

City and County of Denver
**PEDESTRIAN
MASTER PLAN**



August 2004



URS

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Denver must address mobility in multiple ways: providing more transportation choices, encouraging modes that reduce impacts on the urban environment, and cooperating with metropolitan jurisdictions and quasi-governmental agencies on mobility plans and projects.

- Denver Comprehensive Plan 2000

Since every trip begins and ends with walking, the pedestrian environment is the primary transportation element that connects all travel modes.

- Blueprint Denver 2001

As a City in a Park, Denver itself becomes a large park, with streets buildings and people as integral elements of a rich and varied landscape. It begins at our front doors and extends to the mountains and prairie parks. And it embraces the public realm in its entirety.

- The Game Plan 2003



EXECUTIVE SUMMARY

A good pedestrian system is centered on mobility and access. The quality of one's walking experience often defines what a person thinks of where they live or visit. It is also about spontaneously meeting friends, the art of people watching, and the civic sociability of our city. Being able to get from one place to another safely and conveniently as a pedestrian will often determine if someone decides to walk, bicycle, take transit, drive or venture out at all. Missing links within the pedestrian system, poor maintenance and upkeep, and/or dangerous conditions are bound to discourage pedestrians.

INTRODUCTION

To address these problems and make improvements, Denver needs a systematic strategy for building, improving and maintaining the pedestrian infrastructure citywide. The Pedestrian Master Plan (Ped Plan) is intended to guide the process of developing such a strategy.

Development of the Ped Plan fulfills the Comprehensive Plan goal of addressing mobility in multiple ways as well as the recommendation made in Blueprint Denver for the creation of a pedestrian master plan. Far-reaching in scope, the Ped Plan will help increase pedestrian activity over time by providing a safe and inviting environment. Because we expect significant development in the designated Blueprint Denver "Areas of Change", the plan will be especially effective at improving pedestrian conditions in these areas.

PURPOSE OF THE PLAN

While not intended to solve every problem at the moment, the plan will serve as a framework for implementation of new city policies that include the importance of the pedestrian in planning. Specifically, this plan supports the following goals: safety, accessibility, education, connectivity, streetscape, land use, and public health. These goals are further enhanced through identification of action items that serve to implement the policies.

To frame the implementation process of these seven goals, the Ped Plan creates a citywide pedestrian network; recommends pedestrian friendly policies and identifies pedestrian projects.

An advisory team was formed to guide the development of the Ped Plan. This team consisted of City staff from Public Works, Community Planning and Development, Parks and Recreation, and citizen advisors. Throughout the process, pedestrian and other related experts were consulted, including representatives from the Commission for People with Disabilities.

DEVELOPING RECOMMENDED POLICIES, ROUTES AND PROJECTS

The advisory team began the planning process by reviewing existing city plans to identify previously documented pedestrian issues and recommendations. A citywide inventory was also conducted to identify where sidewalks are attached, detached or missing. Once this information was gathered, four public workshops were held to collect additional input from the public and to determine what pedestrian issues and concerns were most important.



“There is a major opportunity to promote walking trips in the US; with the exception of work, the large majority of trips each day are less than five miles. In fact, 27.4% are one mile or less.”

- US Department of Transportation, Final Report: The National Bicycling and Walking Study

After obtaining initial feedback from the public, a “pedestrian potential” analysis was modeled using Geographic Information Systems (GIS). The goal of the analysis was to locate areas throughout the City that have the highest potential for pedestrian activity. The analysis was based on a location’s proximity to five land use features: schools, light rail transit stations, parks, libraries and neighborhood destinations. The two primary elements used to develop the pedestrian network included enhanced bus transit corridors, as identified in Blueprint Denver and Green Streets, as defined in the Game Plan. Areas with significant pedestrian potential served as the starting point for development of the pedestrian routes.

Streets in the network were selected based on their ability to connect pedestrians from one civic place to another, to provide access to transit, and to accommodate infrastructure that encourages pedestrian travel. Though these streets are identified as part of the network, the quality of pedestrian infrastructure varies. The Ped Plan recommends prioritizing improvements on the most underdeveloped streets in the network. Once the network was established, five additional public workshops were held to confirm the best streets were selected for the network. In addition to confirming streets in the pedestrian network, the public also helped to identify specific pedestrian upgrades citwide. A complete list of these proposed upgrades or projects can be found in Chapter 6: Pedestrian Projects. City staff has already researched the feasibility of implementing such a fee. A draft proposal titled “Right of Way Sidewalk Initiative 2002” was completed in October 2002. The proposal outlines a 50-year plan to repair or replace existing deficient sidewalks, construct new City standard sidewalks and widen substandard sidewalk. The proposal estimates that \$13,120,000 in fees would be collected in the first year.

FUNDING

Over the last 125 years, the sidewalk system has been built and paid for by individual property owners, one project at a time. It is estimated to be a \$500 million dollar transportation asset which, thus far, the City has not played a direct role in building or maintaining. This Plan makes recommendations for the City to take a more active role in maintaining this asset. In order to do so, the City will have to modify current funding mechanisms. In addition to utilizing existing mechanisms to fund upgrades, the plan proposes to study the use of three new mechanisms to fund small to medium projects.

Citywide Sidewalk Fee

Similar to the way the City’s wastewater fee works, the city would collect a small annual sidewalk fee from each property owner for the lifetime building maintenance and replacement of a city standard sidewalk required on their property. The City would then take on the responsibility to repair and replace all public sidewalks.

Public Works Manager Authority

Although rarely exercised, the City’s Public Works Manager maintains the authority to require adjacent property owners to upgrade their sidewalks to meet City standards. Applying this authority using the support of the policies, priorities and the pedestrian network established in the Ped Plan



will significantly help to implement sidewalk upgrades.

Capital Improvement Project (CIP) Budget Annual Maintenance Program Funding

Currently, there is no annual construction and maintenance program to handle ongoing small to medium projects. An annual maintenance program for sidewalks would provide an accessible source of funds to make regular progress toward completion of the improvements identified the Ped Plan.

The next steps identified below are critical to the successful implementation of the Ped Plan:

- Conduct an assessment of the pedestrian network to identify needs and deficiencies and consolidate with the project list.
- Allocate City resources to ensure the consistent application of standards that are pedestrian friendly.
- Support the creation and development of a citizen led pedestrian advocacy group.
- Pursue alternative funding mechanisms to help finance sidewalk and pedestrian infrastructure.

Denver is a great city for walking due to the moderate year-round climate and the existing pedestrian infrastructure. However, after many years of planning for the automobile, improvements are necessary to reclaim sidewalks and re-validate walking as a viable mode of transportation.

The Ped Plan is an important document because it enables city staff to make consistent decisions that affect the pedestrian realm in a positive way. It sets the stage for policy discussion regarding sidewalk requirements, helps protect streets with developed pedestrian infrastructure, prioritizes streets with underdeveloped pedestrian infrastructure for upgrades and lists specific projects recommended by the public.

The Ped Plan is the first in a series of updates that will occur in the years to come as additional accomplishments take place, existing conditions and infrastructure change, and new opportunities present themselves. The City should be committed to the periodic review and update of the Denver Pedestrian Master Plan to review the policies, assess the accomplishments and identify new improvement projects. The continued implementation of the recommendations made in this and subsequent updates will require funding, inter-agency cooperation, and a shared vision that walking is an easy, safe, enjoyable and viable transportation choice.

IMPLEMENTATION

CONCLUSION

Research findings indicate that people walk for various reasons: leisure, recreation, exercise, or transportation to work, shop, or conduct errands. Studies show that walking is influenced by the environment, and that certain features affect the choice to walk."

- Owen Sallis, Physical Activity and Behavioral Medicine





BACKGROUND

Established in the mid 1800's as a small mining supply town at the confluence of the Platte River and Cherry Creek, Denver's beginnings were inauspicious. Wooden sidewalks offered relief from the muddy streets and dust. As the population boomed with the intensity of the gold discoveries and the arrival of the Transcontinental railroad, Denver struggled to establish its place as the major City in the Rocky Mountain West. The Tabor Center Opera House, Brown Palace Hotel, a Civic Center that housed both the State and City capitol buildings, and fine shopping along Larimer and 16th Streets all helped signify that Denver had come of age. Early Denver photographs show sidewalks full of people walking to work, window-shopping, meeting friends, buying a newspaper, or getting their shoes shined.

As early as 1878 Denver civic leaders desired to create a beautiful city by proposing grand visions of large parks connected by tree line boulevards. These visions culminated in the landmark Robinson-Kessler Plan of 1907. The plan created a framework of tree-lined boulevards and parkways connecting dispersed parks throughout the city. Mayor Speer, implemented significant portions of the Kessler Plan. These efforts established the idea that Denver is a "City in a park," and has served as a guide and pattern for growth since their inception. Speer Boulevard, East 17th Avenue Parkway, Federal Boulevard and West 46th Avenue are classic examples within the system. Civic Center Park, Sloan's Lake, City and Washington Parks are some of the magnificent parks that create civic places connected by these grand streets. It is this work that gives us much of our historic park and parkway system today. In 1929 S. R. DeBoer, a longtime landscape architect, with the Parks Department, incorporated many of our drainage gulches as trails into a citywide plan. His plan complemented the street grid parkways. Years later, in 1983 Mayor Peña revived city beautiful ideals by incorporating urban design into all planning and projects. More recently "Green Streets," important connection streets, were incorporated into the *Game Plan*, Master Plan for the Department of Parks and Recreation, 2003. These city planning elements continue to provide a sense of splendor to Denver today. Every year the flowerbeds are planted by the City and their emerging bright colors and clever designs are a sure sign of spring. The boulevards, parks and parkways are City treasures.

In the early part of the 20th century the streetcar system emerged but then was abandoned in the 1950's in favor of the automobile. The streets and many parcels of land were dedicated to vehicular travel, parking, and garages. Public transit took a back seat to the private automobile, and the whole pattern of land development forever changed. Schools, shopping and entertainment areas, neighborhoods and other destinations could be further apart. Housing spread out from the center and many areas were built up without the pedestrian in mind. The automobile became the mode of choice for most trips and remains so to this day.

One of the consequences of this change is that people are less likely to have chance meetings on the sidewalk, knowing their neighbors, and have shopping within walking distance. Reliance on the automobile also results in less walking which contributes to obesity and associated health risks.

To counter this trend, many cities are now creating master plans to deliberately address the pedestrian network of sidewalks, trails, and paths. Connection, access, and sidewalk improvement are, no doubt the plan's focus. Rebuilding and strengthening a sense of community, improving the quality of life, and reestablishing the opportunity of social encounters are clearly part of the higher purpose for these plans. Again, picture any City and undoubtedly part of the picture is the quality of the outdoor environment. People walking from place to place is a sure sign of life and activity that is instantly memorable. In fact, the City with the highest percentage of people walking the longest distances on a daily basis is New York City.

With this Pedestrian Master Plan, the City of Denver is establishing a framework for the entire City. The Master Plan will serve as the basis for all pedestrian improvements in the City and smaller, area plans will give more specificity to areas requiring more detailed attention.



CITY AND COUNTY OF DENVER PEDESTRIAN MASTER PLAN



PLAN DEVELOPMENT PROCESS

Creation of the Ped Plan and implementation of its major recommendations are specifically called for in Blueprint Denver. The Ped Plan also directly reinforces several Comprehensive Plan 2000 goals including the following:

SCOPING

- To preserve and enhance Denver’s natural environment;
- Anticipate and meet the expanding mobility needs of residents, businesses, and visitors;
- Build on the assets of every neighborhood and foster a citywide sense of community;
- Enhance opportunities for people in need to work and participate fully in community life; and,
- Foster cooperation and share leadership on regional issues.

City staff created the Pedestrian Master Plan Advisory Team (Advisory Team), which included Public Works Transportation Planners, the consultant (URS), Parks and Recreation Planners, Community Planning and Development Planners and Urban Designers, and two citizens at large. The Advisory Team established the following issues to be analyzed throughout the master plan process:

- Existing Conditions Assessment – Determine which areas of the City have existing sidewalks, missing sidewalks, and which sidewalks are attached to or detached from the street curb.
- Existing City & County of Denver Plans – Review and reference for previously identified pedestrian needs, improvements and policies.
- Geographic Information System (GIS) Analysis – Identify areas throughout the City with high pedestrian use, Pedestrian Focus Areas (PFAs), based on the examination of five features that are more likely to generate pedestrian use: schools, existing light rail stations, neighborhood destinations, parks and libraries. Use PFAs to develop the pedestrian routes.
- Public Involvement
- Policy Review and Recommendation
- Funding and Implementation



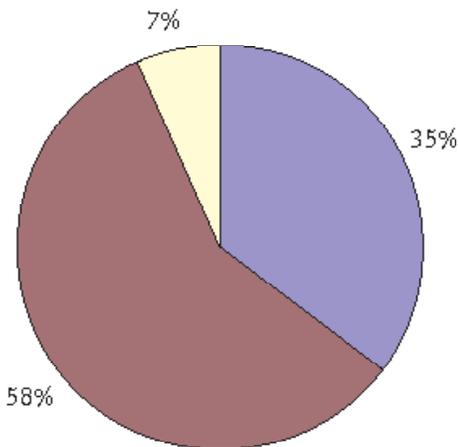
EXISTING CONDITIONS

Of the 2,704 miles of citywide sidewalk analyzed, 1,019 miles are detached meaning there is a strip of trees and lawn between the sidewalk and the roadway curb.

Another 1,686 are attached or directly adjacent to the street curb.

Additionally there are 194 miles where there are no sidewalks at all.

Denver Sidewalks (Miles)



Denver is fortunate to have a reasonable existing sidewalk infrastructure. With approximately 2,700 miles of sidewalks, most of the City has sidewalks of some sort. Many are detached sidewalks with tree lawns. Tree lawns provide a place for large shade trees as well as a barrier between moving traffic and pedestrians. Tree lawns and street trees foster the feeling that Denver is a “City in a Park.” The tree lawns along with the parkways, boulevards and parks system have strong roots in many of the City Beautiful master planning efforts that were conceived in the latter part of the 19th Century.

However, many sidewalks in areas of the City that were developed more recently do not have tree lawns. These areas have attached (directly adjacent to the curb and street), Hollywood curb style sidewalks that do not provide pedestrians an adequate comfort zone within which to walk i.e. there is not enough room for two people to walk side-by side, or for two people to easily pass one another. Other issues on existing sidewalks include obstacles within the pedestrian walkways, the general condition of the sidewalks, and the lack of tree lawns or some sort of buffer between the pedestrian and moving traffic, particularly on streets with heavy traffic volumes.

The existing conditions data was collected by digitizing the sidewalks from a high resolution aerial photo taken in October 2002. The data was classified as missing, attached or detached sidewalks.

Although the Plan is intended to affect the entirety of the City & County of Denver, the Advisory Team recognized that there are certain areas of the City that warrant special consideration some of which are planned and maintained by other public and/or private entities. Such areas include:

- **Downtown Denver and the Central Platte Valley (CPV):** Downtown/CPV is currently being studied extensively during the Downtown Multi-modal Access Plan (DMAP) process. This separate analysis into the issues and complexity of downtown is appropriate given the urban nature of Downtown/CPV. The numerous events and event venues and, the high concentration of pedestrian activity is unique to these areas. DMAP offers the City the opportunity to review and refine pedestrian needs and improvements specific to this concentrated urban area. Additionally, both Downtown and the CPV benefit from the attention of many previous planning efforts. A list of plans for Downtown and the CPV is on page 14. Few sidewalks in this area were digitized.
- **Stapleton Redevelopment:** The planning efforts of the City, Stapleton Redevelopment Authority and the developer, Forest City, have been very comprehensive. Standards for sidewalks are part of the Stapleton master plan and the Game Plan’s Green Street system is well-planned throughout the Stapleton area. Connections between the existing and new neighborhoods are of high importance. No sidewalks in this area were digitized.



- **Lowry Redevelopment:** The planning efforts of the City and the Lowry Redevelopment Authority have been very comprehensive. Standards for sidewalks are part of the Lowry master plan and the Game Plan’s Green Street system is well-planned throughout the Lowry neighborhood. Connections between the existing and new neighborhoods are of high importance. Few sidewalks in this area were digitized.
- **Auraria Campus:** Although a public entity, there is a separate Master Plan for the Auraria Campus which more adequately addresses pedestrian needs and accessibility given the special nature of the campus. Connections to the campus are of high importance. The Advisory Team identified Pedestrian Routes and connections in and around the campus where appropriate with particular attention to areas where special events attract high volumes of people.
- **University of Denver Campus:** DU is a private university with a separate Master Plan for the campus, which more adequately addresses pedestrian needs and accessibility given the special nature of the campus. Connections to the campus are of high importance. Although DU is a private entity the Advisory Team recognizes the public role the University plays as an important attractor of pedestrians from surrounding neighborhoods on a daily basis and for special events open to the public scheduled throughout the year. The Advisory Team identified pedestrian routes and connections in and around each of these areas where appropriate.
- **DIA:** A separate planning effort governs the land at DIA. More extensive planning for the pedestrian may be warranted in the future as the City continues to develop in the northeast.

Sidewalk Definitions:

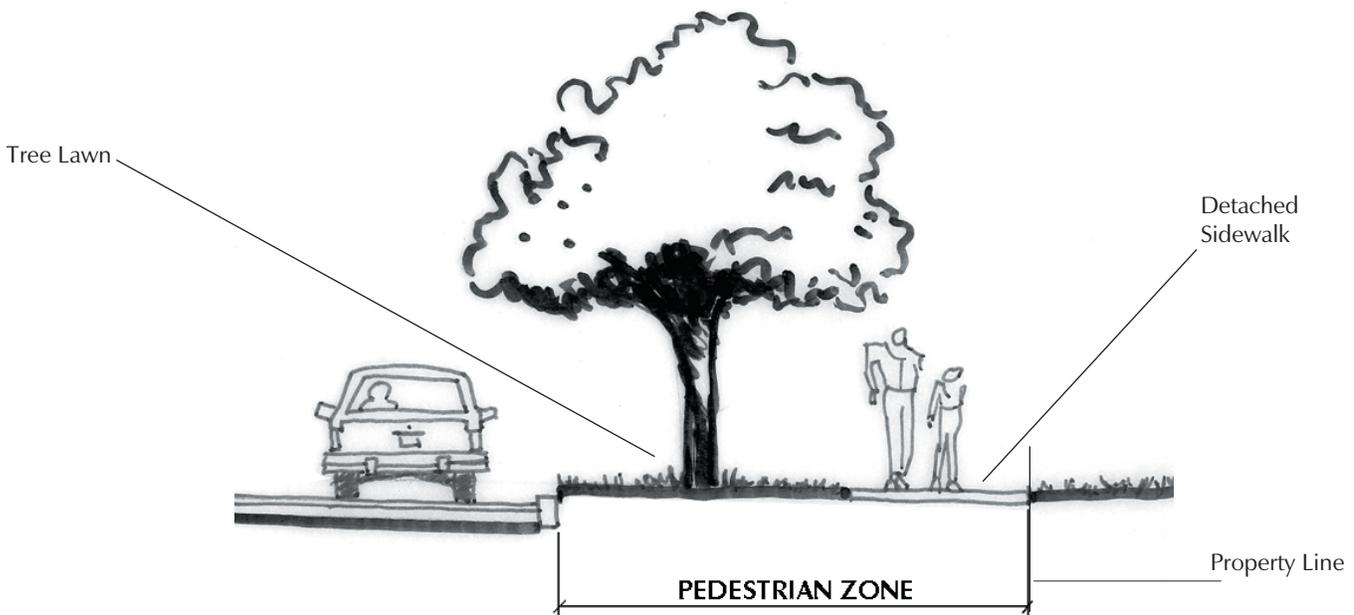
Denver has two basic types of sidewalks: attached and detached.

Attached sidewalks are adjacent to the roadway curb with no planting strip in between.

Detached sidewalks are separated from the roadway curb by a planting strip called a “tree lawn.”

A **Hollywood sidewalk** is an attached sidewalk no more than three-feet in width with a rolling, not vertical curb.

Tree lawns, generally planted with street trees, create a green canopy over the sidewalk and down the street. Some of Denver’s most beautiful neighborhoods have street trees in their tree lawns that were planted long ago and in the summer provide welcome shade as well as beauty.



Downtown Plans

Plan Title	Date of Adoption
<i>Downtown Area Plan</i>	1986
<i>Welton-Downtown Triangle Plan</i>	1986
<i>Arapahoe Square/B-8A Design Standards and Guidelines</i>	1998
<i>Northeast Downtown Plan</i>	1995
<i>Central Denver Transportation Plan</i>	1998
<i>Denver Parks and Recreation Game Plan</i>	2003
<i>Lower Downtown Neighborhood Plan</i>	2000
<i>Design Guidelines for Lower Downtown Streetscape</i>	1991
<i>Silver Triangle Urban Design Study</i>	1999
<i>Central Platte Valley Comprehensive Plan Amendment</i>	1991
<i>Central Platte Valley Urban Design Guidelines</i>	1991
<i>Curtis Park/Five Points One-Way to Two-Way Conversion Study</i>	2001
<i>River North Plan</i>	2003
<i>Uptown Neighborhood Plan</i>	1986
Neighborhood and Sub-area Assessments and Studies	Date of Completion
<i>Ballpark Neighborhood Influence Study</i>	October 1992
<i>Denver City Railroad Crossing Study and Plan</i>	Fall 1991
<i>Downtown Ballpark Development Committee</i>	June 1992
<i>Lower Downtown Streetscape Design Guidelines</i>	March 1988
<i>Stadium Area Planning Report</i>	August 1998
<i>Central Denver Transportation Study</i>	May 1998
<i>Civic Center Design Guidelines</i>	February 1996



City staff began the process with a review of all adopted and/or referenced City staff reviewed city plans and policies for existing pedestrian elements, as well as plans from the state, RTD, adjacent municipalities and other organizations. Staff also met with each of the neighborhood planners within Community Planning and Development to review pedestrian system elements and needs in each neighborhood. From the review and discussions, a list of pedestrian system needs was created with informal input from City Council, neighborhood organizations and citizens.

Most of the pedestrian system deficiencies identified were missing sidewalks; lack of curb ramps or ramps that comply with the Americans with Disabilities Act (ADA); sidewalks that have obstacles within the sidewalk system; sidewalks with multiple curb cuts; and sidewalks without adequate buffers from nearby traffic. Commonly proposed solutions included intersection improvements, pedestrian activated signals, ADA accessible curb ramps, improved landscaping and effective and attractive lighting. These findings were later used to help identify solutions and prioritize improvements to the Pedestrian Route Network.

As a final point, the Advisory Team recognized that conditions throughout the City are bound to change with time as recommended improvements from this plan are completed as well as other private development and public infrastructure is built. The recommendations in this plan reflect the current conditions at the time the Ped Plan was created and adopted. The Advisory Team evaluated other proposed and/or future planning efforts in anticipation of this change including FasTracks and certain elements of Blueprint Denver. The Ped Plan should be updated regularly in order to keep pace with such change.

The need for significant public input was anticipated early in the plan process. People walk for a variety of reasons, for transportation, exercise, and for fun. Likewise, a variety of environments for walking are available including trails, parkways, and sidewalks. The quality of walking environments varies greatly, and while some areas meet or exceed the needs of the pedestrian, others struggle to meet even the most basic needs. Recognizing that it would be impossible to identify all of the potential issues and problem locations within the pedestrian environment, the Advisory Team determined that public input was critical to the success of the Ped Plan. Two rounds of four public meetings were held at key points in the plan process. An interactive link to the City's website and faxable information cards were also available for information and commentary. A final ninth public meeting was held prior to finalization of the Ped Plan.

The first round of public workshops was held in October 2002 to allow citizens an opportunity to comment on the current state of walkability in their neighborhood. Citizens were asked to provide information on what they felt were the general problems and/or obstacles with the pedestrian system as well as provide information on specific problem locations that could benefit from



infrastructure improvements.

A second round of public workshops was held in February 2003. This round of workshops asked the public to provide feedback on the proposed pedestrian routes, pedestrian focus areas and other issues.

All of the comments received during the public workshops and from facsimile and internet communications were tallied and recorded. The information provided gave the Advisory Team valuable insight into the current conditions in different parts of the City. This information was used to develop policy, as well as identify and prioritize projects.

The Advisory Team also had the opportunity to meet with two internationally renowned pedestrian specialists, David Engwicht and Dan Burden. Each of these meetings provided the opportunity to showcase the Ped Plan at different times during the development process and to seek input and advice on both the policies and implementation of the Ped plan.

In addition to public meetings, expert review and monitoring by the Advisory Team, comments were also solicited from other City officials within various City departments. The Ped Plan, was reviewed by several special interest groups, internal staff, the Planning Board and finally City Council in 2004.

PLAN GOALS

The Advisory Team developed seven specific goals to guide the process and establish the policy, which will shape and ensure the intended improvements to the City’s pedestrian infrastructure.

- | | |
|------------------|---|
| 1. Safety | Create an environment safe from automobiles that encourages pedestrian mobility. |
| 2. Accessibility | Provide barrier free mobility for all populations. |
| 3. Education | Raise awareness of all groups involved in the pedestrian environment regarding safe practices, rights and responsibilities. |
| 4. Connectivity | Create a pedestrian system to enable pedestrians to move comfortably between places and destinations. |
| 5. Streetscape | Create human scale environments that are safe and attractive, and encourage walking. |
| 6. Land Use | Link land use, transportation and pedestrian systems to encourage mixed-use development patterns. |



- 7. Public Health Raise awareness of the important role of walking in promoting health and preventing disease.

The policies for the Ped Plan further develop and refine the seven major goals and establish the strategies for implementation. The goals, policies, and action items of the Ped Plan are the means by which a new direction and emphasis is outlined for the City of Denver. That direction is one in which the primacy and importance of the pedestrian system is established, improvements as outlined by the list of projects are implemented, and the plan is updated as necessary.





PEDESTRIAN ROUTE NETWORK

The complexity of pedestrian movement increases as we consider more than just walking within any given area. Streets with heavier traffic become barriers to safe pedestrian crossings and the pedestrian's perception of danger from adjacent traffic increases. As the complexities increase, people are less likely to choose walking as a mode of transportation and their willingness to choose transit may be affected as well if significant barriers exist en route to the transit stop. The pedestrian route network was developed to address some of these issues.

FRAMEWORK

Three elements lay the foundation for the development of the pedestrian route network:

- Enhanced bus transit corridors (as identified in Blueprint Denver)
- Green Streets (as defined in the Game Plan)
- Pedestrian Potential Model, Pedestrian Focus Areas and Pedestrian Route Network

Enhanced Bus Transit Corridors are defined in Blueprint Denver, the City's land use and transportation plan, as a tool "to improve the operation of transit travel in congested areas by using priority green phases, exclusive bus lanes and special bus stops that decrease passenger loading times and improve the ability of the bus to reenter the traffic stream." The enhanced bus transit corridors are critical routes in the pedestrian route network.

ENHANCED BUS TRANSIT CORRIDORS

The geographic information system (GIS) analysis of the five factors, as defined on the following pages, did not allow the Advisory Team to take into account all of the existing major bus lines throughout the City as part of the comprehensive model. But, because of the inherently strong relationship and dependency between transit and pedestrian accessibility, the Advisory Team designated the enhanced bus transit corridors as part of the overall pedestrian route network.

The enhanced bus transit corridors include: Federal Boulevard, Colorado Boulevard, Brighton Boulevard north of Downtown, East/West Colfax, Broadway south of I-25, Monaco Parkway, Quebec Avenue, Hampden Avenue, West 38th Avenue, East/West Alameda Avenue, East/West Evans Avenue, University Boulevard, Leetsdale Drive, Smith Road/East 40th Avenue, Speer Boulevard/1st Avenue/Alameda Avenue from northwest Denver through Cherry Creek.



GREEN STREETS

In 2003, City Council adopted the Game Plan which is a master plan developed by the Parks and Recreation Department. The driving theme of the Game Plan is to further develop Denver as a “City in a Park.” Green Streets, one element of the Game Plan, are defined as a system of continuous, safe and accessible connections among Denver neighborhoods. The Green Streets system builds upon the historic boulevards and parkways, strengthening connections between schools, parks, and other neighborhood amenities.

A joint session with the Advisory Team and key Parks and Recreation Department staff was held to discuss the similarities and differences between the pedestrian routes (explained below) and the Green Streets. It was determined that although there were slight differences in the criteria and methodology used to identify the proposed streets, the overarching goals for the pedestrian routes and Green Streets were very similar. It was agreed that both routes should be combined into one system to reinforce their importance in the Game Plan, the Pedestrian Master Plan and to the City as a whole.

PEDESTRIAN POTENTIAL MODEL, PEDESTRIAN FOCUS AREAS AND PEDESTRIAN ROUTES

The Advisory Team used a geographic information systems (GIS) tool to locate concentrations of pedestrian destination points as a first step to determining necessary connections. If the connections were already served by an enhanced bus transit corridor or a green street, that was considered sufficient. If not, the team identified additional pedestrian routes. The additional routes connected within and between the various pedestrian destinations. The analysis, or Pedestrian Potential Model, is explained below.

The goal of the GIS analysis was to locate areas throughout the City that have the best potential for significant pedestrian activity. The Advisory Team chose grid cell analysis, a GIS based analysis, for three reasons. First, it provided an objective tool that measured pedestrian potential throughout the City based on parameters defined by the Advisory Team. Second, it provided enough flexibility to measure a large geographic area. Third, the variables used in the model can be adjusted in future analyses to emphasize different features within the model or new facilities and destination points.

The model was based on five land use features that are likely to encourage walking as a primary transportation choice: light rail transit stations, schools (public and some private, K-12), parks and parkways, libraries and neighborhood destinations.

A key function of the study was to analyze the distance between features enabling the model to determine where features reach a point of critical concentration. To begin the analysis, sidewalks from an aerial photo were digitized into lines (see Sidewalk Inventory, Map 1) and then converted to grid cells. Converting the sidewalks to cells allowed each cell to be assigned its own unique mathematical value. The value for each cell is based on whether a feature, such as a school or light rail transit station, is in proximity to that cell, the level of importance or weighting of the feature that the cell is close to, and the overall distance that particular cell is from all of the other features.



The Advisory team weighted each feature for its level of importance as a destination for pedestrians. The model also evaluated the distance of any given section of a sidewalk from any of the identified land uses. The following is a list of the weighting values used in the final model.

Table 1: Weighting Values for each Feature

Schools	10
Light Rail Transit Stations (Existing)	8
Parks and Parkways	6
Neighborhood Destinations	6
Libraries	4

Table 2: Weighting Values Based on the cell's Distance from any of the Features

Within 600 feet	10
1/4 mile	9
1/3 mile	8
1/2 mile	5
3/4 mile	3
1 mile	1

The Advisory Team approved this weighting scheme under the premise that schools are slightly more important as pedestrian destinations than light rail stations (See Figure 1).

This model displayed an even distribution of cell values and geographically dispersed areas of potential high pedestrian use, or “hot spots,” throughout the City. These hot spots or pedestrian focus areas (PFAs) were further delineated with respect to the enhanced bus transit corridors, Green Streets and overall input from the Advisory Team based on their knowledge of the City.

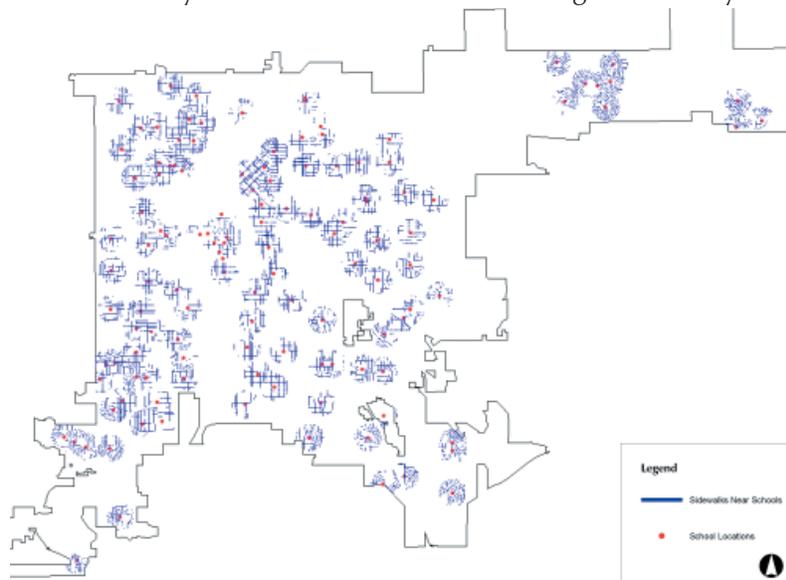


Figure 1: Grid Model for Schools

PEDESTRIAN ROUTE NETWORK

To develop the pedestrian route network, the Ped Plan adopted all of the enhanced bus transit corridors and the Green Streets as routes in the pedestrian network and supplemented those with additional pedestrian routes. City staff conducted site visits to verify that the designated routes currently have or have the highest potential to serve pedestrian needs and make the desired connections. The final citywide pedestrian route network, then, is a combination of enhanced bus transit corridors, Green Streets and supplemental pedestrian routes. The Pedestrian Master Plan recommends that an assessment be conducted to identify specific improvements along the pedestrian network.

In order to encourage walking as a mode choice for our citizens, the city must take every opportunity to protect and improve the streets designated on our pedestrian network. These are the streets that can best attract and accommodate pedestrian travel.

PEDESTRIAN LEVEL OF QUALITY

The purpose of the pedestrian level of quality (LOQ) is to identify the minimum acceptable characteristics of a pedestrian zone and the additional features the City desires to have on streets in the pedestrian network. Though adoption of this plan does not mandate that all construction comply with the LOQ as defined by the Ped Plan, it does provide guidance and support for building to these standards. The LOQ defines the pedestrian zone as the area from the back of the curb to the property line, usually including the tree lawn and sidewalk, and abutting the property/right-of-way line. Many areas of the City have different pedestrian needs and pedestrian zone characteristics but the plan process identified a need to establish a set of minimum acceptable sidewalk characteristics.

Some specially designed and protected streets – Denver’s designated parkways and boulevards – will have a dual role as Green Streets, Enhanced Bus Transit Corridors and typical streets. Because of their historic character and design, these designated (and any future designated) parkways and boulevards are protected by their own set of design and management guidelines, parkway setbacks, and Ordinances. Any changes to a parkway(s) must be approved by the Manager of Parks and Recreation. Due to these special requirements, how the pedestrian zone and level of quality is defined on these designated streets may differ from other streets.

The purpose of LOQ is to establish a different set of baseline criteria or guidelines for the Enhanced Bus Transit Corridors, Green Streets, Pedestrian Routes and other City streets (typical).

Both the level of quality and the pedestrian network will serve as tools for improving pedestrian facilities citywide. The network identifies where improvements should be prioritized and the LOQ recommends what kind of improvements should be included.



CITY AND COUNTY OF DENVER PEDESTRIAN MASTER PLAN

Level of Quality	Enhanced Bus Transit Corridors	Green Streets / Pedestrian Routes	Typical Streets
Definition	<i>As defined by Blueprint Denver</i>	<i>As defined by the Game Plan and the Pedestrian Master Plan</i>	<i>Any pedestrian way not on an enhanced bus transit corridor, Green Street, or Pedestrian Route</i>
Guidelines	<ol style="list-style-type: none"> 1. 16' minimum pedestrian zone. 2. 8' minimum tree lawn, either green or hardscaped. 3. 8' minimum continuous detached or 16' continuous attached sidewalk. 4. Curb ramps at every intersection. 5. Benches or shelters at most transit stops. 6. Pedestrian signals at all signalized intersections. 7. Crosswalks, signage, pedestrian refuges and other safety features define the pedestrian environment at major intersections. 	<ol style="list-style-type: none"> 1. 13' minimum pedestrian zone. 2. 8' minimum green tree lawn, preferably wider on Green Streets. 3. 5' minimum continuous detached sidewalk. 4. Continuous curb ramps at every intersection. 5. Benches and trash cans where appropriate. 6. Pedestrian signals at all signalized arterials. 7. Crosswalks or other features define the pedestrian environment at major intersections. 	<ol style="list-style-type: none"> 1. 13' minimum pedestrian zone. 2. 8' minimum tree lawn, either green or hardscape. 3. 5' minimum continuous detached or attached sidewalk. 4. Curb ramps at every intersection. 5. Benches at most transit stops with trash cans at heavy use stops. 6. Pedestrian signals at all signalized arterials. 7. Crosswalks or other features define the pedestrian environment at major intersections.

Enhanced Bus Transit Corridors Include: Federal Boulevard, Colorado Boulevard, Brighton Boulevard, North of Downtown, East/West Colfax, Broadway South of I-25, Monaco Parkway, Quebec Avenue, Hampden Avenue, West 38th Avenue, East/West Alameda Avenue, East/West Evans Avenue, University Boulevard, Leetsdale Drive, Smith Road/East 40th Avenue, Speer/Alameda corridor from Northwest Denver through Cherry Creek.



Denver’s Designated Parkways and Boulevards
<i>East Alameda Avenue – Steele St. to Quebec</i>
<i>Berkeley Cutoff – W. 46th Ave. at Yates St. to Sheridan Blvd.</i>
<i>Bonnie Brae Blvd. – University at Exposition to Mississippi at Steele</i>
<i>Buchtel Blvd. – Clarkson to Colorado</i>
<i>Cherry Creek Drive (north and south sides) – University to Quebec</i>
<i>Clermont Street - E. 3rd to E. 6th E</i>
<i>Colorado Blvd. south City limits to Dartmouth; I-25 to 44th Ave.</i>
<i>Downing St. – Speer to E. Bayaud</i>
<i>Federal Blvd. – south City limits to 25th Ave.; 26th Ave. to north City limits</i>
<i>Forest Street - E. 17th to Montview</i>
<i>Franklin Street - E. 1st Ave. to E. 4th Ave.</i>
<i>Gilpin Street - E. 1st Ave. to E. 4th Ave.</i>
<i>High Street - E. 1st Ave. to E. 4th Ave.</i>
<i>Hale Parkway – East 12th to Colorado to 8th Ave at Grape</i>
<i>S. Irving Street Pkwy – W. Evans to W. Jewell Ave.</i>
<i>Martin Luther King, Jr. Parkway - Elizabeth to Quebec</i>
<i>Monaco Street – 40th Ave. to Quincy Ave.</i>
<i>South Marion Street - E. Bayaud at Downing to Marion Street, south to E. Virginia</i>
<i>Montview Boulevard - Colorado Blvd. To Syracuse</i>
<i>Park Ave. – E. Colfax to E. 20th Ave. (nomination for Denver Historic Landmark underway)</i>
<i>Richtofen Place Parkway - Monaco to Oneida</i>
<i>Speer Boulevard – Federal Blvd. to Downing St.</i>
<i>University Boulevard – south City limits to Yale Ave. Iowa to 6th Ave.</i>
<i>Williams Street - E. 8th to E. 4th</i>
<i>E. 1st Ave. (Downing to University)</i>
<i>E. 3rd Ave. - Gilpin to Downing and Colorado Blvd. to Clermont Street</i>
<i>E. 4th Ave. - Williams to Gilpin</i>
<i>E. 6th Ave - Colorado to Quebec</i>
<i>E. 7th Ave. - Williams to Colorado</i>
<i>W. 14th Avenue – Bannock to Broadway</i>
<i>E. 17th Avenue - Colorado to Monaco</i>
<i>26th Ave. Pkwy. – York St. to Colorado</i>
<i>W. 46th Ave. Federal to Sheridan</i>
<i>City Park Esplanade - Colfax to 17th Avenue</i>







“Neighborhoods...are safe because people are on the sidewalk and porches with ‘eyes on the street.’”

Comprehensive Plan 2000



PEDESTRIAN POLICIES

POLICIES

City staff reviewed City plans and ordinances for existing policies affecting the pedestrian environment. Plan review included: right-of-way cross sections, Streetscape Design Manual, Historic District/Parkway Guidelines, commercial corridor guidelines, maintenance guidelines and sidewalk permitting and enforcement policies.

The information gathered during this process served as the foundation for the development of new policies and recommendations. The Policies further develop and refine the goals of the plan especially education, public health and land use. They establish a course of action to implement the goals. Together, the vision, goals, policies, and action items are the means by which a new direction and emphasis is set for the City of Denver. The policies of the Ped Plan are meant to place greater emphasis on shaping and improving the pedestrian environment and the overall transportation system.

Responsible Agencies include: Public Works (PW), Community Planning and Development (CPD), Parks and Recreation (PR), Denver Police Department (DPD), the Wellness Director, and the Mayor’s Bicycle Advisory Committee (MBAC).

Policy 1.1 Crossings: Improve pedestrian crossings in areas where safety is an issue.	Action Items:	Responsibility:
	1.1.1 Employ the full range of intersection design options to improve pedestrian safety.	PW/CPD
	1.1.2 Prioritize upgrades to non-signalized or stop-controlled intersections within two blocks of schools, light rail transit stations, elderly housing projects and other areas with high pedestrian activity and recommend funding at least two upgrades each year.	PW
	1.1.3 Coordinate with the neighborhood traffic management program to utilize traffic calming techniques in areas where there is high pedestrian	PW

**GOAL #1 SAFETY:
CREATE A SAFE ENVIRONMENT THAT ENCOURAGES PEDESTRIAN MOBILITY.**



	activity and potential conflict with vehicles.	
	1.1.4 Analyze auto-pedestrian accidents annually and recommend funding at least one project per year to reduce the incidences of auto-pedestrian conflicts.	PW
	1.1.5 Provide pedestrian/multi-use bridges and crossings over railroads, rivers, and other features that are major barriers. Prioritize the crossings around light rail stations, schools, parks, libraries and neighborhood destinations	PW/CPD
	1.1.6 Develop creative solutions for pedestrian improvements such as traffic calming techniques. Research and develop criteria for their selection.	PW/CPD/PR
Policy 1.2 Signals: Appropriately locate signal types and functions to improve pedestrian safety.	1.2.1 Coordinate with PW Traffic Engineering Services on guidelines, priorities and installation schedules for pedestrian signal heads at locations with significant pedestrian activity and/or accidents.	PW/CPD/PR
	1.2.2 Coordinate with the Mayors' Commission for People with Disabilities to prioritize placement of supplemental pedestrian indicators such as audible signals.	PW/CPD
	1.2.3 Review the signal timing program to ensure that it incorporates the needs of pedestrians by providing adequate crossing times.	PW
	1.2.4 Every two years, evaluate routes and locations where enhanced signals will improve	PW



pedestrian safety and accessibility. Coordinate with the Commission for People with Disabilities.

Policy 1.3 Lighting: Provide adequate glare-free street lighting to ensure security for pedestrians.

- 1.3.1 Develop and coordinate lighting upgrades and recommendations with the City’s rules and regulations. PW
- 1.3.2 Incorporate lighting that enhances pedestrian safety into projects at intersections with high pedestrian activity. PW

Policy 1.4 Sidewalks: Add, repair, replace, and maintain a citywide network that is safe, barrier free, and meets all Americans with Disabilities (ADA) criteria.

- 1.4.1 Require a minimum four inch (4”) thick, 5’ detached sidewalk with an 8’ treelawn/amenity zone, especially along Green Streets, enhanced bus corridors, in areas of change, areas with substantial new development and at transit station areas and transfers. PW/CPD/PR
- 1.4.2 Develop an appeals process from the 5’ detached, 8’ treelawn/amenity zone requirement based on considerations such as right of way constraints; land previously vacated by the City; mature trees in the right of way; and/or established neighborhood character. PW/CPD/PR
- 1.4.3 Develop a program to finance and construct sidewalks through public/private partnerships on existing streets without sidewalks. PW/CPD
- 1.4.4 Continue to require property owners to maintain sidewalks on a regular basis. Encourage enforcement of sidewalk maintenance per City Ordinance. PW/CPD/PR/Property Owner



- 1.4.5 Work with Neighborhood Inspection Services to notify owners when sidewalk maintenance is needed. PW
- 1.4.6 Research and support alternative funding mechanisms for sidewalk installation and repair, including a potential sidewalk fee. PW/CPD
- 1.4.7 Where highway on/off ramps exist or are being planned, consider pedestrian friendly design such as reduction of turning radii, stop or yield signs, perpendicular intersections, and refuge islands. PW

**Policy 1.5 Signage:
Appropriately locate signage types and functions to improve pedestrian safety.**

- 1.5.1 Where appropriate, locate signage or other safety devices to warn motorists of high pedestrian activity. PW
- 1.5.2 Where appropriate, locate signage warning pedestrians of conflicts with automobiles or other users (i.e. bicycles, in-line skates, etc.) PW
- 1.5.3 Label streets for pedestrians at underpasses and bridges. PW

**GOAL #2
ACCESSIBILITY:
PROVIDE BARRIER
FREE MOBILITY FOR
ALL PEDESTRIANS
THAT MEETS ADA
REQUIREMENTS.**

**Policy 2.1 Curb Ramps:
Provide City standard curb ramps at all intersections.**

- 2.1.1 Use the PMP to help prioritize annual CIP funding for curb ramp installation. PW
- 2.1.2 Prioritize installation of curb ramps around schools, light rail stations, major bus transfer stations, parks, libraries and on major pedestrian corridors, especially enhanced bus corridors and elderly housing projects. PW



**Policy 2.2 Obstacles:
Remove and/or re-configure
streetscape elements
that are obstacles to
pedestrians.**

- 2.2.1 Identify impediments (i.e. light poles, utility poles) to walking to school, light rail stations, libraries, parks, enhanced bus corridors, and commercial areas and recommend funding two projects per year to remove existing impediments. PW/CPD/PR
- 2.2.2 Identify impediments in curb ramps and mitigate by funding at least two projects per year to resolve existing situations. PW/CPD/PR
- 2.2.3 Coordinate installation of utilities to reduce sidewalk impediments. PW

**Policy 2.3 Design:
Design streetscapes to be
compatible with Americans
with Disabilities Act (ADA)
and meet all current
guidelines.**

- 2.3.1 Where large concentrations of disabled pedestrians exist, such as near elderly housing projects, consider bulb-outs and medians to reduce crossing distances. CPD/PW
- 2.3.2 Periodically review and update City standards for streetscape design such as the Streetscape Design Manual. CPD/PW/PR

**Policy 3.1 Public Education:
Educate the general public,
pedestrians, and motorists
regarding the safe
practices, rights and
responsibilities of
pedestrians and motorists.**

- 3.1.1 Provide staff and recommend financial resources to support creation of educational and promotional programs to encourage walking as a viable, safe, comfortable, healthy and convenient mode of transportation. PW
- 3.1.2 Educate children about walking safely by supporting the Walk to School Day event and establishing safe routes to school programs throughout Denver. PW/DPS/PR/RTD

**GOAL #3
EDUCATION:
RAISE AWARENESS
OF ALL GROUPS
INVOLVED IN
THE PEDESTRIAN
ENVIRONMENT
REGARDING
SAFE PRACTICES,
RIGHTS AND
RESPONSIBILITIES.**



<p>Policy 3.2 Enforcement Agency Education: Educate City and enforcement agencies regarding pedestrian rights and responsibilities.</p>	3.2.1	Work with the Denver Police Department to ensure that officers understand pedestrian issues as well as their rights and responsibilities.	PW/DPD
	3.2.2	Coordinate with the Denver Police Department to enforce existing traffic laws as they relate to pedestrians.	PW/DPD
<p>Policy 3.3 Pedestrian Planning Functions: Educate City agencies about pedestrian needs and requirements.</p>	3.3.1	Recommend including at least one Pedestrian Master Plan project in the Capital Improvement Program (CIP) each year. Solicit public input and support for the selected project.	PW/PR/CPD
		*Based on budget limitations the recommendation to fund one ped master plan project in the CIP may displace another recommended project.	
	3.3.2	Coordinate needs and requirements with The Collaboration Group (TCG).	PW
	3.3.3	Implement the PMP, including the promotional, educational, and informational activities.	PW/CPD/PR
	3.3.4	Secure funding from state, federal and private sources for pedestrian facilities and promotion.	PW
	3.3.5	Include a pedestrian planner in the small area planning process as well as other internal coordination meetings.	PW/CPD
3.3.6	Work with pedestrian advocacy groups to coordinate efforts and provide materials and information to help facilitate pedestrian improvements in their neighborhoods.	PW	



3.3.7 Develop a broad based, citizen led committee to support and/or identify improvements to the physical pedestrian environment (i.e. City, Colorado Department of Transportation, Colorado State Health Department, etc.) PW/MBAC

Policy 4.1 Provide a pedestrian system of Green Streets, parkways, multi-use trails and pedestrian bridges that integrates into a continuous network.

- 4.1.1 Continue to identify needed connections that make direct pedestrian routes to transit corridors and stations, neighborhood destinations, significant work force centers, schools, libraries and parks. Eliminate missing links. PW/CPD/PR
- 4.1.2 Identify needed connections with sidewalk systems in adjacent jurisdictions, and work with those jurisdictions to provide connectivity. PW/CPD/PR/Council/Mayor
- 4.1.3 Require direct on-site pedestrian connections between new development and transit stops. PW/CPD/PR
- 4.1.4 Provide for mobility along the edges of, and into parks where they abut rights-of-way (ROW), particularly along arterials where connections to bus and transit stops are needed. PW/CPD/PR

**GOAL #4
CONNECTIVITY:
CREATE A
NETWORK
TO ENABLE
PEDESTRIANS
TO MOVE
COMFORTABLY AND
SAFELY BETWEEN
PLACES AND
DESTINATIONS.**

Policy 4.2 Proposed sidewalks along the edges of new and existing parks, parkways and open space should be designed in a manner that is sensitive to park use, design, history and forestry.

4.2.1 Coordinate master planning of parks and open space , including the installation of sidewalks, with the PMP. PW/CPD/PR



Policy 4.3 Pedestrian facilities along the edges of multiple jurisdictions, and between existing neighborhoods and in-fill development should be designed and built in a manner that provides direct and continuous connections for pedestrians.

- 4.3.1 Coordinate planning and construction of pedestrian facilities along City borders with the appropriate outside agencies. PW/CPD/PR
- 4.3.2 Coordinate planning and construction of pedestrian facilities between existing neighborhoods and in-fill development with the Ped Plan as well as other departments, agencies and/or neighborhoods. PW/CPD/PR

**GOAL #5
STREETSCAPE:
CREATE
HUMAN SCALE
ENVIRONMENTS
THAT ARE SAFE,
ATTRACTIVE AND
ENCOURAGE
WALKING**

Policy 5.1 Integrate the entire streetscape roadway design width to encourage walking and pedestrian safety.

- 5.1.1 Develop and adopt cross sections that serve as pedestrian design guidelines. PW/CPD/PR
- 5.1.2 Coordinate placement of street furniture and other amenities in the right-of-way with traffic control devices and other safety requirements such as site distance triangles. PW/CPD/PR
- 5.1.3 Develop a hierarchy of streets with design standards for commercial corridors, arterials, collectors, and Green Streets. PW/CPD/PR/DFD
- 5.1.4 Develop a design that is acceptable to Public Works, Parks and Recreation, Denver Fire Department and Community Planning and Development for alley approaches, curb cuts and curb ramps that considers pedestrian safety and street functionality equally. PW/CPD/PR

Policy 5.2 Wayfinding provide signage to identify pedestrian routes and high profile pedestrian destinations.

- 5.2.1 Develop a system of signage, landmarks, plantings, art work or other features to identify designated pedestrian routes. PW/CPD



Policy 5.3 Enhance the Pedestrian Route Network, by providing amenities such as trees, benches, informational signs, and lighting.

5.3.1 Encourage the inclusion of amenities, plantings and art in pedestrian improvements projects. PW/CPD/PR

5.3.2 Work with the Forestry Division to ensure that trees are included in the pedestrian environment while maintaining pedestrian function. PW/PR

5.3.3 Encourage shared-access to reduce the number of curb cuts in the pedestrian environment. PW

Policy 5.4 Preserve historic character and design including historic flagstone sidewalks, appropriate tree preservation/replacements and respect for the spatial design of parkways.

5.4.1 Repair existing flagstone sidewalks where feasible. Remove sections damaged beyond repair, consolidate stonework, and link missing sections with new concrete sidewalk. Notify adjacent property owners of this work. PW/CPD

*Current City policy requires existing flagstone be replaced with new flagstone in historically designated areas with substantial new development.

Design Goals:

- Provide primary building entries facing or clearly visible from the public sidewalk.
- Provide prominent windows on street facing facades.
- Provide visual interest and human scale through the use of varied forms, materials, details, colors and planes.
- Encourage the incorporation of porches and front courtyards in residential architecture.
- Minimize the use of highly reflective glass.
- Avoid blank walls at street facing elevations.

Policy 6.1 Promote land use and site design that makes walking convenient and enjoyable.

6.1.1 Support Transit Oriented Development (TOD), Mixed-Use zoning. PW/CPD

6.1.2 Use building and zoning codes to encourage a mix of uses. CPD/PW/PR

6.1.3 Connect entrances and exits to sidewalks, and minimize “blank walls” to promote street level activity. CPD/PW/PR

**GOAL #6
LAND USE:
LINK LAND-USE,
TRANSPORTATION
AND PEDESTRIAN
SYSTEMS TO
ENCOURAGE
MIXED-USE
DEVELOPMENT
PATTERNS.**



	6.1.3	Promote parking and development policies that encourage multiple destinations within an area to be connected by pedestrian trips.	CPD/PW
	6.1.4	Promote an active street life, encourage outdoor seating for restaurants, cafes, and other dining establishments, along with other pedestrian oriented accessory uses, while maintaining a minimum 5' unobstructed through-area at all times.	CPD/PW
	6.1.5	Promote attractive street frontages and streetscape design in industrial areas.	CPD/PW
Policy 6.2 Encourage filling in gaps along corridors and in neighborhood centers to support a lively pedestrian environment.	6.2.1	Orient retail, services and entrances to the street to encourage pedestrian activity	CPD/PW
Policy 6.3 Provide special review for automobile oriented facilities to assure that they do not degrade the pedestrian environment.	6.3.1	Minimize the impact of parking lots on the pedestrian realm by encouraging the use of low walls, railings or landscaping to provide a comfortable edge to the street.	CPD/PW
	6.3.2	Separate drive-through facilities from the pedestrian way and locate behind the facility where possible.	CPD/PW
	6.3.3	Provide connections from the right of way to safe pedestrian paths through parking lots and auto-oriented facilities.	CPD/PW



6.3.4 Locate buildings, parking lots and site amenities to promote safe pedestrian movements between uses and between the site and the public right of way. CPD/PW

Policy 7.1 Encourage the integration of incidental physical activity into daily life.

7.1.1 Coordinate with the pedestrian planner to educate the public regarding the health benefits of walking.

PW

7.1.2 Support high visibility events or activities that promote walking.

PR/Wellness Director

7.1.3 Provide formal and informal activity-oriented programs like workshops and classes.

Wellness Director

7.1.4 Monitor current health trends and identify sources of funding from national organizations both public and private.

Wellness Director

**GOAL #7
PUBLIC HEALTH:
RAISE AWARENESS
OF THE
IMPORTANT ROLE
OF WALKING
IN PROMOTING
HEALTH AND
PREVENTING
DISEASE.**



ADDITIONAL POLICIES

In addition to the policies and action items developed to support the established goals of the plan, the Advisory Team determined that there were other issues which would benefit from more specific policy discussion. These issues include: missing sidewalks, transportation corridors, neighborhood involvement, transit oriented development and senior citizens.

Missing Sidewalks

Areas exist throughout the City that are lacking sidewalk infrastructure entirely. The Ped Plan recommends the installation of sidewalks citywide to serve pedestrian needs. Recognizing that full build out will take time to complete, the Ped Plan recommends installation take place first where the greatest need exists, i.e. where sidewalks are missing, along Enhanced Bus Transit Corridors, Green Streets and Pedestrian Routes, in areas with significant pedestrian activity, such as transit stations and schools, and in areas where a large concentration of senior citizens live.

The Plan also recommends converting attached, Hollywood curb style walks to five-foot, detached sidewalks with eight-foot tree lawns where appropriate. The first step in implementing this recommendation is to develop a program to identify candidate streets that could easily be converted and would improve access and connections identified in the pedestrian system.

Transportation Corridors

Many of the major transportation corridors fail to meet the expectations as set forth by the Ped Plan. While some corridors, or portions thereof, may be part of one of the identified projects, the Ped Plan recommends that all major transportation corridors, especially if they are designated as an enhanced bus transit corridor, be required to meet the highest level of pedestrian need as defined in the Level of Quality section of the Ped Plan. The Plan also recommends improving pedestrian connections across corridors such as railroads, natural features i.e. Cherry Creek and the Platte River, major arterials and highways.

Neighborhood Involvement

It is critical to the realization of pedestrian improvements City-wide that neighborhoods, through their organizations, become involved in the creation of a safe, secure, attractive pedestrian environment. Because each neighborhood within the City has its own special character, it is understandable that solutions for each neighborhood, and indeed, for areas within each neighborhood, will be different. For that reason, the Ped Plan proposes the development of a Kit of Parts with which each neighborhood can work. The Streetscape Design Manual serves as a guide for the Kit of Parts while allowing neighborhoods to identify and define potential alternative streetscape elements that together form the foundation for a unique streetscape design. Below is a list of elements the kit would provide information about:

- Sidewalks
- Amenities and street furniture
- Trees and tree lawns
- Signage
- Art work



- Safety issues
- Traffic calming devices
- Accessibility
- Street cross sections
- Lighting

In addition to developing this Kit of Parts, the pedestrian planner advocate and the City can provide assistance to the neighborhoods in facilitating implementation of their streetscape design. This might be done through the development of business improvement districts, maintenance districts or other processes yet to be determined. Doing so allows the City and the neighborhoods to develop a win-win partnership resulting in a collaborative process with effective, unique and workable pedestrian environments tailored to each neighborhood.

Transit Oriented Development/Light Rail Transit Stops

With the success of the southwest light rail line and the I-25 southeast corridor transportation expansion project, or TREX, scheduled for completion within the next five years, transit oriented development is likely to develop at light rail stops along these two corridors. Since this type of development generates significantly high pedestrian activity, the Plan recommends that guidelines be developed that incorporate pedestrian friendly design elements for these unique locations and others that may develop as the light rail system continues to expand.

Senior Citizens

Typically, senior citizens rely heavily on walking and transit for mobility. The Ped Plan recommends that special pedestrian considerations be given to areas of the City where large concentrations of elderly live, i.e. bulb outs, enhanced signage, and pedestrian refuges.





PEDESTRIAN PROJECTS

The Advisory Team identified approximately one-hundred improvements needed throughout Denver as a result of recommendations from existing plans, field verification of the pedestrian system, and input from the public and other City staff. The initial list of potential projects intended are support the plans goals of safety, accessibility and streetscape. The Advisory Team determined that some of the issues could be dealt with at the policy level. The final list of projects is by no means a complete list of all of the potential pedestrian improvement projects within the City. Rather, the list serves as a starting point based upon current conditions in the City.

PROJECT IDENTIFICATION

These projects have not yet been scoped or analyzed to determine feasibility. Additional review needs to be conducted for each project to determine if the proposed improvements are sensible based on existing conditions and finances, political will and project readiness.

The projects were prioritized using several different criteria. This criteria included a proximity analysis (an analysis of the presence of sidewalks and the proximity of facilities that are likely to generate pedestrian activity), socio-economic data, existing sidewalk conditions, auto-pedestrian accident history, and pedestrian route proximity. A project scored zero, one or two points in each criteria or category. Ten was the maximum points a project could score while zero was the lowest a project could score. This system of scoring projects based on points they earn for each criteria allowed the Advisory Team to objectively determine the level of importance for each project and therefore the priority for project implementation and completion. The criteria used to award points to projects is described below.

PROJECT PRIORITIZATION

Pedestrian Potential Model

As explained in Chapter 5: Pedestrian Routes, the goal of the GIS analysis, or Pedestrian Potential Model, was to locate pedestrian focus areas (PFAs), or areas throughout the City that have the best potential for high pedestrian activity. Schools, light rail transit stations, parks and parkways, neighborhood destinations and libraries were located citywide and their proximity to one another as well as the presence of sidewalks adjacent to each factor was analyzed in Pedestrian Potential Model. The model was an important tool to use in scoring each project because it guaranteed that projects located in areas of the City with the highest potential for pedestrian activity earned the maximum points. A project scored 2 points if it fell in a Ped Focus Area, 1



point if it was adjacent to a ped focus area, and 0 points if it fell outside of a PFA.

Socio-Economic Data

Certain demographic data can help indicate the potential for pedestrian activity. Specifically, the Advisory Team considered 2001 population density data, median household income data and automobiles per household data in the project evaluation process. To work with the data, the Team combined the three data sets but weighted each set independently. Population density was weighted at 50% while median household income and automobiles per household were weighted at 25%. Population density was weighted slightly higher than median household income and automobiles per household because the team assumed that higher population densities were likely to generate more pedestrian activity in those areas. The combined data was then broken down into three classifications (high, medium and low) with equal intervals and range of values for each classification. The highest value range consisted of high population density, low median income per household and low automobile per households. This combination of indicators suggested a greater likelihood for more walking trips and therefore projects that fell in areas of the city with the highest value for socio-economic data were awarded the maximum points (2); projects that fell in areas with the medium value for socio-economic data were awarded one point and projects that fell in areas with the lowest value socio-economic data earned zero points. Due to the weighting factors, some areas of the City that weren't heavily populated in 2001 such as Stapleton and Lowry appeared to have a medium value. This can be explained by the fact that the median income per household was exceptionally high which offset the fact that population density was low.

Existing Sidewalk Conditions: Attached, Detached or Missing

Existing sidewalk conditions data was used to score projects based on whether they are located in areas with no sidewalks, areas with narrow or attached sidewalks, or in areas with reasonable quality or detached sidewalks. Since sidewalks are the backbone and perhaps the most basic requirement of a pedestrian system, more points were allocated to projects located in areas where sidewalks are missing entirely. These projects scored the maximum 2 points; if it was located in an area with reasonable quality or attached sidewalks it scored 1 point; if it fell in an area with reasonable quality or detached sidewalks it scored zero points.

Pedestrian-Auto Accident History

The Advisory Team looked at pedestrian auto accident history for the years 2000, 2001 and 2002 at intersections where four or more pedestrian auto accidents occurred. Projects identified at locations where ped-auto accidents occurred scored the maximum 2 points; projects located within 1 block of a ped-auto accident location scored 1 point; if a project was more than one block away from and an accident location, it scored zero points.

Pedestrian Route Proximity

While is difficult to predict precisely which street a pedestrian will walk on, the pedestrian route network identified in the Ped Plan is an important attempt at



prioritizing streets for pedestrian usage. Because the pedestrian route network is made up of enhanced bus transit corridors, Green Streets and other streets that have existing or the potential for quality pedestrian facilities, the Team used the system to score projects. Since all of the streets identified as part of the pedestrian route network are high priority streets, projects that fell on a n identified route scored two points. If a project was one block off an identified route it scored 1 point. If it was not on a designated route or within one block of a designated route, it scored zero points.

The complete list of projects begins on page 40. Projects identified with an asterisk are located within an Area of Change as designated by Blueprint Denver.





Map Locator	Project Location	Pedestrian Potential Model	Demographics	Existing Conditions	Accident History 2000-2003	Pedestrian Route Proximity	Criteria Score	Comments
1	1st Ave.-Bellaire to Colorado Blvd.	0	0	2	0	2	4	Missing Sidewalk
2	3rd Ave.-Bellaire to Dahlia	1	0	2	0	2	5	Missing Sidewalk
3	3rd Ave.-Dahlia to Holly	2	0	1	0	2	5	Missing Sidewalk
4*	Colorado Blvd.-1st to Alameda	0	0	2	0	2	4	Missing Sidewalk
5	Buchtel Blvd.: Monroe to Colorado	1	0	2	1	2	6	Upgrade
6	Buchtel Blvd.-Monroe to University	0	0	2	0	2	4	Missing Sidewalk
7	6th Ave.-Monaco to Cherry	1	1	2	0	2	6	Missing Sidewalk
8*	Broadway/I-25 Station	2	0	1	0	0	3	Intersection Improvements
9	Louisiana Station	2	0	0	0	2	4	Special Crossing
10*	Yale Station	2	0	2	0	1	5	Signals
11*	Southmoor Station	2	0	1	0	1	4	Signals
12*	Bellevue Ave. Station	0	0	2	0	0	2	Signals
13*	Jewell-Irving to Federal	2	0	1	2	1	6	Upgrade
14	Federal-Amherst to Hwy 285	1	1	2	1	2	7	Missing Sidewalk
15	Sheridan-just north of Hampden	0	0	1	0	2	3	Missing Sidewalk
16	Tennyson-Evans to Kentucky	1	0	2	0	2	5	Upgrade
17*	10th Ave.-south side from Osage to Navajo	2	1	2	0	2	7	Missing Sidewalk
18*	13th Ave.-RR crossing, just west of Osage	2	1	2	0	1	6	Special Crossing
19*	13th Ave.-Osage to Decatur	2	1	2	0	1	6	Upgrade
20	9th Ave.-Washington St.	2	2	1	0	2	7	Intersection Improvements
21*	20th Ave.-Sherman to Lincoln	2	1	1	0	1	5	Intersection Improvements
22*	Steele-39th Ave. at RR crossing	1	0	2	0	1	4	Special Crossing
23*	46th Ave. at stockshow RR underpass	0	0	1	0	2	3	Special Crossing
24	8th Ave. at Colorado Blvd.	0	1	1	1	2	5	Intersection Improvements
25	12th Ave.-Colorado to Lindsey Park	2	1	2	0	1	6	Missing Sidewalk
26	Colorado Blvd.-west side from 8th Ave. to 12th	2	1	1	2	2	8	Upgrade
27	Hale Parkway-north side from 9th to 12th	2	1	2	0	2	7	Missing Sidewalk
28	23rd Ave. south side, east from Kearney to Monaco	2	0	2	0	1	5	Missing Sidewalk
29*	23rd Ave.-Monaco to Quebec	2	1	1	0	2	6	Upgrade
30	46th Ave.-Chambers to Andrews	1	0	1	0	2	4	Upgrade
31*	20th Ave.-Chambers to Andrews	1	1	1	0	2	5	Missing Sidewalk

31*	29th Ave. at Speer Blvd. intersection	1	1	1	1	0	2	5	Intersection Improvements
32	29th Ave. at Zuni St.	2	1	1	0	0	2	6	Upgrade
33*	Alameda at I25/Santa Fe underpass	0	1	1	0	0	2	4	Special Crossing
34	University at I25 Bridge	1	1	1	0	0	2	5	Special Crossing
36	Logan at I25	2	0	1	0	0	2	5	Special Crossing
37	Delaware from Iliff to Evans	1	0	2	0	0	1	4	Missing Sidewalk
38	23rd Ave. from Eliot to Bryant	1	1	1	0	0	2	5	Special Crossing
39	23rd Ave. bridge across Speer/I25	1	0	1	0	0	2	4	Upgrade
40	Decatur between 8th and 10th Ave.	1	1	2	0	0	0	4	Missing Sidewalk
41	Pecos 46th Ave. to I70	1	1	2	0	0	1	5	Missing Sidewalk
42	Eliot St. between 23rd and 26th Ave.	1	1	1	0	0	1	4	Intersection Improvements
43*	Broadway at Colfax	1	1	1	2	2	2	7	Intersection Improvements
44*	14th Ave.-south side of Civic Center Park	0	0	0	1	1	2	3	Signals
45	I25 between Speer and 19th Ave.	2	1	1	0	0	1	5	Missing Sidewalk
46*	Perry St. at Morrison Rd.	1	1	1	0	0	0	3	Signals
47	Hampden at Raleigh	0	0	1	0	0	2	3	Special Crossing
51	Colfax between Federal and Sheridan	1	1	1	2	2	2	7	Upgrade
52	University at Evans	1	1	1	1	1	1	5	Special Crossing
53*	Sheridan: 8th to 17th Ave.	0	0	1	0	0	1	2	Missing Sidewalk
54*	Alameda at Broadway	2	1	1	2	2	1	7	Signals
55	Cedar at Grant	2	1	0	0	0	1	4	Upgrade
56*	Colorado Blvd. at Mexico	1	1	1	1	2	2	6	Intersection Improvements
57	Evans at Monaco	0	1	1	2	2	2	6	Intersection Improvements
58	13th Ave. in Capital Hill	1	2	1	2	2	1	7	Upgrade
59	Downing-Corona & 9th Ave.	2	1	1	0	0	2	6	Upgrade
60	17th Ave. at Zenobia	0	1	1	0	0	2	4	Missing Sidewalk
61*	Colorado Blvd. at Buchtel to Yale	0	1	2	2	2	2	7	Upgrade
63	Downing along Washington Park	2	1	0	0	0	1	4	Special Crossing
64*	Hampden at Tamarac	0	1	2	0	0	2	5	Intersection Improvements
66	Kennedy golf course Hampden and Havana frontage	0	0	2	0	0	2	4	Missing Sidewalk
67	Welshire golf course Hampden and Colorado frontage	0	1	2	0	0	2	5	Missing Sidewalk
68*	Hampden at Monaco	2	0	2	0	0	2	6	Intersection Improvements

* Projects with an asterisk are located in Areas of Change.



Map Locator	Project Location	Pedestrian Potential Model	Demographics	Existing Conditions	Accident History 2000-2003	Pedestrian Route Proximity	Criteria Score	Comments
69*	Hampden at Tiffany Plaza	0	1	2	0	2	5	Intersection Improvements
70	Colorado Blvd. at 17th Ave.	0	0	2	0	2	4	Upgrade
71	Colorado Blvd.-17th to 23rd Ave.	0	0	2	0	2	4	Missing Sidewalk
72	17th Ave at Madison	0	0	1	0	2	3	Signals
73*	Quebec from 6th to 13th Ave.	1	1	2	0	1	5	Upgrade
74	Josephine at 18th Ave.	2	1	1	0	0	4	Upgrade
75*	Colfax between Gaylord and Vine	1	1	1	0	1	4	Missing Sidewalk
76	Sheridan north of 170	0	0	1	0	0	1	Missing Sidewalk
77	University at Ohio	0	0	1	0	2	3	Signals
80	Sloan Lake at 19th and Julian	1	1	1	0	0	3	Missing Sidewalk
81	26th Ave. between Xavier and Perry	1	0	1	0	1	3	Missing Sidewalk
82	27th Ave. at Vrain	1	0	1	0	0	2	Upgrade
83*	15th St. from Little Raven to Central	2	1	1	0	1	5	Upgrade
84*	Ellsworth at Steele	0	1	0	0	1	2	Intersection Improvements
85*	1st Ave. at Steele	0	1	1	0	2	4	Intersection Improvements
86*	13th Ave. at Fox	2	0	1	0	1	4	Intersection Improvements
88	Montview from Monaco to Kearney	2	0	2	0	2	6	Missing Sidewalk
89*	16th at Central	2	1	1	0	1	5	Intersection Improvements
90	39th at Bryant	1	1	1	0	1	4	Upgrade
91*	Iliff between University and Colorado	1	0	2	0	2	5	Upgrade
92	Iowa at Santa Fe	0	0	1	0	2	3	Special Crossing
93	Montview at Colorado Blvd.	0	0	2	0	2	4	Signals
94	Montview at Dahlia	2	0	0	0	2	4	Signals
95	Steele between Evans and Asbury	1	0	2	0	2	5	Upgrade
96	3rd between Colorado and Harrison	1	0	2	0	2	5	Missing Sidewalk
97*	Quebec crossing between Alameda and Virginia	0	1	2	0	1	4	Upgrade
98	Hampden from Colorado Blvd. to Happy Canyon	0	0	2	0	2	4	Missing Sidewalk
99*	Colorado Station Ped Bridge	1	1	2	0	0	4	Special Crossing
100	Quincy: Sheridan to Lowell	1	0	2	0	1	4	Missing Sidewalk
101*	40th Ave. at High St.	0	1	2	0	2	5	Missing Sidewalk
102*	6th Ave.: Santa Fe to Broadway	2	1	1	2	1	7	Upgrade

103*	Central St.: 15th St. to 20th St.	2	1	2	0	1	0	2	0	1	6	Upgrade
104*	27th Ave.: Vallejo to Central St.	2	1	2	0	1	0	2	0	1	6	Missing Sidewalk
105	Harvard Gulch: Marion to Vine	0	0	0	0	0	0	0	0	2	2	Intersection Improvements
106*	Hampden: Happy Canyon to Dayton	1	1	2	0	1	0	2	0	2	6	Upgrade
107*	1st Ave. bike path: Downing to University	2	0	1	0	0	0	1	0	2	5	Upgrade
108*	38th Ave.: Sheridan to Federal	1	0	1	1	0	1	1	1	2	5	Upgrade
109*	Quebec underneath I70	0	1	2	0	1	0	2	0	1	4	Upgrade
110*	12th Ave. at Federal	1	1	1	1	1	1	1	1	2	6	Special Crossing
111*	Cofax at Perry	0	1	1	1	1	1	1	1	2	5	Intersection Improvements
112	Cherry Creek Dr. at Monaco	0	1	2	0	1	0	2	0	2	5	Intersection Improvements
113	Dahlia at Evans	0	1	2	0	1	0	2	0	0	3	Missing Sidewalk
114	Montview: Oneida to Newton	2	0	1	0	0	0	1	0	2	5	Missing Sidewalk
115*	Alameda Promenade	0	1	2	0	1	0	2	0	1	4	Special Crossing
116	Ulster under I225 underpass	0	1	1	0	1	0	1	0	0	2	Upgrade
117	Sheridan: Quincy to Hampden	0	0	1	0	0	0	1	0	2	3	Special Crossing
118	Frontage Rd. south of Hampden btwn Kendall and Harlan	0	1	1	0	1	0	1	0	0	2	Missing Sidewalk
119	Warren: University to Colorado	1	0	2	1	0	1	2	1	1	5	Upgrade
120*	Diamond Hill Promenade	2	1	2	0	1	0	2	0	1	6	Special Crossing
121	University: Exposition to Alameda	0	0	2	0	0	0	2	0	2	4	Missing Sidewalk
122	Bayaud at Steele	0	1	0	0	1	0	0	0	2	3	Intersection Improvements
* Projects with an asterisk are located in Areas Of Change		Any Red = 2	Orange = 2	No Sidewalk = 2	11+ = 2	On route = 2						
		Any Yellow = 1	Gold = 1	Poor quality or attached = 1	4-10 = 1	W/in 1 block = 1						
		Blue = 0	Yellow = 0	Reasonable quality or detached = 0	4 or less = 0	Off route = 0						

* Projects with an asterisk are located in Areas of Change.

CITY AND COUNTY OF DENVER PEDESTRIAN MASTER PLAN



FUNDING

As the Denver metropolitan area becomes more densely populated in the future it is imperative to increase the number of funding options and total funding available for pedestrian facilities at the state, regional, and local level. The City should take a pro-active approach to procure funds and grants specifically for pedestrian enhancements.

Governments use different revenue mechanisms depending on who receives the benefits of certain programs or infrastructure. Taxes are used when the benefit accrues to a broad range of residents. Fees are used where the service only benefits a user group. And finally, if a benefit primarily accrues to a property owner, then costs are to be borne by the property owner even if the improvement is in the public right-of-way. In Denver, alley and sidewalk improvements have been the responsibility of the property owner falling in the latter category. However, the recognition of the broader public benefit provided by a consistent sidewalk network suggests that Denver should revisit its historical policies of responsibility for costs.

GENERAL FUNDING BACKGROUND

In order to make improvements recommended by this plan, the City will have to modify the current funding mechanisms. Mechanisms to fund small and medium project upgrades on non-development sites are missing. The City needs aggressive, accessible tools to fund improvements to pedestrian infrastructure. This plan proposes three mechanisms that could secure funding for these types of projects.

PLAN RECOMMENDED FUNDING CHANGES

- Sidewalk fee
- Enforcement of Public Works manager authority
- Capital Improvement Project (CIP) budget annual maintenance program funding

Project Type	Examples	Funding Sources
Small to medium improvements to existing or construction of new pedestrian infrastructure	<ul style="list-style-type: none"> · Expanding 3' to 5' sidewalks · Striping and signing an intersection · Installation of sidewalks where they are missing · New bulb outs and pedestrian refuges at an intersection · Block long pedestrian route improvements 	<ul style="list-style-type: none"> · Redeveloping property owner · Districts · <i>CIP</i> · <i>Sidewalk Fee</i> · <i>Adjacent property owners (PW Mgr authority)</i>
Construction of new large infrastructure	<ul style="list-style-type: none"> · New pedestrian bridges · Corridor long pedestrian route improvements 	<ul style="list-style-type: none"> · CIP · Bonds · Districts

Funding sources in italics are proposed or not currently used.



Sidewalk Fee

A sidewalk fee is a mechanism that would fill that gap. A recommendation of this plan is to pursue this type of direct funding. Similar to the way the City’s wastewater fee works, the city would collect an annual sidewalk fee from each property owner for the lifetime replacement cost of city standard sidewalk required on their property. The City would then take on the responsibility to repair and replace all public sidewalks. The funding would allow the city to aggressively pursue implementation of the pedestrian projects and routes in this plan. After two years of research by a sidewalk committee composed of city staff from Public Works and the City Attorney’s Office, a draft proposal, titled “Right of Way Sidewalk Initiative 2002” was completed in October 2002. This proposal outlines a program to collect fees from property owners for the repair, upgrade, and maintenance of sidewalks citywide. The proposal, based on an initial cost of \$1.00 per linear foot of frontage per year, estimates that \$13,120,000 in fees would be collected in the first year. The funds would cover sidewalk repair and replacement, emergency and alternate repair, curb ramps, landmark properties, research and development and pedestrian enhancements.

Public Works Manager Authority

In areas where redevelopment is not occurring, the City’s Public Works Manager maintains the authority to require adjacent property owners to upgrade their sidewalks to meet City standards. This authority is rarely exercised because it is often perceived as unfair and therefore politically difficult for the Public Works manager to apply. The policies, priorities and pedestrian network outlined in this plan will create a stronger footing and more equitable approach for this authority to be applied. This authority can fund many of the projects in this plan.

Annual Maintenance Program for Sidewalks

Though the City’s capital improvement project (CIP) funds are used occasionally to fund line item projects (see below), there is not an annual maintenance program to handle the ongoing small to medium projects. An annual maintenance program for sidewalks, as is appropriated for street paving, curb ramps and bicycle improvements, would provide an accessible source of funds to make regular progress toward completion of the improvements and pedestrian system in this plan.

EXISTING FUNDING SOURCES

The following is a description of existing funding sources which may be used to implement the Ped Plan. Except for development costs which may be used on small and medium projects, these funding mechanisms are appropriate for larger projects and often take several years to go through application, prioritization, appropriation and construction.

Development and Redevelopment

In Denver property owners are responsible for constructing and maintaining the sidewalk adjacent to their property. Currently, this is the predominant method to fund sidewalk construction and pedestrian improvements. When property develops or redevelops, the City requires the developer to build or upgrade sidewalks and pedestrian amenities to meet city standards. There



are no estimates for the costs developers and homeowners annually incur to build and maintain sidewalks.

Local Improvement Districts

Local Improvement Districts (LID) are authorized by City Council and are used by business owners to fund right-of-way improvements. After a cost for the improvement is determined, the City provides the money for the improvement to the LID. The funding comes from a dedicated revenue stream in public works. A special assessment is then levied on the members by the City to recoup the amount the City provided. A similar mechanism, Business Improvement Districts, is authorized by the State of Colorado and operates in a similar manner.

Capital Improvement Funds

Capital Improvement Funds are used to implement the City's Comprehensive Plan. A Capital Improvement Program (CIP) is developed each year to determine specifically how capital funds will be spent. City agencies initially program a Six-Year Needs Assessment to identify future capital improvement needs. Based on projects included in the Six-Year Needs Assessment, a Two-Year, fiscally constrained, Capital Plan is developed to prioritize candidate projects for funding. This is followed by an annual appropriation of capital funds in the One-Year Capital Budget, which is limited by available revenues.

The CIP currently accommodates line item expenditures for specific pedestrian projects. Annual maintenance programs include curb ramp, signage, and traffic signal improvements.

General Obligation Bond Issue

A General Obligation Bond Issue is a form of long-term debt used to buy or build capital improvements. Bond issues have been used historically to fund large-scale capital investments in urban infrastructure, including major roadway improvements. A bond issue requires a vote by the citizens in a general election. Property taxes are raised to pay for the bond, theoretically until it is retired. Debt instruments such as bond issues are sometimes called a "pay as you use" form of capital financing, because people pay for a long-lived capital asset over its useful life.

Urban Renewal Districts

Redevelopment projects in which the Denver Urban Renewal Authority (DURA) is involved are financed through a combination of public and private investment. A unique mechanism called tax increment financing (TIF) enables DURA to use the net new tax revenues generated by the redevelopment to help finance the project.

TIF is used only when an area or property cannot be redeveloped without public investment and when it meets a public objective, and then only to fill the gap between the total project cost and the level of private financing the project can support. In the case of developer reimbursement, the amount of money reimbursed depends on the success of the project, with the developer



receiving the money only if the project creates the extra value for the City.

Community Development Block Grants (CDBG)

The City receives Federal Community Development Block Grant (CDBG) funds, a portion of which is used for the Denver Residential Block Beautification Program. This is a neighborhood-led program, which focuses on sidewalk replacement and installation, corner curb accessibility ramps, and tree and sod planting in tree lawns. The program was funded for one million dollars in 2003 and for \$800,000 in 2004.

Regional, State and Federal Funding Mechanisms

A regional approach would be to encourage regional decision-makers (i.e. DRCOG and CDOT) to use the full flexibility of federal transportation funding.

There are also opportunities for the city to lobby the Colorado state legislature to increase CDOT's apportionment of state funds for pedestrian infrastructure (i.e. Senate Bill 1 funding and 2004's Safe Routes to School Bill). When successful on the state level, Denver will need to work with CDOT to assure it receives its share of that state funding.

Federal Transportation Funds

Current federal and state responsibility for pedestrian issues fall under two primary categories: (1) funding programs that provide local communities with financial assistance for proposed projects, and (2) rules and legislation that address such needs as access and pedestrian safety.

In 1998, Congress passed the Transportation Equity Act for the 21st Century (TEA-21), a Federal transportation bill which authorized \$217 billion over six years for Federal surface transportation programs, including funding for highways, highway safety, and transit.¹ TEA-21 includes flexible spending and other provisions to ensure that states and Metropolitan Planning Organizations (MPO's) consider the safe accommodation of non-motorized travelers during the planning, development and construction of all Federal aid transportation projects and programs. There are numerous TEA-21 funding programs for which pedestrian-related projects qualify. However, as guidance from the Federal Highway Administration (FHWA) notes, "eligibility does not...guarantee that bicycle and pedestrian projects, plans and programs will be funded. States and MPOs retain broad control over project selection procedures and can set their priorities for funding."

In Denver, one percent of the Transportation Improvement Program (TIP) funding is for bicycle and pedestrian projects, two percent for air quality projects, and forty-eight percent is for transit projects, out of \$2.4 billion total TIP funds. TEA-21 charges MPOs with the responsibility for the development and approval of TIP funds.

Transportation Enhancements are 10% of each state's Surface Transportation Program (STP) funds to be used for intermodal projects that promote transportation options. The Denver Regional Council of Governments (DRCOG) directly selects these projects.



In 2003, the National Highway Traffic Safety Administration has \$300,000 available, to fund mini-grants of up to \$75,000 maximum. The objective is to provide seed monies to stakeholders to implement law enforcement pedestrian safety programs. Proposals may address any strategy or strategies, but must be supported by problem identification and/or crash data.

Although the next federal transportation act is still being debated, it is likely that funding in the Surface Transportation Program will continue to have great flexibility. The City should work with regional decision makers to take advantage of the flexibility by ensuring that the criteria for awarding funds favor pedestrian transportation projects and that the selection of projects adheres to the criteria.

The pedestrian improvements listed in the Ped Plan will take many years to implement. The City should work actively to create partnerships among transportation, environmental, public health, and other public and private groups interested in improving pedestrian facilities. Such partnerships should collaborate to identify opportunities to develop new revenues for pedestrian projects and programs by increasing public awareness and support of the issues.





IMPLEMENTATION

The key recommendations specific projects and pedestrian network identified in the Ped Plan are intended to make walking a viable, safe, convenient and healthy mode of transportation for all people. The continued implementation of the recommendations will require funding, inter-agency cooperation, and a shared vision that walking is integral to a balanced multi-modal transportation system.

To help implement the Ped Plan, “next steps” are identified below.

KEY POLICIES & RECOMMENDATIONS

- A.
 - i. Streets in the network were selected based on their ability to connect pedestrians from one civic place to another, to provide access to transit, and to accommodate infrastructure that encourages pedestrian travel. Although suggested pedestrian improvements were collected at a citywide level (pp 40-43), a detailed assessment of improvements specific to the pedestrian network is needed. An important next step, then, is to conduct an assessment of insufficient pedestrian infrastructure on the pedestrian network. As part of the assessment, criteria should be developed to determine streets in the network that are developed or underdeveloped. When the assessment is complete, recommend steps to protect the developed streets and steps to upgrade the underdeveloped streets. Use the sidewalk inventory (Sidewalk Map) as a tool for conducting the assessment.
 - ii. Once an assessment of the pedestrian network is complete, the new projects should be scored using the criteria developed in this plan and consolidated with the project list (pg. 40-43) to create an ongoing “master list” of pedestrian needs citywide. Update the master list regularly.
- B. Encourage and promote the consistent application of standards that are pedestrian friendly. Transportation standards that are attentive to pedestrian needs will assure that sidewalks and other pedestrian facilities are built in a consistent manner over time.
- C. Support the creation and development of a citizen led pedestrian advocacy group similar to that of Bike Denver. Because City resources are limited and pedestrian needs exist at such a detailed scale, an independent group could help City staff to identify pedestrian needs and issues. The group could also help to evaluate and prioritize improvements.
- D. Pursue alternative funding mechanisms to help finance sidewalk and



pedestrian infrastructure.

Once the four main recommendations are implemented, the City will be better positioned to implement additional key policies established in the Ped Plan.

These include:

- Work with the Parks and Recreation Department to develop a wayfinding system and maintenance program for Green Streets.
- Recommend the creation of line item funding within the Public Works transportation budget specifically for pedestrian projects and improvements.
- Maintain the City-wide database for existing sidewalk conditions and make it available as a resource for other City agencies and departments and public use.
- Promote the existing hotline number for citizens to report problems with pedestrian infrastructure i.e., signal problems, repair needs, etc.
- Successful completion of the identified Pedestrian Projects.

PROJECT IMPLEMENTATION

Additional review needs to be conducted for each project to determine if the proposed improvements are sensible based on existing conditions and finances, political will and project readiness.

Project Scoring Criteria

Each project was scored by looking at the various maps listed below to gather information regarding the location of the proposed project.

Pedestrian Potential Model

Socio-Economic Data

Sidewalk Type

Pedestrian-Auto Accident History

Pedestrian Route Proximity

When making decisions about project implementation and funding, a project’s score is intended to be an objective factor to consider in addition to others such as project readiness and financial realities.

Pedestrian Route Network Implementation

The Ped Plan recommends that a follow up study be conducted to identify the characteristics of each street in the network.







LIST OF MAPS

Map 1 - Sidewalk Inventory Map

Map 2 - Pedestrian Potential Model

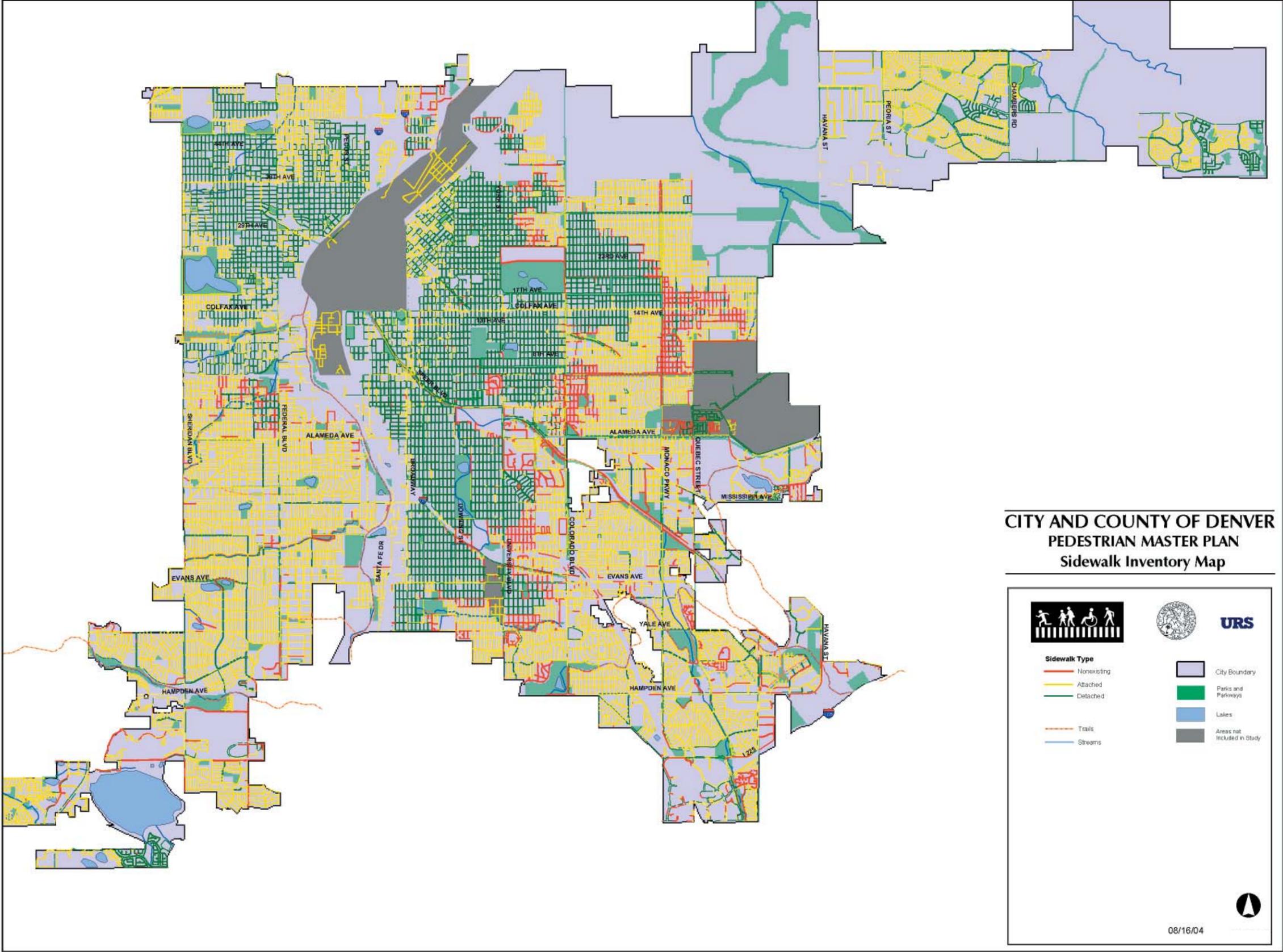
Map 3 - Pedestrian Route Network

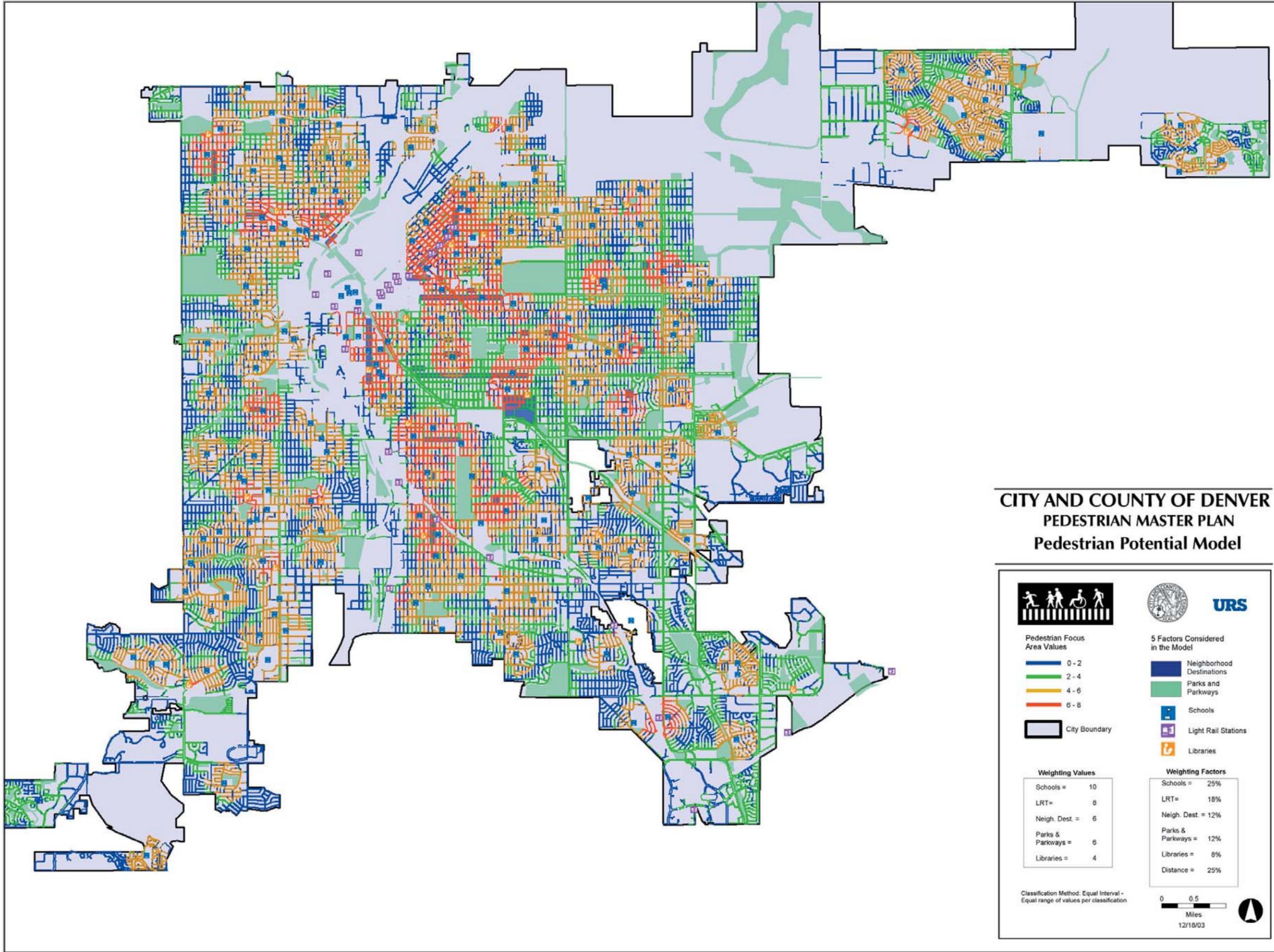
Map 4 - Pedestrian Route Network with Projects



Map 1: Sidewalk Inventory Map

This map illustrates which areas of the City have sidewalks that are attached, detached or missing.





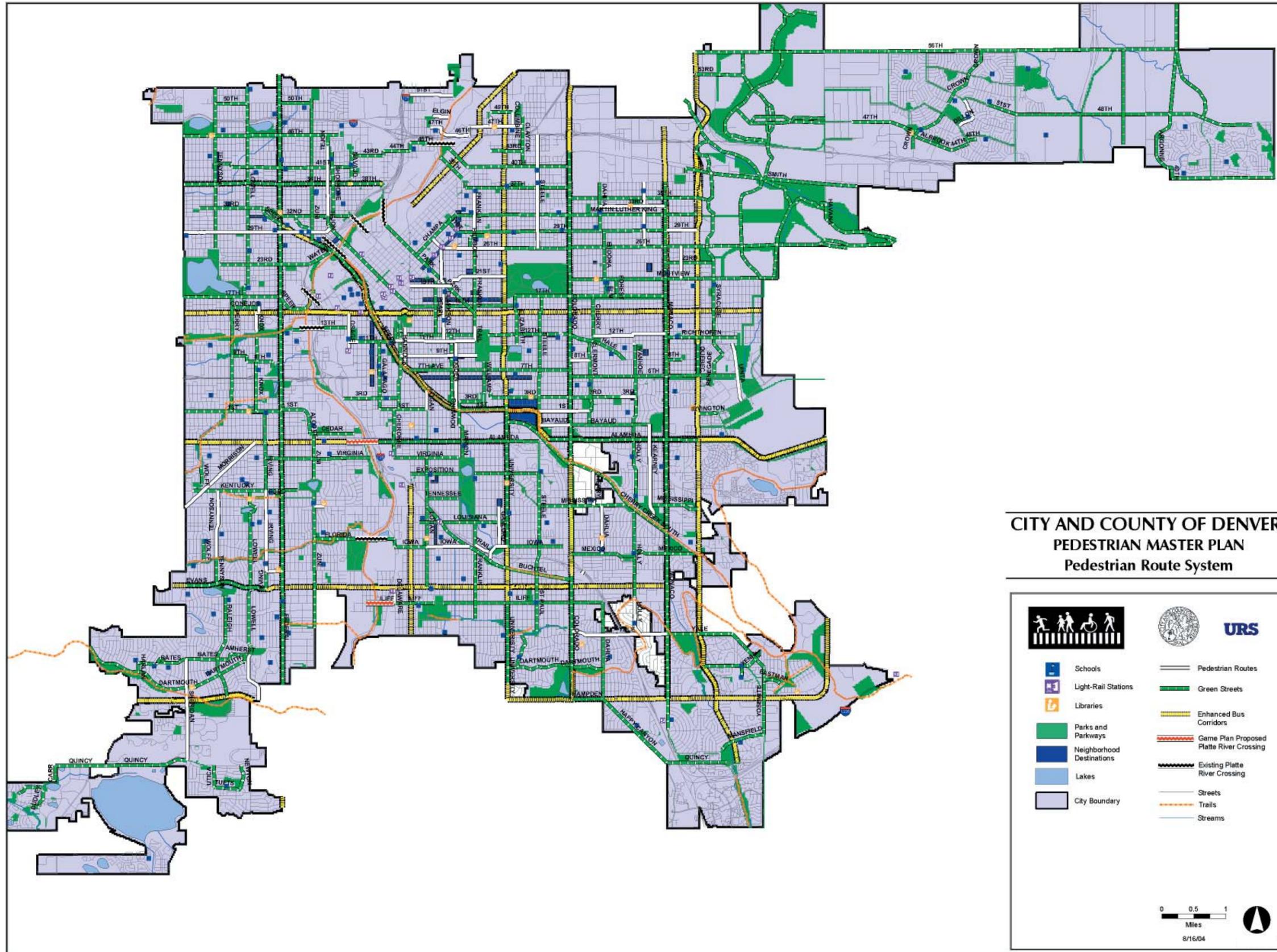
Map 2: Pedestrian Potential Model

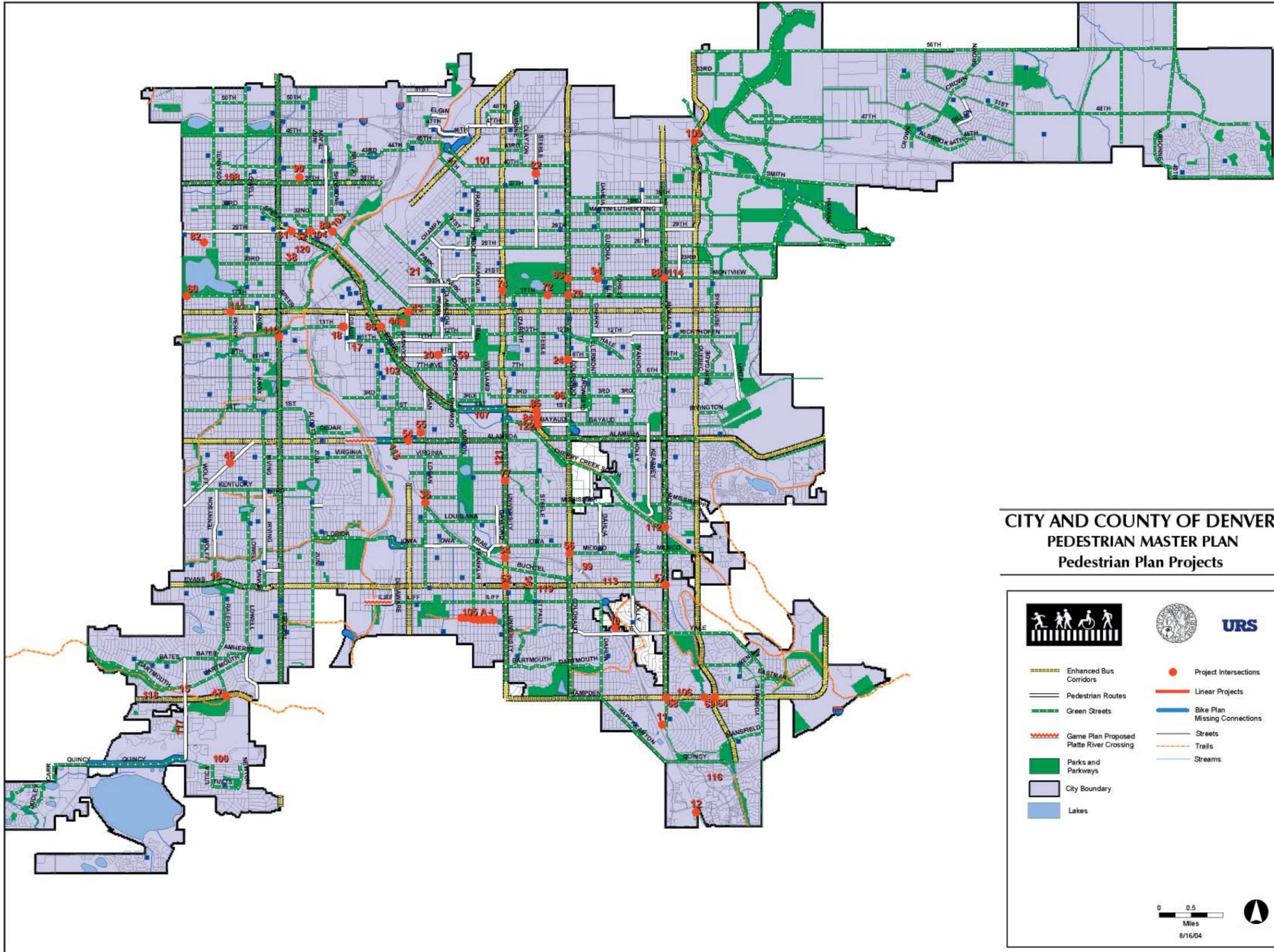
This map illustrates the results of the GIS analysis. The analysis studied the relationship of schools, existing light rail stops, libraries, parks and neighborhood destinations. The areas in red highlight those areas within the City that are more likely to draw high pedestrian traffic due to the types of surrounding land uses.



Map 3: Pedestrian Route Network Map

This map illustrates the comprehensive pedestrian system. The Pedestrian Route Network is a combination of Enhanced Bus Transit Corridors, Green Streets, and Pedestrian Routes as identified in Blueprint Denver, the Game Plan and the Ped Plan respectively.





Map 4: Pedestrian Plan Projects

This map illustrates the location of all of the projects identified during the Plan process. Refer back to the Projects Chapter for the complete list.





GLOSSARY

GLOSSARY

Alternative Transportation – Travel by means other than automobile.

American's with Disabilities Act (ADA) – Federal legislation mandating provision of access to employment, services and built environment to those with disabilities.

Attached sidewalk – A sidewalk that is continuous to the back of the curb. It may contain trees in grates.

Blueprint Denver – The document that implements many of the goals and polices stated in the Comprehensive Plan. The need for a pedestrian plan is highlighted in Blueprint Denver.

Bulb-out: An area where the sidewalk and curb are extended into the parking lane, resulting in a narrower roadway, usually to shorten the pedestrian crossing distance. Also referred to as curb extension.

Cross Sections – Standard plans for the public right-of-way.

Detached sidewalk – The standard sidewalk in Denver. The walkway is separated from the street by a tree lawn.

Enhanced Bus Transit Corridors - Enhanced Bus Transit Corridors are major upgrade over traditional bus service, and can include the use of signal priority, low-floor vehicles, improved stations and route configuration, in order to reduce travel times.

FasTracks – The Denver Regional Transportation District's (RTD) plan to extend light rail, commuter rail and others forms of transit throughout the Denver metropolitan area.

GIS - Geographic Information System (GIS) is defined as an information system that is used to input, store, retrieve, manipulate, analyze and output geographically referenced data, in order to support decision making for planning and management of land use, natural resources, environment, transportation, urban facilities, and other administrative records.

Green Streets – Streets that connect people to parks, schools, transit stops, neighborhood destinations and connect these civic places to each other. They have adequate tree lawns for trees and sidewalks.

Hollywood curbs – An attached sidewalk no more than 3 feet in width, with a rolling, not vertical curb.



Incidental physical activity – Exercise such as walking or cycling that fits into the course of a person’s daily life, e.g., walking to the store, post office, a park etc.

Infrastructure - The foundation or underlying framework of basic services, facilities and institutions upon which the growth and development of an area, community or a system depend.

Mode – In transportation planning, a mode is a type of travel. For instance, the subway is one mode, while driving is another. Walking is the most basic mode.

Pedestrian – This refers not only to walkers, but also to people in wheelchairs.

Pedestrian Friendly Design – Design that facilitates safe, comfortable and attractive pedestrian travel.

Pedestrian Route – Streets that safely connect people to schools., light rail stations, neighborhood destinations, parks and libraries. They currently have, or have the potential to have, wide detached sidewalks with curb ramps, well defined crosswalks and pedestrian activated signals at major intersections.

Refuge – A refuge island located between vehicle travel lanes.

Right of Way (ROW) – The publicly-owned land containing the street, tree lawn and sidewalk.

Streetscape Design Manual – Denver’s most detailed guide, adopted in 1993, for giving property owners guidance in the design and maintenance of streetscape improvements within the public right-of-way.

Transit Oriented Development (TOD) – Form of development that maximized the benefits from the investment in transit infrastructure by concentrating the most intense types of development around transit stations to promote increased transit use.

Tree lawn – The strip of land, usually vegetated, between the sidewalk and street.







APPENDIX

Appendix Maps

1 - Pedestrian Focus Areas

2 - Pedestrian Accident Data

3 - Socio-Economic Data Summation Model

4 - Employment Density by TAZ



