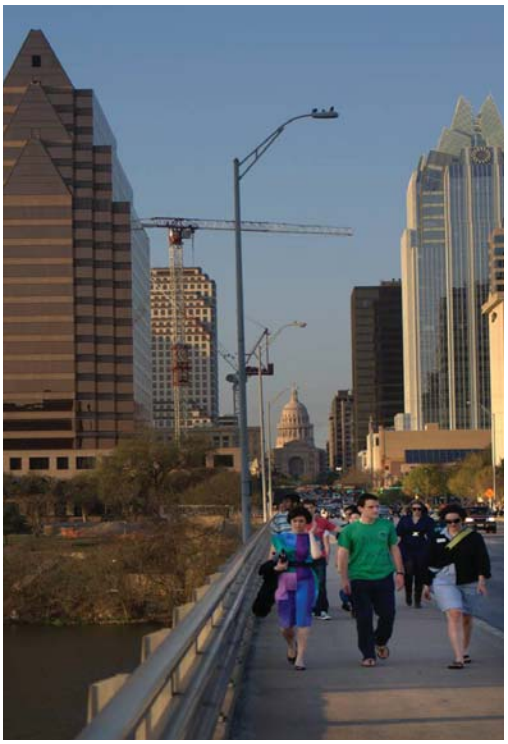

Sidewalk Master Plan

PRESENTED TO:

City of Austin
Public Works Department
Bicycle & Pedestrian Program
505 Barton Springs Road, Suite 1300
Austin, Texas 78704

PRESENTED BY:

Julie Hastings, PE
Richard McEntee

Lockwood, Andrews & Newnam, Inc.
10801 North MoPac Expressway
Building 1, Suite 120
Austin, Texas 78759

March 3, 2009

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY

Acknowledgements

City Council Members
Will Wynn, Mayor
Brewster McCracken, Mayor Pro Tem
Lee Leffingwell, Place 1
Mike Martinez, Place 2
Randi Shade, Place 3
Laura Morrison, Place 4
Sheryl Cole, Place 6

The City Manager
Marc Ott, Austin City Manager
Robert Goode, Assistant City Manager, Public Works

City of Austin Public Works Department
Howard Lazarus, PE, Director of Public Works
Joe Ramos, PE, Former Acting Director of Public Works
Sam Angoori, PE, Assistant Director of Public Works

Bicycle and Pedestrian Program Staff Members
Mike Curtis, Bicycle and Pedestrian Program Manager
Annick Beaudet, AICP, Project Manager
Eric Dusza, Planner III
Mark Cole, Project Coordinator
Diane Rice, Project Manager
Nadia Barrera, Project Coordinator
Nathan Wilkes, Engineering Associate

Other City of Austin Staff

CTM
Leeanne Pacatte, GIS Manager
Sean McClurkan, GIS Analyst

Street and Bridge
David Magana, PE, Division Manager
Ed Poppitt, PE, Project Manager

Department of Health and Human Services
Dr. Philip Huang, Assistant Director
Rick Schwertfeger, Health Program Manager

Director of Transportation
Robert Spillar, PE

Consultants
Sanborn
Karen Adkins, Project Manager

Lockwood, Andrews & Newnam
Brian Rice, PE, Project Principal
Julie Hastings, PE, Project Manager
Richard McEntee, GIS Manager
Shelby Coder, GIS Analyst
David Manuel, AICP, Planner

Capital Area Council of Governments
Betty Voight, Executive Director
Clay Collins, Deputy Executive Director
Sean Moran, Director, Center for Regional Development

Stakeholders
ADAPT
ADA Task Force
Austin Neighborhood Council
Citizens of Austin
Comprehensive Subcommittee (Planning Commission)
Design Commission
Downtown Austin Alliance
Mayor's Committee for People with Disabilities
Mayor's Fitness Council
Planning and Zoning Commission
Urban Transportation Commission

Zoning and Platting Commission

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY

GOAL

of the

SIDEWALK MASTER PLAN

In an effort to complete a City-wide ADA-compliant sidewalk network, the goal of the Sidewalk Master Plan is to provide an objective mechanism for the City's use in prioritizing sidewalk construction projects.

Table of Contents

Executive Summary

The City of Austin contracted with Lockwood, Andrews & Newnam (LAN) in 2003 to complete Phase I of a Pedestrian Infrastructure Management System (PIMS) to meet Austin's needs for assessing and prioritizing sidewalk infrastructure and to update the existing ADA Title II Transition Plan. The scope of the project was to create an interactive software tool that uses spatial analysis of a predetermined set of criteria to identify and rank absent sidewalks, as well as provide a plan to execute improvements. Phase I covered 31% of the City's area. In 2006, LAN began work on Phase II of the Pedestrian Master Plan to incorporate the entire City limits and further develop the prioritization matrix. The Phase II Matrix is more sophisticated and was developed through an extensive public process. The Phase II Matrix also includes an emphasis on components and elements that will improve pedestrian mobility for the ADA community.

Absent Sidewalk Prioritization Matrix

The absent sidewalk matrix is the basis of the sidewalk master plan and facilitates the prioritization of absent sidewalks throughout the city based on an objective, fact-based analysis.

The absent sidewalk matrix is divided into five parts: Pedestrian Attractor Score (PAS), Pedestrian Safety Score (PSS), Fiscal Availability Score, Neighborhood Plan Score, and Special Consideration Score. Points are awarded based on the following elements, with a higher score indicating a higher priority need for a sidewalk in the subject location.

The Pedestrian Attractor Score accounts for 50% of the base score. Points are awarded to a sidewalk segment based on the segment's proximity to pedestrian attractors such as schools, transit stops, government offices, etc.; median household income; residential population density; presence of existing facilities on the street; ADA Task Force and/or 311 citizen requests; proximity to a core transit corridor; and existence of bicycle lanes on the adjacent street.

The Pedestrian Safety Score accounts for 40% of the base score. Points are awarded based on the street classification, health status of the area, and occurrence of automobile / pedestrian incidents.

The Fiscal Availability Score accounts for 10% of the base score. Points are awarded if fiscal posting exists for the segment.

The Neighborhood Plan Score is added to the base score for sidewalk segments requested in an adopted neighborhood plan. This is an additional score since not all neighborhoods have adopted a plan. The score is based on the age of the plan; one point per year can be added with a maximum of 10 points.

The Special Consideration Score is also added to the base score and allows for consideration of specific areas known to attract a higher volume of pedestrian traffic than would be suggested by the surrounding criteria (i.e. Zilker Park). Additionally, the special consideration score may be awarded to absent sidewalk segments which serve to implement an identified trail system within the City's Trail Master Plan or included in the City's safe route to school program. Points are discretionary and must be approved by the Director of Public Works with a maximum of 10 points.

The PIMS tool integrates with ESRI's ArcGIS software and evaluates each sidewalk segment based on the criteria above. Every absent segment in the City is scored and then placed into five general categores: Very High, High, Medium, Low, and Very Low. These ranking categories will be used by the City to prioritize segments for development of short and long-term work plans based on anticipated budgets.

ADA Transition Plan

In addition to the sidewalk priority matrix, Phase II included an update to the City's Title II ADA Transition Plan, including a field condition assessment for approximately 300 miles of existing sidewalk (13% of existing infrastructure). It is estimated that the City will require $120 million to improve existing sidewalk infrastructure to ADA compliance and to complete the condition assessment. The Transition Plan includes a recommended example schedule for implementing improvements to existing infrastructure. An example of an aggressive schedule to make the repairs in 15 years includes spending $5M for 2009 and 2014 and $10M for 2015-2023. The potential Transportation User Fee, grants, sidewalk ordinance No. 20080214-096, neighborhood cost sharing, and public/private partnerships.

Pedestrian Infrastructure Management System (PIMS) and Absent Sidewalk Priority Matrix

Pedestrian Master Plan Update

In November of 2000, the Austin City Council adopted a Pedestrian Master Plan as an answer to concerns related to a 1997 Austin Transportation Study (ATS) survey that found only 3% of Austin residents walked from home to work or school. The 1995 Nationwide Personal Transportation Survey reported that 50% of all trips made by respondents were less than 3 miles, which could reasonably be replaced with walking. The City of Austin recognized the need for a plan to provide a structured approach for improving pedestrian facilities.

The City's goal for their Pedestrian Master Plan was to "set forth policies that will encourage walking as a viable mode of transportation, improve pedestrian safety and enable people to walk to and from transit stops". Additionally, the plan identified that "inclusion of sidewalks and other pedestrian facilities in the transportation system are necessary to help control air pollution and traffic congestion, and increase the quality of life in Austin". The document covered justification for the adoption of such a plan, policies that outline criteria for proper pedestrian infrastructure, recommendations for facilities that need improvement, and a design guide to effectively follow through on the previously identified policies with compliance to standards set by the Americans with Disabilities Act.

A few years later, the City of Austin was prepared for an aggressive implementation plan with the purpose of identifying and prioritizing specific areas requiring new sidewalk infrastructure or sidewalk rehabilitation. The City needed a formal assessment of existing sidewalk conditions (including ADA compliance) together with an inventory of current City sidewalks in order to generate a priority list. This information would allow the City to prepare future budget allocations and institute a sidewalk installations and repairs program.

Lockwood, Andrews & Newnam, Inc. (LAN) of Austin was contracted in 2003 to complete Phase I of a Pedestrian Information Management System (PIMS) to meet Austin's needs for assessing and prioritizing sidewalk infrastructure. The scope of the project was to create an interactive software tool that uses spatial analysis of a predetermined set of criteria to identify and rank absent sidewalks, as well as to provide a transition plan to execute improvements. The tool would integrate with ESRI's ArcGIS 9.X software, currently used by the City of Austin GIS (Geographic Information Systems).

LAN provided updates to the existing 2000 Pedestrian Master Plan, as well as the City's ADA Transition Plan from the early 1990s. Phase I was completed in 2005. In 2006, LAN began work on Phase II of the Pedestrian Master Plan Update.

Phase II included updates to the existing Pedestrian Master Plan and Matrix, collection of field condition data, creation of new data, collection of existing data, and further development of the PIMS concept. The Phase I Matrix was more technically oriented whereas the Phase II Matrix is more sophisticated and included an extensive public process with a focus on ADA compliance.

Table 1 Pedestrian Master Plan Update Timeline	
Year	**Action**
2000	Resolution No. 001130-12 adopts the Pedestrian/Sidewalk Master Plan Timeline
2003	Transportation, Planning and Sustainability Department initiates updates to 2000 plan
2005	Phase I of updated 2000 plan is completed
2006	Phase II of updated 2000 plan initiated
2007	Public process for Phase II plan conducted
2008	Phase II of 2000 plan completed

GIS Database Development of Existing and Absent Pedestrian Infrastructure

Raw existing sidewalk data was provided for Phase I and Phase II from aerial imagery flown in 2003 and 2006, respectively. Using this data as a template, a PIMS geodatabase was created along with a methodology for feature creation of new sidewalk segments[1], curb ramps, street intersections, street centerlines, and absent sidewalks. The raw sidewalk data along with existing City of Austin street centerline data were corrected to match current aerial imagery. Phase I completed 31% of the City and provided data for use in Phase II, which covers the entire City limits.

GIS Method to Score and Prioritize Projects

A GIS methodology was constructed to analytically compare and rank sidewalks against each other with the intent of instituting installation projects in an order based on this ranking system. Any number of criteria relating to an increase of pedestrian traffic could increase a sidewalk's rank. To make a fair and accurate assessment based on spatial location, a spatial query of the criteria existing near a sidewalk must be performed. To meet this end, a special program was developed to work within GIS to produce the output necessary to establish overall sidewalk "scores" which would determine project priority.

To serve as the backbone for such a program, LAN developed a scoring matrix to score and prioritize the need for new sidewalks in areas where none currently exist. The project prioritization aids in filling in missing sidewalk segments and providing connectivity in the system.

The matrix scores these potential sidewalks based on their proximity to certain criteria that would indicate a greater need for sidewalk infrastructure, i.e. areas near parking garages, or grocery stores, or areas in densely populated areas. Safety issues are also considered in the score, such as pedestrian/automobile incidents near absent sidewalk locations, nearby street classification (higher traffic volume = higher priority), and local health data. Proximity to attractors and pedestrian safety form the basis for each matrix, but there are additional elements to each that are further described below. The matrix focuses on transportation with over 60% of the score being derived from transportation-related elements.

[1] A sidewalk segment is any continuous length of sidewalk. Sidewalk segments may be continuous from intersection to intersection or may be terminated at driveways.

The premise of the matrix is that when all sidewalks have been scored, it will be possible to prioritize new sidewalks by assigning them a general classification relative to all other scored sidewalks of their type. This final classification will recognize their importance using the five simplified terms "very high", "high", "medium", "low", and "very low".

The methodology of the matrix was chosen because of its ability to provide consistent, unbiased prioritization results in an analytical, objective manner to the City of Austin for over 30,000 locations. Consistent data updates made by the City will assist in maintaining the integrity of the sidewalk score output in the future.

This tool is intended to be used as a foundation for sidewalk prioritization, and a first step for analysis of sidewalk programs. City staff will verify the data prior to assigning funding to rule out anomalies in the results. The Director of Public Works shall have final approval of project recommendations with signature input from this plan. Potential steps to creating each sidewalk program are as follows:

- Identify Very High Priorities using the Matrix;
- Perform cost / benefit analysis;
- Conduct field assessment / verification;
- Solicit stakeholder input;
- Address safety concerns;
- Assess integration with Trails or Bicycle Master Plans;
- Develop short-and-long-term Work Plans based on anticipated budgets; and
- Obtain signature approval from the Director of Public Works.

Absent Sidewalk Prioritization Matrix

The absent sidewalk matrix is divided into five parts: Pedestrian Attractor Score (PAS), Neighborhood Plan Score, Fiscal Availability Score, Pedestrian Safety Score (PSS), and Special Consideration Score. The Neighborhood Plan can add an additional 10 points to the base score and can only be used when comparing projects within areas with adopted neighborhood plans.

1. The Pedestrian Attractor Score **(PAS)** accounts for 50% of the base score and includes the following elements:

45% of PAS; Proximity to pedestrian attractors such as schools, transit stops, government offices, etc. Points are awarded based on how many of these elements exist in a 1/8 or 1/4 mile buffer.
5% of PAS; Median Household Income uses 2000 U.S. Census data to identify sidewalk segments contained with a census tract that falls at or below Median Household Income ($48,950).
25 % of PAS; Residential Population is based on the 2000 Census blocks and awards points based on the population within 1/2 mile buffer.
10% of PAS; Existing Facilities on Street awards points for arterial and collector streets if there are sidewalks on only one side of the street.
10% of PAS; Citizen/Organization Requests gives points if the sidewalk segment has been requested by either the ADA Task Force and/or a citizen request through the City of Austin 311 system.
2.5% of PAS; Core Transit Corridors allow for points to be awarded to sidewalks within 1/4 mile of designated thoroughfares.