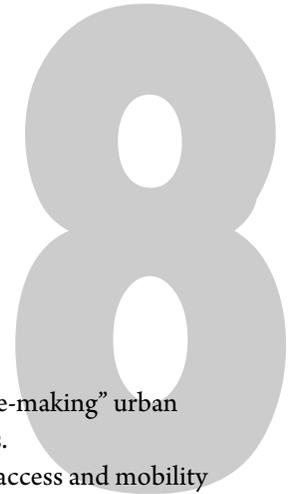


Pedestrian



A. Introduction

Pedestrian planning is relatively new to the Albuquerque Metropolitan Planning Area (AMPA). Historically, planning for pedestrians has occurred almost entirely at the local level (mostly in a non-systematic fashion, either as a part of individual roadway projects or through development review). Since 1991, however, federal transportation legislation has required states and metropolitan planning organizations — such as MRCOG — to give due consideration to pedestrians in their transportation planning processes.

Incorporation of the pedestrian mode into the metropolitan planning process has also been motivated by a growing recognition among the region’s policy makers, planners, engineers, developers, citizens, and others of:

- ▶ The limitations of relying exclusively on automobile-based solutions to transportation problems — particularly for short, congestion-inducing trips.
- ▶ The potential for walking to substitute for driving in many urban contexts (especially in places characterized by fine-grained land use mixtures and high-quality, pedestrian-oriented streetscapes).
- ▶ The potential for the revitalization of neglected neighborhoods (as well as the creation of new high-quality residential, shopping, and work environments) through pedestrian-oriented street

reconstruction and “place-making” urban redevelopment strategies.

- ▶ The need to address the access and mobility limitations of people with disabilities.
- ▶ The need to provide affordable alternatives to driving for transportation-disadvantaged populations (particularly in response to high gasoline prices).
- ▶ The importance of walking as a means of access to the region’s growing public transportation network.
- ▶ The promising role that walking can play in helping to address alarming trends toward higher rates of obesity, hypertension, heart disease, Type-2 diabetes, and other public health problems among many population groups (including children and young adults).
- ▶ The need to take preventive action to avoid the emergence of significant air quality problems in the region’s air shed by developing and encouraging non-polluting alternatives to automobile travel.

Both the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the 1998 Transportation Equity Act for the 21st Century (TEA21) made significant policy changes at the federal level that were intended to improve conditions for walking (and bicycling)¹. These changes were reaffirmed in the recent SAFETEA-LU legislation.²

A variety of different types of pedestrian projects are eligible for federal-aid highway program funding.

1 Lipford, William A. and Glennon J. Harrison. 14 February 2000. Report #RS20469, Bicycle and Pedestrian Transportation Policies (Washington, DC: Congressional Research Service), downloaded from www.ncseonline.org,

2 Federal regulations require Metropolitan Planning Organizations (MPOs) to develop Metropolitan Transportation Plans in cooperation, coordination, and collaboration with MPO members and regional stakeholders (23 CFR450.322). The plan must identify pedestrian facilities in accordance to 23 U.S.C. 217(g). Regional planning is not intended to replace local planning. The scale and purposes of the planning effort are somewhat different for an MPO than for a local municipality.

Mid-Region Council of Governments

Examples include the construction of sidewalks, educational programs to promote pedestrian safety, the installation of curb cuts and ramps for wheelchairs, and many others.³

MRCOG has been working to integrate pedestrian needs into the regional planning process. This integration has been taking place through the development of analytical tools and methodologies which help the regional pedestrian planning process. It has also been promoted through training opportunities designed to improve understanding of pedestrian needs and concerns (including safety, accessibility, etc.), and improve the skills of planners, engineers, and others. With the creation of the Walking & Bicycling Advisory Group (WABAG) in 2003, a new opportunity for regional coordination was set in motion. This advisory group brings to the table regional stakeholders from the public and private sectors to address pedestrian and bicycling issues. The group provides advice to other MPO committee members such as the public involvement, technical, and policy committees and has contributed to drafting this and other sections of the MTP.

B. Background

Since the dawn of civilization, transportation has powerfully influenced the form and growth patterns of urban communities. Before the coming of the automobile, virtually all towns and cities were compact places in which people got around mostly by foot.

Trips for work, shopping, and socializing were generally restricted to walking distance — either from home or (beginning in the late nineteenth century) the closest streetcar stop.

The widespread entry of the automobile into American life during the first half of the twentieth century radically changed both the way people traveled and the very fabric of daily existence. The car became the dominant mode of transportation, and the city became dominated by the car.

After World War II, growth in household incomes allowed large numbers of people to buy automobiles. The ready availability of cars allowed people to live increasingly far away from their daily travel destinations (work, schools, etc.). Aided by the Federal-Aid Highway Act of 1956 and by other large government subsidies for mortgage lending, mortgage insurance, construction of roadways, and construction of non-roadway infrastructure, cities such as Albuquerque quickly spread outward. What emerged was a new, low-density development pattern, with single-family residential dwellings and segregated land uses dominating the urban landscape.

The adoption of Euclidean zoning codes and changes to building, parking, neighborhood, and street design standards and development practices in the 1950s, 1960s and 1970s hastened and institutionalized the new land use pattern. By the 1980s, virtually everything built in the region was oriented to travel by automobile. Roadways became wider and traffic volumes increased. Local roadways became more circuitous and route options more limited. Travel distances between land uses increased. Sidewalks became narrower (or even non-existent) and frequently interrupted by curb cuts, telephone poles, fire hydrants, and other obstructions. Building entrances moved away from the edges of public rights-of-way, with parking lots situated between them and the street. Street amenities such as planting strips and street trees all but disappeared, or were reconfigured for orientation to passing motorists rather than people on foot.

Predictably, under these circumstances, use of other modes such as walking and public transportation declined sharply. Predictably also, as the population of the area grew, as travel distances increased, and as fewer opportunities were available to use of travel modes other than the automobile, the region's roadways became increasingly congested. These conditions have created new challenges and difficulties that directly impact the whole community.

3 Lipford & Harrison, op. cit.

Policy makers and their constituents in our region have begun to recognize the potential for pedestrian and other alternative modes of transportation to help address many of our most vexing transportation problems. Public and private initiatives have begun to emerge to provide a better walking environment for all users and realize the opportunities provided by pedestrian activity to address our transportation, economic development and quality of life needs.

C. Pedestrian Planning

1. MRCOG's Pedestrian Composite Index (PCI)

This is a tool to assess pedestrian needs from a regional perspective. It is based on a methodology aimed at identifying areas or markets by their potential for pedestrian activity if improvements are in place. The index does not focus on assessing the quantity or quality of pedestrian facilities (sidewalk inventory or pedestrian audits). It rather focuses on the areas, leaving such detailed assessment and planning to the local level. Local government agencies working with communities are better places to determine the specifics of their neighborhoods and how to implement their pedestrian strategies.

The PCI is expected to become an important regional planning tool for the development of the Metropolitan Transportation Plan (MTP) and the Transportation Improvement Program (TIP). The PCI does not try to include all potential elements that have been identified by the pedestrian planning literature that favors or deters pedestrian activity. It includes elements that are relevant for regional strategic planning and programming in the AMPA and for which data is currently available.

The PCI identifies areas by their pedestrian potential. Conclusions based on it should be complemented with professional judgment (i.e. possible vs. desired) and community values (i.e. rural vs. urban character) that can clearly be addressed at the local planning process. These dilemmas could eventually be integrated into the PCI when knowledge is acquired and databases are developed for this purpose.



Pedestrians crossing the street in front of the Alvarado Transportation Center

The PCI looks into different transportation, land use policy, and safety elements that are grouped in two main categories. The first category groups elements that favor pedestrian activity. The outcome of this category is the “Pedestrian Activity Index”. The second category groups elements that deter pedestrian activity. The outcome of this category is the “Pedestrian Deterrent Index”. The combinations of these two categories are at the core of the PCI.

This analysis has been done in GIS-ArcView environment. This technology provides great flexibility for storing, analyzing and displaying data. Information from each of the elements was geo-coded in a census block GIS-coverage.

A unique threshold was created for each of the elements considered. In addition, a scale of one to five points was used to rank each area for each of the elements. MRCOG tools such as the travel forecasting model, the transportation accessibility model, the traffic monitoring database, and the crash data computer application were used for the analysis.

The Pedestrian Activity Index

This index measures the potential or strength of an area for walking. Elements considered in this index include, proximity to schools, parks, public facilities, access to transit service (bus stops), land use policies (activity centers, corridors, main street, village centers, etc.), commuter rail station areas (potential for TOD

Table 8-1 ► Pedestrian Activity Index & Pedestrian Deterrent Index Element Ranking

	Description	Weight Factor
Pedestrian Market Index		
Schools	Important pedestrian trip generator for young age groups. Threshold based on walking travel distance based on 5 minutes intervals from school campus. Scale of 5 points is used to rank areas. 5 points maximum for areas in close proximity to school campus.	H
Parks	Important pedestrian trip generator for all age groups. Threshold based on walking travel distance based on 5 minutes intervals from park sites. Scale of 5 points is used to rank areas. 5 points maximum for areas in close proximity to park site.	H
Public Facilities	Important pedestrian trip generator for all age groups. Threshold based on walking travel distance based on 5 minutes intervals from public facilities. Scale of 5 points is used to rank areas. 5 points maximum for areas in close proximity to public facility site.	H
Public Transit Corridors	Important pedestrian trip generator for young age groups. Threshold based on walking travel distance based on 5 minute intervals from public transit corridors. Scale of 5 points is used to rank areas. 5 points maximum for areas in close proximity to premium bus service.	H
Bus Stop System	Important pedestrian trip generator for young age groups. Threshold based on walking travel distance based on 5 minutes intervals from bus stop system. Scale of 5 points is used to rank areas. 5 points maximum for areas in close proximity to bus service stop.	H
Pedestrian Volumes	Identify to MRCOG traffic monitoring program levels of pedestrian activity at signalized intersections. Threshold of five classes based on pedestrian count information. A maximum of 5 points for the locations with the highest count.	M
Land Use Policy	These are areas that have been identified in municipal plans and other policy documents for special incentives to achieve special land use goals. These goals are characterized by mixed land use, high density, walkable environments, and multi-modal integration. A scale of two values (5 or 0) was used to indicate if an area is within such designation or out.	H
Vehicle Ownership	Census information was used to identify areas where vehicle ownership was low. A scale of 5 points was used to rank areas in the AMPA. Areas with none or very low auto ownership got 5 points because it is assumed that residents in such areas depend more on walking than in areas where auto ownership is higher.	M
Walk Share	It is assumed that walk share information from the US Census provide an indication of the potential likelihood of walking activity in that area.	M
Pedestrian Deterrent Index		
Pedestrian Crash rates	Traffic safety is an important deterrent for pedestrian activity. New Mexico is ranked high in the nation for pedestrian fatalities. A scale of 1 to 5 points was used to rank intersections for which pedestrian crash information is available. Intersections with the worst pedestrian crash record rank high in this index.	H
Crime	Personal safety is an important consideration for people to walk or to allow children to walk to school, parks or other destinations. Crime information from law enforcement was used to rank areas based on a 5 points scale. Areas with the high crime activity rank the highest.	H
Average Speed	Average speed was used to approximate the level of comfort for pedestrian activity. A scale of 5 points was used to rank areas next to roadway facilities according to the average speed.	H
Intersection Volume	Intersection volume is a good indication of the level of traffic activity. MRCOG traffic monitoring information was used to rank areas around intersections. Intersection with high levels of traffic activity rank high as pedestrian deterrent activity.	M
Daily Link Volume	Link volume information was used to approximate the level of comfort for pedestrian activity. A high volume facility is assumed to increase the level of exposure of pedestrian and diminish the quality of the environment next to the roadway facility environment. A scale of 5 points was also used to rank areas adjacent to roadway facilities based on traffic volume.	M
Street Connectivity (pending)	Street connectivity information was used to approximate how well or not areas are connected that facilitated pedestrian activity. Areas were ranked according to a street connectivity measurement developed by MRCOG. Areas with low connectivity rank high on a 5 point scale.	H

H (high): major (positive or negative) impact on pedestrian activities
M (medium): intermediate (positive or negative) impact on pedestrian activities
L (low): very limited impact on pedestrian activities

Table 8-2 ► Pedestrian Composite Index

	Pedestrian Deterrent Index				
		D: Low	C	B	A: High
Pedestrian Activity Index	D: Low	Class 2	Class 5	Class 5	Class 5
	C	Class 2	Class 2	Class 5	Class 5
	B	Class 1	Class 3	Class 4	Class 4
	A: High	Class 1	Class 3	Class 3	Class 4

type of development), and census information such as vehicle ownership and walk-share.

Points were assigned to each census block based on each of the elements analyzed. They were added to produce a total number. A threshold of four classes was made with the help of Arc View. Table 8-1 describes the elements and the number of points that can be applied to each element.

Map 8-1 shows areas with a high pedestrian activity index value. As expected, areas characterized by mixed-use development, good transit service, and proximity to different pedestrian destinations rank high. Examples include Albuquerque downtown, 4th Street corridor, Uptown area, and Central Ave. East corridor.

The Pedestrian Deterrent Index

This index measures elements that are considered to discourage the walking potential of an area. Elements included were pedestrian safety (crash data, personal safety (crime), and street lighting (pending)), average speed, intersection volume, daily link volume, and street connectivity (pending).

Points were also assigned to each census block following the above methodology. Table 8-1 shows the number of total points by each element considered. Map 8-2 shows areas with the highest pedestrian deterrent index value. Areas such as: Coors Blvd., Central Ave., Uptown, Menaul Blvd., San Mateo, Montgomery Blvd. Wyoming, Eubank, Juan Tabo, 4th Street, are some examples of areas and corridors where the pedestrian deterrent index rank high. These areas require different levels and forms of improvements.

2. Establishing priorities

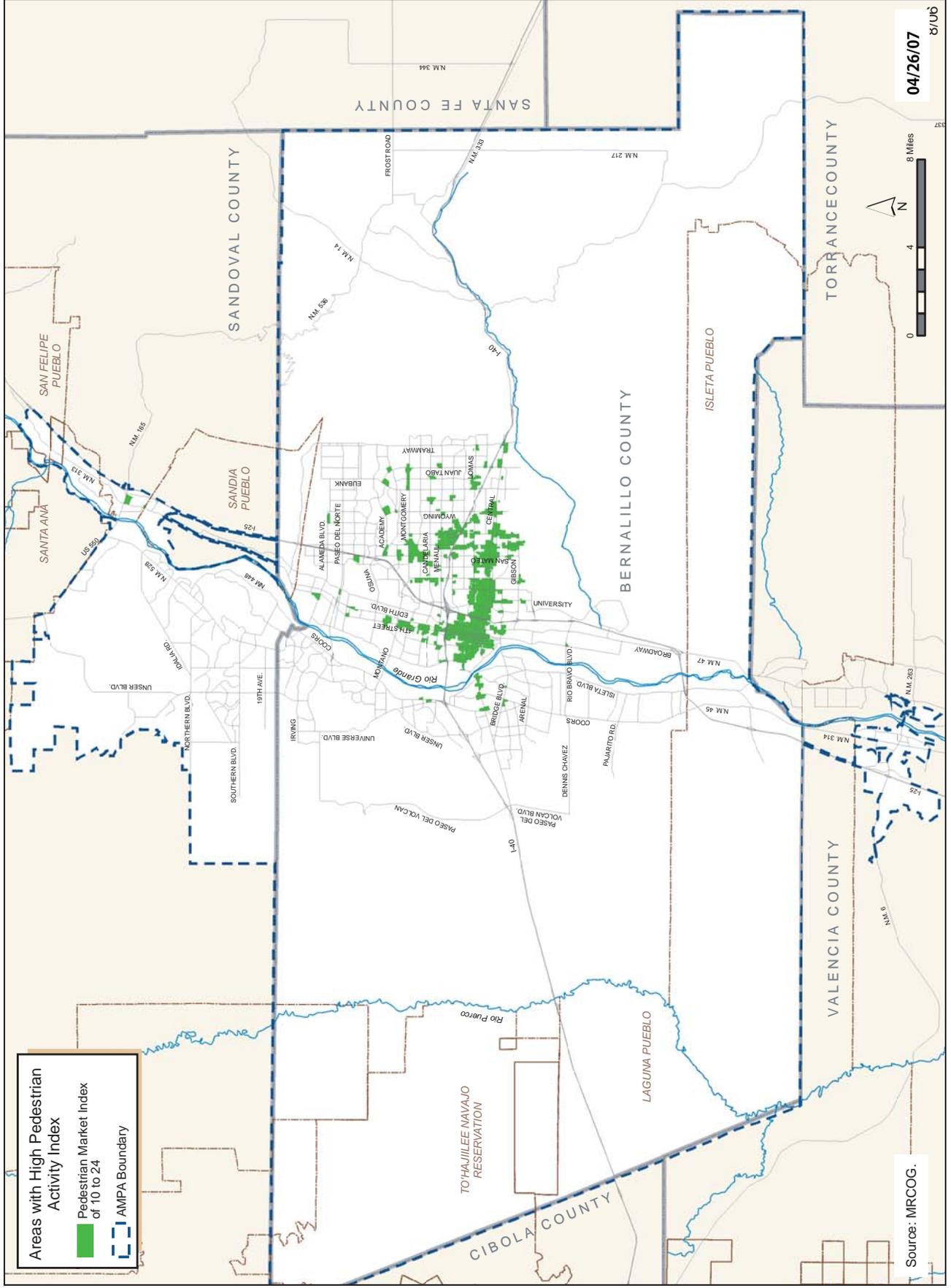
Once the four category threshold (from low to high) for each of the indexes has been established, a summary matrix was created. The matrix will provide different combinations of the “pedestrian activity index” and the “pedestrian deterrent index” values. Five classes were created for the simplicity of the analysis (see Table 8-2).

The information, summarized in this matrix results in 16 possible combinations of pedestrian market index and pedestrian deterrent index values. These combinations are at the heart of the PCI.

This pedestrian index works as follows: An area with a high value in the “Pedestrian Activity Index” and a low value in “Pedestrian Deterrent Index” identifies an area where the likelihood of pedestrian activity is high and the need for improvement is low. On the other hand, an area that has a low score in the “Pedestrian Activity Index” and high value in the “Pedestrian Deterrent Index” indicates that the pedestrian market is low and the need for improvements to address the deterrent elements is high (in need of many resources).

From a strategic planning point of view, class 3 and 4 could be considered primary target areas for programming limited federal and state resources. These classes mean that the potential for pedestrian activity is present and can be enhanced with improvements to address the deterrent for such potential. Improvements are important because elements that favor walking are already there. Map 8-3 shows such areas with missing sidewalk inventory information on top. As expected, areas along 4th Street Corridor, Central Ave east of downtown,

Map 8-1 ► Areas Ranking High in the "Pedestrian Activity Index"

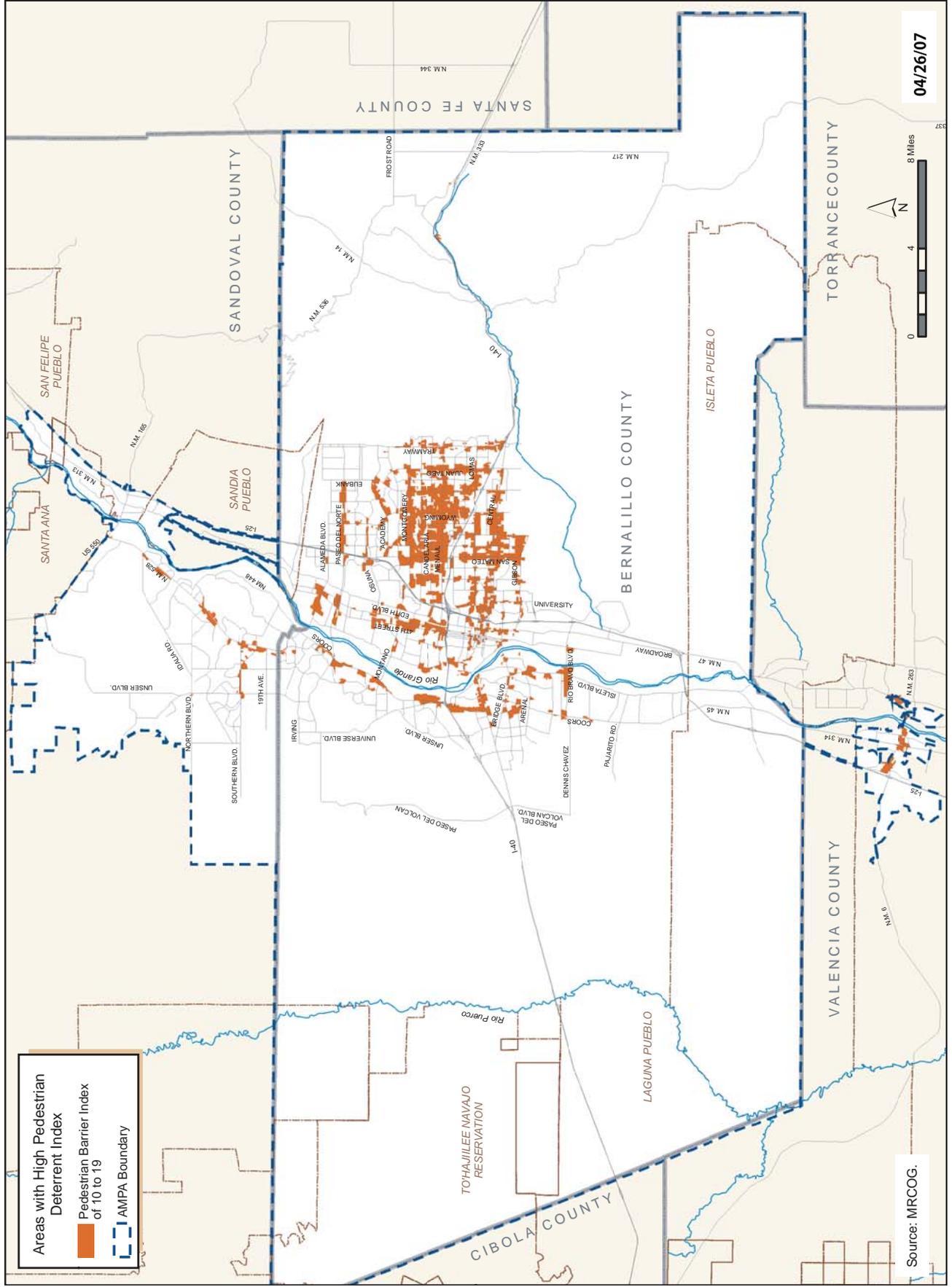


Areas with High Pedestrian Activity Index
 Pedestrian Market Index of 10 to 24
 AIMP Boundary

Source: MRCOG.

0 4 8 Miles
 N
 04/26/07
 8/06

Map 8-2 ▶ Areas Ranking High in the "Pedestrian Deterrent Index"



Albuquerque downtown area, Coors Blvd. around I-40 and north of Central Ave., San Mateo Corridor, the Presbyterian Hospital, UNM, and Uptown area, are some areas identified as areas where improvements could be implemented and a return of pedestrian activity could be expected.

A word of caution needs to be said. The priority area identification provided by this analytical tool should not be the only criterion. Planning is a more dynamic and rich field for coordination and partnership. If an opportunity arises to implement a project or a program in an area not included as a target by this method, the opportunity should not be ignored. This methodology has been developed to facilitate regional planning and should not supplant or supersede the local planning process which provides more means to develop a detailed intervention. Some of the potential strategies to improve target areas include engineering, enforcement, education, design, land use, etc.

Map 8-4 shows a blowup of a core area of Albuquerque with Class 3 and Class 4 areas and missing sidewalk information from the City of Albuquerque database. This kind of analysis is very useful because it integrates the PCI and the missing sidewalk inventory at the local level.

3. Pedestrian Issues in Policy Documents

A survey of local policy documents to determine the level in which local municipalities address pedestrian needs has been completed. Most of the local government documents reviewed made reference to pedestrian activity, facility type, design, and safety. The documents and government staff interviewed also recognized the desire to develop an integrated multimodal transportation system in which pedestrian systems are critical. The level of specificity in which pedestrian issues are addressed varies among documents as well as how resources are allocated, how facilities are built and how the needs of all users are considered.

Table 8-3 provides a general summary of how these documents by municipality address some of the

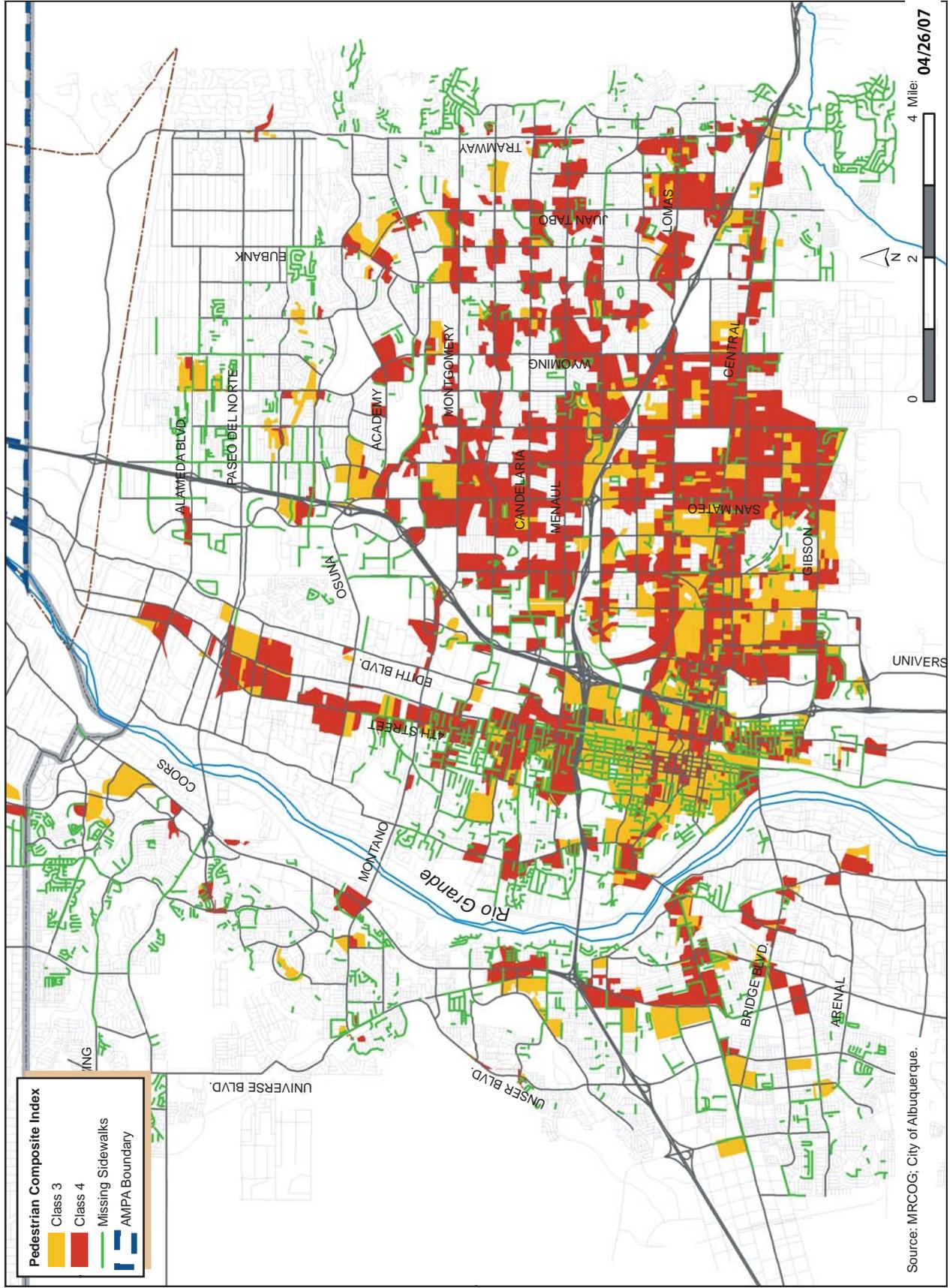
pedestrian issues. This table is a working product for which additional information is still needed.

The sentiment from some of the agency staff participating in the survey is that even though there are statements within policy documents (comprehensive plans, zoning and development ordinances) that address pedestrian issues there is not enough clarity and specificity about how pedestrian considerations will be accommodated in new development, design, and funding sources. There is a lot of work that needs to be accomplished in addressing connectivity, accessibility and integration between modes of transportation. Some agencies expressed the desire to develop a regional pedestrian plan that brings a regional approach to the engineering, education and promotion, and safety dimension of pedestrian needs.

People have expressed the desire that land use development approved in the region be more supportive of pedestrian activity. Some of the improvements mentioned include: residential development adjacent to activity centers, better pedestrian connections to schools, enhanced intermodal travel opportunities between modes of transportation (automobile, rail, public transportation, bicycling, and walking) and sidewalks or walkways that are better designed to accommodate several people passing each other and people with disabilities. The development of the 2030 MTP provides a great opportunity to take steps in implementing policies that make this region more walkable.

A “Competitive Pedestrian Grant Program” concept has been proposed as part of this MTP. The general concept is to develop a grant program that makes funds available to MPO member agencies on an annual basis that would allow grantees to develop pedestrian plans and studies and in the future to make improvements in the Albuquerque Metropolitan Planning Area. Funding for the program has not yet been identified.

Map 8-4 ▶ Pedestrian Composite Index for the AMPA for a Selected Area



4. American with Disabilities Act and Section 504

The statutes prohibit public agencies from discriminating against person with disabilities. Public agencies must provide pedestrian access for person with disabilities to the agency's streets and sidewalks, whenever a pedestrian facility exists. In other words, public rights-of-way and facilities are required to be accessible to persons with disabilities by the Rehabilitation Act of 1973 (Section 504), 29 U.S.C. 794 and Title II of the Americans with Disabilities Act of 1990 (ADA) (42 U.S.C. 12131-12164). These laws work together in achieving the intended goal.

ADA statutes do not require public agencies to provide pedestrian facilities. What ADA statutes require is that when a public agency provides a pedestrian facility, it must be accessible to persons with disabilities to the extent technically feasible.

Any project for construction or alteration of a facility that provides access to pedestrians must be made accessible to persons with disabilities (42 U.S.C. 12131-12134; 28 CFR 35.150, 35.151; *Kinney v. Yerusalim*, 9F.3d 1067 (3d Cir. 1993), *cer. Denied*, 511 U.S. 1033 (1994). An alteration is a change in the facility structural capacity that affects or could affect access, circulation, or use. Such projects have the potential to affect the structure, grade, or use of the roadway. Alterations include items such as reconstruction, major rehabilitation, widening, resurfacing (e.g. structural overlays and mill and fill),

signal installation and upgrades, and projects of similar scale and effect.

Maintenance activities include actions that are intended to preserve the system, retard future deterioration, and maintain the functional condition of the roadway without increasing the structural capacity. These activities could include, but are not limited to, thin surface treatments (nonstructural), joint repair, pavement patching (filling potholes), shoulder repair, signing, striping, minor signal upgrades, and repairs to drainage systems.

The AMPA will continue working to meet ADA requirements and provide a transportation system that benefits all users.

5. Proposed Pedestrian Projects and Programs

Appendices A, B, C, and D list the projects that are part of the 2030 MTP that meet the fiscally constrained requirement. The tables provide detailed information about each project by type and project description. In addition, Map 7-4 identifies pedestrian projects by the letter "P". The primary source to identify a project should be the project tables and not exclusively the map. Not all the pedestrian projects and programs have been mapped because an alignment or location has not been determined at this time or because the program type cannot be mapped.

4 Public right-of-way consists of everything between right-of-way limits, including travel lanes, medians, planting strips, sidewalks, and other facilities. There are standards for accessibility features such as curb cuts, ramps, continuous sidewalks, and detectable warnings.

Table 8-3 ► Pedestrian Policy Review

	City of Albuquerque	Bernalillo County	City of Rio Rancho	Town of Bernalillo	Village of Corrales	Village of Los Ranchos of Albuquerque	Village of Los Lunas
Comprehensive Plan							
Main Street Program (s)							
Activity Center or Corridor Policy							
Pedestrian Goals in Plan Documents							
Pedestrian Design Consideration in Policy Documents							
Intermodal Integration in Plan/Policy Documents							
Pedestrian Consideration in all Ordinance							
Pedestrian Safety Consideration in Policy Documentation							
Dedicated Funding for Pedestrian Facilities							
Pedestrian Design Standards For New Subdivision Projects							
Street Design Standards include sidewalks							
Zoning ordinance identifies areas where mixed used are							
Residential & Commercial development ordinances address street design							
Development ordinances require sidewalks on both sides of the street							
Development ordinances require sidewalks on one side of the street							
Development ordinances require sidewalks if property is developed							
Development ordinances require sidewalks connections with other modes of transportation (transit, rail, bikeways)							
Are ADA considerations included and implemented in all transportation projects?							
Is the Municipality implementing an ADA Transition Plan?	*	*	*	*	*	*	*
Do you reference ASHTO or other document for pedestrian facility design and implementation?							