - ▣ Utility poles and transformers shall be located according to an overall plan for the entire corridor.
  - ▣ The form and design of above grade components to be approved by the City and Metro.
- 115. Accessibility should be designed into all sidewalk conditions along the corridors.

Development Opportunity Area 2 - Downtown Mandatory

**A2.5.2**  
Development Opportunity Area 2  
Downtown

Guidelines within the Development Opportunity Area 2- Downtown include a combination of mandatory development requirements and optional design guides.

**Mandatory**  
Mandatory Development Requirements within the defined Development Opportunity Area 2.

Statement of Application: Applies everywhere within the defined Development Opportunity Area 2 - Downtown

Pedestrian Realm

1. All buildings, with the exception of street facing townhouses, shall be developed with a substantial portion of their front and exterior side façades between 15 and 25' of the back-of-curb. It is understood that where a parcel has three sides abutting a public street, the build-within concept may not be achieved on the third side.
2. In all Transit Street Configurations, 15' from the back-of-curb is required for the pedestrian realm.
3. On all lands fronting onto a public street, a Major Thoroughfare and/or a Major Collector, the minimum built frontage requirement shall be 75% of the parcel frontage and shall be occupied by the main front wall of a building within the build-within zone.

4. Notwithstanding the requirements for a minimum built frontage, where a publicly accessible and usable open space is provided abutting a front and/or exterior side parcel line, the frontage occupied by the publicly accessible and usable open space shall be counted toward the minimum built frontage requirement.
5. A minimum of 75% of the main front wall shall be at grade and, on a corner parcel, an exterior side wall at grade of any non-residential building shall consist of windows and entranceways that facilitate visibility into the building.
6. The City shall not accept cash-in-lieu of required street trees, unless a substantiated technical reason is provided that precludes street tree planting. Where cash-in-lieu of street trees is accepted, the monies received shall be utilized in coordination with the Parks and Recreation Master Plan to enhance tree cover in a local public park, or along the Transit Street within 1/4 of a mile of the development site from which the cash-in-lieu of street trees was accepted.

Development Blocks

7. For all large scale Transit Oriented Development projects (defined as projects on development blocks or parcels that are greater than 5 acres in size), the maximum development block or parcel size shall be approximately 5 acres in area. In all cases, there shall be no minimum development block or parcel area.
8. No development block or parcel frontage on a street shall exceed 600'. In all cases, the minimum development block or parcel frontage shall be 25'.
9. Large scale Transit Oriented Development projects shall provide public streets, or publicly accessible private streets, to subdivide any development block or parcel greater than 5 acres in size into smaller development blocks or parcels in accordance with this policy.

Buildings

10. Buildings of up to three stories may be built with zero setbacks to interior side parcel lines. Exterior side yards shall conform to the described build-within zones.
11. Buildings above three stories may include a zero interior side yard setback for the base building of three stories, but building side walls must be set back a minimum of 10' from the interior side yards for that component of the building above three stories.
12. The City will encourage a transitional rear alley or easement process, coupled with access management from pedestrian and Transit Streets, on a block-by-block basis, where possible and appropriate.

Encroachments

13. Permanent encroachments shall be considered for permitting on a site-by-site basis, subject to design performance standards (to be developed) that consider such features as shade / weather protection, pedestrian clear zone width, space for street tree canopy, right-of-way proportions, utility clearances, etc.
14. The amount of any permitted encroachment shall be established by the City on a site-by-site basis, and in consideration of the following criteria: the encroachment enhances pedestrian comfort by providing shade and/or protection from the rain; and, the encroachment does not impede pedestrian movement, and maintains an unobstructed sidewalk area of a minimum width of 5'.

## Non-Mandatory DOA 2 - Downtown

### Non-Mandatory

Non-Mandatory Development Guidelines within the defined Development Opportunity Area 2.

#### Pedestrian Realm

15. Buildings shall be connected to the street - by proximity, by the location of windows and entranceways, and the level of architectural detail.
16. Buildings shall be sited and organized to create a street space scaled to the pedestrian, and organized to present an appropriate façade to all adjacent streets to provide interest and comfort at ground level for pedestrians.
17. Main building entrances shall, wherever possible, be oriented toward adjacent streets to provide convenient access to pedestrians and public transit; buildings, and their main public entrances, shall be located close to the front and exterior side property lines, on-street parking, and the public sidewalk.
18. Buildings are to be generally sited parallel to the public street and along the edges of parks and open spaces. The public faces of these buildings are to align with neighboring buildings in a manner that defines these spaces with a consistent building face lining the street.
19. Non-residential buildings shall, to the greatest extent possible, front onto adjacent streets, be flush with grade and provide an active use at grade in order to promote pedestrian activity.
20. Buildings shall provide active façades that include windows and entry features and, where appropriate, outdoor cafés and restaurants, community services, retail stores and display windows.
21. Street tree planting should form a continuous canopy along the street. Tree species should be selected by the applicable TIRZ/MMD to reinforce the role of the various street hierarchies within the Urban Corridors and to visually and thematically distinguish the Urban Corridors from one another. In instances where no TIRZ/MMD exists, the City will select the trees that they will plant.
22. Street trees should have a minimum size of 45 gal. and be planted 30' on-center. Trees should be located in open planting pits where space permits and with wells sized at a minimum of 5'x10'. The planting pits should be filled with shrubs, perennials and annual plants. Planting pits should be edged with a low wall and/or fence.
23. Where space is limited, trees should be planted in continuous trenches. The rootball should be protected with a tree grate, ground cover or material such as gravel.
24. Where there is no room for street trees, consider a vertical shade element planted with vines to add special landscape treatment to the street.
25. Coordination of utilities, especially overhead power lines will be required during the design phase of street tree planting.
26. Consider a palette of the street furnishings, newspaper boxes, notice boards, bicycles racks, flower pots, luminaires and poles that will visually and thematically distinguish the each particular Urban Corridor from the others.
27. Concentrate mailboxes, vending machines, trash cans, and recycling bins in single locations to create active public space and minimize visual clutter.
28. Provide public amenities such as washrooms and field house where appropriate.
29. Provide programmed activities for a range of ages and demographics with emphasis on children and youth.
30. Provide a balance of passive and active park space and provide for the maximum program flexibility in the design of the parks.
31. Incorporate a greening strategy that includes tree planting and seasonal horticultural displays.
32. Incorporate sustainability practices both in terms of capital projects and operations.
33. Provide wayfinding and program information displays as well as heritage interpretation and public art.

#### Gateways

34. Gateways shall be either architectural, stand-alone features, or landscape treatments that define the main entrances to the Urban Corridors.
35. Features shall be lit to enhance their legibility at night.
36. The scale of the gateway shall be large enough to be visible from a car at a distance of at least 300'.
37. Gateways shall enhance and not compete with surrounding existing architectural and natural features.

#### Buildings

38. The minimum density for any Transit Oriented Development project shall be a Floor Area Ratio of 1.75.
39. There shall be no specified maximum density.
40. The minimum height for any Transit Oriented Development building shall be 3 stories, or 27', whichever is greater. Buildings on corner sites shall be a minimum of 4 stories, or 36', whichever is greater.

- 41. There shall be no specific height limit.
- 42. Corner building designs shall articulate, define and enhance the intersection at which it is located by enhancing the building's presence at each corner.
- 43. Buildings should 'turn' the corner, i.e. they should have primary, articulated façades towards both streets and should be visually different from adjacent development.
- 44. Large areas and continuous rows of monotonous and repetitive façades shall be avoided. A more textured architectural quality can be achieved by introducing variation in certain elements of the façade treatment.
- 45. Variation in three-dimensional elements, such as balconies, bay windows and porches, cornices, window trim, entrances and the articulation of the building mass, shall be used to create a dynamic façade.
- 46. Variation and articulation in the building mass including horizontal and vertical setbacks, such as step backs at the upper stories, shall be established.
- 47. A pedestrian weather protection system including awnings, canopies, colonnades, or front porches along the sidewalk edges and adjacent to the urban squares/plazas and at entrances to buildings shall be considered. The City will promote Temporary or Permanent Encroachment Permits for both signage and awnings.

### Signage

- 48. Signage will address the amount and type of illumination, size, materials, typography and design.
- 49. Signage should be an integral part of the architecture of a building.

- 50. Signs should be designed to complement the building and enhance the visual appeal of the street.
- 51. Signs should be designed in consideration of nearby residential uses, in terms of size, materials, and location.
- 52. The ratio of sign band to building mass should be restricted such that the signage does not dominate the façade.
- 53. Mobile box signage is not allowed.
- 54. Neon lights are allowed when they do not dominate the signage and have no negative impacts on nearby residences.
- 55. Exterior lighting shall be designed to promote pedestrian comfort, safety and provide a high quality ambiance. In addition, accent lighting is required to emphasize built form and landscape elements. Pedestrian scale lighting shall be provided adjacent to streets, walkways, pedestrian routes and in parks and courtyards.
- 56. Internally lit canopies are strongly discouraged.
- 57. Commercial façades should be appropriately lit.
- 58. Pedestrian realm signage and lighting should be coordinated. Pole mounted pedestrian light fixtures with a light source at 12 to 15' high and a spacing of 30 to 50' is recommended.

### Mid-Block Pedestrian Connections

- 59. Mid-block pedestrian connections shall be provided within larger development parcels. These are intended to be designed as pedestrian landscaped lanes and should be lit, landscaped and maintained for public.
- 60. Mid-block pedestrian connections shall provide a fine grain of pedestrian circulation and an important connection between two streets.

- 61. Mid-block pedestrian connections shall lead to public destinations such as schools, parks and public transit stations.
- 62. Mid-block pedestrian connections shall provide an address to individual residential or business frontages along their lengths.

### Parking

- 63. General public parking (surface lots and / or structured parking facilities) to serve TOD areas will be provided to augment the supply of parking.
- 64. On-street parking shall be promoted within all of the Urban Corridors.
- 65. The City shall pursue opportunities for the establishment of on-street parking in partnership with adjacent landowners where the spaces are provided on a combination of public land and private property, with public access to the parking spaces secured through agreements with the City.
- 66. Surface parking, loading areas, drive-through lanes and servicing facilities shall not be permitted in front of Transit Oriented Development buildings. Surface parking, drive-through lanes and/or servicing facilities may be permitted in an interior side yards, and are permitted within the rear yard.
- 67. Surface parking, loading areas, drive-through lanes and servicing facilities, where permitted, shall be appropriately screened from view from the street. Surface parking lots shall respect the build-within zones. Where surface parking must be provided, the visual impact of large surface lots shall be mitigated by a combination of setbacks, and significant landscaping including: pavement treatments, low walls or decorative fencing, landscape, trees and lighting throughout parking lots and along the edges.

Non-Mandatory **DOA 2 - Downtown**

- 68. Parking is encouraged to be provided in structures, either above, or where possible, below grade. Where a parking structure is above grade, it shall include a façade with active uses at grade and appropriate architectural articulation. Entrances to below grade or structured parking and service areas should occur within the building.
- 69. Access to parking and servicing areas should occur off side streets or service lanes and to the side or rear of buildings, where possible.
- 70. It is an objective of the City to limit access driveways to individual sites adjacent to the Transit Street. The City shall encourage shared access driveways and, preferably, shared rear lane access for all Transit Oriented Development. Where new development is proposed, the City shall require a minimum of 100' between access driveways onto the Transit Streets.

Pedestrian Character Major Thoroughfare

- 71. The hard surface of the sidewalk (the pedestrian realm) shall be a minimum of 15' wide, measured from the back-of-curb to the main front wall and/or exterior side wall of any adjacent building. This requirement may include components of the public right-of-way and/or private lands, as described in the discussion of the build-within zone.
- 72. The design of the 15' pedestrian realm shall include a "furnishing zone" for utilities, street furniture and street lighting adjacent to the curb, and a minimum 7', 6" unimpeded pedestrian sidewalk.
- 73. At all street intersections there shall be provisions for pedestrian crossings of the transit facility, regardless of whether or not the intersection is signalized. In addition, provisions for mid-block pedestrian crossings must be considered at intervals of approximately 300'. There shall never be a condition where distances between pedestrian crossings of the facility exceed 600'. Countdown pedestrian head signals shall be provided for at all signalized crossings.

- 74. It is understood that the development of the required 15' pedestrian realm will occur over a long period of time, in conjunction with private sector redevelopment projects. In the interim, the City should build a connected sidewalk on the public component of the right-of-way concurrent with the development of the transit facilities. The maximum width of the pedestrian realm in this interim condition shall be 15', to be measured from the back-of-curb to the edge of the right-of-way.

Pedestrian Character Major Collector

- 75. The pedestrian realm shall be a minimum of 8' wide, measured from the back-of-curb to edge of the right-of-way.
- 76. The pedestrian realm shall include a minimum 6' wide sidewalk measured from the edge of the right-of-way. The sidewalk shall be continuous and extend across driveways.
- 77. The pedestrian realm shall include a planted boulevard with street trees next to the curb.
- 78. The planted boulevard should also be the location for utility poles, placed on the same alignment as the street trees.

Pedestrian Character Local Street

- 79. The pedestrian realm shall be a minimum of 19' wide, measured from the back-of-curb or the edge of the outside vehicle lane to the edge of the right-of-way.
- 80. The pedestrian realm shall include a minimum 6' wide sidewalk. The sidewalk shall be continuous and extend across driveways.
- 81. On Pedestrian Character Local Streets with curbs, the pedestrian realm shall include a planted boulevard with street trees next to the curb.

- 82. The planted boulevard shall also be the location for utility poles, placed on the same alignment as the street trees.
- 83. On Pedestrian Character Local Streets with road side ditches, the tree shall be planted on the outside edge of the ditch adjacent to the sidewalk.
- 84. On Pedestrian Character Local Streets with road side ditches, utility poles shall be placed adjacent to the edge of the right-of-way.

Engineering/Infrastructure

- 85. The width of travel lanes along streets with transit should generally be 10-11' in width,
- 86. Alleys should be designed to provide an 12'-0" paved surface,
- 87. No access should be allowed from the street for new developments fronting onto the street with transit,
- 88. All new development fronting on to streets with transit should indicated space for the provision of alleys or access to the site from side streets.
- 89. A plan for access to sites fronting onto the Transit Street should be developed by the proponent before construction of the Transit Line showing the following:
  - ▣ The preferred location for access into site along the line.
  - ▣ A phasing plan for combined access over time.
  - ▣ A phasing plan for the implementation of alleys or service lanes.
- 90. Provision for cross walks between stations should be an integral part of the design of the streets with transit. The maximum distance between a Station and a crosswalk shall be 1/4 of a mile.
- 91. The radius of corner conditions should be determined

DOA 2 - Downtown Non-Mandatory

with the pedestrian in mind. Tighter radii corners slow traffic speeds and protect pedestrians.

- ▣ Along the streets with transit corner radii for through streets should be no more than a 25'-0" radius.
- ▣ For non-through streets intersecting the Transit Street corner, radii should be reduced to 20'-0".

92. Bicycle lanes should be explored as part of the design, access and phasing plans for the corridor streets. Where there is not enough room for bike lanes on Transit Streets, they should be part of the design of the connector streets that access Stations.

93. Infrastructure services need to be developed with future intensification of the Corridor in mind.

94. Infrastructure should be implemented as transit is being built.

95. The implementation and design of infrastructure should be carried out comprehensively by including all departments of the City, as well as utility providers.

96. All utilities should be buried along the Corridor.

97. Consideration should be given to burying utilities under alleys.

98. Where it is impossible to bury utilities, the location of above ground components must be coordinated with the design of the pedestrian realm following the following guidelines:

- ▣ Utility poles and transformers shall be located where they do not impact on the movement of pedestrians.
- ▣ Utility poles and transformers shall be located according to an overall plan for the entire corridor.

- ▣ The form and design of above grade components to be approved by the City and Metro.
99. Accessibility should be designed into all sidewalk conditions along the Corridor.