

MONTROSE

PEDESTRIAN & BICYCLIST PLAN



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Lockwood, Andrews & Newnam, Inc.

A LEO A DALY COMPANY

THE
LENTZ
GROUP





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Acronyms

ABS	Architectural Barriers Standards
ADA	Americans with Disabilities Act
CIP	Capital Improvement Plan (5-year)
CMAQ	Congestion Mitigation and Air Quality
COG	Council of Governments
COH	City of Houston
DOJ	Department of Justice (administers ADA)
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GIS	Geographic Information System
HCC	Houston Community College
H-GAC	Houston-Galveston Area Council
HISD	Houston Independent School District
HPD	Houston Police Department
HSPVA	High School for the Performing and Visual Arts
METRO	Metropolitan Transit Authority of Harris County
MPO	Metropolitan Planning Organization
P&D	Planning & Development
PWE	Public Works and Engineering
RCTSS	Regional Computerized Traffic Signal System
RTP	Regional Transportation Plan (25-year)
SNAP	Super Neighborhood Action Plan
TAS	Texas Accessibility Standards
TEA-LU	Transportation Equity Act—A Legacy for Users
TIP	Transportation Improvements Plan (3-year)
TSTOP	Traffic Signal Timing and Optimization Program
TxDOT	Texas Department of Transportation
TxDPS	Texas Department of Public Safety
UST	University of Saint Thomas



SECTION 1 STUDY OVERVIEW

1.0 INTRODUCTION

The Houston-Galveston Area Council (H-GAC) is a voluntary association of local governments and local elected officials in the 13-county Gulf Coast Planning Region, an area of 12,500 square miles with almost 5.4 million people. Organized in 1966 by local elected officials after authorization by State enabling legislation, H-GAC now has 132 local government members, including all major general-purpose local governments in the 13-county region: 13 counties, 105 cities, and 14 school districts.



The LAN project team brought local and national experience in developing pedestrian and bicycle plans.

In 2004, H-GAC conducted a study to identify districts where there were high levels of existing or potential pedestrian and bicyclist activity, and where there were significant opportunities to replace vehicle trips with pedestrian or bicycle trips, and to improve pedestrian and bicyclist safety. Fifteen districts were identified throughout the region, with Montrose in Houston found to be one of the top districts in need of improvements.

H-GAC selected consultant Lockwood, Andrews & Newnam, Inc. (LAN), in association with sub-consultants Livable Streets, Inc. and The Lentz Group, to develop a conceptual master plan for comprehensive pedestrian and bicyclist improvements in the Montrose district. The consultant team worked closely with the Montrose community to define the best possible overall plan that fits the needs of the community's residents, businesses and visitors.

1.1 NEIGHBORHOOD CHARACTERISTICS

The development of Montrose dates to the early 20th century, when it was one the first suburbs of Houston, as families began moving south and west from downtown. Most of the original buildings date from 1900 to 1940.

The neighborhood has seen revitalization of commercial areas, changing demographics, and both renovation and replacement of older homes. Starting in the 1960s, when the area's original deed restrictions began to lapse, the pre-World War II single-family homes began giving way to apartments and commercial uses.

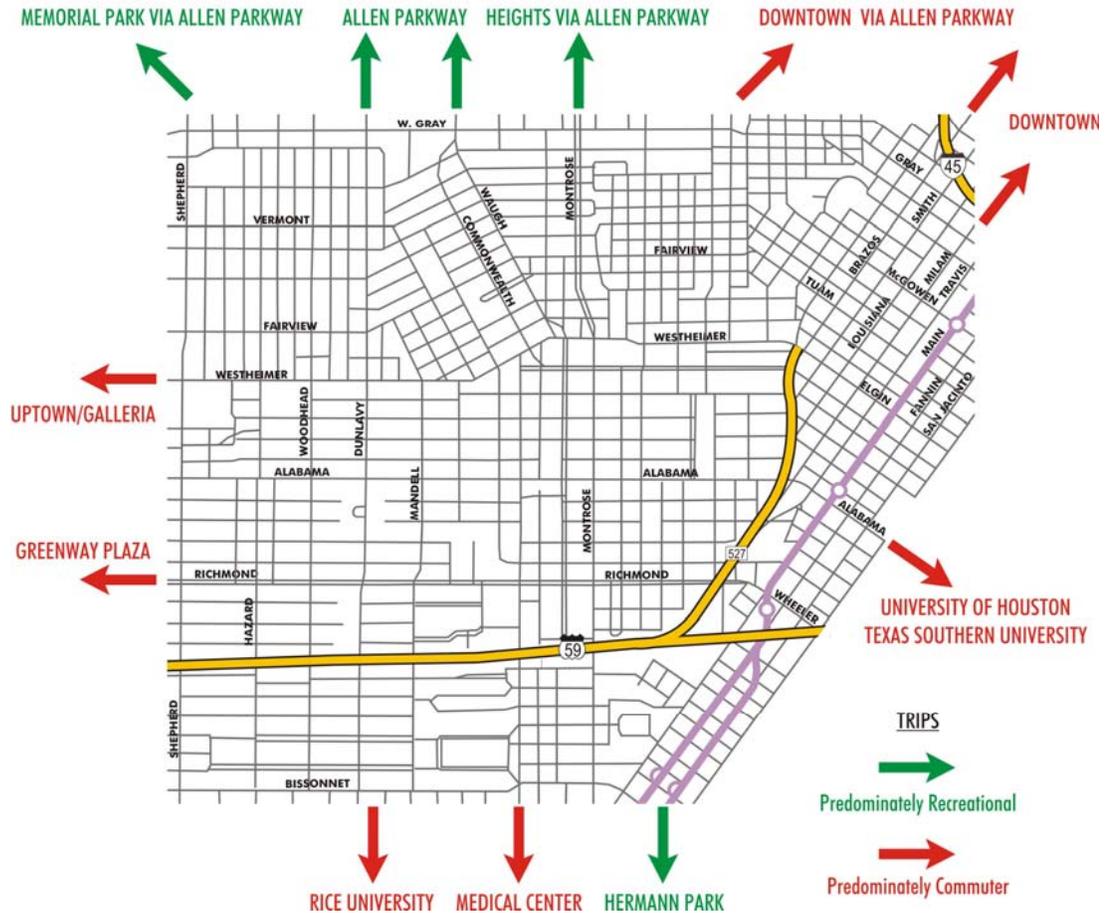
Starting in the 1990s, Houston's urban real estate boom again transformed Montrose with large numbers of townhomes replacing bungalows and filling in vacant lots, as housing values greatly increased.

According to the 2000 U.S. Census, Montrose compared to the whole city has a young, well-educated, and somewhat affluent population who have a greater propensity to walk or take public transportation. The majority of housing units are in apartments and condominiums. Restaurants and retail land uses dominate the commercial corridors, but the neighborhood also houses many service businesses, small offices, museums, and community services.

Montrose has a dense street grid, with numerous connections to adjacent neighborhoods. Traffic levels are relatively high, which is not unexpected for a well-to-do urban neighborhood. Local buses travel down most major thoroughfares, commuter buses pass through the area headed for downtown and the Medical Center, and METRO's first light rail line lies just outside the study area boundary to the east.



EXTERNAL DESTINATIONS



1.2 PEDESTRIAN CORRIDOR CONDITIONS

The pedestrian infrastructure in the Montrose District has similar conditions as those in other areas of the City of Houston. Sidewalks are of inconsistent quality and some are in need of repair. Drainage is also an issue in some areas, and it is common to see sidewalk ramps and driveways that do not meet current Americans with Disabilities Act (ADA) standards. Other conditions that are common throughout the city and could impact mobility include: numerous driveways, overgrown landscaping, and poorly-located utility poles. In commercial areas, where many activities occur on sidewalks in front of businesses, pedestrians face the challenge of having to weave around obstructions; the condition could be alleviated by installing wider sidewalks and preventing obstructions on sidewalks. On some blocks, the sidewalks are either in poor enough condition or obstructed to such a degree that pedestrians walk in the street.

Over the years, the City has made efforts to improve conditions in the Montrose District. The City has gradually installed curb cuts and



Westheimer and Montrose is one of the study area's busiest intersections for both vehicle and pedestrian crossings. Pedestrians were provided no alternate routes during recent construction.



sidewalk ramps. The City has also attempted to replace sections of sidewalk. However, there are some limitations in desired results. For example, many intersections do not have ramps at all four corners. Ramps often lead up to sidewalks that have no accessible route through the block or no accessible exit at the next intersection. In some cases the slope of the ramps does not meet ADA standards. Also, even on major roads, some intersections have no ramps at all, and the location of deficiencies is irregular.

1.3 PEDESTRIAN CROSSING CONDITIONS

Pedestrians face challenges not only walking on sidewalks in Montrose but in crossing major streets throughout the district. In theory, signalized intersections should provide a reasonably safe and usable location to cross the street. However, many intersections do not have the “Walk/Don’t Walk” pedestrian signal heads; some may have these heads, but in one or two directions only. At some locations, the pedestrian signal heads no longer work, and some pedestrian signal heads and push buttons are positioned incorrectly. Complicating these problems are significant concerns with turning motor vehicles conflicting with pedestrian movements at signalized intersections.

Away from traffic signals, pedestrians face even greater challenges when crossing major streets. The most notable challenges pedestrians face in crossing streets are on Richmond, Montrose, and Westheimer. West Alabama and West Gray can also be difficult, especially during peak traffic periods.



A newly-constructed curb ramp on Richmond Avenue leads to a narrow sidewalk.

As shown in **Figure 1** in Appendix A, the greatest concentration of commercial development is located within several blocks in each direction of the intersection of Westheimer and Montrose. This area is a major hub of pedestrian activity, and it is also a node for transit and taxi access. A second major commercial district and corresponding pedestrian activity is located on Westheimer throughout the corridor and especially in the vicinity of Dunlavy. Pedestrians face notable challenges in crossing Westheimer east of Montrose and just east of Shepherd.

Richmond Avenue, like Westheimer, is a major commercial corridor. Richmond, however, is a wide arterial street with faster moving traffic. Commercial land uses along Richmond are designed to be accessible primarily by autos. Consequently, Richmond has fewer pedestrians than Montrose, and pedestrians along Richmond are more likely to be transit passengers. The sidewalks along Richmond are especially narrow due to the roadway taking up a large percentage of the right-of-way, and trees in the middle of the sidewalk as well as poorly-maintained brick pavers make walking difficult.

Shepherd Drive forms the western boundary of the study area. Although it is a narrow street, extremely heavy and fast moving traffic, auto-oriented land uses, and a large number of driveways makes Shepherd difficult and unsafe for pedestrians to cross. The conditions on Shepherd make it an inhospitable environment for pedestrians

If Shepherd, as the western boundary, is inhospitable to pedestrians, Spur 527 to the east is a complete barrier. An underpass at Richmond provides the most convenient access to light rail within the study area, but pedestrians are forced to walk in traffic lanes on Richmond. Sidewalks have not been maintained during the highway construction, and the narrow space where sidewalks might be provided is occupied by guardrails, overgrown grass, construction debris, and traffic control equipment. Conditions are marginally better at Alabama; only beyond construction at Elgin



do pedestrian conditions return to “normal.” Midtown streets also prove a challenge for pedestrians. Although north-south streets and sidewalks have been rebuilt throughout Midtown, east-west streets and sidewalks are severely deteriorated. Moreover, the north-south streets are primarily wide commuter routes, serving 4 of 5 lanes of traffic, without frequent traffic signals, further frustrating pedestrian access between Midtown and Montrose.

Only to the north are conditions more hospitable to pedestrians. West Gray and West Dallas have lower traffic volumes, and traffic generally moves more slowly on these two streets. Many pedestrians in the northern portion of the study area are destined for Buffalo Bayou’s exercise trails, however, and the high speed traffic on Allen Parkway serves as an obstacle in all but a few crossing locations.

Cited numerous times throughout the public input process was that drivers do not pay attention to pedestrians or watch for their presence, especially when turning right. Many drivers are said to watch only for other automobiles and ignore bicycles and pedestrians that may cross their path.



These poor-condition sidewalks along Richmond Avenue have been blocked during construction on Spur 527. TxDOT has agreed to remedy the situation.

1.4 BICYCLING CONDITIONS

Montrose area cyclists travel for recreation, for exercise, and for commuting. They represent virtually every age group from children to seniors. They represent every skill level from inexperienced to advanced. They face many distinct challenges as cyclists in Montrose.

Beginning cyclists who are just starting out face a number of dangerous situations, including potholes and ruts in streets. Beginners are most likely found on smaller residential streets with lower volumes and speeds of auto traffic. Cyclists may erroneously feel safe when crossing certain streets or intersections. For example, cyclists may feel safe crossing at the four-way stop at the intersection of Dunlavy and Vermont. However, due to poor visibility of side streets and traffic control devices, auto drivers frequently speed through without stopping. Some bicyclists ride strictly along neighborhood streets, avoiding any crossing of major arterials. However, to travel any significant distance, cyclists must find reasonable routes across busy streets. Fairview, Yoakum, and Hawthorne serve as good alternate routes because they are among the few streets that provide acceptable crossings of major arterials. A common destination for many recreational cyclists is the Buffalo Bayou off-road trail just north of the study area, but this route is accessible only from Waugh.



Bike route signage should be informative and indicate the preferred bicycle routes. Adding route designations and destinations to bicycle route signs guides cyclists throughout the network.

Cyclists who are new to the area are likely to be confounded by the bicycle route signs that display no route numbers, no destination names, and do not consistently correspond to routes on the city’s scarce bicycle route maps.

Intermediate and advanced cyclists are more likely to be comfortable riding on some of the busier thoroughfares, even those not designated as bicycle routes. Routine challenges for all cyclists include illegal parking by cars in bicycle lanes, illegal turning movements by motorists, and general failure to recognize cyclists.



Bicycle commuters, on the other hand, are largely traveling between locations within or near the Montrose District. Observation indicates that many bicycle commuters are service workers who work in area restaurants. **Figure 3** in Appendix A shows bikeways officially designated by the City of Houston. For parking, bicycles are commonly chained to street signs, railings, and other fixed objects as there are not many bicycle racks in the study area. Schools and universities are among the likely locations for bicycle racks.

Some cyclists in Montrose exhibit poor bicyclist behavior and riding techniques, negatively impacting the safety of cyclists and the perception of cyclists by motor vehicle drivers. Cyclists sometimes fail to give proper signals to motorists and make unpredictable maneuvers in traffic. As is common throughout the country, many of the lower-income bicycle commuters act like “rolling pedestrians”, often against the flow of traffic and on sidewalks of arterial streets, putting themselves in greater danger.

Many transit agencies put bike racks on buses across their entire fleets, as a policy decision. METRO currently does not. BikeMap.com, a cartography company, has collected data on bike/bus interaction, and transit agencies across the US that have installed bike racks on buses have reported bicycle usage on up to 6% of all trips.

Reference: <http://www.bikemap.com/transit/rstats.htm>

1.5 STATE OF THE PRACTICE

The “four E’s” of best practices, education, encouragement, enforcement and engineering, bring the concept of bicycle planning from the shelf to the street. Education tells potential riders and pedestrians how, where, and when to use the network. Encouragement gives riders and pedestrians incentives and programs to foster more use. Enforcement bridges education and encouragement by regulating the safe use of the network. Enforcement is more than citing bad behavior; it teaches safe riding habits, understanding of signage, abiding by the rules, and personal responsibility. It must be emphasized that enforcement must also include motorist behavior, as motorist disregard for pedestrians and cyclists create dangerous potential for conflict.

When it comes to a small area plan like this one, engineering is the most important of the “four E’s.” Good design supports the other three E’s by educating people about where and how to bicycle properly with traffic and walk across streets safely, encouraging people to bicycle and walk in the public right-of-way, and providing a physical framework for proper enforcement. There are many engineering/design practices that have been used throughout the country with great success to both encourage and accommodate walking and bicycling, as well as improve pedestrian and bicyclist safety. The following overview explains the most common and effective measures.

1.5.1 Pedestrian Corridor

The Montrose District is an urban environment where sidewalks are the preferred way to accommodate pedestrians walking along the street. In some circumstances, including a few minor streets and alleys in Montrose, traffic volumes and speeds are low enough that pedestrians can safely share the street with the few motor vehicles present. However, it is best to assume that all streets should have sidewalks. In general, sidewalk retrofits should be prioritized based on traffic conditions, so arterial streets should get priority treatment. This is consistent with City of Houston policy, which gives preference to sidewalk installation along major thoroughfares.

Whenever possible, sidewalks should be buffered with a planter strip or furniture zone, rather than placed adjacent to moving motor vehicle traffic. This increases pedestrian comfort and makes it easier to meet the ADA cross-slope requirement at driveways and sidewalk ramps, as well as the requirement for a clear passage around poles, posts etc. (these can be placed in the furniture zone).



Planter strips should be 5' wide or greater. On-street parking or a bike lane can act as a buffer too; but these do not help meet the ADA requirements.

Separated sidewalks should be 5' wide or greater; 6 feet is a desirable minimum for curbside sidewalks. Along commercial streets where the furniture zone is paved as part of the sidewalk, curbside sidewalks should be 10' wide or greater. On curbside sidewalks, obstructions should be placed behind the sidewalk if a 6' clear width cannot be achieved. Mountable curbs are not recommended.

Continuous and connected sidewalks are generally needed along both sides of streets to prevent unnecessary street crossings.

1.5.2 Pedestrian Signals

All signalized intersections should have the following:

- Pedestrian signal heads** let pedestrians know the appropriate time to cross within each signal cycle. Without pedestrian heads, pedestrians have a difficult time determining when it is safe to cross, particularly at intersections with one-way streets, unusual geometry, or complex signal phasing like protected left turns or split phasing. In addition, pedestrian signals make it easier to ensure that pedestrians have enough time to cross the street before conflicting traffic gets a green signal.
- Marked crosswalks** at all legs of each intersection to indicate to drivers where to expect pedestrians and help keep the crossing area clear of vehicles. Closing a crosswalk to improve traffic flow is **counterproductive**; this often results in pedestrians crossing that leg without a signal or crossing 3 legs of an intersection, increasing exposure and delay.
- A WALK signal long enough** to get pedestrians started and a clearance interval long enough to ensure a pedestrian can fully cross the street.
- Push buttons** placed where all pedestrians, including those with disabilities, can easily reach them, and that clearly indicate which crosswalk the button regulates. Mounting push buttons on separate pedestals is often necessary to achieve proper placement, rather than on the signal poles. In downtowns, central business districts, and other areas of high pedestrian use, the pedestrian phase should occur every signal cycle. Push buttons are not needed at these locations except as part of an accessible (audible) pedestrian signal used primarily to assist visually impaired pedestrians.
- Even with all of the above features, pedestrian crashes frequently occur at signalized intersections, most often due to conflicts with vehicles that turn during the green signal that is concurrent with the WALK signal. The following signal timing techniques and other treatments can be used reduce conflicts:
- Protected-only left-turn phasing** allows pedestrians to cross without conflicts from left-turning drivers, displaying red arrow that prohibit left turns during the pedestrian WALK and clearance intervals.
- A 1- to 2-second all-red interval** can help prevent deadly crashes caused by high-speed red light runners hitting pedestrians crossing with the WALK signal.
- Leading pedestrian intervals** provide the WALK indication 2 to 5 seconds prior to the concurrent green indication. This allows pedestrians to enter the crosswalk before turning drivers, increasing the visibility of pedestrians and reducing conflicts with turning vehicles.





- **Countdown Pedestrian Signals** tell pedestrians how much time is left in the pedestrian clearance interval (flashing DON'T WALK). Studies show that countdown signals reduce the number of pedestrians left in the street when conflicting traffic receives a green indication.

On busy multi-lane roadways with significant volumes, a signal may be useful mid-block or at existing unsignalized intersections to enable pedestrians to cross. It can be difficult to meet MUTCD warrants for a signal based on existing pedestrian counts; it may be necessary to anticipate how many pedestrians might cross if a signal is installed. Signals have associated operational and safety concerns that must be addressed, and the distance to the adjacent signals is also an important consideration. Traffic delays can be reduced by using a median island and a 2-step pedestrian crossing, where the pedestrian push-button stops only one direction of traffic at a time.

1.5.3 Unsignalized Pedestrian Crossing Treatments

In places like the Montrose District, outside of downtown areas, signalized intersections are typically located several blocks apart. Crossing at unsignalized locations can be especially problematic for pedestrians, especially at multi-lane arterials. It isn't practical to expect pedestrians to walk to the nearest signalized intersection, as this often takes a significant amount of time. Therefore, it is necessary to provide additional treatments to assist pedestrians to cross unsignalized intersections. Midblock pedestrian crossings are often discouraged, but in reality they can be as safe as or safer than intersection crossings, because with no turning vehicles, there are fewer conflicts with traffic.

The following pedestrian crossing treatments can be used at unsignalized intersections and mid-block pedestrian crossings:

- On two way streets, a **continuous raised median or a pedestrian crossing island** can help reduce crashes by up to 40%. The benefits are greatest on busy multi-lane streets where gaps in traffic are few and difficult to find. A median or crossing island breaks an otherwise complex crossing maneuver into two easy steps: instead of needing to find a gap in traffic long enough to cross all lanes at ones, a pedestrian looks left, finds an acceptable gap, crosses to the island, then looks right and finds a second acceptable gap to finish crossing. At intersections, the median or median nose should extend past the crosswalk to provide a refuge for pedestrians and to channelize left-turning vehicles, slowing their turning speeds.
- On streets with on-street parking, **curb extensions** can be used to reduce the total crossing distance and improve visibility between motorists and pedestrians waiting to cross. Curb extensions should extend approximately the full width of the parking lane or a typical parked vehicle, to ensure that sight lines are not blocked by parked cars. At intersections, curb extensions can be used to bring the crosswalk closer to the intersection, improve accessibility by providing additional space for sidewalk ramps and street furniture, and slow right-turning vehicles if the corner radius is tight.
- Pedestrian crashes occur disproportionately at times of poor lighting (dusk and night mostly). **Illumination** should be used at crossings to significantly increase the driver's ability to see pedestrians crossing the road.
- **An advance yield line** should be used at unsignalized crosswalks on multi-lane streets to reduce the occurrence of the common and often fatal "multiple-threat" crash type. These crashes occur when a driver in the outside lane stops to let a pedestrian cross, but so close to



Bulbs and refuges at crossing locations enhance pedestrian safety, both real and perceived.



the crosswalk that the car blocks sight lines between the pedestrian and a driver in the adjacent lane. The 2nd driver does not have enough time to react, potentially striking the pedestrian at high speed. The advance yield line is placed 20 to 50 feet from the crosswalk, encouraging drivers to stop further back, maintaining better sight lines and giving the 2nd driver and the pedestrian time to react if necessary.

- At unsignalized intersections, pedestrians face additional challenges due to conflicts with right and left-turning vehicles. The following additional issues and design features affect pedestrians at unsignalized intersections:
- Skewed intersections result in longer crosswalks, poor visibility between drivers and motorists, and allow drivers to turn at high speeds. Whenever possible, **skewed intersections should be realigned** to reduce or eliminate skews.
- **Small corner radii** have many benefits for pedestrians. They shorten the crossing distance, allow for well-placed crosswalks, slow right turning vehicles, and increase visibility of pedestrians. The size of the corner radius depends on the appropriately-chosen design vehicle, and whether the street is a local residential street, a collector or an arterial. An appropriate radius for each corner of an intersection should be designed, even if this results in different size radii at the same intersection. It is not necessary to design for easy turns by the occasional large vehicle; it is appropriate to design so that some rare large design vehicles must use multiple same direction or even oncoming traffic lanes to make their turns.
- At locations where an exclusive right-turn lane is provided, a **right turn channelization island** between the right-turn lane and the through lanes shortens the crossing distance across the through lanes, resulting in less pedestrian exposure and improved signal timing. The island also enables pedestrians and drivers to negotiate one conflict separately from the others. **A properly designed channelization island is not symmetrical**, and has a longer tail pointing upstream toward the approaching right-turn driver. This brings the approaching driver to the cross street at an angle closer to 90° and allows drivers to more easily see pedestrians crossing the right turn lane. The crosswalk should be placed one car length back from the edge of the cross street, to separate the pedestrian-vehicle interaction from the vehicle-vehicle interaction at the cross street.
- **Crosswalk placement** must balance several competing goals including short crosswalks, crosswalks close to the intersection for better visibility of pedestrians by turning drivers, and the need to properly locate two sidewalk ramps. At many intersections, particularly those with large corner radii, good crosswalk placement can be challenging. **Sidewalk ramps** must be contained within the marked crosswalk area. Poor ramp placement and design can make a street crossing more difficult since poorly placed or oriented ramps may require wheelchair users make long detours while crossing or cross where drivers don't expect them.

1.5.4 Americans with Disabilities Act (ADA) requirements

For an urban environment such as the Montrose District, a few but very important ADA requirements must be met to ensure all pedestrians can travel safely and conveniently along and across streets to all destinations. Since Montrose is fairly flat, one prime ADA requirement, maximum grade, is easy to meet. The requirements that present challenges are smooth surfacing, clear width, maximum cross-slope, and proper ramp design and placement. All of these are absolute requirements, not suggestions, recommendations or guidelines.



Maximum grade in the direction of travel cannot be steeper than 5%. 8.3% is allowed for sidewalk ramps and for slopes with a vertical change of no more than 2.5 feet, after which a 5-foot by 5-foot landing is required. Sidewalks can be the same grade as the adjacent street.

ADA requires a **smooth surface** that where vertical changes in level do not exceed ¼"; new concrete sidewalks are the best way to ensure this tolerance is met. Some brick and other decorative surfaces can be used, but they can be difficult to install so that they continue to meet the maximum tolerance. If decorative surfaces are requested, it's best to encourage a design that keeps them out of the primary walking area of a sidewalk, such as in the "furnishing zone" near the curb or in the "frontage zone" at the back of the sidewalk.

ADA standards currently require a **minimum clear width** of 3', although it appears that the future requirement will be 4'. However, for maximum convenience for all pedestrians, 5' is a better dimension; this ensures that pedestrians of all abilities can walk side-by-side or pass each other. Sidewalks separated with a planter strip or furnishing zone make it easy to meet clear width requirements by providing an area where poles, posts, mailboxes, trees, and other obstructions can be placed.

The **cross-slope** of no greater than 2% must be provided for the required clear width of the entire accessible route including at all driveways, sidewalk ramps, and intersections. The easiest way to achieve this requirement is with a separated sidewalk allowing the sloped driveway apron and sidewalk ramps to be placed in the planter strip. With a curbtight sidewalk, special techniques must be used to maintain a level (2% maximum) passage across driveways.

Sidewalk ramps cannot exceed the maximum slope of 8.3% (1:12) and a 4-foot by 4-foot level (2% maximum) landing must be provided at the top of every ramp. Truncated domes must be placed for a 2-foot depth at the bottom of each ramp, 6 to 8 inches from the face of the curb, extending the full width of the ramp (but not the flare). This "tactile warning" tells blind pedestrians where the sidewalk ends and the street begins.

Each ramp must be placed entirely within a crosswalk (or crosswalks) at intersections. It is generally recommended that 2 ramps be placed at each corner, one for each crosswalk. This is easier to achieve where the corner radius is relatively small. On large radius corners (30' and above) placing 2 ramps may have the disadvantage of removing the crosswalk(s) too far from the intersection itself; forcing disabled pedestrians to make a detour and cross at locations where drivers may not expect them. It's best to design an intersection with good crosswalk placement then decide if one or two ramps serve pedestrians better.

1.5.5 On-road Bicycling

In urban environments, especially in an area like Montrose with traditional grid street patterns, many local streets have low traffic volumes and speeds and are suitable for a "**shared roadway.**" There are no specific dimensions; bicyclists and motorists use the available roadway. No special signing or marking are needed. But local streets have a major disadvantage for bicycle travel greater than a few blocks; bicyclists will have to cross arterial streets at locations with no protection (traffic signal, crossing islands etc.). **Signed shared roadways** can be created by adding bike route signs; however, to be effective, bike route signing must include destination signing or at least a named or numbered bike route designation.



ADA compliant crosswalks and pedestrian refuges improve access for everyone. This is just one of a number of crossings on Yoakum near the University of St. Thomas and Annunciation Greek Orthodox Church.



For trips longer than few blocks, bicyclists should always be allowed to use arterial streets. **Bike lanes** are an effective way to provide enough width for bicyclists to be passed by faster moving traffic. Bike lanes also allow bicyclists to proceed at a constant speed when traffic is congested and moves at a stop-and-go pace. Bike lanes are often instituted on existing streets by reassigning road space by either narrowing travel lanes slightly or outright removing a travel or parking lane. Generally bike lanes should be 5 to 6 feet wide with a minimum clear width of 5 feet from the center of the bike lane stripe to the curb or edge of pavement (4 feet to the gutter line). In areas where bike lane continuity can not be provided or where there isn't quite enough room for bike lanes, a **wide outside lane of 13 to 15 feet** can be provided, also allowing motorists to pass cyclists without changing lanes.

A **bicycle boulevard** is a method of proactively accommodating bicyclists by providing an alternative to arterial streets. A bike boulevard turns a local street into a thoroughfare for bicyclists without encouraging motorists to use it as a through route (local traffic still has access). Traffic calming techniques are used to reduce motor vehicle speeds and through traffic. Traffic controls give priority to through bicycle movement at intersections with other local streets. Special signing and marking is often used to encourage the use of the street by bicyclists. Arterial crossings are aided with techniques such as traffic signals for bicyclists (and pedestrians) only, median islands and/or other measures.

A bike boulevard can only work in a system of connected streets, preferably a grid. They can provide a good way to travel moderate distances (10-40 blocks) without using arterial streets. In the Montrose district, there are several opportunities for bike boulevards; many of the existing signed bike routes could easily be converted to bike boulevards, and bike boulevards could be created on other streets to provide alternatives to some of the narrow arterial streets.



A cyclist travels down a separately-marked bicycle lane.



SECTION 2

PUBLIC INPUT AND PROJECT SELECTION

2.0 SUMMARY OF PUBLIC PROCESS

Public input was solicited at several points during the study process. Initially, a project website was developed to disseminate and collect information. Surveys, both online and printed, were developed. Stakeholder input was solicited to identify preliminary concerns of the neighborhood. An initial public meeting was held to solicit comments from the community as a whole on the issues identified in the surveys and stakeholder efforts. Finally, a draft plan was presented to the public for final comments. These efforts are detailed in the following sections.

2.1 INITIAL PUBLIC INPUT SURVEY

At the beginning of the project, a survey was developed to gauge initial public interest, including generalized problem areas, relative levels of concern over wayfinding, accessibility, safety and other issues. Printed surveys were made available at the stakeholder workshop and July public meeting (see other Appendices for discussions of these events). In addition, the project website offered automated versions of the survey in four different formats based on whether a visitor indicated their main interest as ADA, pedestrian, or bicyclist issues, or did not indicate a preference. This initial public input survey was closed after the July public meeting.

A total of 148 surveys were received, 99 of the general survey and 49 of the various specific-interest surveys. A full listing of the surveyed statistics is located in Appendix B. In general, respondents reported making an average of 10 weekly walking trips and 4 weekly bicycling trips. Bike ownership was high at 68%, and METRO ridership also high at 35%. Interestingly, while 62% of respondents said their *usual* mode of travel in Montrose was automobile, 79% said their *preferred* mode was walking or bicycling. The most commonly cited issues affecting pedestrians and bicyclists were sidewalk problems (discontinuities, inadequate width, poor condition, etc.), driver behavior, and lack of designated facilities (crosswalks, bike lanes).

2.2 STAKEHOLDER WORKSHOP

To kick off the project, the consultant team conducted stakeholder meetings on June 15, 2005, to obtain one-on-one input from key community leaders. Invitees included state, county and city officials; Texas Department of Transportation; METRO; area business owners; institutional representatives such as school principals; social service organization representatives; neighborhood and community association representatives; and bicycle and disabled persons advocates. Full detail of the comments from these two meetings is located in Appendix C.

2.3 INITIAL PUBLIC MEETING

H-GAC and the consultant team held an initial public meeting on July 21, 2005, to explain the study process and to gather the community's specific concerns and ideas regarding possible pedestrian and bicyclist improvements in the Montrose area. The ideas and themes from the stakeholder workshops and the public surveys were presented and the attendees were asked to illustrate on maps problems and potential improvement projects. Full details of the public input from this meeting are located in Appendix D.



2.4 SURVEY OF CANDIDATE PROJECTS

Using the input from the public meeting in July, a series of projects was developed based on the maps drawn at that meeting and the responses to the first public survey received over the previous month. These projects included sidewalk reconstruction, lane and crosswalk striping, as well as signalization and lighting. This list became the basis for the second survey posted to the project website. Thirty-four projects developed from the public input, and one “write-in” option were presented, as shown below.

1	Pedestrian Safety Signage Provide safety signs to warn motorists to watch for and yield to pedestrians in crosswalks at major intersections to reduce conflicts with right-on-red turns.
2	Crosswalk Markings Provide clearly marked crosswalk with vehicle stop lines at <u>all</u> signalized intersections and intersections with 4-way stops.
3	Pedestrian Signals Provide pedestrian signals at all signalized intersections and provide an automatic pedestrian phases at major intersections.
4	ADA Curb Ramps Prioritize construction of curb ramps to ensure continuous accessible routes along major corridors. All new ramps should be ADA-compliant and address flooding issues.
5	Lighting Add lighting along major corridors, including Westheimer, Montrose, and Richmond, to enhance pedestrian safety at night.
6	Montrose Sidewalks Reconstruct sidewalks from the Museum District to West Gray. Sidewalks in commercial districts need to be wider to accommodate higher volumes of pedestrians.
7	Montrose Mid-Block Crossings Provide marked crosswalks and signage at <u>un</u> signalized intersections along Montrose Boulevard to increase motorist awareness and pedestrian crossing safety between signalized intersections.
8	Montrose Pedestrian Refuges Provide pedestrian refuges at designated mid-block crossings in the center of Montrose to improve crossing safety. Refuges provide a small paved space with safety barriers to enhance safety for pedestrians waiting in the middle of the street to cross. Medians north of Westheimer and extra street widths south of Westheimer would be used to create safe crossings.
9	Westheimer Sidewalks Reconstruct sidewalks from Elgin to Shepherd. Sidewalks in commercial districts need to be wider to accommodate higher volumes of pedestrians.
10	Westheimer Mid-Block Crossings Provide marked crosswalks and signage at <u>un</u> signalized intersections along Montrose Boulevard to increase motorist awareness and pedestrian crossing safety between signalized intersections.
11	Westheimer Pedestrian Refuges Provide pedestrian refuges at designated mid-block crossings in the center of Westheimer to improve crossing safety. Refuges provide a small paved space with safety barriers to enhance safety for pedestrians waiting in the middle of the street to cross.
12	Montrose Esplanade Project Introduce a landscaped median in Montrose south of Westheimer. Create designated pedestrian crossings throughout the corridor to include pedestrian refuges within the median.
13	Richmond Sidewalks Reconstruct sidewalks from the Wheeler light rail station to Shepherd. Sidewalks in commercial districts need to be wider to accommodate higher volumes of pedestrians.



14	Richmond Mid-Block Bicyclist and Pedestrian Crossing Create a bicyclist and pedestrian crossing at Richmond and Graustark by closing turns in the median of Richmond and designating a pedestrian and cyclist crossing and refuge.
15	Traffic Signals at Richmond and Graustark Install traffic signal at Richmond and Graustark to enhance pedestrian and bicyclist safety on the designated bicycle route. This would replace the proposed pedestrian/cyclist refuge (above).
16	Sidewalk and Lighting Enhancements at the Spur Underpasses Enhance lighting and add sidewalks at Alabama and Richmond underpasses.
17	Sidewalks on Secondary Streets Construct sidewalks to ensure continuous sidewalks on secondary streets, such as Taft, Bissonnet, Dunlavy, and Woodhead.
18	Neighborhood Sidewalk Reconstruction Program Begin systematic reconstruction of neighborhood sidewalks throughout Montrose to ensure safe and accessible routes.
19	Bicycle Route Destinations Add informative destination signs (such as "Medical Center," "Downtown") to bicycle route signs throughout Montrose.
20	Enhance Bicycle Safety Signage Provide safety-related signage to encourage motorists to share the road with cyclists and more generally respect cyclists on roadways.
21	Bicycle Racks Add bicycle racks at major commercial centers.
22	Bike Lanes on West Alabama Restore Alabama to its prior configuration with bicycle lanes as soon as the downtown spur is reopened.
23	Bicycle Route into Downtown on Bagby/Brazos This project would include a route designation and signage from the McGowen route into downtown.
24	Bicycle Route to Hermann Park/Medical Center Create a safe route from Montrose to Hermann Park and the Medical Center. Safety improvements would be needed across Main and Fannin where high traffic and light rail crossings inhibit safe access.
25	Bicycle Route on Yoakum Replace some stop signs on Yoakum with traffic calming measures. Improvements would allow bicycles to travel faster while maintaining slower auto speeds.
26	Bike Lanes on Waugh/Heights Fill the gap between the existing bike lanes on Heights Boulevard and Waugh. Bike lanes need to be of a consistent width, consistent design, and continuous throughout the corridor. Provide signage to prohibit parking in the bike lanes at all times.
27	Bicycle Route on Taft Provide an additional north-south route along Taft, including a safe crossing at Allen Parkway.
28	Bicycle Racks on METRO Buses Install bicycle racks on transit buses to allow bicyclists to extend their trip range.
29	Colquitt Bicycle Boulevard Create a safe east-west bicycle boulevard by adding traffic calming devices and traffic diverters to maintain bicycle flow while restricting auto speeds and through traffic. The bicycle boulevard concept would be a prototype street for the region.
30	Add Mini-Roundabouts on North and South Boulevard Mini-roundabouts encourage slower motorist speeds at residential area intersections, enhancing safety for pedestrians and cyclists.
31	Four Way Stops Enhance pedestrian safety by adding 4-way stops to Welch at Windsor and Colquitt at Greeley.



32	Traffic Signal at Bissonnet at Graustark Install traffic signal at Richmond and Graustark to enhance pedestrian and bicyclist safety in an intersection with poor visibility and high traffic.
33	Traffic Signal at Gray/Webster at Baldwin Install traffic signal at Gray/Webster and Baldwin to enhance pedestrian and bicyclist safety in a high pedestrian, urban environment.
34	Reconstruct Fairview Reconstruct Fairview to enhance the streetscape and provide continuous sidewalks and bicycle lanes.
35	Some Other Project Please fill in a suggestion for something not listed.

All persons who had left contact information at the website or a workshop or meeting were contacted and asked to select their five highest-priority projects, using the second survey form which was added to the website, replacing the introductory survey. Cost estimates were not included at this time; the project team felt it would be more beneficial to select the true preferences of the public, and let cost be used later by the funding agencies when deciding the number and scope of improvements to be undertaken. If, for example, the public's number-one preference was so expensive that it precluded other investments, the City may decide to forego that one item in favor of preferences two through five.

The website survey received 140 responses, and one point was given to each of the five projects that each respondent selected. The projects receiving the largest number of points were deemed to be the ones respondents felt were the highest priority. The project team selected the top half of the rankings (18 projects) as recommendations, based purely on public input. A full listing of the statistics for this survey is located in Appendix E.

In order to prioritize the recommendations, a rating system was developed to arrange the public selections by feasibility and cost. In general, projects that were less expensive, more easily coordinated, or already begun in some manner were given higher scores. A description of the rating mechanism is located in Appendix E. The recommended projects are listed in the following chapter.

2.5 FINAL PUBLIC MEETING—PUBLIC RESPONSE TO DRAFT PLAN

H-GAC and the consultant team held a final public meeting on September 15, 2005, to present the results of the website survey and the project prioritization, and to discuss the draft pedestrian and bicyclist plan for the Montrose area. Full details of the public input from this meeting are located in Appendix F.



SECTION 3 RECOMMENDATIONS

3.0 SUMMARY OF RECOMMENDATIONS

The vote totals from project ranking survey posted on the web, together with the assessments of probable cost and implementation time, were used to prioritize the most popular projects. It is important to point out that the sole criterion for *placement* in the recommended project list was the vote total by the public. The *priority order* of those projects was determined by the consultant team, who selected the top ten (actually 11 as two tied) projects, based on votes, cost, and time, for the list of immediate recommendations. A full description of the ranking system is located in Appendix E.

A total of 18 projects were highly-ranked by the public, with 11 of those selected as implementable in the short term. The 18 (with the 11 at the top) are listed below and described in greater detail in Section 3.3.

Project Description	Votes (A)	Estimated Cost (B)	Implementation Time (C)	Score A*B*C
Enhance lighting and add sidewalks on Alabama and Richmond under Spur 527	31	3	3	279
Sidewalk repairs along Montrose Blvd.	69	2	2	276
Designate a bikeway southward to Hermann Park and Medical Center	29	3	3	261
Improve the bikeway connection on Waugh into the Heights	26	3	3	234
Add bike racks to METRO buses	23	3	3	207
Designate a north/south bikeway on Taft St.	22	3	3	198
Return bike lanes to West Alabama	30	3	2	180
Sidewalk repairs along Westheimer Rd.	41	2	2	164
Add bike racks in commercial areas	18	3	3	162
Crosswalks and stop bars at all signals and 4-way stops	17	3	3	153
Designate a north/south bikeway into Downtown on Bagby and Brazos Streets	17	3	3	153
Sidewalk repairs along Richmond Ave.	31	2	2	124
Sidewalk repairs throughout local streets	59	1	1	59
Reconstruct Fairview St.--curbs, sidewalks, bikeway	52	1	1	52
Add esplanades to southern Montrose Blvd.	52	1	1	52
Additional street lighting on major streets	44	1	1	44
Pedestrian signals with automatic phases at all signalized intersections	17	1	2	34
Construct sidewalks where missing on local streets	27	1	1	27

3 = low 3 = short-term
 2 = medium 2 = medium-term
 1 = high 1 = long-term



NOTES

Projects above the heavy line received a score of 150 points or more. These projects are the "top ten" for short-term implementation. (There are actually eleven as the lowest two tied.)

Public Votes is the direct tally from the website surveys. 140 persons voted; each was allowed to mark five projects as their top-ranked. For example, "Sidewalk repairs along Montrose Blvd." was chosen among the top five by roughly half the respondents (69).

Cost ranking is a subjective ranking based on the expected cost of each project. Bikeways for example tend to involve only striping and signage and are thus low-cost. Sidewalk construction can be expensive but is easily divided into multiple sections and thus is rated medium to high cost depending on the size and complexity of the project. Finally, street reconstructions and modifications are rated high-cost, as these may involve utility relocations or large-scale construction at the least.

Time ranking is also a subjective judgment of the length of time it would take to plan, develop, and execute a particular project. This is a measure of the complexity of planning and design as well as the duration of construction. In some cases, such as the restoration of bike lanes to Alabama, projects may depend on other work finishing first.

Following this page, as Section 3.1, are two fold-out maps illustrating the 18 highest-ranked projects, as well as the 11 chosen for short-term implementation.

In general, probable costs were estimated based on the project team's experience with similar construction projects, and were divided into three groupings, as listed below. Further discussion of probable costs is located in Section 3.2.

3.0.1 \$ Low-Cost Improvements

- Striping
- Signage
- Traffic Law Enforcement
- Traffic Safety Studies—sight distance, speed, etc.

3.0.2 \$\$ Medium-Cost Improvements

- ADA Curb Ramps
- Drainage—no drainage improvements were identified in the top ten, although the City is planning on reconstructing streets (including drainage) in the Westmoreland neighborhood (see map on page 19)
- Sidewalks—also involve potential issues of property owner involvement and right-of-way

3.0.3 \$\$\$ High-Cost Improvements

- Traffic Signals
- Lighting

No traffic signals or additional street lighting were identified in the top ten projects. As both of these items include electric utility modifications as well as substantial construction and materials costs, they generally receive a lower priority ranking.



3.1 RECOMMENDATIONS—FOLD-OUT MAPS

MONTROSE

PEDESTRIAN & BICYCLIST PLAN





3.2 ESTIMATED COSTS FOR SELECTED PROJECTS

Planning-level cost estimates were developed for various combinations of the priority projects, based on a field survey performed on September 30, 2005. In this survey, the project team evaluated the sidewalks, crosswalks, and curb ramps along the three busiest study area corridors: Montrose Boulevard, Westheimer Road, and Richmond Avenue. The cost estimates for improvements are based on installing curb ramps where they are missing, refreshing striping of crosswalks at signalized intersections, replacing sections of sidewalks rated “fair” or “poor” based on the subjective judgment during the field survey, and marking new bikeways as per the public preferences.

Improvements under Spur 527 were not priced as TxDOT has agreed to pay for those items themselves. Similarly, bike racks on METRO buses and on private property were not priced, although those items remain as recommendations. Finally, the return of bike lanes to West Alabama was not priced, as this item should be considered part of the Spur project. **Returning a street to a pre-existing state is not an appropriate use of Federal “enhancement” money. (a softer way to say this??)**

Curb Ramp Installations					
Major Street	Ramp Locations	Existing New Ramps	Existing Old Ramps	Missing Ramps	Install Missing Ramp--Cost*
					\$ 858.20
Montrose	120	10	83	27	\$ 23,171
Westheimer	104	37	67	0	\$ -
Richmond	82	19	48	15	\$ 12,873
TOTAL**	298	65	191	42	\$ 36,044

*cost of \$858.20 per new ramp provided by City of Houston Public Works, April 2005
 Remove and dispose of existing concrete sidewalk \$2.35/sq.yd. = \$0.26/sq.ft.
 \$12/sq.ft. for a 70-sq.ft. (standard TxDOT ramp specs) ramp installation = \$840
 \$0.26*70 = \$18.20 for removal of existing sidewalk; \$840 + \$18.20 = \$858.20

**excludes double-counting of 8 ramps as follows:
 4 ramps at Montrose/Richmond, all old style
 4 ramps at Montrose/Westheimer, 3 old style, 1 new

Costs do not include any modifications to traffic signals or utilities that may be necessary to obtain adequate clearance.



Sidewalk Repairs				
Major Street	Total Feet Sidewalks	Length of Repairs*	Percent Repaired	Cost**
				\$ 19.04
Montrose	17,500	4,515	26%	\$ 85,966
Westheimer	17,985	8,158	45%	\$ 155,319
Richmond	15,465	11,570	75%	\$ 220,293
TOTAL	50,950	24,243	48%	\$ 461,577

*sections rated "fair" or "poor" in field survey

*cost of \$858.20 per new ramp provided by City of Houston Public Works, April 2005

**Costs provided by City of Houston Public Works, April 2005

Remove and dispose of existing concrete sidewalk \$2.35/sq.yd. = \$0.26/sq.ft.

Construct new sidewalk = \$4.50/sq. ft.

Total remove and replace = \$4.76/sq.ft.

Sidewalks assumed 4' wide, so 1 linear ft. = 4 sq. ft.

Thus total remove and replace = \$4.76 * 4 = \$19.04 per linear ft.

Costs do not include any modifications to traffic signals or utilities that may be necessary to obtain adequate clearance.

New Bikeways							
Street	Length (ea. way)	Total Length	Cost* \$	Symbol Freq (ft)	Number Symbols	Cost** \$	Total Cost
Waugh	4,550	9,100	\$ 77,350	300	30	\$ 4,500	\$ 81,850
Bagby/Brazos	3,750	7,500	\$ 63,750	300	25	\$ 3,750	\$ 67,500
Taft shared lane	8,000	16,000	\$ -	300	53	\$ 7,950	\$ 7,950
Montrose (to park/TMC)	5,280	10,560	\$ 89,760	300	35	\$ 5,250	\$ 95,010
TOTAL**	21,580	43,160	\$ 230,860	200	216	\$ 21,450	\$ 252,310

*cost of \$858.20 per new ramp provided by City of Houston Public Works, April 2005

Waugh length from West Dallas to Washington (missing section only)

Bagby/Brazos from end of Spur (at Elgin) to north end of streets near Allen Center

Taft length from Allen Parkway to West Alabama--shared lane with no stripe

Montrose estimated length from Bissonet to Medical Center

*cost of of striping provided by City of Houston Public Works, April 2005

*\$2.50/linear ft. removal/cleaning of existing conditions; \$6.00/linear ft. for new striping; \$8.50 total.

**cost of \$ per bike symbol provided by City of Houston Public Works, April 2005

**a thermoplastic turning arrow is \$150; a bike lane symbol is estimated at the same amount.



Intersection Crosswalk Restriping							
Major Street	Minor Street	Major width (A)	Minor width (B)	Stop Bars A+B	Crosswalks 4A+4B	Total Ft. Striping	Cost*** \$ 8.50
Montrose	Gray	80	50	130	520	650	\$ 5,525
Montrose	Fairview	80	50	130	520	650	\$ 5,525
Montrose	Westheimer	80	50	130	520	650	\$ 5,525
Montrose	Lovett**	80	70	150	600	750	\$ 6,375
Yoakum	Lovett**	60	70	130	520	650	\$ 5,525
Montrose	Hawthorne	60	40	100	400	500	\$ 4,250
Montrose	Alabama	60	40	100	400	500	\$ 4,250
Montrose	Richmond	60	60	120	480	600	\$ 5,100
Montrose	Banks	60	40	100	400	500	\$ 4,250
Montrose	Bissonnet	60	50	110	440	550	\$ 4,675
Montrose Sub-Total				1,200	4,800	6,000	\$ 51,000
Westheimer	Louisiana	50	60	110	440	550	\$ 4,675
Westheimer	Smith	50	60	110	440	550	\$ 4,675
Westheimer	Brazos	50	40	90	360	450	\$ 3,825
Westheimer	Bagby	50	40	90	360	450	\$ 3,825
Westheimer	Taft	50	35	85	340	425	\$ 3,613
Westheimer	Montrose	50	80	130	520	650	\$ 5,525
Westheimer	Yoakum	50	60	110	440	550	\$ 4,675
Westheimer	Commonwealth	50	50	100	400	500	\$ 4,250
Westheimer	Mandell	50	40	90	360	450	\$ 3,825
Westheimer	Dunlavy	50	45	95	380	475	\$ 4,038
Westheimer	Woodhead	50	40	90	360	450	\$ 3,825
Westheimer	Hazard	50	40	90	360	450	\$ 3,825
Westheimer	Shepherd	50	50	100	400	500	\$ 4,250
Westheimer Sub-Total				1,290	5,160	6,450	\$ 54,825
Richmond	Main	doesn't need restriping		0	0	0	\$ -
Richmond	Spur 527	60	80	140	560	700	\$ 5,950
Richmond	Montrose	60	60	120	480	600	\$ 5,100
Richmond	Mandell	60	40	100	400	500	\$ 4,250
Richmond	Dunlavy	60	40	100	400	500	\$ 4,250
Richmond	Woodhead	60	40	100	400	500	\$ 4,250
Richmond	Hazard	60	40	100	400	500	\$ 4,250
Richmond	Shepherd	60	50	110	440	550	\$ 4,675
Richmond Sub-Total				770	3,080	3,850	\$ 32,725
Grand Total*				3,010	12,040	15,050	\$ 127,925

*with subtractions for double-counting of Montrose intersections (italic)

**not signalized, but heavy ped traffic and signals on both adjacent streets; crosswalks recommended.

***cost of of striping provided by City of Houston Public Works, April 2005:

\$2.50/linear ft. removal/cleaning of existing conditions; \$6.00/linear ft. for new striping; \$8.50 total.



Total Cost For Priced Priority Projects	Total with Richmond	Total w/o Richmond
Curb Ramp Installations		
Montrose Sub-Total	\$ 23,171	\$ 23,171
Westheimer Sub-Total (none needed)	\$ -	\$ -
*cost of \$858.20 per new ramp provided by City of Houston	\$ 12,873	\$ -
Curb Ramps Total	\$ 36,044	\$ 23,171
Sidewalk Repairs		
Montrose Sub-Total	\$ 85,966	\$ 85,966
Westheimer Sub-Total	\$ 155,319	\$ 155,319
Richmond Sub-Total	\$ 220,293	\$ -
Sidewalks Total	\$ 461,577	\$ 241,284
New Bikeways		
Waugh striped lane	\$ 81,850	\$ 81,850
Bagby/Brazos striped lane	\$ 67,500	\$ 67,500
Taft shared lane	\$ 7,950	\$ 7,950
Montrose to Park/TMC striped lane	\$ 95,010	\$ 95,010
Bikeways Total	\$ 252,310	\$ 252,310
Intersection Crosswalk Restriping		
Montrose Sub-Total	\$ 51,000	\$ 51,000
Westheimer Sub-Total	\$ 54,825	\$ 54,825
Richmond Sub-Total	\$ 32,725	\$ -
Crosswalks Total	\$ 127,925 *	\$ 100,725 *
	Total with Richmond	Total w/o Richmond
Sub-Total Priced Projects	\$ 877,857	\$ 617,491
20% Contingency	\$ 175,571	\$ 123,498
Grand Total	\$ 1,053,428	\$ 740,989

*total is slightly less than the sum of the corridors because two intersections would be double-counted (Montrose @ Westheimer & Montrose @ Richmond)

Richmond is shown included and not included since METRO may pay for some Richmond improvements as part of the light rail line.



3.3 Policy and Planning Recommendations

In addition to physical improvements, the project team has developed a series of recommendations for improved policies, to address long-term issues of maintenance and planning. Some of these are changes to the City's typical procedures, and some are additional studies. These policy/planning recommendations are detailed below, in no particular order.

3.3.1 Westheimer Corridor Study

Westheimer, like all major corridors, needs wider, more consistent, and accessible sidewalks. With parking allowed during all but peak hours and no left turn lanes at the frequent intersections, through traffic often ends up blocked at intersections throughout the area from Shepherd to Montrose, especially at Mandell, Dunlavy, and Woodhead. H-GAC and the City should investigate a solution to inner Westheimer that accommodates local traffic, left turns, and street parking without expanding the right-of-way. This project recommends a comprehensive study of inner Westheimer to improve pedestrian, transit, and traffic mobility.

3.3.2 Sidewalk and Other Improvements Must Recognize Drainage and Flooding Problems

Sidewalks and curb ramps frequently remain underwater for days after a rainfall, and they are covered with mud and debris after that. Even new sidewalks and ramps were designed to flood. This policy recommendation would encourage the city to address this issue through design, construction, and an action plan to resolve existing and future flooding and drainage problems.



Workers replace a sidewalk in a residential area.

3.3.3 Sidewalk Maintenance and Repair Plan

The sidewalks are in a state of disrepair throughout Montrose. This policy recommendation would recommend that the city address a long-term program of sidewalk and maintenance throughout Montrose. New sidewalks need to be built to ADA standards, and the City needs to address flooding.

3.3.4 Ensure Pedestrian Mobility During Construction Projects

Pedestrian routes under the spur were eliminated during construction, effectively blocking Montrose from Midtown and access to light rail. TxDOT provided only a narrow space under the spur for sidewalks, creating an uncomfortable situation for pedestrians who need to cross. When brought to their attention, TxDOT was quite efficient at remediating the problem, however, as a policy, roadway design and construction needs to consider pedestrian access. Indeed, the City of Houston has an ordinance mandating that pedestrian access be maintained during construction, but this ordinance does not appear well-publicized nor well-enforced, even for the City's own projects.

3.3.5 Ensure ADA compliance

The City's Public Works, Planning, and Legal Departments should be trained on current requirements of the Americans with Disabilities Act (ADA) and its state counterpart, the Texas Accessibility Standards (TAS). All future improvements must follow federal law. New curb ramps are being constructed throughout Montrose, and while this is an improvement, many new ramps flood and become covered with debris. Moreover, the new curb ramps use a variety of textures,



colors, and slopes that are inconsistent and do not comply with ADA guidelines. Many ramps are constructed so that they lead right up to obstacles or discontinuous sidewalks that reduce the utility of the new ramps.

ADA accessibility helps not only people with disabilities, but it helps mothers with strollers and people walking on dark streets at night who otherwise use the streets due to the impassable sidewalks. The city is not exempt from ADA, and complying with ADA can prevent future lawsuits. This policy recommendation is that the City update its design and construction standards for sidewalks, crosswalks, and parking to current ADA/TAS guidelines and to follow those standards.

3.3.6 Standardized Cyclist and Pedestrian Signage

The Manual of Uniform Traffic Control Devices (MUTCD) provides standardized signage for pedestrian and cyclist safety. Current signage within Montrose and throughout Houston is inconsistent. Signs are frequently used where not needed or inappropriate, while no signs are provided where they actually are needed. Crosswalks are often not marked, and existing markings are inconsistent. Many intersections, such as Vermont and Dunlavy, do not use standard stop markings on the street; drivers often run the stop signs when they fail to see them behind parked cars.

Signage should indicate shared use lanes for autos and bicycles, advance warnings for pedestrian crossings, and safety awareness for pedestrian and cyclist movements at intersections (especially for right-on-red movements). On-street markings, such as those on West Dallas, should be used more frequently and on more streets wherever there is a bicycle route. This is a citywide issue but could also be addressed within Montrose as an initial step. This recommendation is to replace signage throughout the Montrose district to ensure that it meets current MUTCD standards.

3.3.7 Cyclist and Pedestrian Safety Education

Pedestrian, cyclist, and motorist education programs should be initiated. All roadway users need to understand and respect their own responsibilities and rights, as well as the responsibilities and rights of other users.

3.3.8 Traffic Law Enforcement

Among the most frequently cited problems have been drivers turning right on red without watching for cyclists and pedestrians. Spot enforcement at selected locations may reduce the incidence of speeding, stop sign/traffic signal running, failure to yield to pedestrians, and other traffic violations. Appropriate locations could include areas of high pedestrian and bicyclist accidents, as shown in Appendix A. Some examples are the blocks surrounding Montrose and Westheimer, and the concentration of bikeways near Dunlavy, Woodhead, and Fairview.



Additional signage can help remind motorists to yield to pedestrians in busy urban environments.



APPENDIX A
DEMOGRAPHICS AND TRANSPORTATION STATISTICS

A.1 DEMOGRAPHICS AND EMPLOYMENT

According to the 2000 U.S. Census, ten census tracts make up the Montrose District; however, because Montrose as a whole is not a recognized census area, not all of the census tracts are completely within the district.

List of 2000 Census Tracts: Montrose District

4101	4104	4107	4119
4102	4105	4108	
4103	4106	4109	

The total number of people living in these ten census tracts is 36,464. **Table 1** on the following page shows a comparison between the Montrose District, the City of Houston, H-GAC’s eight-county planning region and the state of Texas as a whole for various 2000 Census statistics.

Note: The 8-county region consists of the following counties:

- Harris Fort Bend Liberty
- Galveston Waller Chambers
- Brazoria Montgomery

Montrose’s median household income exceeds the city and state, but is comparable to the region as a whole. It has half the unemployment of all three larger areas and fewer people living below the poverty line than in the city of Houston in general. Poverty rates are roughly equal to those in the region and state.

Housing units reflect an urban style of development. Less than 25 percent of the housing units are single detached homes, compared to nearly half of homes in Houston as a whole and more than half of the region and state. Multi-family development is common, especially small- to medium-size properties (under 50 units each). Housing ownership rates are only about half the city and state average, and vacancy rates are higher.

Montrose is approximately two-thirds Non-Hispanic White, and one-quarter Hispanics of all races, with the remaining 12 percent Black, Asian, or some other race/ethnicity. Compared to the city, region, and state, there are more whites, fewer blacks, and slightly fewer Hispanics.

Children make up about 10 percent of the population, compared to nearly one third in the city, region, and state. Additionally, roughly 83 percent of the Montrose population is between 18 and 64 years old, whereas in the city, region, and state this group makes up only about 60 percent of the total. Montrose also has fewer seniors than average (less than 6 percent compared to 8-10 percent elsewhere).

Educational attainment is high in the district, with more than half of Montrose adults (25 and over) having a college degree of some sort, compared to only one-third of adults in the city, region, and state. In particular, the proportion of those with graduate and professional degrees in Montrose is about a quarter of the population, whereas in the city, region, and state they make up less than ten percent. About one-quarter of Montrose residents do not have a high school diploma, comparable to the region and state, but fewer than the city, where the corresponding number is 50 percent.



**Table 1: Montrose District vs. Other Areas
Comparative Demographics**

STATISTIC	Montrose District	City of Houston	H-GAC	Texas
Population	36,464	1,954,848	4,669,571	20,851,820
Households	23,516	782,378	1,639,401	7,393,354
Persons per Household	1.55	2.50	1.74	2.74
Income-Related				
Median Household Income	\$ 44,198	\$ 36,616	\$ 44,788	\$ 39,927
Unemployment	3%	7%	6%	7%
Below Poverty Level	15%	19%	14%	15%
Housing Units by Occupancy				
Owner-Occupied	29.8%	45.8%	60.9%	63.8%
Renter-Occupied	57.3%	46.0%	39.1%	36.2%
Housing Vacancy Rate	12.9%	8.2%	7.8%	9.4%
Housing Units by Type				
Single-Family Detached	21.4%	46.6%	59.9%	63.4%
Single-Family Attached	10.5%	5.4%	3.5%	3.1%
Apartments/Condos 2-9 units	28.6%	12.3%	8.7%	9.8%
Apartments/Condos 10-49 units	19.2%	13.2%	8.8%	7.0%
Apartments/Condos 50+ units	20.4%	21.5%	12.7%	7.3%
Other	0.0%	1.0%	6.4%	9.4%
Race/Ethnicity				
Non-Hispanic White	65.8%	30.7%	48.3%	77.1%
Non-Hispanic Black	5.5%	24.9%	16.6%	16.6%
Non-Hispanic Asian/Other	6.2%	6.9%	4.9%	5.0%
Hispanics of any race	22.5%	37.4%	1.5%	2.0%
Age				
Children/Adolescents (0-17)	11.2%	27.4%	28.8%	28.2%
Young Adults (18-34)	41.5%	29.2%	25.6%	25.5%
Adults (35-64)	41.6%	35.1%	37.8%	36.4%
Seniors (65+)	5.7%	8.4%	7.8%	9.9%
Education				
No High School	24.1%	50.0%	23.8%	24.3%
High School Only	18.0%	19.1%	45.1%	47.2%
Finished College	35.4%	21.2%	22.5%	20.8%
Graduate Degree	22.5%	9.7%	8.6%	7.6%
Journey to Work				
Private Vehicle	79.2%	87.8%	91.3%	92.2%
Transit	9.3%	5.9%	3.2%	1.9%
Bicycle	2.0%	0.5%	0.3%	0.2%
Walked	4.6%	2.3%	1.6%	1.9%
Other/Work at Home	5.0%	3.6%	3.5%	3.8%

Source: U.S. Census Bureau, Census 2000



Finally, in Montrose, people have a greater tendency to take alternative transportation. Sixteen percent of Montrose workers, or one out of six, took the bus, bicycled, walked, or otherwise went to work without driving a car. In particular, almost 5 percent walked and 2 percent rode bicycles. This was double the rate of the city as a whole, and triple that of the region and state. Automobile travel still makes up the majority of commuting, though, at about 80 percent.

A.2 SUPER NEIGHBORHOODS

The City of Houston is divided into 88 “Super Neighborhoods” which act as umbrella organizations for civic clubs and homeowners’ groups.

The Montrose District, as defined by H-GAC, straddles the boundaries of three of the City’s Super Neighborhoods. The vast majority of the Montrose District is in Super Neighborhood 24 (Nearatown/Montrose), which also includes the area between West Gray and Buffalo Bayou. The portion of the district south of US 59 is within Super Neighborhood 28 (University Place), which extends south to Brays Bayou. East of Genesee Street, the Montrose District extends into Super Neighborhood 62 (Midtown), which includes the area as far east as US 59/SH 288.

There are 20 neighborhood associations registered with the City Houston’s Planning Department that represent residents’ issues and concerns in the Montrose District. These groups are listed in the chapter on public involvement.

A.3 LAND USE

The predominant land use in Montrose is residential, with single- and multi-family uses mixed together. The major commercial corridors are Montrose Boulevard, Westheimer, West Gray, Shepherd, and Smith/Louisiana. The intersection of Montrose and Westheimer in particular has a high concentration of commercial activity.

The Richmond and West Alabama corridors have a mixture of commercial and residential uses, including numerous multi-family properties. Multi-family uses are also concentrated along Commonwealth and Hazard, but can be found mixed in with single-family homes throughout the district.



Typical Style of Original Single-Family House

Public and institutional uses are common throughout Montrose, such as the University of Saint Thomas near Montrose and West Alabama. Throughout the district are several parks, most of which are only one or two blocks in size. Each of these are attractors that are important destinations for bicycling and walking and the range of attractors (schools, employers, public buildings and landmarks) is one of the reasons that the Montrose District was selected for this study.

Apart from the University of Saint Thomas near Montrose and West Alabama, institutional uses are also found near the intersection of Montrose and Bissonnet in the Museum District. Several schools are found in the western half of the district.

On the following page, **Table 2** is a breakdown of land use for the Montrose District, and **Figure 1** shows a land use map for the district.



Figure 1: Montrose District Land Use

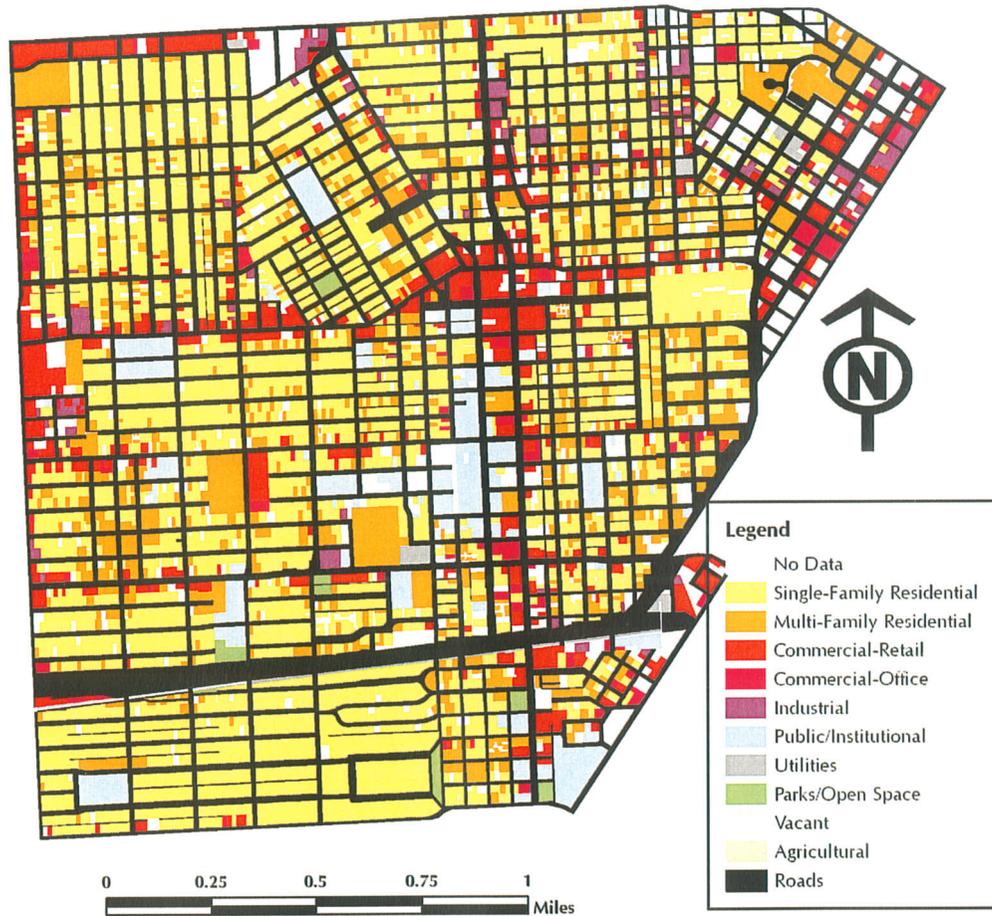


Table 2: Montrose District Land Use

Land Use	Square Feet	Acres	Percent
No Data	3,802,216	87.29	6.0%
Single-Family	32,782,593	752.58	51.7%
Multi-Family	9,360,261	214.88	14.8%
Commercial-Retail	6,277,834	144.12	9.9%
Commercial-Office	1,390,233	31.92	2.2%
Industrial	1,216,185	27.92	1.9%
Public/Institutional	3,995,616	91.73	6.3%
Utilities	474,576	10.89	0.7%
Parks/Open Space	251,145	5.77	0.4%
Vacant	3,864,948	88.73	6.1%
TOTAL	63,415,607	1,455.82	100.0%

Source: Harris County Appraisal District



A.4 TRANSIT—LIGHT RAIL AND BUS

METRO recently began operating light rail from Reliant Park to downtown. Although this service does not pass through the Montrose district, four of the 16 stops are within walking distance: McGowen, Ensemble / HCC, Wheeler, and Museum District. Additional light rail stops are served by bus routes that also serve the Montrose District. **Figure 2** at the right depicts the rail line and the stations near Montrose.

Figure 3 on the following page shows the bus routes in the area, together with the City-designated bikeways. North/south bus routes extend along each of the major thoroughfares, including: Shepherd, Montrose, Louisiana, and Main. East/west transit routes also travel along major thoroughfares, including West Gray, Fairview/ Tuam, Westheimer, West Alabama, Richmond, and Bissonnet. Ten commuter routes pass through the district along US 59 (the Southwest Freeway) and Spur 527 en route to downtown. Three additional commuter routes pass through the district along Montrose Boulevard. These commuter routes do not stop within the district.

Bikeways extend east/west on Fairview/McGowen, Hawthorne, and South Blvd./Barkdull. North/south bikeways are located on Woodhead, Dunlavy, Waugh/Commonwealth, and Yoakum transitioning to Mandell via Graustark and Castle Court.

There are numerous locations where bike and bus routes intersect or run concurrently. As mentioned in the main report, however, METRO does not currently install bike racks on its buses.

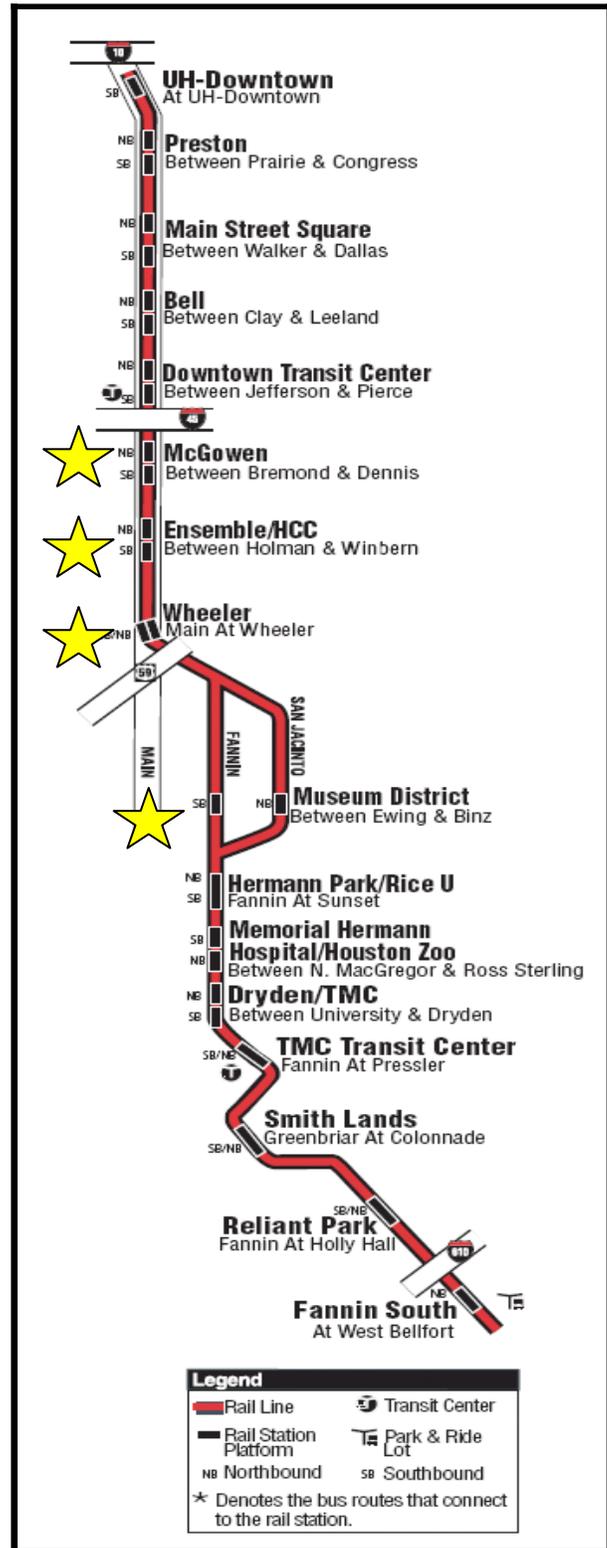
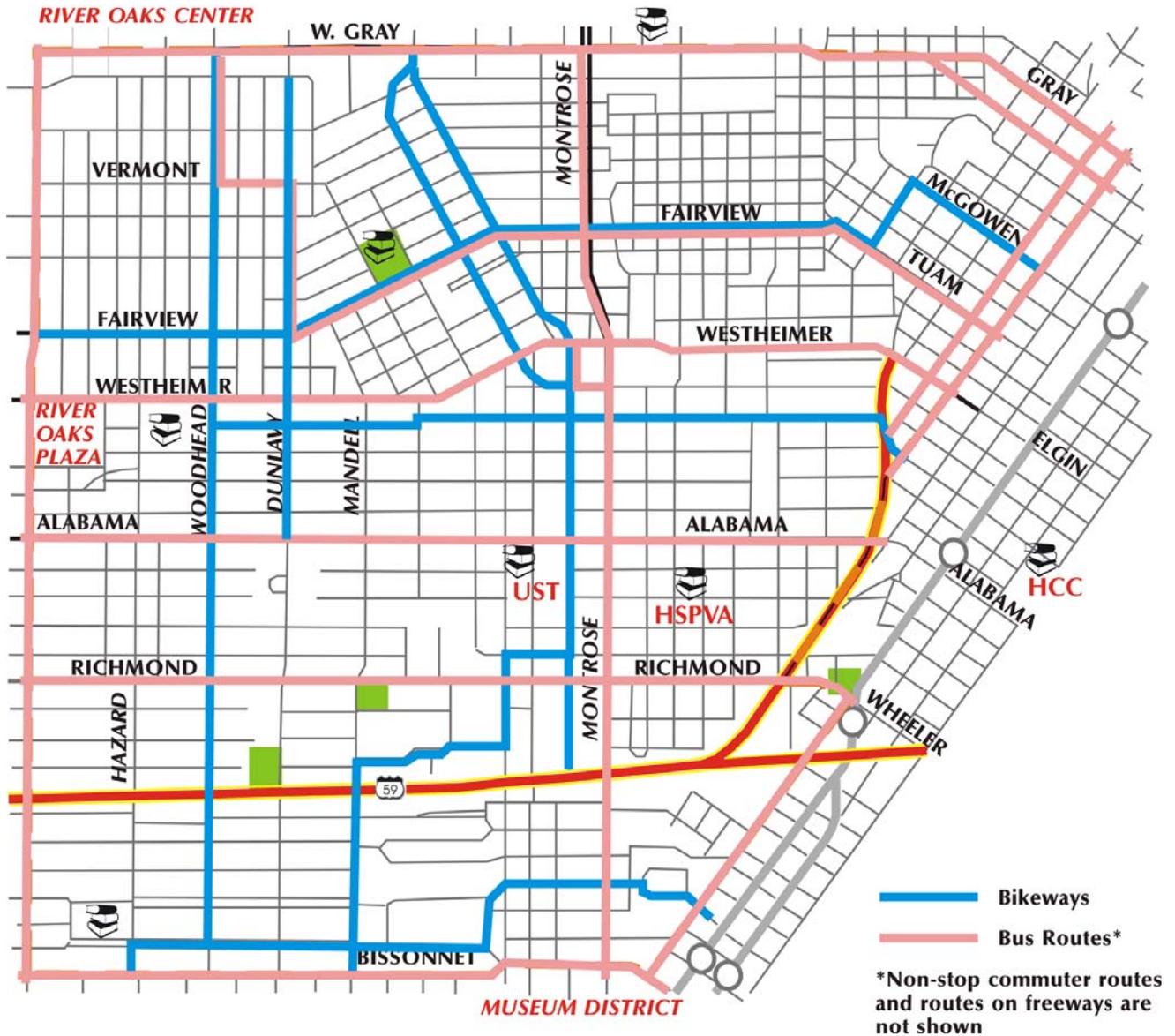


Figure 2: METRORail Route Map

★ Stations within walking distance of Montrose



Figure 3: Bicycle and Bus Routes





A.5 TRAFFIC VOLUMES

Traffic volume counts for various local and thoroughfare roads were collected from the City of Houston, Public Works Department. Most of the counts are from the mid to late 1990s and were collected as part of traffic calming requests on specific residential streets. These counts are provided in **Table 3** on the following page.

The City of Houston initiated a traffic signal optimization program in January 2004. Traffic signals throughout the City are being re-timed to reduce vehicle travel delays. This work is in several phases and continues through December 2005. The following streets in Montrose are part of the program:

- West Gray
- Webster
- McGowen
- Westheimer
- West Alabama
- Richmond
- Bissonnet
- Louisiana
- Main
- Montrose
- Dunlavy
- South Shepherd

This effort is funded through a combination of Congestion Mitigation and Air Quality (CMAQ) and Regional Computerized Traffic Signal System (RCTSS) funds. **Figure 4** on the subsequent page depicts the streets in Montrose that are affected by the signal optimization, as well as all signalized intersections in the study area.

Pedestrians and bicyclists generally prefer to cross major arterials at signalized intersections, although not all City-designated bicycle routes do so. For example, bicycle routes cross Richmond at Graustark and Yoakum. Since these intersections are unsignalized, some users prefer to cross Richmond at Montrose or Mandell, the nearest traffic signals.



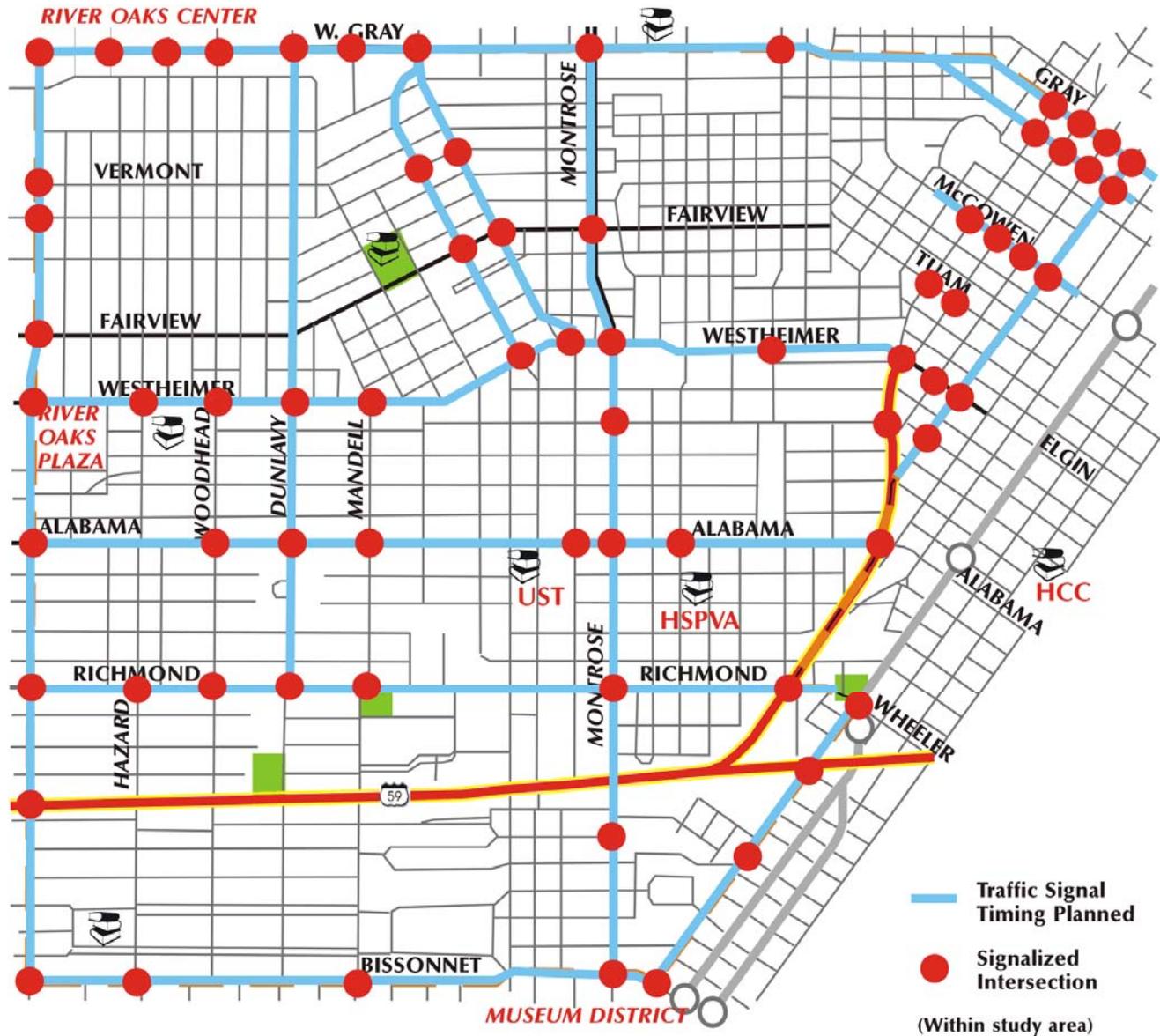
Table 3: Montrose District Traffic Volume Counts

Alabama W	Milam	Montrose	11,599	1998
Alabama W	Montrose	S Shepherd	11,423	1998
Banks	Woodhead	S Shepherd	1,178	No date given
Banks	Mandell	Graustark	847	1996
Banks	Dunlavy	Mandell	1,001	2000
Bissonnet	Main	S Shepherd	9,105	1998
Commonwealth	W Gray	Westheimer	6,633	1999
Dunlavy	W Alabama	Richmond	6,633	1997
Fairview	S Shepherd	Kingston	2,779	1996
Graustark	Richmond	Colquitt	737	1997
Hawthorne	Graustark	Mulberry	927	1997
Hawthorne	Mt. Vernon	Mulberry	819	1996
Hazard	Fairview	Indiana	1,399	1998
Hazard	Richmond	W Alabama	2,413	2001
Hazard	Richmond	SW Freeway	3,472	1995
Hazard	Peden	Westheimer	1,366	2003
Hazard	Richmond	W Alabama	1,902	1996
Louisiana	Jefferson	SW Fwy (Berry)	7,201	1998
Mandell	Bissonnet	North Boulevard	2,135	1997
Mandell	Westheimer	Fairview	738	1996
Mandell	Richmond	Vassar	2,609	1999
McDuffie	Peden	Vermont	1,695	2002
McDuffie	Fairview	Peden	776	1996
McDuffie	Fairview	Indiana	1,156	2001
McDuffie	Richmond	West Alabama	1,040	1996
McGowen	Bagby	Bailey	1,284	2002
Montrose Blvd	W Alabama	Main	10,191	1998
Montrose Blvd	W Dallas	Westheimer	13,678	1998
Montrose Blvd	Westheimer	W Alabama	16,070	1998
Richmond Ave	Montrose	Shepherd	20,456	1997
Richmond Ave	SW Freeway	Montrose	16,621	1997
Shepherd S	Richmond	SW Freeway	18,614	1998
Shepherd S	SW Freeway	Bissonnet	8,085	1998
Shepherd S	W Gray	San Felipe	35,885	1998
Shepherd S	Westheimer	Richmond	31,334	1998
Shepherd S	Westheimer	San Felipe	32,145	1998
Stanford	Fairview	Peden	770	1996
Stanford	Westheimer	Fairview	1,376	1996
Waugh	W Gray	Westheimer	2,916	1998
Welch	Commonwealth	Waugh	1,307	1999
Welch	Taft	Grant	537	1996
Welch	Montrose	Waugh	938	1997
Welch	Dunlavy	Commonwealth	951	1996
Westheimer	Bagby	Montrose	21,826	1999
Westheimer	Montrose	S Shepherd	19,630	1999
Woodhead	Richmond	SW Freeway	2,471	No date given
Woodhead	West Gray	Haddon	3,053	No date given
Woodhead	Indiana	Fairview	3,332	No date given
Woodhead	Alabama	Main	2,691	2000
Woodhead	Haddon	Vermont	2,543	1997
Woodhead	Richmond	Alabama	3,487	1996
Yoakum	Harold	Alabama	4,186	1996

Source: City of Houston, Public Works Department



Figure 4: Study Area Signalized Intersections and Planned Signal Synchronization



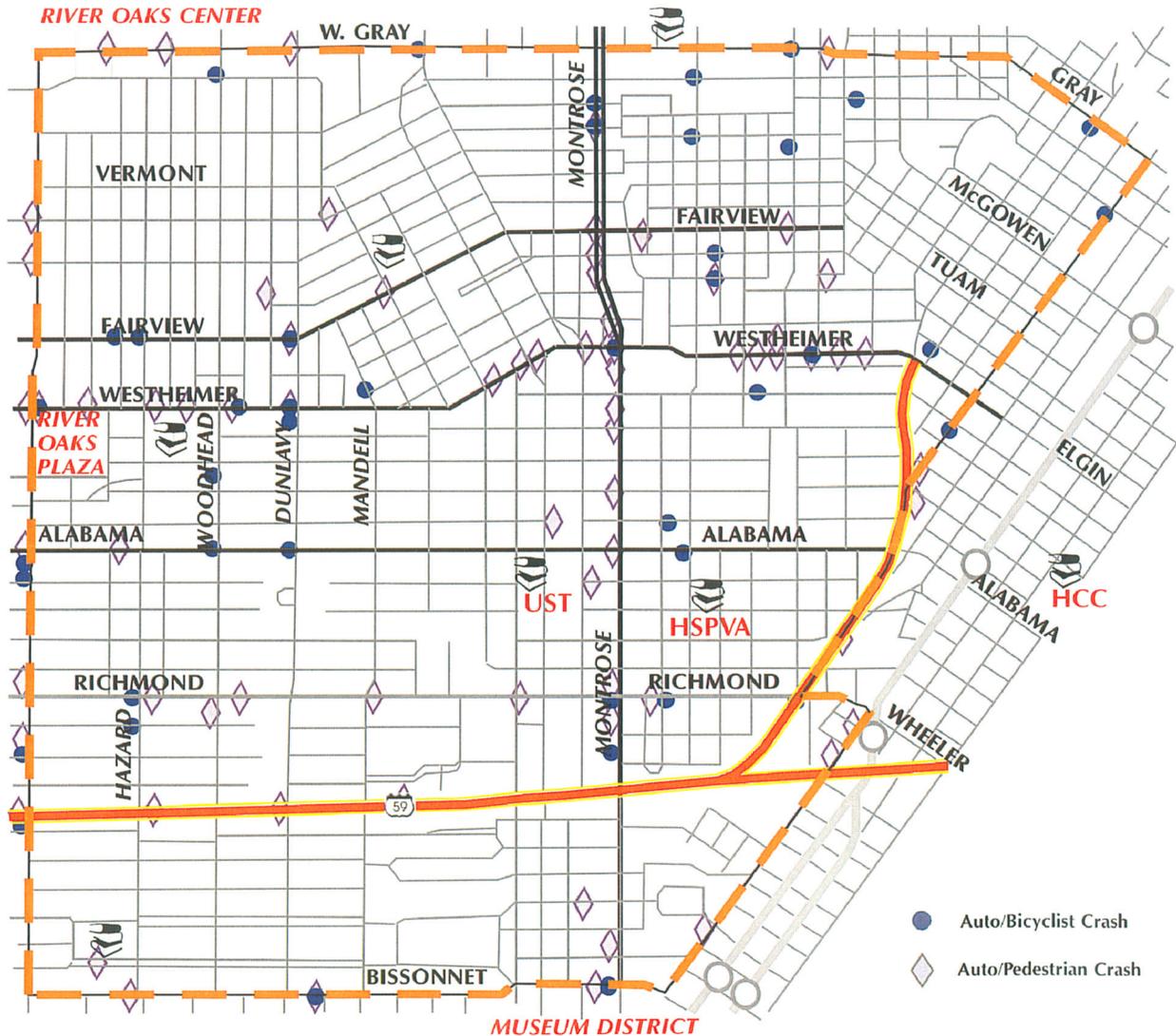


A.6 PEDESTRIAN AND BICYCLIST CRASHES

The Houston-Galveston Area Council processes traffic accident data for the region, provided by the Texas Department of Public Safety. **Figure 5** below depicts the study area accidents between automobiles and pedestrians or bicyclists, from 1999 to 2001, the most recent year for which data has been compiled. Note that due to geocoding limitations, this data represents approximately 82% of the TxDPS data set, with approximately 90% geographic accuracy. Also, only collisions with injuries or substantial property damage are recorded.

Pedestrian accidents are most common along heavily-trafficked roadways, mainly Montrose, Shepherd, Westheimer, West Gray, and Richmond. Bicyclist collisions are most common along the intersecting bicycle routes of Woodhead, Dunlavy, and Fairview, but also have occurred on minor local streets in the eastern half of the study area.

Figure 5: Automobile/Pedestrian and Automobile/Bicyclist Collisions, 1999-2001





APPENDIX B
INITIAL PUBLIC SURVEY RESULTS

B.1 STATISTICS OF SURVEY RESPONDENTS

Average age: 46

Average household size: 2.6

Automobiles per household: 1.6

Lives in Montrose: 83.8%

Works in Montrose: 32.3%

Owens a bike: 67.7%

Rides METRO: 35.4%

Number of times per week:

Walk to work: 0.6

Walk to school: 0.1

Walk to shopping/errands: 2.4

Walk for exercise: 3.6

Walk for pleasure: 3.0

Bike to work: 0.5

Bike to school: 0.2

Bike to shopping/errands: 1.0

Bike for exercise: 1.4

Bike for pleasure: 1.4

Typical means of travel within Montrose:

Drive a car: 61.6%

Walk: 15.2%

Ride a bike: 15.2%

Transit: 1.0%

Other/not specified: 6.1%

Desired means of travel within Montrose:

Drive a car: 4.0%

Walk: 35.4%

Ride a bike: 43.4%

Transit: 1.0%

Other/not specified: 15.2%

90 pedestrian or ADA comments

61 bicyclist comments

13 transit comments

10 auto comments

8 livability/urban design/quality of life comments



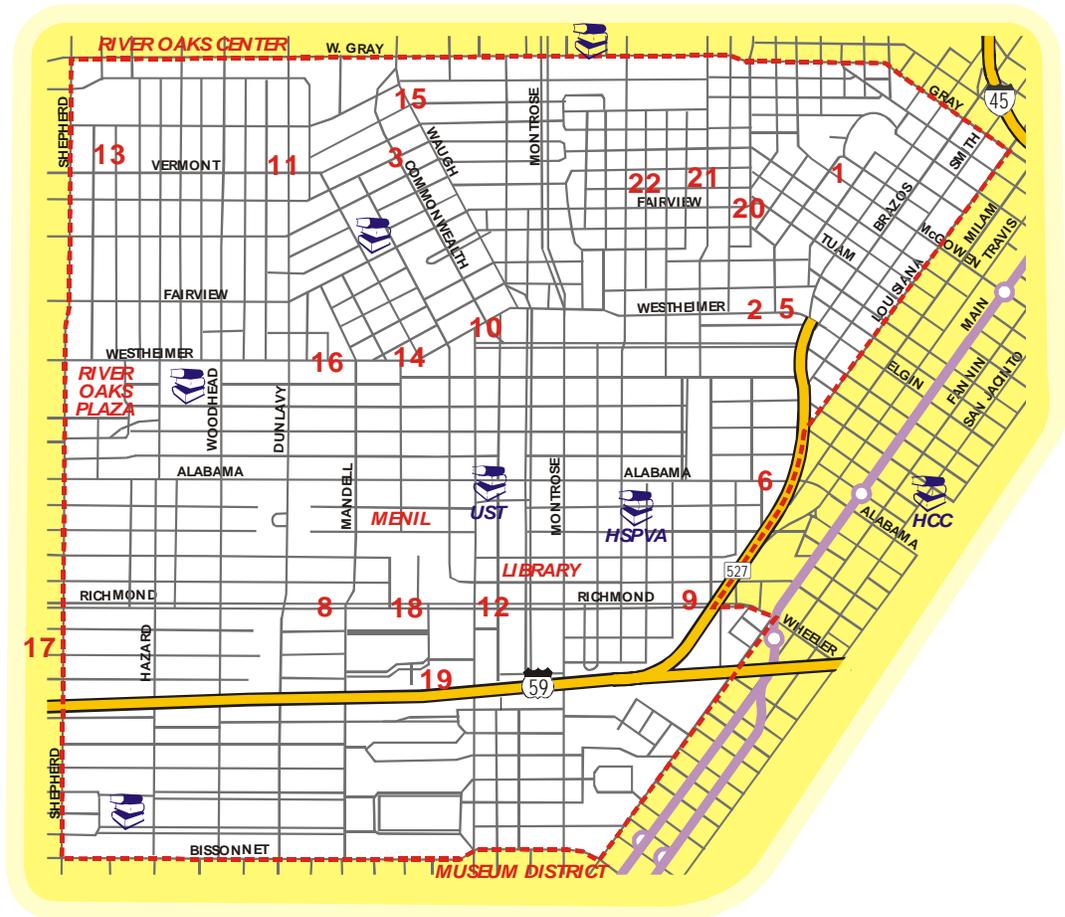
B.2. MOST COMMON PROBLEMS IDENTIFIED IN SURVEY COMMENTS

Problem	# of Comments About
1. Sidewalk repair affecting pedestrians/cyclists	40
2. Street cleanliness affecting pedestrians/cyclists	36
3. Driver behavior affecting pedestrians (right-on-red turns, speeding, etc.)	35
4. Driver behavior affecting cyclists (right-on-red turns, speeding, etc.)	32
5. Problems crossing streets (no crosswalk, unsafe crossing, lack of marking or signage)	31
6. Need more bike lanes and trails	29
7. Heavy traffic affecting pedestrians/cyclists	21
8. Discontinuous sidewalk or lack of sidewalk	21
9. Obstructions in sidewalk (plants, poles, etc.)	15
10. Sidewalks too narrow	14

The maps on the following three pages depict specific locations that correspond to issues and concerns that survey respondents identified. Beneath each map is the number-keyed list of comments.



Selected Pedestrian Issues and Concerns—Map



Selected Pedestrian Issues and Concerns—Descriptions

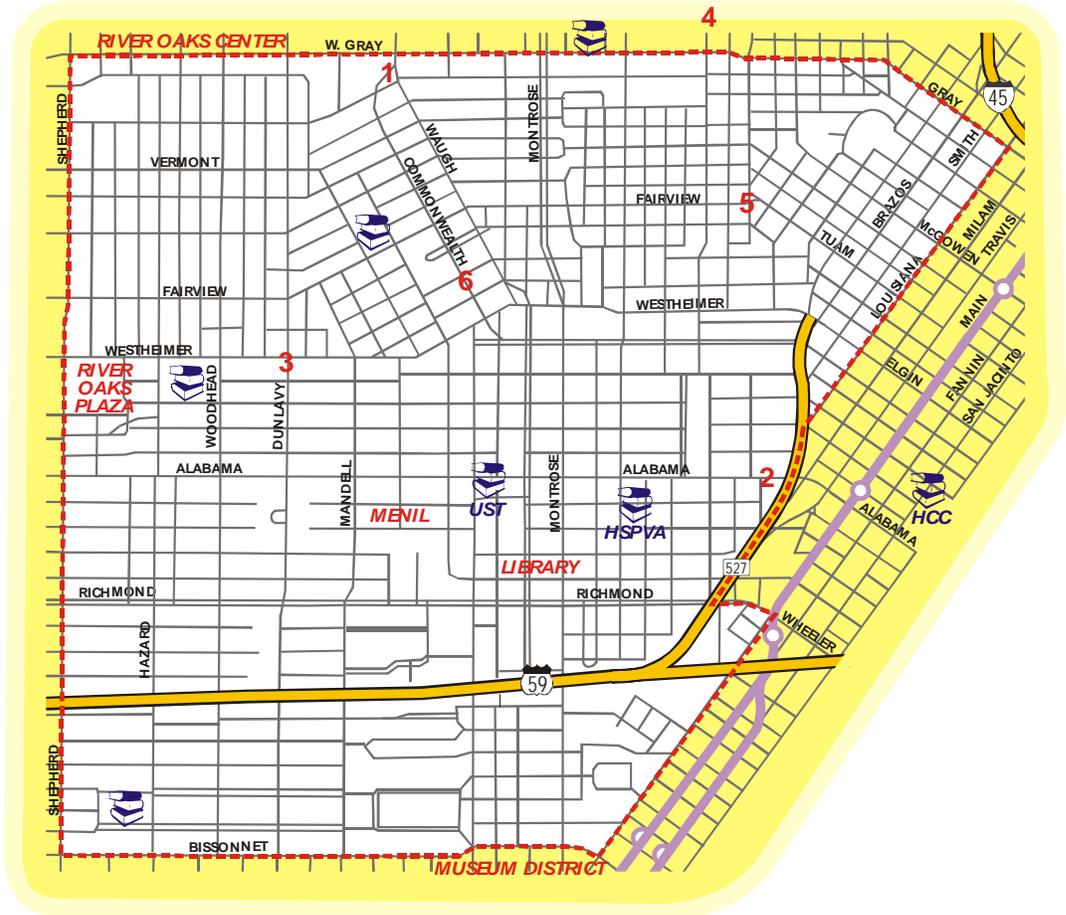
1. Helena: Trees have caused deteriorated sidewalks. Sidewalk buckles, not passable for wheelchairs. Most pedestrians walk in street.
2. Westheimer: Montrose Clinic employees park across Westheimer. No painted pedestrian crossing on road. Desperately needed.
3. Discontinuous Sidewalk: Commonwealth
4. Wider sidewalks needed. Frequent pedestrian crossings.
5. Westheimer: High traffic area from Spur. Dangerous to cross Westheimer to place of employment. Visual field not good due to curve.
6. Sidewalks on both sides of underpass blocked/destroyed during construction.
7. There are no crosswalks identified except at major intersections of Richmond, W. Alabama, Hawthorne and Westheimer.
8. From Spur to Shepherd the sidewalks are narrow and too close to the traffic that is often traveling in excess of the speed limit.



9. W. Alabama and Richmond underneath Spur is unsafe. Sidewalks are torn up. Pave to light rail is not paved and sometimes blocked by construction workers.
10. Teenagers camp out near a crop of trees west of Westheimer and Commonwealth. Littering and being loud.
11. Dangerous 4-way stop at Dunlavy and Vermont. Traffic runs stop sign resulting in several serious accidents. The street is a major thoroughfare for EMS and HFD, as well as some retail. Something needs to be done to make street safer for high volume of pedestrians.
12. Sidewalks too narrow on Richmond at Graustark. Drainage needed. Floods easily. Richmond is totally inhospitable for pedestrians.
13. Need a sidewalk between McDuffie and Dunlavy on Clay/Woodhead.
14. Need wider sidewalk on Westheimer between Shepherd and Montrose - high pedestrian area with retail.
15. Need a sidewalk on Waugh between Westheimer and W. Gray.
16. Need to make Westheimer and Montrose premier streets. Wider sidewalks and more trees.
17. Difficult to cross from the east side of Shepherd to Greenbriar Plaza (upper Kirby). Most pedestrian traffic comes from the Montrose side.
18. Sidewalks on Richmond are non-existent, broken, or very narrow. Trees, poles, signs, electrical boxes, hydrants, etc. are located in the middle of the sidewalk.
19. METRO light rail on Richmond instead of Southwest Freeway
20. Fairview/Tuam at Genesee: 4-way stop needed; drivers make this curve too fast; poor visibility for pedestrians.
21. No sidewalk on the west side of Taft between Fairview and Welch.
22. Deteriorated sidewalk Fargo west of Whitney.



Selected ADA Issues and Concerns—Map

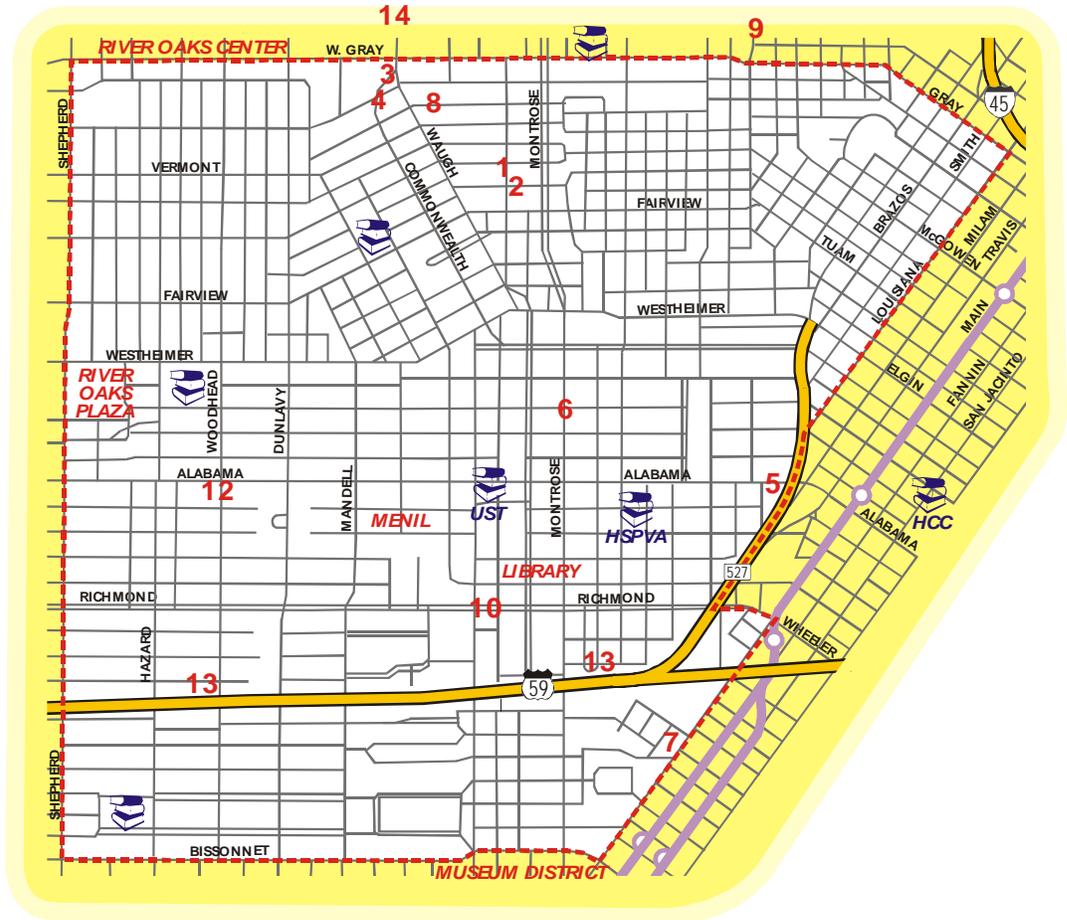


Selected ADA Issues and Concerns— Descriptions

1. Waugh at West Gray: Curb ramp excessively steep; not built to ADA standards. Design color and texture not consistent.
2. Alabama under Spur is unsafe - sidewalks torn up on both sides. Violates ADA.
3. Hawthorne and Dunlavy: Sidewalks in terrible condition. Significant problem for elderly in neighborhood to go for walks.
4. Gross and W. Dallas: Crosslight needed at intersection. Gross St. needs continuous sidewalk. People who work for companies along W. Dallas have difficult time crossing. People with disabilities walk this route (Lighthouse for the Blind & Center for Mental Retardation located on Dallas)
5. Fairview and Taft: No streets that go from Fairview to W. Gray with continuous sidewalks except Montrose. Sidewalks in bad shape.
6. Gray and Waugh: Sidewalk in terrible condition between Waugh and Montrose.



Selected Bicyclist Issues and Concerns—Map



Selected Bicyclist Issues and Concerns— Descriptions

1. Welch and Van Buren: Trees have caused deteriorated sidewalks. COH won't fix what is their problem. Much infrastructure in Montrose needs to be replaced.
2. Welch and Van Buren: City fixed and repaved corner after much complaining about flooding, but still not ADA compliant.
3. Waugh and West Gray: Bike lanes are indicated on signs but are not striped. Drivers can not see cyclists around the curve.
4. Waugh and West Gray: Southbound street lanes transitions into bike lane, car disregard right turn only. Signage needs to be more visible.
5. Alabama at Spur: Sidewalks are torn up on both sides. No safe egress from W. Alabama to light rail. Dangerous for commuters.
6. Montrose from Wortham Fountain to Allen Parkway: Need to re-surface street. Need to do treatment like the Almeda area.
7. Main Street to Hermann Park: No safe way to get to Hermann Park. You could make route off Wheeler into the park.



8. Waugh and Bomar: Bike lane at this intersection leads bikers directly into traffic. There is no lighting. Also at the intersection of Waugh and Peden. On Waugh between Welch and Gray - poorly lit and bike lane filled with debris. Street would be safer without the bike lane.
9. Taft at Allen Parkway: There is no stop light for westbound traffic; so there is not a safe place to cross.
10. Graustark at Richmond: Need a light to get across. New bridge will increase traffic.
11. Bike racks on buses would allow multi-modal trips, extending length of trip and simplifying the bicycling commuter trip.
12. Alabama at Woodhead: Smooth metal plate embedded in the road is a hazard. Slick when wet.
13. Need clear bike route along US 59 from Kirby to downtown.
14. Waugh bike route needs to extend over Allen Parkway but also needs to connect with the bike paths on the bayou level. There is no connectivity; car ramps are very tricky!
15. All street markings for bike routes need to be repainted so drivers can see them.



B.3 OTHER WRITTEN COMMENTS

Comments made on surveys:

A two way stop sign on Bomar St. at Van Buren. Cars race to cut through from Montrose to Waugh and vice versa all the time. And there is nothing to prevent them from speeding through the two blocks. We have lots of kids popping up and it concerns us.

Too much through traffic (driving too fast); no parking for bikes at major destinations; crossing major streets (Westheimer/Montrose) difficult for pedestrians; no central parking (each store has its own parking, forcing people to drive from parking space to parking space).

Waugh/West Gray - Curb ramp excessively steep; recent ramp not built to ADA standards. Also, more generally, new ADA ramps are not consistent in texture or coloring; city is not following any sort of standard in design or construction.

There is a lack of adequate sidewalks and bike paths. Also, development is not pedestrian or bike friendly.

215 Westheimer/Helena - Montrose Clinic staff park in the neighborhood across from the Clinic (Avondale and Helena) and have to cross Westheimer everyday. Although there is one Ped Xing sign, there used to be white lines painted on Westheimer to indicate a pedestrian crossing. All Clinic staff will tell you of both cars and Metro buses that DO NOT slow down when they're trying to cross the street. Staff say that crossing Westheimer is like playing the video game Frogger, except with human lives at stake. We would like additional Ped Xing signs and the white lines painted back on Westheimer.

Helena/Avondale - The sidewalk along the west side of Helena between Avondale and Westheimer as well as the south side of Avondale at Helena has buckled from pressure from tree roots below. The odd thing is that the sidewalk corner of Avondale and Helena is wheelchair accessible, although once on the sidewalk there is nowhere to go because the buckled sidewalk in both directions. HPD will ticket cars that are blocking the wheelchair ramp, but I'm not sure where a wheelchair would go even if it made it up the ramp. Because of the buckled sidewalks, most pedestrians walk in the street.

215 Westheimer/Helena - my place of employment is located just before the 59 spur on Bagby. Due to the current construction on 59 south, the lower end of Westheimer where we are located receives high traffic from downtown commuters. It is difficult in the mornings, during lunch time, and in the evening to get across Westheimer. Many of our employees and clients have to park in the neighborhood located off Helena. It is even more dangerous since Westheimer begins to curve slightly nearby and visual field is not very good in order to see oncoming traffic.

First of all the sidewalks are messed up. I love to walk to the restaurants around Montrose as I live right off Montrose Blvd by the Texas Art Supply. If I was in NY I be walking and that is the way it



should be in Montrose. The trees on the sidewalks have finally been cut; simple things like this are a safety problem to people walking. Don't need trees hitting someone when walking. The love for improvement to the area, I am all for it. For people riding bikes, well good luck with that, especially down Westheimer. This road is bad enough with the buses on the narrow streets. At least they are finally making the sidewalks ADA compliant so you don't have to jump the curbs. The worse thing is some streets are brand new others are made of stones. It is a shame. Or we have some streets that are paved and then some as bumpy as a 3rd world. Go west down Welch by Dunlavy...notice the wonderful ride you will have! NOT! I am all for it...keep me informed!

1100 Welch/Van Buren - I recently had the city come out to repair a caved in part of sidewalk that the owner purchased. After fighting with the City of Houston they came out and redid over 3 sections. Overgrown trees 100 of years old have broken and grown into the sidewalks. Wait I thought it was the City's property that did this damage as it is between the sidewalk and curb, then the city should fix it. Oh wait, I forgot there is the Houston Ordinance where sidewalk repair is responsibility of the owner. If the City installed them they should all be replaced. I could go on and on about streets in Montrose, only living there 9 years, I am tired of it nothing being done and us being left behind! Why raise our taxes for same old infrastructure in the area?

1122 Welch/Van Buren - Come look at this corner, it has bricks for a non-existent sidewalk! I highly doubt anyone with a wheelchair could use it. And the road (the whole corner) was fixed and repaved because the city forgets to connect a pipe when Willard was complete. This took the 3 months of complaining to the City until they finally got tired of us all complaining as the corner started to flood. They have fixed the flooding but the sidewalks on VanBuren and Welch are not ADA.

Most of the time when I'm getting off work in the evenings at 215 Westheimer the traffic is so heavy that sometimes I spend 5-10 min crossing the streets to get to my car

Crossing the street from where we park and where we work is almost impossible. We would like a cross walk or something to make it safer.

Cars do not watch out for either pedestrians or bicyclists. Bicycle lanes are spread out and not terribly relevant for around-the-neighborhood errands. Few protected/controlled pedestrian crosswalks.

Making Montrose really livable should be EASY because the area already has both abundant residents/workers and plentiful restaurants/coffee shops/stores/schools/etc. (destinations) that are in use at all hours. All you have to do is improve the connectivity and raise awareness.

BIKE:

- Reversible lane on West Alabama has to go when Spur reconstruction is done; replace previous bike lanes (I can't bike to Whole Foods or Chocolate Bar on Fairview!)
- No bike lanes on Bissonnet to get to places like Picnic and Brazos Books
- Bike route without actual marked bike lanes (Fairview)
- Bike lanes on Waugh/Commonwealth end inexplicably at West Gray when they should connect through to the bike lane at W Dallas and the bike paths at Buffalo Bayou



- Ideally, identify all area bike shops and target streets for bike amenities (make it easy to get to/from bike repair)
- Shortage of convenient, secure bike parking at/near restaurants, shops
- No racks on METRO buses to get me home if I'm caught out with unexpected bad weather or a flat tire

I would love to see a campaign as part of this project to engage business owners and institutions and invite them to volunteer to improve their bike parking/amenities in exchange for being featured as a bike-friendly Montrose destination.

I would argue that the easiest daily trips to convert from cars to bikes/ped in this neighborhood are for dining out. Lots of people in this neighborhood eat out a lot and do it nearby. Further, unlike for shopping, you mostly don't have to worry about bags/packages to carry home.

PEDESTRIAN:

- Narrow sidewalks on major shopping/restaurant streets (Montrose, Dunlavy, Shepherd, Westheimer, West Gray, West Alabama, Richmond, Bissonnet) that have lots of pedestrians (force you to pass uncomfortably close to others or walk in easement/street to go around them)
- Utility poles in middle of sidewalk (i.e. Dunlavy @ W Gray)
- Need mid-block ped crossings with ramps at several places along Westheimer, both along the curve (Yupon-ish) and also east of Montrose, ideally UK-style, signalized (both walk signal for ped and stop signal for traffic), blinky at both curbs, and painted "zebra" crossings
- Need ped crossings with ramps to refuge medians on Montrose at minor intersections north of Westheimer (i.e. Willard, Jackson, Hyde Park, Missouri, etc.) so residents on west side can walk to Baba Yega, Montrose Vet, Texas Art, Art League, and bars without going all the way to W Gray or Fairview to fight busy intersection traffic - Business owners who pave entire lot blurring sidewalk boundaries lead to cars parked in sidewalks (i.e. La Mexicana on Fairview @ Montrose, Tire Place on Fairview @ Upas, etc.)
- Lack of physical buffers -- landscaping, trees -- in space between sidewalks and vehicle traffic
- Lack of pedestrian-scale lighting
- Townhomes built prior to driveway ordinance with short driveways so owners park across sidewalks
- Property owners who fail to repair/maintain sidewalks in safe condition
- Property owners who won't install sidewalks at all (i.e. Fairview, Waugh, Commonwealth)
- Property owners who let bushes/shrubs grow to obstruct sidewalk
- Lack of ADA ramps at many intersections

Too many cars parked on the streets; cars turning right on red.

Drivers do not heed bicyclists at all. We need our own space to be safe. I have been hit by 2 cars within 1 year. It sucks to get hit and sometimes the damage is irreversible. Thanks Cheers

Bike lanes are indicated on signs but are not striped... Drivers cross into bike lanes around the curve when cyclists are difficult to see, creating a dangerous situation for cyclists.

ADA-accessible crosswalks are being built throughout the neighborhood, but the construction is sloppy. Streets and sidewalks are excessively and unnecessarily blocked during construction. Can the construction crews be more careful, and can alternate routes for pedestrians be designated during construction?



As the street lanes southbound transition into the bike lanes, cars often disregard the nearly invisible right lane right turn only treatment, creating dangerous situations for motorists and cyclists alike. The right turn only lane needs to be made more visible, and the transition to the bike lane needs to be improved.

Sidewalks are not continuous.

Westheimer is a major urban commercial street and needs wider sidewalks, more frequent pedestrian crossings, and a comprehensive urban development strategy. It should look and feel like an urban street.

The biggest issue for me is crossing Buffalo Bayou. Once I get south of the bayou, I am able to get around OK. Right now the reasons that I am not biking to work occasionally are personal, but I hope to get back to it in a year or so.

Sidewalks are too narrow. There are not enough trees for shade. There is too much vehicular traffic and cars go too fast.

Even though there are bike lanes in the neighborhood, they are narrow and often very littered with glass and debris that makes for dangerous biking.

Lack of sidewalks/narrow streets - lots of construction to deal with...bad drivers!! I used to live in Montrose, I now live in the Heights but all my friends are in Montrose so I'm there all the time...

Too dangerous for bikers on the main streets and side roads are in terrible condition, too bumpy. Currently the bridges from Montrose to museum district are limited, but when they're all complete, they'll be fine. The air pollution from too numerous vehicles is unhealthy. It's also unsafe to get from Montrose to the Main Street MetroRail station, inadequate sidewalks and too many scruffy characters roaming the streets and under the bridges. Worst of all are the children and young adults who live in the streets of Montrose, littering and making it unsightly and uncomfortable. All restaurants and retail should be required to have blooming plants enhancing their fronts (instead of litter and concrete). And the police substation needs to make their presence known--be visible, at all hours, walking and riding bikes among us.

Commonwealth/S of Westheimer - There is an outcrop of trees on the west side of the street as the street curves where teen-agers camp out each night, littering and being loud and threatening. It's an improvement over their camping out on Montrose Blvd. just south of Westheimer on the east side of the street, but it's still disgusting.

Montrose/Mecom Fountain to Allen Pkwy - Would it be possible to re-surface the street to be fashioned after Alameda with brick pavers and other defined areas? It's such an attractive



enhancement to that area and would certainly be attractive to Montrose from Allen Parkway to the Mecom Fountain.

We need lots of street trees to provide shade for pedestrians. We are losing street trees to townhome development where drive way cuts leave no room for shade trees (or the developer plants a cheap crape myrtle). Also, on some occasions, the planning dept. has allowed developers to relocate the sidewalk too close to busy streets , e.g., the west side of Montrose Blvd. south of Peden - this stretch of sidewalk now is right up against a busy street - there used to be grass and street trees between the sidewalk and street. Also the water meter covers are now imbedded in the middle of that sidewalk. These can cave in and trip people (it's happened to me). I consider this block to be dangerous and I no longer walk my dog on this stretch.

Conflict w/ cars & buses. Requires SEPARATED traffic.

I think existing sidewalks should be made legal for bikes. Instant bike trail. All street intersections should have ramps to every sidewalk. I don't trust painted bike lanes anyway. They are extremely dangerous in my opinion. They have also added to traffic congestion, and harmed local businesses by reducing curbside parking. And they are rarely used by bikes. Legalize bikes on sidewalks.

Hawthorne/Dunlavy - My mother-in-law has difficulty in enjoying her visits to our home on Hawthorne Street because of the terrible condition of the sidewalks. She has tripped repeatedly on cracked, missing and broken sidewalks throughout the neighborhood. The state of the sidewalks in this neighborhood is a significant problem for the elderly and the very young.

Sidewalks in terrible disrepair or nonexistent. aggressive, speeding cut-through traffic that does not follow the traffic laws. aggressive bicyclists that do not follow the traffic laws. poorly planned and unsafe bike lanes.

Gross/W Dallas to Clay - Specific location and need: intersection of W. Dallas and Gross/Marston a crosslight is needed.

Specific location and need: Along Gross St., a continuous sidewalk. I know this is technically outside the designated area (i.e. north of W. Gray), but it is part of the North Montrose area.

A cross-light is needed at this intersection by use of the people who live/work/visit in the agencies on the north side of W. Dallas (the Center (for people with mental retardation), the Juvenile Detention Center, the Lighthouse for the Blind, the Center for Speech and Hearing, and another MHMRA agency whose name escapes me.) Currently, there is a cross light in the middle of the block, but this light is no longer the primary location where people cross since the Lighthouse for the Blind has newer facilities to the west and since it only leads to a bus stop that few, if any, people use since there is a bus stop at the intersection of W. Dallas and Gross that is more convenient for most. People who live at the Center cross at this intersection to go shopping on W. Gray (mostly at Kroger's and Walgreens). Even for able people, this is a scary place to cross, especially during commute time, but that is the very time, in the afternoon especially, that the residents can do their shopping.



The sidewalk issue may be one that comes in time, given that the area is redeveloping and sidewalks will be required with new construction. In the meantime, however, since this convenient route to the W. Gray shopping area does not have a continuous sidewalk down it, quite often, people end up walking in the roadway of this narrow street with ditches on either side. As people with disabilities walk this route and as more cars find this short-cut around the Shepherd/W. Dallas intersection, the potential for someone getting struck by a car is increasing. The sidewalks are terrible. Also need continuous shade to protect from the Houston Sun. Would be nice to not also make it pedestrian friendly, but also add esplanades to Montrose Blvd to make it feel like a walkable area between Westheimer and US 59. This would give it a sense of more a neighborhood feel vs. a major thoroughfare. It works on the other side should do so here as well. Definitely use stamped colored concrete for the sidewalks, which will be more inviting and protect the historical street names on the curbs.

Traffic congestion due to Spur 527 replacement work. Inadequate street width for East-West bike paths.

Dunlavy/Vermont - This is currently a four-way stop. However, cars are constantly run this stop sign and several serious accidents have occurred. The street is a major thorough-fare for the EMS and Fire Station at Richmond and Dunlavy. However, with the businesses and pedestrian/bike traffic that also occurs on this street - something needs to be done to make it safer. Perhaps a red flashing light, as they have at Fairview.

There are not adequate sidewalks in many of the neighborhoods or they are in bad condition. There needs to be pedestrian lanes at intersections. Bike lanes is one alternative, although I do not know that it would work. They did not seem to work on W. Alabama.

Heavy traffic flow, parked cars and few bike lanes make it too dangerous to ride bikes especially with children. The biggest problem for pedestrians is sideways that are blocked by cars, forcing pedestrians to the street. Many apartments have just paved across the sidewalk and grass to the street converting city property into their private parking lots.

Very few safe areas to ride

I am less concerned about the problems in Montrose than about the gigantic waste at the national level in the name of creating bicycle paths—painting a white line on the right side of a busy street. This year, as usual, the politicians in Washington larded the highway construction program with things like this. This is not free money. It's tax payers' money used to buy votes and increase the national debt.

The infrastructure of the area precludes widening of roads to accommodate both increased traffic loads as well as bicycle lanes, from my perspective. I would rather have rail down Richmond, which will never happen.

I often walk down to the restaurants near my home and the sidewalks are deplorable. My street has drainage problems that the City refuses to address and I always have standing water / mud at my



curb. It doesn't really lend itself to a pleasant walking/biking experience. I hop over the Hazard Bridge to go walking in Southampton with my dogs. NEVER on the Montrose side! Bicyclists do not adhere to the rules they are to follow - it makes for an unsafe situation for all.

The "prefer to get around in Montrose" question didn't include both bike and walk. I can walk pretty easily due to our plentiful sidewalks, but there really aren't too many good areas to bike due to the speed of traffic on Commonwealth, West Gray & Allen Parkway. We could use some bike lanes. Also, there is a school near us just a couple of blocks off Commonwealth but no school zone or crosswalk on Commonwealth.

Need more visibility for stop signs which do exist, and adding some 4 way stops where there are only 2 way stops now. There is a real problem at the corner of Welch & Windsor, and Welch and Dunlavy. I encounter an average of four auto accidents per year between these two streets, as well as many animal and children being put at risk from speeders. Adding a four way stop at Windsor and Welch would reduce speeding between Dunlavy and Commonwealth. This corner is one block from an elementary school, and has high pedestrian traffic.

Safety due to high volume of car traffic and speed at which cars go through the neighborhood.

I'd love to spend more time walking and biking within and around the Montrose area; however this is a far more daunting task that it would appear.

Sidewalks are poorly maintained- many are cracked, at steep inclines, etc. In some cases, they do not exist. I often wonder how the elderly, parents, the disabled, etc. manage to get around without having to walk on the streets.

The challenge with walking on the streets is that it is not safe due to visibility. As Montrose is a mixed commercial/residential area, there are often many cars parked on residential streets, which takes up street space.... which makes it even harder for pedestrian/wheelbound mobility.

I do still walk around Montrose to run simple errands, walk my dog, to see neighbors, and for general exercise. I would love to see better sidewalks and/or walking pathways.

Bike lanes are virtually non-existent. Where there are bike lanes, they disappear almost as suddenly as they appear. The hardest part about biking is know unfriendly drivers are towards bikers... it really is dangerous biking. I would bike more if I felt safer.

Another possible idea would be to install dog fountains and dog "poop" bag stations. While I usually bring something with me when walking my dog, not everyone does... and there is often a lot of dog poop. The fountains would be helpful for encouraging extended walking, running, etc. Fountains for people would also be a good idea!

I love the idea of making Montrose more pedestrian & bike friendly for visiting others, running errands, exercising, and being out with pets.
Thanks for listening... keep me posted!

Sharing crowded streets with cars makes it impossible to use bike as alternative to my car.



W Alabama/Milam to Day - W. Alabama (and Richmond) underneath the 527 Spur is a very urgent problem. It does not have a safe, paved path underneath the Spur; the sidewalk on BOTH sides has been torn-up due to the construction on the Spur.

Although I had been walking to the light-rail for work almost every day I had to start using my car. The only 'path' is not paved; it is just dirt or mud, depending on whether it has rained. Moreover, often the only option is to walk WITH traffic in the street because the 'path' is blocked by the construction workers with yellow tape, vehicles, or just too muddy to cross. As I wear a suit everyday, and in federal court just about everyday, having a soiled suit was not an option.

The state of sidewalks generally throughout the Montrose area is horrendous.

W. Alabama (and Richmond) underneath the 527 Spur is a very urgent problem. It does not have a safe, paved path underneath the Spur; the sidewalk on BOTH sides has been torn-up due to the construction on the Spur. My guess is this lack of usable sidewalk is violative of the ADA.

Poorly marked crosswalks or too few marked crosswalks make intersections dangerous. Traffic travels too fast on Richmond and Montrose (this includes METRO busses). There are NO bike lanes. Sidewalks are often not shaded and those that are shaded are becoming less frequent because of tree injury during construction. Pavement for pedestrians is often uneven. Bike lanes too are often placed on uneven pavement and are usually filled with road debris.

The City of Houston has focused on automobile traffic instead of designing spaces for use by pedestrians and bicycles.

From the Spur to Shepherd the sidewalks are narrow and too close to the traffic that is often traveling in excess of the speed limit.

On any between major thoroughfares ex. Colquitt, W. Main, etc., there are no crosswalks identified except at major intersections of Richmond, W. Alabama, Hawthorne, Westheimer, etc.

Lack of bicycle lanes and awareness; aggressive driving; lots of traffic on Montrose - hard to cross

Speeding motorists, no bicycle lanes; Traffic on Westheimer, Alabama and Richmond has been extremely heavy since work on spur 527 started. We need bicycle lanes back on West Alabama as soon as possible.

The streets are old and narrow, and so bicyclists cause major problems on the major arteries of Montrose, Richmond, W. Alabama, Shepherd, etc. There are usually sidewalks for pedestrian use, and so this seems to be a good solution for those who wish to walk.



Crossing Montrose is becoming more difficult. Cross walks at each of the intersections would help pedestrians cross and make motorists aware of the pedestrians

Lack of adequate bike lanes on Alabama and Richmond; Spur 527 has destroyed the sidewalk to the light rail line on both Alabama and Richmond; most sidewalks are in deplorable condition; not all the intersections on Montrose are ADA compliant.

Alabama/Spur 527 - sidewalk on both sides off the street torn up. This is no safe egress from West Alabama to the light rail line station. This is an extremely dangerous situation for anyone in Montrose that walks and commutes to downtown and needs to be fixed immediately.

Alabama/Spur 527 - Sidewalk on both sides of underpass is destroyed and block by construction equipment. Travel by foot or bicycle is very dangerous. This must be fixed.

I don't have a car -- I use a bicycle and the bus as my sole means of transportation. I live in the Heights and work near the Astrodome. I bike through the Montrose area to get almost anywhere. The roads I use the most in the Montrose area are Waugh, Commonwealth, Fairview, Woodhead, and Alabama.

The bike lanes on Commonwealth and Waugh are usually filled with debris, and the bike lane on Waugh is quite unsafe at night. I usually ride outside the bike lane. Alabama is nicely bikeable between Woodhead and Shepherd (in terms of enough room and road conditions), but the car traffic is often unfriendly and too fast. Fairview and Woodhead are both great biking roads because they have wide outside lanes and relatively slow traffic.

Waugh/Bomar - Bomar intersects Waugh at an angle, so the bike lane, which follows the curb rather than the real intersection, leads the bicyclist directly into the path of cars on Bomar that are pulling up to the stop sign at Waugh. And since Bomar is at an angle to Waugh, motorists have a tendency to pull up quickly to the stop sign and treat it as a rolling stop. In addition, the intersection has almost no lighting at night, which makes it difficult for bicyclists to be seen at this intersection. A similar, though less extreme, condition exists at the next intersection (Waugh & Peden).

The section of Waugh between Welch and W. Gray is very poorly lit at night (and the bike lane is generally filled with debris) so I ride just outside the bike lane in order to be seen by cross traffic and to avoid entering the path of cross traffic.

I think this street would be safer without a bike lane. This would make it a one-way, two-lane road with a wide outside lane. It would be easier to ride far enough into the outside lane to be visible to cross traffic and to follow the real traffic flow (rather than the curb), and the part of the road where bicyclist ride would be cleaner. Overtaking traffic would be able to pass easily by moving left in the lane or moving into the left lane (no oncoming traffic to worry about).

The cars don't believe you are there. You are in danger! The previous bike route in this area ended at the Mecom Fountain with no visible way to get across to Hermann Park. The biggest problem with most bike routes is that they are at the side of the streets, are fairly narrow, and bicyclists often have to ride on a slanted roadside with an uneven seam where the curb starts. Bikers are more



likely to stay off the main roads and ride through neighborhoods. We sometimes walk to Hermann Park on our morning exercise walks (it is wonderful since its renovation). If we walk all the way to the end of the park we sometimes take the train back to the Museum stop.

Main/Hermann Park/Mecom Fountain - I know it's not in the defined boundaries of your Montrose project, but surely a destination for the Montrose Bike Routes should be Hermann Park. There is virtually no safe way to get there from the end of Montrose at the Mecom Fountain, but there could be a route via Wheeler into the Park and that should be part of your discussions.

Bike paths on Waugh are slanted and full of debris - it is too busy a street to ride comfortably - often landscaping intrudes on sidewalks - many sidewalks are in need of repair

BAD SIDEWALKS! We have a newborn baby, and it's almost impossible to take her for a stroll around the neighborhood because the sidewalks are too beaten up for the stroller (and we'd prefer not to walk in the street).

Both Westheimer and Dunlavy should be no parking streets so that two lanes in each direction can be used for autos.

Designated bicycle lanes would be a big help with maps published to show people where they are and where they will take them, i.e. to the Medical Center, to the movie at RO Shopping Center. Helping people see the benefits of bicycling is a good way to sell bike path usage.

Good sidewalks would help those who walk whether for pleasure, exercise or necessity.

Problems with Richmond Ave:

- narrow sidewalks, especially:

- (a) on south side, near Spur -- only a foot or so!

- (b) west of Montrose, where there are trees in the middle of the sidewalk

- signs, light poles, hydrants, et cetera in the middle of the sidewalk

- freeway/spur/turning traffic at Richmond/spur intersection makes it hard to cross to the light-rail station. Also, the little area in between the spur and the train station is run down, full of homeless and sketchy characters.

- what's the deal with the ruins at the SW corner of Richmond and Main? Make a park, or bring in a cafe or something?

- what about the little triangle on the SW corner of spur/Richmond, by the dead-end road? tear up that road and turn it into a park or something...

Why are there dead ends on Sul Ross and Branard at Dunlavy? To cut down on auto traffic, I guess. Why not have a pedestrian gate or something? I walk to places on the other side, and I have to make a several-block detour to get there...



Most businesses on Montrose have parking lots in front of them, creating an auto-dominated environment. We have strip centers with nice landscaping, but they are strip centers nonetheless. The new CVS, for example, is distinctly suburban, a blow to the streetscape that does not contribute at all to Montrose's urban aspirations. Design standards that encourage reduced or backlot parking areas and buildings with windows and entrances that face the street and sidewalks would go a long way towards inviting more pedestrians to the area.

The streets are too narrow and the drivers drive too fast to share the road with bicyclists. It is safer to walk because of the sidewalks. The tree roots have made some of the sidewalks uneven so the Cherryhurst Civic Association has been exploring ways to replace some of the sidewalks with something other than cement. Preserving the trees and making the sidewalks level are equally important to us.

Unfriendly sidewalks - discontinuous, missing and broken; inadequate provision of safe cross walks; Car drivers not pedestrian friendly; Lack of streetside destinations

Shepherd/ Norfolk and Portsmouth and Lexington - Despite having restaurants and coffee shop in Greenbriar Plaza - Star Pizza, Diner 59, Starbucks, Le Peep, Freebird, Amy's - it is very difficult to cross safely from the east side of Shepherd. While this plaza may be in Upper Kirby (?) most pedestrian traffic would be coming from the Montrose side. Ultimately the difficulty crossing becomes a deterrent to walking in the neighborhood

Broken sidewalks; Sidewalks too narrow; Shrubbery growing across the sidewalk making it even more narrow; Curbs in places are a good 12-15 inches above the street

Right now it's treacherous to walk under the spur on Richmond, very difficult to get to the rail stop. I hope there will be a wide sidewalk there but it doesn't look like they've left enough room. Not much better on Alabama.

Narrow sidewalks, rough/broken sidewalks

Sight distance issues at two & four way stops along n/s bicycle routes through Montrose. East-west bicycle travel was significantly impacted with the removal of the bicycle lanes along W. Alabama. Lots of bicycle-related destinations along W. Alabama too.

Utilizing bicycle racks on the buses would allow for multi-modal trips, extending the length of the overall bicycle trip and simplifying the bicycling commuter trip.

It is very easy to get run over in Montrose. I never assume anyone is going to stop at a stop light. I would say only 50% believe that pedestrians have the right of way. Everyone needs to slow down. It is difficult to cross Dunlavy between Westheimer and West Gray as traffic has increased. Perhaps a light needs to be installed. Very few people obey the 20 mph for school zones.



Alabama/Woodhead - There is a large, smooth metal plate embedded in the road in the east-bound lane of Alabama just before Woodhead. It is the type of smooth plate used to temporarily cover work on a street surface, but it appears to be semi-permanently embedded in the road surface. It is almost the width of the lane so it is difficult to avoid when turning either right or left onto Alabama from Woodhead. Since it is smooth, it looks like it would be slick when wet, especially while turning. I was under the impression that standards for this type of plate required a non-slick surface (like for man-hole covers).

Too much traffic. Lack of pedestrian/cyclist friendly attitudes of drivers. Lack of quality streets, sidewalks and pathways conducive to walking and cycling. Safety issues after dark ranging from speed of cars to increased vulnerability to crime. Dangerous roadways are necessary to travel before one can get to off road trails with shade, green space and pleasant surroundings for a ride or a walk (eg: Buffalo Bayou) during daytime hours. Even with the bike lanes that have been created, the speed and lack of consideration of cars sharing the road makes a bike ride in Houston a frightening experience. The lack of social consciousness about public transportation and the resulting shortcomings (i.e.: a city with no functional public transportation system to rely on) makes those who walk or who are not traveling in cars an aberration and a spectacle unless they stay within the boundaries of a neighborhood. Crossing busy intersections (almost all of them are) even with a crosswalk signal is challenging with the right turn on red law. My answers above re: "how many times..." are not truly accurate, because in many cases, it may reflect what my potential is under the circumstances, but not the biking/walking I would do in an ideal situation/community. If I had a choice, I would ride/walk/use public transportation as much as possible, although, Houston was not laid out or planned for that sort of quality of life--unfortunately, it wasn't laid out with planning in mind at all--it wasn't planned, it was developed. I know there are many communities that are considered models, yet, the one I have lived in that seemed to have addressed so many of these issues and gotten it close to right is Evanston, Illinois, a bedroom community on the northern edge of Chicago.

I just sent a bunch of information on this and forgot to mention the pollution factor as being a significant problem in outdoor exercise in our community. It is shocking to think of how deeply the runners and walkers at Memorial Park jogging trail are breathing the fumes of the cars that travel on Memorial Drive just feet away from the trail--and with increased townhouse and mid-rise development in Montrose and the accompanying increase in the amount of cars on the roads giving off pollutants in the past 5-10 years, people who participate in outdoor exercise in the Montrose experience the same affect. I'm an allergy and asthma patient and have to consider those consequences.

Crossing Montrose, Westheimer and Bissonnet are problems on my bike because of short green lights at intersections from side streets. Also riding along the bike route on the St. Thomas Campus is dangerous because of drivers exiting their cars. They do not see bikers and open the driver's door at the biker's peril.

Along Richmond - the sidewalks on Richmond are awful! 1- at the east end by the spur, they are nonexistent/very narrow/broken 2- everywhere there are trees, poles, signs, holes, electrical boxes, hydrants, etcetera in the middle of the sidewalk!



Please press METRO to place the east-west light-rail line down Richmond, rather than along the freeway! A freeway-adjacent routing would cut the line off from half its riders and destinations, whereas a Richmond routing passes through residential areas and businesses.

I would like a traffic free bicycle route along 59 between Kirby and Downtown.

Need clear route along 59 between Kirby and downtown.

Some additional comments, I've been to this website before... crossing over Waugh bridge, from the Heights into Montrose, this bikeway needs to not only just go over the bridge, but connect to existing and future bikeways down at the Bayou... the bikeway needs to go high, and go low (BOTH).

Waugh/Allen Pkwy - Waugh bikeway needs to go both over the bridge to get across Allen Parkway, but it also has to connect up with the bike paths at the bayou level... the bikeway has to GO HIGH and GO LOW at the same time. There is no connectivity at this time, unless you ride down the car ramps, which is VERY tricky!!!

crime and traffic

This is to report a problem solved! Two weeks ago, on a Sunday, I reported a slick metal plate embedded in the road at the intersection of Woodhead and Alabama. The following Friday, on my way to work, I saw that construction crews were working on that intersection. By Tuesday, the metal plate was gone and the spot had been neatly filled in. If you folks are responsible for getting this fixed --- THANKS!

1. Drug Dealers/Street Kids/Homeless
 2. Torn up sidewalks
 3. Disrespectful drivers
 4. Weather
 5. Not enough stop signs
 6. Designated areas for walks and bicyclists
 7. We need more parks
 8. The administration in Washington, DC
 9. Educating the public
 10. Houstonian's are over wait.
 11. I'll stop for now
-

There needs to be a four way stop to help slow drivers down from the sharp curve in the road and from patrons of Meteor crossing the road. I live at 2405 Genesee and hear all the noises from braking, car accidents, and squealing of tires.



All street markings for bike routes need to be repainted so individuals in cars can see them. Our previous Mayor, Downtown Brown, did not keep up the maintenance of the bike trails. Thanks. All over the city.

We need more sidewalks. Specifically, we need sidewalks on the west side of Taft between Fairview and Welch.

There is no sidewalk or discontinuous sidewalk on the west side of Taft between Fairview and Welch. Also, there is deteriorated sidewalk on Fargo west of Whitney.

Sidewalks are too uneven, cracked and broken to be safe. We have to walk in the street and deal with auto traffic.

Can't walk in the evening through fear of crime. Situation worsened by lack of street lighting. Often don't walk alone during day through fear of being accosted by street people asking for handouts etc. Sidewalks in very poor condition. Difficult to cross roads at intersections as cars run lights.

Lack of street lighting.

Sidewalks at angles, not enough space for people and bikes, no corner curbs flat with sidewalks and road, need dedicated lanes, not just painted strips on the roads

The stop sign at Driscoll and Colquitt is not visible enough. Drivers run it all the time. I've seen a cyclist get hit by a car. He was okay but his front tire got bent.

There is an electric pole in the middle of the sidewalk east of Mason on the south side of the street by the power station. It looks like a wheelchair cannot get around it.

A lot of the sidewalks are not in a condition for riding your bike or even walking at a fast pace for exercise. There also needs to be more bike lanes for safety when riding on the roads due to the amount of heavy traffic in the area. Then people would start riding their bikes for errands and modes of transportation in the area.

Little governmental incentive or funding to promote bike paths. Existing infrastructure was not designed for bikes. No zoning control. Traffic signaling not pedestrian friendly. Lack of bike lanes or paths. Sidewalks and streets rough - need repair. Bike parking needed at retail establishments.

I live at Montrose and Bissonnet at the corner of Mt. Vernon and Berthea. I walk to the light rail 5 days a week to commute to the medical center.



Poor road conditions for cyclists after the 59 overpass to Bissonnet, Would like a dedicated side lane for cyclists wide sidewalks with ramps for pedestrians, the sidewalks are too close to the traffic for comfort. Walking along Montrose is almost unnerving due to the passing traffic traveling so fast.

The road condition is very rough in this area; potholes, patches and rough pavement make it unappealing for bike riders. Also if a bike lane were to be put along this road it would be important to have that part of the road well lit so drivers would have an easier time spotting bikers.

Sidewalks are often overgrown and too close to the road. There is nothing to distance you and a car zipping down Montrose at 35-45mph.

Having a dedicated bike lane along Montrose would encourage cyclists in and around the Montrose area to make this part of town a more bike friendly environment.

I'm sorry I missed the meeting, just found out about this website today.

Are you aware that METRO is planning to run their rail line from Wheeler Avenue straight down Richmond all the way to Greenway Plaza and beyond? Do you have any idea of what that 40' wide swath of rail line will do to Richmond traffic-- vehicle, pedestrian, and bicycle? Have you been following the argument that rail should be on Westpark, where METRO already owns ample right-of-way? Wake up, Montrose is going to get hammered by this Richmond rail route.

- 1) Narrow streets and walkways
 - 2) No bike racks to lock bikes
 - 3) Sidewalks lacking or dangerous
-

I would ride my bike (rather than drive) more if I had places to park my bike while running errands. More retailers, restaurants should have safe bike parking accommodations.

While there are some reasonable good bike lanes, more should be done to provide safe lanes on more Montrose streets.

I ride my bike to the Downtown Y every weekday, and downtown on to Washington on to TC Jester with no problems. I think the bike trails [except for TC Jester] are in bad shape.

What can we do about some of the bad sidewalks or how trees and plants are allowed to grow in the sidewalks paths? And what about those illegal real estate signs that go up on the weekends?

Idiots with cell phones in their cars. Cell phones should be outlawed in a car. Period.

Not enough bike lanes. In particular, it is hard for bikers to cross major roads like Montrose and Westheimer.



Pedestrians often have problems with aging and uneven sidewalks - usually broken by roots of large old trees--which we like! By and large, lighting is sufficient and walking is made more pleasant by the shade.

Bicyclists have to be extremely wary of drivers who either don't acknowledge their presence or regard that presence as more of a nuisance. Thoroughfares are worse than cross streets because the drivers drive faster and are more "competitive" and aggressive.

Both pedestrians and bicyclists who travel the area during peak traffic hours are negatively affected by auto emissions as well as the resulting ozone build up.

Last, more businesses need to provide bike racks or places to lock a bicycle.

The sidewalks are not wide enough or continuous enough. There are too many breaks in the sidewalks. I think Westheimer in the Montrose (from Bagby to Shepherd) should be reconfigured to be a signature stretch with only two lanes of traffic, parking spaces, and wide sidewalks. It could be the kind of stretch to take out of town visitors to, walk down the street, shop, and get a sense of Houston's funky, fun other side.

One of the major problems of walking Montrose after 6:30 pm is the number of cars blocking the sidewalks. I counted 7 cars blocking sidewalks on Welch and Indiana between Dunlavy and Shepherd during the week. This is also true of Mandell.

Sidewalks are not wide and streetscapes are not pedestrian friendly
- need trees, needs separation from the street
Bike lanes are not plentiful
Signage

Safety always an issue - I understand one can't have zero risk, but improved safety would be great! I like to go downtown on my bike, often with my near-teenage sons, but there are several areas of the bike routes that are less than acceptable in terms of safety. Also, if we could get a branch of the Metro train! Continue the great service on the 82 line.

The sidewalks are spotty or in poor repair. Some of the roads could use resurfacing, though too much construction at once would only add to the noise and air pollution that already discourages pedestrians.

Inconsistent sidewalks for pedestrians (a typical Houston problem)



APPENDIX C **STAKEHOLDER WORKSHOP**

C.1 PURPOSE AND LOCATION

To kick off the project, the consultant team conducted stakeholder meetings to obtain one-on-one input from key community leaders. The meetings were held on June 15, 2005, 1-3 p.m. and 6-8 p.m., in M.D. Anderson Hall on the University of Saint Thomas campus. Invitees to the 1-3 p.m. meeting included state, county and city officials; Texas Department of Transportation; METRO; area business owners; institutional representatives such as school principals; and social service organization representatives. At the 6-8 p.m. meeting, the team welcomed neighborhood and community association representatives and bike and disabled persons advocates.

C.2 MEETING NOTIFICATION

Meeting notices were sent via email to government and agency representatives, area businesses, schools, social service organizations, neighborhood and community associations and bicycle and disabled persons advocacy groups. Additionally, notices were hand-delivered to area businesses.

C.3 ATTENDANCE

A total of three (3) people attended the 1-3 p.m. meeting — two representatives from the City of Houston and one representative from a local community group. At the 6-8 p.m. meeting, 12 people attended including a representative from Bike Houston and many community association representatives.

C.4 MEETING FORMAT

The two meetings were conducted in an identical format. Dan Raine, AICP, Pedestrian-Bicycle Coordinator with H-GAC welcomed attendees and explained the purpose of the plan and why their input is crucial to developing a successful plan that addresses the community's pedestrian and bicyclist needs. David Manuel, EIT, AICP with LAN, joined Mr. Raine in facilitating the group's ideas and suggestions. Maps of the area were used to record comments regarding specific areas of concern. General comments concerning safety, parking issues, goals, etc. were recorded on the chalkboard.

At the end of the meeting, Mr. Raine thanked everyone for attending, encouraged them to direct others to www.livablemontrose.org to give their suggestions and comments for the area and reminded them of the public meeting on July 21, 2005 (location to be announced).

C.5 COMMENT SUMMARY

The following is a summary of the ideas and suggestions received from meeting attendees.

General Comments

Area Good Points

- Dense; heart of the city (location)
- Density — fun outdoors
- Social people doing lots of things
- Yoakum is inviting



- Great food, art
- Shopping/drinking establishments
- Walking as a utility
- Character/Diversity
- Variety of land uses (old and new together)
- Greek festival
- Community scale/community feel
- Live oak trees — maintain that character
- Proximity to Hermann Park, Museum, close to cool stuff

Themes

- Lack of sidewalks
- Low respect for pedestrians
- Demographic shift (singles to families, children's access to school/parks)
- Crossing busy streets is tough!
- Remove barriers/improve crossing
- Shade
- Function over form
- Parked cars can improve comfort for pedestrians
- METRO—why Richmond now; why rail now?

Safety Issues

- Lower scale of street lighting for pedestrians
- Barriers to walking (cars on sidewalks)
- Enforcement (parking), signage
- Crossing Westheimer (traffic is too fast)
- Speeding
- Proximity of pedestrian activity and traffic (outside travel lane - traffic vs. pedestrian activity)
- Visibility — sight distance issues (Westheimer @ Montrose)
- Spur 527 destroyed sidewalks along West Alabama and Richmond
- N/S streets — short lights/long delays
- Light timing: West Alabama @ Richmond, Westheimer @ Hazard, Stanford @ Alabama
- Hawthorne/Bagby no longer available
- Long construction periods very frustrating
- Drainage issues
- Vegetation control (Yoakum @ Hawthorne, down Roselyn)
- METRO — Westheimer and Montrose
- Bike lanes
- Dunlavy open ditches
- Different striping for crosswalks
- Lower street level in South Montrose

Parking Issues

- Density impacts mobility
- "Creative" parking is a problem
- Commercial/business needs
- Get cars off sidewalks (parking plan?)
- Neighborhood
- Why do restaurant block off all parking?
- Bus idling on streets (HSPVA)
- Bicycle parking/accommodations



Goals

- Get ready for light rail
- Park once — walk, shop, eat, drink (less auto dependency)
- Improved access to transit/transit service
- Capitalize on Montrose strengths — keep it fun
- Improve bicyclist friendliness/perception
- Improve accessibility to land uses
- Educate the community and drivers
- Eliminate barriers and make crossing streets easier and friendly
- Utilize medians for pedestrian crossings
- Improve links through Spur 527 (W. Alabama/Montrose accessible)
- ID opportunities to consolidate signage
- Police presence — enforcement needed
- Enforce sidewalk construction ordinances
- Thoroughfares should work for residents
- Bike racks on buses
- COH — take care of infrastructure
- Preserve curb/street names (tiles)
- Reopen Graustark
- Improve safety for all modes
- Paint crosswalks more frequently
- Thoroughfares should be ADA compliant
- Educate the community, drivers, cyclists, bilingual
- Improve access to land uses with bikeways
- Color-dye concrete sidewalks (why not?); stamp patterns like Main Street
- Maintain community scale
- Speed enforcement (flashing feedback)

Map Comments

Early session (1-3 p.m.)

- “Enhanced Pathways” connecting to adjacent neighborhoods at:
 - South Shepherd @ Westheimer
 - South Shepherd @ Alabama
 - South Shepherd @ Richmond
 - Bissonnet @ Main @ Binz
 - Montrose @ Bissonnet
 - Montrose @ US 59
 - Spur 527 @ Westheimer
 - Spur 527 @ Alabama
 - Spur 527 @ Richmond
- Nodes or high activity hubs identified at:
 - Bissonnet near Montrose and Main
 - Montrose and US 59, Richmond, Westheimer and Fairview
 - University of Saint Thomas
 - South Shepherd and West Alabama
 - All along Westheimer between Spur 527 and South Shepherd
 - River Oaks Center
- Parks, landscaping along streets at



Mandell @ Richmond
 Dunlavy @ US 59 (Dunlavy Park)
 Fairview @ Windsor (Wilson Elementary School)
 West Gray @ Columbus (Wharton Elementary School)

- Thoroughfare work on
 Fairview between Montrose and Genesee
 Tuam between Genesee and Louisiana
- Extend Montrose area boundary to Buffalo Bayou
- Too much traffic on Westheimer, perhaps pedestrian/bicyclist should approach from less busy side streets

Evening session (6-8 p.m.)

- Enforcement of pedestrian access provision during construction
- Alabama ADA curb ramps all along
- METRO's landscaping is good
- Traffic enforcement yields safer pedestrians
- Bike access E&W — use utility easement along US 59?
- Crosswalk striping — maintain style
- Clean up around park at Main and Wheeler to Spur 527
- Medians good on Montrose between Westheimer and Bartlett
- Bike lane to museums
- Move METRO stop from Westheimer/Montrose to Westheimer/Yoakum
- Stamped concrete and wider sidewalk on Westheimer between Dunlavy and Yoakum
- Lights too short at Montrose and Hawthorne
- Need light at Alabama and Hazard
- Curb too high at Sul Ross and Roseland
- Replace sidewalk at Alabama and Spur 527
- Open ditch on Dunlavy between Alabama and West Main
- Road crown vs. curb on Montrose between US 59 and Westheimer
- Vegetation overgrown at:
 Fairview and Hazard
 Lovett and Yoakum
 Welch and McDuffie
 Welch and Elmen
 Welch and Hazard
- More vegetation needed at:
 Alabama at Spur 527
 Colquitt at Spur 527
 Park at Main and Wheeler
 South side of Westheimer between Montrose and Spur 527
 West side of Spur 527 between US 59 and Westheimer
 Welch and Hazard
- Poor drainage on:
 Richmond between South Shepherd and Yoakum
 Richmond between Roseland and Spur 527
 Harold between Montrose and Audubon
 Hawthorne between Mulberry and Montrose
 Westheimer between Dunlavy and Yoakum
 Alabama and Montrose
 Dunlavy and Richmond
- Pedestrian push buttons at:
 Westheimer and Hazard



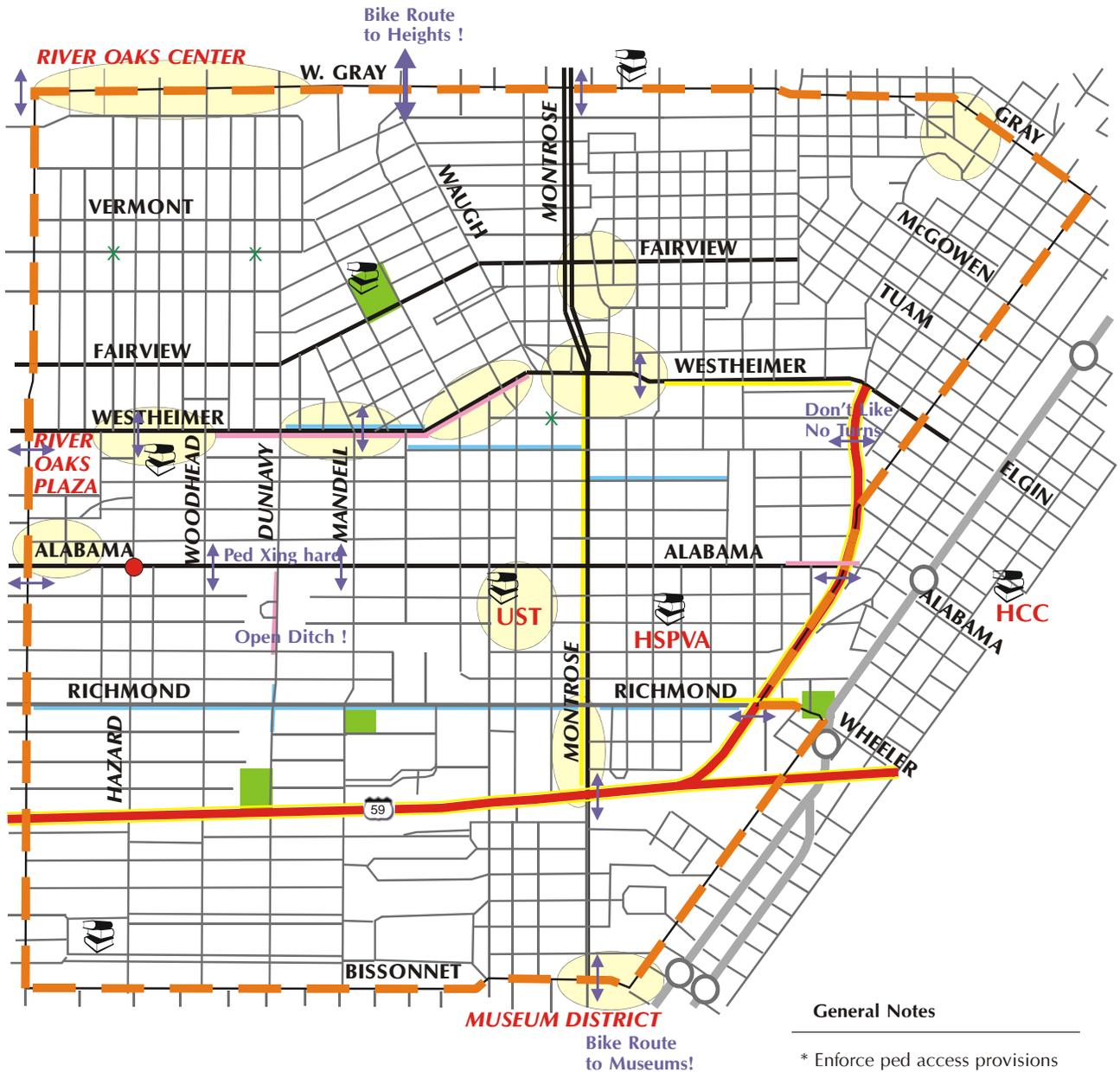
N/S streets in general on Westheimer and Alabama
Montrose and Lovett

- Bus idling reduces pedestrian comfort on:
Harold between Woodhead and Yupon
Surrounding HSPVA
- Lighting improvements needed at:
Westheimer between Woodhead and Dunlavy
Westheimer between Montrose and Spur 527
Westheimer and Montrose intersection
Richmond between Jack and Main

The map on the following page illustrates graphically the spectrum of community concerns.

MONTROSE

PEDESTRIAN & BICYCLIST PLAN



- x Overgrown Vegetation
- Poor Drainage
- ↔ Connections
- Poor Sidewalks
- Need Traffic Signal
- Need More Lighting
- Activity Nodes
- Parks

General Notes

- * Enforce ped access provisions during construction.
- * Better crosswalk striping.
- * More curb ramps needed.
- * Bus idling reduces ped comfort.
- * Montrose medians good!
- * More bike racks.
- * Mid-block ped crossing in busy areas.
- * Road crowns often too high relative to curb height--sharp grade changes.



APPENDIX D **JULY PUBLIC MEETING**

D.1 PURPOSE AND LOCATION

H-GAC and the consultant team held a public meeting on July 21, 2005, 6-8 p.m., in the Council of Clubs room in Crooker Center on the University of Saint Thomas campus. The purpose of the meeting was to explain the study process and to gather the community's specific concerns and ideas regarding possible pedestrian and bicyclist improvements in the Montrose area.

D.2 MEETING NOTIFICATION

Meeting notices were sent via email to area stakeholders such as government and agency representatives; area businesses; schools; social service organizations; neighborhood and community associations; local media; bicycle and disabled persons advocacy groups; and respondents to the online survey on the project web site, www.livablemontrose.org.

D.3 ATTENDANCE

A total of 44 people signed the attendance log for the meeting, including representatives for Bike Houston, the City of Houston, Houston Police Department, Houston Museum District Association, Council Member Edwards, The Houston Chronicle, Citizens Transportation Coalition, Houston Pedestrian and Bicycle Advisory Committee and numerous community and neighborhood associations.

D.4 MEETING FORMAT

Dan Raine, AICP, Pedestrian-Bicycle Coordinator with H-GAC welcomed attendees and explained the purpose of the plan and why their input is crucial to developing a successful plan to address the community's needs. Keith Hall, AICP with LAN, discussed the input the team received thus far from the responses to the online survey. David Manuel, EIT, AICP with LAN, reviewed the input received at the community stakeholder meetings held on June 15, 2005 in which they discussed key community leaders' concerns and suggestions. Michael Moule with Livable Streets outlined what other cities and regions are doing in regard to pedestrian and bicyclist improvements and identified some elements that have been particularly successful in other areas such as a "bicycle boulevard" which is parallel to a major street where bikes are given priority; traffic is calmed without stop signs, so autos are slowed but bikes are not. Mr. Moule then encouraged attendees to think about what improvements would best solve not only issues in Montrose, but also how to link Montrose to other area destinations such as Hermann Park and the Museum District. Mr. Hall directed attendees to record their comments on the maps at each table. Attendees were instructed to be as specific as possible — to highlight specific intersections, streets, etc. that need the most improvement.

After attendees were finished recording their comments, each table was asked to read aloud some of the key issues their group discussed.

At the end of the meeting, Mr. Raine and Mr. Hall thanked everyone for attending, encouraged them to direct others to the project website, www.livablemontrose.org to give their suggestions and comments and reminded them of the next public meeting — August 25, 2005, 6-8 p.m. in the Council of Clubs room in Crooker Center on the University of Saint Thomas campus — when the team will ask for comments on the draft plan for the area.



D.5 COMMENT SUMMARY

The following is a summary of the ideas and suggestions received from meeting attendees.

Sidewalks:

- Need curb ramps on sidewalks
- Need wider, safer sidewalks (2)
- It is very dangerous at Richmond and Spur 527 (2)
- Sidewalks are so uneven, cracked and obstructed that it is easier to walk in the streets (2)
- Need sidewalk on Montrose over 59
- Very poor pedestrian access along Richmond between Montrose and Dunlavy
- There are no sidewalks on Taft between W. Gray and Westheimer
- Extreme sidewalk problems due to tree roots on Vassar between Mandell and Autrey
- Several blocks with no sidewalks along Dunlavy and Mandell between Richmond and Bissonnet
- Brick sidewalks are difficult for some users (wheelchairs, strollers, walkers, etc.)
- Sidewalks needed on Bissonnet between Mandell and Graustark (currently has a footpath)
- Corner of Mt. Vernon and Barkdull needs sidewalk replaced; it's been sinking for months
- Sidewalk access to Herman Park needs to be bigger with ADA ramps
- Impassable sidewalks in 4200 block of Roseland
- Shrubbery blocks sidewalks at many corners, which restricts visibility for drivers and walking space
- Need new and wider sidewalks all along Westheimer from Shepherd to Spur 527
- Like new ADA ramps
- Sidewalks need improvement on Westheimer between Woodhead and Windsor
- Reconstruct (and construct) sidewalks in restaurant and retail district around Montrose and Westheimer

Intersection Safety:

- No school zone or crosswalks near Wilson Elementary between Yupon and Waugh
- School crosswalks good at Dunlavy between Fairview and Indiana
- Need crosswalk at Mandell and Sul Ross
- No crossing light (pedestrian signal) at Bissonnet and Hazard
- Need 4-way stop at Colquitt and Greeley instead of the current 2-way stop
- Add 4-way stop sign at Welch and Windsor; speeds increase on Welch because there are no stop signs
- Vehicles run stop sign at Graustark and Barkdull; many pedestrians walk in the area
- With the new bridge at 59 and Graustark it is imperative to add a stop; there are numerous pedestrians
- Graustark and Bissonnet intersection is dangerous; bad visibility
- Need a way to walk Richmond under Spur 527 to get to Wheeler METRO station
- Hawthorne, Holman, Spur 527 and Smith are dangerous to cross; can't see light
- Pedestrian crosswalks along Montrose and Westheimer need to be better marked
- Portland-type mini circles (e.g. at Dunlavy, North and South Blvd.) in lieu of stop signs
- Traffic lights at Gray and Baldwin, Webster and Baldwin
- Fix broken crosswalk signal buttons on Westheimer
- Like "smart street;" pedestrian bump outs to shorter crosswalks with delineated parking at W. Gray, Webster and Baldwin; but need to add signalized crosswalk
- Replace sensor at Taft and W. Gray with VIVDS; current setup does not detect bikes for signal change



- Need marked crossing on Dunlavy to north side of Allen Parkway
- Need high visibility crosswalks on Montrose at the following intersections: Willard, Missouri and California
- Crosswalk issues at Montrose and Richmond
- Graustark and Richmond needs stop light
- Graustark and Bonnie Brae needs stop light
- Can only cross Richmond at Montrose and Mandell; need more crossings along Richmond
- Marked and well-lit crosswalks needed at every signalized intersection along Westheimer from Shepherd to Spur 527
- No ADA ramp on two corners at Fargo and Morgan
- Poor/difficult crossings at
 - S. Shepherd and W. Gray
 - Waugh and W. Gray
 - Montrose and W. Gray
 - Lovett and Spur 527
 - Alabama and Spur 527
 - Richmond and Spur 527 (2)
 - Westheimer and Montrose
 - Hazard and W. Alabama

Drainage:

- No street drains at all on Branard Street from 500 block to 59
- Major flooding at Fargo and Morgan; broken sewer grates
- Waterlines improved on Taft between W. Gray and Stratford; excellent contractor; before and after photos to ensure there was minimum impact on the neighborhood
- The people who put in the water lines at Milford and Mt. Vernon did an excellent job
- Bad street flooding during rains on Richmond and Alabama; improve drainage so people can get around (2)
- Poor drainage on
 - Richmond between McDuffie and Spur 527
 - Dunlavy between Harold and W. Main
 - Dunlavy between Colquitt and Bonnie Brae
 - Street flooding on Mandell between Richmond and Alabama (2)
 - Street flooding on 600 block of W. Main; last street to drain in area

Bike Routes:

- Bike lane markings are hard to see; make them more visible and use something highly reflective
- Bike crossing signs needed at Stanford and Westheimer
- Improve signage at major intersections where bike route crosses
- Paint bike symbols along bike routes
- Mark Taft and Audubon as a bike route
- Need bike path on major E/W thoroughfares (Richmond, Alabama, etc.)
- Need bike route down Montrose to Hermann Park (2)
- Overall poor road surfaces (Montrose, Fairview, Bissonnet)
- Return back to original design with bike lane and left center turn lane along Alabama from Spur 527 to University of St. Thomas
- Taft Street between W. Gray and Westheimer has various widths; make a bike path
- Bike lanes on Waugh and Commonwealth need to connect to Buffalo Bayou and have wider lanes restriped (3)
- Remove contra lanes on Alabama and restore bike lanes



- Improve bikeway on Waugh from W. Gray to Richmond
- Improve street surface along bike routes
- Bike route from Montrose to downtown (McGowen to Brazos?)

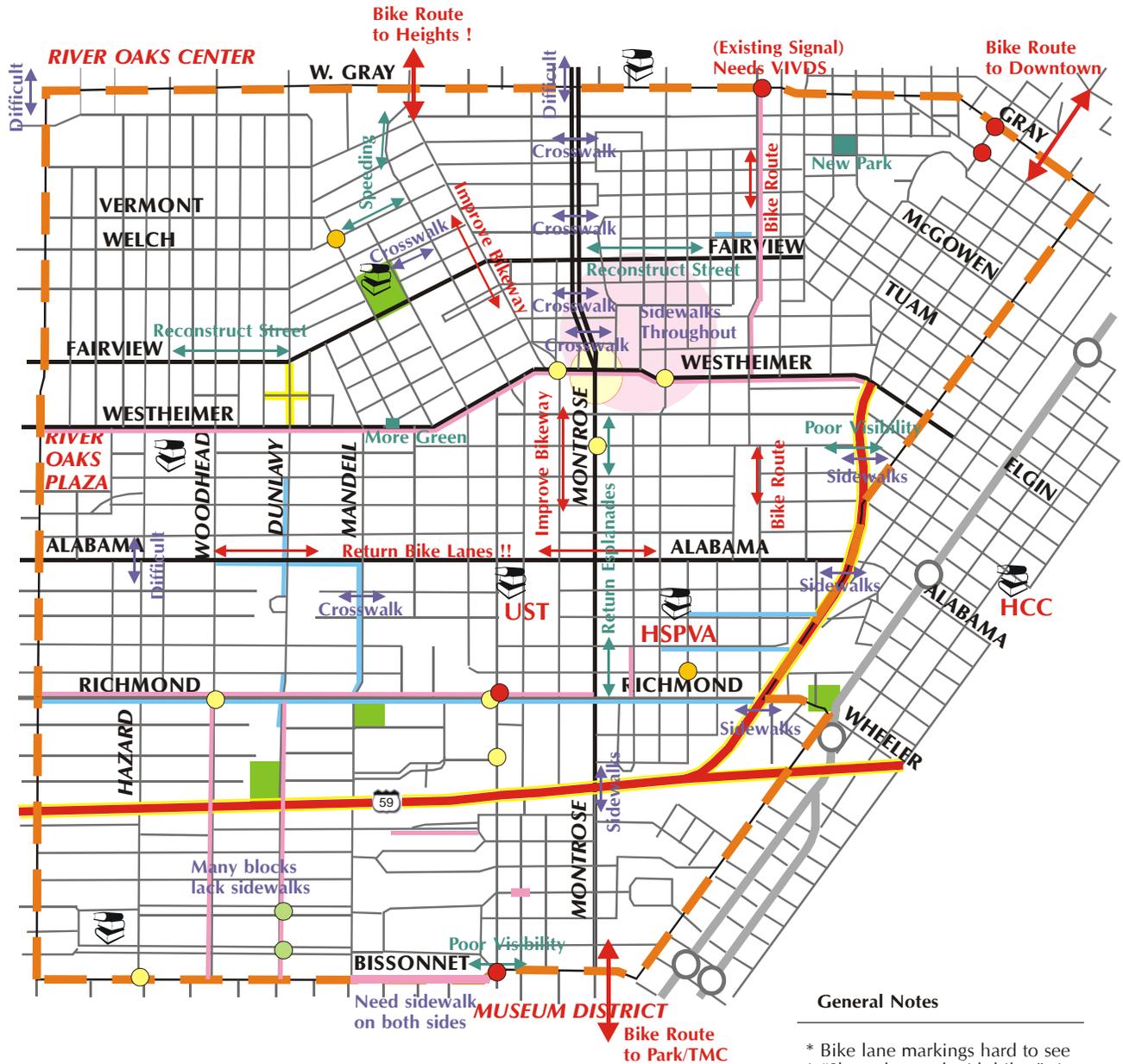
Miscellaneous:

- Waugh between Nevada and Haddon needs speed limit enforcement
- Great job renovating at Colquitt and West Main between Yoakum and Graustark
- Control litter by making trash cans available in retail areas
- “Children playing” and “dead end” signs on Sul Ross (1600 block) need to be more visible
- Convert McGowen between Sutton and Cook (or surrounding blocks) to a park with open fields for dogs and Frisbee playing
- Small park at Westheimer and California needs more green
- Beautiful green median on Richmond
- New park at Mandell and Richmond is great
- Do the inventories and make it possible to go from one place to another by bicycle, sidewalks, ADA ramps
- Bike racks needed for restaurant/retail areas
- Extend esplanade on Montrose from Westheimer to Richmond
- Replace esplanade medians on Montrose
- Return the esplanade (on Montrose)
- Bike parking needs improvement for safety
- Need more/better bike signage with more specific information
- Need bicycle signage at Graustark and Miramar
- Bridges over 59 are safe, wide and pretty
- Poor lighting along Missouri between Park and Kuester
- Signage about yielding to bikers or “share the road”
- Pay showers downtown (like Memorial Park)
- Widen Richmond using right-of-way to provide space for existing traffic, light rail, bikes and pedestrians
- Reconstruct Fairview to accommodate bikers and pedestrians with existing traffic from Shepherd to Tuam west to east
- Consider one-way streets in study areas

The map on the following page illustrates graphically the spectrum of community concerns. After that are photos from the public meeting.

MONTROSE

PEDESTRIAN & BICYCLIST PLAN



General Notes

- * Bike lane markings hard to see
- * "Share the road with bikes" signs
- * Marked bike lanes are too narrow
- * Need another east-west bikeway
- * Montrose Blvd needs resurfacing
- * Brick sidewalks become bumpy and difficult to use when not maintained
- * More trash cans to control litter
- * Contractor replacing waterlines is doing a great job
- * More bike racks near businesses
- * Frequent visibility problems from overgrown vegetation
- * EDUCATION about bike issues
- * Consider pairs of one-way streets

- Poor Drainage
- ↔ Connections
- Poor Sidewalks
- Need Traffic Signal
- Need 4-Way Stop
- Need Bike Xing Signs
- Need Mini-Roundabout
- Need More Lighting
- Montrose & Westheimer
- Need bike racks
- More prominent crosswalks
- Ped call buttons don't work
- Parks
- X Overgrown Vegetation
- ↔ Bike Issues
- ↔ Other Issues



D.6 MEETING PHOTOS











APPENDIX E

PROJECT PREFERENCE SURVEY RESULTS AND RANKINGS

E.1 PROJECT DEVELOPMENT

After the public meeting in July (Appendix D), the map developed from that meeting’s input was distilled into 34 “projects,” meaning that ideas and issues on the map was concretized into a physical description. For example, “poor sidewalk conditions” noted along Richmond Avenue became “Repair Sidewalks along Richmond Avenue.” These projects, along with a 35th listing for write-in suggestions, were posted to the project website. All persons that had left contact information either through website visits, previous meetings, or personal e-mails and phone calls, were notified of the survey and asked to select their top five projects. The paragraph below is the introduction from the website.

Project Priorities Survey

Following are a list of potential project priorities for the Montrose Pedestrian and Bicyclist Plan. We identified these projects based on input from survey responses and comments from the public meeting. Although most of these projects can be included as plan recommendations, we need your help in ranking them.

Please place a check in the five most important projects for short-term implementation within Montrose.

140 responses were received and the results tallied as shown in the listing below. The **bold** listings were carried through to the next phase, prioritization.

E.2 VOTING RESULTS

140 possible votes—Projects Sorted by Number of Votes

<u>Votes</u>	<u>Project Name</u>
69	Repair Montrose Sidewalks
59	Neighborhood Sidewalk Reconstruction Program
52	Construct Esplanades on Montrose
52	Reconstruct Fairview
44	Additional Street Lighting on Major Corridors
41	Repair Westheimer Sidewalks
31	Repair Richmond Sidewalks
31	Sidewalk and Lighting Enhancements at the Spur Underpasses
30	Restore Bike Lanes on West Alabama
29	Designate Bicycle Route to Hermann Park/Medical Center
27	Construct Missing Sidewalks on Secondary Streets
26	Improve Connection of Bike Lanes from Waugh to Heights
23	Bicycle Racks on METRO Buses
22	Designate New Bicycle Route on Taft
18	Bicycle Racks at Major Commercial Centers
17	Crosswalk Markings at Signalized Intersections and 4-Way Stops
17	Designate Bicycle Route into Downtown on Bagby/Brazos
17	Pedestrian Signals at all Signalized Intersections
15	Enhance Bicycle Safety Signage
14	Pedestrian Safety Signage



12	ADA Curb Ramps
10	Other Project (<i>this was a write-in text box</i>)
9	Colquitt Bicycle Boulevard
8	Montrose Mid-Block Crossings
8	Montrose Pedestrian Refuges
6	Westheimer Mid-Block Crossings
6	Traffic Signals at Richmond and Graustark
6	Four Way Stops (Welch at Windsor and Colquitt at Greely)
5	Westheimer Pedestrian Refuges
4	Add Destinations to Bicycle Route Signs
2	Richmond Mid-Block Bicyclist and Pedestrian Crossing
2	Improve Bicycle Route on Yoakum
2	Traffic Signal at Bissonnet at Graustark
0	Add Mini-Roundabouts on North and South Boulevard
0	Traffic Signal at Gray/Webster at Baldwin

E.3 PRIORITIZED PROJECTS

The scoring mechanism devised to prioritize the high-ranking projects was based on estimated of the probable cost and implementation time. In general, projects that were less expensive, more easily coordinated, or already begun in some manner were given higher scores. The ranking of the top 18 projects is shown below.

Project Description	Votes (A)	Estimated Cost (B)	Implementation Time (C)	Score A*B*C
Enhance lighting and add sidewalks on Alabama and Richmond under Spur 527	31	3	3	279
Sidewalk repairs along Montrose Blvd.	69	2	2	276
Designate a bikeway southward to Hermann Park and Medical Center	29	3	3	261
Improve the bikeway connection on Waugh into the Heights	26	3	3	234
Add bike racks to METRO buses	23	3	3	207
Designate a north/south bikeway on Taft St.	22	3	3	198
Return bike lanes to West Alabama	30	3	2	180
Sidewalk repairs along Westheimer Rd.	41	2	2	164
Add bike racks in commercial areas	18	3	3	162
Crosswalks and stop bars at all signals and 4-way stops	17	3	3	153
Designate a north/south bikeway into Downtown on Bagby and Brazos Streets	17	3	3	153
Sidewalk repairs along Richmond Ave.	31	2	2	124
Sidewalk repairs throughout local streets	59	1	1	59
Reconstruct Fairview St.--curbs, sidewalks, bikeway	52	1	1	52
Add esplanades to southern Montrose Blvd.	52	1	1	52
Additional street lighting on major streets	44	1	1	44
Pedestrian signals with automatic phases at all signalized intersections	17	1	2	34
Construct sidewalks where missing on local streets	27	1	1	27

3 = low 3 = short-term
 2 = medium 2 = medium-term
 1 = high 1 = long-term



Projects above the heavy line received a score of 150 points or more. These projects are the "top ten" for short-term implementation. (There are actually eleven as the lowest two tied.)

Public Votes is the direct tally from the website surveys. 140 persons voted; each was allowed to mark five projects as their top-ranked. For example, "Sidewalk repairs along Montrose Blvd." was chosen among the top five by roughly half the respondents (69).

Cost ranking is a subjective ranking based on the expected cost of each project. Bikeways for example tend to involve only striping and signage and are thus low-cost. Sidewalk construction can be expensive but is easily divided into multiple sections and thus is rated medium to high cost depending on the size and complexity of the project. Finally, street reconstructions and modifications are rated high-cost, as these may involve utility relocations or large-scale construction at the least.

Time ranking is also a subjective judgment of the length of time it would take to plan, develop, and execute a particular project. This is a measure of the complexity of planning and design as well as the duration of construction. In some cases, such as the restoration of bike lanes to Alabama, projects may depend on other work finishing first.



APPENDIX F
SEPTEMBER PUBLIC MEETING

F.1 PURPOSE AND LOCATION

H-GAC and the consultant team held a public meeting on September 15, 2005, 6-8 p.m., in the Council of Clubs room in Crooker Center on the University of Saint Thomas campus. The purpose of the meeting was to present and discuss the draft pedestrian and bicyclist plan for the Montrose area.

F.2 MEETING NOTIFICATION

Meeting notices were sent via email to approximately 236 area stakeholders such as government and agency representatives; area businesses; schools; social service organizations; neighborhood and community associations; local media; bicycle and disabled persons advocacy groups; previous meeting attendees and respondents to the survey on the project web site, www.livablemontrose.org.

F.3 ATTENDANCE

Twenty people signed the attendance log for the meeting, including representatives for the City of Houston, Museum District Business Alliance, Houston Pedestrian and Bicycle Advisory Committee, Citizens’ Transportation Coalition, Menil Foundation, University of St. Thomas, Texas Department of Transportation and numerous community and neighborhood associations.

F.4 MEETING FORMAT

The meeting began with a 20-minute open house, allowing attendees an opportunity to review informational boards regarding the pedestrian and bicyclist plan and talk with consultants prior to the presentation.

Dan Raine, AICP, Pedestrian-Bicycle Coordinator with H-GAC, began the presentation by welcoming attendees and describing the agenda and purpose for the meeting — to obtain their input on the draft plan for the Montrose area.

David Manuel, EIT, AICP with LAN, explained that the team used input received from the project’s two previous public meetings and the online survey to develop a 35-project plan for the Montrose area. Mr. Manuel then discussed details about each project contained in the plan. Eleven projects that received a score of 150 points or more (calculated by public votes and time and cost estimates) were categorized for short-term implementation with an 18-month deadline goal. Other policy recommendations from the consultant team included educating city officials on meeting ADA requirements, long-term design issues for new construction drainage problems, standardizing bicycle and pedestrian signage and traffic enforcement.

Following the presentation, Mr. Raine, Mr. Manuel and Michael Feeney, PE with LAN asked attendees for their comments and questions regarding the projects included in the plan. A summary of comments is included in this report.

At the end of the meeting, Mr. Manuel advised attendees to communicate their support and recommendations to their council members and representatives. Mr. Raine and Mr. Manuel thanked everyone for attending and encouraged them to direct others to www.livablemontrose.org for information.



Mr. Raine, Mr. Manuel and Mr. Feeney spoke with attendees one-on-one after the meeting concluded.

F.5 COMMENT SUMMARY

The following is a summary of comments and questions received:

- METRO bike racks needed
- Need “No Parking” signs along bike lanes
- Why put bike lanes on busy streets, such as Alabama, and risk safety?
- Great job summarizing all comments from previous meetings and surveys
- Emphasize signage that includes directions/mileage to museums, libraries, shopping centers and medical center
- Will new lighting be directional?
- Clean the streets on a regular basis
- How were the boundaries for the study area chosen?
- W. Dallas and N. Montrose have disability centers and schools in the area and need transportation plan improvements for safety
- What is a realistic completion date?
- Is there going to be a follow-up or analysis study to evaluate and discuss the improvements made and whether or not they were successful?
- Need curb ramp design consistency
- Are there alternatives to concrete around trees?
- What about land use and zoning regulations?
- Can you put a glossary of acronyms and contacts on the web site?
- Contact METRO and council members about installing bike racks on buses before METRO’s operations committee meeting next week



F.6 MEETING PHOTOS













APPENDIX G
AIR QUALITY BENEFITS COMPUTATION

G.1 PREMISE OF BENEFITS

Several of the project recommendations are to provide attractive and functional sidewalks in the areas in which they are most needed, namely where existing sidewalks have deteriorated and are in poor condition. The improvement in the pedestrian environment will make this travel mode more attractive. It will also increase the attractiveness of transit as a travel mode. The net result anticipated is a modest decrease in automobile trips, vehicle miles traveled, and associated vehicle emissions.

G.2 STATEMENT OF BENEFIT

Key Data/Assumptions:

- 5,183 person-trips in TAZs (see right)
- 1.48 average vehicle occupancy (person trips per vehicle trip)
- 0.9 % reduction in vehicle trips due to project
- 8.6 miles per vehicle trip
- local intrazonal vehicle type mix

Table 1. TAZs included in Montrose study area		
837	855	862
838	856	863
850	857	864
851	858	869
852	859	870
853	860	
854	861	

Results

- NOx reduced: 0.134 kg/day
- VOC reduced: 0.280 kg/day

G.3 CALCULATIONS

There are very few studies on the effect of microscale pedestrian improvements on travel patterns. The "Making the Land Use, Transportation, Air Quality Connection" (LUTRAQ) demonstration project is one such study (1000 Friends of Oregon (1993). Making the Land Use Transportation Air Quality Connection -- The Pedestrian Environment -- Volume 4A. Available at: <http://ntl.bts.gov/DOCS/tped.html>) Special attention was given to the quality of the pedestrian environment as gauged by the Pedestrian Environment Factor (PEF), a composite measure of "pedestrian friendliness". The four variables included in the PEF are: ease of street crossings, sidewalk continuity, local street characteristics (grid vs. cul-de-sac) and topography. Each of these is given a score of 1-3, resulting in a maximum PEF score of 12. Most significant to this project was the finding that a higher PEF score for a zone was accompanied by a lower automobile mode share for that zone. A one-point increase in PEF was accompanied by a decrease in automobile mode share of 1.8 percent.

The sidewalk improvements proposed here will greatly increase sidewalk continuity along approximately 95 blocks of 3 arterial roadways (Montrose Boulevard, Westheimer Road, and Richmond Avenue) in the Montrose study area. Although PEF was not field-verified, this improvement is expected to increase the PEF score by 1 based on sidewalk continuity benefits. While the Portland study would suggest a 1.8 percent decrease in automobile mode share, H-GAC estimates a more conservative 0.9 percent decrease.



The number of automobile trips generated by this zone is estimated at **3,502** per day based on **5,183** person trips/day divided by the regional average vehicle occupancy of 1.48. The average vehicle trip distance of 8.6 miles is calculated using 1995 regional trip characteristics by trip type (e.g. home-based work) weighted by the distribution of work, non work and non-home trips modeled for TAZ **460** (**Table 1 below**). According to the 2000 census work trip travel times for this neighborhood are not significantly different from the regional average.

Insert Table 2

Sources: Technical Memo RE: Houston-Galveston 1995 Household Travel Survey from David Pearson, Texas Transportation Institute to Jerry Bobo, H-GAC, December 20, 1996 and 2000 Person Trip Tables provided by H-GAC August 7, 2003. Home-based non work trips are assumed to be evenly distributed between school, shopping and other.

VMT reduced are calculated to be **271** per day based on multiplication of the average trip distance (8.6), number of vehicle trips in the zone (**3,502**) and the percentage of trips reduced by the project (0.9%).

$$8.6 \times 3,502 = 30,117.2$$

$$30,117.2 \times 0.009 = 271$$

Vehicle emissions are calculated by multiplying VMT by the weighted average emission rates by vehicle type (average emission rates by vehicle type multiplied by the fraction of such vehicles measured regionally on the Local (intrazonal) road type as shown in **Table 3** below).

Table 3. Vehicle Mix and Average Emission Rates by EPA Vehicle Type									
	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC	All Vehicles
Vehicle Type									
Local Roads	59.0%	24.2%	7.2%	3.2%	0.2%	0.3%	5.9%	0.1%	100.0%
Emissions									
VOC (g/mile)	0.40	0.47	0.45	1.36	0.06	0.10	1.12	4.65	0.50
NOx (g/mile)	0.62	0.66	0.77	3.87	0.50	0.54	5.58	0.97	1.03

$$\text{VOC} = 271 \text{ mi/day} \times 0.5 \text{ g/mi} = 134.5 \text{ g/day} = 0.134 \text{ kg/day}$$

$$\text{NOx} = 271 \text{ mi/day} \times 1.03 \text{ g/mi} = 279.13 \text{ g/day} = 0.279 \text{ kg/day}$$