Greater East End Management District

Pedestrian/Transit Access Plan

Federal Transit Administration

Livable Communities Initiative Project

Houston-Galveston Area Council

Livable Centers Project

Prepared for

Greater East End Management District

Prepared by

The Goodman Corporation

December 2009

The Goodman Corporation is a nationally recognized transportation and urban planning consulting firm possessing a wide range of planning skills complemented with a unique understanding of the governmental processes for funding and implementing complex publicly sponsored transportation and land use initiatives. Since 1980 TGC has specialized in assisting public and private clients in planning, funding, and implementing land use and mobility projects. In addition to a strong reputation in innovative planning, TGC is accomplished in leading multi-disciplinary teams to prepare various planning products to support successful development and redevelopment initiatives. Public involvement is the cornerstone of TGC's approach to transportation and urban planning. TGC is exceptionally adept at engaging elected leadership, staff, and the community-at-large to actively participate in the planning process. TGC is very aware of how strong community support can be a catalyst for securing available public funding resources.

Members of TGC staff directly involved in the publication of this report include the following:

Barry M. Goodman, President
Carl P. Sharpe, AICP, Vice President, Planning & Urban Design
Yvonne Fedee, Associate
Bill Hardwick, Associate
Laware Kendrick, Product Development Director

3200 Travis Street, Suite 200 • Houston, Texas 77006 • 713-951-7951 • www.thegoodmancorp.com

Contents

Chapter 7 – Benefits

Chapter 8 – Costs

Chapter 9 – Funding and Implementation

This project was funded in part through the Federal Transit Administration. The contents of this report reflect the analysis of The Goodman Corporation which is responsible for the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Transit Administration.

Figures

Tables

Executive Summary

ES

The Greater East End Management District (GEEMD) has been working diligently for the past ten years to improve conditions in the East End sponsoring urban development, public art and design, mobility improvements, and a variety of successful efforts to improve the quality of life and opportunities for new development. This *Pedestrian-Transit Access Plan* is a result of that continuing effort. This plan focuses on a select set of highly used transit corridors and includes the corridor for METRO's future Light Rail Transit (LRT) service on Harrisburg, now under construction. This effort focuses on the integration of transit into the community functionally, physically, and esthetically, thereby extending the benefits of transit into the fabric of the East End and integrating the opportunities within the East End in a way that will support transit success in moving people efficiently and comfortably. This plan is an integral part of the GEEMD's vision for the future…a future that serves the residents and businesses already there and welcomes new development supportive of an improved quality of life on vacant or underutilized properties.

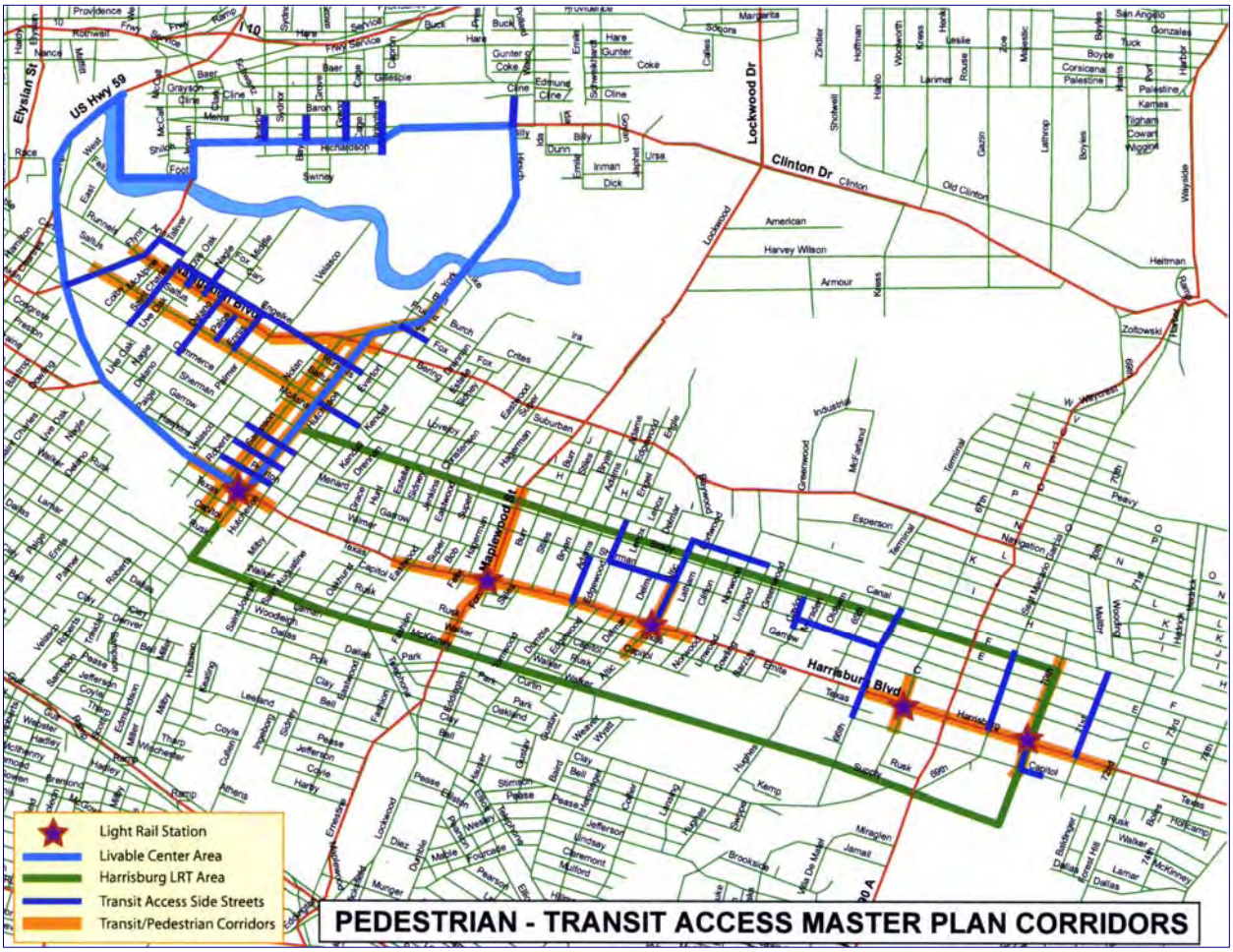
This plan is the result of two efforts. One effort contributing to this access plan involves the Livable Centers program of the Houston-Galveston Area Council (H-GAC), sponsored by H-GAC and GEEMD. Another effort contributing to this access plan is a GEEMD-sponsored project designed to create a pedestrian/transit access plan that includes the Harrisburg corridor and selected side streets in addition to achieving grantee status, a Letter of No Prejudice (LONP) and supporting the pursuit of the GEEMD funding efforts. *Figure ES.1* presents the areas of these two efforts and identifies the pedestrian/transit corridors recommended for improved access.

Objectives and Results

Objectives of this Pedestrian/Transit Access Plan include the following:

- ***Increased transit ridership*** will result from improvements in pedestrian access and safety. Improved pedestrian access and safety will be the result of the pedestrian treatments recommended here. The resulting increased transit ridership is determined through the use of methods recommended by several prestigious authorities including the Transit Coordination Research Program, Transportation Research Board (TRB), Institute of Transportation Engineers (ITE), and National Research Council (NRC), in association with Texas Transportation Institute (TTI). The application of these recommended methodologies to the selected East End transit corridors results in an estimated increase in ridership of 2,062 transit trips per day. Chapter 6 presents the methods, assumptions, and calculations of this ridership estimate.

Figure ES.1 – Pedestrian/Transit Access Plan Corridors



- ***Enhanced revitalization.*** Publicly funded capital investments focused on improvements between the back of curb and property line have a positive impact on the value, appeal, and use of adjacent private property. When combined with advantages of an attractive location, such as the East End's proximity to downtown, these improvements will act as a stimulus to the continued redevelopment of the East End. The resulting anticipated mixed-use/infill development is presented in *Table ES.1*.

Table ES.1 – Combined Mixed-Use Program

Area	*Retail (Sq. Ft.)*	*Office/Services (Sq. Ft.)*	*Light Industry (Sq. Ft.)*	*Residential (Units)*[(1)]
Livable Centers	141,926	771,478	158,350	703
Harrisburg LRT	857,531	338,575	225,717	2,503
Total	**999,457**	**1,110,053**	**384,067**	**3,206**

[(1)] *Assumed average 1,500 sq. ft. each*

The total mixed-use program is estimated to be 2,493,577 square feet of retail, office/services, and light industry and 3,206 residential units made up of a mix of townhomes, apartments, and condominiums. Chapter 5 presents the methods, assumptions, and calculations of this mixed-use program.

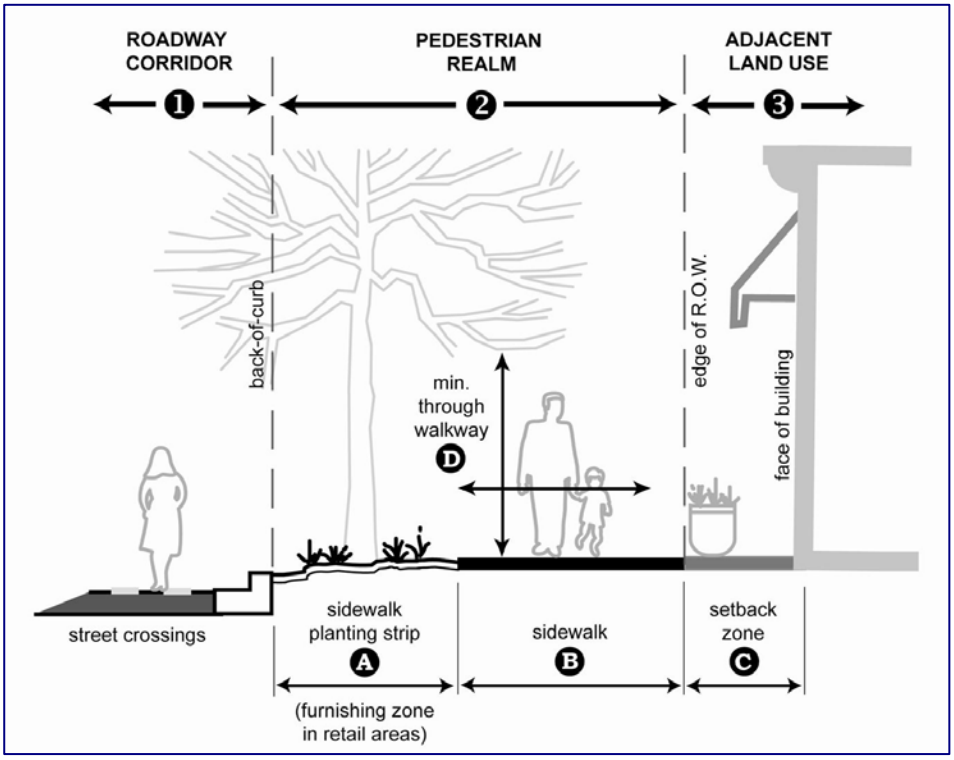
- ***Increased economic benefits.*** The public economic benefits that will result from this mixed-use program are in the form of increased property and sales tax revenues. The total "real property added" value associated with the mixed-use program at buildout is over $800 million. Income to the City, County, and a variety of agencies and departments will be realized through the property tax income created by this value. The City's share of the total property tax revenue at buildout for the recommended mixed-use program will be $5,246,253 per year. The City's share of the annual sales tax at buildout will be $1,998,914 in 2009 dollars. The City's share of the total annual value created by the implementation of the mixed-use/infill development at buildout will be $7,245,167. Chapter 7 presents the methodology, assumptions, and calculations resulting in these economic benefits.
- ***Decreased cold starts and Vehicle-Miles Traveled (VMT)*** will result from the anticipated increase in transit ridership. According to H-GAC, the average automobile trip in the region is 8.6 miles in length. In addition to the reduction in VMT due to increased transit ridership, there will be additional reductions in VMT due to increased pedestrian activity associated with the mixed-use/infill revitalization program developed in this plan. The number of automobile trips, and therefore cold starts, anticipated to be reduced as a result of this plan total 960 in Year 1 and 3,708 in Year 20. Multiplying these reductions by 8.6 miles, the average length of the automobile trips replaced, results in a reduction in VMT of 8,254 in Year 1 and 31,890 in Year 20. Chapter 6 presents the methodology, assumptions, and calculation of these reduced VMT and cold starts results.
- ***Reduced congestion*** will result from a decreased dependence on the automobile due to the increased use of transit and added pedestrian opportunities. This is indicated by the significant reduction of VMT just presented.
- ***Reduced emissions*** will result from a decrease in automobile travel. Year 1 emission results total a daily reduction of 304,548 grams from the combined effects of the removal of 960 cold starts and 8,254 VMT. Year 20 emission results are significantly higher, due, in large part, to the continued buildout of the mixed-use/infill development programmed for both the Livable Centers corridors and the Harrisburg LRT corridors, resulting in a daily reduction of 1,176,318 grams of emissions due to the removal of 3,708 cold starts and 31,890 VMT. Chapter 7 presents the methodology, assumptions, and calculations of these emission reduction benefits.

Recommended Treatments

ITE's *Recommended Practice, Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* report sets new design guidelines for pedestrian design. Context sensitivity includes urban design that ensures the comfort and safety of all users in a particular corridor, regardless of which mode of transportation they choose (i.e., automobile, bicycle, or walking). As shown in *Figure ES.2*, the area between the curb and the buildings has

several zones. These include areas for landscaping and/or street furniture, sidewalks, and setback zones between the edge of the public right-of-way and the façade of the building, which the property owner may use as they wish. Ideally, the sidewalk will be wide enough to ensure maximum comfort for pedestrians and for other amenities such as trees, benches, and pedestrian-oriented lighting. Adjustments can be made as needed, such as foregoing the planting strip in order to accommodate on-street parking. These design guidelines form the basis for the next phase in the implementation of this plan.

Figure ES.2 – Layout using Design Guidelines



The design treatments recommended in this plan include upgrading sidewalks to standard (including Americans with Disabilities Act [ADA] requirements), adding streetscape, landscape, pedestrian-oriented lighting, and other pedestrian amenities. Providing these pedestrian access improvements as a means to achieve the goals previously introduced is supported by a significant body of research. *Figure ES.2* presents the design themes that will give the design team an initial direction based on recommendations made by the Advisory Committee and the public during the Livable Centers phase of the development of this plan. City standards will be followed that address the width of sidewalks throughout Houston and along LRT corridors, in particular, and these standards have been incorporated into these recommendations.

Design Theme Examples

Concept for Navigation and Harrisburg

Concept for Canal, Lockwood, Cesar Chavez, and 70th

Concept for York, Sampson, Altic, and 70th

Costs

The costs to implement the recommendations in this plan are summarized in *Table ES.2* for the corridors addressed in H-GAC's Livable Centers and in *Table ES.3* for the Harrisburg LRT corridors.

Table ES.2 – Livable Centers Corridors Pedestrian/Transit Access Improvements Cost Summary

Corridor/Area	***Base Cost***	***Total Cost****
Navigation	$1,519,332	$1,975,132
Canal	$1,981,366	$2,575,776
Sampson	$1,658,323	$2,182,338
York	$2,590,943	$3,368,226
Side Streets	$4,617,500	$6,002,750
Other Treatments	$800,000	$1,040,000
Total	**$13,167,464**	**$17,144,222**

***** Includes contingencies, standard soft costs, and fees.

Table ES.3 – Harrisburg LRT Corridors Pedestrian/Transit Access Improvements Cost Summary

Corridor/Area	***Base Cost***	***Total Cost****
70th Street	$1,320,498	$1,716,647
Cesar Chavez	$519,490	$675,338
Altic	$507,835	$660,186
Lockwood	$1,516,469	$1,971,409
Harrisburg	$4,977,430	$6,470,659
Special Destinations	$2,640,000	$3,432,000
Other Treatments	$800,000	$1,040,000
Total	**$12,281,722**	**$15,966,239**

*Including contingencies, standard soft costs, and fees.

Table ES.4 presents a summary of the combined costs for the recommendations in this plan showing a total cost of $33 million.

Table ES.4 – Combined Pedestrian/Transit Access Improvements Costs Summary		
Corridor/Area	***Base Cost***	***Total Cost****
Livable Centers Corridors	$13,167,464	$17,144,222
Harrisburg LRT Corridors	$12,281,722	$15,966,239
Total	**$25,449,186**	**$33,110,461**
*Including contingencies, standard soft costs, and fees.		

Funding

Capital Improvement Funding Strategies

Congestion Mitigation and Air Quality (CMAQ) Improvement Program – The purpose of the CMAQ improvement program is to fund transportation projects or programs that contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone and carbon monoxide (CO).

Community Development Block Grants (CDBG) – CDBG has been the backbone of improvement efforts in many communities since 1974, providing a flexible source of annual grant funds for local governments nationwide.

FTA Section 5307 Urbanized Program – Capital and planning activities are eligible under the FTA Section 5307 Formula program at an 80% federal/20% local ratio. An example of capital expenditure would be the purchase of new transit vehicles or buses. Formula funds are utilized by Houston METRO for major rolling stock acquisition and capital construction, and likely would not be a leading funding alternative for the GEEMD Livable Centers Plan. However, if there were capital project elements of interest to both GEEMD and Houston METRO, FTA Section 5307 funds would be eligible for these. The Harrisburg LRT corridor could be such an application as a joint METRO/GEEMD project.

FTA Section 5309 Discretionary Program – FTA's Section 5309 Discretionary program provides funding on an 80% federal/20% local ratio to fund eligible transit capital needs, including pedestrian/transit access and streetscape improvements developed in accordance with LCI.

Federal Highway Administration (FHWA) Transportation and Community and System Preservation (TCSP) Program – FHWA's TCSP program provides funding for grants and research to investigate and address the relationship between transportation and community and system preservation.

Transportation Enhancements (TE) – The goal of TE is to encourage diverse modes of travel, increase the community benefits to transportation investment, strengthen partnerships between state and local governments, and promote citizen involvement in transportation decisions.

FHWA Surface Transportation Program (STP) – STP provides flexible funding that can be used by states and localities for projects on any federal-aid highway, including the National Highway System, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities.

Local Share Match Funding Alternatives

Several alternatives can be used to assist GEEMD in meeting its local share funding requirements, as follows:

GEEMD Assessment/General Funds – GEEMD may choose to fund a portion of required local share match for the Livable Centers Plan within its own General Fund budget. For example, if a $5 million capital program is desired, GEEMD could dedicate $1 million of local share funds spread over a multi-year period.

City of Houston General Fund or Capital Bond Fund Contributions – GEEMD may also wish to seek financial support from municipalities to meet local share requirements. For example, if the City of Houston proposes a new sidewalk project within the district with 100% local funds, these improvements could constitute local share match.

Land Value – For capital projects such as transit terminals, the value of land donated to the project can satisfy local share requirements. Land donations to a project could come from a developer, or other governmental entities.

Private Sector or Nonprofit Funds – GEEMD may also be able to partner with the private sector, or another nonprofit to satisfy local share requirements, as mutually beneficial opportunities arise.

State Transportation Development Credits (TDC) – A state may use toll revenues that are generated and used by public, quasi-public, and private agencies to build, improve, or maintain highways, bridges, or tunnels that serve the public purpose of interstate commerce as credit toward the non-federal share requirement for any funds made available to carry out eligible Department of Transportation-related capital projects.

Community Development Block Grants (CDBG) – The CDBG program is the only federal funding program that can also be utilized as local match against other federal funds. Depending on state and local funding priorities, a portion of local share requirements could be funded through CDBG.

Current Funding Status

GEEMD has attained FTA Grantee Status that enables it to receive federal funds for projects in this plan. The *Livable Centers Corridors Plan* has received FTA approval in the form of an Environmental Clearance and an LONP. GEEMD has received a $5 million commitment from H-GAC for stimulus funds to implement the pedestrian improvements on Navigation and segments of York and Sampson. Additional funding is being pursued from the sources listed above.

Next Steps

GEEMD will continue to support METRO's efforts to incorporate the recommended pedestrian-transit access improvements. Some of these elements, including sidewalk widths, landscaping and others, may not be achievable in the METRO design due to lack of right-of-way or other physical and functional needs of the LRT construction and operation. Therefore, the recommendations and related costs and benefits associated with Harrisburg Boulevard are best estimates at this time and future design decisions may require an update to this plan. In addition, new projects may be added from time to time and, therefore, this plan is a living document that will reflect the progress and expanding role that pedestrian/transit access can play throughout the district.

The scheduled improvements to be funded by the resources presented that will continue to be pursued for the Livable Centers and Harrisburg LRT corridors are presented in *Tables ES.5 and ES.6.*

Table ES.5 – Phasing and Funding Plan for Livable Centers Corridors Pedestrian/Transit Access Improvements

Phase	***Description***	***Total Cost***	***Federal Funding Program***	***Federal Funding Share***	***Local Match***	***Local Share Source***
1	Navigation, Sampson (part), York (part)	$4,863,730	ARRA	100%	0%	n/a
2	Sampson, York (balance)	$2,434,869	ARRA II	100%	0%	n/a
3	Canal	$2,575,776	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash or State TDC
4	Side Streets Part 1	$3,001,375	STP-TCSP	80%	20%	Local Share Cash or State TDC
5	Side Streets Part 2	$3,001,375	STP-TCSP	80%	20%	Local Share Cash or State TDC
6	Other Treatments	$1,040,000	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash or State TDC
	Total	**$16,917,125**				

Table ES.6 – Phasing and Funding Plan for Harrisburg LRT Corridors Pedestrian/Transit Access Improvements

Phase	***Description***	***Total Cost***	***Federal Funding Program***	***Federal Funding Share***	***Local Match***	***Local Share Source***
1	Lockwood	$1,971,409	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash Land Value City of Houston State TDC
2	Altic Cesar Chavez	$660,186 $675,338	STP-TCSP	80%	20%	Local Share Cash City of Houston State TDC
3	70th Street	$1,716,647	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash City of Houston State TDC
4	Harrisburg *	$6,470,659	STP-TCSP or Sec 5309 Discretionary	80%	20%	Local Share Cash City of Houston State TDC
5	Special Destinations	$3,432,000	STP-TCSP or TxDOT TE	80%	20%	Local Share Cash or State TDC
6	Other Treatments	$1,040,000	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash or State TDC
	Total	**$15,966,239**				

*The recommendations and related costs and benefits associated with Harrisburg Boulevard are best estimates at this time and future design decisions may require an update to this plan.

Chapter 1 - Background

History of the East End

Always culturally diverse, the East End was a melting pot for the Germans, Italians, and Mexican-Americans that settled in areas near the port. The East End's Second Ward and Magnolia Park are two of Houston's oldest Hispanic neighborhoods. Developed in 1913, the Eastwood subdivision is considered one of the first master-planned communities in Houston.

The City of Houston annexed historic Harrisburg in 1926, and after World War II, Houston began its move westward and the East End began to experience a slow but steady decline. Today, however, the area is experiencing a renaissance, in spite of the current economic downturn. Downtown redevelopment and the opening of Houston's new baseball stadium created strong interest in properties east of US 59. Just under $100 million in new loft apartments and townhomes are now under construction between US 59 and Dowling Street. Light and heavy industry and manufacturing abound and thrive in the East End and a significant number of businesses are adding manufacturing and warehousing space, or are buying adjacent property for future expansion. The East End is home to the nation's two largest coffee processing companies, employing hundreds of workers, and the Port of Houston is one of four "green coffee ports" in the U.S., and is the only one west of the Mississippi River. In the next few years, light rail will connect the East End to downtown Houston and points west and south, including the Museum District, Texas Medical Center, three universities, and The Galleria. Small to medium-size businesses serving the neighborhoods along the rail line are expected to flourish.

According to the Houston East End Chamber of Commerce, a survey of East End business owners and managers revealed that 20.4 percent credit access to transportation as the reason their business is located in East End. The large semi-skilled workforce and the excellent academic and recreational resources are also highly rated. Employment growth for the Greater East End for the past decade shows a gradual increase from 63,675 employees in 1990 to 78,595 in 2001, for a 20 percent increase. When the East End is placed on a list of the highest central business district employment numbers, based on the U.S. Census 1990, the East End ranks above San Antonio, Fort Worth, Miami and Salt Lake City, and is the 28th largest central business district in the U.S.

Multimillion-dollar expansions are setting the trend for redevelopment. These include Oak Farms Dairy and Valero Refinery; Gulfgate Center redevelopment of an existing retail center totaling $70 million; Central City Industrial Park, a $20 million conversion of a Baker Hughes facility into an industrial park; Live Oak Lofts; Alexan Lofts; Perry Homes' Plum Creek Townhomes; and New Hope Housing's Canal Street Apartments.

The East End's history, cultural diversity, transportation infrastructure, proximity to Downtown and the Port of Houston, and renewed development interest make the East End an attractive location to live and work. A component of improving the quality of mobility and life in the East End's future is contained in this plan.

Development of Pedestrian-Transit Access Plan

This plan is the result of combining two related projects. The first was the Houston-Galveston Area Council (H-GAC) and Greater East End Management District (GEEMD) Livable Centers project that began in 2008 and was completed in early 2009. The second project is the GEEMD's Harrisburg LRT Corridor project begun in early 2009 and completed in the same year. These are summarized next.

H-GAC/East End Livable Centers Project

The Livable Centers project is a part of the H-GAC's Livable Centers strategy and reflects its goals and objectives in the analyses, recommendations, and benefits derived. One of the primary goals of H-GAC's Livable Centers strategy is to improve access while reducing the need for mobility by single-occupant vehicles (SOV). This effort focused on improving pedestrian and transit access along the following corridors:

- Navigation, between Jensen and York;
- Canal, between Navigation and York;
- York and Sampson, between Clinton and Harrisburg;
- Selected side streets serving these transit corridors.

H-GAC's Livable Centers project is part of a strategy designed to address expected regional growth of 3.5 million added people by 2035, combined with limited, already congested mobility infrastructure that is, for the most part, automobile dependent by improving access while reducing the need for mobility by SOVs. Harris County and other surrounding counties are classified as in severe nonattainment by the U.S. Environmental Protection Agency (EPA). This means the region is failing to meet emission requirements as old as 1997, the mobility infrastructure has not kept pace with current demand and, most likely, will not be able to accommodate future growth. Therefore, a new direction in improving transit access, enhancing quality of life, reducing emissions, and providing more efficient mobility alternatives is indicated. The H-GAC Livable Centers program is designed, in part, to do so. H-GAC defines Livable Centers as safe, convenient, and attractive areas where people can live, work, and play with less reliance on their cars. Key features include the following:

- Compact and mixed use
- Designed to be walkable
- Connected and accessible

Livable Centers projects offer a number of benefits in terms of the community, mobility, environment, and economic development. These benefits are directly related to the following regional goals outlined in H-GAC's *2035 Regional Transportation Plan (RTP)*.

- Improve mobility and reduce congestion

- Improve access to jobs, homes, and services
- Increase transit options
- Coordinate transportation and land use plans
- Create a healthier environment

Studies that examine specific areas with the potential to become true Livable Centers are being sought by H-GAC to foster the development of Livable Centers projects and to make strides toward meeting RTP goals. The East End Livable Centers study is the first of these.

Harrisburg LRT Corridor/East End Project

In early 2009, GEEMD requested an analysis of additional corridors centered on METRO's Harrisburg Light Rail Transit (LRT) project, under construction at the time of this plan. The study area for this added effort focused on the Harrisburg corridor between York and 72nd and included portions of Lockwood, Altic, Chavez, and 70th. These streets are the north/south streets serving the proposed station locations on Harrisburg. METRO's website presents the following description of the LRT service to be provided and system connectivity it will achieve.

Moving westward, the Harrisburg LRT service will leave Magnolia Transit Center and merge with the Southeast corridor at some point in the vicinity of Dowling Street. The Harrisburg LRT is planned to be "interlined" with the proposed North corridor. This would mean that a rider from the East End could travel from Magnolia Transit Center through the proposed Intermodal Terminal to Northline Mall without requiring a transfer. East End riders would have the option of transferring at the proposed Intermodal Transit Terminal to the current METRORail Main Street Red Line. This service is scheduled to open in 2012. Station ridership estimates for 2030 within GEEMD's Harrisburg LRT corridor project area are presented in *Table 1.1*.

Table 1.1 – Ridership Estimates for 2030	
Magnolia Transit Center	2,150
Harrisburg/66th	1,050
Harrisburg/Altic	1,050
Lockwood/Everton	800
Everton/York	1,300

A Living Document

The design of the pedestrian infrastructure along Harrisburg Boulevard is ongoing at this writing. The analysis of the current pedestrian level of service of the pedestrian infrastructure on Harrisburg is presented later and represents a valid base before treatments are made. However, the treatments recommended here are those that will bring the Pedestrian Level of Service (PLOS) from its current state to that of an LOS A or high-quality pedestrian infrastructure including streetscape, pedestrian-oriented lighting, and landscape elements. Some of these elements, such as sidewalk widths and landscaping, may not be achievable in the METRO design due to lack of right-of-way or other physical and functional needs of the LRT construction and operation. Therefore, these recommendations may be revised in the coming design phases. As changes occur and as other changes take place on Harrisburg, or the other corridors presented in

this plan, this access plan will be updated. This access plan, therefore, is considered a living document regarding existing conditions and recommendations.

Report Organization

This remainder of this report includes the following chapters:

Chapter 2 – Existing Conditions

Chapter 3 – Transit Services and Traffic

Chapter 4 – Improved Walkability

Chapter 5 – Mixed-Use Revitalization

Chapter 6 – Increased Pedestrian/Transit Travel

Chapter 7 – Benefits

Chapter 8 – Costs

Chapter 9 – Funding and Implementation

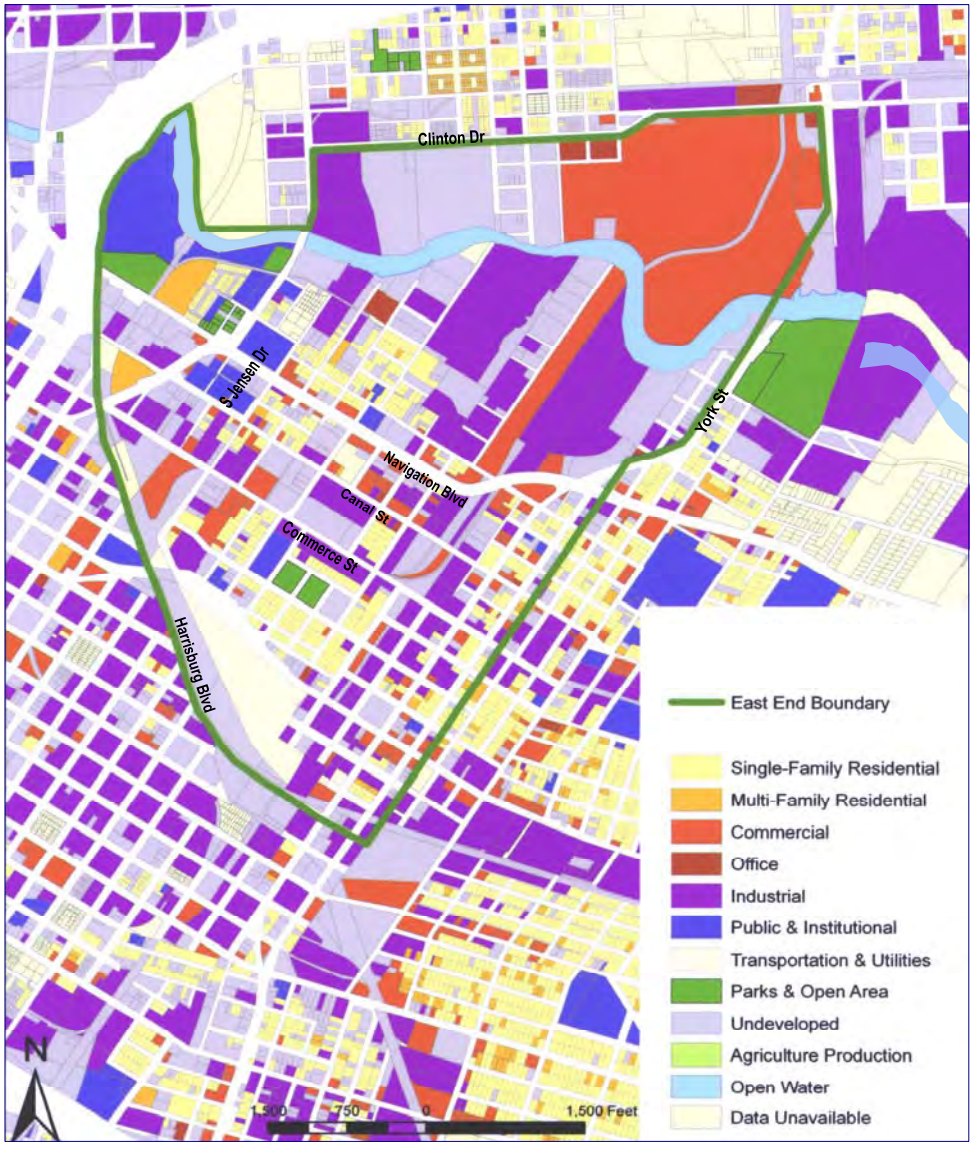
Chapter 2 - Existing Conditions

Two study areas were inventoried as part of this plan: H-GAC's Livable Centers project area and the Harrisburg LRT project area. This chapter presents descriptions of these two areas.

Livable Centers Project Area

The original Livable Centers project area has a diverse mix of land uses, as shown in *Figure 2.1*. There is a clear predominance of industrial and commercial land uses, as well as a large amount of vacant land. However, not immediately obvious among the large swaths of industry and vacant land, there are residential neighborhoods of varying ages and quality.

Figure 2.1 – Livable Centers Project Area Land Use



Despite the diversity of land uses shown below, the Livable Centers area cannot truly be called a "mixed use" community, as the term is commonly used today. In a true mixed-use area, land uses are not only proximate, but also complementary. For instance, there may be restaurants and shopping areas frequented by workers who work in nearby office buildings and/or live in nearby housing. For the most part, this is not the case in the Livable Centers area. Rather, as shown by examining the land use map, there are industrial areas with small pockets of residential within them, and even predominantly residential areas that have industrial within them. These are not complementary land uses. Similarly, on the main corridors such as Navigation and Canal, there is a mix of commercial and industrial uses; however, they are not of the type that typically foster interaction among the establishments. The improvements recommended as part of this study will serve, in part, to address this discontinuity and to make the area feel more like a single, coherent community.

Industry

The East End's proximity to the Port of Houston *(Figure 2.2)* makes it a natural location for a large amount of industrial land uses.

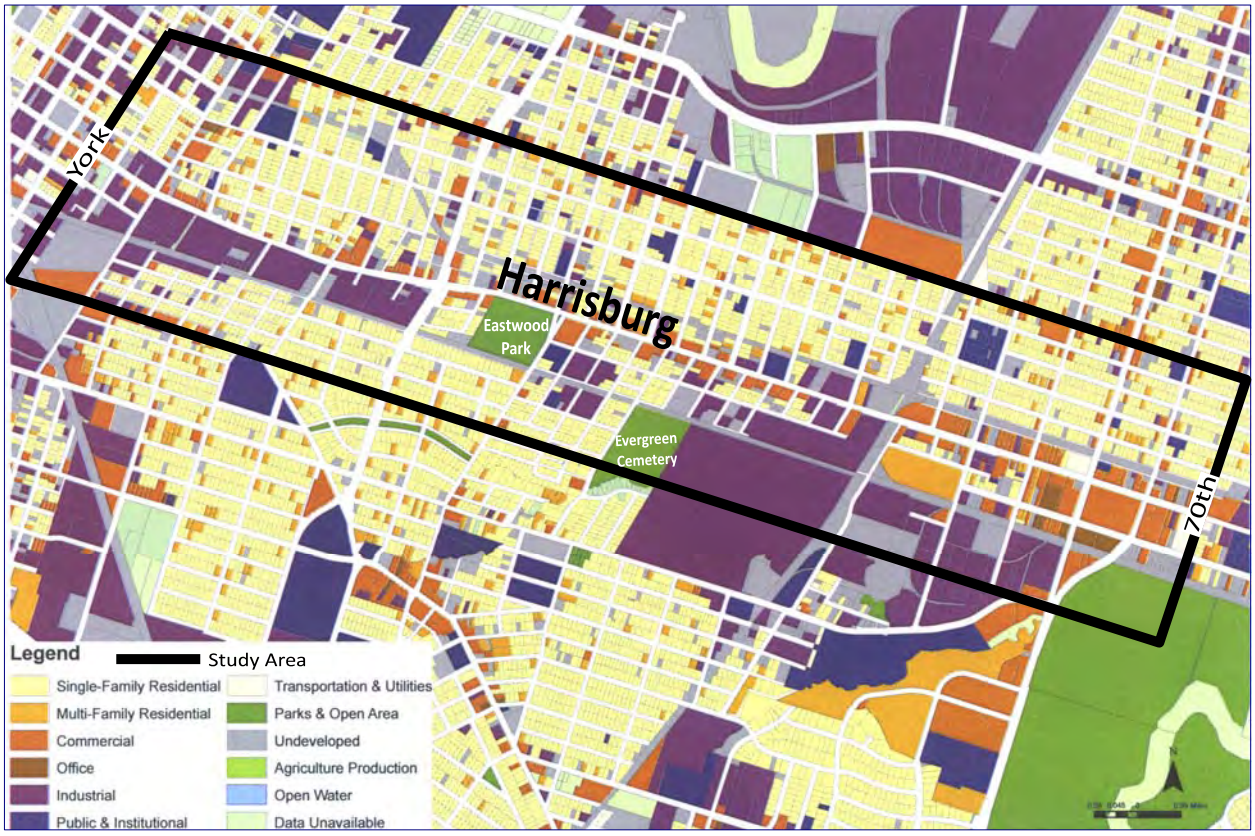
Figure 2.2 – Study Areas

Comprising a significant percentage of the total land in the two study areas, industry primarily takes the form of light manufacturing, warehouses, and other Port-supporting uses. The presence of industry in the East End is a constant not likely to change in the near future. This is an area of Houston where industry makes the most sense given the needs of the Port of Houston. Therefore, efforts to improve the area will not focus on trying to reduce or eliminate the amount of industry. Efforts will focus on attempts to "soften the edges" between the industrial and residential areas, and make them more compatible neighbors. The industrial presence also means that there is a great deal of heavy truck traffic traversing the area. Therefore, improvement efforts also will focus on traffic calming and other tools that will help lessen the impact of truck traffic on area neighborhoods and make the area safer for pedestrians.

Harrisburg LRT Project Area

The Harrisburg LRT project area consists primarily of industrial and commercial uses, as shown in *Figure 2.3*. Moving one quarter mile to the north and south of Harrisburg Boulevard, the land uses are mostly single-family residential, with some multi-family residential, commercial, and industrial uses mixed in. There is a small amount of vacant land scattered throughout the study area but, for the most part, the area is built out. This area includes one of East End's important parks, Eastwood Park.

Figure 2.3 – Harrisburg LRT Project Area Land Use

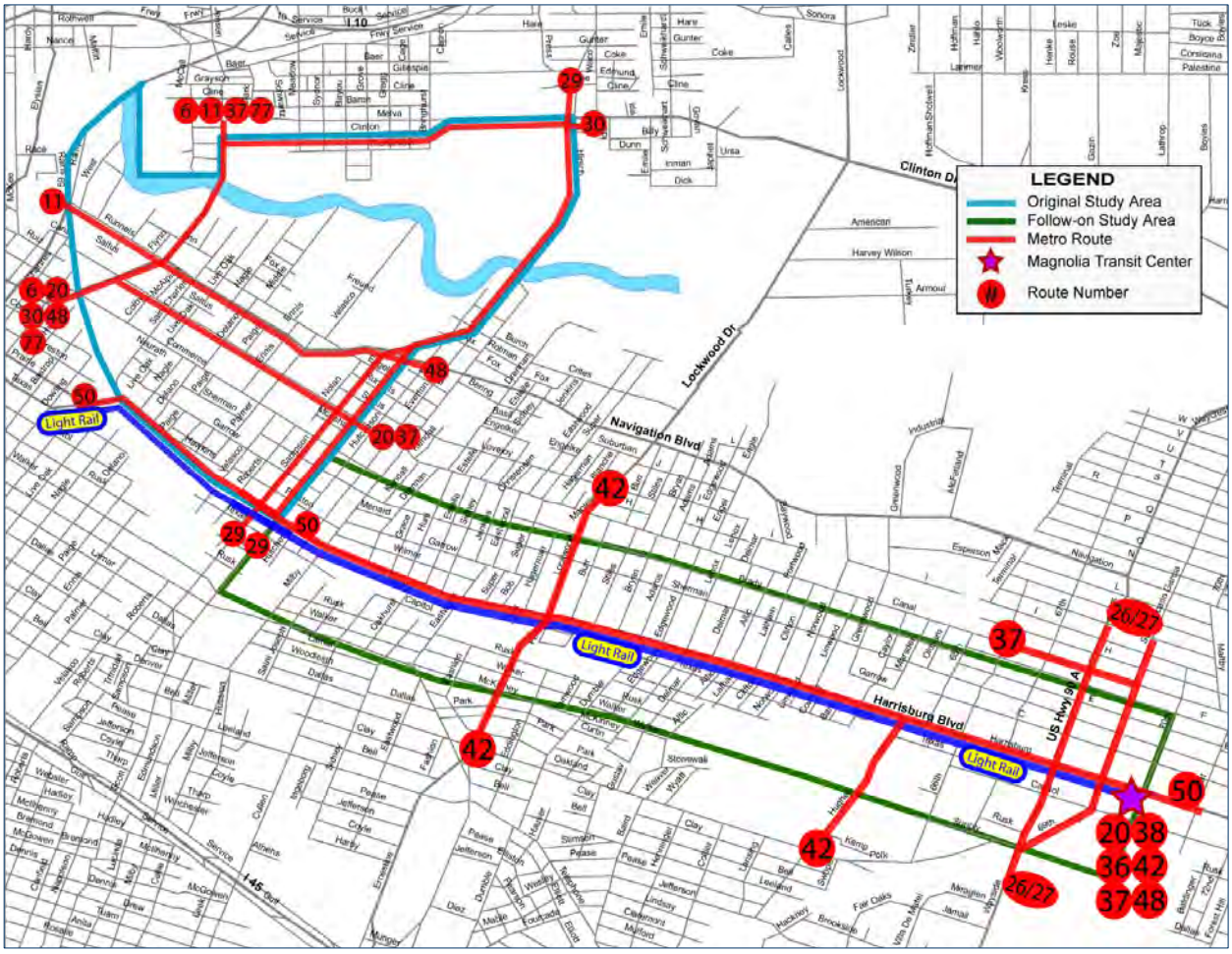


The Harrisburg LRT corridor includes the following diverse land uses:

Chapter 3 - Transit Services and Traffic

Transit is an integral part of the East End's mobility system. As shown in *Figure 3.1*, the Livable Centers project area and the Harrisburg LRT project area are well served by many METRO bus routes. In addition, East End soon will be served by LRT, which currently is being constructed on Harrisburg Boulevard.

Figure 3.1 – East End Bus Routes and Planned LRT



The **Livable Centers** project area currently is served by nine METRO bus routes operating on seven public streets *(Table 3.1).*

Table 3.1 – METRO Bus Routes Serving Livable Centers Project Area	
Route	***Type of Service***
6 Jensen/Tanglewood	Local
11 Almeda/Nance	Local
20 Canal/Long Point Limited	Local
29 TSU/UH Hirsch Crosstown	Local
30 Clinton/Cullen	Local
37 El Sol Crosstown	Local
48 Navigation/West Dallas	Local
50 Harrisburg/Heights	Local
77 Liberty/Martin Luther King	Local

The **Harrisburg LRT** project area currently is served by eight METRO bus routes operating primarily on four major public streets *(Table 3.2).* In particular, the 50 Harrisburg/Heights route traverses the entire study area and is a heavily used route. The majority of the transit activity in the area, however, takes place at Magnolia Transit Center, through which all eight bus routes converge and offer transfer opportunities. Magnolia Transit Center is located at Harrisburg Boulevard and 70th Street, at the easternmost end of the study area. Magnolia Transit Center is also the planned terminus of the Harrisburg LRT line. As shown in *Figure 3.1*, several routes (20, 36, 38, and 48) stop at Magnolia Transit Center, but otherwise these routes lie entirely outside the study area. It is likely that many pedestrians accessing Magnolia Transit Center will come from within the study area, making the ridership data for all Magnolia Transit Center routes relevant to this study. Importantly, the Harrisburg LRT service, when in operation, will result in changes to these routes and stop locations that cause these current routes to be viewed as short term in nature.

Table 3.2 – METRO Bus Routes Serving Harrisburg LRT Study Area	
Route	***Type of Service***
20 Canal/Long Point Limited	Local
26/27 Outer/Inner Loop Crosstown	Local
36 Kempwood	Local
37 El Sol Crosstown	Local
38 Manchester Circulator	Local
42 Holman Crosstown	Local
48 Navigation/West Dallas	Local
50 Harrisburg/Heights	Local

METRO Ridership

The data for the number of passengers boarding and alighting at each bus stop within both study areas on a typical weekday in 2008 were provided by Houston METRO.

Livable Centers Project Area

Within the Livable Centers project area boundaries, there are a total of 73 METRO bus stops and one planned LRT station *(Figure 3.2)*. METRO data indicate a total of 1,231 boardings and 1,169 alightings daily for all stops in the project area, or total passenger activity of 2,400. This equates to an average of approximately 17 customer boardings per bus stop per day. The single stop with the highest level of total activity (boardings and alightings) is Jensen at Ann (southbound), with 211 daily. This same stop (Jensen at Ann, southbound) also has the highest overall number of boardings (134). The highest number of alightings (83) occurs at Jensen at Navigation (northbound). Full ridership data is included in *Appendix A*.

Figure 3.2 – Transit Stops in Livable Centers Project Area

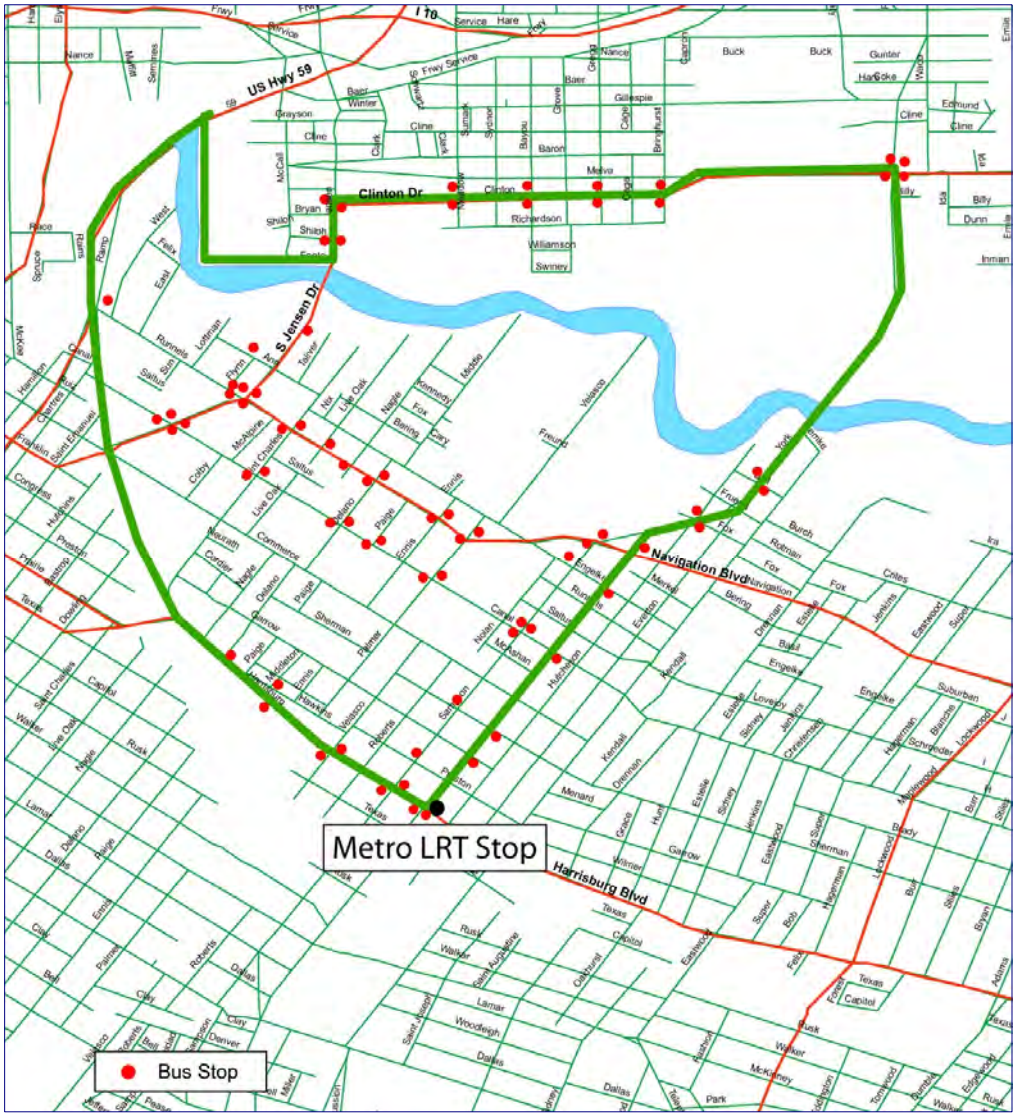


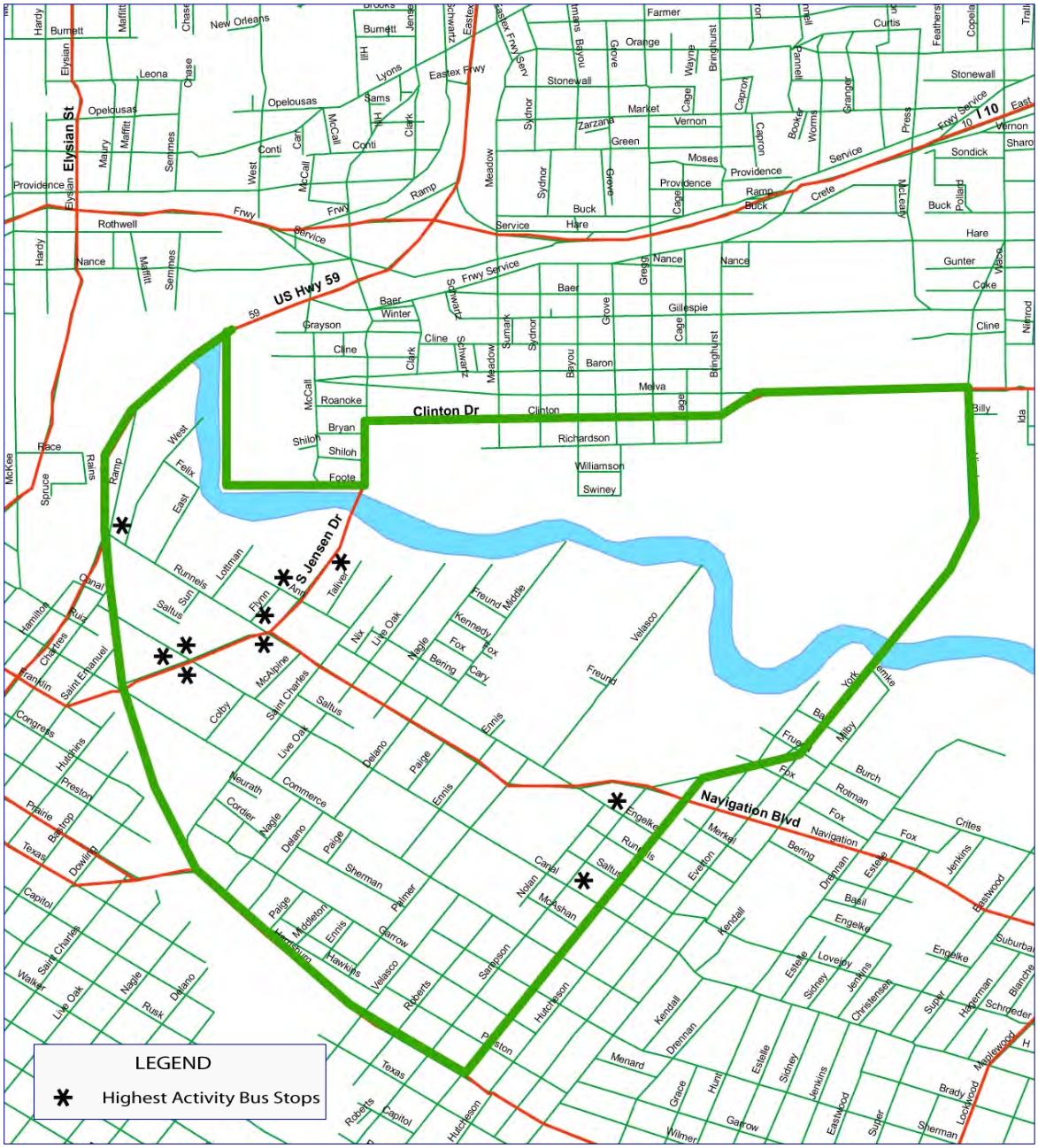
Table 3.3 presents the total number of combined boardings and alightings on each of the seven streets served by transit in the Livable Centers project area, and the percentage of the total 2,400 daily boardings and alightings that each street's ridership represents.

Table 3.3 – METRO Ridership by Street in Livable Centers Project Area		
Street	***Total Boardings and Alightings***	***Percentage of Total Activity in Project Area***
Navigation/Runnels	624	26%
Canal	567	24%
Jensen	567	24%
York/Hirsch	223	9%
Harrisburg	196	8%
Sampson	122	5%
Clinton	101	4%

In terms of boardings and alightings, it should be noted that the top ten bus stops account for 48 percent of the total ridership activity in the project area *(Table 3.4 and Figure 3.3)*.

Table 3.4 – Top 10 METRO Bus Stops in Livable Centers Project Area	
Location (direction)	***Total Boardings and Alightings***
Jensen at Ann (SB)	211
Jensen at Navigation (NB)	188
Navigation at Canal (WB)	112
Jensen at Kennedy (NB)	108
Canal at Navigation (EB)	98
Canal at Sampson (WB)	95
Runnels at Jensen (SB)	89
Navigation at Canal (EB)	88
Runnels at Chartres (NB)	86
Sampson at Engelke (SB)	82

Figure 3.3 – Top 10 Transit Stops in Livable Centers Project Area



Harrisburg LRT Project Area

There are a total of 54 METRO bus stops, Magnolia Transit Center, and five planned LRT stations within the Harrisburg LRT study area boundaries as depicted in *Figure 3.4*. The METRO data indicates a total of 2,707 boardings and 2,549 alightings daily for all stops in the study area, or total passenger activity of 5,256. The majority of this activity occurs at Magnolia Transit Center, which had a total of 3,173 boardings and alightings (1,703 boardings and 1,470 alightings). As noted earlier, the implementation of the Harrisburg LRT will result in changes to these routes and they are therefore short term in nature. Full ridership data is available in *Appendix B.*

Table 3.5 presents the total number of combined boardings and alightings on each of the four major streets served by transit in the study area, and the percentage of the total 5,256 daily boardings and alightings that each street's ridership represents. Also shown is the activity at Magnolia Transit Center, which is on Harrisburg, but was studied separately because its ridership represents such a large portion of the study area's overall ridership. Combined, Magnolia Transit Center and the rest of Harrisburg account for 94 percent of the total transit activity in the study area.

Figure 3.4 – Transit Stops in Harrisburg LRT Project Area

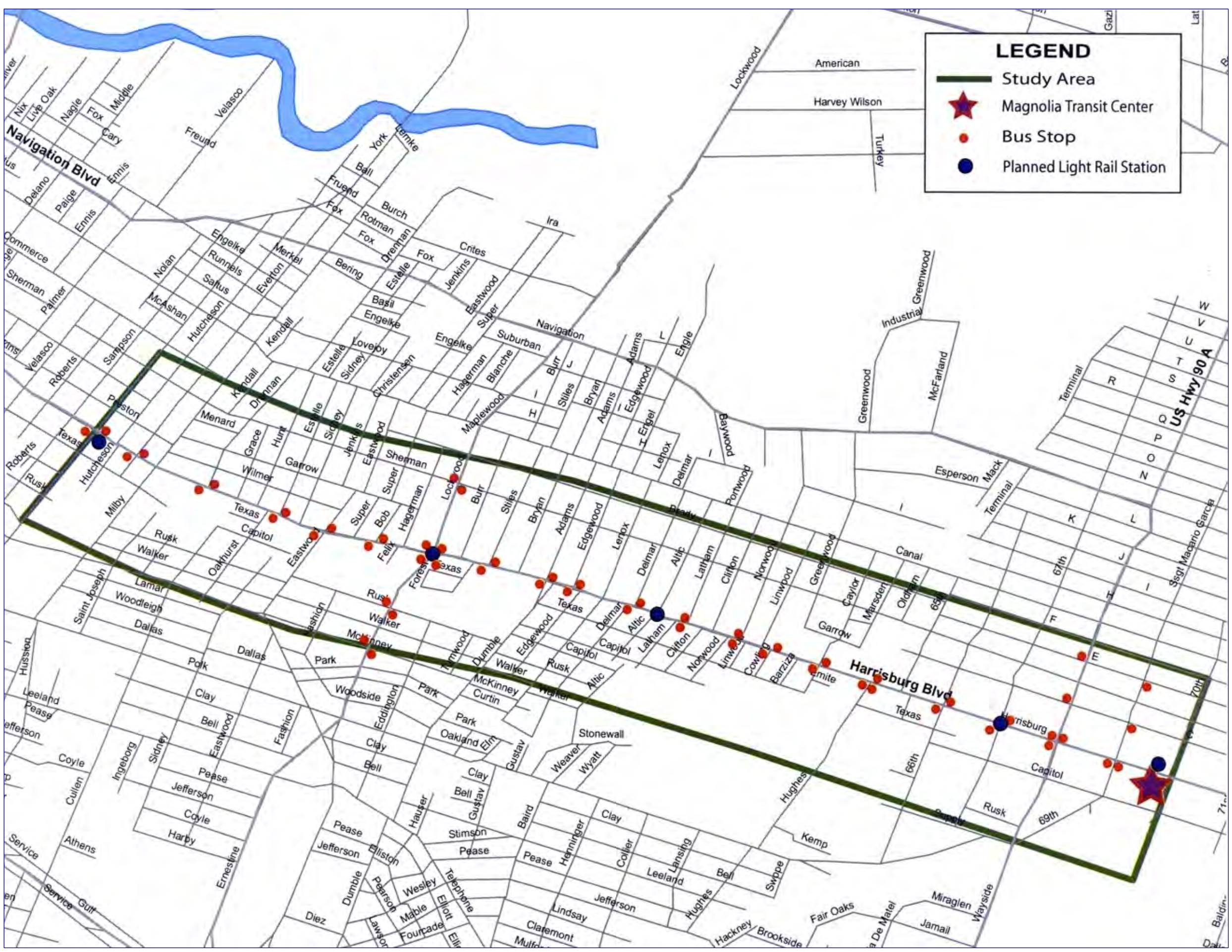
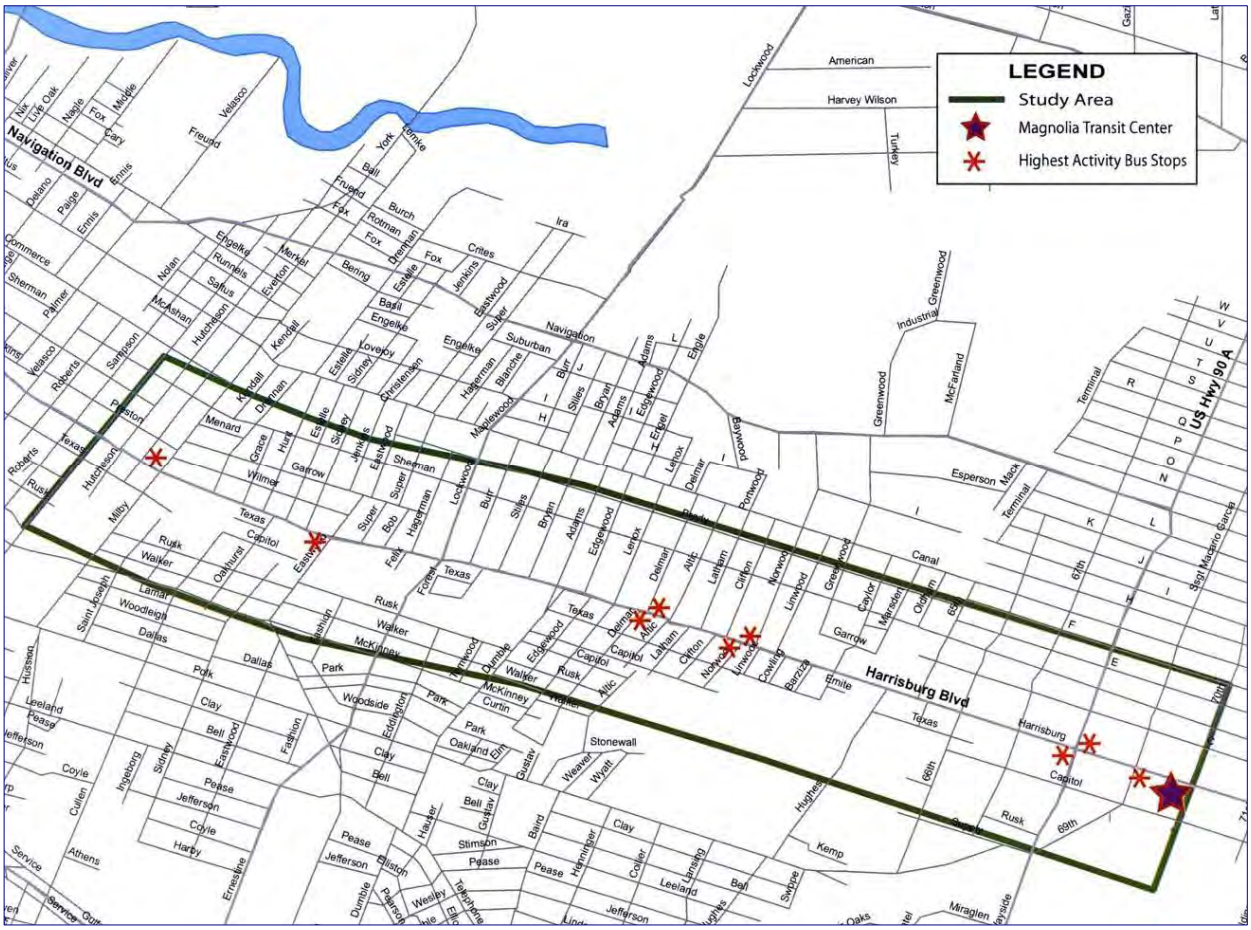


Table 3.5 – METRO Ridership by Street in Harrisburg LRT Project Area		
Street	***Total Boardings and Alightings***	***Percentage of Total Activity in Study Area***
Magnolia Transit Center	3,173	60%
Harrisburg Boulevard	1,778	34%
SSgt Macario Garcia Drive (69th Street)	169	3%
Wayside Drive	68	1%
Lockwood Drive	49	<1%

It should be noted that the top ten bus stops in terms of boardings and alightings account for 79 percent of the total ridership activity in the study area *(Table 3.6 and Figure 3.5)*.

Table 3.6 – Top 10 METRO Bus Stops in Harrisburg LRT Project Area	
Location (direction)	***Total Boardings and Alightings***
Magnolia Transit Center (N/A)	3,173
Harrisburg @ Wayside (WB)	166
69th at Harrisburg (WB)	162
Harrisburg @ Wayside (EB)	157
Harrisburg @ Norwood (WB)	102
Harrisburg @ Delmar (EB)	78
Harrisburg @ Delmar (WB)	77
Harrisburg @ Norwood (EB)	76
Harrisburg @ Eastwood (EB)	71
Harrisburg @ Everton (WB)	69

Figure 3.5 – Top 10 Transit Stops in Harrisburg LRT Project Area



Existing bus routes sufficiently accommodate residents in the project area. All recommended design and safety treatments for the corridor encourage the use of public transit, as follows:

- Corridor enhancements should be provided along the corridors to complement the transit stops (e.g., shelters, benches) and to improve conditions for those utilizing public transit. The placement of trees and pedestrian-oriented lighting at transit stops will improve pedestrian access, enhance the appearance of each corridor, and increase safety conditions for those utilizing public transit.
- Bicycle storage should be provided at selected stops and bike lanes or extra wide outside lanes are recommended wherever possible.

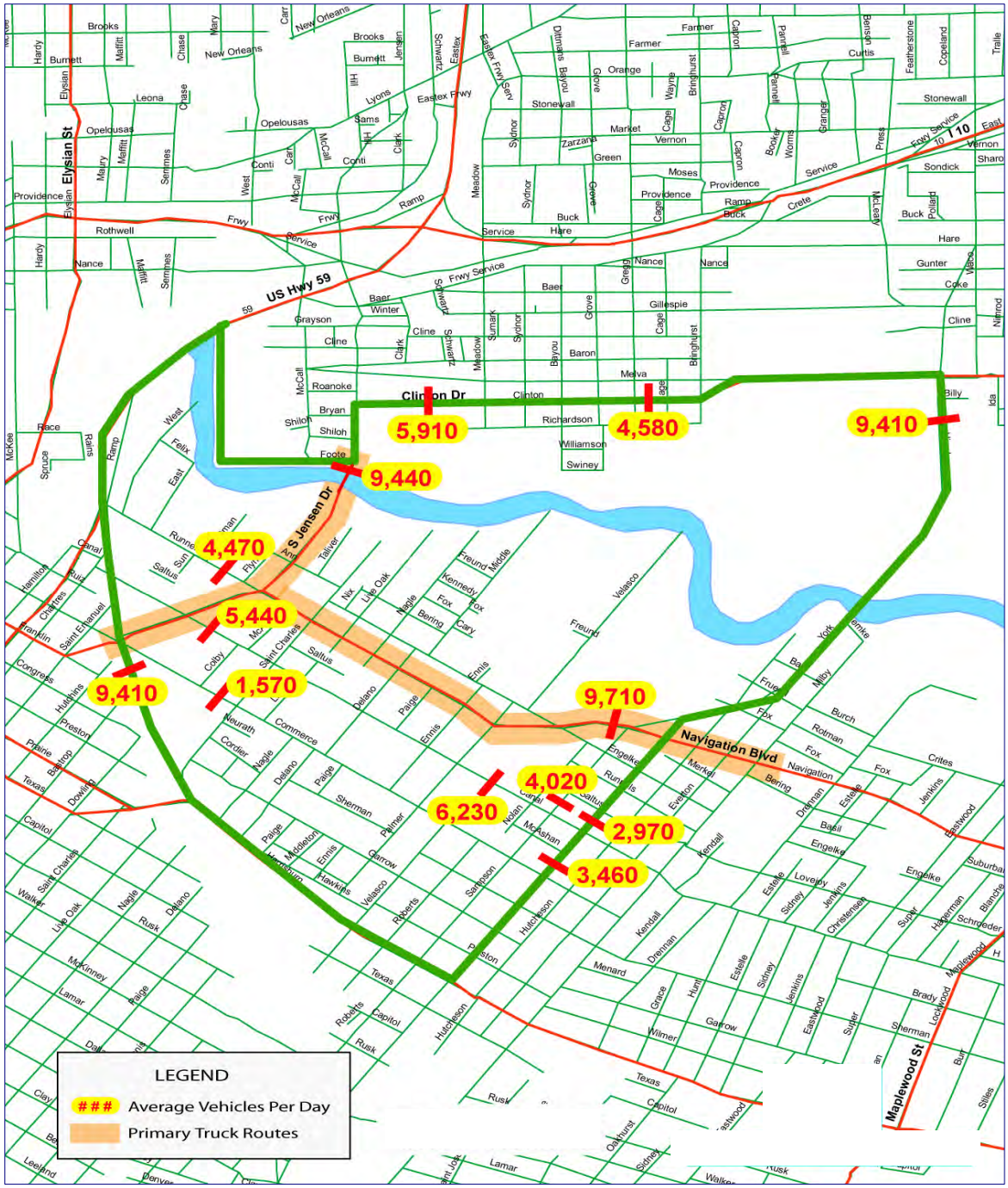
These types of improvements are part of this plan and are described in detail in Chapter 4, costs are provided in Chapter 8, and funding is provided in Chapter 9.

Traffic

Livable Centers Project Area Traffic Counts

Traffic, in terms of volume, is not a problem in the Livable Centers project area. Congestion and traffic-related delays are minimal. The most recent traffic counts taken by the Texas Department of Transportation (TxDOT) for the major corridors in the project area are presented in *Figure 3.6*. These volumes are reasonable and do not stress the capacity of the roadways.

Figure 3.6 – Traffic Counts in Livable Centers Project Area



Although traffic volume is not an issue, a traffic-related problem faced by GEEMD is the large amount of truck traffic in the area. With its many industrial land uses and its proximity to the Port of Houston, the East End is a natural origin, destination, and pass-through for heavy truck traffic. *Figure 3.6* shows that the most heavily-utilized truck routes in the area are along Navigation and Jensen. The problem with truck traffic lies in the conflict that it creates with other vehicles and pedestrians. Other vehicles on the road must deal with the difficulties inherent in sharing the road with large trucks. These include the truck's blind spots, its large size, its lessened maneuverability, and the fact that it often blocks travel lanes and driveways. These problems affect pedestrians as well, and for all the same reasons. In addition, for an area such as this, that is already not very pedestrian-friendly, the added intimidation of having large trucks driving by at high speeds can be a deterrent to walking. Finally, in maneuvering in and out of properties, large trucks often inflict damage on the sidewalks, curbs, and medians.

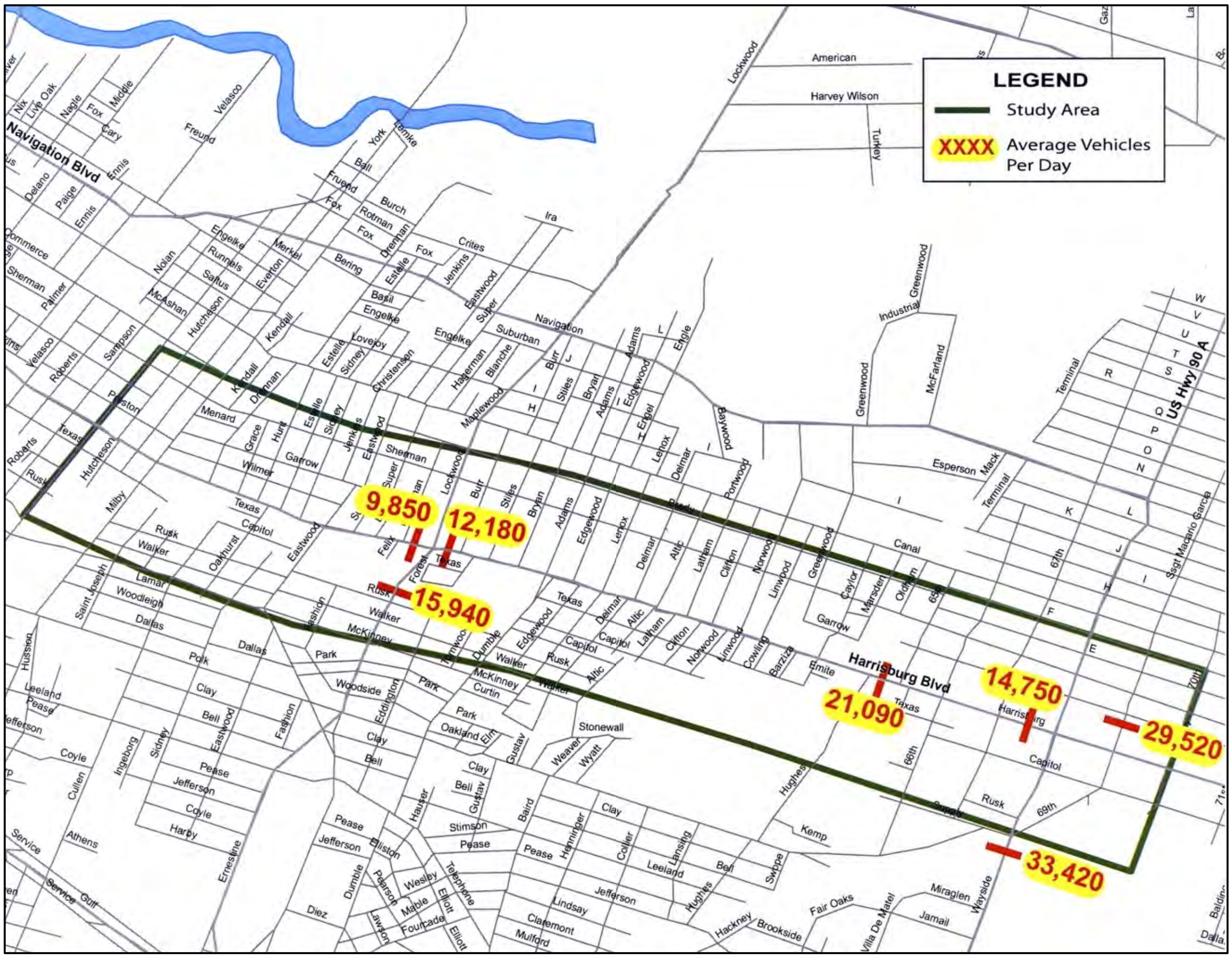
Traffic calming efforts are recommended for slowing truck traffic and to make the area safer for motorists, bicyclists, and pedestrians. Re-routing truck traffic from the major corridors onto lesser-used roadways has been considered. However, given the geographic constraints and limitations of the roadway network between the East End and the Port of Houston, a major re-routing effort is likely not feasible.

Harrisburg LRT Project Area Traffic Counts

Similar to the Livable Centers project area, traffic volumes in the Harrisburg LRT project area are not a problem. Congestion and traffic-related delays are minimal. The most recent TxDOT traffic counts for the major corridors in the Harrisburg LRT project area are presented in *Figure 3.7*. These volumes are reasonable and do not stress the capacity of the roadways. However, losing two vehicle lanes on Harrisburg, when LRT has been completed, may increase congestion on Harrisburg and/or divert traffic to neighborhood streets.

Harrisburg Boulevard is a direct route leading straight to the Port, which means that this project area has the same problems with truck traffic as the Livable Centers project area. Thus, effective traffic calming measures will be important in this area as well. The implementation of the Harrisburg LRT will reduce the capacity of Harrisburg Boulevard both during construction and in operation. The street will still accommodate automobile and truck traffic but with fewer general purpose lanes. The resultant changes will probably increase the traffic counts on Sherman the closest parallel street.

Figure 3.7 – Traffic Counts in Harrisburg LRT Project Area



Chapter 4 - Improved Walkability

4

An existing conditions inventory of the pedestrian infrastructure relating to two primary goals of GEEMD and H-GAC's Livable Centers program (enhanced walkability and transit access) is important when selecting design treatments (pedestrian and transit) because of the relationship between the pedestrian infrastructure and pedestrian and transit utilization, which affect ridership and environmental benefits. This pedestrian/transit interface has been well documented in some of the most prestigious mobility organizations and publications. A report[1] prepared for the Transit Coordination Research Program, Transportation Research Board (TRB), and National Research Council (NRC), in association with Texas Transportation Institute (TTI), states the following:

> *The passenger point of view, or quality of service, directly measures passengers' perception of the availability, comfort, and convenience of transit service. There are a number of factors that measure pedestrian and transit quality of service:*
>
> - *Service coverage (near one's origin and destination)*
> - *Pedestrian environment*
> - *Scheduling: Frequency of service*
> - *Amenities*
> - *Transit information*
> - *Transfers*
> - *Total trip time*
> - *Cost*
> - *Safety and security*
> - *Passenger loads*
> - *Appearance and comfort*
> - *Reliability*

Of the factors listed above, the following items address pedestrian quality of service.

- ***Pedestrian Environment*** - Even if a transit stop is located within a reasonable walking distance of one's origin and destination, the areas around the transit stops must provide a comfortable walking environment in order for transit to be available.
- ***Amenities*** - The facilities that are provided within the walking distance of transit stops and stations help make transit more comfortable and convenient for transit users. Typical amenities include benches, shelters, informational signing, trash receptacles, and telephones.

[1] *Transit Capacity and Quality of Service Manual*, Kittelson and Associates, Inc.

- ***Safety and Security*** - Passengers' perceptions of safety must be considered in addition to actual conditions. Transit corridors and stops must be well lit. Planting strips, bollards, or on-street parking can provide barriers between pedestrians and vehicles.
- ***Appearance and Comfort*** - Having clean transit stops with pedestrian lighting and some landscaping improves transit's image, especially when attracting choice riders.

The close relationship between an improved pedestrian environment and its contribution to a better transit service and increased ridership has been documented in several studies nationwide. The most recent research addressing the relationship between the pedestrian environment, which is measured in Pedestrian Level of Service (PLOS), and the bus service performances, which is measured in BLOS, is contained in the 2002 *Quality and Level of Service Handbook*, prepared by the Florida Department of Transportation (FDOT). The handbook presents compelling evidence of a relationship between the quality of the pedestrian environment as PLOS, and the quality of the bus service as BLOS.

The following additional studies address the relationship between pedestrian conditions and transit utilization.

- A study of 400 Portland neighborhoods indicate that "households in pedestrian-friendly neighborhoods make over three times as many transit trips and nearly four times as many walk and bicycle trips as households located in neighborhoods with poor pedestrian environments."[2]
- "The analysis suggests that Vehicle-Miles Traveled (VMT) per household in pedestrian-hostile neighborhoods would be reduced by as much as 10% with a significant improvement in the pedestrian environment."[3]

Nine major pedestrian/transit corridors and selected side streets, serving the transit thereon, have been identified as in need of improvement to enhance their walkability and transit access, thereby increasing both pedestrian and transit use and resulting in a reduction in automobile emissions. The previous Livable Centers project identified four corridors and the related side streets. These Livable Centers corridors include Navigation, Canal, Sampson, and York. The Harrisburg LRT corridors include Harrisburg, Lockwood, Altic, Cesar Chavez, and 70th. These corridors were analyzed using the following process:

- Scoring of Existing PLOS
- Identifying Recommended Treatments
- Establishing Cost of Recommended Treatments
- Revising Scoring of PLOS

[2] Source: 1000 Friends of Oregon, 1994.
[3] Source: 1000 Friends of Oregon, 1994.

Inventory Criteria

Each block face along each corridor was inventoried to determine the extent of needed treatment. Elements that were analyzed include the following:

- Sidewalks
- Curbs
- Driveways
- Ramps
- Crosswalks
- Pedestrian-oriented Lighting
- Landscaping
- Amenities

Each inventory item was given a score reflecting the extent of treatment needed: maximum, moderate, or minimum, as shown below.

2	=	**Maximum** Treatment Needed
1	=	**Moderate** Treatment Needed
0	=	**Minimum** Treatment Needed

Existing Conditions Scoring

The following table is an example of the block face scoring of Canal between St. Charles and Live Oak. The total score is "13" based on the combined scores of all elements. Each block face on each corridor has been scored in this manner and the combined rankings are presented in *Table 4.1*. A summary of the existing conditions leading to the scores then is presented.

Example Block Face Scoring		
Canal North Side Between St. Charles and Live Oak		
Criteria	***Ranking***	***Explanation***
Sidewalks	2	Narrow with obstacles, in poor repair
Driveways	1	In poor repair
Curbs	1	Damaged
ADA	2	Not compliant
Crosswalks	1	Worn striping
Lighting	2	No pedestrian-oriented lighting
Landscaping	2	None
Amenities	2	None
Total	**13**	

Table 4.1 – Combined Rankings by Corridor	
Navigation Boulevard	
Sampson and York plus 500 feet	13
RR Tracks to Sampson	13
Palmer to Nolan @ RR tracks	12
Ennis to Palmer	13
Paige to Ennis	10
Delano to Paige	11
Nagle to Delano	12
Live Oak to Nagle	11
St. Charles to Live Oak	11
Canal Street	
Navigation to McAlpine	10
McAlpine to St. Charles	10
St. Charles to Live Oak	13
Live Oak to Delano	9
Ennis to Palmer	11
Palmer to RR	12
Nolan to Sampson	13
Sampson to York	12
York plus 500 feet	12
Sampson Street	
Navigation to Engelke	14
Engelke to Runnels	11
Runnels to Saltus	13
Saltus to Canal	12
Canal to McAshan	14
McAshan to Commerce	14
Sherman to Garrow	14
Garrow to Preston	14
Preston to Harrisburg	13
York Street	
East of Harrisburg to Preston	13
Preston to Garrow	13
Garrow to Sherman	13
Sherman to Commerce	13
Commerce to McAshan	13
Canal to Saltus	13
Saltus to Runnels	13
Runnels to Engelke	14
Engelke to Navigation	13
Navigation to Hutcheson	11
Hutcheson to Freund	11
Freund to Ball	13
Ball to RR	13
RR to Lemke (@ Tony Marron Park)	11

Harrisburg Boulevard	
72nd to 71st	9
71st to 70th	9
70th to SSgt Macario Garcia	12
SSgt Macario Garcia to Wayside	12
Wayside to Cesar Chavez	13
Cesar Chavez to 66th	12
Clifton to Latham	11
Latham to Altic	10
Altic to Delmar	9
Delmar to Lenox	9
Lenox to Adams	11
Adams to Bryan	12
Bryan to Stiles	14
Stiles to Burr	14
Burr to Lockwood	14
Lockwood to Hagerman	11
Hagerman to Bob	11
Bob to Eastwood	11
Eastwood to Sydney	11
Lockwood Drive	
McKinney to Capitol	8
Capitol to Texas	8
Texas to Harrisburg	10
Harrisburg to “the walkway”	13
"the walkway" to Sherman	10
Sherman to Canal	10
Altic Street	
"the walkway" to cross street Sherman	5
"the walkway" to cross street Harrisburg	6
Harrisburg to Texas	13
Texas to Capitol	14
Cesar Chavez Boulevard	
Capitol to Harrisburg	12
Harrisburg to Avenue C	14
70th Street	
Capitol (dead end included) to Harrisburg	12
Harrisburg to Avenue B	10
Avenue B to Avenue C	13
Avenue C to Sherman	13
Sherman to Avenue E	10
Avenue E to Avenue F	14
Avenue F to Canal	12

This remainder of this chapter includes the following:

- Existing conditions inventory used as the basis for the scores presented above:
  - Livable Centers corridors
  - Harrisburg LRT corridors
- Preferred design guidelines and treatments identified by the Advisor Committee and the public.
- Cost of the recommended treatments and the resultant revised scores based on the recommended improvements.

Existing Conditions Inventory for Livable Centers……

The corridors inventoried as part of the Livable Centers program include Navigation, Canal, Sampson, and York.

NAVIGATION CORRIDOR – NORTH SIDE

NAVIGATION Boulevard

Sampson/York facing west toward Downtown to Roberts at Railroad Crossing

This block of the Navigation Boulevard corridor is home to Family Dollar Store and other commercial establishments. Most of the block has sidewalk and ramps that are in satisfactory condition. However, approximately 25 percent of the sidewalk needs replacing. There is a planting strip with trees that provide shade. Cobra-head lights provide street lighting.

Roberts at Railroad Crossing to Palmer

Land use on this block is vacant. Sidewalks are in satisfactory condition; however, approximately 25 percent needs replacing. There is a narrow planting strip but there are no trees. There is one business at the west corner shown in the second photo that has no Americans with Disabilities Act (ADA) ramps.

Palmer to Ennis

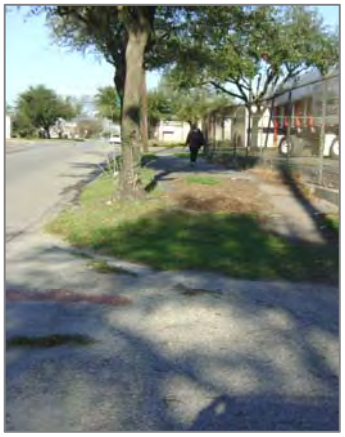
Land use on this block is commercial. Sidewalks are in satisfactory condition; however, 25 percent needs replacing. There is a planting strip with trees.

Ennis to Paige

Land use on this block is commercial. The block needs weed maintenance. Sidewalks and ramps are in satisfactory condition. There is a planting strip with trees.

Paige to Delano

Land uses on this block are vacant and the local Fire Department. The segment near the fire station is in good condition with a sidewalk and a ramp. However, the east end, where the property is vacant, needs weed maintenance and sidewalk replacement.

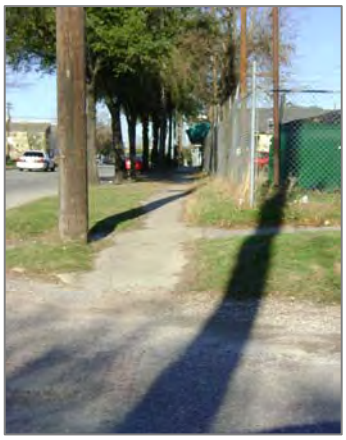


Delano to Nagle

Land uses on this block are industrial and commercial. There is a planting strip with trees. The block lacks ramps. Weed maintenance is needed along this block.

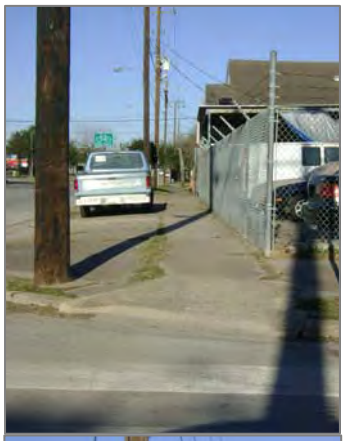
Nagle to Live Oak

Land uses on this block are industrial and commercial. There is a planting strip with trees. The block lacks ramps. Weed maintenance is needed along this block.



Live Oak to St. Charles

Land uses on this block are industrial and commercial. The block lacks a planting strip. Weed maintenance is needed along this block.



St. Charles to McAlpine (Jensen)

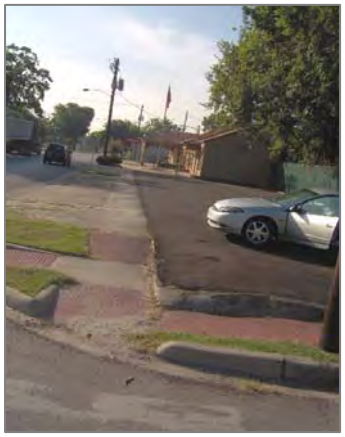
Land use on this block is a church. As a result, the sidewalks and ramps are satisfactory. The block lacks a planting strip and there is limited space for installing one. The intersection across McAlpine/Jensen is shown in the photo.

NAVIGATION Boulevard

NAVIGATION CORRIDOR - SOUTH SIDE

St. Charles to Live Oak

Land use on this block is commercial and completely occupied by a single business, Crespo Funeral & Cremation Services. As a result, the sidewalk and driveway are in satisfactory condition. There is street lighting for vehicle traffic. The block lacks a planting strip and trees.



Live Oak to Nagle

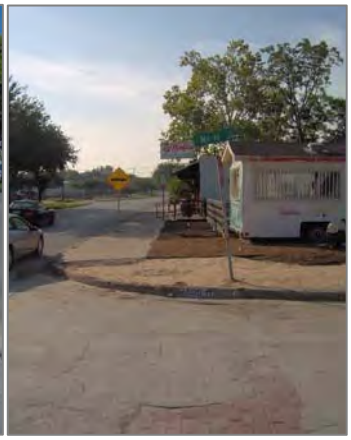
Land uses on this block are mixed-use business, residential, and vacant properties. A portion of the block has a planting strip with trees. Ramps at both ends of the block need maintenance at the least and should be replaced.

Nagle to Delano

Land use on this block is commercial and completely occupied by the original Mama Ninfa's restaurant. While this study was underway, the block was undergoing renovations including portions of the sidewalk, driveway, and parking lot. The block lacks a planting strip and trees.

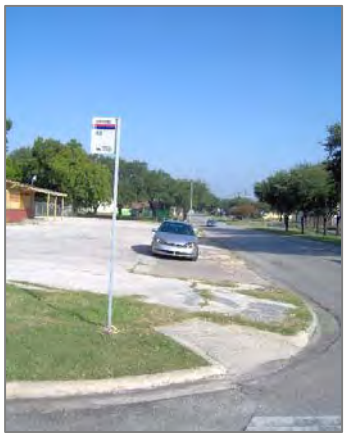
Delano to Paige

Land use on this block is commercial. There are businesses on both sides of the street. Sidewalks are broken and uneven. Approximately half of the curbs are damaged.

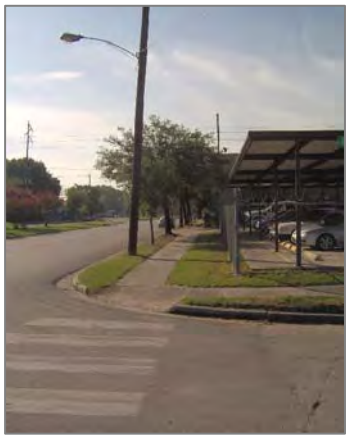
Paige to Ennis

Land use on this block is commercial. There is one unoccupied business and, since the business is unoccupied, the block is in disrepair. The block lacks sidewalks, ramps, and a planting strip.

Ennis to Palmer

Land use on this block is commercial. With the exception of one segment of the block where the sidewalk is in disrepair and needs replacing, the sidewalks and ramps are adequate. There is a planting strip with trees.



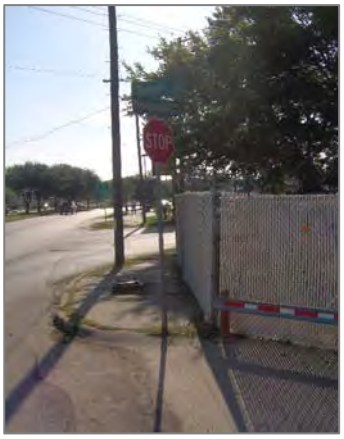

NAVIGATION Boulevard

Palmer to Roberts

Land use on this block is vacant. Therefore, it has not been maintained. Sidewalks and curbs need replacing. While there is a planting strip, it is in disrepair and needs replanting.

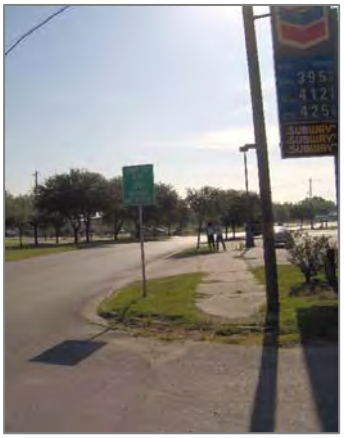

Roberts to Nolan

Land use along these short blocks is commercial. Sidewalks and curbs need replacing. There is no planting strip, but since the block is so short, one might not be needed.



Nolan to Sampson/York

Land uses on this block are commercial and vacant. Sidewalks and curbs are cracked and uneven. A large volume of traffic travels through these intersections and pedestrian safety needs special attention.




CANAL Street

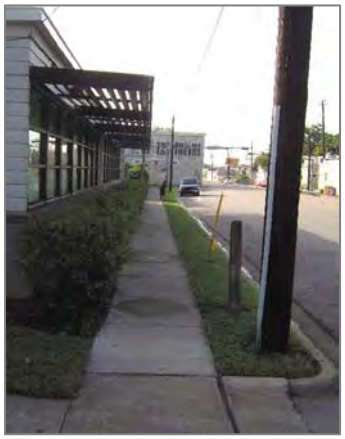
CANAL CORRIDOR - NORTH SIDE

Navigation to McAlpine

Land use on this block is commercial. Sidewalks and curbs are inadequate and approximately half need replacing. This block lacks ramps at the McAlpine intersection and at Navigation some maintenance is needed to make the ramp accessible. There is street lighting.

McAlpine to St. Charles

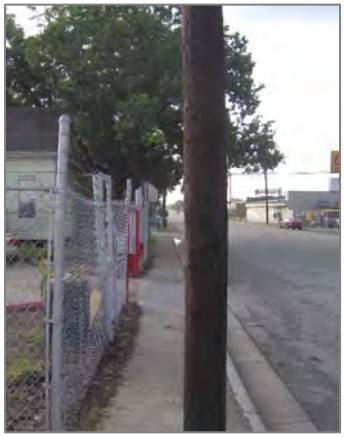
Land use along this block is commercial. Sidewalks and curbs are inadequate. There are no ramps. There is street lighting.



CANAL Street

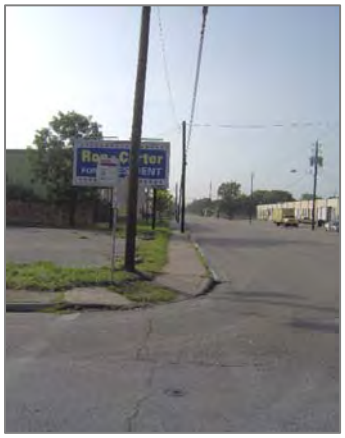
St. Charles to Live Oak

Land use on this block is commercial. Sidewalks and curbs are inadequate and approximately half need replacing. It is important to note that the sidewalks in this block are extremely narrow (varies between 18 inches and 30 inches). Ramps are needed at both ends of the block. There is street lighting.



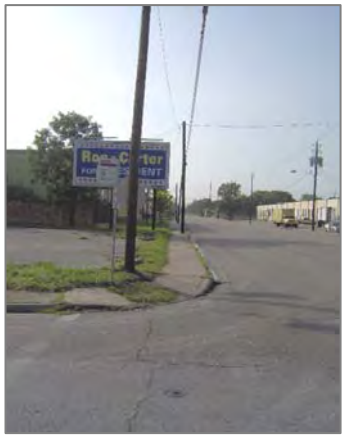
Live Oak to Delano

Land use on this block is commercial, approximately half of which is vacant. Sidewalks and curbs are inadequate and approximately half need replacing. Ramps are needed at both ends of the block. There is street lighting. Several driveways in this block will need replacing at the same time the sidewalks and curbs are replaced.



Delano to Paige

Land uses on this block are light industrial on the south side and residential on the north side. Sidewalks and curbs are cracked.



CANAL Street

Paige to Ennis

Land use on this block is commercial. Of the existing sidewalks and curbs along this block, approximately half need replacing. There are trees on this block. There is street lighting.

Ennis to Palmer

Land use on this block is commercial. Sidewalks and curbs need replacing. The block lacks ramps and trees. All driveways need replacing when the sidewalks are redone.

Palmer to RR

Land use on this block is commercial. Approximately 75 percent of the sidewalks and curbs are inadequate. The block lacks ramps. There is street lighting.

CANAL Street

From RR to Nolan

Land uses on this block are commercial with some adjacent vacant property. The block lacks sidewalks, curbs, driveways, planting strips, and trees. There are street lights.

Nolan to Sampson

Land use on this block is commercial. Sidewalks and curbs are inadequate. The block lacks a planting strip and trees. There are street lights.

Sampson to York

Land use on this block is commercial. Sidewalks and curbs are inadequate. Sidewalks and ramps need maintenance. The block lacks trees.

CANAL Street

CANAL CORRIDOR - SOUTH SIDE

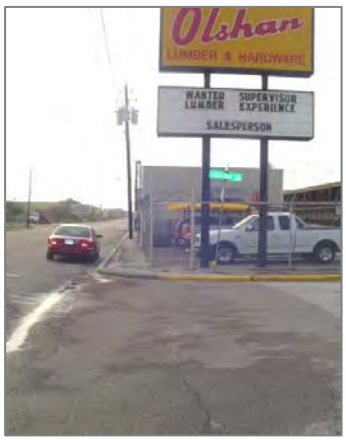
Franklin to St. Charles

The Canal corridor, between Franklin and Colby, is mostly vacant. Sidewalks and curbs are inadequate and approximately half need replacing. Ramps are accessible and in good condition. When new sidewalks are installed, new ramps are needed. There is street lighting. The Canal corridor, between Colby and St. Charles, is mixed-use commercial and shops. Sidewalks and curbs are inadequate. Pole obstacle appears near the end of curb. This block lacks landscaping, trees, and benches.

CANAL Street

St. Charles to Live Oak

Land use on this block is commercial. This block lacks ramps, a planting strip, and trees. There are pole obstructions in the sidewalk near the end of the curb. Sidewalks and curbs are inadequate and approximately half need replacing.

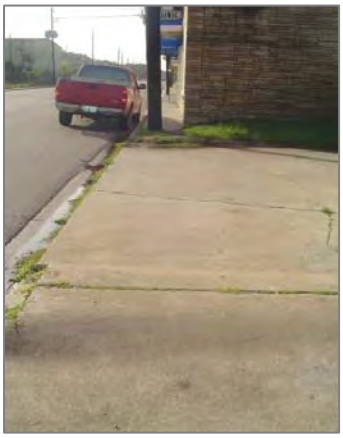



Live Oak to Delano

Land uses on this block are commercial and vacant. Sidewalks are paved with asphalt and are inadequate; approximately half need replacing. There are pole obstructions in the sidewalk. This block lacks a planting strip.

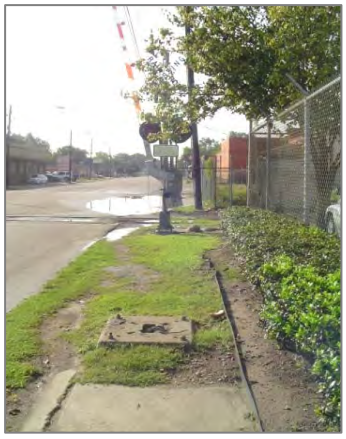
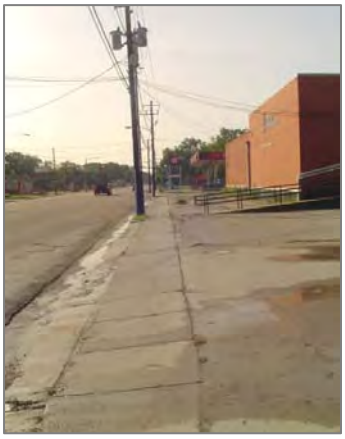
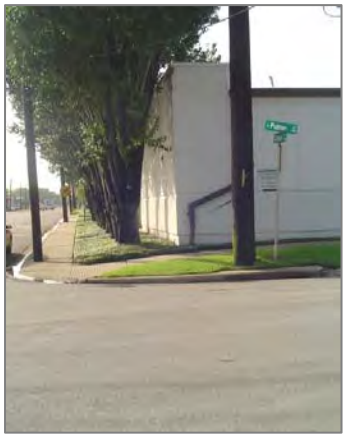
Delano to Ennis

Land use on this block is industrial. Sidewalks and curbs are inadequate with approximately half need replacing. Several pole obstructions are in the three-foot wide sidewalks. Ramps need to be installed when new sidewalks are installed. This block lacks ramps, a planting strip, trees, benches, and landscaping.



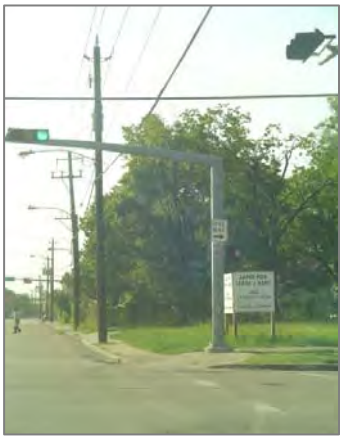
Ennis to Palmer

Land uses on this block are commercial and retail shops. Approximately 25 percent of sidewalks need replacing. Several pole obstructions are in the sidewalks. Ramps need to be installed when new sidewalks are installed. This block lacks a planting strip and trees.

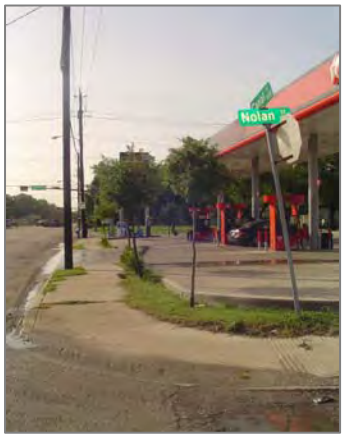
Palmer to Nolan

Land use on this block is industrial. Sidewalks and curbs are inadequate and half need replacing. There are pole obstructions in the sidewalk. The block lacks a planting strip. Near the railroad tracks, there are no sidewalks, curbs, or ramps.




Nolan to Sampson

Land use on this block is vacant properties. Sidewalks and curbs are inadequate and approximately 25 percent need replacing. Ramps are in good condition.

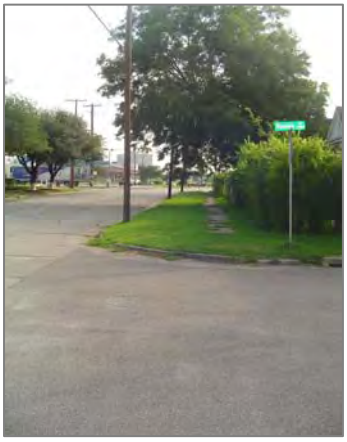


SAMPSON Street

SAMPSON CORRIDOR - EAST SIDE

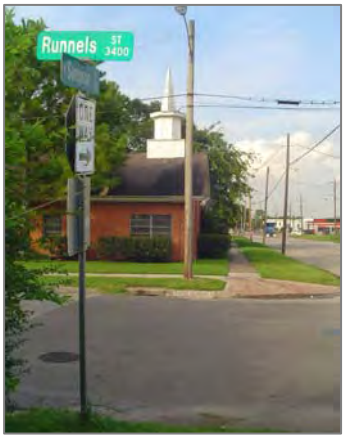
Navigation to Engelke

This block is mostly commercial. Sidewalks and curbs are adequate; one ramp is needed.



Engelke to Runnels

This block is mostly residential. Sidewalks are adequate; however, approximately half of the curbs need to be installed. Approximately 25 percent of the single-lane driveways are damaged and need replacing. This block lacks trees and landscaping.



SAMPSON Street

Runnels to Saltus

This block is mostly commercial. Sidewalks and curbs are inadequate and approximately half need replacing. Ramps are in good condition. This block lacks trees and landscaping.

Saltus to Canal

This block is mixed-use commercial and residential. Sidewalks and curbs are barely adequate and half need replacing. Approximately 25 percent of the single-lane driveways are damaged and need to be replaced. This block lacks ramps.

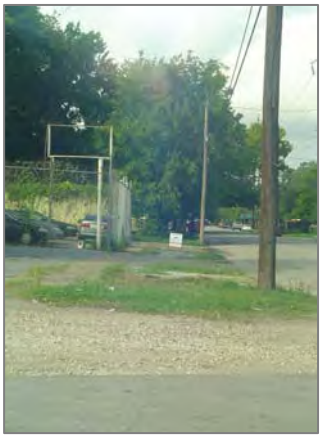
SAMPSON Street

Canal to McAshan

This block is mostly vacant. Sidewalks are inadequate. Approximately 50 percent of the curbs need replacing. This block lacks ramps.

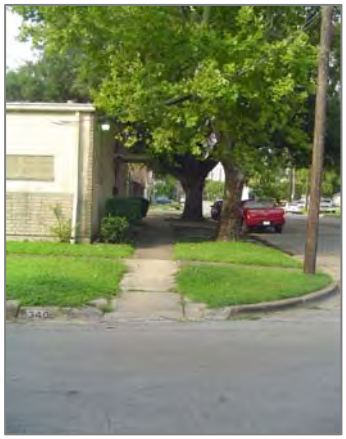

McAshan to Commerce

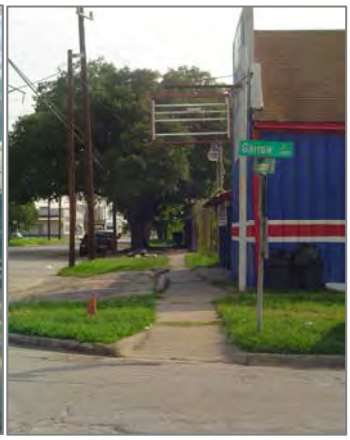
This block is mostly residential. Sidewalks are barely adequate with approximately half needing to be replaced. This block lacks curbs and ramps.

Commerce to Sherman

This block is mixed-use commercial, residential, and vacant. Sidewalks, curbs, and ramps are inadequate. This block lacks trees and landscaping.





SAMPSON Street

Sherman to Garrow

This block is mixed-use commercial, residential, and vacant. Sidewalks and curbs are inadequate.

Garrow to Preston

This block is mostly commercial. Sidewalks and curbs are barely adequate with approximately 75 percent needing to be installed. This block lacks ramps.

Preston to Harrisburg

This block is mostly commercial. Approximately 50 percent of sidewalks and curbs need replacing. Approximately 25 percent of the double-lane driveways are damaged and need replacing. This block lacks ramps.

SAMPSON Street

SAMPSON CORRIDOR - WEST SIDE

Navigation to Engelke

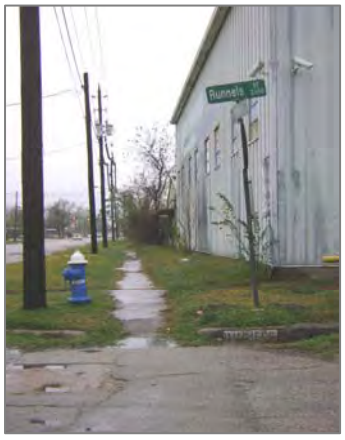
This block is comprised solely of a gas station and a convenience store. Sidewalks and ramps are in good shape. There is an adequate planting strip; however, it has no trees. There is no pedestrian-oriented lighting; however, the lights from the station might be adequate for walking safety.

Engelke to Runnels

Land use on this block is commercial. At least half of the sidewalks and driveways need replacing. There is a planting strip; however, there are no trees.

Runnels to Saltus

Land use on this block is a vacant industrial building next to vacant land. Sidewalks and ramps are in satisfactory condition; however, weeding maintenance is needed. This block lacks a curb, planting strip, pedestrian-oriented lighting, and trees.



SAMPSON Street

Saltus to Canal

Land use on this block is residential. There is a planting strip with no trees. This block lacks adequate sidewalks, ramps, pedestrian-oriented lighting, and trees.

Canal to McAshan

Land use on this side of the street is a gas station. Approximately half of the sidewalks and curbs need replacing.

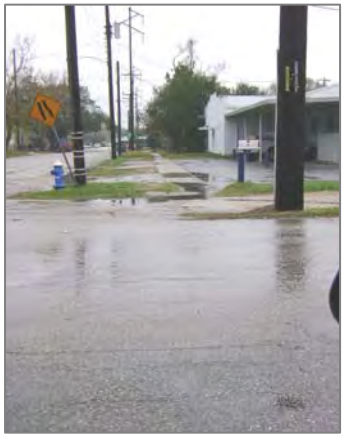
McAshan to Commerce

Land use on this block is commercial. The sidewalk and planting strip are in satisfactory condition. This block lacks ramps and pedestrian-oriented lighting.

SAMPSON Street

Commerce to Sherman

Land use on this block is commercial. At least half of sidewalks and driveways are inadequate. This block lacks pedestrian-oriented lighting and there is no planting strip and inadequate space for installing one.

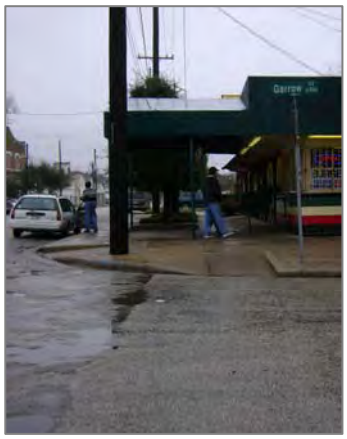


Sherman to Garrow

Land use on this block is mostly residential. The sidewalks are narrow. There are ramps. There is an adequate planting strip that lacks trees. This block lacks pedestrian-oriented lighting.

Garrow to Preston

This block is mostly commercial and contains the area's well-known Champs' Burgers. The sidewalk, curb, and lighting are sufficient because of the block's commercial use.



SAMPSON Street

Preston to Harrisburg

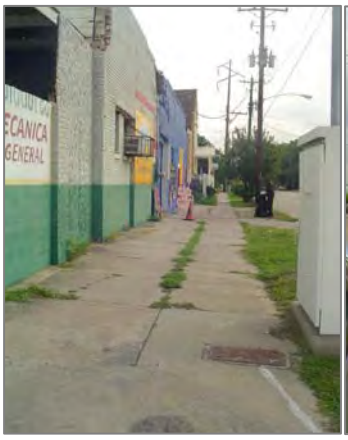
This is primarily a vacant block in which the sidewalk, ramp, and planting strip need maintenance if not complete replacement.

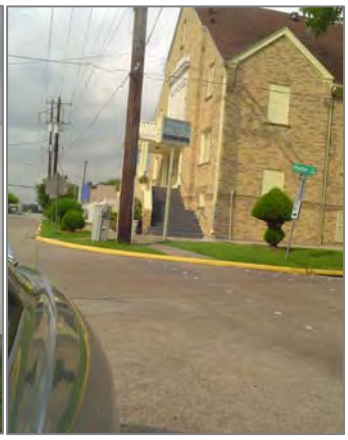
YORK Street

YORK CORRIDOR - EAST SIDE

Harrisburg to Preston

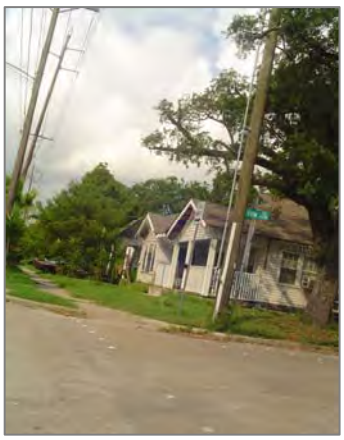
This block is mostly commercial. Approximately 25 percent of the sidewalks and curbs need to be replaced. This block lacks ramps.





Preston to Garrow

This block is mostly residential. Approximately 50 percent of the sidewalks need replacing. This block lacks ramps.



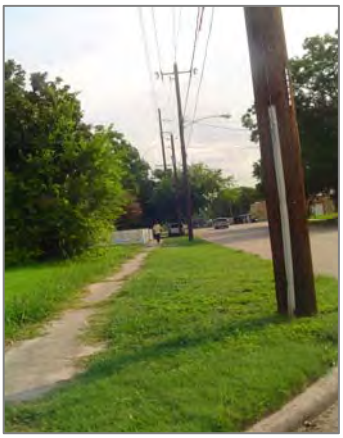
YORK Street

Garrow to Sherman

Land uses on this block are mixed-use residential and commercial. Sidewalks, curbs, and ramps are adequate (ramps appear to have been installed recently).

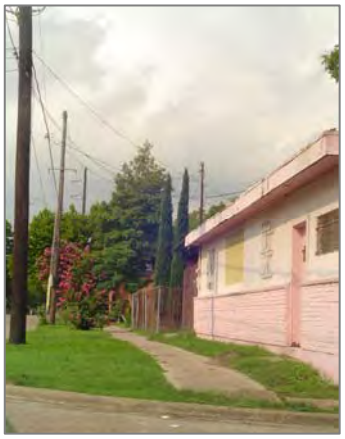
Sherman to Commerce

Land use on this block is mostly residential. Sidewalks and curbs are barely adequate and approximately half need replacing. This block lacks ramps.



Commerce to McAshan

Land use on this block is mostly residential. Sidewalks and curbs are barely adequate and approximately half need replacing. This block lacks ramps and pedestrian-oriented lighting. New ramps could be installed with new sidewalks. Street lighting currently exists.



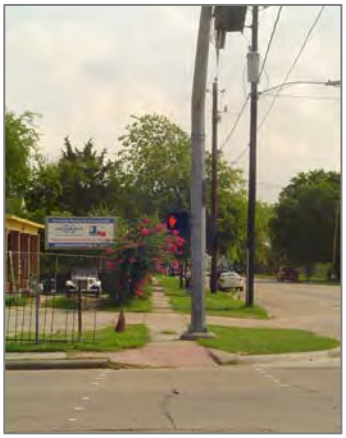
YORK Street

McAshan to Canal

Land use on this block is residential. Sidewalks and curbs are barely adequate and approximately 25 percent need replacing. This block lacks ramps and pedestrian-oriented lighting.


Canal to Saltus

Land use on this block is commercial. Approximately 75 percent of the sidewalks need replacing. Approximately 25 percent of curbs need to be replaced. The ramps are accessible and in good condition; however, one additional ramp needs to be installed.



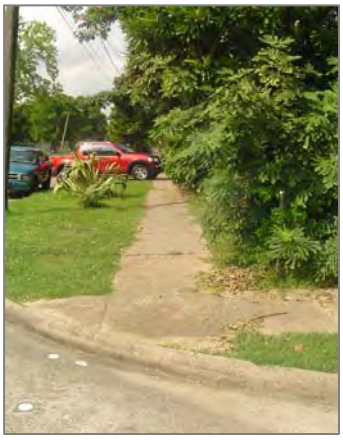

Saltus to Runnels

Land use on this block is commercial. Sidewalks and curbs are barely adequate and approximately 25 percent need replacing. This block lacks ramps.


YORK Street

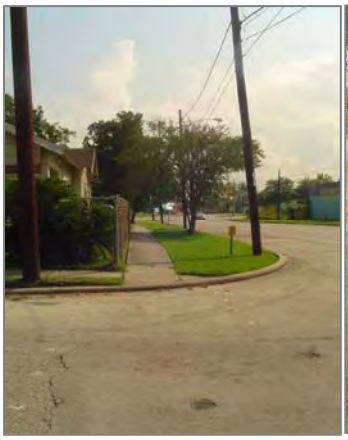
Runnels to Engelke

Land use on this block is residential. Sidewalks are barely adequate and all need replacing. Approximately 50 percent of curbs need replacing. This block lacks ramps.



Engelke to Navigation

Land use on this block is mixed-use residential and vacant. Sidewalks are barely adequate and approximately half need replacing. Approximately 25 percent of curbs need replacing. One ramp needs to be installed.

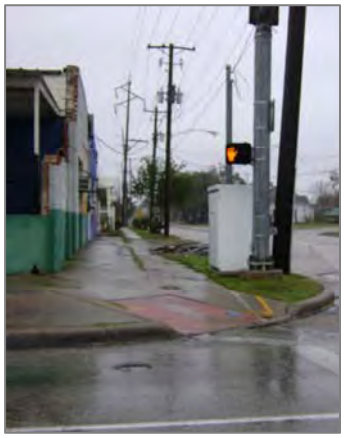


YORK Street

YORK CORRIDOR – WEST SIDE

Harrisburg to Preston

Land use on this block is commercial. Sidewalks are in satisfactory condition. The planting strip needs maintenance. This block lacks trees and pedestrian-oriented lighting.

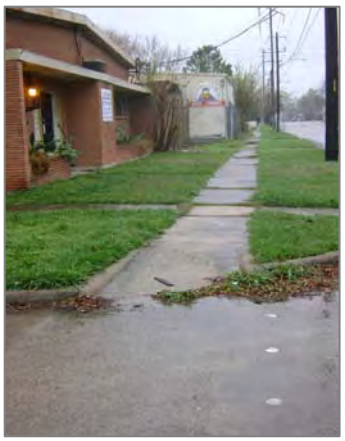


Preston to Garrow

Land use on this block is residential. Sidewalks are in satisfactory condition but need weed maintenance. Curbs and the planting strip are adequate. This block lacks trees and pedestrian-oriented lighting.

Garrow to Sherman

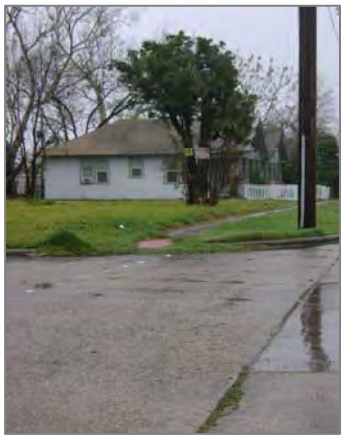
Land use on this block is commercial. Sidewalks and the planting strip are in satisfactory condition, but needs weed maintenance. There is a large planting strip. This block lacks trees and pedestrian-oriented lighting.



YORK Street

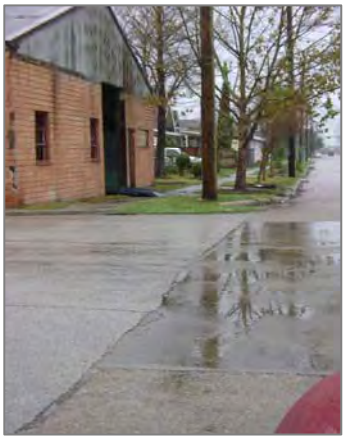
Sherman to Commerce

Land use on this block is residential. Sidewalks and the planting strip are in satisfactory condition; however, the planting strip has no trees. This block lacks ramps and pedestrian-oriented lighting.



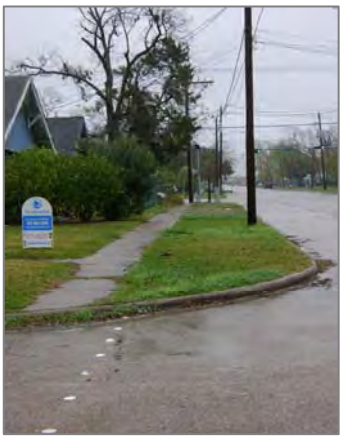
Commerce to McAshan

Land use on this block is residential. Sidewalks and the planting strip are in satisfactory condition. This block lacks ramps and pedestrian-oriented lighting.



McAshan to Canal

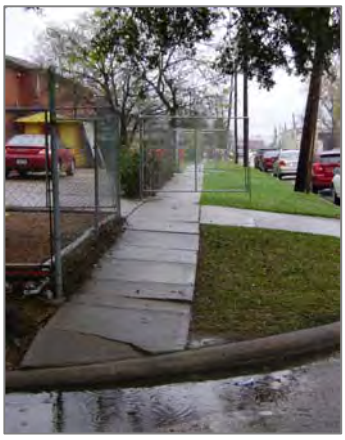
Land use on this block is residential. Sidewalks are in satisfactory condition. There is a large planting strip with no trees. This block lacks ramps, trees, and pedestrian-oriented lighting.



YORK Street

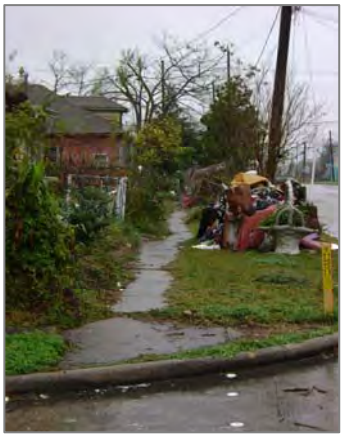
Canal to Saltus

Land use on this block is residential. Approximately 25 percent of the sidewalk is inadequate. Ramps at both ends of the block are inadequate. There is a large planting strip with trees. This block lacks pedestrian-oriented lighting.



Saltus to Runnels

This is a residential block. Sidewalks, curbs, and ramps need to be replaced once maintenance has taken place.



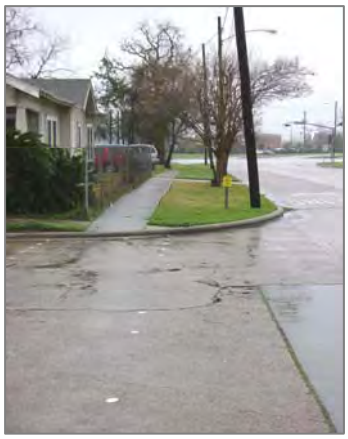
Runnels to Engelke

This block is residential. Sidewalks are inadequate. Portions of the curb are adequate; approximately half need to be replaced. The distance from the curb to the property line is six feet.

YORK Street

Engelke to Navigation

Land use on this block is residential. Sidewalks are in good condition. The planting strip and trees are in good condition. This block lacks ramps and pedestrian-oriented lighting**.**



Navigation to Lemke (Tony Marron Park)

This long stretch of corridor crosses Hutcheson, Freund, and Ball to connect Navigation to Tony Marron Park and Buffalo Bayou. Land uses are mixed-use residential and commercial. There is adequate space for a planting strip. Sidewalks and curbs are inadequate along most segments.

Existing Conditions for Harrisburg LRT Corridor……

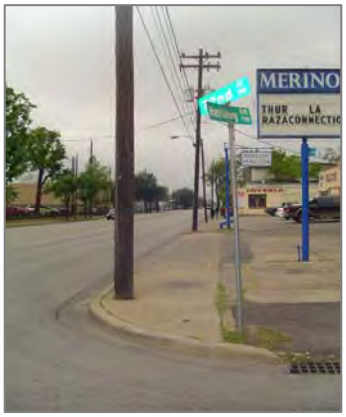
The corridors inventoried as part of the Harrisburg LRT include Harrisburg, Lockwood, Altic, Cesar Chavez, and 70th.

HARRISBURG Boulevard

HARRISBURG CORRIDOR-NORTH SIDE

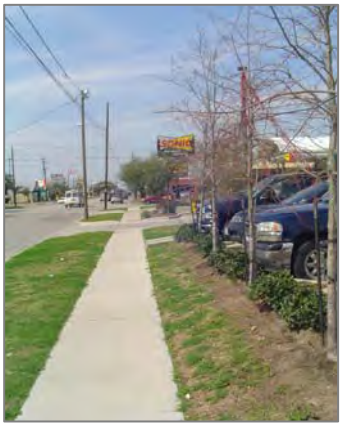
Harrisburg, 72nd to 71st

Land uses along this segment are mostly commercial and vacant lots. Sidewalks and curbs are inadequate. Existing ramps are in good condition. This block lacks a planting strip and trees. Cobra-head lights provide street lighting.



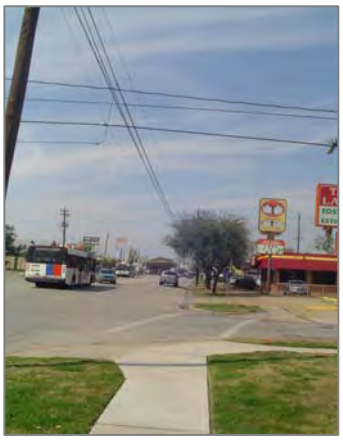
Harrisburg, 71st to 70th

Land use along this section is mostly commercial. Sidewalks and curbs are in good condition. Existing ramps need minor repairs. A planting strip exists; however, it contains no trees. Cobra-head lights provide street lighting.



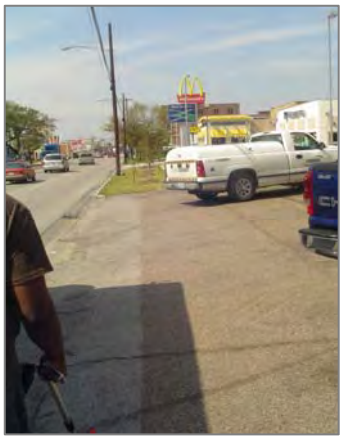
Harrisburg, 70th to SSgt Macario Garcia

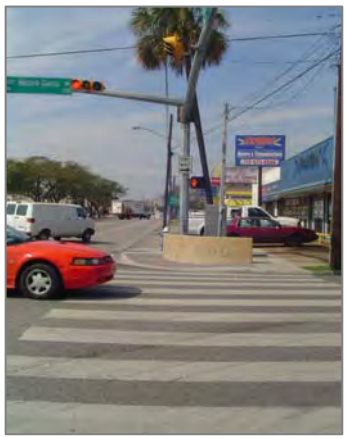
Land use along this segment is commercial. Sidewalks and curbs are inadequate. Ramps are in good condition. There is a planting strip with approximately 50 percent of trees present.



Harrisburg, SSgt Macario Garcia to Wayside

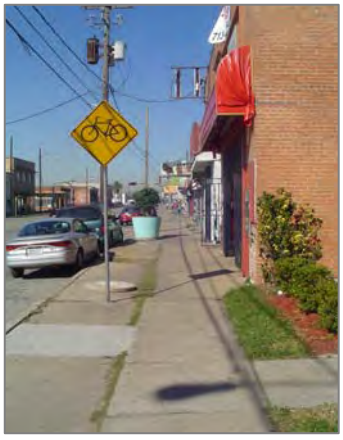
Land use along this segment is mostly commercial. Sidewalks near Wayside are inadequate. Existing ramps are in fair condition. There is a planting strip along portions of the segment with approximately 50 percent of trees present.

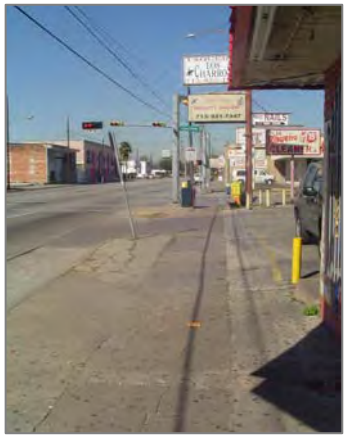




Harrisburg, Wayside to Cesar Chavez

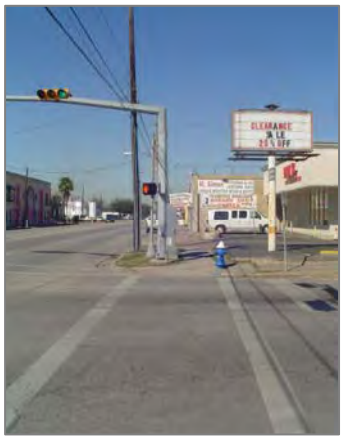
Land use along this segment is commercial. All sidewalks and 25 percent of curbs are in disrepair. Existing ramps are in fair condition.





Harrisburg, Cesar Chavez to 66th

Land use along this segment is mostly commercial. Sidewalks are in major disrepair. Curbs are in fair condition with 25 percent damage. There are ramps and a planting strip with 25 percent of trees.



Harrisburg, Clifton to Latham

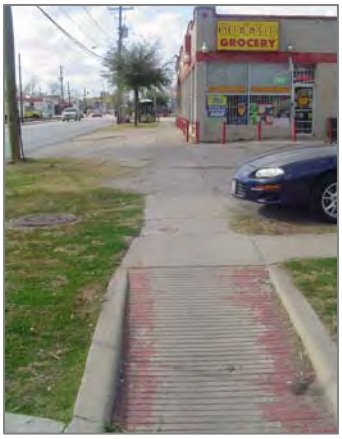
Land use along this segment is commercial. Sidewalks are inadequate and 50 percent of curbs are in disrepair. Ramps are in good condition. There is adequate space for a planting strip. Cobra-head lights provide street lighting.

Harrisburg, Latham to Altic

Land use along this segment is commercial. Sidewalks and curbs are damaged. Ramps are installed and there is a planting strip. Cobra-head lights provide street lighting.

Harrisburg, Altic to Delmar

Land use along this segment is commercial. Sidewalks and curbs are damaged. Ramps are installed and there is a planting strip with trees. Cobra-head lights provide street lighting.



HARRISBURG Boulevard

Harrisburg, Delmar to Lenox

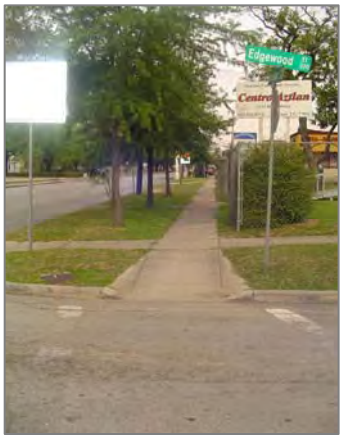
Land uses along this segment are residential and commercial. Sidewalks and 25 percent of curbs are inadequate. Ramps are installed and there is a planting strip with trees.

Harrisburg, Lenox to Edgewood

Land use along this segment is commercial. Portions of the sidewalks are inadequate and curbs are in disrepair. Existing ramps are in good condition. There are planting strips.

Harrisburg, Edgewood to Adams

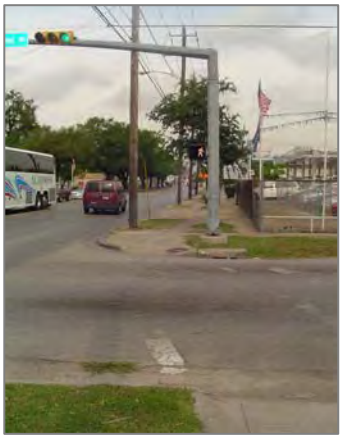
Land use along this segment is mostly commercial. Portions of the sidewalks and curbs are inadequate. Existing ramps are adequate. A planting strip is present with some trees.



HARRISBURG Boulevard

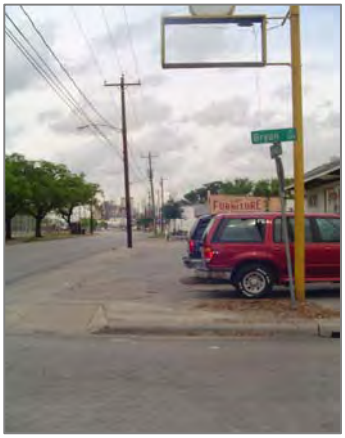
Harrisburg, Adams to Bryan

Land use along this segment is commercial. Portions of the sidewalks contain asphalt pavement. Curbs and ramps are in good condition. There is a planting strip that lacks trees. Landscaping is present at the Bryan corner.



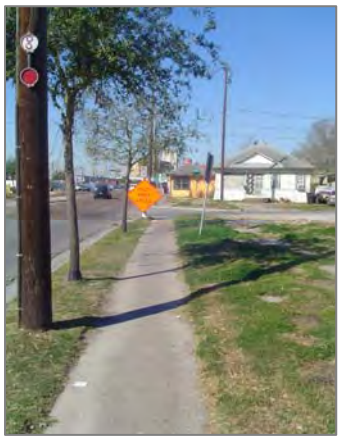
Harrisburg, Bryan to Stiles

Land use along this segment is commercial. Approximately 50 percent of sidewalks are inadequate. Curbs and ramps on this segment are adequate. A portion of this segment contains a planting strip with 25 percent of trees present.



Harrisburg, Stiles to Burr

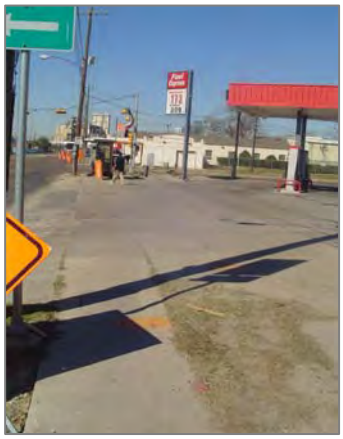
Land use along this segment is mostly commercial. Approximately 50 percent of sidewalks are damaged. Approximately 25 percent of curbs are in disrepair with the remaining curbs in fair condition. There is an existing ramp at Stiles; there is no ramp at Burr. A planting strip is present with approximately 25 percent of trees. Cobra-head lights provide street lighting.



HARRISBURG Boulevard

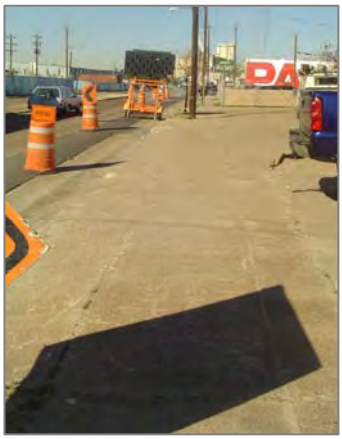
Harrisburg, Burr to Lockwood

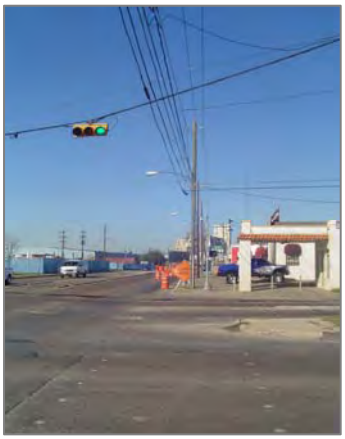
Land uses along this segment are residential and commercial. Approximately 50 percent of sidewalks are damaged. Curbs are in fair condition (minimum treatment needed). A ramp is present at Lockwood; there is no ramp at Burr. A portion of this segment contains a planting strip with approximately 25 percent of trees present.



Harrisburg, Lockwood to Hagerman

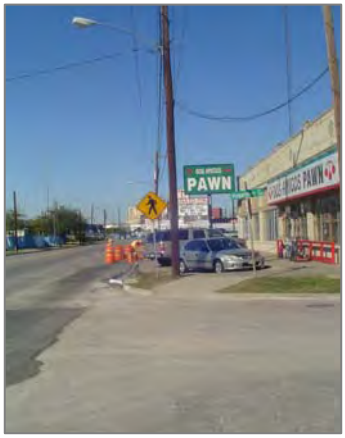
Land use along this segment is commercial. Approximately 25 percent of sidewalks and 50 percent of curbs are damaged. Ramps are present. There is limited space for a planting strip. Cobra-head lights provide street lighting.

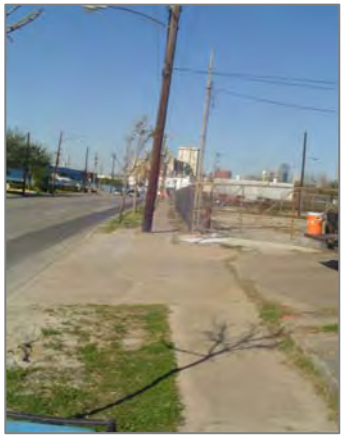




Harrisburg, Hagerman to Bob

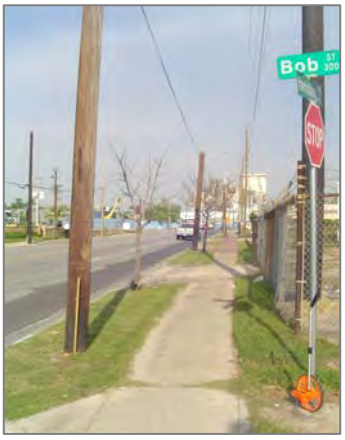
Land use along this segment is mostly commercial. Sidewalks are in fair condition with approximately 25 percent in disrepair. Approximately 50 percent of curbs are damaged. Ramps are present. There is limited space available for a planting strip. Cobra-head lights provide street lighting.





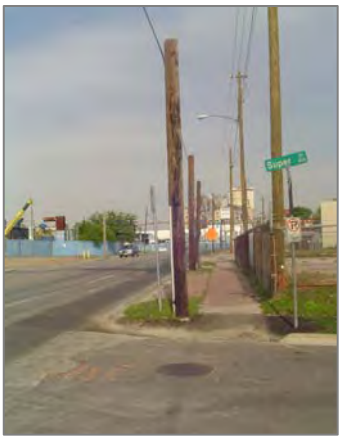
Harrisburg, Bob to Super

Land use along this segment is commercial. There is damage to approximately 25 percent of sidewalks and curbs. Ramps are in good condition and there is a planting strip with small trees. Cobra-head lights provide street lighting.



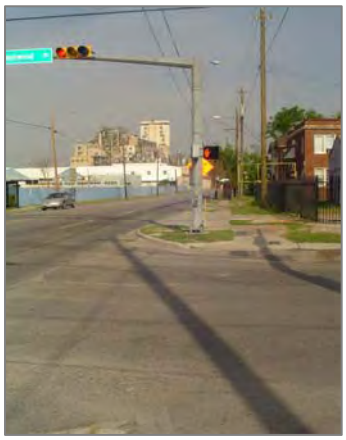
Harrisburg, Super to Eastwood

Land uses along this segment are commercial and vacant. Sidewalks and curbs are inadequate. Ramps are in good condition. Cobra-head lights provide street lighting.



Harrisburg, Eastwood to Sidney

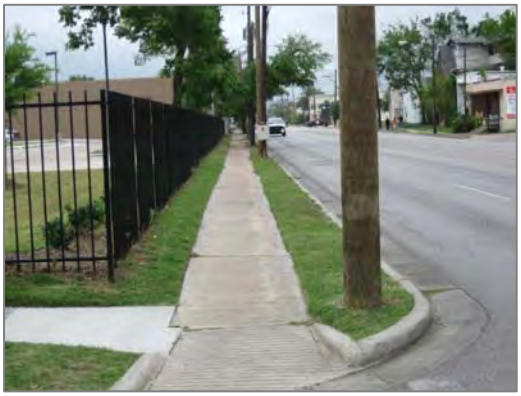
Land use along this segment is residential. Sidewalks are in major disrepair. There are existing curbs in minor disrepair. Existing ramps are adequate. There is a planting strip with approximately 25 percent of trees. Cobra-head lights provide street lighting.



HARRISBURG CORRIDOR (South)

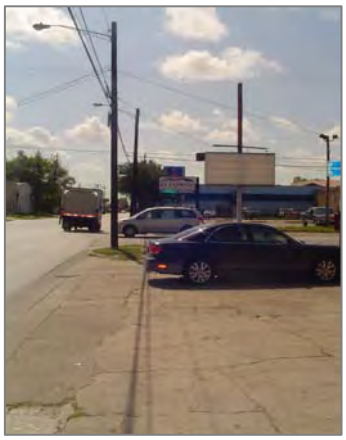
Harrisburg, 72nd to 71st

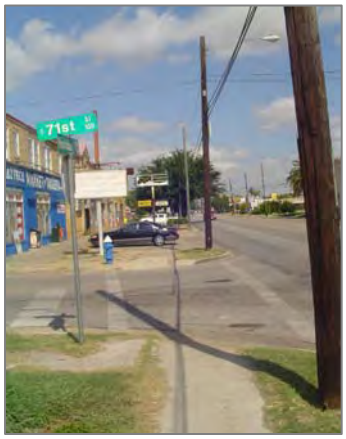
Land use on this segment is commerical. Portions of the sidewalks and ramps are inadequate. Curbs are 50 percent damaged. There is a two ft. planting strip with pole obstructions present. Cobra-head lights provide street lighting.



Harrisburg, 71st to 70th

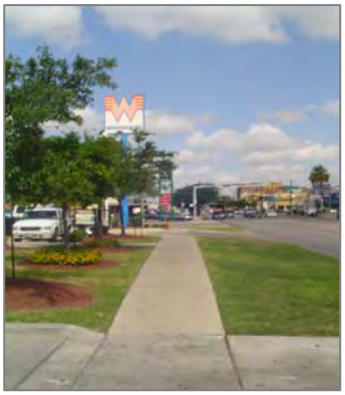
Land use on this segment is commercial and contains a community center. Sidewalks and curbs are in poor condition. Ramps are inadequate. A planting strip exists with 50 percent of trees. Cobra-head lights provide street lighting.

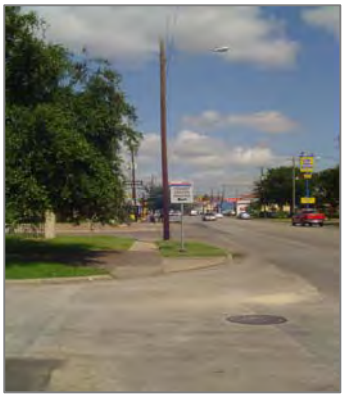


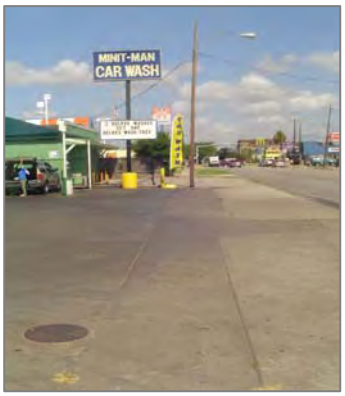


Harrisburg, 70th to SSgt Macario Garcia

Land use along this segment is commercial. Sidewalks, curbs, and ramps are in fair condition since the segment is near the bus terminal.



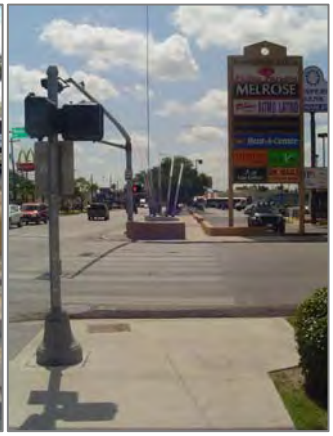




Harrisburg, SSgt Macario Garcia to Wayside

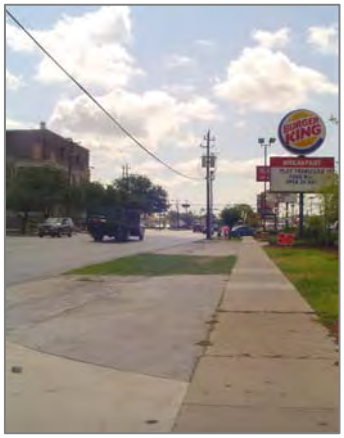
Land use along this segment is commercial. Sidewalks, curbs, and ramps are in good condition. Approximately 50 percent of the planting strip has trees and other landscaping. A waste receptacle and other pedestrian-friendly amenities are present on this segment.

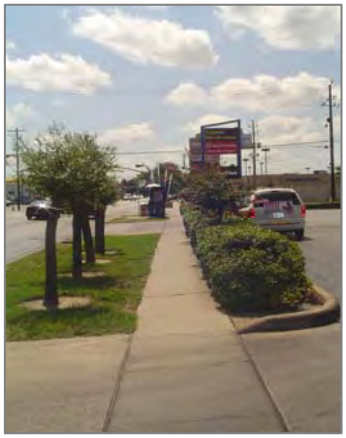




Harrisburg, Wayside to Cesar Chavez

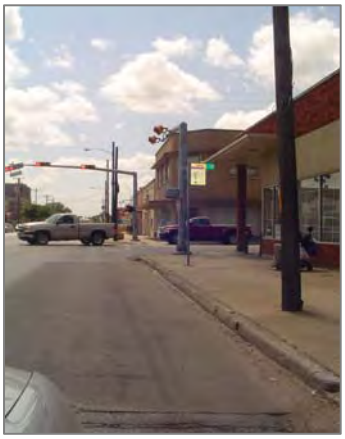
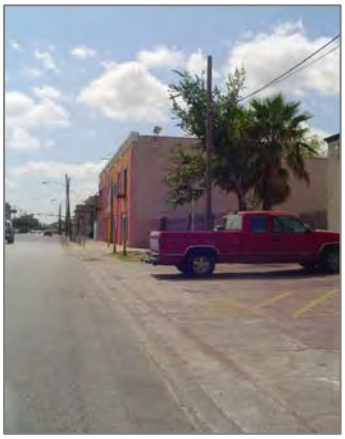
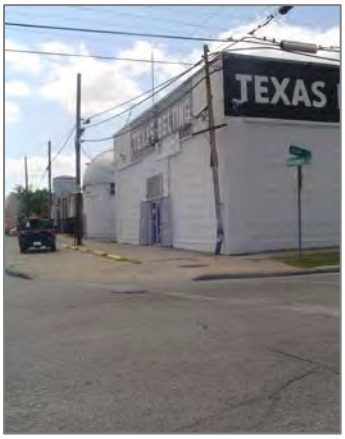
Land use on this segment is commercial. All sidewalks and approximately half of the curbs need replacing. Ramps need weeding and maintenance.





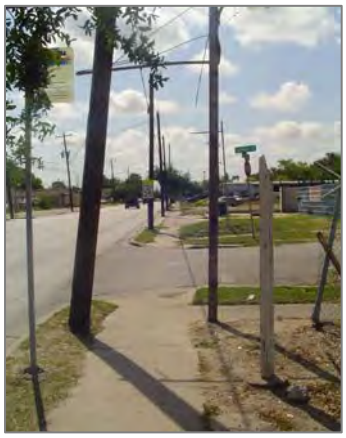
Harrisburg, Cesar Chavez to 66th

Land use on this segment is commercial. Approximately 25 percent of curbs need replacing and the sidewalks need replacing. Ramps are present along with limited space for a planting strip; however, pole obstructions may prevent installation.

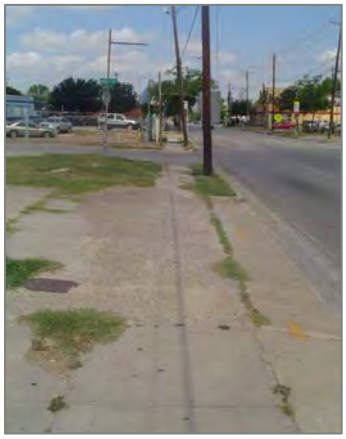
Harrisburg, Clifton to Latham

Land use on this segment is commercial. Most, if not all, of the sidewalk and most of the curbs need replacing. Ramps are in satisfactory condition. Limited space is available for a planting space. Cobra-head lights provide street lighting.



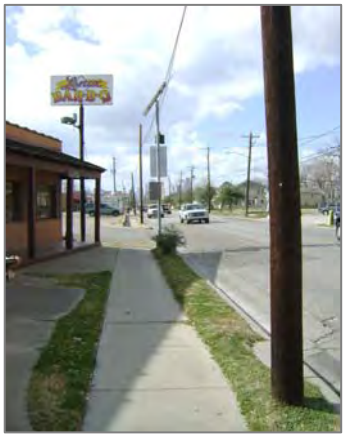
Harrisburg, Latham to Altic

Land use on this segment is commercial. The sidewalk and curbs are damaged. There are two ramps and a planting strip is present. Cobra-head lights provide street lighting.



Harrisburg, Altic to Delmar

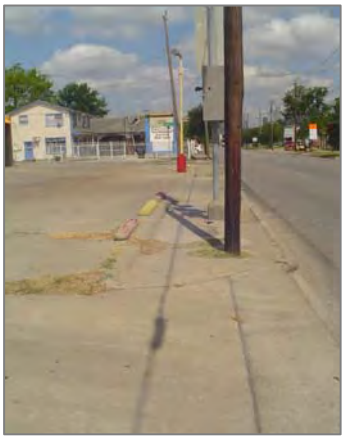
Land use on this segment is commercial. The sidewalk and curbs are damaged. Ramps are present along a narrow planting strip with 25 percent of trees present. Cobra-head lights provide street lighting.



HARRISBURG Boulevard

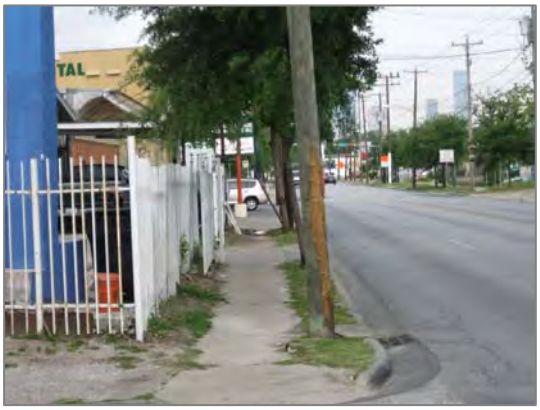
Harrisburg, Delmar to Lenox

Land uses on this segment are mixed-use with half commercial and half residential. Approximately half of the sidewalk and curbs are damaged. Ramps are present.



Harrisburg, Lenox to Edgewood

Land use on this segment is commercial. Sidewalks are inadequate. There are no ramps at the driveways. Curbs are damaged approximately 50 percent. There is a planting strip with 50 percent of trees. Pole obstructions may prevent future landscaping.

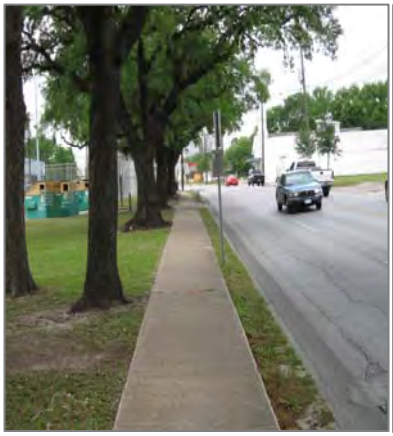
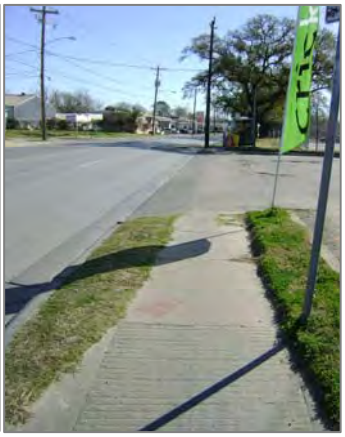
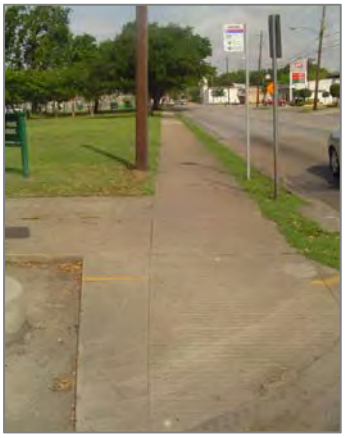


Harrisburg, Edgewood to Adams

Land use on this segment is commercial/retail. Sidewalks and curbs are damaged approximately 25 percent. There are no planting strips or cobra-head lights on this segment.

Harrisburg, Adams to Stiles

Land uses on this segment include Eastwood Park, commercial, and retail shops. Approximately 50 percent of sidewalks, ramps, and curbs are damaged and would need replacing. There is a two-foot planting strip present with trees planted close to the park. Cobra-head lights provide street lighting.

Harrisburg, Stiles to Lockwood

Land use on this segment is commercial. Approximately 50 percent of the sidewalk is damaged. Curbs are in fair condition (minimal treatment needed). There are no ramps. Obstructions will need to be addressed at the installation of sidewalks. Cobra-head lights provide street lighting.

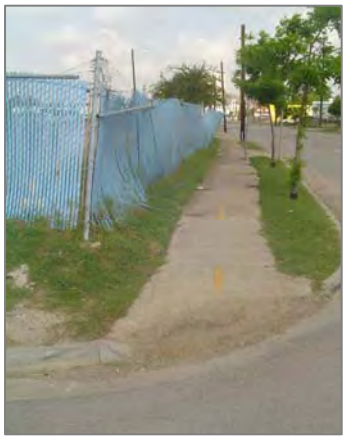
Harrisburg, Lockwood to Felix

Land use on this segment is commercial. Approximately half of the sidewalks and curbs are damaged. Ramps are in satisfactory condition with some weeding and maintenance needed.


HARRISBURG Boulevard

Harrisburg, Felix to Bob

Land uses on this segment are commercial and vacant. Sidewalks and curbs are damaged or inadequate and need replacing. Ramps are present. Cobra-head lights provide street lighting.



Harrisburg, Bob to Super

Land uses on this segment are industrial and vacant. Sidewalks are damaged and 100 percent needs replacing. There are no ramps; ramps would need to be installed when new sidewalks are installed. Approximately 50 percent of curbs are damaged.

Harrisburg, Super to Eastwood

Land use on this segment is mostly industrial. Sidewalks and curbs are inadequate and half need replacing. There are pole obstructions in the sidewalk that will need to be addressed. There is no planting strip.

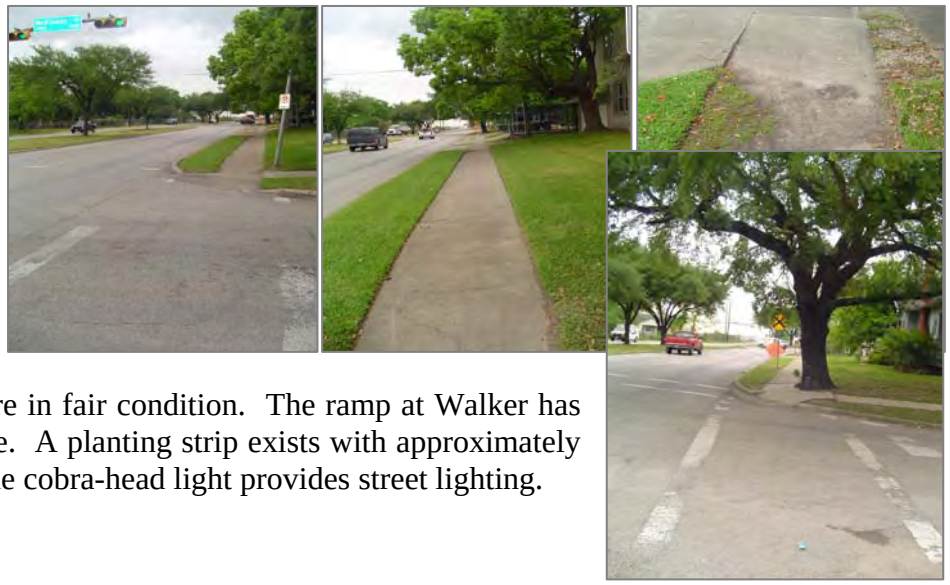
Harrisburg, Eastwood to Sidney

Land use on this segment is mostly industrial. There is a bus stop with benches and a waste receptacle. Sidewalks are inadequate and would need replacing. Curbs are in fair condition with minor repairs needed. There are no ramps.

LOCKWOOD CORRIDOR (East)

Lockwood, McKinney to Walker

Land use along this segment is residential. Approximately 50 percent of sidewalks are damaged. Existing curbs and ramps are in fair condition. There is a planting strip with 25 percent of trees. One cobra-head light provides street lighting.



Lockwood, Walker to Rusk

Land use along this segment is residential. Sidewalks and curbs are in fair condition. The ramp at Walker has been damaged by a tree. A planting strip exists with approximately 25 percent of trees. One cobra-head light provides street lighting.

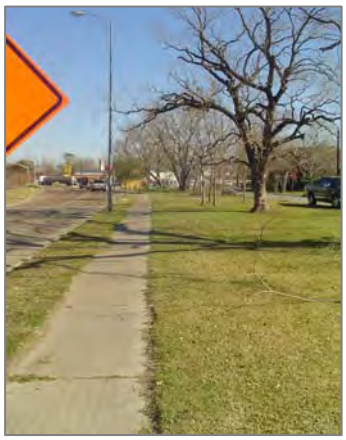
Lockwood, Rusk to Capitol

Land use along this segment is residential, with railroad tracks and a railroad crossing. Sidewalks are inadequate. Portions of the curbs are damaged. Ramps are in good condition. There is a planting strip with approximately 25 percent of trees. One cobra-head light provides street lighting.

LOCKWOOD Drive

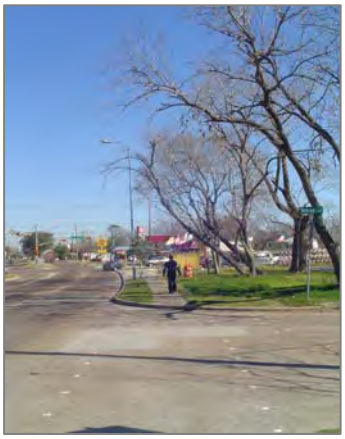
Lockwood, Capitol to Texas

Land use along this segment is residential. Approximately 25 percent of curbs are in disrepair. One ramp exists at Capitol; there is no ramp at Texas. There is limited space for a planting strip. Cobra-head lights provide street lighting. A CVS Pharmacy is under construction across the street.



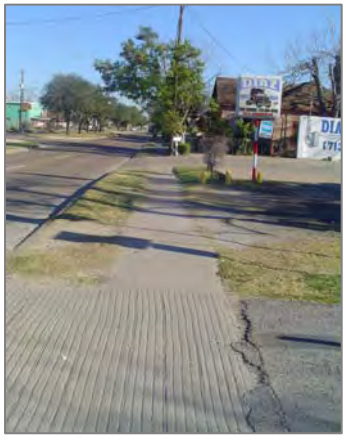
Lockwood, Texas to Harrisburg

Land uses along this segment are residential and commercial. Sidewalks are 50 percent damaged, with asphalt present. Curbs are in fair condition with 25 percent damage. There is one ramp at Harrisburg; there is no ramp at Texas. There is a planting strip with 25 percent of trees. Cobra-head lights provide street lighting.



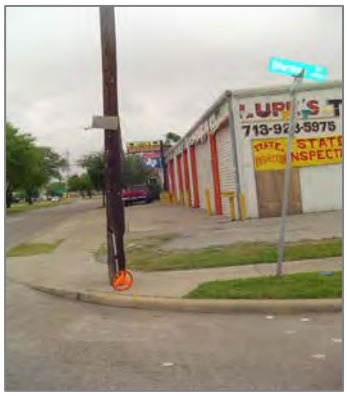
Lockwood, Harrisburg to Sherman

Land uses along this segment are commercial and residential. Sidewalks and curbs are in poor condition. No ramp is present at the walkway since the walkway is directly connected to the sidewalks. A ramp exists at Sherman; the ramp at Harrisburg is 25 percent damaged. Near the residential area, planting strips exist with approximately 25 percent of trees present.



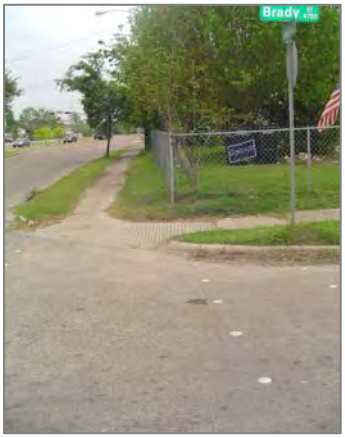
Lockwood, Sherman to Brady

Land uses along this segment are commercial and residential. Approximately 25 percent of sidewalks are damaged. Curbs and ramps are in good condition. A planting strip exists with approximately 25 percent of trees present. Three cobra-head lights provide street lighting.



Lockwood, Brady to Canal

Land uses along this segment are residential and commercial. Sidewalks and curbs are damaged. Ramps are adequate. Approximately 25 percent of trees are present in the planting strip. Cobra-head lights provide street lighting.



LOCKWOOD Drive

LOCKWOOD CORRIDOR (West)

Lockwood, McKinney to Walker

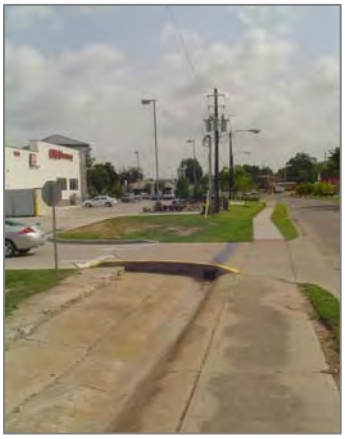
Land use on this segment is mostly residential. There is a bus stop, benches, and a waste receptacle. Curbs and sidewalks are inadequate. There are two damaged ramps. There are no trees or landscaping.

Lockwood, Walker to Rusk

Land use on this segment is residential. Sidewalks and curbs are inadequate. There are no ramps. There is a planting strip with approximately 25 percent of trees.

Lockwood, Rusk to Texas

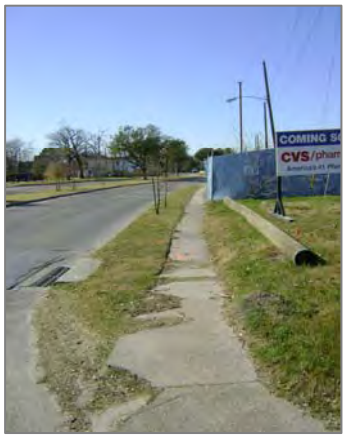
Land use on this segment is residential. There is a railroad crossing. Sidewalks and curbs are inadequate. There are no ramps. A three-foot planting strip exists with approximately 25 percent of trees.



LOCKWOOD Drive

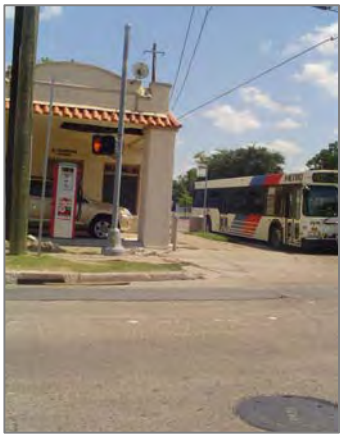
Lockwood, Texas to Harrisburg

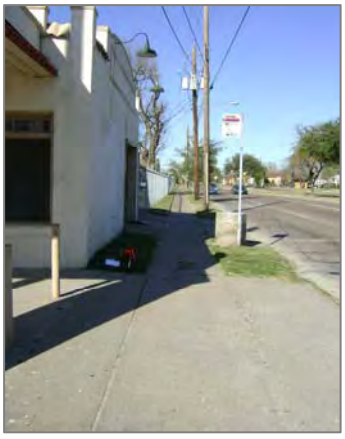
Land use on this segment is commercial. Curbs are in good condition; approximately 25 percent of curbs need replacing. There are no ramps. Limited space exists for a planting strip. Cobra-head lights provide street lighting. A CVS Pharmacy currently is under construction. After completion of this construction, another inventory would be needed.



Lockwood, Harrisburg to Sherman

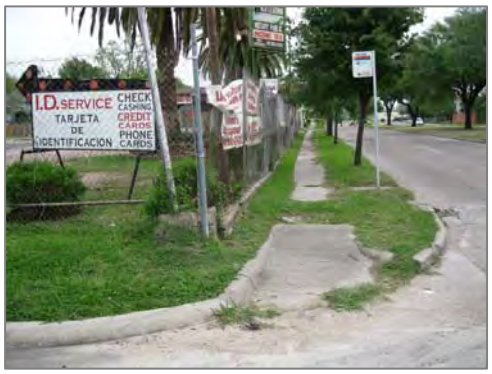
Land uses on this segment are mixed-use commercial and residential. Approximately 75 percent of sidewalks and curbs are inadequate. There are no ramps. Near the residential area, there are planting strips with approximately 25 percent of trees.





Lockwood, Sherman to Brady

Land uses on this segment are commercial, residential, and vacant. A bus stop is present; however, covered seating is nonexistent. The entire sidewalk is inadequate. Curbs need minor repairs. There is a four-foot planting strip with several trees.



Lockwood, Brady to Canal

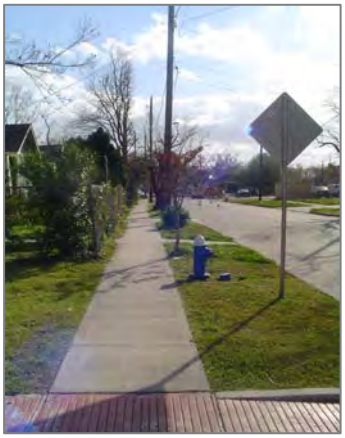
Land uses on this segment are commercial and residential. Sidewalks and curbs are inadequate and need replacing. There are no ramps. There is a planting strip with trees. Cobra-head lights provide street lighting.

ALTIC Street

ALTIC CORRIDOR (East)

Altic, Sherman to Harrisburg

Land uses along this segment are residential and commercial. Sidewalks, curbs, and ramps are in good condition. A planting strip exists with approximately 50 percent of trees present. Cobra-head lights provide street lighting.

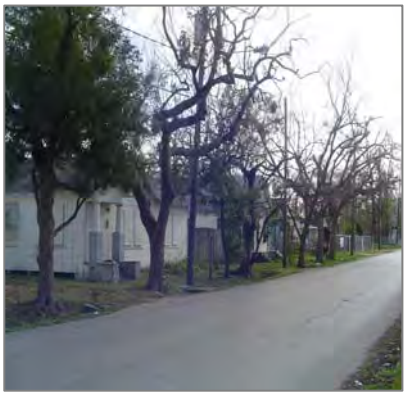


Altic, Harrisburg to Texas

Land uses along this segment are residential and commercial. No sidewalks, curbs, or ramps are present. Trees are present; however, there is limited space available for a planting strip.

Altic, Texas to Capitol

Land use along this segment is residential. There are no sidewalks, curbs, or ramps. There is limited space for a planting strip; however, trees are present on this segment.

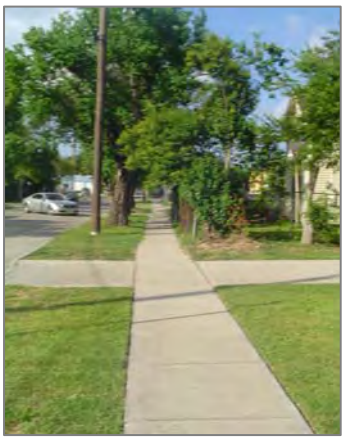


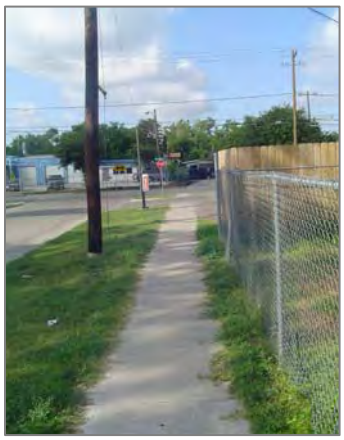
ALTIC Street

ALTIC CORRIDOR (West)

Altic, Sherman to Harrisburg

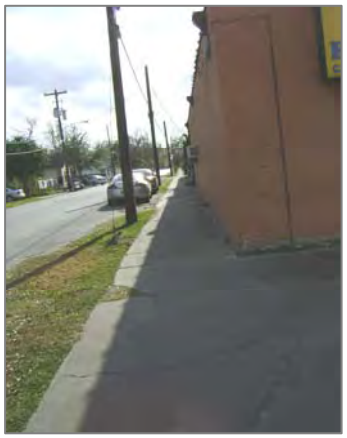
Land uses on this segment are mixed-use commercial and residential. Sidewalks, curbs, and ramps are in good condition. There is a planting strip with approximately 50 percent of trees. Cobra-head lights provide street lighting.





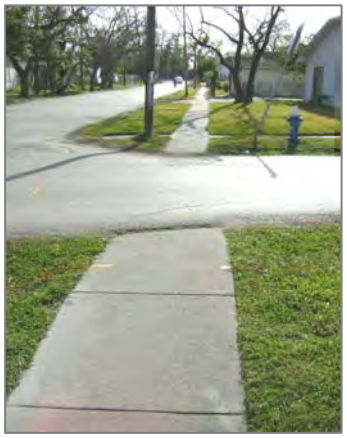
Altic, Harrisburg to Texas

Land uses on this segment are mixed-use commercial and residential. Approximately 50 percent of sidewalks need replacing. Curbs are missing in portions and would need replacing. Cobra-head lights provide street lighting.



Altic, Texas to Capitol

Land use on this segment is residential. Sidewalks are in satisfactory condition. This block lacks curbs and ADA ramps.



CESAR CHAVEZ Boulevard

CESAR CHAVEZ CORRIDOR (East)

Cesar Chavez, Sherman to Avenue C

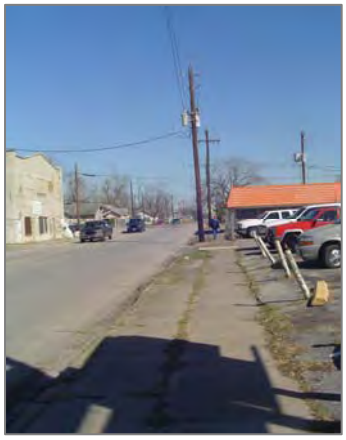
Land use along this segment is residential. Sidewalks, curbs, and ramps are in poor condition. A planting strip exists; however, trees are present on the right side of the strip. Cobra-head lights provide street lighting.

Cesar Chavez, Avenue C to B

Land use along this segment is residential. Sidewalks, curbs, and ramps are in poor condition. A planting strip exists; however, trees are present on the right side of the strip. Cobra-head lights provide street lighting.

Cesar Chavez, Avenue B to Harrisburg

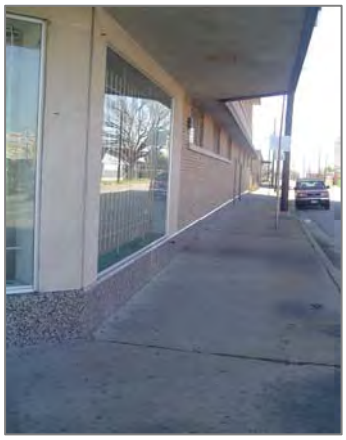
Land use along this segment is mostly commercial. Sidewalks, curbs, and ramps are barely adequate or do not exist. There is no planting strip.



CESAR CHAVEZ Boulevard

Cesar Chavez, Harrisburg to Capitol

Land use along this segment is industrial. Sidewalks and ramps are in fair condition. There is no ramp at Capitol. There is no planting strip and limited space for installation.



CESAR CHAVEZ Boulevard

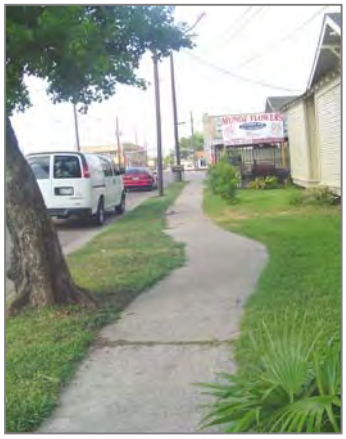
CESAR CHAVEZ CORRIDOR (West)

Cesar Chavez, Sherman to Avenue C

Land use on this segment is residential. Sidewalks and curbs are damaged. Ramps are in fair condition. Obstructions in the sidewalk will be addressed when sidewalks and curbs are installed.

Cesar Chavez, Avenue C to Avenue B

Land use on this segment is mixed-use residential and commercial (florist). Approximately 25 present of the sidewalks will require replacement. While there is a double ramp at Avenue C, there is not one near the railroad tracks. Approximately 50 percent of the planting strip contains trees with adequate space available for additional trees.



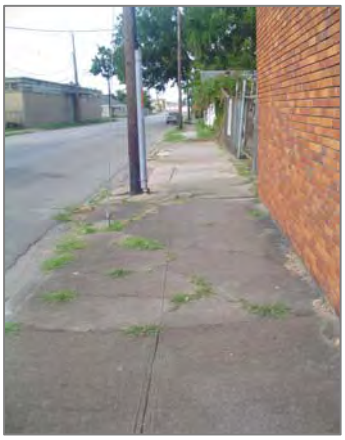
Cesar Chavez, Avenue B to Harrisburg

Land use on this segment is mostly commercial. Sidewalks and curbs are inadequate. There are no ramps and inadequate space for a planting strip. Cobra-head lights provide street lighting.

CESAR CHAVEZ Boulevard

Cesar Chavez, Harrisburg to Capitol

Land uses are mixed-use commercial near Harrisburg and residential near Capitol. Sidewalks and ramps are in fair condition. There are no ramps at the corner of Capitol. The ramp at Harrisburg lacks maintenance and probably should be replaced. This block lacks a planting strip and there is limited space to install one. Cobra-heads provide street lighting.

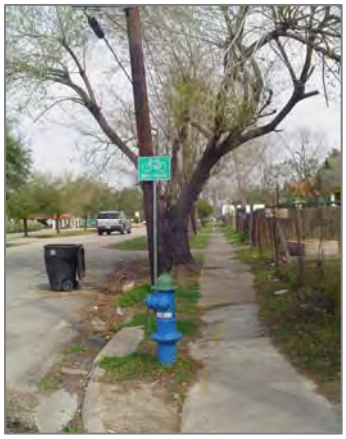


70th Street

70th CORRIDOR (East)

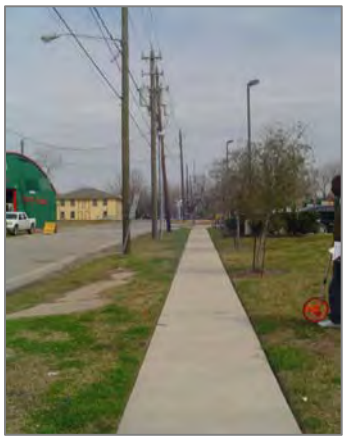
70th, Capitol to Harrisburg

Land uses along this segment are residential and vacant. A bus terminal is located across from the street. Sidewalks and curbs are damaged. There is a narrow planting strip with several trees.



70th, Harrisburg to Avenue B

Land use along this segment is mostly commercial. Sidewalks are new installations; however, curbs are non-existent. There is one ramp at Harrisburg; there is no ramp at Avenue B. There is adequate space for a planting strip. Cobra-head lights provide street lighting.

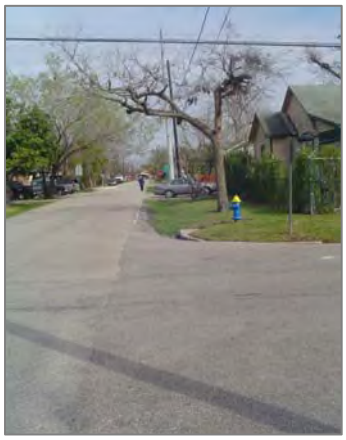


70th, Avenue B to Avenue C

Land use along this segment is residential, with a railroad track present. Sidewalks, curbs, and ramps are non-existent. There is no planting strip or adequate trees. Cobra-head lights provide street lighting.

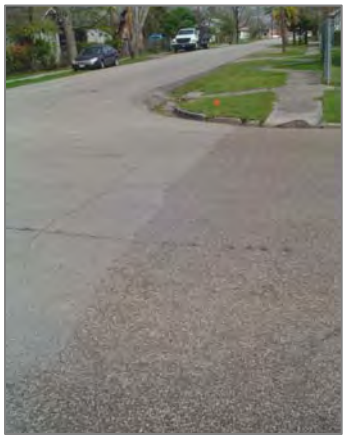
70th Street

70th, Avenue C to Sherman



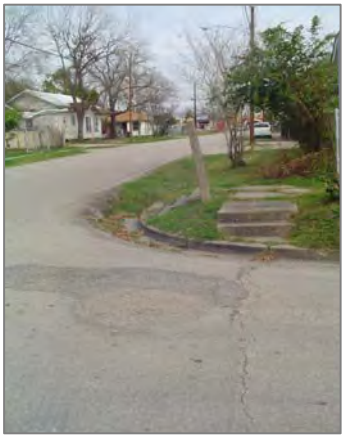
Land use along this segment is predominately residential. Sidewalks and curbs are non-existent or damaged. A bilateral ramp is present at Sherman; there is no ramp at Avenue C. There are trees along approximately 25 percent of the sidewalk. There is no planting strip.

70th, Sherman to Avenue E



Land use along this segment is residential. The sidewalk is approximately 50 percent damaged. There are no curbs. Ramps are present. There are trees along approximately 25 percent of the sidewalk. Cobra-head lights provide street lighting.

70th, Avenue E to Avenue F

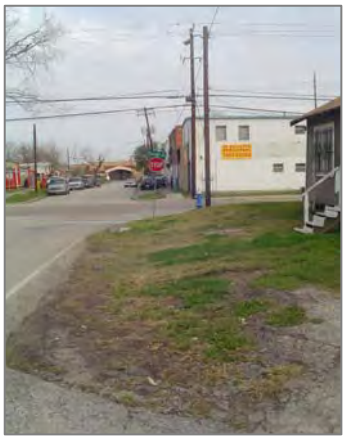


Land use along this segment is predominately residential. There are no sidewalks or curbs. There is no ramp at Avenue E; however, there are two sets of steps present at the corner. There are no trees; however, there is adequate room for a planting strip.

70th Street

70th, Avenue F to Canal

Land use along this segment is mostly residential. Sidewalks and curbs are non-existent. Existing ramps are in good condition. Space is available for a planting strip; however, there are no trees. Cobra-head lights provide street lighting.

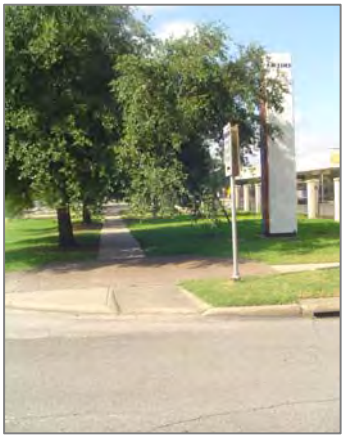


70th Street

70th CORRIDOR (West)

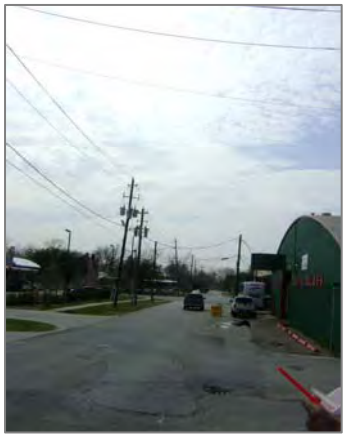
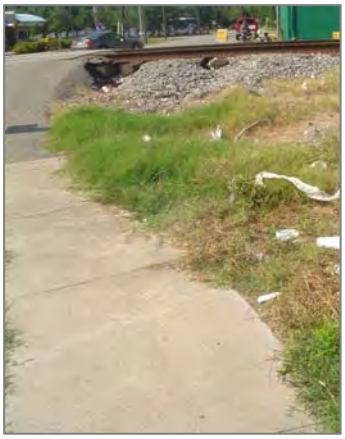
70th, Capitol to Harrisburg

Land uses on this segment is mixed-use residential and commercial with the METRO bus terminal being the primary commercial use. Sidewalks and ramps are in decent condition. There is no planting strip or trees.


70th, Harrisburg to Avenue B

Land use along this segment is mostly commercial. Sidewalks are new installations. There are no curbs on this segment. One ramp is present at Harrisburg. There is no ramp at Avenue B. There is no planting strip; however, there is adequate space available. Cobra-head lights provide street lighting.

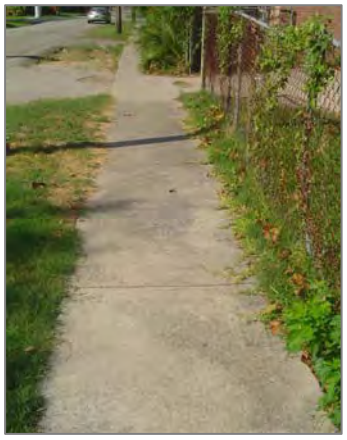

70th Street

70th, Avenue C to Sherman

Land use on this segment is mostly residential. There are no curbs. Sidewalks are inadequate. Double ramps are present at the corner of Sherman. There is no ramp Avenue C. Trees are present along approximately 25 percent of the sidewalk.

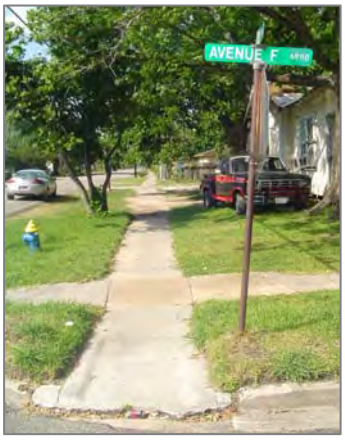
70th, Sherman to Avenue E

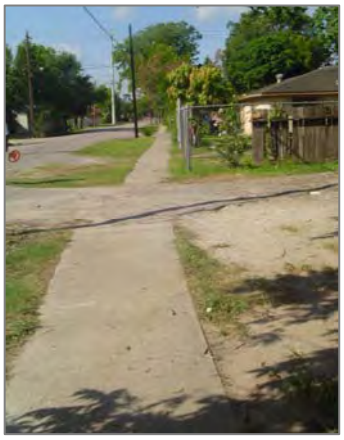
Land use on this segment is residential. Sidewalks are inadequate. There are no curbs. Ramps are in fair condition. Cobra-head lights provide street lighting.



70th Avenue E to Avenue F

Land use on this segment is mostly residential. Sidewalks and curbs are inadequate. There is a planting strip with approximately 25 percent of trees. Ramps are in fair condition; however, these will be replaced when new sidewalks and curbs are installed.





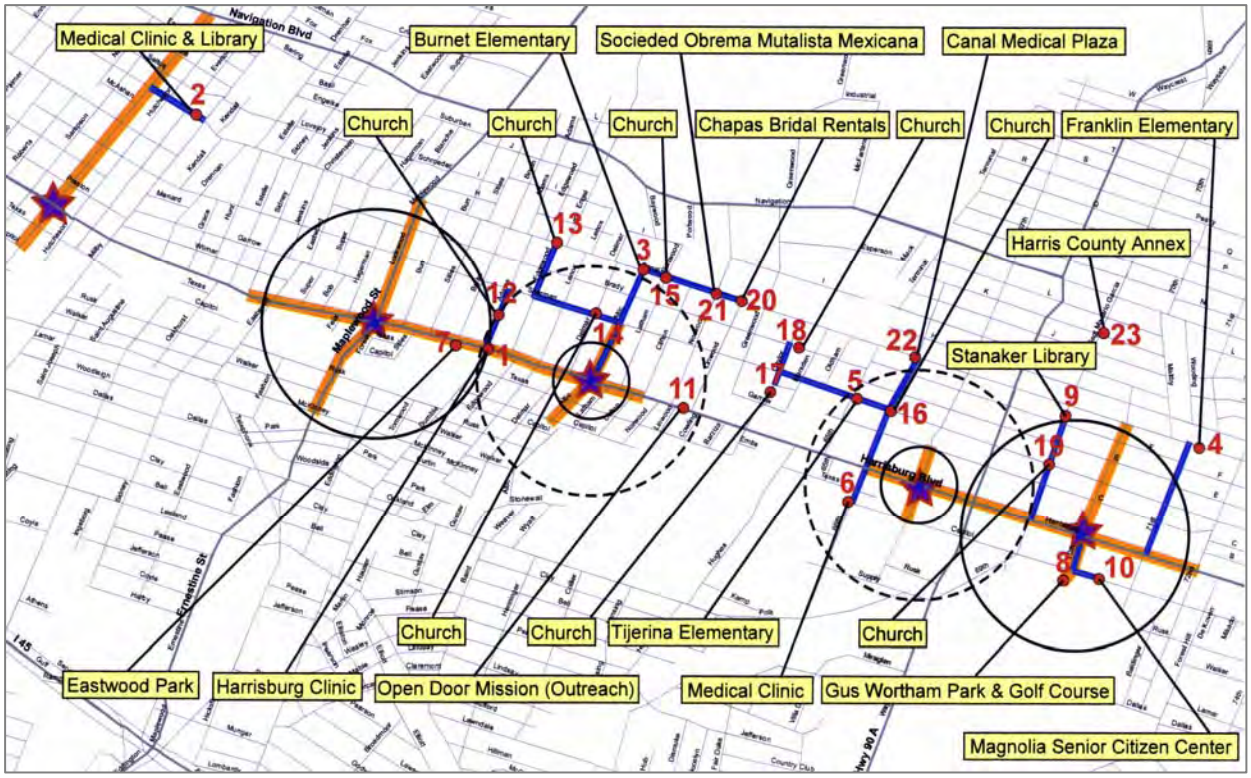
70th Avenue F to Canal

Land uses on this segment are residential and vacant properties. Near Canal, the sidewalks and driveways are damaged. Near the housing units, sidewalks are in good condition. Curbs are inadequate along entire segment. There is a planting strip with trees. Cobra-head lights provide street lighting.

Special Destinations

There are 23 special destinations within walking distance of the Harrisburg LRT corridor. These special destinations include churches, schools, medical facilities, library, parks, and senior center. Pedestrian improvements are required to bring the related streets, those that connect the special destinations to the improved corridors, up to standard to provide safe, convenient access to the special destinations. *Figure 4.1* presents the locations of these special destinations and the streets recommended for treatment. The stars represent transit stops. Costs for these improvements are presented in *Table 4.4*.

Figure 4.1 – Special Destinations



Advisory Committee/Public Preferences

The Livable Centers project included a significant public outreach program focused on a wide variety of issues, such as crime, context-sensitive solutions, revitalization, and traffic-calming methods. An evaluation was included of the different design treatments for the Livable Centers corridors: Navigation, Canal, Sampson, and York. The Harrisburg LRT corridors project did not include a similar public outreach component. A public outreach program is anticipated during the design phase of the Harrisburg LRT corridors. The results presented next are from the Livable Centers effort.

As part of the Livable Centers project, Advisory Committee members and the public were shown a set of conceptual renderings and photos representative of various types of streetscape treatments that could be applied in the East End. These renderings depicted various elements of the pedestrian realm, including sidewalk size and construction, pedestrian-oriented lighting, landscaping, street furniture, crosswalks, and other elements. Participants then were asked which renderings they liked and which they did not like and to so indicate by placing green and red dots on the photos. Photos were grouped by corridor, with individual sets of photos for Navigation, Canal, and the one-way pair of Sampson and York. The following figures are the same photos that were used to gather input as to preferences, along with the reasons given for the rankings as revealed by the Advisory Committee members. When the exercise was conducted at the Public Open House on February 4, 2009, the results were extremely similar in terms of the design elements that were preferred and those that were not.

NAVIGATION BOULEVARD

***Figure 4.2 – Concept 1 for Navigation** (Cooper Carry Design in Fort Worth, Texas)*

The concept in *Figure 4.2* was well liked by the committee members, receiving a total of 10 green dots. It was stated that it looks welcoming, creates a sense of community, and looks like a gathering place. The sidewalk pavers were well-received, although one committee member noted that the pavers could become a trip hazard. It was noted that the particular type of low, dense hedges shown in the rendering have a tendency to trap trash and require a significant amount of maintenance. One member noted that it would be nice to have a tree close to the bench to provide shade.

Figure 4.3 – Concept 2 for Navigation

The concept in *Figure 4.3* received 7 green dots. Committee members stated they liked the overall greenery, and the curved lines of the landscaping and the sidewalk make the streetscape more aesthetically pleasing than a straight sidewalk.

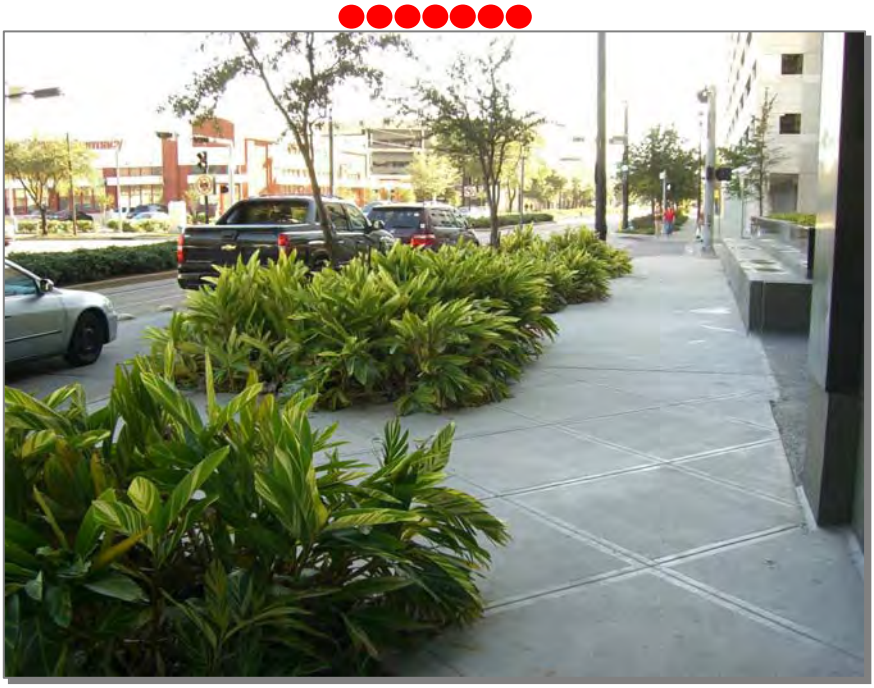


Figure 4.4 – Concept 3 for Navigation

Committee members commented that the landscaping in the photo in *Figure 4.4* looks like it would get in the way of pedestrian mobility, and like it might be high maintenance. Therefore, it received 7 red dots.

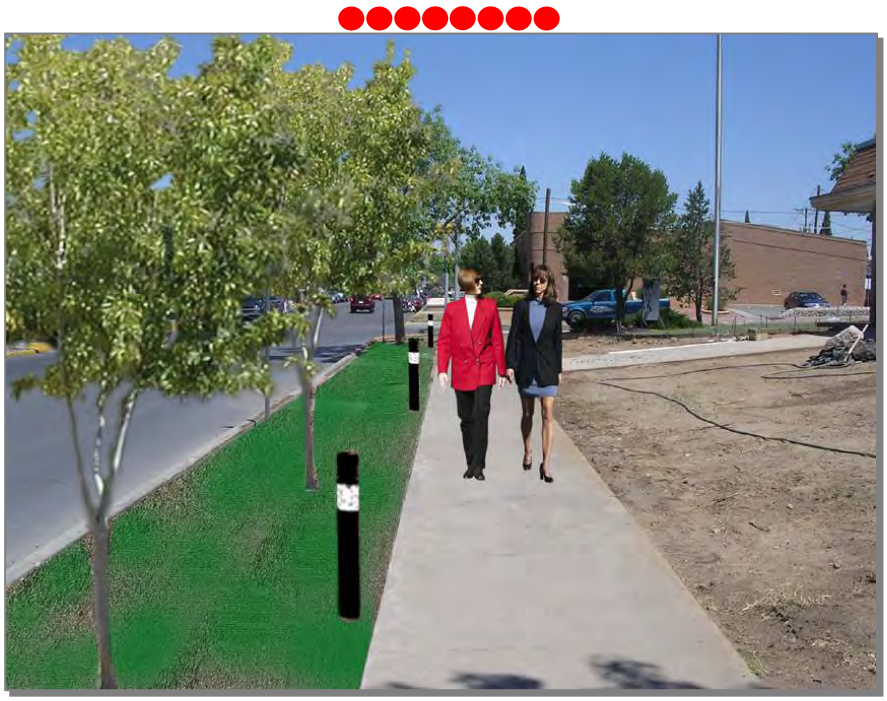
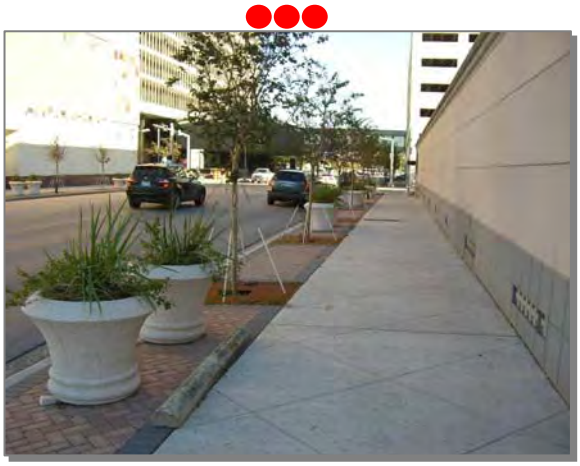


Figure 4.5 – Concept 4 for Navigation

The concept in *Figure 4.5* was not well-received. One committee member commented that it looked too "Uptown" (apparently in reference to the lighted bollards) and, as such, did not look like it would "fit" in the East End. Committee members gave it 8 red dots.

Other photos and renderings for Navigation Boulevard were presented and ranked; however, specific discussions about them did not occur, as presented below.



Navigation - Received 3 Red Dots

Navigation - Received 3 Red Dots

Navigation - Received 2 Green Dots

Navigation - Received 4 Green Dots

CANAL STREET

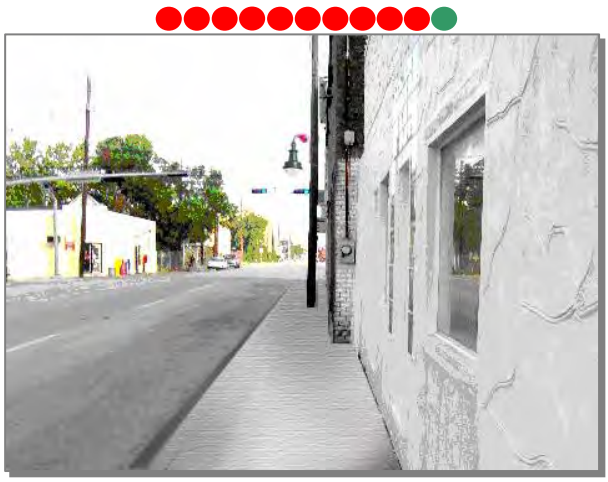
Figure 4.6 - Concept 1 for Canal

Figure 4.7 – Concept 2 for Canal

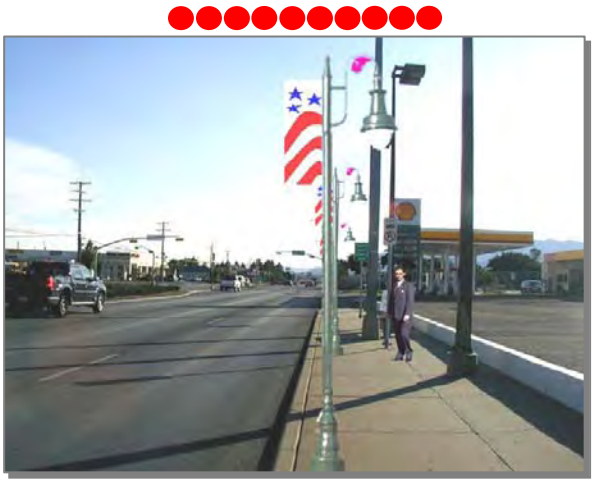
In the concepts in *Figures 4.5 and 4.6*, committee members appreciated the wide sidewalks, pedestrian-oriented lighting, trees, and planting strip. *Figure 4.6* received 8 green dots and 1 red dot, while *Figure 4.7* received 12 green dots.

Other photos and renderings for Canal were presented and ranked; however, specific discussions about them did not occur, as presented below.

Canal – Received 2 Green Dots



Canal – Received 10 Red Dots, 1 Green Dot



Canal – Received 10 Red Dots

SAMPSON/YORK STREETS

***Figure 4.8 – Concept 1 for Sampson/York** (Clark Condon design in Austin, Texas)*

Regarding the concept in *Figure 4.8*, committee members liked the wide sidewalks, planting strip, and, particularly, the wide, well-marked crosswalks. The rendering received 12 green dots.

Other photos and renderings for Sampson/York were presented and ranked; however, specific discussions about them did not occur, as presented below.

Sampson/York – Received 10 Green Dots

Sampson/York – Received 11 Red Dots, 2 Green Dots

Sampson/York – Received 9 Red Dots

Design Guidelines

After a comprehensive examination of comments from the Advisory Committee and the public, a set of design guidelines emerged that can serve to direct the choice of streetscape treatments for the East End in general and would therefore apply to the Livable Centers corridors and Harrisburg LRT corridors. The expressed priorities included the following:

- Landscaping that is low maintenance
- Inviting gathering places
- Wide sidewalks
- Brick pavers
- Pedestrian-oriented lighting
- Benches, other street furniture (e.g., clock)
- Greenery (e.g., planting strips, trees)
- Sidewalk bulb-outs
- Appropriateness to East End
- Sense of community

Having received feedback in this meeting from the Advisory Committee, and the larger community via the public meetings, a design program can be created that is in keeping with the preferences of the East End residents. Other considerations, including maintenance and placement of trees, are discussed next.

- ***Maintenance.*** Maintenance of each enhanced corridor will be the key to its sustained beauty and resilience. In particular, trees and vegetation must be maintained. The community has voiced considerable interest in implementing measures that require low maintenance. Therefore, it is important to consider the following factors.
    - Trees recommended for the corridors should require little maintenance.
    - It must be noted that all landscape will require irrigation.
    - A maintenance agreement is in place between the Greater East End Management District and the City of Houston that defines the roles and responsibilities of each in maintaining the streetscape and the landscape treatments recommended in the plan.
    - An *Adopt-A-Block* initiative could serve to preserve each corridor's appearance and generate lasting community pride and participation in keeping the corridors well maintained.
- ***Placement of Trees in Corridors***. The use of different species of trees in each corridor should be considered to match their surroundings. The trees along the residential streets should reflect those that might be found in a neighborhood. The trees in the mixed-use/commercial corridors should be selected to minimize impacts on identifying businesses and to be placed in areas both under utility wires and in areas with no overhead wires. Adding trees in areas with overhead wires, utility poles, and other detracting objects would make these items less noticeable. The addition of trees will

beautify the corridors, calm traffic, and promote the corridors as pedestrian-friendly environments. This pedestrian-friendly design approach is defined in ITE's *Context Sensitive Design* literature.

- ***Lighting.*** The use of solar lighting is recommended with spacing no closer than 20 feet and no farther apart than 40 feet, averaging 30 feet on center. Solar lighting will reduce costs for power and maintenance charges by Center Point Energy. The design of the selected fixtures should match the characteristics of the corridors in which they will be placed.
- ***Wayfinding Signage.*** A successful wayfinding design serves several purposes. It includes enhanced safety by identifying upcoming major streets in advance of the intersection, therefore, allowing extra time for changing lanes and being warned that you may need to stop ahead. This is particularly important at the intersection of Navigation and Jensen. Police interviews revealed the need for a major traffic study to improve pedestrian and vehicle safety at this intersection. A successful wayfinding design can incorporate design elements that call attention to the districts or adjacent neighborhoods that abut the corridors. It can be used to highlight and inform observers of significant historical/cultural sites within a particular district. A good wayfinding design can draw energy from important places close to the corridors. Pointing out major institutions, for example, makes them easier to find and engenders pride in the residents, business owners, and customers that regularly use the corridor.

Recommended Livable Centers Treatments, Costs, and Revised Scores

The recommended Livable Centers corridor treatments for each block face are those that will bring the score from its current result, based on existing conditions, to an improved score of zero across all inventoried items. To accomplish this, the inventoried items have been reformatted into a form useful for itemized construction cost estimating *(Table 4.2)*. The construction costs associated with improving each item that needed treatment to raise it from its existing condition (score) to its recommended condition (score) are then computed. *Table 4.2* presents this process as it moves from the existing condition score to the amount of construction needed (either the number of square feet for sidewalk or cost per tree) multiplied by the unit construction cost to the revised score that will exist after construction. *Table 4.2* uses the north side of Canal between St. Charles and Live Oak (used as a previous example).

Table 4.2 – Example Recommended Treatments, Cost, and Revised Score

Canal	***Score***	***Qty.***	***Unit***	***Unit Cost***	***Cost***	***Revised Score***
Canal, north side of street, between St. Charles and Live Oak						
Land Use	Commercial					
Sidewalks (width)	2					0
Demolition		2,304	SF	$5	$11,520	
Installation		2,304	SF	$12	$27,648	
Driveways (depth)	1					0
Demolition		0	SF	$3	$0	
Installation		0	SF	$9	$0	
Curbs	1					0
Demolition		264	LF	$4	$1,056	
Installation		264	LF	$14	$3,696	
Ramps	2					0
Demolition		2	EA	$100	$200	
Installation		2	EA	$1,500	$3,000	
Striping	1		Budget	$3,000	$3,000	
Lighting (spacing)	2	8	EA	$3,000	$24,000	0
Landscaping	2					0
Trees (spacing)		8	EA	$400	$3,200	
Curb-to-sidewalk treatment		0	SF	$9	$0	
Irrigation/Tree		8	EA	$100	$800	
Street Amenities	2					0
Seating		1	EA	$2,000	$2,000	
Bike Racks		1	EA	$1,000	$1,000	
Waste Receptacles		1	EA	$1,500	$1,500	
Bus Shelters			EA	$6,000	$0.00	
Total	**13**				**$82,620**	**0**

The same process was applied to each block face along each corridor inventoried in the project area. The resulting analysis is included in *Appendix C*. The following tables present a summary of the existing score, construction costs, and revised scores for each block face analyzed.

Livable Centers Corridors……

Navigation North Side	*Existing Score*	*Cost*	*Revised Score*
St. Charles to Live Oak	11	$50,248	0
Live Oak to Nagle	11	$61,730	0
Nagle to Delano	12	$59,529	0
Delano to Paige	11	$47,140	0
Paige to Ennis	10	$69,630	0
Ennis to Palmer	13	$55,706	0
Palmer to Nolan @ RR tracks	12	$84,500	0
RR Tracks to Sampson	13	$140,396	0
Sampson to York plus 500 feet	13	$141,757	0
Total		**$710,636**	

Navigation South Side	*Existing Score*	*Cost*	*Revised Score*
St. Charles to Live Oak	11	$69,208	0
Live Oak to Nagle	11	$71,550	0
Nagle to Delano	13	$56,739	0
Delano to Paige	12	$67,793	0
Paige to Ennis	13	$69,732	0
Ennis to Palmer	11	$54,590	0
Palmer to Nolan @ RR tracks	10	$104,656	0
RR Tracks to Sampson	12	$161,811	0
Sampson to York plus 500 feet	12	$152,617	0
Total		**$808,696**	

Canal North Side	*Existing Score*	*Cost*	*Revised Score*
Navigation to McAlpine	10	$134,120	0
McAlpine to St. Charles	10	$74,542	0
St. Charles to Live Oak	13	$82,620	0
N. Live Oak to N. Delano	9	$118,704	2
Delano to Ennis	11	$166,950	0
Ennis to Palmer	11	$60,660	2
Palmer to RR	12	$103,616	2
RR to Nolan	12	$59,628	4
Nolan to Sampson	13	$51,762	0
Sampson to York	12	$67,980	2
York plus 500 feet	12	$103,300	2
Total		**$1,023,882**	

Canal South Side	*Existing Score*	*Cost*	*Revised Score*
Navigation to McAlpine	10	$142,020	0
McAlpine to St. Charles	10	$66,678	0
St. Charles to Live Oak	11	$78,652	0
Live Oak to Delano	10	$135,224	2
Delano to Ennis	13	$101,788	4
Ennis to Palmer	11	$68,992	0
Palmer to RR	11	$58,540	2
RR to Nolan	12	$54,628	4
Nolan to Sampson	13	$43,862	0
Sampson to York	12	$75,700	0
York plus 500 feet	12	$131,400	0
Total		**$957,484**	

Sampson East Side	*Existing Score*	*Cost*	*Revised Score*
Navigation to Engelke	14	$97,448	0
Engelke to Runnels	11	$66,215	2
Runnels to Saltus	13	$80,131	2
Saltus to Canal	12	$75,301	2
Canal to McAshan	14	$69,425	2
McAshan to Commerce	14	$95,488	2
Commerce to Sherman	13	$91,471	2
Sherman to Garrow	14	$92,821	2
Garrow to Preston	14	$97,515	2
Preston to Harrisburg	13	$91,920	2
Total		**$857,735**	

Sampson West Side	*Existing Score*	*Cost*	*Revised Score*
Navigation to Engelke	14	$92,851	0
Engelke to Runnels	10	$53,768	2
Runnels to Saltus	13	$75,325	2
Saltus to Canal	12	$72,370	2
Canal to McAshan	13	$60,760	2
McAshan to Commerce	14	$93,075	2
Commerce to Sherman	12	$84,796	2
Sherman to Garrow	13	$90,348	2
Garrow to Preston	14	$92,395	2
Preston to Harrisburg	13	$84,900	2
Total		**$800,588**	

York East Side	*Existing Score*	*Cost*	*Revised Score*
East of Harrisburg to Preston	13	$87,405	2
Preston to Garrow	13	$88,990	2
Garrow to Sherman	13	$92,275	2
Sherman to Commerce	13	$96,522	2
Commerce to McAshan	13	$87,345	2
McAshan to Canal	13	$87,345	2
Canal to Saltus	13	$76,425	2
Saltus to Runnels	13	$77,310	2
Runnels to Engelke	14	$69,573	2
Engelke to Navigation	13	$97,833	2
Navigation to Hutcheson	11	$132,200	0
Hutcheson to Freund	11	$108,375	0
Freund to Ball	13	$72,408	2
Ball to RR	13	$69,450	0
RR to Lemke (@ Tony Marron Park)	11	$78,630	0
Total		**$1,322,086**	

York West Side	*Existing Score*	*Cost*	*Revised Score*
East of Harrisburg to Preston	13	$85,510	2
Preston to Garrow	13	$72,340	2
Garrow to Sherman	13	$89,195	2
Sherman to Commerce	13	$92,311	2
Commerce to McAshan	13	$87,345	2
McAshan to Canal	13	$87,345	
Canal to Saltus	13	$73,765	2
Saltus to Runnels	12	$74,860	2
Runnels to Engelke	13	$71,500	2
Engelke to Navigation	13	$96,272	2
Navigation to Hutcheson	13	$123,050	0
Hutcheson to Freund	13	$106,145	0
Freund to Ball	12	$69,509	0
Ball to RR	12	$70,440	0
RR to Lemke (@ Tony Marron Park)	11	$69,270	0
Total		**$1,268,857**	

		Side Streets Serving Transit									
	Block Length	Existing Score	Existing PLOS	Cost/LF	Total cost	Revised PLOS	Existing Score	Existing PLOS	Cost/LF	Total cost	Revised PLOS
		East Side					West Side				
Canal											
Franklin-Comm to Canal	500	6	C	n/a	n/a	C	10	E	200	$100,000	C
Navig - Canal to Jensen	500	12	E	$200	$100,000	C	8	D	150	$75,000	C
St Charles-Canal to Comm.	500	8	D	$150	$75,000	C	11	E	200	$100,000	C
St. Charles-Canal to Navig.	425	13	F	$250	$106,250	C	13	F	250	$106,250	C
Delano-Canal to Comm.	500	12	E	$200	$100,000	C	9	D	150	$75,000	C
Delano-Canal to Navig.	450	12	E	$200	$90,000	C	12	E	200	$90,000	C
Paige- Canal to Navig.	450	7	D	$150	$67,500	C	8	D	150	$67,500	C
Palmer-Canal to Comm.	520	6	C			C	8	D	150	$78,000	C
Palmer-Canal to Navig.	450	13	F	$250	$112,500	C	13	F	250	$112,500	C
Navigation		East					West				
St. Chas.-Navig. to Engelke	220	6	C	n/a	n/a	C	14	F	250	$55,000	C
Live Oak - Navig to Engelke	220	14	F	$250	$55,000	C	14	F	250	$55,000	C
Delano-Navig to Engelke	220	16	F	$250	$55,000	C	10	E	200	$44,000	C
Ennis -Navig. to Engelke	220	14	F	$250	$55,000	C	14	F	250	$55,000	C
Palmer-Navig to Engelke	220	6	C			C	8	D	150	$33,000	C
Nagle - Navig. to Bering	460	14	F	$250	$115,000	C	14	F	250	$115,000	C
Engelke		North					South				
Ann -Jensen to St. Chas.	440	16	F	$250	$110,000	C	16	F	250	$110,000	C
Engelke-St. Chas to Delano	800	16	F	$250	$200,000	C	16	F	250	$200,000	C
Engelke-Delano to Paige	600	16	F	$250	$150,000	C	16	F	250	$150,000	C
Engelke-Paige to Palmer	250	16	F	$250	$62,500	C	16	F	250	$62,500	C
Engelke-Palmer to Navig.	400	16	F	$250	$100,000	C	16	F	250	$100,000	C
Clinton		East					West				
Meadow- Clinton to Baron	430	5	C	n/a	n/a	C	5	C	n/a	n/a	C
Bayou- Clinton to Baron	430	6	C	n/a	n/a	C	6	C	n/a	n/a	C
Gregg- Baron to Cline	200	14	F	$250	$50,000	C	6	C	n/a	n/a	C
Gregg - Cline to Clinton	430	4	C	n/a	n/a	C	4	C	n/a	n/a	C
Bringhurst- Clinton to Baron	430	14	F	$250	$107,500	C	14	F	250	$107,500	C
Bringhurst - Baron to Cline	200	14	F	$250	$50,000	C	14	F	250	$50,000	C
Bringhurst - Clinton to Dead End	200	14	F	$250	$50,000	C	14	F	250	$50,000	C
Hirsch- Clinton to Cline	450	11	E	$200	$90,000	C	11	E	200	$90,000	C
Hirsch- Clinton to Dunn	500	12	E	$200	$100,000	C	12	E	200	$100,000	C
York/Sampson		North			South						
Sherman - York to Sampson	290	16	F	$250	$72,500	C	16	F	250	$72,500	C
Garrow - Sampson to York	290	14	F	$250	$72,500	C	14	F	250	$72,500	C
Preston - York to Sampson	290	14	F	$250	$72,500	C	14	F	250	$72,500	C
Total	**12,485**				**$2,218,750**					**$2,398,750**	

Harrisburg LRT Corridors……

70th East Side	*Existing Score*	*Cost*	*Revised Score*
Capitol (dead end included) to Harrisburg	12	$164,579	0
Harrisburg to Avenue B	10	$61,492	2
Avenue B to Avenue C	13	$80,212	0
Avenue C to Sherman	13	$90,929	0
Sherman to Avenue E	10	$92,820	0
Avenue E to Avenue F	14	$85,735	0
Avenue F to Canal	12	$84,482	0
Total		**$660,249**	

Cesar Chavez East Side	*Existing Score*	*Cost*	*Revised Score*
Capitol to Harrisburg	12	$97,626	2
Harrisburg to Avenue C	14	$160,611	2
Total		**$258,237**	

Altic East Side	*Existing Score*	*Cost*	*Revised Score*
"the walkway" to cross street Sherman	5	$55,927	0
"the walkway" to cross street Harrisburg	6	$66,822	0
Harrisburg to Texas	13	$63,008	2
Texas to Capitol	14	$73,844	2
Total		**$259,601**	

Lockwood East Side	*Existing Score*	*Cost*	*Revised Score*
McKinney to Capitol	8	$183,457	1
Capitol to Texas	8	$79,200	1
Texas to Harrisburg	10	$64,550	1
Harrisburg to “the walkway”	13	$123,705	2
"the walkway" to Sherman	10	$139,599	1
Sherman to Canal	10	$169,050	1
Total		**$759,560**	

Harrisburg North Side	*Existing Score*	*Cost*	*Revised Score*
72nd to 71st	9	$205,240	0
71st to 70th	9	$251,551	0
70th to SSgt Macario Garcia	12	$199,272	0
SSgt Macario Garcia to Wayside	12	$177,880	0
Wayside to Cesar Chavez	13	$206,373	0
Cesar Chavez to 66th	12	$176,695	0
Clifton to Latham	11	$62,638	2
Latham to Altic	10	$96,149	0
Altic to Delmar	9	$95,920	0
Delmar to Lenox	9	$203,002	0
Lenox to Adams	11	$235,735	0
Adams to Bryan	12	$96,351	0
Bryan to Stiles	14	$105,579	0
Stiles to Burr	14	$76,705	0
Burr to Lockwood	14	$59,968	2
Lockwood to Hagerman	11	$63,139	1
Hagerman to Bob	11	$86,630	2
Bob to Eastwood	11	$125,463	2
Eastwood to Sydney	11	$84,090	2
Total		**$2,608,378**	

70th West Side	*Existing Score*	*Cost*	*Revised Score*
Capitol (dead end included) to Harrisburg	12	$164,579	0
Harrisburg to Avenue B	10	$61,492	2
Avenue B to Avenue C	13	$80,212	0
Avenue C to Sherman	13	$90,929	0
Sherman to Avenue E	10	$92,820	0
Avenue E to Avenue F	14	$85,735	0
Avenue F to Canal	12	$84,482	0
Total		**$660,249**	

Cesar Chavez West Side	*Existing Score*	*Cost*	*Revised Score*
Capitol to Harrisburg	12	$88,787	2
Harrisburg to Avenue C	14	$172,466	0
Total		**$261,253**	

Altic West Side	*Existing Score*	*Cost*	*Revised Score*
"the walkway" to cross street Sherman	5	$47,080	0
"the walkway" to cross street Harrisburg	6	$56,006	0
Harrisburg to Texas	13	$69,453	0
Texas to Capitol	13	$75,696	0
Total		**$248,235**	

Lockwood West Side	***Existing Score***	***Cost***	***Revised Score***
McKinney to Capitol	8	$180,858	1
Capitol to Texas	8	$79,200	1
Texas to Harrisburg	10	$65,300	1
Harrisburg to "the walkway"	13	$123,705	2
"the walkway" to Sherman	10	$139,599	1
Sherman to Canal	10	$168,247	1
Total		**$756,908**	

Harrisburg South Side	***Existing Score***	***Cost***	***Revised Score***
72nd to 71st	9	$195,591	0
71st to 70th	9	$237,683	0
70th to SSgt Macario Garcia	12	$183,923	0
SSgt Macario Garcia to Wayside	12	$161,942	0
Wayside to Cesar Chavez	11	$198,886	0
Cesar Chavez to 66th	10	$161,251	1
Clifton to Latham	12	$61,628	2
Latham to Altic	12	$111,321	0
Altic to Delmar	9	$104,283	0
Delmar to Lenox	9	$139,854	0
Lenox to Adams	11	$147,100	0
Adams to Bryan	10	$93,310	0
Bryan to Stiles	14	$93,034	0
Stiles to Burr	12	$65,040	1
Burr to Lockwood	13	$54,952	2
Lockwood to Hagerman	10	$74,252	1
Hagerman to Bob	10	$85,700	2
Bob to Eastwood	10	$107,015	2
Eastwood to Sydney	10	$92,290	2
Total		**$2,369,052**	

Cost Summary

Table 4.2 presents the cost summary for the Livable Centers pedestrian/transit access improvements for the streets analyzed above *(also see Chapter 8)*.

Table 4.3 – Livable Centers Pedestrian/Transit Access Improvements Cost Summary		
Corridor/Area	***Base Cost***	***Total Cost****
Navigation	$1,519,332	$1,975,132
Canal	$1,981,366	$2,575,776
Sampson	$1,658,323	$2,182,338
York	$2,590,943	$3,368,226
Side Streets	$4,617,500	$6,002,750
Other Treatments	$800,000	$1,040,000
Total	**$13,167,464**	**$17,144,222**
***** Includes contingencies, standard soft costs, and fees.		

Table 4.4 – Harrisburg LRT Pedestrian/Transit Access Improvements Cost Summary		
Corridor/Area	***Base Cost***	***Total Cost****
70th Street	$1,320,498	$1,716,647
Cesar Chavez	$519,490	$675,338
Altic	$507,835	$660,186
Lockwood	$1,516,469	$1,971,409
Harrisburg	$4,977,430	$6,470,659
Special Destinations	$2,640,000	$3,432,000
Other Treatments	$800,000	$1,040,000
Total	**$12,281,722**	**$15,966,239**
***** Includes contingencies, standard soft costs, and fees.		

Conclusion

The results of the existing conditions inventory for both the Livable Centers corridors and the Harrisburg LRT corridors indicate that the pedestrian infrastructure is generally in poor condition and, in some cases, impassable. ADA requirements along many segments remain unmet. A direct result of the deteriorated conditions of the sidewalks and an absence of pedestrian-oriented lighting, landscaping, and other pedestrian amenities transfers a direct negative impact on walkability and transit access as discussed in the introduction to this chapter. The design examples selected by the Advisory Committee and the public will address the inadequacies identified in the inventory. In addition, design guidelines will address general design issues associated with tree types, lighting selection, and other elements. Combined, these will give direction to and provide a basis for the design phase. The costs associated with each block face and by corridor will provide a budget upon which the designs can be intelligently based and supported. Total costs of the improvements recommended in this *Pedestrian/Transit Access Plan* are $33,110,461. The benefits of increased safety, ridership, and the related reduced VMT, cold starts, and emissions will be based on the before and after conditions presented in this plan as measured by the score assigned each block face.

Chapter 5 - Mixed-Use Revitalization

The Livable Centers corridors and the Harrisburg LRT corridors project areas, represent different revitalization opportunities due to the differences in the transit technologies that will serve them. The Livable Centers corridors are impacted by improved pedestrian access to existing bus transit services. The Harrisburg LRT corridors will be more dramatically impacted due to the provision of new advanced technology LRT, combined with pedestrian access improvements. In the case of the Livable Centers corridors, property that abutted the pedestrian improvements was considered as the base for revitalization. The area impacted by the LRT is defined in a different way. The Federal Transit Administration (FTA) defines the impact area associated with the LRT as the area within 500 feet of a station and 1,500 feet of a terminal, such as Magnolia Transit Center and the proposed Lockwood Transit Center, both located on the Harrisburg LRT alignment.

There are no land use controls in Houston; therefore, future uses of vacant and underutilized property within the project area will be decided by the private sector. To the extent possible, the future land development pattern will be influenced by GEEMD, East End Chamber of Commerce, East End Super Neighborhood Group, Houston City Department of Planning, and other related agencies and institutions. All of these organizations have been part of the planning process. The results of the planning process are presented in this plan. Investments to the public infrastructure recommended in this plan will enhance the focus and resulting pace of the future revitalization of this portion of the East End. Development of a future infill/mixed-use development program requires the following three steps.

- ***Amount of Vacant Property.*** Estimate the amount of property available for infill/mixed-use development. In the case of the Livable Centers corridors, the amount of vacant property located along the corridors in which public infrastructure improvements will be installed was used. In the case of the Harrisburg LRT corridors, the property within 500 feet of each station and 1,500 feet of the Magnolia Transit Center and the proposed Lockwood Transit Center was used.
- ***Mix of Uses.*** Define the ideal mix of uses that will best meet current market conditions, while promoting and facilitating pedestrian and transit utilization. This will incorporate data and recommended practices in ITE's, *Trip Generation*, 7th Edition.
- ***Amount of Development.*** Evaluate the building footprint upon which development can take place on the identified vacant or underutilized property allowing open space, pedestrian access, on-site parking and trash removal (as required). Estimate the appropriate building heights for each development type.

The revitalization opportunities associated with the Livable Centers corridors will be presented first. This will be followed by the revitalization opportunities associated with the Harrisburg LRT corridors.

Revitalization Opportunities on Livable Centers Corridors

Harris County Appraisal District records of properties abutting the corridors selected for improvements were used a guide to establish the amount of vacant property located on each corridor. *Table 5.1* presents a summary of the vacant property located along the corridors that will receive public infrastructure improvements as recommended in this plan.

Table 5.1 – Vacant Property on Livable Centers Corridors	
Corridor	***Sq. Ft.***
Navigation	177,174
Canal	457,680
York	289,446
Sampson	173,939
Jensen	326,641
Total	**1,424,880**

Livable Centers Mix of Land Uses

Table 5.2 presents the mix of land uses recommended for each corridor recognizing their existing distribution of uses, their future role within the market place over the next 20 years, and the desire to promote pedestrian and transit utilization. This table presents the distribution of the amount of vacant land between the five land uses addressed.

Table 5.2 – Recommended Mix of Land Uses on Livable Centers Corridors							
Corridor	***Vacant Property (Sq. Ft.)***	***Retail***	***Office***	***Services***	***Light Industry***	***Housing***	
Navigation	177,174	40%	20%	10%	10%	20%	100%
		70,870	**35,435**	**35,435**	**8,859**	**26,576**	
Canal	457,680	15%	15%	10%	40%	20%	100%
		68,652	**45,768**	**45,768**	**228,840**	**68,652**	
York	289,446	10%	10%	10%	10%	60%	100%
		28,945	**28,945**	**28,945**	**28,945**	**173,668**	
Sampson	173,939	10%	10%	10%	10%	60%	100%
		17,394	**17,394**	**17,394**	**17,394**	**104,363**	
Jensen	326,641	40%	20%	10%	10%	20%	100%
		97,992	**65,328**	**65,328**	**32,664**	**65,328**	
Total	**1,424,880**	**283,853**	**192,870**	**192,870**	**316,702**	**438,587**	
Site Coverage		50%	50%	50%	50%	50%	
Building Floors		1	4	4	1	4	

Livable Centers Amount of Development

Table 5.3 presents the total building square footage that would be developed on the vacant property presented in *Table 5.2* for each type of land use along each corridor.

Table 5.3 – Mixed-Use Development on Livable Centers Corridors at 20-Year Buildout

Corridor	*Retail (Sq. Ft.)*	*Office (Sq. Ft.)*	*Services (Sq. Ft.)*	*Light Industry (Sq. Ft.)*	*Residential (Units)**
Navigation	35,435	70,870	70,870	4,429	43
Canal	34,326	91,536	91,536	114,420	110
York	14,472	57,889	57,889	14,472	278
Sampson	8,697	34,788	34,788	8,697	167
Jensen	48,996	130,656	130,656	16,332	105
Total	**141,926**	**385,739**	**385,739**	**158,350**	**703**

* Assumes 1,500 sq. ft. average.

As presented in *Table 5.3*, the total mixed-use/infill development associated with the pedestrian access improvements in the Livable Centers corridors to be built over the next 20 years is estimated at 1,071,754 square feet, plus 703 units at an average 1,500 square feet each totaling 1,340,635 square feet. The amount of mixed-use development presented in *Table 5.3* would result in the addition of more than 3,000 jobs in the East End project area. In addition, it would enhance pedestrian and transit utilization with resulting reductions in automobile use, congestion, and emissions. A significant amount of property and sales taxes would be realized from the development. A discussion of these benefits is included in Chapter 7, Benefits.

Revitalization Opportunities on Harrisburg LRT Corridors

The property that will be impacted by the LRT on Harrisburg includes vacant and underutilized property within 500 feet of each station and 1,500 feet of Magnolia Transit Center and the proposed Lockwood Transit Center. The amount of property that fits these categories has been estimated using areal photography verified by field surveys. *Table 5.4* presents the resulting property amounts that will be used as the base for further calculations.

Table 5.4 – Qualifying Vacant or Underutilized Property on Harrisburg LRT Corridors

Station	*Impacted Property Qualifying Distance (Radius in ft.)*	*Qualifying Area (Sq. Ft.)*	*Public ROW (%)*	*Vacant or Underutilized Area*	
				(%)	*(Sq. Ft.)*
York	500	785,375	20%	50%	314,150
Lockwood	1,500	7,068,375	20%	30%	1,696,410
Altic	500	785,375	30%	30%	164,929
Cesar Chavez	500	785,375	20%	50%	314,150
70th	1,500	7,068,375	40%	30%	1,272,308
Total		**16,492,875**			**3,761,946**

A total potential revitalization area is 3,761,946 square feet, based on this analysis of vacant or underutilized property in the impact areas of LRT on the Harrisburg LRT corridors.

Harrisburg LRT Corridors Mix of Land Uses

The mix of land uses estimated for the property identified earlier as vacant or underutilized is based on the results of a study conducted by the Planning Partnership and sponsored by the Houston Planning Commission on Transit-Oriented Development (TOD) associated with the Harrisburg LRT corridor. This study estimated that retail and housing would comprise the majority of the land uses in the revitalized Harrisburg corridor. This estimate was modified slightly to reflect opportunities for small amounts of new light industry and office/services that will be attracted into the areas that are served directly by Union Pacific's freight rail access just south of Harrisburg and within the impacted area. *Table 5.5* presents the recommended land use mix.

Table 5.5 – Recommended Mix of Land Uses on Harrisburg LRT Corridors

	Retail		***Office/Services***		***Light Industry***		***Residential***		***Total Property (Sq. Ft.)***
Station	***%***	***Sq. Ft.***	***%***	***Sq. Ft.***	***%***	***Sq. Ft.***	***%***	***Sq. Ft.***	
York	30	94,245	10	31,415	10	31,415	50	157,075	314,150
Lockwood	50	848,205	10	169,641	10	169,641	20	339,282	1,696,410
Altic	20	32,986	10	16,493	10	16,493	60	98,957	164,929
Cesar Chavez	25	78,538	10	31,415	10	31,415	55	172,783	314,150
70th	25	318,077	10	127,231	10	127,231	45	572,538	1,272,308
Total		**1,372,051**		**376,195**		**376,195**		**1,340,635**	**3,761,947**

The next step in calculating the amount of development, square feet of building that can occur is based on the average building foot print times the average building height that can be accommodated on the property. Detailed corridor-by-corridor calculations are presented in *Appendix E*. *Table 5.6* presents a summary of the mixed-use development estimated to take place over a 20-year buildout period as a result of the Harrisburg LRT corridors combined with the pedestrian access improvements recommended in this plan.

Table 5.6 – Mixed-Use Development on Harrisburg LRT Corridors at 20-Year Buildout

Area	***Retail (Sq. Ft.)***	***Office/Services (Sq. Ft.)***	***Light Industry (Sq. Ft.)***	***Residential (Sq. Ft.)***	***Total***
York	58,903	28,274	18,849	439,810	545,836
Lockwood	530,128	152,677	101,785	949,990	1,734,579
Altic	20,616	14,844	9,896	277,080	322,436
Cesar Chavez	49,086	28,274	18,849	483,791	579,999
70th	198,798	114,508	76,338	1,603,107	1,992,752
Total	**857,531**	**338,575**	**225,717**	**3,753,778**	**5,175,602**

Summary

Combining the mixed-use development calculations for the Livable Centers corridors with the Harrisburg LRT corridors results in the mixed-use development estimates presented in *Table 5.7*. This represents the total 20-year buildout program.

Table 5.7 – Combined Mixed-Use Program				
Area	***Retail (Sq. Ft.)***	***Office/Services (Sq. Ft.)***	***Light Industry (Sq. Ft.)***	***Residential (Sq. Ft.)***
Livable Centers Corridors	141,926	771,478	158,350	1,340,635
Harrisburg LRT Corridors	857,531	338,575	225,717	3,753,778
Total	**999,457**	**1,110,053**	**384,067**	**5,094,413**

The total combined mixed-use program is estimated to be 7,587,990 square feet of retail, office/services, light industry, and residential. This program is the base used to calculate the economic and environmental benefits in this plan.

Chapter 6 - Increased Pedestrian/Transit Travel

One of the primary goals of H-GAC's Livable Centers program and of this plan is to encourage pedestrian and transit activity, thereby, reducing vehicle use and the resulting congestion, emissions, and energy use. The corridors selected for the recommended access improvements are those that have transit service and that serve activities that can attract pedestrian/transit patronage or that possess opportunities for mixed-use/infill development. The availability of transit and improved pedestrian access, combined with existing and future activities that can best be served by transit and pedestrian access, will result in the benefits sought. These are the attributes that led to the selection of the Livable Centers corridors, Navigation, Canal, York, and Sampson, and the Harrisburg LRT corridors, Harrisburg, Lockwood, Altic, Cesar Chavez, and 70th, and the related side streets, as suitable candidates for the recommended improvements presented in Chapter 4.

Reduced Vehicle-Miles Traveled (VMT)

This chapter focuses on estimating the benefits that will be derived from the investments and related improvements recommended on these corridors. These benefits are in two forms. First, there are benefits from increases in transit ridership due to improvements in pedestrian access and safety. This result has been studied by a variety of nationally recognized authorities, including the Transit Coordination Research Program, TRB, and NRC, where methods have been developed for predicting the ridership benefits associated with these types of improvements. This chapter presents the methods used and resulting benefits. Second, there are benefits from increased pedestrian activity and transit ridership associated with mixed-use/infill development as reported by ITE in its Recommended Practices report.

VMT Savings from Pedestrian/Transit Improvements

Knowing the existing conditions of the pedestrian infrastructure and the Bus Level of Service (BLOS) is important in selecting priority projects (both pedestrian and transit) because of the relationship between the pedestrian infrastructure and the transit level of service, both of which affect ridership and environmental benefits. A report[1] prepared for the Transit Coordination Research Program, TRB, and NRC, in association with TTI, states the following:

> *The passenger point of view, or quality of service, directly measures passengers' perception of the availability, comfort, and convenience of transit service. There are a number of factors that measure pedestrian and transit quality of service:*
>
> - *Service coverage (near one's origin and destination)*
> - *Pedestrian environment*
> - *Scheduling: Frequency of service*
> - *Amenities*

[1] *Transit Capacity and Quality of Service Manual*, Kittelson and Associates, Inc.

- *Transit information*
- *Transfers*
- *Total trip time*
- *Cost*
- *Safety and security*
- *Passenger loads*
- *Appearance and comfort*
- *Reliability*

Of the factors listed above, the following items address pedestrian quality of service.

- ***Pedestrian Environment*** - Even if a transit stop is located within a reasonable walking distance of one's origin and destination, the areas around the transit stops must provide a comfortable walking environment in order for transit to be available.
- ***Amenities*** - The facilities provided within walking distance of transit stops and stations that make transit more comfortable and convenient for transit users. Typical amenities include benches, shelters, informational signage, waste receptacles, and telephones.
- ***Safety and Security*** - Passengers' perceptions of safety must be considered in addition to actual conditions. Transit corridors and stops must be well lit. Planting strips, bollards, and/or on-street parking can provide barriers between pedestrians and vehicles.
- ***Appearance and Comfort*** - Having clean transit stops with pedestrian lighting and some landscaping improves transit's image, especially when attracting choice riders.

The close relationship between an improved pedestrian environment and its contribution to a better transit service and increased ridership has been documented in several studies nationwide. The most recent research addressing the relationship between the pedestrian environment, which is measured in PLOS, and the bus service performances, which is measured in BLOS, is contained in the 2001 *Quality and Level of Service Handbook*, prepared by FDOT. The handbook presents compelling evidence of a relationship between the quality of the pedestrian environment as PLOS, and the quality of the bus service as BLOS.

Additional studies address the relationship between the pedestrian conditions and transit utilization.

- A study of 400 Portland, Oregon, neighborhoods indicated that "households in pedestrian-friendly neighborhoods make over three times as many transit trips and nearly four times as many walk and bicycle trips as households located in neighborhoods with poor pedestrian environments."[2]
- "The analysis suggests that vehicle-miles traveled per household in pedestrian-hostile neighborhoods would be reduced by as much as 10% with a significant improvement in the pedestrian environment."[3]

[2] Source: 1000 Friends of Oregon, 1994.
[3] Source: 1000 Friends of Oregon, 1994.

Similarly, the proposed pedestrian-oriented streetscape improvements along the four corridors will enhance overall pedestrian environment and bus access from adjacent land uses to bus stops, thereby increasing bus ridership, improving BLOS, reducing VMT, and stimulating higher-density, mixed-use development.

Methodology

The first step in estimating increased transit ridership associated with pedestrian access improvements is to convert the current existing conditions score into a corresponding PLOS. This conversion is presented in *Table 6.1*.

Table 6.1 – Block Face Level of Treatment Score and Pedestrian LOS

Score	***PLOS***
1,2,3	A
4,5	B
6,7	C
8,9	D
10,11,12	E
13,14,15	F

The Florida Department of Transportation study, reported in the Transportation Research Record 1773, Paper No. 01-0511: *Modeling the Roadside Walking Environment – Pedestrian Level of Service*, 2002, provides the following list of measurements for a pedestrian's sense of safety and comfort within a roadway corridor:

- Presence of pathway or sidewalk;
- Architectural interest;
- Pedestrian-oriented lighting and amenities;
- Presence of other pedestrians;
- Barriers or buffers between pedestrians and motor vehicle traffic;
- Conditions at intersections; and
- Motor vehicle composition, volume, and speed.

The PLOS measurements *(Table 6.1)* have been selectively modified to fit into the uniqueness of the four corridors. Since the proposed GEEMD improvements are restricted only within the public rights-of-way between the curb and the property line (with no buildings involved) and the four corridors are all major commercial corridors with different land uses (commercial, office/retail/residential, industrial residential or mixed-use), the PLOS measurements for the GEEMD program are as follows:

- **PLOS A and B *(Score 1-5)*:** Wide sidewalks (5 to 6 feet); sidewalks and curbs are in good condition and PLOS B may only need minor repair; sidewalks and curbs meet ADA standards at driveways and intersections; sidewalks are lined with trees; planting strips or on-street parking are used as buffers to protect pedestrians from motor vehicles; and abundant pedestrian-scale lighting and amenities are present.

- **PLOS C and D *(Score 6-9)*:** Sidewalks are present (some areas may need to be widened to 5 or 6 feet, if permitted); sidewalks and curbs need some repair; some ADA ramps need to be installed where there are none or they are broken; some landscaping needed; some planting strips or on-street parking needed; and insufficient pedestrian-scale lighting and amenities exist.
- **PLOS E and F *(Score 10+)*:** Sidewalks and curbs are in bad shape (some areas there are none); few or no ADA ramps exist; little to no landscaping or planting strips exist; little to no pedestrian-scale lighting and amenities exist.

The following photographs demonstrate the correlation between existing conditions described in narrative above and level of treatment needed.

1-5	**6-9**	**10+**
Minimum Treatment	***Moderate Treatment***	***Maximum Treatment***
		

The second step in estimating increased ridership associated with pedestrian access improvements is to relate the PLOS to the BLOS as recommended in the same FDOT study. This conversion is presented in *Table 6.2*.

Table 6.2 – Pedestrian LOS Adjustment Factors on Bus LOS	
PLOS	***Adjustment Factor on BLOS***
A	1.15
B	1.10
C	1.05
D	1.00
E	0.80
F	0.55

The difference between a PLOS A (1.15) and a PLOS B (1.10), as shown in *Table 6.2*, is a BLOS adjustment of five percent. The conversion used in this analysis assumes that enhanced pedestrian access will increase the BLOS by five percent, which means a five percent increase in transit ridership. Similarly, as PLOS increases from D to A, it would result in a 15 percent BLOS adjustment.

The last step in estimating increased ridership associated with improvements in pedestrian access (these improvements are reflected in the "before" PLOS and "after" PLOS) is to multiply the change in the BLOS, presented in *Table 6.2*, associated with the changes in before and after PLOS by the existing ridership. This reflects the expected percent increase in ridership due to the percent increase in BLOS resulting from improved pedestrian access as measured by the before and after PLOS.

Livable Centers Corridors

The following tables present the existing score PLOS and revised score PLOS, based on the inventory reported in Chapter 4. The existing transit ridership from each block segment is provided with the ridership adjustment factor in BLOS from *Table 6.2*, to derive the estimate of new ridership that will result from the pedestrian access improvements. The new ridership additions will be summarized in *Table 6.3*.

Navigation North Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Existing Ridership*	*Ridership Adjustment*	*Added Ridership*
St. Charles to Live Oak	11	E	0	A	16	35%	6
Live Oak to Nagle	11	E	0	A	5	35%	2
Nagle to Delano	12	E	0	A	2	35%	1
Delano to Paige	11	E	0	A	0	35%	0
Paige to Ennis	10	E	0	A	2	35%	1
Ennis to Palmer	13	F	0	A	4	60%	2
Palmer to Nolan @ RR Tracks	12	E	0	A	0	35%	0
RR Tracks to Sampson	13	F	0	A	54	60%	32
Sampson to York plus 500 feet	13	F	0	A	5	60%	3
Total					**88**		**47**

Navigation South Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Existing Ridership*	*Ridership Adjustment*	*Added Ridership*
St. Charles to Live Oak	11	E	0	A	5	35%	2
Live Oak to Nagle	11	E	0	A	2	35%	1
Nagle to Delano	13	F	0	A	6	60%	4
Delano to Paige	12	E	0	A	0	35%	0
Paige to Ennis	13	F	0	A	3	60%	2
Ennis to Palmer	11	E	0	A	0	35%	0
Palmer to Nolan @ RR Tracks	10	E	0	A	2	35%	1
RR Tracks to Sampson	12	E	0	A	0	35%	0
Sampson to York plus 500 feet	12	E	0	A	31	35%	11
Total					**49**		**21**

Sampson East Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Existing Ridership*	*Ridership Adjustment*	*Added Ridership*
Navigation to Engelke	14	F	0	A	***THERE ARE NO STOPS ON THE EAST SIDE OF THIS STREET***		
Engelke to Runnels	11	E	2	A			
Runnels to Saltus	13	F	2	A			
Saltus to Canal	12	E	2	A			
Canal to McAshan	14	F	2	A			
McAshan to Commerce	14	F	2	A			
Commerce to Sherman	13	F	2	A			
Sherman to Garrow	14	F	2	A			
Garrow to Preston	14	F	2	A			
Preston to Harrisburg	13	F	2	A			
Total							

Sampson West Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Existing Ridership*	*Ridership Adjustment*	*Added Ridership*
Navigation to Engelke	14	F	0	A	82	60%	49
Engelke to Runnels	10	E	2	A	0	0	0
Runnels to Saltus	13	F	2	A	0	0	0
Saltus to Canal	12	E	2	A	34	35%	12
Canal to McAshan	13	F	2	A	0	0	0
McAshan to Commerce	14	F	2	A	0	0	0
Commerce to Sherman	12	E	2	A	4	35%	1
Sherman to Garrow	13	F	2	A	0	0	0
Garrow to Preston	14	F	2	A	2	60%	1
Preston to Harrisburg	13	F	2	A	17	60%	10
Total					**139**		**73**

Canal North Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Existing Ridership*	*Ridership Adjustment*	*Added Ridership*
Navigation to McAlpine	10	E	0	A	79	35%	28
McAlpine to St. Charles	10	E	0	A	33	35%	12
St. Charles to Live Oak	13	F	0	A	0	0	0
Live Oak to Delano	9	D	2	A	23	15%	3
Delano to Ennis	11	E	0	A	29	35%	10
Ennis to Palmer	11	E	2	A	34	35%	12
Palmer to RR Tracks	12	E	2	A	0	0	0
RR Tracks to Nolan	12	E	4	B	0	0	0
Nolan to Sampson	13	F	0	A	95	60%	57
Sampson to York	12	E	2	A	0	0	0
York plus 500 feet	12	E	2	A	0	0	0
Total					**293**		**122**

Canal South Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Existing Ridership*	*Ridership Adjustment*	*Added Ridership*
Navigation to McAlpine	10	E	0	A	98	35%	34
McAlpine to St. Charles	10	E	0	A	31	35%	11
St. Charles to Live Oak	11	E	0	A	0	0	0
Live Oak to Delano	10	E	2	A	38	35%	13
Delano to Ennis	13	F	4	B	16	55%	9
Ennis to Palmer	11	E	0	A	0	0	0
Palmer to RR Tracks	11	E	2	A	29	35%	10
RR Tracks to Nolan	12	E	4	B	0	0	0
Nolan to Sampson	13	F	0	A	62	60%	37
Sampson to York	12	E	0	A	0	0	0
York plus 500 feet	12	E	0	A	0	0	0
Total					**274**		**114**

York East Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Existing Ridership*	*Ridership Adjustment*	*Added Ridership*
East of Harrisburg to Preston	13	F	2	A	29	60%	17
Preston to Garrow	13	F	2	A	0	0	0
Garrow to Sherman	13	F	2	A	4	60%	2
Sherman to Commerce	13	F	2	A	0	0	0
Commerce to McAshan	13	F	2	A	0	0	0
McAshan to Canal	13	F	2	A	0	0	0
Canal to Saltus	13	F	2	A	29	60%	17
Saltus to Runnels	13	F	2	A	0	0	0
Runnels to Engelke	14	F	2	A	69	60%	41
Engelke to Navigation	13	F	2	A	0	0	0
Navigation to Hutcheson	11	E	0	A	26	35%	9
Hutcheson to Freund	11	F	0	A	0	0	0
Freund to Ball	13	F	2	A	4	60%	2
Ball to RR Tracks	13	F	0	A	0	0	0
RR Tracks to Lemke @ Tony Morran Park	11	E	0	A	0	0	0
Total					**161**		**88**

York West Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Existing Ridership*	*Ridership Adjustment*	*Added Ridership*
East of Harrisburg to Preston	13	F	2	A	0	0	0
Preston to Garrow	13	F	2	A	0	0	0
Garrow to Sherman	13	F	2	A	0	0	0
Sherman to Commerce	13	F	2	A	0	0	0
Commerce to McAshan	13	F	2	A	0	0	0
McAshan to Canal	13	F	2	A	0	0	0
Canal to Saltus	13	F	2	A	0	0	0
Saltus to Runnels	12	E	2	A	0	0	0
Runnels to Engelke	13	F	2	A	0	0	0
Engelke to Navigation	13	F	2	A	0	0	0
Navigation to Hutcheson	13	F	0	A	33	60%	20
Hutcheson to Freund	13	F	0	A	0	0	0
Freund to Ball	12	E	0	A	2	35%	1
Ball to RR Tracks	12	E	0	A	0	0	0
RR Tracks to Lemke @ Tony Morran Park	11	E	0	A	0	0	0
Total					**35**		**21**

Table 6.3 summarizes the estimated ridership increase associated with the measured improvements in the pedestrian access to transit. The added riders or daily transit trips will result in reduced VMT and, therefore, reducing the resulting congestion, emissions, and energy use.

Table 6.3 – Livable Centers Corridors New Transit Trips			
	North Side	***South Side***	***Combined***
Navigation	46	19	
Canal	122	115	
	East Side	***West Side***	
Sampson	n/a	74	
York	90	n/a	
Total	**258**	**208**	**466**
n/a = no data available.			

Harrisburg LRT Corridors

The following tables present the existing score PLOS and revised score PLOS, based on the inventory reported in Chapter 4. The ridership adjustment factor in BLOS from *Table 6.2*, will be used to derive the estimate of new ridership that will result from the pedestrian access improvements. The added ridership is estimated in a different method from the Livable Centers because the character of the LRT service is different. The Livable Centers service stopped frequently at every other block and in some cases on every block. The Harrisburg LRT service will stop at selected cross streets. In addition, since there currently is no LRT service, the existing ridership estimate was replaced by the future estimated ridership for LRT. The enhancements to the side streets serving the LRT stops will have the effect of increasing the estimate by an increment associated with the improvement to the pedestrian access thereon. Therefore, instead of using the block-by-block change in the PLOS, as was done for the Livable Centers corridors, the PLOS on the side street serving each stop on the Harrisburg LRT is averaged and will be multiplied by the estimated ridership for that particular stop. *Table 6.4* summarizes the new ridership additions.

70th East Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Ridership Adjustment*
Capitol to Harrisburg	12	E	0	A	35%
Harrisburg to Avenue B	10	E	2	A	35%
Avenue B to Avenue C	13	F	0	A	60%
Avenue C to Sherman	13	F	0	A	60%
Sherman to Avenue E	10	E	0	A	35%
Avenue E to Avenue F	14	F	0	A	60%
Avenue F to Canal	12	E	0	A	35%
Average					**46%**

70th West Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Ridership Adjustment*
Capitol to Harrisburg	12	E	0	A	35%
Harrisburg to Avenue B	10	E	2	A	35%
Avenue B to Avenue C	13	F	0	A	60%
Avenue C to Sherman	13	F	0	A	60%
Sherman to Avenue E	10	E	0	A	35%
Avenue E to Avenue F	14	F	0	A	60%
Avenue F to Canal	12	E	0	A	35%
Average					**46%**

Cesar Chavez East Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Ridership Adjustment*
Capitol to Harrisburg	12	E	2	A	35%
Harrisburg to Avenue B	14	F	2	A	60%
Average					**48%**

Cesar Chavez West Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Ridership Adjustment*
Capitol to Harrisburg	12	E	2	A	35%
Harrisburg to Avenue B	14	F	0	A	60%
Average					**48%**

Altic East Side	***Existing Score***	***Existing PLOS***	***Revised Score***	***Revised PLOS***	***Ridership Adjustment***
"the Walkway" to Sherman	5	B	0	A	5%
"the Walkway" to Harrisburg	6	C	0	A	10%
Harrisburg to Texas	13	F	2	A	60%
Texas to Capitol	14	F	2	A	60%
Average					**34%**

Altic West Side	***Existing Score***	***Existing PLOS***	***Revised Score***	***Revised PLOS***	***Ridership Adjustment***
"the Walkway" to Sherman	5	B	0	A	5%
"the Walkway" to Harrisburg	6	C	0	A	10%
Harrisburg to Texas	13	F	0	A	60%
Texas to Capitol	13	F	0	A	60%
Average					**34%**

Lockwood East Side	***Existing Score***	***Existing PLOS***	***Revised Score***	***Revised PLOS***	***Ridership Adjustment***
McKinney to Capitol	8	D	1	A	15%
Capitol to Texas	8	D	1	A	15%
Texas to Harrisburg	10	E	1	A	35%
Harrisburg to "the Walkway"	13	F	2	A	60%
"the Walkway" to Sherman	10	E	1	A	35%
Sherman to Canal	10	E	1	A	35%
Average					**33%**

Lockwood West Side	***Existing Score***	***Existing PLOS***	***Revised Score***	***Revised PLOS***	***Ridership Adjustment***
McKinney to Capitol	8	D	1	A	15%
Capitol to Texas	8	D	1	A	15%
Texas to Harrisburg	10	E	1	A	35%
Harrisburg to "the Walkway"	13	F	2	A	60%
"the Walkway" to Sherman	10	E	1	A	35%
Sherman to Canal	10	E	1	A	35%
Average					**33%**

Harrisburg North Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Ridership Adjustment*
72nd to 71st	9	D	0	A	15%
71st to 70th	9	D	0	A	15%
70th to SSgt Macario Garcia	12	E	0	A	35%
SSgt Macario Garcia to Wayside	12	E	0	A	35%
Wayside to Cesar Chavez	13	F	0	A	60%
Cesar Chavez to 66th	12	E	0	A	35%
Clifton to Latham	11	E	2	A	35%
Latham to Altic	10	E	0	A	35%
Altic to Delmar	9	D	0	A	15%
Delmar to Lenox	9	D	0	A	15%
Lenox to Adams	11	E	0	A	35%
Adams to Bryan	12	E	0	A	35%
Bryan to Stiles	14	F	0	A	60%
Stiles to Burr	14	F	0	A	60%
Burr to Lockwood	14	F	2	A	60%
Lockwood to Hagerman	11	E	1	A	35%
Hagerman to Bob	11	E	2	A	35%
Bob to Eastwood	11	E	2	A	35%
Eastwood to Sydney	11	E	2	A	35%
Average					**36%**

Harrisburg South Side	*Existing Score*	*Existing PLOS*	*Revised Score*	*Revised PLOS*	*Ridership Adjustment*
72nd to 71st	9	D	0	A	15%
71st to 70th	9	D	0	A	15%
70th to SSgt Macario Garcia	12	E	0	A	35%
SSgt Macario Garcia to Wayside	12	E	0	A	35%
Wayside to Cesar Chavez	11	E	0	A	35%
Cesar Chavez to 66th	10	E	1	A	35%
Clifton to Latham	12	E	2	A	35%
Latham to Altic	12	E	0	A	35%
Altic to Delmar	9	D	0	A	15%
Delmar to Lenox	9	D	0	A	15%
Lenox to Adams	11	E	0	A	35%
Adams to Bryan	10	E	0	A	35%
Bryan to Stiles	14	F	0	A	60%
Stiles to Burr	12	E	1	A	35%
Burr to Lockwood	13	F	2	A	60%
Lockwood to Hagerman	10	E	1	A	35%
Hagerman to Bob	10	E	2	A	35%
Bob to Eastwood	10	E	2	A	35%
Eastwood to Sydney	10	E	2	A	35%
Average					**33%**

Table 6.4 summarizes the estimated ridership increase associated with the measured improvements in the pedestrian access to transit. The added riders or daily transit trips will result in reduced VMT and, therefore, will help reduce the resulting congestion, emissions, and energy use.

Table 6.4 – Increased Ridership from Improved Pedestrian Access on Harrisburg LRT Corridor

Station	***East Side Averaged Factor (%)***	***West Side Averaged Factor (%)***	***Average Ridership Adjustment (%)***	***Estimated Future Ridership[(1)]***	***Adjusted Future Ridership***
York	56	47	52	260	134
Lockwood	33	33	33	160	52
Altic	34	34	34	210	71
Chavez	48	48	48	210	100
70th Street	46	46	46	430	197
Total					**554**

[(1)] Represents 20% of METRO's estimate based on the assumption that most ridership at these stations will result from transfers and not walk-ins.

Pedestrian Access New Transit Ridership Summary

A combined total of 1,019 new daily transit trips (466 from Livable Centers corridors and 553 from Harrisburg LRT corridors) will result from the investment and treatments recommended for the Livable Centers and Harrisburg LRT corridors combined. A total of 815 daily vehicle trips will be removed resulting from the 1,019 added transit trips using an occupancy factor of 1.25 persons per vehicle. According to H-GAC, the average vehicle trip length in the Houston region is 8.6 miles, resulting in a daily reduction of 7,010 reduced VMT. These reductions in VMT and vehicle trips will be combined with those from the mixed-use/infill revitalization program presented next.

VMT Savings from Mixed-Use/Infill Development

The benefits associated with mixed-use development vary as a function of the amount, mixture, density, and connectivity of the uses. A city or urban area is a mix of uses connected primarily by vehicle rights-of-way. This pedestrian/transit access plan is designed, in part, to reduce vehicle travel, along with other agenda that include sustainable development, quality of life, and other benefits associated with New Urbanism and Smart Growth, which are a major part of state of the art planning applications in building more successful communities. The desire to reduce vehicle travel and, therefore, reduce the resulting congestion, emissions, and energy use is addressed in this project through the pursuit of improved pedestrian and transit activity, and infill/mixed-use development that presents a desirable mix of uses in amounts and designs that will enhance pedestrian and transit travel and reduce vehicle dependence.

The research and methods used to compute the increase in pedestrian and transit utilization is presented in ITE's *Trip Generation Report*, 2nd Edition, Recommended Practice. A series of analytical steps precedes this application and sets the stage for estimates of the benefits associated with infill/mixed-use development. The first four steps already have been taken, the results of which are presented in Chapter 5. These include the following needs:

1. **Determine** amount of land available for infill/mixed-use development. The square footage of vacant land on properties impacted or abutting the public investment in streetscaped and landscaped pedestrian linkages was used,
2. **Determine** the mix of uses suitable for development of available land. Each corridor was considered independently. For example, the Navigation commercial corridor was allocated more commercial activity than the residential corridors on Sampson or York.
3. **Determine** the site coverage and building heights appropriate for the right-of-way cross-sections and required on-site parking, pedestrian plazas, access points, and other ground-level needs.
4. **Calculate** the square footage program that can be accommodated on each corridor, as shown in *Table 6.5* based on the site "coverage" or "footprint," and the appropriate building heights.

The four steps that result in the mixed-use development program presented in *Table 6.5* are also presented in *Table 5.7* in Chapter 5.

Table 6.5 – Combined Mixed-Use Program

Area	*Retail (Sq. Ft.)*	*Office/Services (Sq. Ft.)*	*Light Industry (Sq. Ft.)*	*Residential (Units)*[(1)]
Livable Centers Corridors	141,926	771,478	158,350	703
Harrisburg LRT Corridors	857,531	338,575	225,717	2,503
Total	**999,457**	**1,110,053**	**384,067**	**3,206**

[(1)] *Assumed average 1,500 sq. ft. each*

The last two steps required to complete the vehicle trips reduced and the ridership expected from the infill mixed use program stimulated in part by the improvements recommended here are presented next.

5. **Convert** the building program into two-way vehicle trips that would be generated if not for the mix and density of uses programmed and the high-quality pedestrian and transit linkages. Base data was provided in ITE's *Trip Generation* report, the best and most substantiated source of travel demand data, *Table 6.6*.

Table 6.6 – Total Daily Vehicle Trips from Mixed-Use/Infill Development

Use	*Sq. Ft. or Units*	*Trip Factor*[(1)]	*24-Hour Vehicle Trips*	*24-Hour Entering Vehicle Trips (0.5)*	*24-Hour Exiting Vehicle Trips (0.5)*
Retail	999,457	44.32	44,296	22,148	22,148
Office/Services	1,110,053	11.01	12,222	6,111	6,111
Residential	3,206	6.225	19,954	9,977	9,977
Total			**76,472**	**38,236**	**38,236**

[(1)] Source: ITE Trip Generation, 7th Edition. Residential trip factor based on 50% apartment units and 50% condominium or townhome units.

6. **Convert** demand for vehicle trips into internal trips to account for the percentage of trips that would, under ideal circumstances, have taken place using vehicles, but, instead could take place using transit or as pedestrians due to the mix of uses. Ideal circumstances would exist if the mixed uses were tightly integrated in close proximity connected with high-quality pedestrian and transit facilities requiring very short trip distances. If the physical layout, pedestrian connections, and transit service were ideal, the number of internal trips that would occur is presented in *Table 6.7*.

Table 6.7 – Daily Unadjusted Internal Vehicle Trips from Mixed-Use/Infill Development

Use	***Vehicle Trips[(1)]***		
	Retail	***Office/Services***	***Residential***
Retail	6,201	664	1,993
Office/Services	917	122	122
Residential	3,293	299	n/a
Total	**10,411**	**1,085**	**2,115**
Combined Total			**13,611**

n/a = data not available.
(1) Source: ITE Trip Generation, 7th Edition, Recommended Practices.

7. **Adjustments** are necessary to the total number of internal trips that could take place under ideal circumstances as pedestrians or on transit to account for the proximity and mix of land uses and by the length of the corridors, frequency of transit service and quality of pedestrian linkages by the application of a modal split. In this case the modal split used is 5% for transit trips and 15% for pedestrian trips.

   This calculation is limited to residential, retail, and office/services uses only. This is because these internal travel demand indicators are the only ones that have been studied sufficiently to yield reliable estimates of the benefits to be obtained. It is recognized that some trip activity will occur between other uses; however, for purposes of providing reliable, supportable, and accurate estimates, these are not accounted for in this plan, resulting in more reliable, if more conservative, estimates.

Tables 6.8 and 6.9 present the pedestrian trips and transit trips associated with the removal of these vehicle trips. An internalized trip rate of 15 percent for pedestrian trips and 5 percent for transit trips was applied to reflect the percent of trips that would be taken as pedestrians given the length of the corridor.

Table 6.8 – Adjusted Daily PEDESTRIAN Trips from Mixed-Use/Infill Development			
	***Pedestrian Trips*[(1)]**		
Use	***Retail***	***Office/Services***	***Residential***
Retail	1,163	125	374
Office/Services	172	23	23
Residential	617	56	n/a
Total	**1,952**	**204**	**397**
Combined Total			**2,553**

n/a = data not available.
[(1)] Sources: ITE Trip Generation, 7th Edition, using a **15%** transit modal split, and H-GAC's auto occupancy rate of 1.25.

Table 6.9 – Adjusted Daily TRANSIT Trips from Mixed-Use/Infill Development			
	***Transit Trips*[(1)]**		
Use	***Retail***	***Office/Services***	***Residential***
Retail	484	52	156
Office/Services	72	10	10
Residential	257	23	n/a
Total	**813**	**85**	**166**
Combined Total			**1,064**

n/a = data not available.
[(1)] Sources: ITE Trip Generation, 7th Edition, using a **5%** transit modal split, and H-GAC's auto occupancy rate of 1.25.

8. **Reduced Vehicle Trips** represents the replacement of some of the vehicle trips that would have occurred if uses were not mixed and well connected by high-quality pedestrian and transit facilities. This is calculated using H-GAC's 1.25 person occupancy factor per vehicle replaced. Dividing the 3,615 pedestrian trips plus transit trips by 1.25 results in 2,893 replaced automobile or vehicle trips. *Table 6.10* presents the vehicle trips reductions for each land use pair.

Table 6.10 – Daily Vehicle Trips Removed from Mixed-Use/Infill Development			
	***Vehicle Trips*[(1)]**		
Use	***Retail***	***Office/Services***	***Residential***
Retail	1,318	141	424
Office/Services	195	26	26
Residential	700	64	n/a
Total	**2,213**	**231**	**450**
Combined Total			**2,894**

n/a = data not available.

The 2,893 vehicle trips removed or reduced will be the basis of the calculations of emission benefits due to the stimulated mixed-use development associated with the implementation of this plan.

Multiplying the 2,893 daily internal vehicle trips by 8.6 miles[4] results in a daily reduction of 24,880 VMT. The realization of this vehicle trip reduction is based on the 20-year buildout of the infill/mixed-use program presented earlier. Of this 24,880 VMT reduction, an average of 5% will occur annually and in Year 1, a daily VMT reduction of 1,244 miles can occur. Combining this Year 1 daily vehicle trip reduction with the 7,010 reduced daily VMT (from an increase in ridership associated with the recommended pedestrian/transit access improvements) in Year 1 results in an estimated daily reduction of 8,254 VMT and in Year 20 results in an estimated daily reduction of 31,890 VMT. *Table 6.11* presents a summary of the daily VMT reductions and related cold starts from a combination of the improvements in pedestrian/transit access and infill/mixed-use development.

Table 6.11 – Daily Reduced VMT and Cold Starts

Source	***VMT Reductions***		***Cold Starts Reductions***	
	Year 1	***Year 20***	***Year 1***	***Year 20***
Pedestrian/Transit Access	7,010	7,010	815	815
Infill/Mixed-Use Development	1,244	24,880	145	2,893
Total	**8,254**	**31,890**	**960**	**3,708**

These reductions in VMT, and related reductions in cold starts, will result from the implementation of the recommendations in this plan. The emission benefits associated with these reductions are presented in Chapter 7, Benefits.

[4] Average vehicle trip length for H-GAC region.

Chapter 7 - Benefits

This chapter focuses on the benefits resulting from the recommended investments, including reductions in VMT, related automobile congestion, emissions, and fuel consumption. These benefits are derived from the recommended improvements in pedestrian infrastructure, enhanced walkability, pedestrian travel, increased transit ridership associated with pedestrian access improvements, and mixed-use/infill development that likely will occur because of these improvements.

In addition to the emission benefits associated with reduced vehicle travel, there are economic benefits that will result from the increased mixed-use/infill development facilitated, in part, by the investment in related public infrastructure derived from the highly desirable redevelopment area situated next door to downtown and in the areas served by METRO's LRT on Harrisburg. Some of this development already has taken place. There are quality-of-life benefits that can be described in terms of neighborhood pride, added recreational opportunities, an improved sense of place, increased safety, and an increase of richer, more fulfilling public places. These quality-of-life benefits may be less tangible than emission reductions or economic benefits; however, these will be an important result of the implementation of this plan.

Emission Benefits

This section presents the emission reductions associated with reduced VMT and reduced cold starts presented in Chapter 6. *Table 7.1* presents the results obtained in calculating these reduced VMT and cold starts.

Table 7.1 – Daily Reduced VMT and Cold Starts

Source	***VMT Reductions***		***Cold Starts Reductions***	
	Year 1	***Year 20***	***Year 1***	***Year 20***
Pedestrian/Transit Access	7,010	7,010	815	815
Infill/Mixed-Use Development	1,244	24,880	145	2,893
Total	**8,254**	**31,890**	**960**	**3,708**

The methodology used to estimate the emission benefits resulting from reduced VMT and reduced cold starts presented in *Table 7.1* involves applying U.S. EPA emission standards, H-GAC trip length standards, and street operating characteristics.

- Year 1 daily VMT reductions total 8,254 miles. Based on a 20-year buildout of the mixed-use/infill program, the estimated 20-year daily VMT reduction would total 31,890 miles. The cold starts reductions estimated for Year 1 would total 960 daily and for Year 20 would total 3,708 daily.
- Vehicle operating characteristics are for an average automobile fleet (a variety of vehicle types), traveling at an average speed of 25 miles per hour.
- Emission factors supplied by EPA's Mobile6 computer model.

Employing these assumptions and factors results in the daily emission reductions for NOx, VOC, and CO presented in *Tables 7.2 and 7.3* for Year 1 and Year 20, respectively.

Table 7.2 – YEAR 1 Daily Emission Reductions

Type of Emission	*Vehicle Trips (Cold Starts) Reduced Daily(1)*	*H-GAC Cold Starts Factor*	*Grams Reduced Per Cold Start*	*VMT Reduced*	*H-GAC Emission Factor(2) (grams per mile)*	*VMT Reduced Associated Grams*	*Reductions Per Operating Period*	*Grams Conversion to Pounds Reduced (0.00222046)*	*Conversion to Tons Reduced (0.0005)*
NOx	960	4.13083	3,966	8,256	1.0842	8,951.06	12,916.66	28.476	0.014
VOC	960	9.38117	9,006	8,256	0.9286	7,666.59	16,672.52	36.756	0.018
CO	960	43.9721	42,213	8,256	8.0354	66,339.91	108,553.10	239.316	0.120
Total			**55,185**			**82,957.56**	**138,142.28**	**304.548**	**0.152**

(1) Vehicle Trips (Cold Starts) Reduced per Day = 960 multiplied by H-GAC Average Reduced Vehicle Trip Length = 8.6 totals 8,256
(2) Source: H-GAC/EPA arterial composite fleet 24-hour composite @ 25 mph

Table 7.3 – YEAR 20 Daily Emission Reductions

Type of Emission	*Vehicle Trips (Cold Starts) Reduced Daily(1)*	*H-GAC Cold Starts Factor*	*Grams Reduced Per Cold Start*	*VMT Reduced*	*H-GAC Emission Factor(2) (grams per mile)*	*VMT Reduced Associated Grams*	*Reductions Per Operating Period*	*Grams Conversion to Pounds Reduced (0.00222046)*	*Conversion to Tons Reduced (0.0005)*
NOx	3,708	4.13083	15,317	31,889	1.0842	34,573.47	49,890.60	109.989	0.055
VOC	3,708	9.38117	34,785	31,889	0.9286	29,612.21	64,397.60	141.971	0.071
CO	3,708	43.9721	163,048	31,889	8.0354	256,237.90	419,286.33	924.359	0.462
Total			**213,150**			**320,423.58**	**533,574.53**	**1,176.319**	**0.588**

(1) Vehicle Trips (Cold Starts) Reduced per Day = 3,708 multiplied by H-GAC Average Reduced Vehicle Trip Length = 8.6 totals 31,889
(2) Source: H-GAC/EPA arterial composite fleet 24-hour composite @ 25 mph

Year 1 emission results total a daily reduction of 304,548 grams from the combined effects of the removal of 960 cold starts and 8,256 VMT. Year 20 emission results are significantly higher, due, in large part, to the continued buildout of the mixed-use/infill development programmed for the Livable Centers corridors and the Harrisburg LRT corridors, resulting in a daily reduction of 1,176,319 grams of emissions due to the removal of 3,708 cold starts and 31,889 VMT.

Economic Benefits

Economic benefits are derived from increases in property and sales taxes resulting from the increased values of real estate development associated with the mixed-use influenced by the capital expenditures recommended in this plan. Chapter 5 presents the building program and resultant values created. *Table 7.4* is repeated from Chapter 5 to provide a point of departure for the value added estimates in *Table 7.5*.

Table 7.4 – Combined Mixed-Use Program

Area	***Retail (Sq. Ft.)***	***Office/Services (Sq. Ft.)***	***Light Industry (Sq. Ft.)***	***Residential (Units)[(1)]***
Livable Centers	141,926	771,478	158,350	703
Harrisburg LRT	857,531	338,575	225,717	2,503
Total	**999,457**	**1,110,053**	**384,067**	**3,206**

[(1)] Assumed average 1,500 sq. ft. each

The residential units totaling 3,206 at 1,500 square feet on average totals 4,809,000 square feet of residential program as presented in *Table 7.5*.

The applied values in 2009 dollars per square foot are as follows:

- Retail (sq. ft.) = $100
- Office (sq. ft.) = $120
- Services (sq. ft.) = $120
- Light Industry (sq. ft.) = $100
- Housing (sq. ft.) = $120

Applying these applied values to the development program presented in *Table 7.4* results in the values shown in *Table 7.5.*

Table 7.5 – Values per Combined Mixed-Use Program

Land Use	***Sq. Ft.***	***Value Per Sq. Ft.****	***Total Value***
Retail	999,457	100	$99,945,700
Office/Services	1,110,053	120	$133,206,360
Light Industry	384,067	100	$38,406,700
Residential**	4,809,000	120	$577,080,000
Total	7,302,577		$848,638,760

**Including land and parking*

The total "real property added" value associated with the mixed-use program at buildout is over $848 million. Income to the City, County, and a variety of agencies and departments will be realized through the property tax income created by this value. The anticipated income for each is presented in *Table 7.6.*

Table 7.6 – Annual Property Tax Revenue at Buildout				
		Value	***Value Per $100***	***Total Property Tax Revenue***
HISD	1.62	$848,638,760	$8,486,388	$13,747,948
Harris County	0.39986	$848,638,760	$8,486,388	$3,393,367
Harris County Fld Ctrl	0.03322	$848,638,760	$8,486,388	$281,918
Port of Houston	0.01474	$848,638,760	$8,486,388	$125,089
Harris Co Hosp Dist	0.19216	$848,638,760	$8,486,388	$1,630,744
Harris Co Educ Dept	0.00629	$848,638,760	$8,486,388	$53,379
Houston Comm Coll	0.09577	$848,638,760	$8,486,388	$812,741
City of Houston	**0.6475**	$848,638,760	$8,486,388	$5,494,936
Total				**$25,540,123**
Houston/Harris County Tax Rates				

The total property tax revenue at buildout for the recommended mixed-use program will be $25,540,123 per year. Annual sales tax income is based on an estimated level of sales per square foot, which averages $200, multiplied by the sales tax (capped at 0.0825 by the State of Texas). This source of revenue is distributed to three recipients: City of Houston, METRO, and the State of Texas. *Table 7.7* presents the annual sales tax values captured by each at buildout based on the 999,457 square feet of retail *(Table 7.4)* times $200 per square foot per year. The annual sales tax at buildout will be $16,491,041 in 2009 dollars. The State of Texas receives the majority of these tax dollars ($12,493,213).

Table 7.7 - Annual Sales Tax Revenue at Buildout					
Retail Sq. Ft.	***Annual Sales Per Sq. Ft.****	***Total Sales***	***Taxing Entity***	***Tax Rate***	***Total Sales Tax Revenue***
999,457	$200	$199,891,400		0.0825	$16,491,041
		$199,891,400	City of Houston	0.01	$1,998,914
		$199,891,400	Houston METRO	0.01	$1,998,914
		$199,891,400	State of Texas	0.0625	$12,493,213
Total					**$16,491,041**
** Mid Level Retail*					

The total annual value created by the implementation of the mixed-use/infill development at buildout will be $42,031,164.

Property Tax Revenue + Sales Tax Revenue = Total Annual Value
$25,540,123 + $16,491,041 = **$42,031,164**

Quality of Life Improvements

An overarching objective of this study has been to develop a plan that will lead to improvements in the community and, ultimately, to an increase in the quality of life of its residents. While this objective is unquestioned and easily understood, defining exactly what is meant by "quality of life" is a problematic issue. Quality of life is, by nature, an intangible concept. It is relatively easy for an individual to judge the level of his or her quality of life, based on a personal definition of the concept and personal priorities. However, it is more difficult to develop a set of quantitative measures designed to indicate the quality of life for a community at large.

This plan has focused on urban design, the built environment, and transportation. Therefore, to relate potential quality-of-life benefits to the recommended projects, this plan is based on those criteria developed by other communities relevant to those focused areas. As an example, a study conducted in Montgomery County, Maryland, relates what it terms "design excellence" to quality of life. Design excellence refers to a built environment that best serves to advance a set of desirable community characteristics, such as those listed below:

- ***Safety*** – Crime Prevention Through Environmental Design (CPTED) review of streets and highways including sidewalks, trails, pedestrian bridges and other pedestrian facilities, individual building sites, and open spaces.
- ***Walkability*** – Interconnected streets network with adequate and convenient sidewalks to public facilities and the surrounding neighborhoods.
- ***Identity/Character*** – Unique design features for various types of streets, buildings, and open spaces that give special character to a place. Buildings and open spaces should have local character and be pleasing to see, feel, and be in. Major civic buildings should have distinctive architecture.
- ***Sustainability*** – The design of our buildings, public spaces, and infrastructure should be guided by the best environmental stewardship principles including Leadership in Energy and Environmental Design (LEED) standards for neighborhood planning, imperviousness caps, forest conservation, street tree standards, and best practices for stormwater management in high-density areas.
- ***Durability*** – The built environment must be durable and adoptable through better design with quality materials and workmanship, especially when it comes to the public realm.
- ***Context Sensitivity*** – Street design appropriate to its context (rural, rustic, urban, suburban), relationship of buildings and open spaces to their context, setback from adjoining uses, and other considerations. As the development becomes denser in the future, context will become more significant since the potential conflicts between different uses and building forms may be more intense and would require better design skills on the part of the designers. A deeper understanding of the context helps identify when it is appropriate to blend in with the surroundings and when it may be appropriate to stand out.

Current research indicates that this is an issue that practitioners and academics are actively grappling with, but have yet to reach consensus on. A number of communities across the nation have developed their own lists of measurement criteria (often calling them "sustainability indicators") meant to quantify the degree of quality of life that the community does or does not offer. These include communities as diverse as Juneau, Alaska; Boston, Massachusetts; Austin,

Texas; Chattanooga, Tennessee; and Cleveland, Ohio. The list of areas from which the criteria are developed is just as diverse. For instance, quality-of-life measurement tools can be taken from the economic, environmental, health and public safety, educational, and/or transportation realms, among others.

Montgomery County assumes that a community with the aforementioned features has a high quality of life. In the case of Houston's East End, it is clear that the project recommendations, if successfully implemented, will work toward bringing these characteristics to the community. For instance, proposed streetscape improvements will add to the walkability of the neighborhood, pedestrian-oriented lighting and appropriate landscaping will increase safety, and improvements to Guadalupe Park and Plaza will augment the identity and character of the East End. Great effort has been taken to ensure all of the recommended improvements account for appropriate context sensitivity. This includes consideration of the community's history, the stated preferences of the residents and stakeholders during the public involvement process, the relationships among differing land uses (e.g., residential, commercial, industrial), and the balance between the urban and residential areas, given the community's proximity to downtown.

Two concepts mentioned previously deserve further discussion, due to their significance to the East End: CPTED and Context Sensitivity.

Crime Prevention Through Environmental Design[1]

According to the National Crime Prevention Institute, CPTED is "the proper design and effective use of the built environment which may lead to a reduction in the fear and incidence of crime, and an improvement of the quality of life." CPTED is a relatively new concept that relates certain elements of good urban design to their role in reducing the incidence of crime. In some communities, where CPTED has been successfully implemented, criminal activity has decreased by as much as 40 percent.

CPTED involves the following four broad strategies:

- ***Natural Surveillance*** – A design concept directed primarily at keeping intruders easily observable. Promoted by features that maximize visibility of people, parking areas, and building entrances; doors and windows that look out on to streets and parking areas; pedestrian-friendly sidewalks and streets; front porches; and adequate nighttime lighting.
- ***Territorial Reinforcement*** – Physical design can create or extend a sphere of influence. Users then develop a sense of territorial control while potential offenders, perceiving this control, are discouraged. Promoted by features that define property lines and distinguish private spaces from public spaces using landscape plantings, pavement designs, gateway treatments, and CPTED fences.
- ***Natural Access Control*** – A design concept directed primarily at decreasing crime opportunity by denying access to crime targets and creating in offenders a perception of risk. Gained by designing streets, sidewalks, building entrances, and neighborhood gateways to clearly indicate public routes and discouraging access to private areas with structural elements.
- ***Target Hardening*** – Accomplished by features that prohibit entry or access, such as window locks, dead bolts for doors, and interior door hinges.

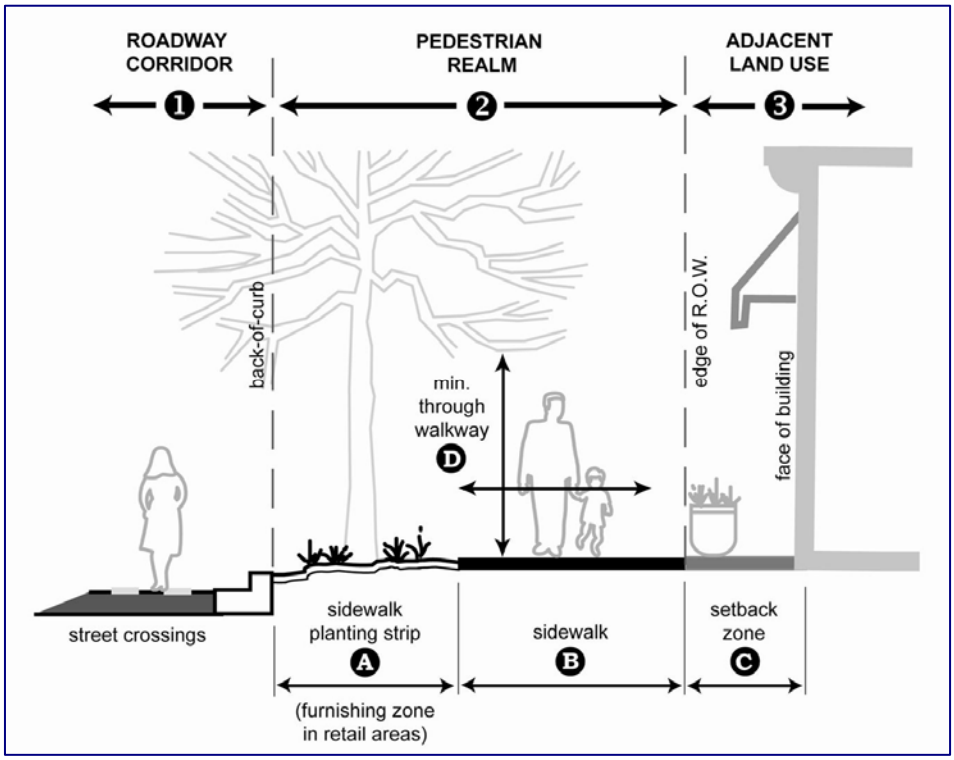
[1] *Source:* www.cpted-watch.com

These strategies can be implemented in slightly different ways depending on the land use (i.e., single-family residential, multi-family residential, office, retail, industrial, parking). Specific guidelines for implementation are widely available via local police departments (including the Houston Police Department) and other organizations.

Context Sensitivity

ITE's *Recommended Practice, Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* report set new design guidelines for pedestrian design. Context sensitivity includes urban design that ensures the comfort and safety of all users in a particular corridor, regardless of which mode of transportation they choose (i.e., automobile, bicycle, or walking). As shown in *Figure 7.1*, the area between the curb and the buildings has several zones. These include areas for landscaping and/or street furniture, sidewalks, and setback zones between the edge of the public right-of-way and the face of the building, which the property owner may use as they want. Ideally, the sidewalk will be wide enough to ensure maximum comfort for pedestrians and for other amenities such as trees, benches, and pedestrian-oriented lighting. Adjustments can be made as needed, such as foregoing the planting strip in order to accommodate on-street parking.

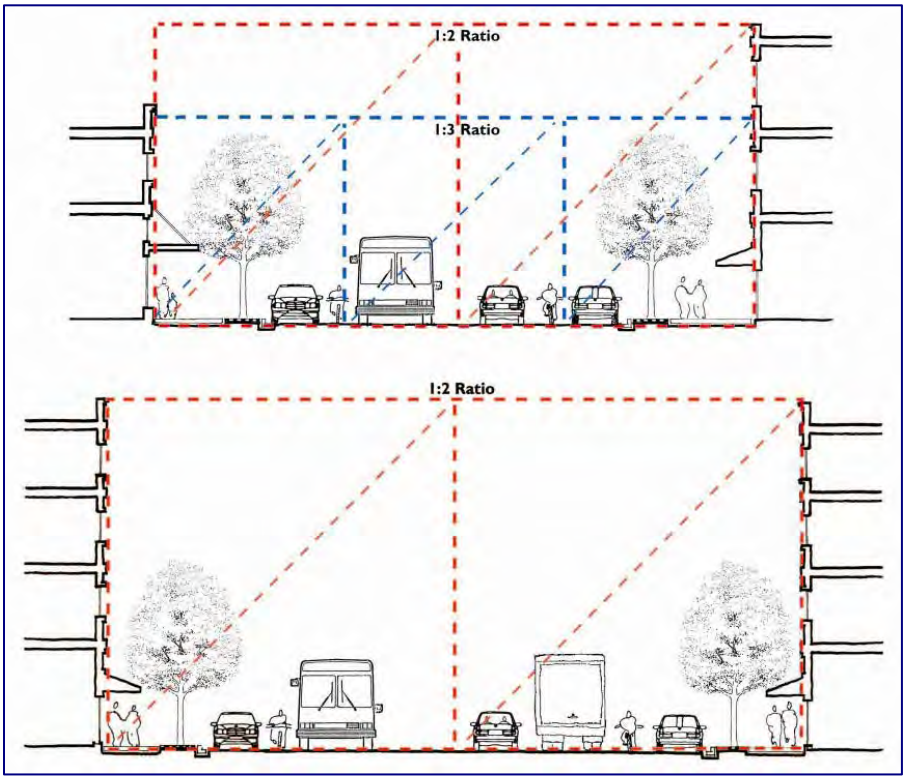
Figure 7.1 – Context Sensitivity in Pedestrian Realm



Another important factor in context sensitivity is building scale in relation to the street. *Figure 7.2* illustrates 1:2 and 1:3 building height-to-street width ratios. These ratios typically are preferred for creating a "human" scale on the street, one that fosters a comfortable environment

that encourages walking. The mixed-use/infill development program presented in Chapter 5 is based on these context sensitive solutions principles.

Figure 7.2 – Height-to-Width Ratios



Local (Quality of Life) Initiatives

Attention is being paid in Houston to defining quality of life and bringing about improvements to it as well. The Quality of Life Coalition Houston is an umbrella organization of business, civic, and charitable organizations created to address quality-of-life issues in Houston. Specifically, the group has targeted four areas of concern: trees and landscaping; parks, bayous, and recreation; billboards and signage; and litter and graffiti. The QOL Coalition Houston feels that making strides in these areas will do the most good toward increasing Houston's quality of life. The East End has embraced the study recommendations of planting trees and additional landscaping, and improving connections to the area's parks and Buffalo Bayou. This shows that the East End is on the right track in terms of offering its residents the highest quality of life possible.

Conclusion

Although the concept of quality of life may be difficult to quantify, an improved quality of life is generally easy to visualize and to recognize when it has been achieved. The East End is poised, by way of implementation of the project recommendations, to bring to the community those elements that are generally accepted as playing a role in a high quality of life. This plan has given attention to context sensitivity and valuable guidelines such as CPTED.

Safety

Crime and safety are priorities of area residents in the project area. Safety issues will inform the design of the East End Livable Centers project. The approach of CPTED has been applied in this plan and will be applied during completion of the plan recommendations to prevent and/or reduce crime and traffic accidents. Three CPTED strategies that can be employed in this design are natural surveillance, territorial reinforcement, and natural access control.

Lighting

The HPD officers interviewed noted that pedestrians have difficulty traveling through the Navigation underpass. The underpass has no sidewalks and no lighting for pedestrian safety into the project area. In addition, there is no flood gauge in the underpass to alert drivers and pedestrians on the level of rising water. Other areas noted by the HPD officers as being deficient in lighting include the area along Harrisburg, near Velasco and Roberts, and the area surrounding Eastwood Park, near Harrisburg and Lockwood, just outside the project area.

Wayfinding Signage

The HPD officers interviewed suggested that improved signage would help drivers and, therefore, vehicle traffic significantly. Based on the questions they receive, their recommendation was installation of wayfinding signage in the project area for downtown, US 59, and IH 10.

Chapter 8 - Costs

Chapter 4 presented the cost of the recommended improvements for each block face of each corridor. This chapter presents a summary of the costs associated with the walkability improvements presented in Chapter 4 for the Livable Centers corridor and the Harrisburg LRT corridor, including contingencies and soft costs.

Livable Centers Corridors Walkability Improvements Costs

Table 8.1 summarizes the costs for the Livable Centers corridors pedestrian/transit access improvements presented in Chapter 4 on each segment of the Navigation, Canal, Sampson, and York corridors, plus the side streets serving transit stops and other treatments. Other treatments would include traffic control signage, wayfinding signage, drainage rectification, and pedestrian access distributed throughout the study area related to improved safety and pedestrian access. Construction costs for the walkability elements of the Livable Centers pedestrian/transit access project total $13,167,464 of base costs (*excluding* contingencies, standard soft costs, and fees) and $17,144,222 of total costs (*including* contingencies, standard soft costs, and fees). Detailed itemized costs are included in Chapter 4.

Table 8.1 – Livable Centers Pedestrian/Transit Access Improvements Costs

Corridor/Area	*Base Cost*	*Total Cost*
Navigation	$1,519,332	$1,975,132
Canal	$1,981,366	$2,575,776
Sampson	$1,658,323	$2,182,338
York	$2,590,943	$3,368,226
Side Streets	$4,617,500	$6,002,750
Other Treatments	$800,000	$1,040,000
Total	**$13,167,464**	**$17,144,222**

Harrisburg LRT Corridors Walkability Improvements Costs

Table 8.2 presents a summary of the costs for the recommended pedestrian/transit-related improvements for the Harrisburg LRT corridors (Lockwood, Altic, Cesar Chavez, and 70th) and the additional related side street providing access to special destinations (schools, parks, medical facilities, and churches) served by METRO's LRT service. York and Sampson are corridors that are part of both the Livable Centers corridors and the Harrisburg LRT corridors. Since these are already accounted for in the Livable Centers corridors cost summary, they will not be counted again.

Construction costs for the walkability elements of the Harrisburg LRT corridors pedestrian/transit access project total $12,281,722 of base costs (*excluding* contingency, standard

soft costs, and fees) and $15,966,239 of total costs (*including* contingencies, standard soft costs, and fees). Detailed itemized costs are included in Chapter 4.

Table 8.2 – Harrisburg LRT Pedestrian/Transit Access Improvements Costs		
Corridor/Area	***Base Cost***	***Total Cost***
70th Street	$1,320,498	$1,716,647
Cesar Chavez	$519,490	$675,338
Altic	$507,835	$660,186
Lockwood	$1,516,469	$1,971,409
Harrisburg	$4,977,430	$6,470,659
Special Destinations	$2,640,000	$3,432,000
Other Treatments	$800,000	$1,040,000
Total	**$12,281,722**	**$15,966,239**

GEEMD will continue to support METRO's efforts to incorporate the recommended pedestrian-transit access improvements. Some of these elements, including sidewalk widths, landscaping and others, may not be achievable in the METRO design due to lack of right-of-way or other physical and functional needs of the LRT construction and operation. Therefore, the recommendations and related costs and benefits associated with Harrisburg Boulevard must be seen as the best estimate at this time and future design decisions may require an update to this plan.

Cost Summary

Table 8.3 presents the combined costs of the improvements in this *Pedestrian/Transit Access Plan* for the Livable Centers corridors and the Harrisburg LRT corridors totaling $25,449,186 in base costs (*excluding* contingencies, standard soft costs, and fees), and $33,110,461 in total costs (*including* contingencies, standard soft costs, and fees).

Table 8.3 – Combined Pedestrian/Transit Access Improvements Cost Summary		
Corridor/Area	***Base Cost***	***Total Cost***
Livable Centers Corridors	$13,167,464	$17,144,222
Harrisburg LRT Corridors	$12,281,722	$15,966,239
Total	**$25,449,186**	**$33,110,461**

Chapter 9 - Funding and Implementation

This chapter presents the federal and state funding sources available for the capital improvements presented in this plan. Each source is described in terms of what its purpose is, which projects apply, and which elements of each can be funded. The FTA Livable Communities Initiative (LCI) will be used to fund this plan. This is followed by a section on the various sources of local match, how to capture and protect local value, and the FTA LCI. This last section includes a funding and phasing strategy to move the plan forward into implementation.

Capital Improvement Funding Strategies

There are several categories of federal and state funds for the implementation of the pedestrian/transit access corridors within the Greater East End that should be considered during the pursuit of funds to support both transit services and transit capital improvements. These include the following:

Congestion Mitigation and Air Quality (CMAQ) Improvement Program – The purpose of the CMAQ improvement program is to fund transportation projects or programs that contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone and carbon monoxide (CO). The construction of transit facilities, such as park & rides and terminals, is eligible for up to three years of federal assistance under CMAQ. In addition, the construction of bicycle and pedestrian facilities is eligible under CMAQ. CMAQ-funded projects are selected on a competitive basis by the area Metropolitan Planning Organization (MPO), in this case, H-GAC, on a semi-annual basis, in conjunction with the development of the three-year Transportation Improvement Program (TIP). The MPO reviews and ranks CMAQ project requests and recommends selections based on a variety of factors, including air quality benefits (cost per pound of pollutants reduced), system connectivity, environmental justice, and regional significance). Project readiness, which includes prior inclusion in the RTP, local share commitment, completion of preliminary engineering, environmental analysis, and right-of-way acquisition also are prerequisites for full consideration. The CMAQ program is traditionally funded on an 80 percent federal/20 percent local basis. However, sponsors are able to improve project scores by increasing the percentage of local share participation.

Community Development Block Grants (CDBG) – CDBG has been the backbone of improvement efforts in many communities since 1974, providing a flexible source of annual grant funds for local governments nationwide. With the participation of their citizens, communities can devote these funds to a wide range of activities that best serve their own particular development priorities, provided these projects (1) benefit low- and moderate-income families; (2) prevent or eliminate slums or blight; or (3) meet other urgent community development needs. As one of the nation's largest federal grant programs, the impact of CDBG-funded projects can be seen in housing stock, the business environment, streets, and public facilities in almost every community. Traditionally, the largest single use of state CDBG funds

has been the provision of public facilities. In the last few years, however, the program has played an increasingly key role in stimulating economic development activities that expand job and business opportunities for lower-income families and neighborhoods. The numerous eligible activities under this program include the construction of public facilities and improvements, such as streets, sidewalks, sewers, and water systems, parks, and community centers. However, states establish their own programs and rules to govern the distribution of their CDBG funds and establish many of the funding priorities for fund use. [Note: CDBG funds can be used to satisfy local share match requirements against other federal funding programs.]

FTA Section 5307 Urbanized Program – Capital and planning activities are eligible under the FTA Section 5307 Formula program at an 80% federal/20% local ratio. An example of capital expenditure would be the purchase of new transit vehicles or buses. Formula funds are utilized by Houston METRO for major rolling stock acquisition and capital construction, and would not likely be a leading funding alternative for the GEEMD Livable Centers Plan; however, if there are capital project elements of interest to both GEEMD and Houston METRO, FTA Section 5307 funds would be eligible for these elements.

FTA Section 5309 Discretionary Program – FTA's Section 5309 Discretionary program provides funding on an 80% federal/20% local ratio to fund eligible transit capital needs, including pedestrian/transit access and streetscape improvements developed in accordance with LCI. Congress selects the FTA Discretionary funds during its annual Transportation Appropriations process and also every six years under the Transportation Reauthorization process. Applicants must be eligible FTA grantees, such as a county, municipality, municipal management district, or transit authority.

Federal Highway Administration (FHWA) Transportation and Community and System Preservation (TCSP) Program – FHWA's TCSP program provides funding for grants and research to investigate and address the relationship between transportation and community and system preservation. Local governments are eligible for discretionary grants to plan and implement strategies that improve the efficiency of the transportation system, reduce environmental impacts of transportation, reduce the need for costly future public infrastructure investments, ensure efficient access to jobs, services, and centers of trade, examine development patterns, and identify strategies to encourage private sector development patterns that achieve these goals. Projects eligible for federal highway and transit funding or other activities, determined by the Secretary of Transportation to be appropriate, also are eligible for TCSP funding.

Transportation Enhancements (TE) Program – The goal of TE is to encourage diverse modes of travel, increase the community benefits to transportation investment, strengthen partnerships between state and local governments, and promote citizen involvement in transportation decisions. To be eligible for consideration, all projects must demonstrate a relationship to the surface transportation system through either function or impact, go above and beyond standard transportation activities, and incorporate at least one of the following categories:

- Provision of facilities for pedestrians and bicycles;
- Provision of safety and education activities for pedestrians and bicyclists;
- Acquisition of scenic easements and scenic and historic properties;

- Scenic or historic highway programs (including providing tourist and welcome center facilities);
- Landscaping and other scenic beautification;
- Historic preservation;
- Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals);
- Preservation of abandoned railway corridors (including the conversion and use for pedestrian and bicycle facilities);
- Control and removal of outdoor advertising;
- Archaeological planning and research;
- Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity; and
- Establishment of transportation museums.

TE is a statewide competitive program and is administered in accordance with applicable federal and state rules and regulations. Projects are submitted to TxDOT and the MPO for review, and selected for funding by the Texas Transportation Commission. The funds provided by this program are on a cost reimbursement basis and are not a grant. Projects undertaken with TE funds are eligible for reimbursement of up to 80 percent of allowable costs. The government entity nominating a project is responsible for the remaining cost share, including all cost overruns.

FHWA Surface Transportation Program (STP) – STP provides flexible funding that can be used by states and localities for projects on any federal-aid highway, including the National Highway System, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities. A portion of funds reserved for rural areas can be spent on rural minor collectors. STP is the largest FHWA flexible funds program. Funding is at 80 percent federal and may be used for all projects eligible for funds under current FHWA and FTA programs.

A state may obligate funds apportioned to it for STP only for the following eligible activities:

- Construction, reconstruction, rehabilitation, resurfacing, restoration, and operational improvements for highways (including Interstate highways) and bridges (including bridges on public roads of all functional classifications), including construction or reconstruction necessary to accommodate other transportation modes, and including the seismic retrofit and painting of and application of calcium magnesium acetate, sodium acetate/formate, or other environmentally acceptable, minimally corrosive anti-icing and de-icing compositions on bridges and approaches thereto and other elevated structures, mitigation of damage to wildlife, habitat, and ecosystems caused by a transportation project funded under this program.
- Capital costs for transit projects eligible for assistance, including vehicles and facilities, whether publicly or privately owned, that are used to provide intercity passenger service by bus.

- Carpool projects, fringe and corridor parking facilities and programs, bicycle transportation and pedestrian walkways, and the modification of public sidewalks to comply with the Americans with Disabilities Act of 1990.
- Highway and transit safety infrastructure improvements and programs, hazard eliminations, projects to mitigate hazards caused by wildlife, and railway-highway grade crossings.
- Highway and transit research and development and technology transfer programs.
- Capital and operating costs for traffic monitoring, management, and control facilities and programs.
- Surface transportation planning programs.
- Transportation enhancement activities.
- Transportation control measures listed under the Clean Air Act.
- Development and establishment of management systems.
- Participation in natural habitat and wetlands mitigation efforts related to projects funded by this program, which may include participation in natural habitat and wetlands mitigation banks; contributions to statewide and regional efforts to conserve, restore, enhance, and create natural habitats and wetlands; and development of statewide and regional natural habitat and wetlands conservation and mitigation plans, including any banks, efforts, and plans authorized pursuant to the Water Resources Development Act of 1990.
- Infrastructure-based intelligent transportation systems capital improvements.
- Environmental restoration and pollution abatement projects (including the retrofit or construction of storm water treatment systems) to address water pollution or environmental degradation caused or contributed to by transportation facilities, which projects shall be carried out when the transportation facilities are undergoing reconstruction, rehabilitation, resurfacing, or restoration.

Local Share Match Funding Alternatives

There are several alternatives that exist to assist the GEEMD in meeting its local share funding requirements, as follows.

GEEMD Assessment/General Funds – GEEMD may choose to fund a portion of required local share match for the Livable Centers Plan within its own General Fund budget. For example, if a $5 million capital program is desired, GEEMD could dedicate $1 million of local share funds spread over a multi-year period. As there is not a corresponding Tax Increment Reinvestment Zone (TIRZ) overlay in the same area, GEEMD is limited to property assessments within the management district boundaries as a source for local share cash match. If, in the future, a "companion" TIRZ were created in the area, there would be an opportunity for GEEMD to partner with that entity to satisfy local share cash match requirements.

City of Houston General Fund or Capital Bond Fund Contributions – GEEMD may also wish to seek financial support from municipalities to meet local share requirements. For example, if the City of Houston proposes a new sidewalk project within the district with 100% local funds, these improvements could constitute local share match.

Land Value – For capital projects such as transit terminals, the value of land donated to the project can satisfy local share requirements. Land donations to a project could come from a developer, or other governmental entities.

Private Sector or Nonprofit Funds – GEEMD may also be able to partner with the private sector, or another nonprofit to satisfy local share requirements, as mutually beneficial opportunities arise.

State Transportation Development Credit (TDC) – A state may use toll revenues that are generated and used by public, quasi-public, and private agencies to build, improve, or maintain highways, bridges, or tunnels that serve the public purpose of interstate commerce as credit toward the non-federal share requirement for any funds made available to carry out eligible Department of Transportation-related capital projects. A transit authority or municipality may apply to TxDOT-Public Transportation Division for Transportation Development Credits in lieu of local share cash for eligible transit capital facilities projects. The Texas Transportation Commission is responsible for awarding State TDCs.

Community Development Block Grants (CDBG) – The CDBG program is the only federal funding program that can also be utilized as local match against other federal funds. Depending on state and local funding priorities, a portion of local share requirements could be funded through CDBG.

Just as the federal funding plan is flexible, so are the alternatives for local share funding. As a result, GEEMD has several alternatives to satisfy the local share match required.

Capturing and Protecting Local Value: FTA Letter of No Prejudice (LONP)

The LONP federal pre-award authority mechanism is a valuable tool to an FTA grantee. Under an approved LONP, an eligible capital project can be "protected" for federal reimbursement for up to five years. This tool allows local governments and transit authorities to advance project activities with local funds, building "local share" credit toward the overall project, and allowing for subsequent federal reimbursement should Discretionary, CMAQ, TE, or other funds be made available.

Examples of successful projects within the Houston-Galveston region that utilized the LONP mechanism include The Woodlands Town Center Pedestrian/Transit Corridor; Midtown *Pedestrian-Transit Masterplan*; Galveston Island Rail Trolley; and Galveston LCI. In order to receive an LONP, and protect its local investments, a project sponsor must meet FTA environmental clearance and advanced/preliminary engineering planning requirements, obtain approval of the LONP by the FTA Regional Office, and procure all bids for design, engineering, and construction in accordance with federal requirements, including advertisement for bids, Davis-Bacon wage rates in contractual documents, and debarment and lobbying certifications.

The GEEMD has achieved FTA Grantee status and has obtained an LONP for pedestrian/transit access improvements in its district.

FTA Livable Communities Initiative: A Framework for Urban Design

FTA LCI guidelines provide a framework for the design of streetscape improvements that enhance transit and pedestrian user access to transit facilities and services. Under LCI, pedestrian and transit access improvements are eligible within a 500-foot radius of a transit stop and within a 1,500-foot radius of a transit terminal. Improvements, such as sidewalks, ADA-compliant ramps, transit shelters, pedestrian-oriented lighting, street trees, and street furniture (benches and waste receptacles), are considered eligible by FTA for inclusion within a capital grant, if they demonstrate improved pedestrian/transit access. Although LCI does not have any specific funding source "attached" to it, the development of project components and qualification of costs in accordance with the program greatly enhances the fundability of a transit access-based urban revitalization effort.

LCI objectives include improving mobility and enhancing the quality of services available to residents of neighborhoods through use of the following:

- Strengthening the link between transit planning and community planning, including land use policies and urban design supporting the use of transit and, ultimately, providing physical assets that better meet community needs;
- Stimulating increased participation by community organizations and residents, minority and low-income residents, small and minority businesses, persons with disabilities, and the elderly in the planning and design process;
- Increasing access to employment and education facilities and other community destinations through high-quality, community-oriented, technologically innovative transit services and facilities; and
- Leveraging resources available through other federal, state, and local programs.

Eligible project planning activities include the following:

- Preparation of implementation plans and designs incorporating LCI elements;
- Assessment of environmental, social, economic, land use and urban design impacts of projects;
- Feasibility studies;
- Technical assistance;
- Participation by community organizations, and the business community, including small and minority owned businesses, and persons with disabilities,
- Evaluation of best practices; and
- Development of innovative urban design, land use, and zoning practices.

Eligible capital activities or capital project enhancements of demonstration projects include the following:

- Property acquisition, restoration, or demolition of existing structures, site preparation, utilities, building foundations, walkways, and open space that are physically and functionally related to transportation facilities;

- Purchase of buses and enhancements to transit stations, park & ride lots, and transfer facilities incorporating community services such as daycare, health care, and public safety;
- Safety elements, including lighting, surveillance, and community police and security services;
- Site design improvements, including sidewalks, aerial walkways, bus access, and kiss & ride facilities; and
- Operational enhancements, including transit marketing and pass programs, customer information services, and advanced vehicle locating, dispatch, and information systems.

[Note that Congress has established independent financial appropriation to support LCI. Funding can be drawn from all Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) resources to meet LCI objectives.]

Phasing, Funding, and Implementation Plan

Strategic Requirements

A successful strategy for funding capital improvements under the federal paradigm must be premised on the following factors:

- ***Phased implementation*** of logical project sub-areas, segments, and corridors over a reasonable period of time, such as five to seven years.
- ***Identification of potential federal funding resources***, and timing for availability of such funds through various calls for projects at the regional level, or cyclical state or federal discretionary program opportunities. In some cases a given project or phase may be eligible for more than program.
- ***Identification and allocation of local share resources*** to be dedicated to meeting federal match requirements.
- ***Consensus by the local sponsor*** to commit move the program forward. This requires a multi-year commitment by the leadership of GEEMD to complete the implementation plan.

The following tables depict the recommended phasing and funding plan for this plan. *Table 9.1* presents the funding plan for the Livable Centers corridors and *Table 9.2* presents the funding plan for the Harrisburg LRT corridors. These approaches are based on previous successful experiences by Houston area management districts in securing funding for pedestrian streetscape projects developed under FTA's LCI. In most cases, programmatic success is most likely to occur when project phases are delineated into total costs of approximately $2.5 million. Streetscape projects of this magnitude are large enough to have a real impact on the physical environment, and can be funded through MPO-selected federal discretionary resources. Keeping the local share requirement to a more manageable cash outlay for a municipal management district is also necessary. In some cases, state Transportation Development Credits can reduce the actual cash outlay of the local agency to $0. American Recovery and Reinvestment Act (ARRA) funds potentially could be used to reduce the net local share outlay to implement the program successfully.

As noted in *Table 9.1*, GEEMD already has been funded for Phase 1 of the Livable Centers corridors, Navigation, and segments of Sampson and York. Tables 9.1 and 9.2 present the phasing, costs, Federal funding program and sources of local match that best match the recommended improvements and the environments they serve.

Table 9.1 – Phasing and Funding Plan for Livable Centers Corridors Improvements

Phase	*Description*	*Total Cost*	*Federal Funding Program*	*Federal Funding Share*	*Local Match*	*Local Share Source*
1	Navigation, Sampson (part), York (part)	$4,863,730	ARRA	100%	0%	n/a
2	Sampson, York (balance)	$2,434,869	ARRA II	100%	0%	n/a
3	Canal	$2,575,776	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash or State TDC
4	Side Streets Part 1	$3,001,375	STP-TCSP	80%	20%	Local Share Cash or State TDC
5	Side Streets Part 2	$3,001,375	STP-TCSP	80%	20%	Local Share Cash or State TDC
6	Other Treatments	$1,040,000	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash or State TDC
	Total	**$16,917,125**				

ARRA = American Recovery and Reinvestment Act
CMAQ = Congestion Mitigation and Air Quality Improvement Program
TDC = State Transportation Development Credits
STP = Surface Transportation Program
TCSP = Transportation and Community and System Preservation Program

Table 9.2 – Phasing and Funding Plan for Harrisburg LRT Corridors Improvements						
Phase	***Description***	***Total Cost***	***Federal Funding Program***	***Federal Funding Share***	***Local Match***	***Local Share Source***
1	Lockwood	$1,971,409	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash Land Value City of Houston State TDC
2	Altic Chavez	$660,186 $675,338	STP-TCSP	80%	20%	Local Share Cash City of Houston State TDC
3	70th Street	$1,716,647	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash City of Houston State TDC
4	Harrisburg *	$6,470,659	STP-TCSP or Sec 5309 Discretionary	80%	20%	Local Share Cash City of Houston State TDC
5	Special Destinations	$3,432,000	STP-TCSP or TxDOT STEP	80%	20%	Local Share Cash or State TDC
6	Other Treatments	$1,040,000	Sec. 5309 Discretionary or CMAQ	80%	20%	Local Share Cash or State TDC
	Total	**$15,966,239**				

ARRA = American Recovery and Reinvestment Act
CMAQ = Congestion Mitigation and Air Quality Improvement Program
TDC = State Transportation Development Credits
STP = Surface Transportation Program
TCSP = Transportation and Community and System Preservation Program

The recommendations and related costs and benefits associated with Harrisburg Boulevard must be seen as the best estimate at this time and future design decisions may require an update to this estimate.

GEEMD will continue to support METRO's efforts to incorporate the recommended pedestrian-transit access improvements. Some of these elements, including sidewalk widths, landscaping and others, may not be achievable in the METRO design due to lack of right-of-way or other physical and functional needs of the LRT construction and operation. Therefore, the recommendations and related costs and benefits associated with Harrisburg Boulevard must be seen as the best estimate at this time and future design decisions may require an update to this plan.

Appendices

Appendix A - Amount of Vacant Property

The following tables present the location and amount of non-exempt vacant property located along the improvement corridors based on Harris Country Appraisal District records.

Navigation Non-Exempt Vacant Properties Between US 59 and York

Address	Zip	Imp Size	Appraised Val	Market Val	Land Size(SF)
2402 NAVIGATION BLVD	77003	0	Pending	Pending	5,300
2240 NAVIGATION BLVD	77003	0	$418,668	$418,668	34,889
2929 NAVIGATION BLVD	77003	0	$401,544	$401,544	33,462
2707 NAVIGATION BLVD	77003	0	$252,000	$252,000	21,000
3407 NAVIGATION BLVD	77003	0	$190,272	$190,272	15,856
2432 NAVIGATION BLVD	77003	0	$161,112	$161,112	13,426
2501 NAVIGATION BLVD	77003	0	$129,544	$129,544	10,200
2600 NAVIGATION BLVD	77003	0	$123,600	$123,600	10,300
2332 NAVIGATION BLVD	77003	0	$115,000	$115,000	11,905
2929 NAVIGATION BLVD	77003	0	$95,760	$95,760	7,980
2606 NAVIGATION BLVD	77003	0	$62,856	$62,856	5,238
2412 NAVIGATION BLVD	77003	0	$47,844	$47,844	3,987
2302 NAVIGATION BLVD	77003	0	$26,520	$26,520	2,210
2412 NAVIGATION BLVD	77003	0	$17,052	$17,052	1,421
				$2,041,772	177,174

Canal Non-Exempt Vacant Property Between Navigation and York

Address	Zip	Imp Size	Appraised Val	Market Val	Land Size(SF)
2311 CANAL ST	77003	0	Pending	Pending	12,072
2311 CANAL ST	77003	0	Pending	Pending	21,270
2311 CANAL ST	77003	0	Pending	Pending	43,939
2111 CANAL ST	77003	0	$2,241,680	$2,241,680	112,084
2600 CANAL ST	77003	0	$592,800	$592,800	59,280
2005 CANAL ST	77003	0	$553,228	$553,228	42,556
2005 CANAL ST	77003	0	$489,600	$489,600	24,480
2714 CANAL ST	77003	0	$379,620	$379,620	31,635
2005 CANAL ST	77003	0	$182,400	$182,400	9,120
3311 CANAL ST	77003	0	$177,912	$177,912	14,826
3326 CANAL ST	77003	0	$145,600	$145,600	13,000
3402 CANAL ST	77003	0	$132,000	$132,000	10,000
2727 CANAL ST	77003	0	$124,721	$124,721	10,192
2302 CANAL ST	77003	0	$119,952	$119,952	9,996
2314 CANAL ST	77003	0	$98,400	$98,400	8,200
3328 CANAL ST	77003	0	$85,800	$85,800	6,500
2515 CANAL ST	77003	0	$66,000	$66,000	5,500
2308 CANAL ST	77003	0	$60,000	$60,000	5,000
2324 CANAL ST	77003	0	$60,000	$60,000	5,000
2318 CANAL ST	77003	0	$58,800	$58,800	4,900
2615 CANAL ST	77003	0	$38,500	$38,500	5,000
2318 CANAL ST	77003	0	$37,560	$37,560	3,130
				$5,644,573	457,680

N Sampson Non-Exempt Vacant Property between Navigation and Harrisburg

Address	Zip	Imp Size	Appraised Val	Market Val	Land Size(SF)
0 N SAMPSON	77003	0	Pending	Pending	5,600
320 N SAMPSON	77003	0	$132,480	$132,480	11,040
320 N SAMPSON ST	77003	0	$96,120	$96,120	8,010
304 N SAMPSON	77003	0	$93,744	$93,744	7,812
102 N SAMPSON ST	77003	0	$60,000	$60,000	5,000
0 N SAMPSON	77003	0	$55,690	$55,690	9,465
0 N SAMPSON ST	77003	0	$46,915	$46,915	3,712
0 N SAMPSON ST	77003	0	$46,368	$46,368	3,712
6 N SAMPSON ST	77003	0	$41,869	$41,869	5,875
0 N SAMPSON	77003	0	$38,500	$38,500	5,000
320 N SAMPSON ST	77003	0	$34,716	$34,716	2,893
320 N SAMPSON ST	77003	0	$14,485	$14,485	1,126
				$660,887	69,245

S Sampson Non-Exempt Vacant Property Between Harrisburg and Navigati

Address	Zip	Imp Size	Appraised Val	Market Val	Land Size(SF)
0 SAMPSON ST	77003	0	$371,692	$371,692	29,885
100 SAMPSON ST	77003	0	$278,688	$278,688	23,224
0 SAMPSON	77003	0	$150,000	$150,000	10,000
0 SAMPSON	77003	0	$100,000	$100,000	5,000
0 SAMPSON	77003	0	$68,400	$68,400	10,200
0 SAMPSON ST	77003	0	$44,100	$44,100	3,150
0 SAMPSON ST	77003	0	$41,520	$41,520	3,460
0 SAMPSON ST	77003	0	$40,980	$40,980	3,415
0 SAMPSON ST	77004	0	$40,000	$40,000	5,000
114 SAMPSON ST	77003	0	$38,500	$38,500	5,000
0 SAMPSON ST	77004	0	$37,125	$37,125	
0 SAMPSON ST	77004	0	$17,325	$17,325	1,980
0 SAMPSON ST	77004	0	$17,325	$17,325	1,980
0 SAMPSON ST	77004	0	$17,325	$17,325	1,980
0 SAMPSON ST	77003	0	$472	$472	420
				$1,263,452	104,694

N York Non-Exempt Vacant Property Between Harrisburg and Navigatio

Address	Zip	Imp Size	Appraised Val	Market Val	Land Size(SF)
0 N YORK ST	77003	0	Pending	Pending	14,100
0 N YORK ST	77003	0	Pending	Pending	14,100
312 N YORK ST	77003	0	$140,625	$140,625	18,750
312 N YORK ST	77003	0	$112,500	$112,500	15,000
132 N YORK ST	77003	0	$112,000	$112,000	11,200
0 N YORK ST	77003	0	$66,240	$66,240	5,520
0 N YORK	77003	0	$48,799	$48,799	7,675
312 N YORK ST	77003	0	$47,000	$47,000	4,700
312 N YORK ST	77003	0	$47,000	$47,000	4,700
0 N YORK ST	77003	0	$43,312	$43,312	6,250
138 N YORK ST	77003	0	$40,810	$40,810	5,600
20 N YORK ST	77003	0	$38,500	$38,500	5,000
19 N YORK ST	77003	0	$36,458	$36,458	3,881
204 N YORK ST	77003	0	$35,655	$35,655	3,675
0 N YORK	77003	0	$35,035	$35,035	3,500
0 N YORK ST	77003	0	$32,537	$32,537	3,040
0 N YORK	77003	0	$5,084	$5,084	16,945
				$841,555	143,636

S York Non-Exempt Vacant Property Between Harrisburg and Navigation

Address	Zip	Imp Size	Appraised Val	Market Val	Land Size(SF)
407 YORK ST	77003	0	Pending	Pending	2,500
500 YORK ST	77003	0	Pending	Pending	26,167
0 YORK ST	77003	0	$376,000	$376,000	25,000
315 YORK ST	77587	0	$80,600	$80,600	14,200
109 YORK ST	77003	0	$50,000	$50,000	5,000
111 YORK ST	77003	0	$50,000	$50,000	5,000
0 YORK ST	77003	0	$38,500	$38,500	5,000
231 YORK ST	77003	0	$38,500	$38,500	5,000
102 YORK ST	77587	0	$16,839	$25,968	9,230
113 YORK ST	77587	0	$22,507	$22,507	7,100
204 YORK ST	77587	0	$22,507	$22,507	7,100
206 YORK ST	77587	0	$22,507	$22,507	7,100
218 YORK ST	77587	0	$22,507	$22,507	7,100
0 YORK ST	77396	0	$21,553	$21,553	15,500
315 YORK ST	77587	0	$21,412	$21,412	4,500
0 YORK ST	77003	0	$1,878	$1,878	313
				$794,439	145,810

Jensen Non-Exempt Vacant Property RR Underpass to Bayou Bridge

Address	*Improvements*	*Size (sq. ft.)*
400 Jensen	0	145,577
301 Jensen	0	69,334
0 Jensen	0	62,726
2240 Navigation	0	34,889
2332 Navigation	0	11,905
2302 Canal		2,210
Total		**326,641**

Based on an analysis of property estimated to receive an economic benefit from the improvement without street realignments recommended in Chapter 8.

Mixed Use Development Program / Harrisburg LRT Corridors					
STATION					
		Office or	**Light**		
York	**Retail**	**Services**	**Industry**	**Residential**	**Total**
	Sq. Ft.	Sq. Ft.	Sq. Ft.	Sq. Ft. (1)	Sq. Ft.
Property	94,245	31,415	31,415	157,075	314,150
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	58,903	28,274	18,849	439,810	545,836
(1) Mixture of Town Homes, Apartments and					
Condominiums averaging	1,500	Sq. Ft.			
		Office or	**Light**		
Lockwood	**Retail**	**Services**	**Industry**	**Residential**	**Total**
	Sq. Ft.	Sq. Ft.	Sq. Ft.	Sq. Ft. (1)	Sq. Ft.
Property	848,205	169,641	169,641	339,282	1,526,769
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	530,128	152,677	101,785	949,990	1,734,579
(1) Mixture of Town Homes, Apartments and					
Condominiums averaging	1,500	Sq. Ft.			
		Office or	**Light**		
Altic	**Retail**	**Services**	**Industry**	**Residential**	**Total**
	Sq. Ft.	Sq. Ft.	Sq. Ft.	Sq. Ft. (1)	Sq. Ft.
Property	32,986	16,493	16,493	98,957	164,929
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	20,616	14,844	9,896	277,080	322,436
(1) Mixture of Town Homes, Apartments and					
Condominiums averaging	1,500	Sq. Ft.			
		Office or	**Light**		
Chavez	**Retail**	**Services**	**Industry**	**Residential**	**Total**
	Sq. Ft.	Sq. Ft.	Sq. Ft.	Sq. Ft. (1)	Sq. Ft.
Property	78,538	31,415	31,415	172,783	314,150
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	49,086	28,274	18,849	483,791	579,999
(1) Mixture of Town Homes, Apartments and					
Condominiums averaging	1,500	Sq. Ft.			
		Office or	**Light**		
70th Street	**Retail**	**Services**	**Industry**	**Residential**	**Total**
	Sq. Ft.	Sq. Ft.	Sq. Ft.	Sq. Ft. (1)	Sq. Ft.
Property	318,077	127,231	127,231	572,538	1,145,077
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	198,798	114,508	76,338	1,603,107	1,992,752
(1) Mixture of Town Homes, Apartments and					
Condominiums averaging	1,500	Sq. Ft.			

Appendix B - Ridership Data in Livable Centers Corridors

Route	Stop Location	Stop #	Direction	Boardings	Alightings	Total Activity
77	Navigation @ Canal	1236	NB	14	24	38
77	Jensen @ Navigation	1428	NB	24	20	44
77	Jensen @ Kennedy	1429	NB	8	24	32
77	Jensen @ Shiloh	1430	NB	8	4	12
77	Jensen @ Bryan	1425	SB	4	2	6
77	Jensen @ Foote	1426	SB	1	0	1
77	Jensen @ Ann	1427	SB	29	17	46
77	Navigation @ Jensen	353	SB	8	12	20
77	Navigation @ Canal	1261	SB	16	19	35
6	Jensen @ Bryan	1425	SB	1	4	5
6	Jensen @ Foote	1426	SB	2	0	2
6	Jensen @ Ann	1427	SB	12	16	28
6	Navigation @ Jensen	353	SB	5	15	20
6	Navigation @ Canal	1261	SB	14	11	25
6	Navigation @ Canal	1236	NB	14	5	19
6	Jensen @ Navigation	1428	NB	32	5	37
6	Jensen @ Kennedy	1429	NB	5	5	10
6	Jensen @ Shiloh	1430	NB	2	1	3
20	Canal @ Sampson	1255	WB	43	17	60
20	Canal @ Palmer	1256	WB	16	17	33
20	Canal @ Paige	1257	WB	12	9	21
20	Canal @ Delano	1258	WB	9	9	18
20	Canal @ St. Charles	1259	WB	9	9	18
20	Canal @ Navigation	1260	WB	16	30	46
20	Navigation @ Canal	1261	WB	9	6	15
20	Canal @ Navigation	1237	EB	47	28	75
20	Canal @ St Charles	1238	EB	12	12	24
20	Canal @ Delano	1239	EB	19	11	30
20	Canal @ Paige	1240	EB	1	14	15
20	Canal @ Palmer	1241	EB	10	10	20
20	Canal @ Sampson	1242	EB	19	24	43
29	York @ Harrisburg	9754	NB	12	17	29
29	York @ Garrow	11353	NB	1	4	5
29	York @ Sherman	9755	NB	2	2	4
29	York @ Canal	9756	NB	7	22	29
29	York @ Engelke	9757	NB	29	40	69
29	York @ Fox	1442	NB	16	10	26
29	York @ Ball	1443	NB	0	4	4
29	York @ Clinton	1444	NB	2	10	12
29	Hirsch @ Clinton	1439	SB	5	5	10

Route	*Stop Location*	*Stop #*	*Direction*	*Boardings*	*Alightings*	*Total Activity*
29	York @ Ball	1440	SB	2	0	2
29	York @ Fox	1441	SB	1	32	33
29	Sampson @ Engelke	9739	SB	63	19	82
29	Sampson @ Canal	9740	SB	22	12	34
29	Sampson @ Sherman	9741	SB	2	2	4
29	Sampson @ Preston	9742	SB	0	2	2
30	Navigation @ Canal	1236	NB	9	15	24
30	Jensen @ Navigation	1428	NB	18	12	30
30	Jensen @ Kennedy	1429	NB	1	19	20
30	Jensen @ Shiloh	1430	NB	10	3	13
30	Clinton @ Jensen	354	NB	2	3	5
30	Clinton @ Meadow	355	NB	0	1	1
30	Clinton @ Bayou	356	NB	3	9	12
30	Clinton @ Gregg	357	NB	0	5	5
30	Clinton @ Bringhurst	358	NB	0	1	1
30	Clinton @ Bringhurst	359	NB	0	7	7
30	Clinton @ Bringhurst	360	NB	2	7	9
30	Clinton @ Hirsch	361	NB	4	11	15
30	Clinton @ Judd	388	SB	5	1	6
30	Clinton @ Judd	389	SB	6	1	7
30	Clinton @ Judd	390	SB	1	1	2
30	Clinton @ Bringhurst	391	SB	4	1	5
30	Clinton @ Gregg	392	SB	2	1	3
30	Clinton @ Bayou	393	SB	11	6	17
30	Clinton @ Meadow	394	SB	1	0	1
30	Clinton @ Meadow	395	SB	1	4	5
30	Jensen @ Bryan	1425	SB	1	10	11
30	Jensen @ Foote	1426	SB	1	0	1
30	Jensen @ Ann	1427	SB	37	5	42
30	Navigation @ Jensen	353	SB	26	0	26
30	Navigation @ Canal	1261	SB	23	4	27
37	Jensen @ Bryan	1425	EB	0	1	1
37	Jensen @ Foote	1426	EB	0	0	0
37	Jensen @ Ann	1427	EB	19	23	42
37	Navigation @ Jensen	353	EB	1	1	2
37	Canal @ Navigation	1237	EB	16	7	23
37	Canal @ St. Charles	1238	EB	6	1	7
37	Canal @ Delano	1239	EB	4	4	8
37	Canal @ Paige	1240	EB	1	0	1
37	Canal @ Palmer	1241	EB	6	3	9
37	Canal @ Sampson	1242	EB	5	14	19
37	Canal @ Sampson	1255	WB	21	14	35
37	Canal @ Palmer	1256	WB	1	0	1
37	Canal @ Paige	1257	WB	1	7	8
37	Canal @ Delano	1258	WB	4	1	5

Route	*Stop Location*	*Stop #*	*Direction*	*Boardings*	*Alightings*	*Total Activity*
37	Canal @ St. Charles	1259	WB	5	10	15
37	Canal @ Navigation	1260	WB	7	26	33
37	Jensen @ Navigation	90114	WB	0	0	0
37	Jensen @ Navigation	1428	WB	16	12	28
37	Jensen @ Kennedy	1429	WB	11	12	23
37	Jensen @ Shiloh	1430	WB	0	0	0
48	Navigation @ Canal	1236	EB	4	3	7
48	Navigation @ St. Charles	9782	EB	5	0	5
48	Navigation @ Nagle	9784	EB	0	2	2
48	Navigation @ Delano	9785	EB	1	5	6
48	Navigation @ Ennis	9786	EB	0	3	3
48	Navigation @ Palmer	9787	EB	0	2	2
48	Navigation @ Sampson	9788	EB	9	22	31
48	Navigation @ York	410	WB	2	3	5
48	Navigation @ Engelke	411	WB	51	3	54
48	Navigation @ Palmer	412	WB	2	2	4
48	Navigation @ Ennis	413	WB	1	0	1
48	Navigation @ Delano	414	WB	2	0	2
48	Navigation @ Live Oak	415	WB	2	3	5
48	Navigation @ St. Charles	416	WB	1	15	16
48	Navigation @ Jensen	353	WB	1	9	10
48	Navigation @ Canal	1261	WB	8	2	10
50	Harrisburg @ Middleton	1215	EB	15	34	49
50	Harrisburg @ Velasco	1216	EB	5	9	14
50	Harrisburg @ Sampson	10968	EB	14	3	17
50	Harrisburg @ York	1217	EB	15	7	22
50	Harrisburg @ York	10967	WB	14	23	37
50	Harrisburg @ Sampson	1228	WB	6	5	11
50	Harrisburg @ Velasco	1229	WB	5	6	11
50	Harrisburg @ Middleton	1230	WB	15	9	24
50	Harrisburg @ Delano	1231	WB	1	10	11
11	Runnels @ Chartres	9798	NB	30	56	86
11	Runnels @ Lottman	9799	NB	0	5	5
11	Jensen @ Navigation	1428	NB	15	34	49
11	Jensen @ Kennedy	1429	NB	7	16	23
11	Jensen @ Shiloh	1430	NB	0	3	3
11	Jensen @ Bryan	1425	SB	1	1	2
11	Jensen @ Foote	1426	SB	0	0	0
11	Jensen @ Ann	1427	SB	37	16	53
11	Runnels @ Lottman	9796	SB	14	16	30
11	Runnels @ Jensen	9797	SB	71	18	89

Appendix C - Ridership Data in Harrisburg LRT Corridors

Route	Stop Location	Stop #	Direction	Boardings	Alightings	Total Activity
20	Magnolia Transit Center	77	WB	167	122	289
20	Magnolia Transit Center	77	EB	187	127	314
26/27	Magnolia Transit Center	77	CCL	157	122	279
26/27	69th @ Harrisburg	821	CCL	85	73	158
26/27	SSgt Macario Garcia @ Ave C	822	CCL	2	1	3
26/27	SSgt Macario Garcia @ Ave E	823	CCL	2	0	2
26/27	Magnolia Transit Center	77	CL	164	126	290
26/27	Wayside @ Ave E	9814	CL	8	12	20
26/27	Wayside @ Ave C	9815	CL	0	1	1
26/27	Wayside @ Harrisburg	9816	CL	2	31	33
36	Magnolia Transit Center	77	WB	124	116	240
36	Magnolia Transit Center	77	EB	132	121	253
37	Wayside @ Ave E	9814	EB	1	3	4
37	Wayside @ Ave C	9815	EB	0	10	10
37	Harrisburg @ 69th	9457	EB	0	12	12
37	Magnolia Transit Center	77	EB	64	51	115
37	Magnolia Transit Center	77	WB	51	56	107
37	69th @ Harrisburg	821	WB	4	0	4
37	SSgt Macario Garcia @ Ave C	822	WB	0	0	0
37	SSgt Macario Garcia @ Ave E	823	WB	0	2	2
38	Magnolia Transit Center	77	EB	29	48	77
38	Magnolia Transit Center	77	WB	42	39	81
42	Lockwood @ McKinney	9316	EB	2	1	3
42	Lockwood @ Rusk	9317	EB	0	0	0
42	Lockwood @ Harrisburg	9318	EB	4	14	18
42	Lockwood @ Sherman	9319	EB	2	1	3
42	Hughes @ Harrisburg	9482	EB	5	5	10
42	Harrisburg @ 66th	9982	EB	1	3	4
42	Harrisburg @ Cesar Chavez		EB	2	0	2
42	Harrisburg @ Wayside	9456	EB	10	25	35
42	Magnolia Transit Center	77	EB	51	44	95
42	Magnolia Transit Center	77	WB	52	44	96
42	Harrisburg @ Wayside	9434	WB	22	1	23
42	Harrisburg @ Cesar Chavez		WB	2	0	2
42	Harrisburg @ 66th	9435	WB	7	3	10
42	Hughes @ Harrisburg	9483	WB	6	3	9
42	Lockwood @ Sherman	1107	WB	1	0	1
42	Lockwood @ Harrisburg	1108	WB	6	8	14
42	Lockwood @ Rusk	1109	WB	1	0	1
42	Lockwood @ McKinney	1110	WB	6	3	9

Route	*Stop Location*	*Stop #*	*Direction*	*Boardings*	*Alightings*	*Total Activity*
48	Magnolia Transit Center	77	EB	19	14	33
48	Magnolia Transit Center	77	WB	17	12	29
50	Harrisburg @ York	1217	EB	15	7	22
50	Harrisburg @ Everton	1218	EB	18	18	36
50	Harrisburg @ Drennan	1219	EB	9	24	33
50	Harrisburg @ Estelle	1220	EB	0	17	17
50	Harrisburg @ Eastwood	1221	EB	30	41	71
50	Harrisburg @ Bob	1222	EB	0	3	3
50	Harrisburg @ Lockwood	1223	EB	16	19	35
50	Harrisburg @ Stiles	9446	EB	17	23	40
50	Harrisburg @ Adams	9447	EB	20	18	38
50	Harrisburg @ Edgewood	9448	EB	9	22	31
50	Harrisburg @ Delmar	9449	EB	31	47	78
50	Harrisburg @ Latham	9450	EB	11	11	22
50	Harrisburg @ Norwood	9451	EB	13	63	76
50	Harrisburg @ Cowling	9452	EB	3	6	9
50	Harrisburg @ Caylor	9453	EB	8	14	22
50	Harrisburg @ Hughes	9454	EB	18	46	64
50	Harrisburg @ 66th	9982	EB	15	31	46
50	Harrisburg @ Cesar Chavez		EB	1	20	21
50	Harrisburg @ Wayside	9456	EB	50	72	122
50	Harrisburg @ 69th	9457	EB	6	22	28
50	Magnolia Transit Center	77	EB	213	212	425
50	Magnolia Transit Center	77	WB	234	216	450
50	Harrisburg @ Wayside	9434	WB	108	35	143
50	Harrisburg @ Cesar Chavez		WB	13	15	28
50	Harrisburg @ 66th	9435	WB	30	27	57
50	Harrisburg @ Hughes	9436	WB	39	22	61
50	Harrisburg @ Caylor	9437	WB	14	13	27
50	Harrisburg @ Cowling	9438	WB	1	2	3
50	Harrisburg @ Norwood	9439	WB	84	18	102
50	Harrisburg @ Latham	9440	WB	6	8	14
50	Harrisburg @ Delmar	9441	WB	38	39	77
50	Harrisburg @ Edgewood	9442	WB	3	14	17
50	Harrisburg @ Adams	9443	WB	22	22	44
50	Harrisburg @ Stiles	9444	WB	10	16	26
50	Harrisburg @ Lockwood	9445	WB	32	22	54
50	Harrisburg @ Bob	1224	WB	5	2	7
50	Harrisburg @ Eastwood	1225	WB	46	19	65
50	Harrisburg @ Estelle	1226	WB	5	10	15
50	Harrisburg @ Drennan	10169	WB	19	11	30
50	Harrisburg @ Everton	1227	WB	44	25	69
50	Harrisburg @ York	10967	WB	14	23	37
Total				**2707**	**2549**	**5256**

Appendix D - Treatments, Costs, and Revised Scores

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	Score	Qty.	Unit	Unit Cost	%	Cost	New Score		Score	Qty.	Unit	Unit Cost	%	Cost	Rev. Score
York between EAST of Harrisburg - Preston																
Block Length (ft)	290	Driveway Length (ft)			50	Curb to B.L. (ft)		15	290	Driveway Length (ft)			60	Curb to B.L. (ft)		15
Land Use		Commercial								Commercial & Church						
Sidewalks (width)	5	2						0	5	2						0
Demolition			1450	SF	$2.00	100%	$2,900.00				1450	SF	$2.00	100%	$2,900.00	
Installation			1450	SF	$12.00	100%	$17,400.00				1450	SF	$12.00	100%	$17,400.00	
Driveways (depth)	10	2						0	10	2						0
Demolition			500	SF	$3.00	100%	$1,500.00				600	SF	$3.00	100%	$1,800.00	
Installation			500	SF	$9.00	100%	$4,500.00				600	SF	$9.00	100%	$5,400.00	
Curbs		1						0		1						0
Demolition			72.5	LF	$4.00	25%	$290.00				145	LF	$4.00	50%	$580.00	
Installation			72.5	LF	$14.00	25%	$1,015.00				145	LF	$14.00	50%	$2,030.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	8	EA	$3,000.00		$24,000.00	1	30	2	7	EA	$3,000.00		$21,000.00	1
Landscaping		2						1		2						1
Trees (spacing)	30		8	EA	$400.00		$3,200.00		30		7	EA	$400.00		$2,800.00	
Curb to sidewalk	10		2400	SF	$9.00		$21,600.00		10		2300	SF	$9.00		$20,700.00	
Irrigation / Tree			8	EA	$100.00		$800.00				7	EA	$100.00		$700.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$87,405.00**	**2**		**13**					**$85,510.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	Score	Qty.	Unit	Unit Cost	%	Cost	New Score		Score	Qty.	Unit	Unit Cost	%	Cost	Rev. Score
York between Preston - Garrow																
Block Length (ft)	300	Driveway Length (ft)			48	Curb to B.L. (ft)		15	300	Driveway Length (ft)			48	Curb to B.L. (ft)		15
Land Use		Residential														
Sidewalks (width)	5	2						0	5	2						0
Demolition			1500	SF	$2.00	100%	$3,000.00				1500	SF	$2.00	100%	$3,000.00	
Installation			1500	SF	$12.00	100%	$18,000.00				1500	SF	$12.00	100%	$18,000.00	
Driveways (depth)	10	2						0	10	2						0
Demolition			480	SF	$3.00	100%	$1,440.00				480	SF	$3.00	100%	$1,440.00	
Installation			480	SF	$9.00	100%	$4,320.00				480	SF	$9.00	100%	$4,320.00	
Curbs		1						0		1						0
Demolition			75	LF	$4.00	25%	$300.00				150	LF	$4.00	50%	$600.00	
Installation			75	LF	$14.00	25%	$1,050.00				150	LF	$14.00	50%	$2,100.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	8	EA	$3,000.00		$24,000.00	1	30	2	2	EA	$3,000.00		$6,000.00	1
Landscaping		2						1		2						1
Trees (spacing)	30		8	EA	$400.00		$3,200.00		30		8	EA	$400.00		$3,200.00	
Curb to sidewalk	10		2520	SF	$9.00		$22,680.00		10		2520	SF	$9.00		$22,680.00	
Irrigation / Tree			8	EA	$100.00		$800.00				8	EA	$100.00		$800.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$88,990.00**	**2**		**13**					**$72,340.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	Score	Qty.	Unit	Unit Cost	%	Cost	New Score		Score	Qty.	Unit	Unit Cost	%	Cost	Rev. Score
Garrow to Sherman																
Block Length (ft)	295	Driveway Length (ft)			24	Curb to B.L. (ft)		15	295	Driveway Length (ft)			38	Curb to B.L. (ft)		15
Land Use		Mixed								Commercial						
Sidewalks (width)	5	2						0	5	2						0
Demolition			1475	SF	$2.00	100%	$2,950.00				1475	SF	$2.00	100%	$2,950.00	
Installation			1475	SF	$12.00	100%	$17,700.00				1475	SF	$12.00	100%	$17,700.00	
Driveways (depth)	10	2						0	10	2						0
Demolition			240	SF	$3.00	100%	$720.00				380	SF	$3.00	100%	$1,140.00	
Installation			240	SF	$9.00	100%	$2,160.00				380	SF	$9.00	100%	$3,420.00	
Curbs		1						0		1						0
Demolition			147.5	LF	$4.00	50%	$590.00				147.5	LF	$4.00	50%	$590.00	
Installation			147.5	LF	$14.00	50%	$2,065.00				147.5	LF	$14.00	50%	$2,065.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	9	EA	$3,000.00		$27,000.00	1	30	2	8	EA	$3,000.00		$24,000.00	1
Landscaping		2						1		2						1
Trees (spacing)	30		9	EA	$400.00	75%	$3,600.00		30		8	EA	$400.00		$3,200.00	
Curb to sidewalk	10		2710	SF	$9.00		$24,390.00		10		2570	SF	$9.00		$23,130.00	
Irrigation / Tree			9	EA	$100.00		$900.00				8	EA	$100.00		$800.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$92,275.00**	**2**		**13**					**$89,195.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	Score	Qty.	Unit	Unit Cost	%	Cost	New Score		Score	Qty.	Unit	Unit Cost	%	Cost	Rev. Score
York between Sherman - Commerce																
Block Length (ft)	318	Driveway Length (ft)			36	Curb to B.L. (ft)		15	318	Driveway Length (ft)			60	Curb to B.L. (ft)		15
Land Use		Retail								Residential						
Sidewalks (width)	5	2						0	5	2						0
Demolition			1590	SF	$2.00	100%	$3,180.00				1590	SF	$2.00	100%	$3,180.00	
Installation			1590	SF	$12.00	100%	$19,080.00				1590	SF	$12.00	100%	$19,080.00	
Driveways (depth)	10	2						0	10	2						0
Demolition			360	SF	$3.00	100%	$1,080.00				600	SF	$3.00	100%	$1,800.00	
Installation			360	SF	$9.00	100%	$3,240.00				600	SF	$9.00	100%	$5,400.00	
Curbs		1						0		1						0
Demolition			159	LF	$4.00	50%	$636.00				79.5	LF	$4.00	25%	$318.00	
Installation			159	LF	$14.00	50%	$2,226.00				79.5	LF	$14.00	25%	$1,113.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00	100%	$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	9	EA	$3,000.00		$27,000.00	1	30	2	8	EA	$3,000.00		$24,000.00	1
Landscaping		2						1		2						1
Trees (spacing)	30		9	EA	$400.00		$3,600.00		30		8	EA	$400.00		$3,200.00	
Curb to sidewalk	10		2820	SF	$9.00		$25,380.00		10		2580	SF	$9.00		$23,220.00	
Irrigation / Tree			9	EA	$100.00		$900.00				8	EA	$100.00		$800.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$96,522.00**	**2**		**13**					**$92,311.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	Score	Qty.	Unit	Unit Cost	%	Cost	New Score		Score	Qty.	Unit	Unit Cost	%	Cost	Rev. Score
York between Commerce - McAshan																
Block Length (ft)	290	Driveway Length (ft)			48	Curb to B.L. (ft)		15	290	Driveway Length (ft)			48	Curb to B.L. (ft)		15
Land Use		Mixed								Residential and Commercial						
Sidewalks (width)	5	2						0	5	2						0
Demolition			1450	SF	$2.00	100%	$2,900.00				1450	SF	$2.00	100%	$2,900.00	
Installation			1450	SF	$12.00	100%	$17,400.00				1450	SF	$12.00	100%	$17,400.00	
Driveways (depth)	10	2						0	10	2						0
Demolition			480	SF	$3.00	100%	$1,440.00				480	SF	$3.00	100%	$1,440.00	
Installation			480	SF	$9.00	100%	$4,320.00				480	SF	$9.00	100%	$4,320.00	
Curbs		1						0		1						0
Demolition			72.5	LF	$4.00	25%	$290.00				72.5	LF	$4.00	25%	$290.00	
Installation			72.5	LF	$14.00	25%	$1,015.00				72.5	LF	$14.00	25%	$1,015.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00	100%	$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	8	EA	$3,000.00		$24,000.00	1	30	2	8	EA	$3,000.00		$24,000.00	1
Landscaping		2						1		2						1
Trees (spacing)	30		8	EA	$400.00	50%	$3,200.00		30		8	EA	$400.00		$3,200.00	
Curb to sidewalk	10		2420	SF	$9.00		$21,780.00		10		2420	SF	$9.00		$21,780.00	
Irrigation / Tree			8	EA	$100.00		$800.00				8	EA	$100.00		$800.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$87,345.00**	**2**		**13**					**$87,345.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	Score	Qty.	Unit	Unit Cost	%	Cost	New Score		Score	Qty.	Unit	Unit Cost	%	Cost	Rev. Score
York between McAshan - Canal																
Block Length (ft)	290	Driveway Length (ft)			48	Curb to B.L. (ft)		15	290	Driveway Length (ft)			48	Curb to B.L. (ft)		15
Land Use		Mixed								Residential and Commercial						
Sidewalks (width)	5	2						0	5	2						0
Demolition			1450	SF	$2.00	100%	$2,900.00				1450	SF	$2.00	100%	$2,900.00	
Installation			1450	SF	$12.00	100%	$17,400.00				1450	SF	$12.00	100%	$17,400.00	
Driveways (depth)	10	2						0	10	2						0
Demolition			480	SF	$3.00	100%	$1,440.00				480	SF	$3.00	100%	$1,440.00	
Installation			480	SF	$9.00	100%	$4,320.00				480	SF	$9.00	100%	$4,320.00	
Curbs		1						0		1						0
Demolition			72.5	LF	$4.00	25%	$290.00				72.5	LF	$4.00	25%	$290.00	
Installation			72.5	LF	$14.00	25%	$1,015.00				72.5	LF	$14.00	25%	$1,015.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00	100%	$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	8	EA	$3,000.00		$24,000.00	1	30	2	8	EA	$3,000.00		$24,000.00	1
Landscaping		2						1		2						1
Trees (spacing)	30		8	EA	$400.00	50%	$3,200.00		30		8	EA	$400.00		$3,200.00	
Curb to sidewalk	10		2420	SF	$9.00		$21,780.00		10		2420	SF	$9.00		$21,780.00	
Irrigation / Tree			8	EA	$100.00		$800.00				8	EA	$100.00		$800.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$87,345.00**	**2**		**13**					**$87,345.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**New Score**		**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**Rev. Score**
York between Canal - Saltus																
Block Length (ft)	**250**	**Driveway Length (ft)**			**20**	**Curb to B.L. (ft)**		**15**	**250**	**Driveway Length (ft)**			**48**	**Curb to B.L. (ft)**		**15**
Land Use		Commercial						Residential	York between McAshan to Cana							
Sidewalks (width)	5	2						0	5	2						0
Demolition			1250	SF	$2.00	100%	$2,500.00				1250	SF	$2.00	100%	$2,500.00	
Installation			1250	SF	$12.00	100%	$15,000.00				1250	SF	$12.00	100%	$15,000.00	
Driveways (depth)	10	2						0	10	2						0
Demolition			200	SF	$3.00	100%	$600.00				480	SF	$3.00	100%	$1,440.00	
Installation			200	SF	$9.00	100%	$1,800.00				480	SF	$9.00	100%	$4,320.00	
Curbs		1						0		1						0
Demolition			62.5	LF	$4.00	25%	$250.00				62.5	LF	$4.00	25%	$250.00	
Installation			62.5	LF	$14.00	25%	$875.00				62.5	LF	$14.00	25%	$875.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	7	EA	$3,000.00		$21,000.00	1	30	2	6	EA	$3,000.00		$18,000.00	1
Landscaping		2						1		2						1
Trees (spacing)	30		7	EA	$400.00	100%	$2,800.00		30		6	EA	$400.00		$2,400.00	
Curb to sidewalk	10		2300	SF	$9.00		$20,700.00		10		2020	SF	$9.00		$18,180.00	
Irrigation / Tree			7	EA	$100.00		$700.00				6	EA	$100.00		$600.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$76,425.00**	**2**		**13**					**$73,765.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**New Score**		**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**Rev. Score**
York between Saltus - Runnels																
Block Length (ft)	**250**	**Driveway Length (ft)**			**12**	**Curb to B.L. (ft)**		**15**	**250**	**Driveway Length (ft)**			**47**	**Curb to B.L. (ft)**		**15**
Land Use		Residential								Commercial						
Sidewalks (width)	5	2						0	5	1						0
Demolition			1250	SF	$2.00	100%	$2,500.00				1250	SF	$2.00	100%	$2,500.00	
Installation			1250	SF	$12.00	100%	$15,000.00				1250	SF	$12.00	100%	$15,000.00	
Driveways (depth)	10	2						0	10	2						0
Demolition			120	SF	$3.00	100%	360				470	SF	$3.00	100%	$1,410.00	
Installation			120	SF	$9.00	100%	$1,080.00				470	SF	$9.00	100%	$4,230.00	
Curbs		1						0		1						0
Demolition			125	LF	$4.00	50%	$500.00				125	LF	$4.00	50%	$500.00	
Installation			125	LF	$14.00	50%	$1,750.00				125	LF	$14.00	50%	$1,750.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00	100%	$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	7	EA	$3,000.00		$21,000.00	1	30	2	6	EA	$3,000.00		$18,000.00	1
Landscaping		2						1		2						1
Trees (spacing)	30		7	EA	$400.00	100%	$2,800.00		30		6	EA	$400.00		$2,400.00	
Curb to sidewalk	10		2380	SF	$9.00		$21,420.00		10		2030	SF	$9.00		$18,270.00	
Irrigation / Tree			7	EA	$100.00		$700.00				6	EA	$100.00		$600.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$77,310.00**	**2**		**12**					**$74,860.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**New Score**		**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**Rev. Score**
York between Runnels - Engelke																
Block Length (ft)	**230**	**Driveway Length (ft)**			**25**	**Curb to B.L. (ft)**		**15**	**230**	**20**				**Curb to B.L. (ft)**		**14**
Land Use		Residential								Residential						
Sidewalks (width)	5	2						0	5	2						0
Demolition			1150	SF	$2.00	100%	$2,300.00				1150	SF	$2.00	100%	$2,300.00	
Installation			1150	SF	$12.00	100%	$13,800.00				1150	SF	$12.00	100%	$13,800.00	
Driveways (depth)	10	2						0	9	2						0
Demolition			250	SF	$3.00	100%	$750.00				0	SF	$3.00	100%	$0.00	
Installation			250	SF	$9.00	100%	$2,250.00				0	SF	$9.00	100%	$0.00	
Curbs		1						0		1						0
Demolition			4.6	LF	$4.00	2%	$18.40				115	LF	$4.00	50%	$460.00	
Installation			57.5	LF	$14.00	25%	$805.00				115	LF	$14.00	50%	$1,610.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	6	EA	$3,000.00		$18,000.00	1	30	2	7	EA	$3,000.00		$21,000.00	1
Landscaping		1						1		2						1
Trees (spacing)	30		6	EA	$400.00	25%	$2,400.00		30		7	EA	$400.00		$2,800.00	
Curb to sidewalk	10		2050	SF	$9.00		$18,450.00		9		2070	SF	$9.00		$18,630.00	
Irrigation / Tree			6	EA	$100.00		$600.00				7	EA	$100.00		$700.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				2	EA	$2,000.00		$4,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00					EA	$1,000.00		$0.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00					EA	$1,000.00		$0.00	
Bus Shelters		2		EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**14**					**$69,573.40**	**2**		**13**					**$71,500.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**New Score**		**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**Rev. Score**
York between Engelke - Navigation																
Block Length (ft)	**335**	**Driveway Length (ft)**			**20**	**Curb to B.L. (ft)**		**14**	**335**	**Driveway Length (ft)**			**36**	**Curb to B.L. (ft)**		**14**
Land Use		Commercial								Vacant & Residentia						
Sidewalks (width)	5	2						0	5	2						0
Demolition			1675	SF	$2.00	100%	$3,350.00				1675	SF	$2.00	100%	$3,350.00	
Installation			1675	SF	$12.00	100%	$20,100.00				1675	SF	$12.00	100%	$20,100.00	
Driveways (depth)	9	2						0	9	2						0
Demolition			180	SF	$3.00	100%	$540.00				324	SF	$3.00	100%	$972.00	
Installation			180	SF	$9.00	100%	$1,620.00				324	SF	$9.00	100%	$2,916.00	
Curbs		1						0		1						0
Demolition			83.75	LF	$4.00	25%	$335.00				167.5	LF	$4.00	50%	$670.00	
Installation			83.75	LF	$14.00	25%	$1,172.50				167.5	LF	$14.00	50%	$2,345.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00	100%	$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	10	EA	$3,000.00		$30,000.00	1	30	2	9	EA	$3,000.00		$27,000.00	1
Landscaping		2						1		2						1
Trees (spacing)	30		10	EA	$400.00	75%	$4,000.00		30		9	EA	$400.00		$3,600.00	
Curb to sidewalk	9		2835	SF	$9.00		$25,515.00		9		2691	SF	$9.00		$24,219.00	
Irrigation / Tree			10	EA	$100.00		$1,000.00				9	EA	$100.00		$900.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$97,832.50**	**2**		**13**					**$96,272.00**	**2**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**New Score**		**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**Rev. Score**
York between Navigation - Hutcheson																
Block Length (ft)	**480**	**Driveway Length (ft)**			**0**	**Curb to B.L. (ft)**		**12**	**500**	**Driveway Length (ft)**			**40**	**Curb to B.L. (ft)**		**10**
Land Use		Residential								Mixed						
Sidewalks (width)	5	2						0	5	2						0
Demolition			2400	SF	$2.00	100%	$4,800.00				2500	SF	$2.00	100%	$5,000.00	
Installation			2400	SF	$12.00	100%	$28,800.00				2500	SF	$12.00	100%	$30,000.00	
Driveways (depth)	7	0						0	5	2						0
Demolition			0	SF	$3.00		$0.00				200	SF	$3.00	100%	$600.00	
Installation			0	SF	$9.00		$0.00				200	SF	$9.00	100%	$1,800.00	
Curbs		1						0		1						0
Demolition			120	LF	$4.00	25%	$480.00				125	LF	$4.00	25%	$500.00	
Installation			120	LF	$14.00	25%	$1,680.00				125	LF	$14.00	25%	$1,750.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	16	EA	$3,000.00		$48,000.00	0	30	2	15	EA	$3,000.00		$45,000.00	0
Landscaping		2						0		2						0
Trees (spacing)	30		16	EA	$400.00	100%	$6,400.00		30		15	EA	$400.00	100%	$6,000.00	
Curb to sidewalk	7		3360	SF	$9.00		$30,240.00		5		2300	SF	$9.00		$20,700.00	
Irrigation / Tree			16	EA	$100.00		$1,600.00				15	EA	$100.00		$1,500.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**11**					**$132,200.00**	**0**		**13**					**$123,050.00**	**0**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**New Score**		**Score**	**Qty.**	**Unit**	**Unit Cost**	**%**	**Cost**	**Rev. Score**
York between Hutcheson - Freund																
Block Length (ft)	**450**	**Driveway Length (ft)**			**0**	**Curb to B.L. (ft)**		**8**	**450**	**Driveway Length (ft)**			**60**	**Curb to B.L. (ft)**		**9**
Land Use		Residential								Residential						
Sidewalks (width)	5	2						0	5	2						0
Demolition			2250	SF	$2.00	100%	$4,500.00				2250	SF	$2.00	100%	$4,500.00	
Installation			2250	SF	$12.00	100%	$27,000.00				2250	SF	$12.00	100%	$27,000.00	
Driveways (depth)	3	0						0	4	2						0
Demolition			0	SF	$3.00		$0.00				240	SF	$3.00	100%	$720.00	
Installation			0	SF	$9.00		$0.00				240	SF	$9.00	100%	$2,160.00	
Curbs		1						0		1						0
Demolition			112.5	LF	$4.00	25%	$450.00				112.5	LF	$4.00	25%	$450.00	
Installation			112.5	LF	$14.00	25%	$1,575.00				112.5	LF	$14.00	25%	$1,575.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	15	EA	$3,000.00		$45,000.00	0	30	2	13	EA	$3,000.00		$39,000.00	0
Landscaping		2						0		2						0
Trees (spacing)	30		15	EA	$400.00	50%	$6,000.00		30		13	EA	$400.00	100%	$5,200.00	
Curb to sidewalk	3		1350	SF	$9.00		$12,150.00		4		1560	SF	$9.00		$14,040.00	
Irrigation / Tree			15	EA	$100.00		$1,500.00				13	EA	$100.00		$1,300.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**11**					**$108,375.00**	**0**		**13**					**$106,145.00**	**0**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	Score	Qty.	Unit	Unit Cost	%	Cost	New Score		Score	Qty.	Unit	Unit Cost	%	Cost	Rev. Score
York between Freund - Ball																
Block Length (ft)	262	Driveway Length (ft)			24	Curb to B.L. (ft)		12	262	Driveway Length (ft)			0	Curb to B.L. (ft)		10
Land Use		Residential								Residential						
Sidewalks (width)	5	2						0	5	2						0
Demolition			1310	SF	$2.00	100%	$2,620.00				1310	SF	$2.00	100%	$2,620.00	
Installation			1310	SF	$12.00	100%	$15,720.00				1310	SF	$12.00	100%	$15,720.00	
Driveways (depth)	7	2						0	5	0						0
Demolition			168	SF	$3.00	100%	$504.00				0	SF	$3.00		$0.00	
Installation			168	SF	$9.00	100%	$1,512.00				0	SF	$9.00		$0.00	
Curbs		1						0		2						0
Demolition			131	LF	$4.00	50%	$524.00				65.5	LF	$4.00	25%	$262.00	
Installation			131	LF	$14.00	50%	$1,834.00				65.5	LF	$14.00	25%	$917.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	7	EA	$3,000.00		$21,000.00	1	30	2	8	EA	$3,000.00		$24,000.00	0
Landscaping		2						1		2						0
Trees (spacing)	30		7	EA	$400.00	75%	$2,800.00		30		8	EA	$400.00	75%	$3,200.00	
Curb to sidewalk	7		1666	SF	$9.00		$14,994.00		5		1310	SF	$9.00		$11,790.00	
Irrigation / Tree			7	EA	$100.00		$700.00				8	EA	$100.00		$800.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$72,408.00**	**2**		**12**					**$69,509.00**	**0**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	Score	Qty.	Unit	Unit Cost	%	Cost	New Score		Score	Qty.	Unit	Unit Cost	%	Cost	Rev. Score
York between Ball to RR																
Block Length (ft)	260	Driveway Length (ft)			12	Curb to B.L. (ft)		10	260	Driveway Length (ft)			0	Curb to B.L. (ft)		10
Land Use		Residential								Residential						
Sidewalks (width)	5	2						0	5	2						0
Demolition			1300	SF	$2.00	100%	$2,600.00				1300	SF	$2.00	100%	$2,600.00	
Installation			1300	SF	$12.00	100%	$15,600.00				1300	SF	$12.00	100%	$15,600.00	
Driveways (depth)	5	2						0	5	0						0
Demolition			60	SF	$3.00	100%	$180.00				0	SF	$3.00		$0.00	
Installation			60	SF	$9.00	100%	$540.00				0	SF	$9.00		$0.00	
Curbs		1						0		2						0
Demolition			65	LF	$4.00	25%	$260.00				130	LF	$4.00	50%	$520.00	
Installation			65	LF	$14.00	25%	$910.00				130	LF	$14.00	50%	$1,820.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	8	EA	$3,000.00		$24,000.00	0	30	2	8	EA	$3,000.00		$24,000.00	0
Landscaping		2						0		2						0
Trees (spacing)	30		8	EA	$400.00		$3,200.00		30		8	EA	$400.00		$3,200.00	
Curb to sidewalk	5		1240	SF	$9.00		$11,160.00		5		1300	SF	$9.00		$11,700.00	
Irrigation / Tree			8	EA	$100.00		$800.00				8	EA	$100.00		$800.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**13**					**$69,450.00**	**0**		**12**					**$70,440.00**	**0**

York North/South Corridors

	EAST SIDE OF STREET								WEST SIDE OF STREET							
	Standards	Score	Qty.	Unit	Unit Cost	%	Cost	New Score		Score	Qty.	Unit	Unit Cost	%	Cost	Rev. Score
York between RR to Lemke (@Tony Morran Park)																
Block Length (ft)	260	Driveway Length (ft)			0	Curb to B.L. (ft)		14	260	Driveway Length (ft)			0	Curb to B.L. (ft)		10
Land Use		Office														
Sidewalks (width)	5	2						0	5	2						0
Demolition			1300	SF	$2.00	100%	$2,600.00				1300	SF	$2.00	100%	$2,600.00	
Installation			1300	SF	$12.00	100%	$15,600.00				1300	SF	$12.00	100%	$15,600.00	
Driveways (depth)	9	0						0	5	0						0
Demolition			0	SF	$3.00		$0.00				0	SF	$3.00		$0.00	
Installation			0	SF	$9.00		$0.00				0	SF	$9.00		$0.00	
Curbs		1						0		1						0
Demolition			65	LF	$4.00	25%	$260.00				65	LF	$4.00	25%	$260.00	
Installation			65	LF	$14.00	25%	$910.00				65	LF	$14.00	25%	$910.00	
Ramps		2						0		2						0
Demolition			2	EA	$100.00		$200.00				2	EA	$100.00		$200.00	
Installation			2	EA	$1,500.00		$3,000.00				2	EA	$1,500.00		$3,000.00	
Striping				Budget	$3,000.00		$3,000.00					Budget	$3,000.00		$3,000.00	
Lighting (spacing)	30	2	8	EA	$3,000.00		$24,000.00	0	30	2	8	EA	$3,000.00		$24,000.00	0
Landscaping		2						0		2						0
Trees (spacing)	30		8	EA	$400.00		$3,200.00		30		8	EA	$400.00		$3,200.00	
Curb to sidewalk	9		2340	SF	$9.00		$21,060.00		5		1300	SF	$9.00		$11,700.00	
Irrigation / Tree			8	EA	$100.00		$800.00				8	EA	$100.00		$800.00	
Street Amenities		2						0		2						0
Seating			1	EA	$2,000.00		$2,000.00				1	EA	$2,000.00		$2,000.00	
Bike Racks			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Waste Receptacles			1	EA	$1,000.00		$1,000.00				1	EA	$1,000.00		$1,000.00	
Bus Shelters				EA	$6,000.00		$0.00					EA	$6,000.00		$0.00	
Total		**11**					**78630**	**0**		**11**					**$69,270.00**	**0**

Summary EAST Side			
70th / East Side	***Existing Score***	***Treatment Cost***	***Revised Score***
Harrisburg to Avenue B	12	$164,579	0
Harrisburg to Avenue B	10	$61,492	2
Avenue B to Avenue C	13	$80,212	0
Avenue C to Sherman	13	$90,929	0
Sherman to Avenue E	10	$92,820	0
Avenue E to Avenue F	14	$85,735	0
Avenue F to Canal	12	$84,482	0
Total		**$660,249**	

Cesar Chavez / East Side	***Existing Score***	***Treatment Cost***	***Revised Score***
Capital to Harrisburg	12	$97,626	2
Harrisburg North 500 feet	14	$160,611	2
Total		**$258,237**	

Street: Altic / East Side	***Existing Score***	***Treatment Cost***	***Revised Score***
The Walkway to Sherman	5	$55,927	0
The Walkway to Harrisburg	6	$66,822	0
Harrisburg to Texas	13	$63,008	2
Texas to Capital	14	$73,844	2
Total		**$259,601**	

Street: Lockwood / East Side	***Existing Score***	***Treatment Cost***	***Revised Score***
McKinney to Capital	8	$183,457	1
Capital to Texas	8	$79,200	1
Texas to Harrisburg	10	$64,550	1
To: Harrisburg to "the walkway"	13	$123,705	2
The Walkway to Sherman	10	$139,599	1
Sherman to Canal	10	$169,050	1
Total		**$759,560**	

Street: Harrisburg / South Side	***Existing Score***	***Treatment Cost***	***Revised Score***
72nd to 71st	9	$195,591	0
To:71st to 70th	9	$237,683	0
70th to SSgt Marcio Garcia	12	$183,923	0
SSgt Marcio Garcia to Wayside	12	$161,942	0
Wayside to Cesar Chavez	11	$198,886	0
Cesar Chavez to 66th	10	$161,251	1
Clifton to Latham	12	$61,628	2
Latham to Altic	12	$111,321	0
Altic to Delmar	9	$104,283	0
Delmar to Lenox	9	$139,854	0
Lenox to Adams	11	$147,100	0
Adams to Bryan	10	$93,310	0
Bryan to Stiles	14	$93,034	0
Stiles to Burr	12	$65,040	1
Burr to Lockwood	13	$54,952	2
Lockwood to Hagerman	10	$74,252	1
Hagerman to Bob	10	$85,700	2
Bob to Eastwood	10	$107,015	2
Eastwood to Sydney	10	$92,290	2
Total		**$2,369,052**	

Standards to be applied to work sheets		Cost / Unit
Desired Sidewalk Width	6	$12
Curbs		$15
Driveways		$15
Tree Spacing (cost includes irrigation, no grates)	20	$500
(if planting-strip 3 feet)		
Lighting Spacing (solar)	20	$4,000
ADA		$3,000
Curb to Sidewalk budget		$12
Other Budget		$4,000

Harrisburg East/South Corridors								
72nd to 71st								
Land Use: Commercial								
Block Length	618	FT						Road Width: 64 ft.
Sidewalk Width	4	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	213	FT						84.10, 62, 22.4, 26, 25, 29.4 ft.
Curb to Property Line	12.1	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0		2,430	SF	$12	$29,160	0	New installation
Curbs	0	0%	0	LF	$15	$0	0	
Driveways	2		2,577	SF	$15	$38,660	0	Replace or build
ADA (driveway & curb ramps)	1	25%	n/a	budget	$3,000	$3,000	0	Minor repair needed on 2 ramps, 6 driveways
Trees	2	100%	20	EA	$500	$10,125	0	0% w/trees
Curb to Sidewalk Budget			2,471	SF	$12	$29,646		
Pedestrian-oriented Lights	2	100%	20	EA	$4,000	$81,000	0	0% w/ped. lighting, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	9					$195,591	0	

Harrisburg East/South Corridors								
71st to 70th								
Land Use: Commercial								
Block Length	750	FT						Road Width: 64 ft.
Sidewalk Width	4	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	248.9	FT						84.10, 62, 22.4, 26, 25, 29.4 ft.
Curb to Property Line	12.1	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0		3,007	SF	$12	$36,079	0	New installation
Curbs	0	0%	0	LF	$15	$0	0	
Driveways	2		3,012	SF	$15	$45,175	0	Replace or build
ADA (driveway & curb ramps)	1	25%	n/a	budget	$3,000	$3,000	0	Minor repairs needed for ramps
								6 driveways, 2 ramps present
Trees	2	100%	25	EA	$500	$12,528	0	0% w/trees
Curb to Sidewalk Budget			3,057	SF	$12	$36,681		
Pedestrian Lights	2	100%	25	EA	$4,000	$100,220	0	0% w/ped. lighting, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	9					$237,683	0	

Harrisburg East/South Corridors								
70th to SSgt Macario Garcia								
Land Use: Commercial								
Block Length	600	FT						
Sidewalk Width	4	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	253.3	FT						29, 38, 30, 12, 12, 38, 24, 14.5, 30.4, 25.4 ft.
Curb to Property Line	12.1	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,080	SF	$12	$24,962	0	Replace
Curbs	2	50%	173	LF	$15	$2,600	0	Replace
Driveways	2		3,065	SF	$15	$45,974	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	New installations @ M. Garcia, 10 driveways, 2 ramps
Trees	2	50%	17	EA	$500	$8,668	0	50% w/trees
Curb to Sidewalk Budget			2,115	SF	$12	$25,378		
Pedestrian Lights	2	100%	17	EA	$4,000	$69,340	0	0% sidewalks w/cobra heads
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$183,923	0	

Harrisburg East/South Corridors								
SSgt Macario Garcia to Wayside								
Land Use: Commercial								
Block Length	600	FT						Road Width: 64 ft.
Sidewalk Width	4.3	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	279.3	FT						52.7, 74, 31.2, 26.4, 27, 68
Curb to Property Line	10	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,924	SF	$12	$23,090	0	New, 100% damaged at Wayside
Curbs	2	50%	160	LF	$15	$2,405	0	Replace
Driveways	2		2,793	SF	$15	$41,895	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	Ramps in good condition
								6 driveways/2 ramps
Trees	2	50%	16	EA	$500	$8,018	0	50% w/trees
Curb to Sidewalk Budget			1,283	SF	$12	$15,394		
Pedestrian Lights	2	100%	16	EA	$4,000	$64,140	0	0% sidewalk w/ped. lighting w/cobra heads
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$161,942	0	

Harrisburg East/South Corridors								
Wayside to Cesar Chavez								
Land Use: Commercial								
Block Length	600	FT						
Sidewalk Width	4	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	110.1	FT						27.4, 36.4, 36.4, 9.9 ft.
Curb to Property Line	10.6	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,939	SF	$12	$35,273	0	Replace
Curbs	1	25%	122	LF	$15	$1,837	0	Replace
Driveways	2		1,167	SF	$15	$17,506	0	Replace or build

ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	Ramps new installations, 4 driveways, 2 ramps
Trees	2	50%	24	EA	$500	$12,248	0	50% w/trees
Curb to Sidewalk Budget			2,254	SF	$12	$27,042		
Pedestrian Lights	2	100%	24	EA	$4,000	$97,980	0	0% w/ped. lighting, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	11					$198,886	0	

Harrisburg East/South Corridors								
Cesar Chavez to 66th								
Land Use: Commercial								
Block Length	600	FT						Road width: 50 ft.
Sidewalk Width	6	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	159.5	FT						26.5, 26.5, 7.7, 22.4, 44, 12.4 ft.
Curb to Property Line	8.4	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,643	SF	$12	$31,716	0	Replace
Curbs	1	25%	110	LF	$15	$1,652	0	Replace or Build
Driveways	2		1,340	SF	$15	$20,097	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	6 driveways, 2 ramps
Trees	1	25%	0	EA	$500	$0	1	25% w/trees (approx. 3 trees)
Curb to Sidewalk Budget			1,057	SF	$12	$12,686		
Pedestrian Lights	2	100%	22	EA	$4,000	$88,100	0	0% sidewalk w/ped. lighting, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$161,251	1	
Harrisburg East/South Corridors								
Clifton to Latham								
Land Use: Commercial								
Block Length	280	FT						Road width 40.7 ft.
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	101.5	FT						31, 18.4, 62.1 ft.
Curb to Property Line	4.8	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	857	SF	$12	$10,282	0	Replace
Curbs	2	50%	89	LF	$15	$1,339	0	Replace
Driveways	2		487	SF	$15	$7,308	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	Bilateral ramps
								3 driveways, 2 ramps
Trees	2	100%	0	EA	$500	$0	2	None present
Curb to Sidewalk Budget			0	SF	$12			
Pedestrian Lights	2	100%	9	EA	$4,000	$35,700	0	None, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$61,628	2	
Harrisburg East/South Corridors								
Latham to Altic								
Land Use: Commercial								
Block Length	280	FT						Road width 40.7 ft.
Sidewalk Width	4	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	68.1	FT						23, 17.6, 37.5 ft.
Curb to Property Line	15	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,271	SF	$12	$15,257	0	Replace
Curbs	2	100%	212	LF	$15	$3,179	0	Replace
Driveways	2		1,022	SF	$15	$15,323	0	Replace or Build
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	Bilateral ramp at Latham
Trees	2	50%	11	EA	$500	$5,298	0	50% w/trees
Curb to Sidewalk Budget			1,907	SF	$12	$22,885		
Pedestrian Lights	2	100%	11	EA	$4,000	$42,380	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$111,321	0	
Harrisburg East/South Corridors								
Altic to Delmar								
Land Use: Commercial								
Block Length	280	FT						Road Width: 40.7ft.
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	99.4	FT						56.7, 14.7, 38 ft.
Curb to Property Line	15.3	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	1,084	SF	$12	$13,003	0	Replace
Curbs	1	25%	45	LF	$15	$677	0	Replace
Driveways	1		1,521	SF	$15	$22,812	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	3 driveways, 2 ramps
Trees	1	25%	9	EA	$500	$4,515	0	25% w/trees
Curb to Sidewalk Budget			1,680	SF	$12	$20,155		
Pedestrian Lights	2	100%	9	EA	$4,000	$36,120	0	None, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	9					$104,283	0	
Harrisburg East/South Corridors								
Delmar to Lenox								
Land Use								
Block Length	330	FT						Road Width: 40.7 ft.
Sidewalk Width	3.5	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	56	FT						22.1, 11.7, 24.2 ft.
Curb to Property Line	17	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,644	SF	$12	$19,728	0	Replace
Curbs	1	25%	69	LF	$15	$1,028	0	Replace
Driveways	1		952	SF	$15	$14,280	0	Replace or Build
ADA (driveway & curb ramps)			n/a	budget	$3,000	$3,000	0	
Trees	1	50%	14	EA	$500	$6,850	0	50% w/trees (approx. 6 trees)
Curb to Sidewalk Budget			3,014	SF	$12	$36,168		
Pedestrian Lights	2	100%	14	EA	$4,000	$54,800	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	9					$139,854	0	

Harrisburg East/South Corridors								
Lenox to Adams								
Land Use: Mixed-use / Commercial								
Block Length	660	FT						
Sidewalk Width	4	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	180	FT						
Curb to Property Line	5	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	2,400	SF	$12	$28,800	0	
Curbs	1	25%	120	LF	$15	$1,800	0	
Driveways	1		900	SF	$15	$13,500	0	
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	
Trees	2	1	0	EA	$500	$0	0	
Curb to Sidewalk Budget			0	SF	$12	$0		
Pedestrian Lights	2	100%	24	EA	$4,000	$96,000	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	11					$147,100	0	
Harrisburg East/South Corridors								
Adams to Bryan								
Land Use: Park								
Block Length	313	FT						
Sidewalk Width	4	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	0	FT						
Curb to Property Line	6	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,878	SF	$12	$22,536	0	
Curbs	2	25%	78	LF	$15	$1,174	0	
Driveways	1		0	SF	$15	$0	0	
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	
Trees	0	1	0	EA	$500	$0	0	
Curb to Sidewalk Budget			0	SF	$12	$0		
Pedestrian Lights	2	100%	16	EA	$4,000	$62,600	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$93,310	0	
Harrisburg East/South Corridors								
Bryan to Stiles								
Land Use: Park								
Block Length	312	FT						
Sidewalk Width	4	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	0	FT						
Curb to Property Line	6	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	25%	1,872	SF	$12	$22,464	0	
Curbs	2	25%	78	LF	$15	$1,170	0	
Driveways	2		0	SF	$15	$0	0	
ADA (driveway & curb ramps)	2	1	n/a	budget	$3,000	$3,000	0	
Trees	2	1	0	EA	$500	$0	0	
Curb to Sidewalk Budget			0	SF	$12	$0		
Pedestrian Lights	2	100%	16	EA	$4,000	$62,400	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	14					$93,034	0	
Harrisburg East/South Corridors								
Stiles to Burr								
Commercial								
Block Length	300	FT						Road Width: 41.1 ft.
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	157	FT						110, 47 ft.
Curb to Property Line	7.1	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	858	SF	$12	$10,296	0	Replace
Curbs	1	25%	36	LF	$15	$536	0	Replace
Driveways	2		1,115	SF	$15	$16,721	0	Replace or Build
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	Missing
								1 at Stiles, 2 driveways
Trees	1	25%	0	EA	$500	$0	1	25% w/trees
Curb to Sidewalk Budget			157	SF	$12	$1,888		
Pedestrian Lights	2	100%	7	EA	$4,000	$28,600	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$65,040	1	
Harrisburg East/South Corridors								
Burr to Lockwood								
Commercial and Residential								
Block Length	270	FT						Road Width: 41.1 ft. (bus stop # 50)
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	129	FT						26, 14, 89 ft.
Curb to Property Line	5.3	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	747	SF	$12	$8,968	0	Replace
Curbs	1	25%	35	LF	$15	$529	0	Replace
Driveways	2		684	SF	$15	$10,256	0	Replace or Build
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	Missing
								1 at Lockwood, 3 driveways
Trees	2	25%	0	EA	$500	$0	2	Cobra heads present
Curb to Sidewalk Budget			0	SF	$12	$0		
Pedestrian Lights	2	100%	7	EA	$4,000	$28,200	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$54,952	2	

Harrisburg East/South Corridors								
Lockwood to Hagerman								
Commercial								
Block Length	300	FT						Road Width: 72.1 ft.
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	108.3	FT						26.3, 15, 15, 27, 25 ft
Curb to Property Line	7	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,150	SF	$12	$13,802	0	Replace
Curbs	2	50%	96	LF	$15	$1,438	0	Replace
Driveways	2		758	SF	$15	$11,372	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	2 ramps, 5 driveways
Trees	1	25%	0	EA	$500	$0	1	25% w/trees (approx. 3 trees)
Curb to Sidewalk Budget			192	SF	$12	$2,300		
Pedestrian Lights	2	100%	10	EA	$4,000	$38,340	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$74,252	1	

Harrisburg East/South Corridors								
Hagerman to Bob								
Commercial								
Block Length	300	FT						Road Width: 72.1 ft.
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	35	FT						
Curb to Property Line	6.4	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,590	SF	$12	$19,080	0	Replace
Curbs	2	50%	133	LF	$15	$1,988	0	Replace
Driveways	1		224	SF	$15	$3,360	0	1 driveway under construction
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	2 present
Trees	2	50%	0	EA	$500	$0	2	50% w/trees
Curb to Sidewalk Budget			106	SF	$12	$1,272		
Pedestrian Lights	2	100%	13	EA	$4,000	$53,000	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$85,700	2	

Harrisburg East/South Corridors								
Bob to Eastwood								
Commercial								
Block Length	524	FT						Road Width: 72.1 ft.
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	260	FT						
Curb to Property Line	6.4	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,584	SF	$12	$19,008	0	Replace
Curbs	2	50%	132	LF	$15	$1,980	0	Replace
Driveways	1		1,664	SF	$15	$24,960	0	1 driveway under construction
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	2 present
Trees	2	50%	0	EA	$500	$0	2	50% w/trees
Curb to Sidewalk Budget			106	SF	$12	$1,267		
Pedestrian Lights	2	100%	13	EA	$4,000	$52,800	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$107,015	2	

Harrisburg East/South Corridors								
Eastwood to Sydney								
Commercial								
Block Length	300	FT						Road Width: 72.1 ft.
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width, calculations based on 100% replacement.					
Driveway Width	0	FT						
Curb to Property Line	6.4	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,800	SF	$12	$21,600	0	Replace
Curbs	2	50%	150	LF	$15	$2,250	0	Replace
Driveways	1		0	SF	$15	$0	0	1 driveway under construction
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	2 present
Trees	2	50%	0	EA	$500	$0	2	50% w/trees
Curb to Sidewalk Budget			120	SF	$12	$1,440		
Pedestrian Lights	2	100%	15	EA	$4,000	$60,000	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$92,290	2	

Standards to be applied to work sheets		Cost / Unit
Desired Sidewalk Width	6	$12
Curbs		$15
Driveways		$15
Tree Spacing (cost includes irrigation, no grat	20	$500
(if planting-strip 3 feet)		
Lighting Spacing (solar)	20	$4,000
ADA		$3,000
Curb to Sidewalk budget		$12
Other Budget		$4,000

Lockwood East/South Corridors								
Lockwood between McKinney - Capital								
East Side								
Land Use: Residential								
Block Length	698	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	87	FT						
Curb to Property Line	7.4	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	3,666	SF	$12	$43,992	0	
Curbs	0		0	LF	$15	$0	0	
Driveways	0		0	SF	$15	$0	0	
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	
Trees	1		0	EA	$500	$0	1	
Curb to Sidewalk Budget			855	SF	$12	$10,265		
Pedestrian Lights	2		31	EA	$4,000	$122,200	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	8					$183,457	1	

Lockwood East/South Corridors								
Lockwood between Capital - Texas								
East Side								
Land Use: Residential								
Block Length	250	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width		FT						None
Curb to Property Line	7.4	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,500	SF	$12	$18,000	0	Replace
Curbs	0		0	LF	$15	$0	0	
Driveways	0		0	SF	$15	$0	0	None
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 at Capital
Trees	1		0	EA	$500	$0	1	25% w/trees
Curb to Sidewalk Budget			350	SF	$12	$4,200		
Pedestrian Lights	2		13	EA	$4,000	$50,000	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	8					$79,200	1	

Lockwood East/South Corridors								
Lockwood between Texas - Harrisburg								
East Side								
Land Use: Commercial and Residential								Bus stop # 42
Block Length	200	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width		FT						None
Curb to Property Line	7	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	1,200	SF	$12	$14,400	0	Replace
Curbs	1	25%	50	LF	$15	$750	0	Replace or Build
Driveways	0		0	SF	$15	$0	0	None
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 at Harrisburg, 0 at Texas
Trees	1	25%	0	EA	$500	$0	1	25% w/trees
Curb to Sidewalk Budget			200	SF	$12	$2,400		
Pedestrian Lights	2	100%	10	EA	$4,000	$40,000	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$64,550	1	

Lockwood East/South Corridors								
Lockwood between Harrisburg - the Walkway								
East Side							Walkway b/w Harrisburg-Sherman Inventoried as 2 blocks	
Land Use: Commercial								
Block Length	410	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	70	FT						20, 20, 15, 15 ft
Curb to Property Line	8.5	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,040	SF	$12	$24,480	0	Replace
Curbs	2	100%	340	LF	$15	$5,100	0	Replace

Driveways	1		595	SF	$15	$8,925	0	Replace or Build
ADA (Driveway and curb ramps)	2	25%	n/a	budget	$3,000	$3,000	0	No ramp at walkway (even with sidewalk)
								1 ramp at Harrisburg (25% damaged)
Trees	2	100%	0	EA	$500	$0	2	None
Curb to Sidewalk Budget			850	SF	$12	$10,200		
Pedestrian Lights	2	100%	17	EA	$4,000	$68,000	0	None
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$123,705	2	

Lockwood East/South Corridors								
Lockwood between the Walkway - Sherman								
East Side								
Land Use: Commercial and Residential								
Block Length	480	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	87.7	FT						15.4, 51.4, 12.5, 41.6, 17.2 ft
Curb to Property Line	8.5	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,354	SF	$12	$28,246	0	Replace
Curbs	2	50%	196	LF	$15	$2,942	0	Replace
Driveways	1		745	SF	$15	$11,182	0	Replace or Build
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	Missing (to be built) @ walkway (even w/pavement)
Trees	1	25%	0	EA	$500	$0	1	25% w/trees
Curb to Sidewalk Budget			981	SF	$12	$11,769		
Pedestrian Lights	2	100%	20	EA	$4,000	$78,460	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$139,599	1	

Lockwood East/South Corridors								
Lockwood between Sherman - Canal								
East Side								
Land Use: Commercial and Residential								
Block Length	700	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	300	FT						
Curb to Property Line	8.5	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,400	SF	$12	$28,800	0	
Curbs	2	50%	200	LF	$15	$3,000	0	
Driveways	1		2,550	SF	$15	$38,250	0	
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	
Trees	1	25%	0	EA	$500	$0	1	
Curb to Sidewalk Budget			1,000	SF	$12	$12,000		
Pedestrian Lights	2	100%	20	EA	$4,000	$80,000	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$169,050	1	

Standards to be applied to work sheets		Cost / Unit	
Desired Sidewalk Width	6	$12	
Curbs		$15	
Driveways		$15	
Tree Spacing (cost includes irrigation, no g	20	$500	
(if planting-strip 3 feet)			
Lighting Spacing (solar)	40	$4,000	Residential Street
ADA		$3,000	
Curb to Sidewalk budget		$12	
Other Budget		$4,000	

Altic East/South Corridors								
Altic between the Walkway - Harrisburg								
East Side								
Land Use: Commercial and Residential								
Block Length	300	FT						
Sidewalk Width	4.3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	62.8	FT						10, 8.7, 12.1, 11, 21 ft
Curb to Property Line	10.6	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0		1,423	SF	$12	$17,078	0	New installation
Curbs	0		0	LF	$15	$0	0	New installation
Driveways	0		0	SF	$15	$0	0	New installation
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	1 missing at walkway (even w/pavement)
Trees	2		12	EA	$500	$5,930	0	50% sidewalk w/trees
Curb to Sidewalk Budget			1,091	SF	$12	$13,093		
Pedestrian Lights	2		6	EA	$4,000	$23,720	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	6					$66,822	0	

Altic East/South Corridors								
Altic between the Walkway - Sherman								
East Side								
Land Use: Commercial and Residential								
Block Length	400	FT						
Sidewalk Width	4.3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	206	FT						
Curb to Property Line	10.6	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0		1,164	SF	$12	$13,968	0	
Curbs	0		0	LF	$15	$0	0	
Driveways	0		0	SF	$15	$0	0	
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	
Trees	1		10	EA	$500	$4,850	0	
Curb to Sidewalk Budget			892	SF	$12	$10,709		
Pedestrian Lights	2		5	EA	$4,000	$19,400	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	5					$55,927	0	

Altic East/South Corridors								
Altic between Harrisburg - Texas								
East Side								
Land Use: Residential & Commercial								
Block Length	310	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	52.2	FT						18, 11.2, 23
Curb to Property Line	6.8	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	1,547	SF	$12	$18,562	0	50% Replace, 50% Install
Curbs	2	100%	258	LF	$15	$3,867	0	None
Driveways	1		355	SF	$15	$5,324	0	Replace or Build
ADA (driveway & curb ramps)	2		n/a	budget	$3,000	$3,000	0	No ramps, even w/sidewalk
								1 at Harrisburg
Trees	2		0	EA	$500	$0	2	Trees present, but not near sidewalks @ property lines
Curb to Sidewalk Budget			206	SF	$12	$2,475		
Pedestrian Lights	2		6	EA	$4,000	$25,780	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$63,008	2	

Altic East/South Corridors								
Altic between Texas - Capital								
East Side								
Land Use: Residential								
Block Length	340	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	0	FT						
Curb to Property Line	6.8	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,040	SF	$12	$24,480	0	None

Curbs	2	100%	340	LF	$15	$5,100	0	None
Driveways	2		0	SF	$15	$0	0	None
ADA (driveway & curb ramps)	2		n/a	budget	$3,000	$3,000	0	Ramps even w/streets
Trees	2		0	EA	$500	$0	2	Trees at property lines
Curb to Sidewalk Budget			272	SF	$12	$3,264		
Pedestrian Lights	2		9	EA	$4,000	$34,000	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	14					$73,844	2	

Standards to be applied to work sheets		Cost / Unit
Desired Sidewalk Width	6	$12
Curbs		$15
Driveways		$15
Tree Spacing (cost includes irrigation, no grates)	20	$500
(if planting-strip 3 feet)		
Lighting Spacing (solar)	20	$4,000
ADA		$3,000
Curb to Sidewalk budget		$12
Other Budget		$4,000

Cesar Chavez East/South Corridors								
Cesar Chavez between Capital - Harrisburg								
East								
Land Use: Industrial								
Block Length	420	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	51.7	FT						20, 17.8, 13.9 ft
Curb to Property Line	3	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,105	SF	$12	$13,259	0	Replace
Curbs	1	25%	92	LF	$15	$1,381	0	Replace
Driveways	2		155	SF	$15	$2,327	0	Replace or Build
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 missing at Capital
Trees	2	100%	0	EA	$500	$0	2	None
Curb to Sidewalk Budget			0	SF	$12	$0		
Pedestrian Lights	2	100	18	EA	$4,000	$73,660	0	None, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$97,626	2	

Cesar Chavez East/South Corridors								
Cesar Chavez - Harrisburg North 500 feet								
East								
Land Use: Commercial								
Block Length	500	FT						
Sidewalk Width	3.6	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	25.8	FT						25.8 ft
Curb to Property Line	8.5	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,845	SF	$12	$34,142	0	Replace
Curbs	2	100%	474	LF	$15	$7,113	0	Replace
Driveways	2		219	SF	$15	$3,290	0	Replace or Build
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 missing at railroad tracks
Trees	2	100%	0	EA	$500	$0	2	None
Curb to Sidewalk Budget			1,186	SF	$12	$14,226		
Pedestrian Lights	2	100%	24	EA	$4,000	$94,840	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	14					$160,611	2	

Standards to be applied to work sheets		Cost / Unit
Desired Sidewalk Width	6	$12
Curbs		$15
Driveways		$15
Tree Spacing (cost includes irrigation, no grates)	20	$500
(if planting-strip 3 feet)		
Lighting Spacing (solar)	20	$4,000
ADA		$3,000
Curb to Sidewalk budget		$12
Other Budget		$4,000

70th East/South Corridors								
70th between Capital (deadend included) - Harrisburg								
East Side								
Land Use: Residential & Vacant								
Block Length	430	FT						
Sidewalk Width	3.11	FT	(1) If sidewalk standard width is greater than existing width then calculations are based on 100% replacement.					
Driveway Width	73.9	FT						10, 10, 10, 9.2, 34.7 ft
Curb to Property Line	13.4	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,137	SF	$12	$25,639	0	Replace
Curbs	2	100%	356	LF	$15	$5,342	0	None present, installment needed
Driveways	2		990	SF	$15	$14,854	0	Replace or Build
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	None at Capital
Trees	0		18	EA	$500	$8,903	0	100% w/trees
Curb to Sidewalk Budget			2,635	SF	$12	$31,622		
Pedestrian Lights	2	100%	18	EA	$4,000	$71,220	0	None, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$164,579	0	
70th East/South Corridors								
70th between Harrisburg - Avenue B								
East Side								
Land Use: Commercial								
Block Length	220	FT						
Sidewalk Width	4.1	FT	(1) If standard sidewalk width is greater than existing width then calculations are based on 100% replacement.					
Driveway Width	48.1	FT						25.1, 23 ft
Curb to Property Line	8.5	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0		1,031	SF	$12	$12,377	0	Recent installation, good condition
Curbs	2	100%	172	LF	$15	$2,579	0	Missing
Driveways	0		0	SF	$15	$0	0	Recent installation, good condition
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	100% missing at Avenue B
Trees	2	100%	0	EA	$500	$0	2	None
Curb to Sidewalk Budget			430	SF	$12	$5,157		
Pedestrian Lights	2	100%	9	EA	$4,000	$34,380	0	None, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$61,492	2	
70th East/South Corridors								
70th between Avenue B - Avenue C								
East Side								
Land Use: Residential								
Railroad present								
Block Length	200	FT						
Sidewalk Width	0	FT	(1) If standard sidewalk width is greater than existing width then calculation					none present
Driveway Width	20	FT						20 ft
Curb to Property Line	12.2	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,080	SF	$12	$12,960	0	Missing, need installation
Curbs	2	100%	180	LF	$15	$2,700	0	Missing, need installation
Driveways	2		244	SF	$15	$3,660	0	Replace
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	Missing, need installation
Trees	1	25%	9	EA	$500	$4,500	0	25% sidewalk w/trees
Curb to Sidewalk Budget			1,116	SF	$12	$13,392		
Pedestrian Lights	2	100%	9	EA	$4,000	$36,000	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$80,212	0	
70th East/South Corridors								
70th between Avenue C - Sherman								
East Side								
Land Use: Residential								
Block Length	240	FT						
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width then calculations based on 100% replacement.					
Driveway Width	43.3	FT						30, 13.3 ft.
Curb to Property Line	12.2	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,180	SF	$12	$14,162	0	Replace
Curbs	2	100%	197	LF	$15	$2,951	0	Missing, need installation
Driveways	2		528	SF	$15	$7,924	0	Replace
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 missing at Avenue C/double ramp at Sherman
Trees	1	25%	10	EA	$500	$4,918	0	25% w/trees
Curb to Sidewalk Budget			1,220	SF	$12	$14,634		
Pedestrian Lights	2		10	EA	$4,000	$39,340	0	None, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$90,929	0	
70th East/South Corridors								
70th between Sherman - Avenue E								
East Side								
Land Use: Residential								
Block Length	240	FT						
Sidewalk Width	3.5	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	34	FT						15, 19 ft
Curb to Property Line	12.2	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	

Sidewalk	2	50%	1,236	SF	$12	$14,832	0	Replace
Curbs	2	100%	206	LF	$15	$3,090	0	Missing installation needed
Driveways	1		415	SF	$15	$6,222	0	Replace or Build
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	Bilateral ramps present at Sherman
Trees	1	25%	10	EA	$500	$5,150	0	25% w/trees
Curb to Sidewalk Budget			1,277	SF	$12	$15,326		
Pedestrian Lights	2	100%	10	EA	$4,000	$41,200	0	None, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$92,820	0	

70th East/South Corridors								
70th between Avenue E - Avenue F								
East Side								
Land Use: Residential								
Block Length	240	FT						
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width then calculations based on 100% replacement.					
Driveway Width	36.5	FT						28, 20, 18.5 ft
Curb to Property Line	10	FT						Easement varies
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,221	SF	$12	$14,652	0	Missing, installation needed
Curbs	2	100%	204	LF	$15	$3,053	0	Missing, installation needed
Driveways	2		365	SF	$15	$5,475	0	Replace
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	Bilateral steps at Avenue E
Trees	2	100%	10	EA	$500	$5,088	0	None
Curb to Sidewalk Budget			814	SF	$12	$9,768		
Pedestrian Lights	2	100%	10	EA	$4,000	$40,700	0	None, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	14					$85,735	0	

70th East/South Corridors								
70th between Avenue F - Canal								
East Side								
Land Use: Residential								
Block Length	230	FT						
Sidewalk Width	3	FT	(1) If standard sidewalk width greater than existing width then calculations based on 100% replacement.					
Driveway Width	56	FT						20, 36, ft
Curb to Property Line	12.2	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,044	SF	$12	$12,528	0	Missing, installation needed
Curbs	2	100%	174	LF	$15	$2,610	0	Missing, installation needed
Driveways	2		683	SF	$15	$10,248	0	Replace
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	Bilateral ramps present
Trees	2	100%	9	EA	$500	$4,350	0	None
Curb to Sidewalk Budget			1,079	SF	$12	$12,946		
Pedestrian Lights	2	100%	9	EA	$4,000	$34,800	0	None, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$84,482	0	

Summary WEST Side

70th / West Side	**Existing Score**	**Treatment Cost**	**Revised Score**
Capital (Dead End Included) to Harrisburg	12	$164,579	0
Harrisburg to Avenue B	10	$61,492	2
Avenue B to Avenue C	13	$80,212	0
Avenue C to Sherman	13	$90,929	0
Sherman to Avenue E	10	$92,820	0
Avenue E to Avenue F	14	$85,735	0
Avenue F to Canal	12	$84,482	0
Total		**$660,249**	
Cesar Chavez / West Side	**Existing Score**	**Treatment Cost**	**Revised Score**
Capital to Harrisburg	12	$88,787	2
Harrisburg to Cesar Chavez	14	$172,466	0
Total		**$261,253**	
Altic / West Side	**Existing Score**	**Treatment Cost**	**Revised Score**
The Walkway to Sherman	5	$47,080	0
The Walkway to Harrisburg	6	$56,006	0
Harrisburg to Texas	13	$69,453	0
Texas to Capital	13	$75,696	0
Total		**$248,235**	
Lockwood / West Side	**Existing Score**	**Treatment Cost**	**Revised Score**
McKinney to Capital	8	$180,858	1
Capital to Texas	8	$79,200	1
Texas to Harrisburg	10	$65,300	1
Harrisburg to the Walkway	13	$123,705	2
The Walkway to Sherman	10	$139,599	1
Sherman to Canal	10	$168,247	1
Total		**$756,908**	
Harrisburg / North Side	**Existing Score**	**Treatment Cost**	**Revised Score**
72nd to 71st	9	$205,240	0
71st to 70th	9	$251,551	0
70th to Marcio Garcia	12	$199,272	0
Marcio Garcia to Wayside	12	$177,880	0
Wayside to Chavez	13	$206,373	0
Cesar Chavez to 66th	12	$173,923	0
Clifton to Latham	11	$60,490	2
Latham to Altic	10	$96,149	0
Altic to Delmar	9	$95,920	0
Delmar to Lenox	9	$203,002	0
Lenox to Adams	11	$235,735	0
Adams to Bryan	12	$96,351	0
Bryan to Stiles	14	$105,579	0
Stiles to Burr	14	$76,705	0
Burr to Lockwood	14	$59,968	2
Lockwood to Hagerman	11	$63,139	1
Hagerman to Bob	11	$86,630	2
Bob to Eastwood	11	$125,463	2
Eastwood to Sydney	11	$84,090	2
Total		**$2,603,458**	

Standards to be applied to work sheets		Cost / Unit
Desired Sidewalk Width	6	$12
Curbs		$15
Driveways		$15
Tree Spacing (cost includs irregatin, no grates)	20	$500
(if planting strip 3 feet)		
Lighting Spacing (solar)	20	$4,000
ADA		$3,000
Curb to Sidwalk budget		$12
Other Budget		$4,000

Harrisburg North/West Corridors

North Side

Harrisburg between 72nd - 71st

Land Use: Commercial								
Block Length	616	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	196	FT						
Curb to Property Line	13	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0	0%	2,520	SF	$12	$30,240	0	Adjacent to railroad, no traffic
Curbs	0	0	0	LF	$15	$0	0	
Driveways	2		2,548	SF	$15	$38,220	0	
ADA (driveway & curb ramps)	1	0%	n/a	budget	$3,000	$3,000	0	
Trees	2	0%	21	EA	$500	$10,500	0	0% of sidewalks with trees
Curb to Sidewalk Budget			2,940	SF	$12	$35,280		
Pedestrian Lights	2	0%	21	EA	$4,000	$84,000	0	0% pedestrian lighting, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	9					$205,240	0	

Harrisburg North/West Corridors

North Side

Harrisburg between 71st - 70th

Land Use: Commercial								
Block Length	750	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	221.5	FT						
Curb to Property Line	13	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0	0%	3,171	SF	$12	$38,052	0	Adjacent to railroad, no traffic
Curbs	0	0	0	LF	$15	$0	0	
Driveways	2		2,880	SF	$15	$43,193	0	
ADA (driveway & curb ramps)	1	0%	n/a	budget	$3,000	$3,000	0	
Trees	2	0%	26	EA	$500	$13,213	0	0% of sidewalks with trees
Curb to Sidewalk Budget			3,700	SF	$12	$44,394		
Pedestrian Lights	2	0%	26	EA	$4,000	$105,700	0	0% with pedestrian lighting, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	9					$251,551	0	

Harrisburg North/West Corridors

North Side

Harrisburg between 70th - SSgt Macario Garcia (69th Street)

Land Use: Commercial								
Block Length	600	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	211	FT						
Curb to Property Line	13	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	2,334	SF	$12	$28,008	0	Replace
Curbs	2	50%	195	LF	$15	$2,918	0	Replace
Driveways	2		2,743	SF	$15	$41,145	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	
Trees	2	50%	19	EA	$500	$9,725	0	50% of sidewalk with trees present
Curb to Sidewalk Budget			2,723	SF	$12	$32,676		
Pedestrian Lights	2	100%	19	EA	$4,000	$77,800	0	0% of sidewalks with cobra heads
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$199,272	0	

Harrisburg North/West Corridors

North Side

Harrisburg between Ssgt Macario Garcia - Wayside

Land Use: Commercial								
Block Length	600	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	280	FT						
Curb to Property Line	12	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	75%	1,920	SF	$12	$23,040	0	Needs replacing
Curbs	2	50%	160	LF	$15	$2,400	0	Replace
Driveways	2		3,360	SF	$15	$50,400	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	Ramps are in satisfactory condition
Trees	2	50%	16	EA	$500	$8,000	0	50 % of sidewalk with trees present
Curb to Sidewalk Budget			1,920	SF	$12	$23,040		
Pedestrian Lights	2	100%	16	EA	$4,000	$64,000	0	0% of sidewalk with pedestrian lighting with cobra heads
Other	2		n/a	budget	$4,000	$4,000	0	

Total	12					$177,880	0	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Wayside - Cesar Chavez								
Land Use: Commercial								
Block Length	600	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	135	FT						
Curb to Property Line	12	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,790	SF	$12	$33,480	0	Replace
Curbs	2	50%	233	LF	$15	$3,488	0	Replace
Driveways	2		1,620	SF	$15	$24,300	0	Replace or Build
ADA (driveway & curb ramps)	1		n/a	budget	$3,000	$3,000	0	Needs weeding maintenace
Trees	2	50%	23	EA	$500	$11,625	0	
Curb to Sidewalk Budget			2,790	SF	$12	$33,480		
Pedestrian Lights	2	100%	23	EA	$4,000	$93,000	0	0 % pedestrian lighting, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$206,373	0	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Cesar Chavez - 66th								
Land Use: Commercial								
Block Length	600	FT						
Sidewalk Width	6	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	138	FT						
Curb to Property Line	10	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	50%	1,386	SF	$12	$16,632	0	Replace
Curbs	1	50%	231	LF	$15	$3,465	0	Replace or Build
Driveways	2		1,380	SF	$15	$20,700	0	Replace or Build
ADA (driveway & curb ramps)	2		n/a	budget	$3,000	$3,000	0	Ramps need replacing
Trees	2	0%	23	EA	$500	$11,550	0	No Planting Strip
Curb to Sidewalk Budget			1,848	SF	$12	$22,176		
Pedestrian Lights	2	100%	23	EA	$4,000	$92,400	0	0% of sidewalk with pedestrian lighting, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$173,923	0	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Clifton - Latham								
Land Use: Commercial								
Block Length	280	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	101	FT						31, 18.4, 62.1 ft
Curb to Property Line	4.8	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	859	SF	$12	$10,310	0	Replace
Curbs	2	100%	179	LF	$15	$2,685	0	Replace
Driveways	2		485	SF	$15	$7,272	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	Bilateral ramps present
Trees	2	100%	0	EA	$500	$0	2	None present
Curb to Sidewalk Budget			-215	SF	$12	-$2,578		
Pedestrian Lights	1	100%	9	EA	$4,000	$35,800	0	None present, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	11					$60,490	2	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Latham - Altic								
Land Use: Commercial								
Block Length	260	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	75	FT						
Curb to Property Line	14	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,110	SF	$12	$13,320	0	Replace
Curbs	1	25%	46	LF	$15	$694	0	Replace
Driveways	2		1,050	SF	$15	$15,750	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	
Trees	2	50%	9	EA	$500	$4,625	0	50% of sidewalks with trees
Curb to Sidewalk Budget			1,480	SF	$12	$17,760		
Pedestrian Lights	2	100%	9	EA	$4,000	$37,000	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$96,149	0	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Altic - Delmar								
Land Use: Commercial								
Block Length	250	FT						Road Width: 40.7ft
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	90	FT						56.7, 14.7, 38 ft
Curb to Property Line	16	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	960	SF	$12	$11,520	0	Replace
Curbs	1	25%	40	LF	$15	$600	0	Replace
Driveways	1		1,440	SF	$15	$21,600	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	
Trees	1	25%	8	EA	$500	$4,000	0	0% of sidewalk with trees
Curb to Sidewalk Budget			1,600	SF	$12	$19,200		
Pedestrian Lights	2	100%	8	EA	$4,000	$32,000	0	None present, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	9					$95,920	0	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Delmar - Lenox								
Land Use: Commercial								
Block Length	280	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	66	FT						
Curb to Property Line	19	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	1,284	SF	$12	$15,408	0	Replace
Curbs	1	25	5,350	LF	$15	$80,250	0	Replace
Driveways	1		1,254	SF	$15	$18,810	0	Replace or Build
ADA (driveway & curb ramps)			n/a	budget	$3,000	$3,000	0	
Trees	1	50%	11	EA	$500	$5,350	0	0% of sidewalk with trees
Curb to Sidewalk Budget			2,782	SF	$12	$33,384		
Pedestrian Lights	2	100%	11	EA	$4,000	$42,800	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	9					$203,002	0	

Harrisburg North/West Corridors								
North								
Harrisburg between Lenox - Adams								
Land Use: Mixed Commercial/Light Industrial								
Block Length	660	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	320	FT						
Curb to Property Line	17	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	2,040	SF	$12	$24,480	0	
Curbs	1	25%	85	LF	$15	$1,275	0	
Driveways	1		5,440	SF	$15	$81,600	0	
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	
Trees	2	1	17	EA	$500	$8,500	0	
Curb to Sidewalk Budget			3,740	SF	$12	$44,880		
Pedestrian Lights	2	100%	17	EA	$4,000	$68,000	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	11					$235,735	0	

Harrisburg North/West Corridors								
North								
Harrisburg between Adams - Bryan								
Land Use: Mixed Commercial/Light Industrial								
Block Length	313	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	210	FT						
Curb to Property Line	15	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	618	SF	$12	$7,416	0	
Curbs	2	25%	26	LF	$15	$386	0	
Driveways	1		3,150	SF	$15	$47,250	0	
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	
Trees	2	1	5	EA	$500	$2,575	0	
Curb to Sidewalk Budget			927	SF	$12	$11,124		
Pedestrian Lights	2	100%	5	EA	$4,000	$20,600	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$96,351	0	

Harrisburg North/West Corridors								
North								
Harrisburg between Bryan - Stiles								
Land Use: Mixed Commercial / Lt. IndustryIndustrial								
Block Length	312	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	205	FT						
Curb to Property Line	17	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	25%	642	SF	$12	$7,704	0	
Curbs	2	25%	27	LF	$15	$401	0	
Driveways	2		3,485	SF	$15	$52,275	0	
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	
Trees	2	100%	5	EA	$500	$2,675	0	
Curb to Sidewalk Budget			1,177	SF	$12	$14,124		
Pedestrian Lights	2	100	5	EA	$4,000	$21,400	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	14					$105,579	0	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Stiles - Burr								
Land Use: Commercial								
Block Length	300	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	178	FT						
Curb to Property Line	10	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	732	SF	$12	$8,784	0	Replace
Curbs	2	50%	61	LF	$15	$915	0	Replace
Driveways	2		1,780	SF	$15	$26,700	0	Replace or Build
ADA (driveway & curb ramps)	2		n/a	budget	$3,000	$3,000	0	
Trees	2	25%	6	EA	$500	$3,050	0	25% sidewalk with trees present
Curb to Sidewalk Budget			488	SF	$12	$5,856		
Pedestrian Lights	2	100%	6	EA	$4,000	$24,400	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	14					$76,705	0	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Burr - Lockwood								
Land Use: Commercial and Residential								
Block Length	270	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	138	FT						
Curb to Property Line	7	FT						Easement
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	792	SF	$12	$9,504	0	Replace
Curbs	2	50%	66	LF	$15	$990	0	Replace
Driveways	2		966	SF	$15	$14,490	0	Replace or Build
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	
Trees	2	50%	0	EA	$500	$0	2	
Curb to Sidewalk Budget			132	SF	$12	$1,584		
Pedestrian Lights	2	100%	7	EA	$4,000	$26,400	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	14					$59,968	2	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Lockwood - Hagerman								
Land Use: Residential/Commercial								
Block Length	270	FT						
Sidewalk Width	3.5	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	121	FT						
Curb to Property Line	7	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	894	SF	$12	$10,728	0	Replace
Curbs	2	50%	75	LF	$15	$1,118	0	Replace
Driveways	2		847	SF	$15	$12,705	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	Ramps in statisfactory condition
Trees	1	25%	0	EA	$500	$0	1	
Curb to Sidewalk Budget			149	SF	$12	$1,788		
Pedestrian Lights	2	100%	7	EA	$4,000	$29,800	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	11					$63,139	1	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Hagerman - Bob								
Land Use: Commercial								
Block Length	300	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	52	FT						
Curb to Property Line	7.5	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,488	SF	$12	$17,856	0	Replace
Curbs	2	50%	124	LF	$15	$1,860	0	Replace
Driveways	2		390	SF	$15	$5,850	0	100% need replacing
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	2 present
Trees	2	100%	0	EA	$500	$0	2	Needs trees
Curb to Sidewalk Budget			372	SF	$12	$4,464		
Pedestrian Lights	2	100%	12	EA	$4,000	$49,600	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	11					$86,630	2	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Bob - Eastwood								
Land Use: Commercial								
Block Length	535	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	220	FT						
Curb to Property Line	7.5	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,890	SF	$12	$22,680	0	Replace
Curbs	2	50%	158	LF	$15	$2,363	0	Replace
Driveways	2		1,650	SF	$15	$24,750	0	100% need replacing
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	2 present
Trees	2	100%	0	EA	$500	$0	2	Needs trees
Curb to Sidewalk Budget			473	SF	$12	$5,670		
Pedestrian Lights	2	100%	16	EA	$4,000	$63,000	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	11					$125,463	2	

Harrisburg North/West Corridors								
North Side								
Harrisburg between Eastwood - Sydney								
Land Use: Residential								
Block Length	284	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	40	FT						
Curb to Property Line	7.5	FT						
Items	**Score**	**Percent**	**Amount (1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,464	SF	$12	$17,568	0	Replace
Curbs	2	50%	122	LF	$15	$1,830	0	Replace
Driveways	2		300	SF	$15	$4,500	0	100% need replacing
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	2 present
Trees	2	100%	0	EA	$500	$0	2	Needs trees
Curb to Sidewalk Budget			366	SF	$12	$4,392		
Pedestrian Lights	2	100%	12	EA	$4,000	$48,800	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	11					$84,090	2	

Standards to be applied to work sheets		Cost / Unit	
Desired Sidewalk Width	6	$12	Necessary to provide for shade trees existing and new
Curbs		$15	
Driveways		$15	
Tree Spacing (cost includs irregatin, no grates)	20	$500	
(if planting strip 3 feet)			
Lighting Spacing (solar)	20	$4,000	
ADA		$3,000	
Curb to Sidwalk budget		$12	
Other Budget		$4,000	

Lockwood North/West Corridors								
West Side								
Lockwood between McKinney - Capital								
Land Use: Residential								
Block Length	696	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	94	FT						
Curb to Property Line	7.4	FT						
Items	**Score**	**Percent**	**Amount(1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	3,612	SF	$12	$43,344	0	
Curbs	0		0	LF	$15	$0	0	
Driveways	0		0	SF	$15	$0	0	
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	
Trees	1		0	EA	$500	$0	1	
Curb to Sidwalk Budget			843	SF	$12	$10,114		
Pedestrian Lights	2		30	EA	$4,000	$120,400	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	8					$180,858	1	

Lockwood North/West Corridors								
West Side								
Lockwood between Capital - Texas								
Land Use: Residential								
Block Length	250	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	0	FT						none present
Curb to Property Line	7.4	FT						Easement
Items	**Score**	**Percent**	**Amount(1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,500	SF	$12	$18,000	0	Replace
Curbs	0		0	LF	$15	$0	0	
Driveways	0		0	SF	$15	$0	0	None present
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 present at Capital
Trees	1		0	EA	$500	$0	1	25% of sidewalk with trees present
Curb to Sidwalk Budget			350	SF	$12	$4,200		
Pedestrian Lights	2		13	EA	$4,000	$50,000	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	8					$79,200	1	

Lockwood North/West Corridors								
West Side								
Lockwood between Texas - Harrisburg								
Land Use: Commercial & Residential								
Block Length	200	FT						Bus stop # 42
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width		FT						None present
Curb to Property Line	7	FT						Easement
Items	**Score**	**Percent**	**Amount(1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	1,200	SF	$12	$14,400	0	Replace
Curbs	1	50%	100	LF	$15	$1,500	0	Replace or Build
Driveways			0	SF	$15	$0	0	None present
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 at Harrisburg, missing at Texas
Trees	1	25%	0	EA	$500	$0	1	25% of sidewalk with trees present
Curb to Sidewalk Budget			200	SF	$12	$2,400		
Pedestrian Lights	2	100%	10	EA	$4,000	$40,000	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$65,300	1	

Lockwood North/West Corridors								
Lockwood between Harrisburg - the Walkway								
Land Use: Commercial								
Block Length	410	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	70	FT						20, 20, 15, 15 ft
Curb to Property Line	8.5	FT						Easement
Items	**Score**	**Percent**	**Amount(1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,040	SF	$12	$24,480	0	Replace
Curbs	2	100%	340	LF	$15	$5,100	0	Replace
Driveways	1		595	SF	$15	$8,925	0	Replace or Build
ADA (driveway & curb ramps)	2	25%	n/a	budget	$3,000	$3,000	0	No ramp at walkway, 1 ramp @ Harrisburg (25%)
Trees	2	100%	0	EA	$500	$0	2	None present
Curb to Sidewalk Budget			850	SF	$12	$10,200		
Pedestrian Lights	2	100%	17	EA	$4,000	$68,000	0	None present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$123,705	2	Walkway b/w Harrisburg & Sherman (2 blocks)
Lockwood North/West Corridors								
West Side								
Lockwood between the Walkway - Sherman								
Land Use: Commercial & Residential								
Block Length	480	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	87.7	FT						15.4, 51.4, 12.5, 41.6, 17.2 ft
Curb to Property Line	8.5	FT						Easement
Items	**Score**	**Percent**	**Amount(1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,354	SF	$12	$28,246	0	Replace
Curbs	2	50%	196	LF	$15	$2,942	0	Replace
Driveways	1		745	SF	$15	$11,182	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	Missing (to be built) @ walkway (even w sidewalk)
Trees	1	25%	0	EA	$500	$0	1	25% of sidewalk with trees present
Curb to Sidewalk Budget			981	SF	$12	$11,769		
Pedestrian Lights	2	100%	20	EA	$4,000	$78,460	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$139,599	1	
Lockwood North/West Corridors								
West Side								
Lockwood between Sherman - Canal								
Land Use: Commercial & Residential								
Block Length	678	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	267	FT						15.4, 51.4, 12.5, 41.6, 17.2 ft
Curb to Property Line	8.5	FT						Easement
Items	**Score**	**Percent**	**Amount(1)**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,466	SF	$12	$29,592	0	Replace
Curbs	2	50%	206	LF	$15	$3,083	0	Replace
Driveways	1		2,270	SF	$15	$34,043	0	Replace or Build
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	Missing (to be built) @ walkway (even w sidewalk)
Trees	1	25%	0	EA	$500	$0	1	25% of sidewalk with trees present
Curb to Sidewalk Budget			1,028	SF	$12	$12,330		
Pedestrian Lights	2	100%	21	EA	$4,000	$82,200	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$168,247	1	

Standards to be applied to work sheets		Cost / Unit	
Desired Sidewalk Width	3.8	$12	Necessary to provide for shade trees existing and new
Curbs		$15	
Driveways		$15	
Tree Spacing (cost includs irregatin, no grates)	20	$500	
(if planting strip 3 feet)			
Lighting Spacing (solar)	40	$4,000	Residential Street
ADA		$3,000	
Curb to Sidwalk budget		$12	
Other Budget		$4,000	

Altic North/West Corridors

West Side								
Altic between the Walkway - Harrisburg								
Land Use: Commercial & Residential								
Block Length	300	Feet						
Sidewalk Width	4.3	Feet	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveways Width	62.8	Total Feet						10, 8.7, 12.1, 11, 21 ft
Curb to Property Line	10.6	Feet						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0	0%	0	SF	$12	$0	0	New installation
Curbs	0	0%	0	LF	$15	$0	0	New installation
Driveways	0	0%	0	SF	$15	$0	0	New installation
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	1 missing at walkway, walkway even w/sidewalk
Trees	2		12	EA	$500	$5,930	0	50% of sidewalk with trees present
Curb to Sidwalk Budget			1,613	SF	$12	$19,356		
Pedestrian Lights	2		6	EA	$4,000	$23,720	0	none present, corba heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	6					$56,006	0	

Altic North/West Corridors

West Side								
Altic between the Walkway - Sherman								
Land Use: Commercial & Residential								
Block Length	400	Feet						
Sidewalk Width	4.3	Feet	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveways Width	206	Total Feet						
Curb to Property Line	10.6	Feet						
Items	**Score**	**Percent**	**Amount (1**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0		0	SF	$12	$0	0	
Curbs	0		0	LF	$15	$0	0	
Driveways	0		0	SF	$15	$0	0	
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	
Trees	1		10	EA	$500	$4,850	0	
Curb to Sidewalk Budget			1,319	SF	$12	$15,830		
Pedestrian Lights	2		5	EA	$4,000	$19,400	0	
Other	2		n/a	budget	$4,000	$4,000	0	
Total	5					$47,080	0	

Altic North/West Corridors

West side								
Altic between Harrisburg - Texas								
Land Use: Residential & Commercial								
Block Length	310	Feet						
Sidewalk Width	3	Feet	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveways Width	52.2	Total Feet						18, 11.2, 23
Curb to Property Line	6.8	Feet						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	980	SF	$12	$11,756	0	50% Replace and 50% to installed
Curbs	2	100%	258	LF	$15	$3,867	0	None present
Driveways	1		355	SF	$15	$5,324	0	Replace or Build
ADA (driveway & curb ramps)	2		n/a	budget	$3,000	$3,000	0	No ramps present, 1 at Harrisburg
Trees	2		13	EA	$500	$6,445	0	Trees, but not near sidewalks @ prop. lines
Curb to Sidwalk Budget			773	SF	$12	$9,281		
Pedestrian Lights	2		6	EA	$4,000	$25,780	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$69,453	0	

Altic North/West Corridors

West Side								
Altic between Texas - Capital								
Land Use: Residential								
Block Length	310	Feet						
Sidewalk Width	3	Feet	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveways Width	0	Total Feet						
Curb to Property Line	6.8	Feet						
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,178	SF	$12	$14,136	0	Missing
Curbs	2	100%	310	LF	$15	$4,650	0	Missing
Driveways	2		0	SF	$15	$0	0	None present
ADA (driveway & curb ramps)	2		n/a	budget	$3,000	$3,000	0	Ramps even with streets
Trees	1		16	EA	$500	$7,750	0	Trees present at property lines
Curb to Sidwalk Budget			930	SF	$12	$11,160		

Pedestrian Lights	2		8	EA	$4,000	$31,000	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$75,696	0	

Standards to be applied to work sheets		Unit Cost	
Desired Sidewalk Width	5	$12	Necessary to provide for shade trees existing and new
Curbs		$15	
Driveways		$15	
Tree Spacing (cost includs irregatin, no grates)	20	$500	
(if planting strip 3 feet)			
Lighting Spacing (solar)	20	$4,000	
ADA		$3,000	
Curb to Sidwalk budget		$12	
Other Budget		$4,000	

Cesar Chavez North/West Corridors								
West Side								
Cesar Chavez between Capitol - Harrisburg								
Land Use: Industrial								
Block Length	420	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	51.7	FT						20, 17.8, 13.9 ft
Curb to Property Line	3	FT						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	1	25%	1,105	SF	$12	$13,259	0	Replace
Curbs	1	25%	92	LF	$15	$1,381	0	Replace
Driveways	2		155	SF	$15	$2,327	0	Replace or Build
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 missing at Capitol
Trees	2	100%	0	EA	$500	$0	2	None present
Curb to Sidewalk Budget			-737	sq. ft.	$12	-$8,839		
Pedestrian Lights	2	100%	18	EA	$4,000	$73,660	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$88,787	2	

Cesar Chavez North/West Corridors								
West Side								
Cesar Chavez between Harrisburg - Avenue C								
Land Use: Commercial								
Block Length	500	FT						
Sidewalk Width	3.6	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	25.8	FT						25.8 ft
Curb to Property Line	8.5	FT						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,371	SF	$12	$28,452	0	Replace
Curbs	2	100%	474	LF	$15	$7,113	0	Replace
Driveways	2		219	SF	$15	$3,290	0	Replace or Build
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 missing at railroad tracks
	Score							
Trees	2	100%	24	EA	$500	$11,855	0	None present
Curb to Sidewalk Budget			1,660	SF	$12	$19,916		
Pedestrian Lights	2	100%	24	EA	$4,000	$94,840	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	14					$172,466	0	

Standards to be applied to work sheets		Cost / Unit
Desired Sidewalk Width	6	$12
Curbs		$15
Driveways		$15
Tree Spacing (cost includs irregatin, no grates)	20	$500
(if planting strip 3 feet)		
Lighting Spacing (solar)	20	$4,000
ADA		$3,000
Curb to Sidwalk budget		$12
Other Budget		$4,000

70th North/West Corridors								
West Side								
70th between Capital (deadend included) - Harrisburg								
Land Use: Residential & Vacant								
Block Length	430	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	73.9	FT						10, 10, 10, 9.2, 34.7 ft
Curb to Property Line	13.4	FT						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	2,137	SF	$12	$25,639	0	Replace
Curbs	2	100%	356	LF	$15	$5,342	0	None present, installment needed
Driveways	2		990	SF	$15	$14,854	0	Replace or Build
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	none present at Capitol
Trees	0		18	EA	$500	$8,903	0	100% of sidewalk with trees
Curb to Sidewalk Budget			2,635	SF	$12	$31,622		
Pedestrian Lights	2	100%	18	EA	$4,000	$71,220	0	none present, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$164,579	0	

70th North/West Corridors								
West Side								
70th between Harrisburg - Avenue B								
Land Use: Commercial								
Block Length	220	FT						
Sidewalk Width	4.1	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	48.1	FT						25.1, 23 ft
Curb to Property Line	8.5	FT						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	0		1,031	SF	$12	$12,377	0	Recent installation; good condition
Curbs	2	100%	172	LF	$15	$2,579	0	Missing
Driveways	0		0	SF	$15	$0	0	Recent installation; good condition
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	100% Missing at Ave. B
Trees	2	100%	0	EA	$500	$0	2	None present
Curb to Sidewalk Budget			430	SF	$12	$5,157		
Pedestrian Lights	2	100%	9	EA	$4,000	$34,380	0	None present, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$61,492	2	

70th North/West Corridors								
West side								
70th between Avenue B - Avenue C								
Land Use: Residential								
Railroad present								
Measurements			(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Block Length	200	FT						One Side only
Sidewalk Width	3	FT						None
Driveway Width	20	FT						20 ft
Curb to Property Line	12.2	FT						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,080	SF	$12	$12,960	0	Missing, need installation
Curbs	2	100%	180	LF	$15	$2,700	0	Missing, need installation
Driveways	2		244	SF	$15	$3,660	0	Replace
ADA (Driveway and curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	Missing, need installation
Trees	1	25%	9	EA	$500	$4,500	0	25% of sidewalk with trees present
Curb to Sidewalk Budget			1,116	SF	$12	$13,392		
Pedestrian Lights	2	100%	9	EA	$4,000	$36,000	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$80,212	0	

70th North/West Corridors								
West Side								
70th between Avenue C - Sherman								
Land Use: Residential								
Block Length	240	FT						
Sidewalk Width	3	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	43.3	FT						30, 13.3 ft.
Curb to Property Line	12.2	FT						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,180	SF	$12	$14,162	0	Replace
Curbs	2	100%	197	LF	$15	$2,951	0	Missing, need installation

Driveways	2		528	SF	$15	$7,924	0	Replace
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	1 missing at Avenue C/bilateral ramp
Trees	1	25%	10	EA	$500	$4,918	0	25% of sidewalk with trees present
Curb to Sidewalk Budget			1,220	SF	$12	$14,634		
Pedestrian Lights	2		10	EA	$4,000	$39,340	0	none present, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	13					$90,929	0	

70th North/West Corridors								
West Side								
70th between Sherman - Avenue E								
Land Use: Residential								
Measurements								
Block Length	240	FT						
Sidewalk Width	3.5	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Driveway Width	34	FT						15, 19 ft
Curb to Property Line	12.2	FT						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	50%	1,236	SF	$12	$14,832	0	Replace
Curbs	2	100%	206	LF	$15	$3,090	0	Missing installation needed
Driveways	1		415	SF	$15	$6,222	0	Replace or Build
ADA (Driveway and curb ramps)	0		n/a	budget	$3,000	$3,000	0	Bilateral ramps present at Sherman
Trees	1	25%	10	EA	$500	$5,150	0	25% of sidewalk with trees present
Curb to Sidewalk Budget			1,277	SF	$12	$15,326		
Pedestrian Lights	2	100%	10	EA	$4,000	$41,200	0	none present, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	10					$92,820	0	

70th North/West Corridors								
West Side								
70th between Avenue E - Avenue F								
Land Use: Residential								
Block Length	240	FT						
Sidewalk Width	4	FT	(1) If sidewalk standard width greater than existing width then calc					none present
Driveway Width	36.5	FT						28, 20, 18.5 ft
Curb to Property Line	10	FT						Easement varies
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,221	SF	$12	$14,652	0	Missing, installation needed
Curbs	2	100%	204	LF	$15	$3,053	0	Missing, installation needed
Driveways	2		365	SF	$15	$5,475	0	Replace
ADA (driveway & curb ramps)	2	100%	n/a	budget	$3,000	$3,000	0	Bilateral steps are present at Ave. E
Trees	2	100%	10	EA	$500	$5,088	0	none present
Curb to Sidewalk Budget			814	SF	$12	$9,768		
Pedestrian Lights	2	100%	10	EA	$4,000	$40,700	0	none present, cobra head present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	14					$85,735	0	

70th North/West Corridors								
70th between Avenue F - Canal								
Land Use: Residential								
Block Length	230	FT	(1) If sidewalk standard width greater than existing width then calculations based on 100% replacement.					
Sidewalk Width	3	FT						None
Driveway Width	56	FT						20, 36, ft
Curb to Property Line	12.2	FT						Easement
Items	**Score**	**Percent**	**Amount**	**Units**	**Unit Cost**	**Cost**	**Rvsd Score**	
Sidewalk	2	100%	1,044	SF	$12	$12,528	0	Missing, installation needed
Curbs	2	100%	174	LF	$15	$2,610	0	Missing, installation needed
Driveways	2		683	SF	$15	$10,248	0	Replace
ADA (driveway & curb ramps)	0		n/a	budget	$3,000	$3,000	0	Bilateral ramps present
Trees	2	100%	9	EA	$500	$4,350	0	None present
Curb to Sidewalk Budget			1,079	SF	$12	$12,946		
Pedestrian Lights	2	100%	9	EA	$4,000	$34,800	0	None present, cobra heads present
Other	2		n/a	budget	$4,000	$4,000	0	
Total	12					$84,482	0	

Appendix E - Corridor-by-Corridor Calculations

Mixed-Use Development Program/Harrisburg LRT Corridors					
	(Sq. Ft.)	*(Sq. Ft.)*	*(Sq. Ft.)*	*(Sq. Ft.)*	*(Sq. Ft.)*
York	***Retail***	***Ofc/Svcs***	***Lt. Industry***	***Residential***	***Total***
Property	94,245	31,415	31,415	157,075	314,150
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	58,903	28,274	18,849	439,810	545,836
Lockwood	***Retail***	***Ofc/Svcs***	***Lt. Industry***	***Residential***	***Total***
Property	848,205	169,641	169,641	339,282	1,526,769
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	530,128	152,677	101,785	949,990	1,734,579
Altic	***Retail***	***Ofc/Svcs***	***Lt. Industry***	***Residential***	***Total***
Property	32,986	16,493	16,493	98,957	164,929
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	20,616	14,844	9,896	277,080	322,436
Cesar Chavez	***Retail***	***Ofc/Svcs***	***Lt. Industry***	***Residential***	***Total***
Property	78,538	31,415	31,415	172,783	314,150
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	49,086	28,274	18,849	483,791	579,999
70th Street	***Retail***	***Ofc/Svcs***	***Lt. Industry***	***Residential***	***Total***
Property	318,077	127,231	127,231	572,538	1,145,077
Site Coverage	50%	60%	60%	70%	-
Number of Floors	1.25	1.50	1.00	4.00	-
Building Program Sq. Ft.	198,798	114,508	76,338	1,603,107	1,992,752

Appendix F - Glossary

American Recovery and Reinvestment Act (ARRA)
Americans with Disabilities Act (ADA)
Bus Level of Service (BLOS)
Carbon Monoxide (CO)
Congestion Mitigation and Air Quality (CMAQ) Improvement Program
Community Development Block Grant (CDBG)
Environmental Protection Agency (EPA)
Federal Highway Administration (FHWA)
Federal Transit Administration (FTA)
Florida Department of Transportation (FDOT)
Greater East End Management District (GEEMD)
Houston-Galveston Area Council (H-GAC)
Institute of Transportation Engineers (ITE)
Letter of No Prejudice (LONP)
Light Rail Transit (LRT)
Livable Communities Initiative (LCI)
Metropolitan Planning Organization (MPO)
National Ambient Air Quality Standards (NAAQS)
National Research Council (NRC)
Pedestrian Level of Service (PLOS)
Regional Transportation Plan (RTP)
Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)
Single-Occupancy Vehicle (SOV)
Transportation Enhancements (TE)
Surface Transportation Program (STP)
Tax Increment Redevelopment Zone (TIRZ)
Texas Department of Transportation (TxDOT)
Texas Transportation Institute (TTI)
Transit-Oriented Development (TOD)
Transportation and Community and System Preservation (TCSP)
Transportation Development Credit (TDC)
Transportation Improvement Program (TIP)
Transportation Research Board (TRB)
Vehicle-Miles Traveled (VMT)