

CHAPTER 2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter includes a description of the No-Build and Build Alternatives and describes the evaluation and selection processes for the preferred site of the proposed IT. Full documentation of the regional location analysis, alternatives considered, the evaluation process and the selection of the preferred alternative is included in the Houston Intermodal Center/Multimodal Terminal Feasibility Study (2005), which is incorporated here by reference. The documentation from this report is summarized in this chapter.

2.1 NO-BUILD ALTERNATIVE

Under the No-Build Alternative, the existing operation of METRO's rail, bus and SOV system would remain unchanged. The collocation of transit service would not occur and efficiencies in service and travel time would not be met.

The No-Build Alternative would not meet the specified purpose and need for this proposed action that includes:

- Improve regional mobility through effective and efficient transit;
- Improve transit service through reduced travel time and increased reliability;
- Provide increased connections of major employment, entertainment, commercial and educational activity centers throughout the region;
- Offer an alternative to SOV travel;
- Improve access and increase economic development opportunities; and
- Contribute to improvements in unacceptable regional air quality.

The No-Build Alternative would not improve public access to bus and rail services to meet current and future transit needs; reduce non-transit vehicle usage; nor promote TOD. The No-Build would not take advantage of a unique opportunity to interface the developing and future transit elements, including the LRT from the University of Houston (UH)-Downtown Station with a proposed station at Burnett and the implementation of GRT north of the Burnett Station.

2.2 THE DEVELOPMENT AND EVALUATION OF THE BUILD ALTERNATIVES

As previously described, the Houston Downtown Management District initiated an inter-governmental agency analysis of transit needs in the METRO service area through the use of a feasibility study. This study was conducted in support of METRO Solutions, the region's comprehensive long range transit plan and was financed with contributions from METRO, the Texas Department of Transportation (TxDOT), the City of Houston, the Main Street Coalition and the Midtown Management District. This effort was guided by a 32-member steering

committee composed of neighborhood representatives, University of Houston – Downtown staff, City of Houston and Harris County officials and representatives from private transportation entities. This analysis sought to solicit input from stakeholders regarding how they might use the facility, determine the best location for the facility and build a cohesive group of IT stakeholders who would support funding applications for the facility.

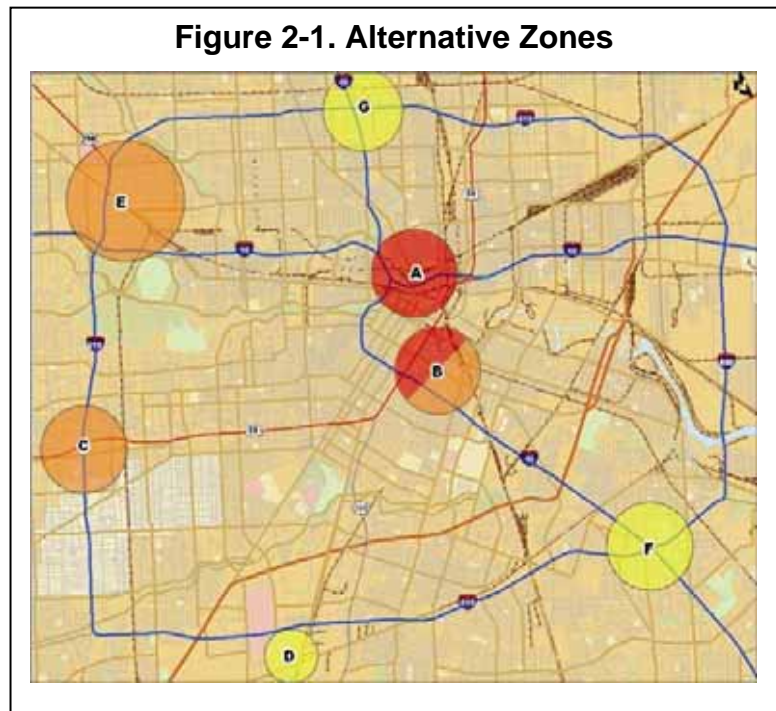
The following sections discuss the details of this analysis and the development and evaluation of the build alternatives.

2.2.1 Regional Location Analysis

A Regional Location Analysis was undertaken to identify areas within the Houston area that would be suitable to locate the proposed IT. The analysis was based on information developed from multiple transportation providers and the project’s steering committee. From this information, a map of the current and proposed fixed facility routing and alignments of major transportation providers was developed to assist in the identification of critical transportation junctions. A stakeholder workshop, consisting of representatives from the various transportation service providers, was conducted in May 2005 to solicit preferred regional locations for the proposed facility. The workshop provided a large amount of information and supplied guidance regarding the best locations in the Houston region for the IT.

As shown on **Figure 2-1**, the following seven general areas (Zones A-G) were identified within the region as candidates for accommodating the proposed facility:

- Zone A
(North Downtown)
- Zone B
(East Downtown)
- Zone C (US 59 South
at IH 610 West)
- Zone D (IH 610 South
at Fannin)
- Zone E (IH 10/US 290
at IH 610)
- Zone F (IH 45 South at
IH 610 South)
- Zone G (IH 45 North at
IH 610 North)



After the seven zones within the Houston area were identified, the study team evaluated each of them against a set of criteria designed to measure the effectiveness of each individual site's ability to meet the goals and objectives of the proposed project, as identified in Chapter 1, Purpose and Need for Action. The level of connectivity of each zone to the region's existing and planned transportation infrastructure, including freeways, tollways, high-occupancy vehicle (HOV) facilities, LRT, GRT and commuter rail transit (CRT), was identified as the criterion of primary importance for the Regional Location Analysis (**Table 2-1**). This criterion recognized the high costs associated with modifying the existing transportation infrastructure to connect with the proposed IT; therefore, locating the proposed facility in an area with access to the existing and committed infrastructure was a critical factor.

Other criteria evaluated during the Regional Analysis included:

- The proximity of each zone to Houston's major activity centers, including:
 - Downtown Houston
 - Uptown Houston
 - Greenway Plaza
 - Greenspoint
 - Westchase
 - Clear Lake/NASA
 - Reliant Park/Texas Medical Center;
- The ability of the location of the proposed IT to address the local, national and international bus carriers' service needs for easy access to the freeway system; and
- The ability to accommodate future transportation projects.

There were also certain land use characteristics of each zone factored into the Regional Analysis. The feasibility study ranked the seven zones according to the amount of vacant and/or underdeveloped land in close proximity to existing and proposed transportation infrastructure. The results of this ranking illustrated:

1. Zone A
2. Zone B
3. Zone E
4. Zone C
5. Zone D
6. Zone F
7. Zone G

Table 2-1. Regional Location Analysis Matrix

Regional Zone*	Zone A	Zone B	Zone C	Zone D	Zone E	Zone F	Zone G
	North Downtown	East Downtown	US 59 at IH 610 South	IH 610 South at Fannin	IH 10 / US 290 at IH 610	IH 45 South at IH 610 South	IH 45 North at IH 610 North
Connectivity to Existing Infrastructure	IH 45 IH 10 US 59 SH 288 IH 45 North HOV IH 10 West HOV US 59 North HOV Main Street (LRT) AMTRAK National Bus Carrier International Bus Carrier Local Bus Carrier	IH 45 IH 10 US 59 H 288 IH 45 South HOV US 59 North HOV US 59 South HOV National Bus Carrier International Bus Carrier Local Bus Carrier	IH 610 US 59 Westpark Toll Road Local Bus Carrier	IH 610 SH 288 Main Street (LRT) Local Bus Carrier	IH 10 IH 610 US 290 IH 10 West HOV US 290 HOV Local Bus Carrier	IH 45 IH 610 SH 225 IH 45 South HOV Local Bus Carrier	IH 45 IH 610 Hardy Toll Road IH 45 North HOV Local Bus Carrier
Connectivity to Proposed Infrastructure	Hardy Toll Road Extension North Line (GRT/LRT) Southeast Line (GRT/LRT) Harrisburg Line (GRT/LRT) Galveston (CRT-Long Term) SH 35 (CRT-Long Term)	Hardy Toll Road Extension North Line (GRT/LRT) Southeast Line (GRT/LRT) Harrisburg Line (GRT/LRT) Galveston (CRT-Long Term) SH 35 (CRT-Long Term)	University Line (LRT) Uptown Line (GRT/LRT) Uptown (Suburban GRT)	US 90A (CRT) SH 288 (CRT-Long Term)	Hempstead Toll Road Uptown Line (GRT/LRT) US 290 (CRT)	SH 35 Toll Road Galveston (CRT-Long Term)	Hardy Toll Road Extension North Line (GRT/LRT) 249/Tidwell (Suburban GRT)

Source: Houston Intermodal Center/Multimodal Terminal Feasibility Study, 2005

Note: *Refer to Figure 2-1.

Using the abovementioned evaluation factors, coupled with the predominant land use within the zone and availability of vacant or underutilized property, each zone was prioritized.

As referenced in the Houston Intermodal Center/Multimodal Terminal Feasibility Study, based on the results of the Regional Analysis, Zone A (North Downtown) was selected as the highest ranking alternative site for the following reasons:

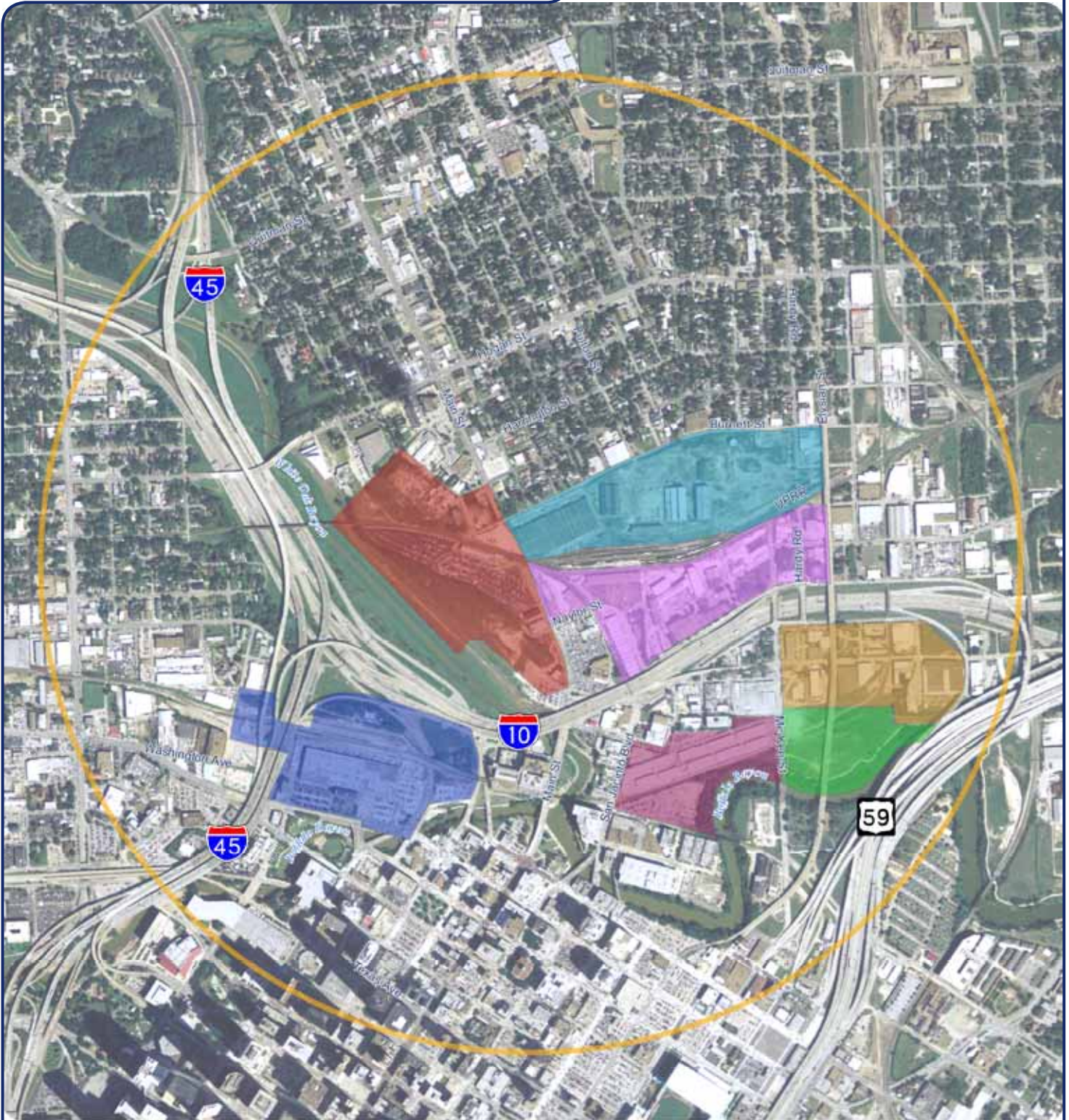
- connectivity to the greatest number of existing transportation infrastructure elements in the region,
- connectivity to the greatest number of proposed transportation infrastructure elements in the region,
- best overall proximity to major regional activity centers,
- greatest amount of vacant and/or underutilized land in close proximity to existing and proposed transportation infrastructure and
- most consistent land use patterns, which are compatible with the development of an intermodal terminal.

2.2.2 Location Analysis

In order to further refine the possible locations within Zone A, the following seven sub-areas within this zone were identified as potentially viable for site development (**Figure 2-2**):

- White Oak
- Hardy Yards
- Wilson
- Post Office
- Bus Barn
- East Bayou
- IH 10 / US 59

During the initial analysis, it was determined that all of these sub-areas contain large parcels that are either vacant or underutilized commercial properties. Developing the parcels north of IH 10 for the proposed project would impact underdeveloped industrial/commercial areas and residential communities. Developing the sites south of IH 10 would impact mostly commercial and institutional downtown development. Sites north of IH 10 but south of the UPRR tracks and east of Main Street are somewhat buffered from the neighboring community by the freight rail lines and the freeway. According to the feasibility study, sites west of Main Street and north of the rail lines appeared to be the most appropriate due to their close proximity to the established community and residential areas. Across all sub-areas, the development of the proposed IT would require a considerable level of transportation infrastructure improvements in order to properly manage traffic movements in and around the proposed facility.



Source: USDA Aerial Photography, 2005.

LEGEND
Sub-Areas









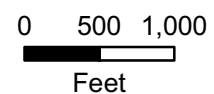
- | | |
|---|---|
|  Bus Barn |  Post Office |
|  East Bayou |  White Oak |
|  Hardy Yards |  Wilson |
|  IH 10/US 59 |  Zone A |

FIGURE 2-2



To further evaluate these sub-areas, the steering committee identified three primary goals (transportation and mobility, economic opportunity and investment and site characteristics). Under each of these goals, the following criteria were established:

Transportation and Mobility

- *Operation and Maintenance* – Quantitative measure of the annual incremental cost in current year dollars to operate and maintain the current and projected levels of transit service to the site in comparison to the baseline condition.
- *Intermodal Connectivity* – Qualitative measure of the ability of the site to accommodate current transit services and potential proposed future bus and fixed guideway linkages.
- *Accessibility* – Qualitative measure of ease and degree to which alternative locations may be accessed by different modes of travel such as bicycles, pedestrians and taxis.
- *Travel Time Savings* – Quantitative measure of the change in travel time from selected major activity centers to common destinations.

Economic Investment and Opportunity

- *Consistency with Land Use Patterns* – Qualitative measure of the consistency of alternative locations with existing and future local land use patterns of development and trends.
- *Proximity to Existing Planned Development* – Qualitative and quantitative measures of the amount of existing and planned developments located in proximity to the alternative sites.
- *Proximity to Developed and Re-developable Land* – Qualitative and quantitative measures of the amount of existing and planned developments located in proximity to the terminal site.
- *Resident/Neighborhood Sentiment* – Qualitative measure of the level of support or opposition of the local residents of neighborhoods to the terminal location.
- *Business Community Sentiment* – Qualitative measure of the level of support or opposition of the business community to the terminal location.
- *Environmental Impacts* – Qualitative measure of the historical, community and natural resources that could be impacted by development of a major facility in a given area.

Site Characteristics

- *Positive Community Impact* – Qualitative measure that compares the location and size of the site and facility to community goals and objectives.

- *Avoid Business and Resident Relocation* – Quantitative measure that seeks to reduce the number of households and businesses that could potentially be relocated from the site or the nearby area as a result of this project.
- *Personal Security* – Qualitative measure of the degree to which the terminal location would reinforce the perception of personal security for riders and pedestrians.
- *Environmental Clearance/Remediation* – Quantitative and qualitative measures of the cost and/or level of effort necessary to prepare the site to make it suitable for a terminal.
- *Visibility* – Qualitative measure of the degree to which the terminal would be readily seen as occupying a location of prominence in the community.
- *Capital Cost* – Quantitative measure of the total capital cost to implement the improvements under consideration including site acquisition costs.
- *Ease of Site Acquisition* – Qualitative measure related to the status of ownership of alternative sites and the willingness of the owner to consummate a sale.
- *Ability to Phase Construction* – Qualitative and quantitative measures of the degree, ease and expense associated with the ability to expand the size and/or function of a facility on a particular site.

To evaluate the seven sub-areas with the above criteria, an evaluation matrix was developed and is provided below (**Table 2-2**).

As a result of the Location Analysis, the White Oak and Hardy Yards sub-areas were identified as best suited to meet the purpose and need of the proposed project.

Table 2-2. Sub-Area Evaluation Matrix

Criteria	Site							
	White Oak	Hardy Yards	Wilson Property	IH 10/US 59	East Bayou	Bus Barn	Post Office	
Transportation and Mobility								
1.1	Operation and Maintenance Cost	●	●	●	●	●	●	
1.2	Intermodal Connectivity	●	●	●	●	●	●	
1.3	Accessibility	●	●	●	○	○	○	
1.4	Travel Time Savings	●	●	●	●	●	●	
Economic Opportunity and Investment								
2.1	Consistency with Land Use Patterns	●	●	●	●	○	●	
2.2	Proximity to Existing and Planned Development	○	●	●	○	○	●	
2.3	Proximity to Developed and Re-developable Land	●	●	●	●	●	○	
2.4	Resident/Neighborhood Sentiment	●	●	●	●	●	●	
2.5	Business Community Sentiment	●	●	●	●	●	●	
2.6	Environmental Impacts	●	●	●	●	○	●	
Site Characteristics								
3.1	Positive Community Impact	●	●	●	●	●	●	
3.2	Avoid Business and Resident Relocations	●	●	○	○	●	○	
3.3	Personal Security	●	●	○	○	○	●	
3.4	Environmental Clearance/Remediation	Environmental review to be conducted following selection of preferred sites at METRO.						
3.5	Visibility	●	●	●	●	●	●	
3.6	Capital Cost	●	●	○	●	●	○	
3.7	Ease of Site Acquisition	●	●	○	●	●	●	
3.8	Ability to Phase Construction	●	●	●	●	●	●	
Key: ● Very Good ● Good ○ Poor								

Source: Houston Intermodal Center/Multimodal Terminal Feasibility Study (2005).

2.3 RECOMMENDATION FOR PREFERRED SITE

Upon completion of the feasibility study, METRO initiated its conceptual design for the proposed facility. This design is generally located within the White Oak and Hardy Yards sub-areas and adjacent properties.

2.3.1 Description of the Project Area

As described in Chapter 1, the proposed project is located in the Near Northside neighborhood of downtown Houston. It is centered at the junction of the UPRR and Main Street, approximately 1,600 feet north of IH 10. In general, the project area is bounded by the UPRR, Keene Street, Harrington Street and Burnett Streets on the north, Hardy Road on the east, IH 10/US 90 on the south and White Oak Bayou on the west (**Figure 1-1**). The project area is defined as the general vicinity where the IT would be located, as well an area that allows for potential joint use development to occur. The proposed project footprint would be located within these general limits.

The project area consists of approximately 156 acres, with approximately 43 acres within the 100- and 500- year floodplains of the White Oak Bayou. A major portion of the western half of the project area includes UH-Downtown's remote parking lots. The land is relatively undeveloped, containing large paved and unpaved parking lots and very few buildings. The remaining portion is bisected by the UPRR and consists of several commercial warehouses and abandoned industrial structures formerly associated with rail activity. The Near Northside residential area is located north of Burnett Street adjacent to the project area. The UPRR rail line currently bisects the Project Area and would intersect with the proposed Main Street LRT line extension and the proposed North Corridor GRT.

The project area falls within the study areas for the Northside Village Economic Revitalization Plan, University of Houston-Downtown expansion plans and Main Street Corridor Master Plan, as well as several other land use planning documents. Several structures in the area have recently been demolished as a part of mixed-use development planning efforts resulting from these local plans. The property on the eastern portion of Hardy Yard area, 43 acres from Main Street to Hardy Street, is currently undergoing voluntary cleanup for soil and groundwater contamination and is being developed by Cushman-Wakefield Developers. The site development is named "Urban Village" and will consist of a mixed-use development incorporating 1,400 residential units, office and retail space. For the purpose of our analysis, the North Corridor LRT/GRT lines and the potential future East End and SE Corridor GRT lines were assumed to ultimately interface with the IT in the future. The impact of this connectivity has been included in the Air Quality, Noise and Vibration analyses for worst-case scenario. For the potential future East End and SE Corridor GRT lines, connectivity from downtown to the IT will be studied under a separate analysis. If these assumptions are invalid, the analyses contained in this EA may need to be reconsidered.

Conceptual plans are underway to connect the potential future Southeast and East End Corridors GRT to this area, as well. Due to the confluence of the transportation infrastructure in this area, other future transit components that

could be accommodated on the UPRR alignment could include the future US 290 commuter rail transit line and a future commuter rail transit line from Galveston.

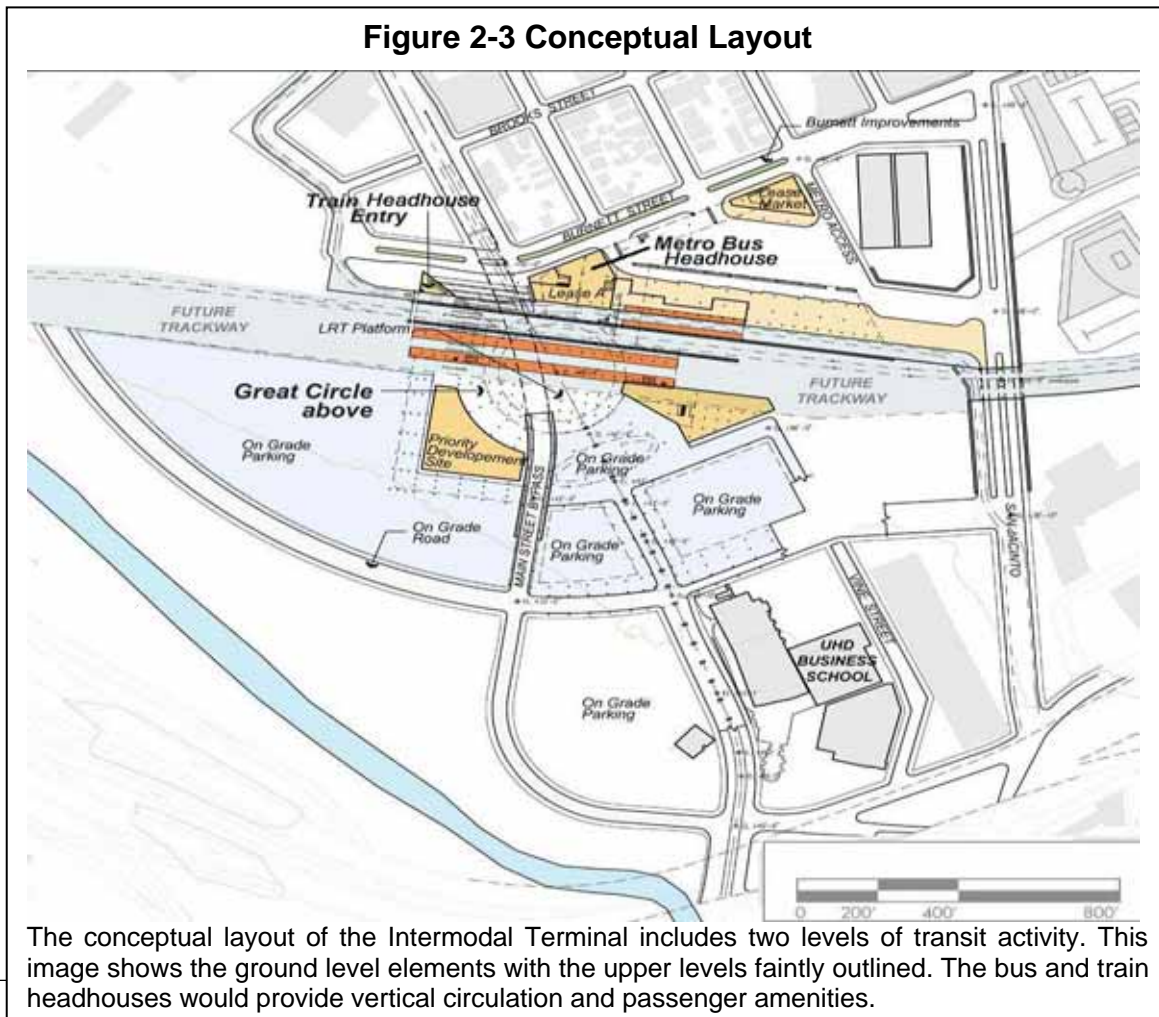
2.3.2 Description of Build Alternative

The proposed terminal would be a major transit hub, enhancing safe and convenient passenger access to and connections between METRO LRT, GRT and local bus services. Draft Environmental Impact Statements are concurrently being prepared for the METRO LRT and GRT transit lines and associated passenger stations that would be located near the IT.

Terminal

As shown on the conceptual layout, the terminal complex consists of several components. The METRO Bus Transit Center, located on the northeast quadrant of the site, consists of four bus passenger bays to be utilized by five METRO local routes and paratransit services. Two 300-foot platforms intended to serve GRT passengers are located a short distance from the local bus bays, directly adjacent to the first floor of the bus headhouse, which is a two-story, partially-enclosed structure providing waiting areas and pedestrian connections to other upper level facilities. The design of the transfer center includes a bus-only egress road which is an extension of Chestnut Street south of Burnett Street and a small

Figure 2-3 Conceptual Layout



on-grade parking area. This parking area is planned to allow for the development of up to ten additional bus bays for potential future use and an overhead deck that could accommodate a variety of uses associated with public- or private-sector development. Potential expansion of the transit center from four to 14 bays would be dependent on environmental clearance of a commuter rail line and a passenger station, and/or additional bus service at this site.

The upper level of the headhouse includes vertical circulation, access to LRT platforms, a waiting area and a retail area that can be accessed from the upper level as well as from the surrounding neighborhood and access to LRT platforms. Development within the retail area would be by others with METRO oversight.

An additional headhouse would be located on the northwest quadrant of the site. This would provide access between Burnett Street and the LRT platforms and would be designed to accommodate access to potential commuter rail. This headhouse would incorporate pedestrian access to the LRT platforms via the Grand Stair, elevators and escalators ascending from Burnett Street to the platform area. The LRT platform, which is part of METRO's North Corridor study, would be located on a level above the existing freight rail tracks.

Included in the proposed action is a realignment of the existing freight rail tracks to the north of their present location to allow for the construction of the substructure and utility infrastructure required for the commuter rail platforms.

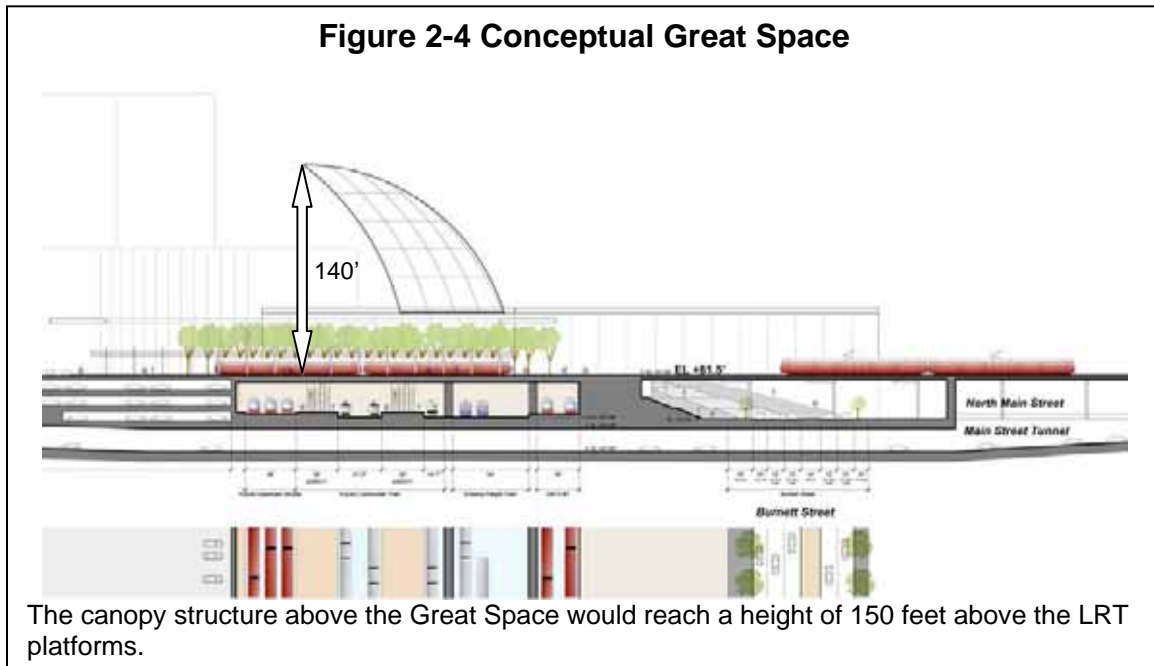
Complete construction and utilization of the future commuter rail platforms would be dependent on environmental clearance of a future commuter rail line and a passenger station at this site.

The spatial relationship of the headhouses, market area and Grand Stair elements are envisioned to create a public, pedestrian-oriented area referred to as the "Great Space". This circular area is intended to be the aesthetic focal point of the IT complex and would include a canopy structure partially enclosing the Great Space. The highest point of the roof structure would extend approximately 140 feet above the LRT platforms, located in the center of the Great Space. The LRT platforms would serve the North Corridor, oriented north-south across the diameter of the 400 foot circle. A covered pedestrian route would circumnavigate the entire Great Space. Pedestrian access to the Great Space would be at ground level from Burnett Street through the headhouses and Grand Stair, as well as the drop-off area accessed from "upper" Main.

Part of the Phase I concept for the IT is to provide areas for priority development around the great space and above the headhouses. This secondary, joint development could enhance the overall project, providing additional opportunities for commuters and nearby neighborhood residents to access retail amenities. As currently envisioned, joint development would be pursued above the IT facility,

such as the parking areas, bus bays and headhouses. This future development is conceptual and is not included as part of the transit facility.

The LRT platforms and the Great Space would be located above the existing grade; therefore, an “upper” Main Street would be constructed to provide access for private vehicles, taxis and shuttle vans to the LRT platforms and other facilities on the upper level. Through service for automobiles would not be provided on this portion of Main Street. The existing Main Street, including a reconstructed tunnel, would be realigned to accommodate through traffic along “lower” Main Street.



Short-term parking would be located in the bus transfer area and south of the existing UPRR. Up to 2,000 spaces provided in a combination of surface lots and/or parking structures would most likely be added in phases, based on changes in demand over time. Access to parking would be made available via “lower” Main Street and a parking access road perpendicular to “lower” Main Street beneath the reconstructed Naylor Street. Bicycle storage facilities would be available on site.

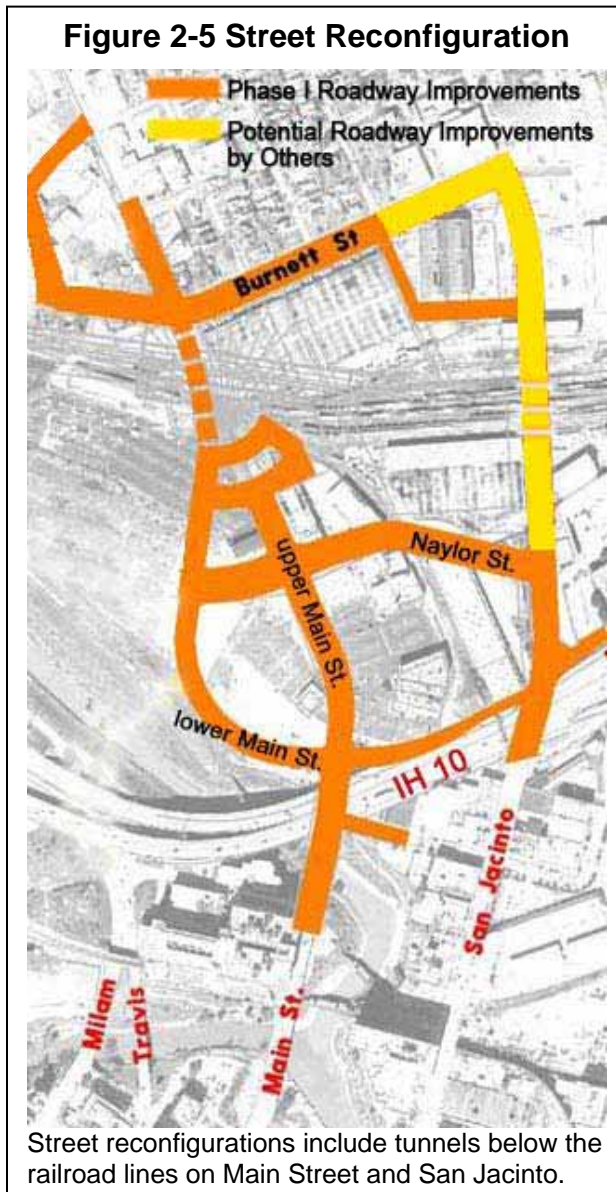
In addition to providing connections between transit modes and passenger amenities, the terminal buildings are configured to accommodate potential TOD uses.

Planning and facility design is being conducted so as not to preclude other transportation services at this site which may include: national passenger rail (Amtrak), airport shuttle buses, intercity buses and international buses. Any proposal to provide additional bus service would be subject to evaluation in a supplemental environmental assessment and further air quality conformity

analyses. Any proposal to relocate Amtrak would be subject to separate environmental clearance.

Roadway Improvements

Figure 2-5 shows the street configuration that is part of the IT project. Associated street improvements intended for circulation of local buses and SOV include the extension of San Jacinto Boulevard. The roadway could be extended to Burnett Street or, depending on traffic and safety analysis, may stop at Naylor Street. This road would be a four-lane divided roadway and would be a primary access point for local bus traffic and the potential future East End and Southeast GRT



lines. If the street extension stops at Naylor Street, a new roadway would be a dedicated guideway for GRT and local buses only. The guideway would be constructed under the existing freight line. San Jacinto Boulevard could be extended to Burnett Street by Harris County to further enhance local circulation and provide an alternate route for future traffic exiting from the Hardy Toll Road extension.

To optimize bus access to the METRO transit center, Burnett Street would be reconstructed to become a four-lane divided street between Chestnut Street and Main Street. An additional drop-off lane would be provided to the east-bound lanes near the Grand Stair, headhouses and bus transfer center.

In order to accommodate through traffic, Main Street would need to be reconstructed. This new two-lane divided roadway would turn west approximately 100 feet north of IH 10 and would require the reconstruction of the Judge Alfred Hernandez Tunnel. The existing

tunnel does not meet current safety standards for overhead height clearances or sight distance. A new tunnel entrance would be located slightly west of the current entrance and would require slightly longer tunnel approach roadways.

The new “upper” Main Street would be constructed as a four-lane divided roadway with the North LRT fixed guideway located within the median. Naylor Street, beginning at its intersection at-grade with the new San Jacinto Street, would be raised to meet the elevation of “upper” Main Street and would provide access to an elevated street grid that would also include two streets parallel to Main Street and a street parallel to Naylor Street.

Local bus routes and GRT circulation from the south would use the extended San Jacinto Boulevard and/or bus only guideway to access the bus transfer area and GRT platforms.