

section 6.1. Pedestrian Policy Plan



# pedestrian policies

The City shall improve the status of pedestrians by increasing the convenience, comfort, and safety for pedestrians. (1989 TMP)

See 4 bullets on other page.

The City will work to ensure a high quality pedestrian environment to recognize that the pedestrian is the primary mode of travel and the basis for all other modes.

Judith

Discontinuities caused by phasing of large projects will not be allowed to occur. Sidewalks required in connection with development projects shall be built in the first phase along the entire property involved in development review, unless construction activities planned in the near future would require that these sidewalks be demolished.

Judith?

Where there are existing, but below-standard, pedestrian systems, the City will energize and speed the process of upgrading them by making available a modest grant program for cost participation in the needed improvements with adjacent land owners.

also this done

The City will undertake a complete review of its sidewalk standards. The review will address two questions:

- are the standards currently in use appropriate?
- are the standards imposed in development approval consistent with language in City ordinances?

The City will work to complete the retrofit of all pedestrian facilities to ADA standards as it implements the 1993 Sidewalk Program.

In commercial areas, the City will require land owners to build sidewalks in accordance with adopted standards.

In residential areas, the City will identify alternative means of meeting defined needs. If the need can be met safely within the traveled way of a low-volume, low-speed local street, then sidewalks will not be developed. If the need cannot be met safely within the traveled way, the sidewalks will be built according to the 50/50 cost participation formula with adjacent land owners.

include in sidewalk prog.

The City will identify a short list of high-priority missing links and create a special program to address them.

similar to BIK localized solutions for sidewalks

The City will identify a list of feasible, low-cost pedestrian safety improvement projects which would not be difficult to implement.

The City will conduct an inventory of use paths and document which ones appear to provide needed connectivity or continuity.

work w/ RPD

The City will undertake a demonstration program to determine the cost and feasibility of providing snow removal and cleaning of transit access facilities.

Bill & Andrea

The City will work to improve pedestrian access to public transit stops.

The City will adopt a system of warrants to guide decision-making about pedestrian crossing treatments. However, the City will also work to reinforce public understanding of the law concerning pedestrian rights-of-way.

The City's transportation staff will work with the Police Department to develop mutually compatible policies which will be reflected in the Public Safety Master Plan.

Judith

- Revise ped. laws - public education on ped rights and responsibilities as well as rights/responsibilities of bikes + peds.

## 6.1 Pedestrian Policy Plan

One fundamental yardstick of urban living is the quality of the local pedestrian environment. Walkable cities are livable cities.

Walking is the original mode of travel and it is essential to all other modes. All trips - whether by car, bus or bike - involve at least two pedestrian trips. Without pedestrian facilities the rest of the transportation system could not function. The pedestrian mode is not an "alternative" mode; it is the primary mode which forms the basis for all other modes.

Boulder has a national reputation as a pedestrian-oriented place, due largely to the image of its Pearl Street Mall. Some of the City's neighborhoods also represent eminently walkable places, with continuous, attractive sidewalks and tree-shaded environments that beckon to residents and visitors alike.

However, much of the City falls short of this ideal. A 1993 "City of Boulder Sidewalk Program" documented extensive missing links, deferred maintenance and other problems. These discourage walking and lead to auto dependence for short trips.

A focus group conducted by the City in December, 1994, confirmed that residents feel the local pedestrian environment discourages walking. As vehicular traffic has grown, pedestrians feel greater risk and will now drive where they once walked.

If Boulder is to meet its transportation goals and objectives, it must reemphasize walking as a major means of travel. This Plan is intended to support an increase in pedestrian activity in Boulder to over 300,000 daily trips by 2020 - more than double today's level. Achieving this level of activity will require an improved pedestrian system and walking environment. If this can be done, the potential market for walking trips is large. One-fourth to one-third of the trips made by Boulder residents are less

than two miles in length. In this range, pedestrian travel is feasible for many people. To encourage more walking, the City must:

- *Provide a continuous network.* An intermittent pedestrian system that strands pedestrians at the end of unfinished sidewalks or forces them into awkward traverses or hazardous street crossings will discourage walking.
- *Provide a safe walking environment.* A pedestrian environment that is perceived as unsafe will deter all but the most determined pedestrians.
- *Ensure pedestrian-oriented urban design.* Design of both existing and future commercial and residential sites must give access by pedestrians equal weight with access by automobiles.
- *Provide routine enforcement.* One of the issues most consistently raised in the public process was concern about conflicts between motorists and pedestrians.

Boulder has, in part due to its natural assets, an exciting opportunity to use quality pedestrian environments as civilizing factors and general community enhancements. Over thirty years ago, Jane Jacobs wrote:

Streets and their sidewalks, the main public places of a city, are its most vital organs. Think of a city and what comes to mind? Its streets. If a city's streets look interesting, the city looks interesting; if they look dull, the city looks dull. (The Death and Life of Great American Cities. 1961.)

The City of Boulder has completed a substantial amount of planning for pedestrian infrastructure, and more is underway. However, many of the most difficult issues associated with encouraging and facilitating walking are policy issues. This section of the TMP identifies those issues and describes how they will be resolved.

1989 TMP Pedestrian Plan

The 1989 TMP "Pedestrian System Plan" section began with a policy statement:

*The City and County shall improve the status of pedestrians by increasing the convenience, comfort, and safety for pedestrians.*

Objectives stated in the 1989 TMP included:

- Increase education and enforcement.
- Commit substantial funds to sidewalks, overpasses, and underpasses.
- Repair, maintain, and clean city sidewalks through a cooperative effort with homeowners and/or businesses.
- Fill in missing links in the pedestrian network and bring the system up to standard.
- Design and construct pedestrian facilities in creative ways that make them more enjoyable for pedestrians.
- Encourage the efforts of citizen pedestrian advocate groups by providing information and support for their programs.

The 1989 TMP called for providing sidewalks accessible to all citizens, on both sides of the street, except in low density areas where they may not be required if other pedestrian amenities are provided. The TMP identified \$7.2 million in needed improvements which were divided into Priority I projects to be completed by 1998 and Priority II projects to be completed by 2003. The City has actually expended over \$9 million since 1989 on pedestrian capital, sidewalk repair, various rehabilitation and retrofit projects and on maintenance of pedestrian facilities. The City has expended another \$2.2 million on pedestrian operations.

One strategy used by the City to implement pedestrian improvements has been to incorporate them into roadway projects. This has been especially useful in adding new sidewalks and crosswalks, rehabilitating sidewalks, and making ADA retrofits.

The 1989 TMP called for completion of a short list of grade separations, noting that these would benefit both bicycle and pedestrian travel. Over the past five years, more separations (all underpasses) have been achieved than originally planned. Details are shown in table 6-2.

table 6-2. grade separations completed since 1989 TMP

Broadway at College*	US 36 eastbound ramp at Baseline
Broadway at Wonderland Creek*	Arapahoe at South Boulder Creek
US 36 at Bear Creek*	BN Railroad north of Arapahoe
Baseline at Bear Creek*	Valmont at Boulder Creek
Martin Drive at Bear Creek	Valmont at Wonderland Creek
Moorhead Avenue at Bear Creek	30th Street at Goose Creek
Broadway at Four Mile Creek	BN Railroad at Goose Creek
30th Street at Four Mile Creek	Canyon west of 6th Street*
US 36 south side of Baseline Road	Canyon west of city limits
US 36 westbound ramp at Baseline	

\* Listed in 1989 TMP



**TMP Update Pedestrian Policy Plan**

The Pedestrian Policy Plan is one component of the 1995 TMP Update.

The Pedestrian Policy Plan is designed to address the key policy issues which affect the pedestrian program. It provides a review of the most important pedestrian policy issues emerging from a series of public focus group meetings, public discussions, City Council study sessions, and staff workshops, as well as national research conducted as part of the TMP Update.

The City's approach to pedestrian issues is organized in part around this question: what is required to support walking as a primary mode of transportation in Boulder?

*public input*

To learn more about what would encourage people to walk in Boulder and what discourages them from walking, the City conducted a focus group panel in December, 1994.

The group was asked to discuss the existing pedestrian environment and the City's policies and practices, and to suggest areas of improvement.

Recommendations made by the focus group are shown in figure 6-3. The focus group also discussed policy issues, debating construction of missing links versus repair of existing sidewalks. Some of their thoughts on policy issues were:

- completing missing links should be a higher priority than repair of existing facilities;
- the City should begin an "adopt-a-sidewalk" program with neighborhoods making limited contribution for neighborhood sidewalk repair;
- the City should shift funds from street repair to pedestrian improvements; and,
- missing links, popular destination areas, and lower income neighborhoods (which lack funds for sidewalk repair) should be high priorities for pedestrian funds.

**figure 6-3. focus group recommendations**

**GENERAL RECOMMENDATIONS:**

- implement barriers between pedestrians and traffic;
- increase the number of signals;
- improve circulation by reducing distances between crossings;
- improve lighting;
- improve sidewalk cleaning after snow storms; and,
- place greater emphasis on education and enforcement.

**RECOMMENDATIONS ON EDUCATION AND ENFORCEMENT:**

- initiate education programs in grade school with parental involvement;
- organize an education program as part of orientation for CU students;
- use the media to inform and educate public about laws and alternative mode facilities; and,
- amend the penalty rate structure so that the level of fines are more proportional to the violation incurred.



### figure 6-4. pedestrian policy issues

1. Pedestrian environment
2. Missing links in new development
3. Rehabilitation and repair - existing system
4. ADA compliance/retrofit/upgrade
5. Missing links and system completion
6. Use paths (social trails)
7. Sidewalk maintenance - snow removal
8. Pedestrian street crossings
9. Education and Enforcement

#### *Policy Issues*

The nine policy issues listed in figure 6-4 above emerged through the TMP process as the primary pedestrian issues which required further discussion and policy definition. This section provides a discussion of these issues, reports existing policy and practice, delves into the issues and discussion surrounding existing policy and offers a number of policy options and ideas.

#### **issue (1) the pedestrian environment**

The quality of the pedestrian environment is determined by a number of factors which go beyond the completion and maintenance of the sidewalk system.

These factors include the perception of safety, which will be discussed to some extent as part of issue (8), and the general enhancement of the walking environment through the provision of various features which make the system more comfortable and enjoyable to use.

Developing a high-quality pedestrian environment which is well-integrated with adjacent land uses offers a number of benefits to the community. These include:

- encouraging walking;
- creating and reinforcing community identity; and,
- supporting and attracting people to adjacent commercial areas.

In some parts of town, the pedestrian environment has already been enhanced, either by providing pedestrian facilities in such a way as to take advantage of the natural surroundings, such as the Greenways path and benches which follow Boulder Creek, or by providing trees, plants and small parks to make pedestrian areas feel more natural, such as was done with the Pearl Street Mall.

The Pearl Street Mall, in fact, serves as an example of the many techniques which can be used to enhance the pedestrian environment. Pedestrians-only access, of course, helps provide for a better pedestrian environment in and of itself. There are nonetheless many other aspects of the Pearl Street Mall which create an interesting and enjoyable environment in which to walk. These aspects are largely responsible for attracting people from around the world to Boulder's Downtown. They include:

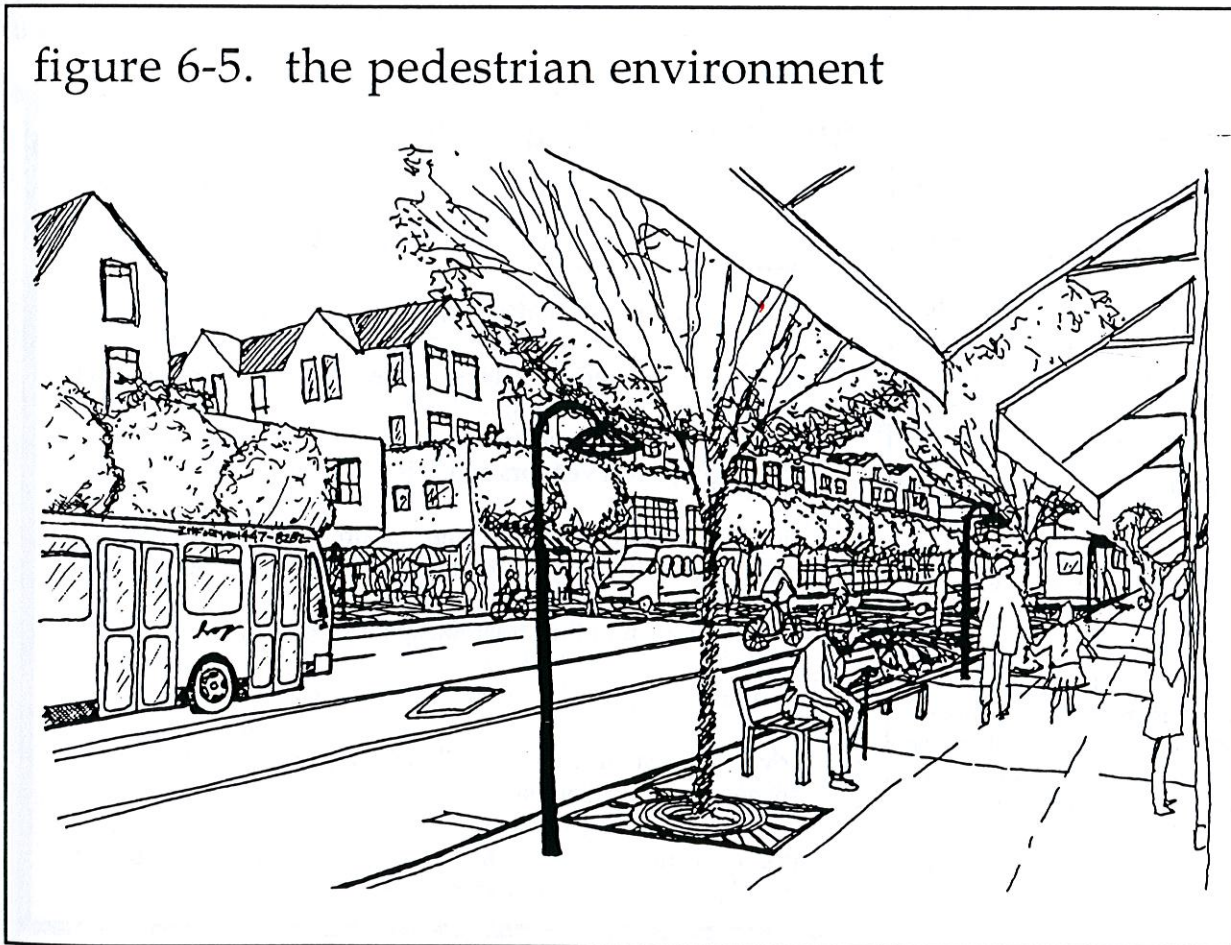


- the integration of art into the landscaping, design, and use of the Pearl Street Mall;
- the provision of trees and shop awnings for shade and protection from inclement weather;
- the presence of outdoor cafes and street vendors;
- the use of brick to provide texture for better footing and for aesthetic appreciation;
- the wide array of street performers and colorful shop windows which provide entertainment and a diversity of things for people to look at; and,
- the provision of benches and small parks to rest and to allow areas for children to play.

The City may wish to use the Pearl Street Mall as a model for the development of pedestrian districts in other commercial areas around town.

The City can also apply various aspects of the Pearl Street Mall pedestrian environment to other pedestrian facilities throughout town. For example, providing a landscaped area along sidewalks can serve both practical and aesthetic purposes, whether alongside an arterial road or in a commercial district. The landscaped area not only provides a buffer zone between the pedestrian and traffic on the street, but they also provide a more attractive, comfortable and interesting environment in which to walk. Figure 6-5 displays a pedestrian environment which incorporates features similar to those of the Pearl Street Mall into the design of the street system.

figure 6-5. the pedestrian environment



An additional benefit which has resulted from the development of a high quality pedestrian environment on the Pearl Street Mall has been the emergence of a partnership between the City and the Downtown business community in maintaining the pedestrian infrastructure. The Pearl Street Mall is no longer just City infrastructure that the City manages; it has become a source of pride which the Downtown business community also works to take care of.

One of the questions which still remains to be answered is whether or not the public feels that improvements to the general pedestrian environment are more important than the completion of missing links in the physical system itself. While to some extent these aspects of the pedestrian environment are not necessarily mutually exclusive, there are fundamental questions as to how to allocate resources among the various needs in the development of the pedestrian system.

#### *policy direction*

The City will pursue opportunities to create a more attractive and comfortable pedestrian environment through improvements made to the transportation infrastructure and through coordination with other planning efforts and entities.

A number of plans being developed currently offer the opportunity to create better pedestrian environments in existing commercial areas by incorporating various pedestrian-oriented design techniques into the planning processes. These plans include the Uni Hill Sketch Plan, the Downtown StreetScape Plan, the Boulder Valley Regional

Center (BVRC) Design Guidelines Update, and the Boulder Junction Plan. In addition, the City may wish to retrofit other existing commercial areas using pedestrian-oriented design techniques. These areas might include the North Boulder and Table Mesa shopping areas. Pedestrian-oriented design techniques and other improvements to the general quality of the pedestrian environment are listed in figure 6-6.

Since these improvements serve a number of purposes in addition to providing for transportation, it may not be necessary to fund these kinds of improvements through transportation funding sources alone. As discussed in Chapter 8, there will not be enough transportation funds to do so. Secondly, it may not be appropriate to use these funds for general improvements to the pedestrian environment, since these improvements tend to benefit adjacent land uses.

### figure 6-6. improvements to the quality of the pedestrian environment

- Planting trees and providing awnings for shelter;
- using a landscaped area to provide a buffer zone between pedestrians and motorists;
- encouraging street vendors and sidewalk cafes;
- using brick, or other colored and textured material to indicate pedestrian facilities and crossings and to improve footing;
- integrating art into the street and pedestrian environment;
- providing adequate lighting;
- providing rest areas or small urban parks which include benches and water fountains; and,
- making other transportation-related facilities, such as bicycle parking racks and transit shelters, more attractive.





order to make these improvements, the City will explore alternative funding approaches, including:

special districts;

special assessments; and,

public/private joint cost-sharing and developer contribution.

### Issue (2) missing links - new development

Currently, new development is required to bring all sidewalks up to current City standard. This means repairing them to current City standards if they already exist, constructing them if they do not exist, or installing handicap ramps (corner properties) if they don't exist.

This approach is straightforward, but issues that could or would arise in the future include:

- a. Lack of continuity when intermittent development occurs. Little is accomplished when a developer provides a sidewalk which connects to nothing because adjacent properties have not developed yet.

To be of use, sidewalks provided on developing properties must connect to the external pedestrian system. A related issue arises where the builder defers sidewalk construction through phasing of a large project.

- b. Enforcing marginal improvements. Where there is an existing sidewalk system which falls below standard, builders may not accept the need to replace or add to those facilities. This is especially difficult where the needed upgrades are marginal.

- c. Consistency in standards. The City should undertake a review to identify, and if found, correct, any discrepancies between standards in policy documents.

The development of a continuous sidewalk system with complete connectivity, especially in commercial areas, is essential to encouraging walking as a primary mode of travel. The City will continue to work aggressively to ensure connectivity and continuity. However, programs which rely totally on regulatory approaches make it difficult to ensure continuous sidewalk systems, as adjacent development may happen at different points in time. More can be accomplished when incentives are used in conjunction with regulatory requirements.

There is in fact a public interest served by a complete pedestrian system, and some amount of public funding can readily be justified to encourage participation in the program.

### policy directions

The City will evaluate whether to establish a Sidewalk Revolving Fund to be used to ensure continuity in commercial areas.

An initial grant of \$50,000 or less in City transportation funds would provide adequate seed money for such a program. As the development review process reveals new potential discontinuities resulting from intermittent development, a continuous sidewalk system could be built with full connections to the external City pedestrian grid. As adjacent parcels are developed, they could be required to reimburse the revolving fund, thereby providing for program continuation.

Prior to permitting new development which would overburden an existing deficient sidewalk situation, the City will consider the alternative of requiring new development to complete the continuous sidewalk system serving the development and will enter into a reimbursement agreement with the developer to cover the costs over his proportionate share. This would avoid the need for public seed funding.

A program jump-started with public funding would be considerably easier to operate and much less susceptible to legal challenge. It would also bring opportunities to light which would otherwise be withheld if developers were expected to provide all up-front funding.

Discontinuities caused by phasing of large projects should not be allowed to occur. Sidewalks built in connection with development of new projects should be built in the first phase along the entire property involved in development, unless construction activities required as part of development planned in the near future would necessitate that these sidewalks be demolished.

Where there are existing, but below-standard, pedestrian systems, the City could energize and speed the process of upgrading them by making available a modest grant program for cost participation in the needed improvements. At a ratio of 50%, this program could be supported with about \$50,000 a year.

The primary beneficial effect of this approach would be to accomplish significantly more sidewalk upgrades in commercial areas where this activity is greatly needed.

The City will undertake a complete review of its sidewalk standards. The review will address two primary questions:

- are the standards currently in use appropriate?
- are there inconsistencies in design standards in policy documents which need to be reconciled?

### issue (3) rehabilitation/repair-existing system

Relying on current City ordinance, the City Manager may require adjacent property owners to pay up to half the cost of bringing adjacent sidewalks up to standards.

During the 1993 budget process, Council agreed with a staff recommendation that the cost to

individual property owners not exceed \$450, in order to set a maximum limit of financial exposure to an individual property owner. Since the majority of sidewalk repair cases fall below that cost range, there has been only a small impact to City sidewalk repair funds from that limitation.

Most rehabilitation and repair of existing sidewalks is undertaken in accordance with the 1993 Sidewalk Program and is completed in connection with adjacent street improvements or as a result of complaints lodged with the City by citizens concerned about "toe trips" or other hazards.

The primary issues in this program are funding availability, funding priority given liability issues, and land owner cost share.

The 1989 TMP estimated there were \$425,000 in 1989 sidewalk repair needs. The 1993 Sidewalk Program inventoried a total of \$1.8 million in existing needed sidewalk repairs.

One problem with such estimates is they ignore the fact that the physical deterioration of the City's sidewalks is a continuous process. To adequately address these needs the City must address the need for routine, ongoing repair of existing sidewalks.

A recent evaluation by staff determined that, assuming a 60-year average design life for concrete sidewalks, a continuous program of sidewalk repair and replacement would cost about \$1.5 million annually (\$37.8 million over the next 25 years).

By comparison, the City has actually been spending about \$440,000 annually on sidewalk repairs. A total of \$2.2 million has been invested in this since adoption of the 1989 TMP.

The conclusion that a \$450 ceiling on property owners' responsibility has little impact on funding needs is based on costs of minor repairs. More complete reconstruction or replacement will exceed these levels for many properties.



nally, the City may face liability exposure if fails to correct deficiencies in sidewalks which lead to accident and injury. It could be argued, from a financial point of view, that the entire pedestrian budget should be invested in voiding such exposure.

#### policy directions

The \$450 ceiling appears to be fair and is a way to encourage participation without the City having to be too heavy-handed. However, this limit will be revisited in 1996 and every two years thereafter to ensure that it conforms with inflation trends for the actual costs of work being undertaken.

The underlying issue here is clearly funding. The need in this program category is estimated at about \$1.5 million annually and the amount of funding available for this purpose has been about \$450,000 to \$500,000 annually. The City will look for opportunities to increase expenditures for this purpose.

#### issue (4) ADA compliance/retrofit/upgrade

Federal regulations require a specific design for handicap ramps. In addition, City policy (and federal law) requires the installation of separate handicap ramps for each pedestrian crossing. City practice has been that the City pays for the cost of retrofitting handicap ramps where sidewalks exist but ramps do not.

Again, the primary issues with this program are program funding and land owner cost responsibility.

The rationale for the City's approach to land owner cost participation is that it seems unfair to ask a corner property homeowner to bear the cost of an improvement that often does not necessarily directly benefit them, and that making the City's sidewalk system fully accessible is a community project, and should be paid for by the community. This community commitment has been reinforced by passage of the Americans with Disabilities Act (ADA).

As it is, the corner property owner in most cases already shares a larger burden of keeping the sidewalk system usable, by being required to keep both their front and side yard sidewalks in reasonable repair and cleared of snow.

As the City proceeds with implementation of the 1993 Sidewalk Program through a systematic sidewalk upgrade program, handicap ramps will be installed at City expense. No changes are being made in these practices. The City will not attempt to complete all ramp retrofit needs City-wide at one time. However, as citizens identify specific problems or needs, the City will promptly respond with appropriate site improvements.

The estimated cost for construction of appropriate ramps is \$1.9 million for about 3,448 ramps. This is a lifetime program cost since all new construction will conform fully to ADA specifications.

#### issue (5) missing links - existing land uses

This is an area where there has been some question regarding City policy and practice. The primary issues are the extent of land owner cost responsibility and the City's funding priority given competing transportation needs.

The Pedestrian System Plan of the 1989 TMP gives some guidance on this, identifying higher priority missing link projects as:

- safe walking routes to school;
- near high pedestrian generating activity centers; and,
- sidewalks on arterial or collector streets.

The City has interpreted the highest priority to be sidewalk projects where some larger public need is present. Filling in missing sidewalk links in developed residential neighborhoods where the sidewalks serve no larger City function are low on the priority list for expenditure of sidewalk upgrade funds, and is rarely done.



This most often occurs in connection with an overall neighborhood assessment district, in which case residents would pay half the cost of new sidewalks.

New sidewalks in existing residential areas are not considered a beneficial improvement by all citizens. Some citizens have indicated they do not support adding sidewalks in front of their property for one of the following reasons. They:

- are concerned about additional liability exposure;
- don't want the requirement to remove snow in the winter, especially if they perceive the benefit to be to others; or,
- are concerned sidewalks will attract people ("outsiders") to their property - basically a privacy concern.

When the City has proceeded with efforts to complete missing links of sidewalks for the general public interest in a residential area, residents either do not oppose the concept, but do not want to pay for it; or, they oppose the project for the reasons above.

To make the project most palatable to residents in this situation, in most cases the City will pay the cost of the new sidewalk. To do otherwise would be to impose something often not wanted by the residents, give them additional maintenance responsibilities, and then require them to share in the cost besides - which makes the project tough to "sell."

There is an equity issue here as well: in most cases where sidewalks are installed in residential areas, residents shared in the cost of installation (often the full cost). And, public sidewalk funds would go further if there was a land owner cost share for missing links along existing developed residential properties.

However, because of Boulder's commitment to completing its pedestrian system, and because from a practical standpoint it is much easier to

complete a "missing links" sidewalk project serving a larger City need if it is done at City expense, the determination has been made that this better serves the community's interest.

#### *policy directions*

The City is adopting the following guidelines:

First, with respect to commercial areas, land owners will be required to build to full standard as soon as possible.

Second, with respect to residential areas, the City will define the need and then identify alternative means of meeting the need. If the need is for pedestrian access and circulation and that need can be safely met within the traveled way of a low volume, low speed local street, then sidewalks will not be developed.

Where a need exists that cannot be met safely within the traveled way (due to the design of the street or due the type of use), then sidewalks will be built according to the 50/50 match formula and adjacent land owners will be required to participate.

Finally, the question of which (or how much) of the missing links should be built and at what cost is essentially a question of program priority and fund allocation.

The 1989 TMP estimated the missing links cost to be about \$2.7 million. It proposed funding \$1.2 million of this in the first 10 years and completing the rest by 2003. The 1993 Sidewalk Program report estimated the total cost of building missing links at \$3.3 million.

A more recent analysis by staff identified a total of 100 miles of missing sidewalks which would cost about \$27.2 million to build, or just over a million dollars annually if completed by 2020. However, some amount of this estimate will be land owner responsibility as commercial properties are developed.

The City has been expending about \$500,000 annually to build new sidewalks.



About half of this amount has come through roadway construction or reconstruction projects which, depending on the circumstance, may or may not be addressing an existing missing link.

Over the next year, the City will identify a short list of high-priority missing links (based on safety and activity levels), and design a funding and cost sharing approach that makes sense in light of the specific projects.

This approach will place priority on completion of sidewalks along all arterials and collectors.

The City will program \$3.8 million for expenditure over the next six years for high-priority links. This includes amounts to be expended in connection with roadway projects.

The need for a continuing program at this level will be revisited during the next TMP Update. One of the questions which still remains unclear at this time is whether or not a higher priority should be placed on the completion of missing links or on repair and maintenance of the existing system.

#### issue (6) use paths (social trails)

"Use paths" (also called "social trails") exist where pedestrians have trod their way across open land, behind commercial strips, through ditches and swales, and along streets.

Pedestrians will, against all odds and over most obstacles, travel a straight line to their destinations. They will find shortcuts and convenient routes. Over time these become paths. As the paths are defined by use they attract further use because they are visible.

These "use paths" or "social trails" often traverse undeveloped property - what we as children called "vacant lots." Use paths may be on privately-owned or publicly-owned land, and have not been formalized or improved. Officially they do not exist. However, they are a clear indication of an important need.

The City has not previously adopted a specific policy addressing this issue.

The issue is whether the City should inventory and attempt to preserve or formalize its use paths. To do so would require funding and, in some cases, the exercise of eminent domain powers.

In some areas, use trails spring up where we have failed to put needed sidewalks or walkways. A good example of this is the ubiquitous shortcut through the end of the suburban cul-de-sac. Others develop where a way can be found under or over a freeway, such as where the grade of a railroad track has been separated from a highway grade. Still others follow creeks and canals - not to mention streets where no sidewalks have been provided.

As vacant lot properties are developed and infrastructure expanded use trails are lost, one of two things then occurs:

- pedestrians are forced significantly out of their way in search of other routes, lengthening their trip and discouraging walking; or,
- they attempt to continue using the route, with resulting unsafe behavior (walking across major streets or through poorly-designed parking lots), or with resulting property owner conflicts (especially around residential properties).

#### policy directions

The City intends to encourage walking as a primary mode of transportation and thus needs to give public status to some of these use paths as important links in a continuous, connected pedestrian system.

However, the acquisition of rights-of-way to preserve use paths may in many instances arouse opposition from adjacent land owners. In the case of large commercial properties, the use path may cross the site in such a manner as to effectively preclude both developing the site and preserving the path.



The City has not in the past been willing to use its eminent domain authority to resolve these issues.

To preserve convenient and direct access for pedestrians through new developments, it may not always be necessary to preserve the use path along the exact alignment which the use paths followed. Where such paths do exist, however, convenient and relatively direct access for pedestrians should be preserved through potential development, whether or not this access follows the precise route of the use path.

The City shall conduct an inventory of use paths and document which ones appear to provide needed connectivity or continuity.

The inventory will also be revisited as part of each subcommunity plan. The inventory shall be conducted with substantial public participation, which will be helpful later in project identification and implementation.

With an inventory and an assessment of which paths are in fact important, the City will begin to budget for their preservation and in some cases for their further development (paving, lighting - whatever is needed). To secure a strong negotiating position for staff in working with property owners, it may be imperative for the City to demonstrate a willingness to condemn rights-of-way (or even underlying title) if necessary to preserve an important public resource.

#### **issue (7) sidewalk maintenance - snow removal**

City ordinance 8-2-13 is shown in figure 6-7 on the next page. This ordinance is enforced as written. Most enforcement activities are initiated by citizen complaints or in connection with important pedestrian routes that are known to the enforcement unit.

Although the ordinance is clear and is being enforced, pedestrians report frequent difficulty with snow on sidewalks in Boulder.

A related issue is the need to clear snow from bus stops and from the associated curb and sidewalk access areas. Access to the doors of buses in Boulder can be messy and difficult after a snow and this is a deterrent to transit ridership during the winter months.

Several possible resolutions of this important issue have been considered.

These include such strategies (in addition to greater enforcement) as spending public funds in priority corridors, or using inmate labor to clear snow on certain routes in high use areas.

In order to promote walking as a primary mode of transportation it is essential to ensure sidewalks are passable and safe in winter. The alternative modes program cannot succeed if it works only in fair weather.

However, public funding of snow removal on sidewalks is unnecessary. The City will instead use marketing, education and more aggressive enforcement to achieve these objectives.

#### *policy directions*

While people may be aware of their snow removal responsibilities, they may perceive them as unenforced. A combination of early season ads and well-publicized enforcement will make a significant difference.

The need for active reinforcement of citizen responsibilities for sidewalk maintenance extends as well to other issues, including:

- sweeping;
- branch and limb removal after storms;
- intrusion of vegetation into sidewalks; and,
- repairing cracks and broken surfaces.

The City will continue to enforce responsible maintenance practice and will work to ensure landowners are aware of requirements.



In the case of transit access, there may be a need for public expenditure. Snow days have a number of key characteristics. They are days:

- with high levels of pollution;
- when it would be best if fewer people parked in commercial areas making snow removal easier; and,
- when many people choose not to take their cars to avoid the difficulty of driving in the snow.

The City will undertake a demonstration program to determine the cost of providing snow removal and cleaning of selected transit access facilities. The City will determine whether such a program is cost-effective and will budget for the activity accordingly.

#### issue (8) pedestrian street crossings

Roadway crossings are barriers to pedestrian travel. The decision to walk is in part dependent on the perceived ability to safely and efficiently cross roadways along the way.

There are a variety of methods or "treatments" available to facilitate pedestrian crossings of busy roadways.

These include:

- marked crosswalks;
- neck-downs;
- median refuges;
- traffic signals;
- pedestrian crossovers; and,
- grade separations.

### figure 6-7. snow removal ordinance

*From City ordinance 8-2-13:  
Duty to Keep Sidewalks Clear of Snow.*

- (a) No owner or manager of any property, lessee leasing the entire premises, or adult occupant of a single-family dwelling shall fail to keep all public sidewalks and walkways abutting the premises such person owns, leases, or occupies clear of snow, ice, sleet, and hail as provided in this section. Such persons are jointly and severally liable for such responsibility. Such persons shall remove any accumulation after any snowfall or snowdrift as promptly as reasonably possible and no later than 12:00 noon of the day following the snowfall or snowdrift. Such persons shall remove the snow from the full width of all sidewalks and walkways, except those with a width exceeding five feet, which must be cleared to a width of at least five feet.
- (b) If the city manager finds that any portion of a sidewalk or walkway has not been cleared of snow as required by subsection (a) of this section and that a hazardous condition exists, the manager shall notify the owner or manager of any property, the lessee leasing the entire premises, or any adult occupant of a single-family dwelling that such person must remove the snow within the time limits prescribed by subsection (a) of this section. Notice under this subsection is sufficient if hand delivered or telephoned to the owner, manager, lessee, or occupant.
- (c) If the person so notified fails to remove the snow as required by the notice prescribed by subsection (b) of this section, the city manager may cause the snow removal to meet the requirements of this section and charge the costs thereof, plus an additional amount up to twenty-five dollars for administrative costs, to the person so notified.
- (d) If any person fails or refuses to pay when due any charge imposed under this section, the city manager may, in addition to taking other collection remedies, certify due and unpaid charges to the Boulder County Treasurer for collection as provided by Section 2-2-12, B.R.C. 1981.

It is important to note that adding traffic signals to reduce pedestrian-vehicle conflicts tends to increase delay for both pedestrians and vehicles. This means that a balance must be struck between improving safety and facilitating efficient foot and vehicular travel.

A traffic signal can either be an intersection traffic signal or a mid-block pedestrian signal.

An *intersection traffic signal* controls the right-of-way between two intersecting streets and associated crosswalks, and can be triggered by vehicles or pedestrians.

A *pedestrian signal* gives the right-of-way to pedestrians crossing a street in a crosswalk not located at an intersection of two streets.

A *pedestrian crossover* is a variation of a pedestrian signal which has been used successfully in Southern California and may be appropriate at certain mid-block locations in Boulder. As with a standard pedestrian signal, upon actuation by a pedestrian pushing a button the vehicle indications change from green to yellow to red, then the pedestrian indications change from "don't cross" to "start crossing." When the pedestrian indications change from "start crossing" to the flashing "don't start," however, the vehicle indications at a crossover change from solid red to flashing red. This means that vehicles must continue to stop and yield to pedestrians, but they may proceed without waiting for the light to change back to green. The pedestrian crossover operation is intended to reduce vehicle delay, thereby increasing driver compliance and pedestrian safety.

Grade separations are appropriate primarily where multi-use paths cross major streets. The preferred practice in Boulder is to build underpasses to take non-motorized traffic under the street. Occasionally the City may install an underpass in other high-pedestrian-traffic locations (such as the successful Broadway underpass at College).

### *policy directions*

The City has conducted an evaluation of its current practice and developed a revised set of "warrants" to guide decisions about when and where to install various crossing treatments for pedestrian safety and convenience. The warrants are specific to location: mid-block requirements are different than intersection requirements. They take into account the type of pedestrian facility, pedestrian volume, vehicle traffic, crossing distance, and related factors. Possible results of this analysis at specific sites include:

- A. Take no action.
- B. Install marked, signed crosswalk.
- C. Defer to City policy on school routes (if school children are regularly present).
- D. Install neck-downs.
- E. Install median/refuge island.
- F. Install traffic signal.
- G. Install pedestrian crossover.
- H. Build grade separation.

The City has developed an evaluation process leading to decisions about how to handle contested pedestrian crossing locations. Based on analyses conducted over recent months, the following locations are examples of candidates for special treatments. This is neither an exhaustive list nor a list of committed projects; these are examples of locations where specific treatments might be appropriate:

#### Possible neck-down locations

- Arapahoe Avenue near the Boulder Public Library
- Spruce Street near the Spruce Pool
- Violet and Yarmouth at time of construction of village center
- Martin Drive near Martin Park Elementary School

#### Possible median refuge locations

- Canyon Boulevard at 11th Street
- Iris Avenue at 15th Street
- Pearl Street between 28th and 30th Streets





- Tantra Drive south of Table Mesa Drive
- Valmont Avenue west of Foothills Parkway

Possible traffic signal locations

- 9th Street at Walnut Street
- Arapahoe Avenue at 19th Street
- 9th Street at University

Possible "pedestrian crossover" locations where pedestrian signals currently exist

- Arapahoe Avenue near Naropa Institute
- Table Mesa between 42nd and 43rd

Possible "pedestrian crossover" locations where pedestrian signals do not currently exist

- Canyon Boulevard at 20th Street alignment
- Baseline Road at Chataqua

Possible grade separation locations

- Baseline/Skunk Creek
- Broadway/Bear Creek

An overriding concern, however, is the need for a consistent understanding on the part of the public about the rights and responsibilities of both drivers and pedestrians.

To the extent the City installs physical management systems it may be attempting engineering solutions to behavioral problems. As motorists encounter signalized crossings or other special treatments, this may tend to reinforce the unconscious perception that other locations without these treatments must be places where pedestrians have no right to be.

As a result, when the City installs special treatments, it is replacing a low cost, efficient system (courtesy for others and respect for the law) with more expensive engineered solutions. The City will adopt a comprehensive system of pedestrian warrants, but will also work to reinforce public understanding of the law concerning pedestrian rights-of-way.

**issue (9) education and enforcement**

Concerns for the decline in safety for all modes, and the corresponding call for increased enforcement was the most consistent and strongest comment heard from the public meetings held on the TMP Update. Aspects of this comment include the lack of courtesy among all modes, the refusal of motorists to yield to pedestrians on the street, and the blatant disregard of motorists for speed limits and red lights.

In addition, the pedestrian focus group held in December, 1994 felt there was a need for a safer pedestrian environment and that more emphasis should be placed on education and enforcement. To enhance these efforts, the focus group recommended that the City should:

- initiate education programs in grade school with parent involvement;
- organize an education program as part of orientation for CU students;
- use the media to inform and educate the public about laws and alternative mode facilities; and,
- amend the penalty rate structure so that the level of fines are more proportional to the violation incurred.

The following paragraphs on policy direction discuss policies and programs which relate specifically to pedestrian-related enforcement issues and show how the City will respond to the recommendations made by the focus group.

*policy directions*

The City's transportation staff will work with the Police Department to develop mutually compatible policies which will be reflected in the Public Safety Master Plan. The City will identify the need for strategic enforcement efforts and will work through the Police Department to implement these.



As part of this process, it will be important to recognize the constraints under which the Police Department operates and to determine if the community supports the additional allocation of resources and priority to traffic enforcement.

#### city code

The 1993 Public Safety and Awareness Campaign was a nine-week effort intended to increase citizen awareness of pedestrian-related laws and to effect a positive change on behavior as a result of that increased awareness.

The campaign was designed in two segments. The first consisted of a six-week public information campaign and the second segment consisted of a three-week targeted enforcement effort in the downtown area. One of the issues which emerged from the campaign was the lack of clarity and enforceability of some of the existing pedestrian-related laws.

To help resolve this situation, Bicycle and Pedestrian Program Staff will work with the judicial system to revise the current code to more clearly state the laws which govern pedestrian and cyclist right-of-way.

The City will actively work to ensure that motorists, cyclists and pedestrians alike are aware of and understand these laws. Educational campaigns, using the media and other means, will be combined with strategic enforcement efforts until the understanding of these laws is reflected in travel behavior. The City will also work with the judicial system to ensure that traffic fines reflect the potential for injury and damage caused by the violation.

#### community education

The City will continue to work collaboratively with the University of Colorado, the Boulder Valley School District, the Chamber of Commerce, local businesses, neighborhoods and other community organizations to inform citizens of their rights and responsibilities as

cyclists, motorists and pedestrians, and to increase respect among all modes.

As part of this effort, the City will develop a strong "Share the Road" outreach program designed to foster increased courtesy, respect and understanding among all modes. This extensive information campaign will be an ongoing effort and every possible avenue will be explored to better educate both motorists, cyclists and pedestrians of the need to share the road.

#### school-related education

The City will continue to provide and to further develop transportation safety assemblies and other programs for elementary, middle and high school students. These program will help ensure that students are taught the correct rules of the road and will help encourage safe bicycling, walking and transit use as modes of transportation.

In addition, the City will work with the University of Colorado to institute a mandatory session on bicycle safety, the rules of the road and the "Share the Road" campaign as part of the Orientation Program.

#### state motor vehicle test

The City is currently working with the State of Colorado to include questions on the appropriate behavior of motorists towards bicyclists and pedestrians as part of the State Motor Vehicle test.

#### *policies*

The City's pedestrian policies which have emerged from the discussion of the (9) pedestrian policy issues in this document are shown at the beginning of the chapter.

