

Chapter 6: Implementation Strategies

Achieving the goals of the *Bikeways & Trails Facility Plan* requires the coordination of staff time with available funding and public input. While the City of Albuquerque can directly implement infrastructure investments, implementation of education, outreach, enforcement, and evaluation programs will necessarily involve numerous community partners.

This implementation plan is an important component of the overall planning effort. It helps ensure a structured approach to project development that involves the bicycling community, the general public, elected officials, city staff, partner organizations and funding agencies. Additionally, the implementation plan serves as a measure of Albuquerque's progress on achieving these goals through the completion of particular projects, education, encouragement and measurement with each passing year. As a result, implementation should be seen as an ongoing process rather than a finite task. Below we offer guidance for a strategy to implement recommended projects and programs.

A. Bikeway & Trail Facility Development Approach

1. Administrative Organization & Coordination

This plan seeks to create linkages between the Planning Department, Parks & Recreation (P&R) and the Department of Municipal Development (DMD) regarding planning of future projects and programming funding for facility improvements and projects. This will happen by fostering linkages among critical departments within the City (primarily P&R, DMD and Planning) to communicate and coordinate activities related to design of trails and on-street bikeways. Another piece is to coordinate bikeway and trails activities with other agencies. The interdepartmental and cross-agency coordination would ideally take place at key milestones during the planning, design, and implementation of projects and programs. Ideally coordination would take place to:

- Coordinate funding requests
- Update master facilities List/Map
- Adhere to Design Guidelines
- Technical Review Committee
- Organize trainings
- Conduct interagency meeting and bikeways issues
- Update this Plan (at 5 or 10 year intervals)

One of the issues for the bicycle and trail network in Albuquerque is that responsibilities for the system are divided among various departments, primarily P&R and DMD, but also the Planning Department, City Council and Cultural Services, requiring significant and on-going coordination and cooperation. Other communities have the same dynamic.

The Planning Team performed a comparative review of other jurisdictions administrative organization and operations for their bicycle and trails programs. Looking to other successful communities can inform future organizational and/or operational restructuring in Albuquerque. The main finding of this review is that all of the communities surveyed also spread the responsibility for planning, design, construction, and maintenance between Public Works, Parks & Recreation, County Public Works and/or Parks & Recreation, and Regional Council of Governments. The current organization of responsibilities is generally consistent with other communities. These findings support this Plan's recommendations to

focus on consistent and ongoing coordination between all the key departments and agencies who engage in bikeways and trails work.

A final thing to note is that both Minneapolis and Nashville/Davidson County have regionally focused boards or commissions within their Parks & Recreation Departments that address the recreational and experiential component of trails, along with other park and recreational topics.

Administrative Policies, Objectives, and Strategies

Following are proposed Goals, policies, objectives and strategies to outline how the Departments in Albuquerque can work together more efficiently for the benefit of trail users and cyclists.

GOAL 7: Streamline administrative practices and coordination

1. Policy: Organize and coordinate Implementation of this Plan among City Departments and other agencies to produce well-designed facilities and a connected network of trails and bikeways that are safe and enjoyable for the public to use.
 - a. Objective: Provide full-time staff positions dedicated to trails and bikeways with appropriate office budgets to promote bicycling and trail use within Albuquerque.
 - b. Objective (Planning): Create linkages between Planning Department, Parks & Recreation and DMD regarding planning of future projects and programming funding for facility improvements and projects.
 - i. Strategy: DMD and Parks & Recreation, with assistance from the Planning Department, will coordinate requests for trails and bikeways funding. DMD will assist Planning and Parks & Recreation in the federal application process and the three departments will coordinate representation at MRCOG.
 - ii. Strategy: The Planning Department, in coordination with DMD and Parks & Recreation, will take the lead on developing funding mechanisms and implementing the 50 Mile Activity Loop.
 - iii. Strategy: DMD and P&R, with assistance from the Planning Dept. will maintain an accurate list of major bikeway and trail projects currently programmed, to be updated on a biannual basis reflecting the status of programming, funding, design, and construction. This list will be the basis of the discussion and outcome of the two preceding Strategies.
 - iv. Strategy: DMD and Parks & Recreation, with assistance from the Planning Department, will conduct an annual update of the existing and proposed facilities map.
 - c. Objective (Design): Foster linkages among critical departments within the City (primarily Parks & Recreation, DMD, and Planning) to communicate and coordinate activities related to design of trails and on-street bikeways.
 - i. Strategy: Adhere to the Design Guidelines adopted as part of this Plan when implementing projects unless strict adherence is not feasible. Any deviation must be documented by the project manager, including a rationale for the deviation.
 - ii. Strategy: Create a Technical Review Committee (TRC) to include a few key staff members (P&R, DMD, and Planning Department) with expertise in design of trail and bike facilities. TRC would review major projects on a project-by-project basis. This review would be in addition to and in anticipation of DRC. Other experts would be included on a case-by case basis as necessary, e.g., ADA specialist,

Traffic Engineer, Park Management, AMAFCA, etc. Where there are potentially difficult design issues, a pre-design meeting of the TRC would be appropriate and input from Citizen Advisory Groups will be sought. TRC's recommendations will be documented by the Project Manager.

- iii. Strategy: Parks & Recreation and DMD will jointly organize periodic trainings for personnel, rotating among topic areas. Trainings will be kept to a manageable size, but provide space for representation of citizen advisory groups. Coordination with MRCOG regarding topic areas is essential. Here are some potential topics:
 - 1. Multi-use trail design issues and innovations: for engineers, landscape architects, and others involved in trail design, including both in-house and non-City professionals.
 - 2. On-street bikeway design, including intersections, and techniques for trail crossings of arterials: for traffic safety personnel, engineers, and others involved in bikeway design.
 - 3. Maintenance practices, issues and techniques: maintenance staff.
- d. Objective: Coordinate bikeway and trails activities with other agencies.
 - i. Strategy: DMD and Parks & Recreation (with assistance from Planning Department) will conduct a biennial (every 2 years) meeting among agencies involved in planning and implementation issues regarding bikeways and trails (construction, right of way, maintenance, funding, education, etc.) to include at least: the City (DMD, P&R, Planning Department, Open Space, Park Management, Bike Safety Program) NMDOT, BernCo, AMAFCA, MRCOG, MRGCD, Rio Rancho, and representatives of Citizens Advisory Groups and other advocacy groups. Topics will include: presentation of status reports regarding funding and programming, new facilities, new standards, and how to resolve recurring issues. A summary of the meeting and outcomes will be transmitted to participants and the Mayor and City Council and be posted on the City's website.
 - ii. Strategy: DMD and Parks & Recreation in partnership with the Planning Department will update this Plan every 10 years.
- e. Objective: The City (DMD, Parks & Recreation, and Planning) will utilize the input of Citizen Advisory Groups in an effective manner.

2. Bicycle & Trail Coordinator

Albuquerque currently has a full-time Trail Planner and a grant-funded Bicycle Encouragement position. There are also a number of Community Recreation Coordinators in Parks & Recreation whose work includes bicycle education programs. The 1993 *Trails & Bikeways Facility Plan* recommended both Bicycle/Pedestrian Coordinator and Trail Coordinator positions to take on the major responsibilities of implementing the elements with the plan. Likewise, the work plan of these staff should be aligned with the Implementation Plan in order to coordinate current bicycle and trail planning efforts and to assist with implementation of the many projects and programs recommended in this Plan. The work should be divided between the Municipal Development and Parks & Recreation departments, bridging the gap between bicycling and trail use as transportation and as recreation.

In addition to existing bicycle safety education activities, job duties for these staff positions may include:

- Monitor the design and construction of bikeways and trails, including those constructed in conjunction with private development projects.
- Ensure bicycle facilities identified in specific plans are designed appropriately and constructed expeditiously.
- Staff GABAC and GARTC meetings.
- Continue the implementation of existing programs and projects.
- Coordinate implementation of the recommended projects and programs listed in this Plan.
- Identify new projects and programs that would improve the City's environment for bicycling.
- Collect data and monitor trends in bicycle & trail use in the City.
- Coordinate evaluation of projects and programs.
- Pursue funding sources for project and program implementation.

3. Role & Structure of Advisory Committees

The City currently has two advisory committees for bikeways and trails – the Greater Albuquerque Bicycling Advisory Committee (GABAC) and the Greater Albuquerque Recreational Trails Committee (GARTC). The two-committee structure allows multiple perspectives regarding the trail system. GABAC has a broader interest in the street network and GARTC has a broader interest in the unpaved trails. The current structure requires both Departments, Parks & Recreation (P&R) and the Department of Municipal Development (DMD), which are responsible for development and maintenance of the bicycle and trails network to be engaged in issues concerning the paved trails, which are of mutual interest to both committees.

Issues

Several members in leadership positions in the committees have described Albuquerque's two-committee structure as flawed. Committee members have expressed dissatisfaction with Albuquerque's two-committee structure. Some of their criticisms include: P&R doesn't attend GABAC; DMD doesn't attend GARTC; and GARTC doesn't have bicycle riders officially represented. Members are frustrated and ask: "What is our function? Our comments are too late in the process to be useful." Staff considers the two-committee structure duplicative with sometimes conflicting recommendations from each group and that the committees are very time-consuming. Also, City staff reports that both committees are very dissatisfied and that it is hard to fill positions, possibly for a variety of reasons. The point of contact with other agencies and jurisdictions is unclear and varied (sometimes through GABAC/DMD; sometimes through GARTC/P&R). Comments from the public included these: The committees aren't listened to, there is no structure, "catch as catch can" on whether they are able to provide input at the correct point in the process; there is minimal website presence for the committees; APD, NMDOT and other agencies need to come to GABAC; and GARTC needs to be able to provide input on design.

The Working Group reviewed the issues and draft concepts related to the structure of the committees with GABAC and GARTC in May and June, 2014. Those concepts are described below. Although there is a general sense that the current two committee structure is not working very well, both Committees agreed the issue needs more thought. There is generally a sense that one combined committee bringing together citizens, staff and guest presenters might be more efficient, but there are concerns that the voices of pedestrians, ADA advocates and equestrian issues might be overwhelmed and left out of the discussion. There is broad support for making outreach to Bernalillo County to join with the City since

the trails and bikeways system is a regional network. Following is an overview of how other communities address citizen advisory groups.

Overview of other communities' bike/pedestrian/trails programs

Tucson/Pima County

Tucson and Pima County transportation departments share staffing duties for the Tucson-Pima County Bicycle Advisory Committee (TPCBAC). The TPCBAC is a huge committee, with representatives from local governments and agencies as well as representation from the Wards, the equivalent of Council Districts, and representatives from unincorporated Pima County (which has a number of representatives). Most of the governmental reps are *ex-officio* (non-voting).

The TPCBAC meets once per month, but the real work occurs in the Executive Committee (5 members). The Executive Committee is made up of chair of each of 5 subcommittees: Facilities; Downtown and University; Law Enforcement, Education and Outreach; and Mountain bike/BMX. The Executive Committee and the full TPCBAC each meet once a month. Some of the subcommittee meetings are less frequent. From reviewing some of the agendas and minutes, it appears the TPCBAC deals with everything – ranging from bike boulevards to safety education to forest access. Tucson established a pedestrian advisory committee in 2013 due to a number of fatalities, and the bike/ped coordinator is concerned about how staffing will be handled.

The Pima Association of Governments (PAG) functions like MRCOG in regards to bicycle/ pedestrian issues: a count program, analysis of crash data, etc. There is a “Bike/Pedestrian subcommittee” at PAG that advocates for trails. It includes a variety of types of users, including an equestrian representative.

City of Minneapolis

The Bike/Ped program is located in the Public Works Department. Two committees advise PW Department: a Bicycle Advisory Committee (BAC) and a Pedestrian Advisory Committee (PAC). Staff members serve on the BAC. There are 13 citizen members representing the Wards, there are 3 Minneapolis Parks & Recreation Board (MPRB) members, there are 12 agency and City department members (voting, except for the City Attorney). There are four staff for the Bike/Ped program. They coordinate closely with MPRB. MPRB has a completely separate staff, including trails specialists.

There are lots of other bike/ped/trails people in region (Hennepin County, etc.) and likely numerous other advisory groups. There is not really a group that meets regularly and discusses projects (funding and priorities). It happens on a project-by-project basis. There is a Met Council that includes the 7 counties (like MRCOG) and deals with federal funding allocations. Projects are implemented by City, County, and MPRB. The MPRB forms ad hoc committees for new or major renovation capital projects consisting of citizens, key neighborhood reps, interest groups, etc. There are also task forces that deal with discrete proposals.

Moreno Valley, CA

Moreno Valley has a Recreational Trails Board which considers matters pertaining to single-use and multi-use recreational trails, including bicycle, jogging and equestrian trails within or affecting the City. The nine member Board meets every other month. They are based in Parks and Community Services. Membership is by application, not based on type of trail user or council district. People are asked to provide their area of interest/goals and the town council decides. According to their staff person, it has worked well. It seems the RTB is mainly trying to get people to adopt trails and they also sponsor a

regular, “Hike to the Top” foothills hike. They have a map of multi-use trails that are decomposed granite. The Public Works department consults with this committee on the design of asphalt trails.

League of American Bicyclists Recommendations

Regarding the particular issue of how other communities approach the structure of advisory committees, there is a recent publication by the League of American Bicyclists regarding Bicycle Pedestrian Advisory Committees which provides a good overview of the issues:

[http://www.advocacyadvance.org/site_images/content/bpac_best_practices\(web\).pdf](http://www.advocacyadvance.org/site_images/content/bpac_best_practices(web).pdf)

Pertinent to Albuquerque’s situation, this article suggests:

- the transportation agency be clear about the staff's role as liaison; the staff is responsible to the transportation agency, not the BPAC;
- recommends separating bike and pedestrians into different committees, if possible - it is difficult to find a balance otherwise
- many issues noted by our Working Group: The committee should represent diversity of community (with targeted recruitment, particularly of females and minorities), have a very strong application process, conduct interviews, have term limits, make very clear the expectations for participation, provide orientation to new members, mentor new members, define the chair's responsibilities, and develop an annual work plan.

Options for Albuquerque

The City explored three different approaches to addressing some of the issues and concerns raised above:

1. **Status quo - two Committees:** Continue with two committees – GABAC/GARTC – staffed by DMD/P&R. Ideas which may improve the process: 1) Clarify the role of the committees, integrate the advisory committee role in a more standardized manner into the planning and design process; (i.e. at particular points in the process, as outlined in the Streamlining Administration strategies), identify outside agency representatives as regular liaisons to work with the committees; 2) Improve recruitment and selection process for new members, advertise vacancies, develop a nomination process or other more standardized process for filling positions, conduct interviews, assure diversity and broad representation, have term limits and fill vacant positions quickly; 3) Provide trainings for advisory committees, provide packets with orientation materials for new members; 4) Improve meeting effectiveness, abide by rules of conduct for public meetings, utilize subcommittees, not necessarily supported by City staff, to address particular areas of interest; and 5) consider a way to have committee members (or their constituencies) assist in standardized trail counts and reporting on other issues.
2. **Albuquerque Bike and Pedestrian Advisory Committee:** Create one committee with representation by geographic regions, and which reflects the diversity of the community – age, gender, type of travel, and other special interest as appropriate. Consider: inclusion of representation from major established advocacy groups and ex-officio agency representatives. For general guidance, see the League of American Bicyclists Advocacy Advance publication: Best Practices for Bicycle and Pedestrian Advisory Committees at the web address above.
3. **City/County Bike, Pedestrian and Trails Advisory Committee:** Create one committee that represents the City/County, or Albuquerque Metropolitan Planning Area. Work could be done by subcommittees, somewhat independently of staff, to address particular areas of emphasis; and by a strong executive committee.

Considerations regarding moving to single committee structure

In Albuquerque, consolidation of the two committees may not specifically address the interests of people who use the unpaved trails (particularly equestrians). One concept for consideration is to create a standing subcommittee, with a specific charge to map and enhance the unpaved trail network and provide input on major projects which affect the network. An alternate approach to recognizing and accommodating equestrian interests would be to consider amending the Open Space Advisory Board and/or Parks and Recreation Advisory Boards to include equestrian and unpaved trail user interests. A process for regular communications with related land management agencies could be established; to include the Open Space Division, MRGCD, US Forest Service, etc.

Staffing: If Albuquerque moves to a single committee structure, the question arises as to how to staff the committee. Here are some options for input from the advisory committees. Any of these options will need to be reviewed by the City and other affected agencies:

- a. **Planning Department.** If staffed by the Planning Department, participation and support of P&R and DMD would be essential.
- b. **DMD.** By way of example, in Minneapolis, the transportation department staffs the bicycle and pedestrian committees. The Parks Board, which is an independent organization which builds and maintains most of the extensive trail system, has 3 board members represented on the bike committee.
- c. **Parks & Recreation.** The Bike Safety and Education program, trail maintenance, and many of the trail design functions are currently housed in P&R. DMD would need to commit to a strong involvement and presence.
- d. **City Council/Mayor's Office.** Nashville/Davidson County housed their advisory groups in the Mayor's Office. City Council has a Constituent Services group that might be appropriate to house an advisory group.
- e. **Joint City/County.** Would require exploration with the County to determine appropriate staffing. This is the Tucson-Pima County structure.
- f. **MRCOG.** Would require coordination with MRCOG to assess feasibility and how to structure.

The Working Group will continue to consult with GABAC and GARTC, and obtain input from the public and other agencies, regarding the structure of the Advisory Groups.

4. Policies for Bikeway & Trail Development

Objective 1: Develop and Promote Albuquerque as a Bicycle-Friendly Community

1. Achieve the League of American Bicyclists' Bicycle Friendly Communities award designation and Bicycling Magazine's Top Ten Best Cities for Cycling award by institutionalizing bicycling as a legitimate form of transportation in all planning and programming efforts and public awareness campaigns.

Measurement: Report the results of the survey and identify solutions to rectify deficiencies reported by the award.

2. Provide full-time staff positions dedicated to bicycle transportation and appropriate office budgets to promote bicycling within Albuquerque.
3. Support the establishment of designated personnel and appropriate office budgets in other Albuquerque Metropolitan Planning Area jurisdictions to address bicycling concerns.
4. Maintain the dedicated local funding source for construction and maintenance of bikeways and establish specific budget line items in the Albuquerque budget to support the provision of on-street and off-street bicycle networks and programs.
5. Institutionalize bicycling as a legitimate form of transportation through bicycle-friendly roadway design practices and through consistent, routine training of City of Albuquerque, MRCOG, and other jurisdiction staff. Maintain bicycle transportation planning and design. Work with the University of New Mexico and New Mexico State University to develop curricula for bicycle-friendly transportation system design.
6. Support the efforts of the Greater Albuquerque Bicycling Advisory Committee (GABAC) and the Greater Albuquerque Recreational Trails Committee (GARTC) to promote bicycling and improve bicycle safety through effective responses to GABAC and GARTC concerns. Provide staff liaisons from the City, Bernalillo and Sandoval counties and other area departments of transportation to attend GABAC and GARTC meetings and to work on GABAC and GARTC issues on a routine basis.

Objective 2: Develop and Maintain a Continuous, Interconnected and Balanced Bikeway and Multi-Use Trail Network

1. Develop an interconnected network of bikeways on 1) local streets (bike routes and Bicycle Boulevards), 2) arterial streets (bike lanes), 3) along limited access arterials (separated multi-use trails) and 4) along arroyos, drains or utility easements. Encourage developers of walled subdivisions to provide connectivity between their developments and adjacent bikeways.
2. Link existing and proposed trails to form a connected network.
3. Improve bicycle connections between schools (elementary through college) and neighborhoods to encourage bicycling by children, teenagers and young adults.
4. Provide bicycle facilities at half-mile spacing intervals on average throughout the city. Increase on-street bikeway mileage from the current 365 to 500 by the year 2020 and 650 by the year 2030. Increase multi-use trail mileage from the current 175 to 200 in the year 2020 and 240 in the year 2030.
Measurement: Prepare a biennial report of the bicycle facilities that have been constructed.
5. Give priority to achieving connectivity of the bikeway network when planning and programming all roadway and bikeway improvements.
6. Plan, program and implement special provisions for crossings of high-volume, multi-lane streets. Review successful treatments utilized within other communities for difficult crossings.
7. Concentrate bicycle improvements for a five-mile radius (“hub and spoke”) around major employment centers, schools, parks and other activity centers.
8. Coordinate and develop interconnected bikeway improvements and standards between the City and adjacent jurisdictions, including Bernalillo County, Sandoval County, Los Ranchos, Rio Rancho, Corrales, and KAFB.

9. Monitor the implementation of elements within the Albuquerque Bikeways and Trails Master Plan and update the Plan at five year intervals.

Objective 3: Use Bicycle and Pedestrian Friendly Standards and Procedures for On-Street Bicycle Facilities and Multi-Use Trails

1. Restripe all collector and arterial roadways (where practical) to provide bike lanes, or minimum outside lane width of 14 feet.
2. Provide a striped bicycle lane or shoulder as described in chapter 23, section 5, subsection N of the City's Development Process Manual, in conjunction with AASHTO bicycle facility design guidelines, on all new, rehabilitated or reconstructed roadways, as indicated in the Master Plan.
3. Provide striped lanes/shoulders of at least five feet wide, from face of curb where curb and gutter exist, on all new or reconstructed bridges, underpasses and overpasses.
4. Plan and design for bicycle travel with all intersection improvements - include 5-foot bike lanes or minimum curb lane widths of 15 feet through intersections.
5. Include a through phase for all traffic signal timing plans at signalized intersections on roadways having designated bicycle networks.
6. Modify existing or install new traffic signal detection equipment (i.e., inductive loop, video detection or pushbutton) to make all traffic signals bicyclist-responsive.
7. Implement other design considerations, per the current versions of the AASHTO Guide for the Development of Bicycle Facilities, the "Design Guidelines" section of this plan and other appropriate design reference guidelines.
8. Evaluate and adjust traffic signal timing of the vehicle phase change and clearance interval to provide adequate time for bicycles at signalized intersections on designated bicycle networks.
9. On all trails, develop strategies and use design techniques on available right-of-way to minimize conflict of use.

Objective 4: Provide a High-Standard of Maintenance along Roadways

1. With On-Street Bikeway and Multi-Use Trails, improve and fully fund the street maintenance and sweeping program. Establish the highest priority for allocation of street sweeping resources to sweeping all bike lanes at least once per month and bike routes on local streets a minimum of four times a year. Multi-use trail sweeping should be performed on a regular basis and when requested.

Measurement: Request the annual data on frequency of scheduled sweeping for the on-street bikeway and multi-use trail network, along with the number and location of spot sweeping requests. Establish a database to track trends and provide data that can be used refine scheduled sweeping and maintenance budget request.

2. Establish weed and vegetation control procedures to reduce the occurrence of noxious weeds (i.e., puncture vine) and plants that block sight lines or grow within two feet of bicycle facilities.
3. Maintain street surfaces on designated bikeway and multi-use trails to a high standard, including elimination of lip between paved surface and gutter, elimination of manhole/water valves in bike lanes and maintenance of bicycle-safe railroad crossings, drain grates and cattle guards. Avoid use of chip seal/coating wherever practicable.

4. Maintain bicycle facility pavement markings and signing. Missing or defective pavement markings and signs shall be replaced or repaired in a timely manner. Retro-reflectivity of pavement markings and signs shall be in accordance with current MUTCD requirements.
5. Maintain arterial and collector street surfaces, including those not designated as bikeways, on a routine basis to reduce hazards (e.g., potholes, debris) for bicyclists who use these facilities.
6. Establish timely responsiveness to maintenance requests from citizens through the use of the City's 311 Citizen Contact Center or website or other means for citizens to report concerns. Establish an agency goal of 48 hours to address these requests.

Measurement: Monitor response time for the maintenance requests and provide follow-up on the type of response. Report annually the number and type of request being made.

7. Maintain bicycle routes and lanes to high standards through construction projects, referring to Chapter 6, "Temporary Traffic Control," of the MUTCD and maximize curb lane widths (i.e., provide lane widths of 14 feet or greater) through construction projects on roadways that do not have bike lanes. Where this is not feasible, provide appropriate bicycle friendly and reasonably direct detours and detour signing.
8. Encourage a bottle deposit program in order to reduce littering of roadways and bike facilities with broken glass.

Objective 5: Implement a Comprehensive Program to Increase Public Awareness of Bicycling

1. Develop and utilize video and audio Public Service Announcements (PSAs) and other means, such as billboards, to promote general public awareness and acceptance of bicycling and to promote bicycle safety. Target use of PSAs on television/local radio stations for specific community events, especially during the annual Bike Month.
2. Provide specific line item agency funding to support public bicycling awareness programs and "Share the Road" campaigns.
3. Encourage wide-spread support and participation by bicycle shops, bicycle clubs, the Greater Albuquerque Bicycling Advisory Committee, Greater Albuquerque Recreational Trails Committee and other bicycle interest groups in efforts to promote public awareness of bicycling.

Measurement: Monitor membership and/or participation and growth.

4. Increase public outreach efforts, including video and audio PSAs to educate motorists on bicyclists' rights and responsibilities. Encourage the inclusion of bicycling-related questions in motor vehicle driving license tests as a means to raise awareness of bicyclists' rights and responsibilities.
5. Heighten public awareness of bicycle planning efforts and ensure on-going citizen participation and support for bikeway development. Provide periodic news releases for bicycle planning and bicycle system development and actively solicit public input.
6. Work with major employers throughout the Albuquerque to encourage commuting by bicycle among their employees and to increase motorists' awareness to share the road.

Objective 6: Educate All Bicyclists on Legal, Safe, and Predictable Behavior

1. Develop, distribute and update annually a bicycle map of the Albuquerque including the communities of Albuquerque, Los Ranchos, Rio Rancho, KAFB and metropolitan areas of Bernalillo County.

2. Distribute a user-friendly Bicycle Commuter Handbook, which includes commuting, and safety tips and laws related to bicycling.
 3. Develop and fully support a bicycle education program in Albuquerque's elementary and secondary schools as part of current physical education requirements.
 4. Encourage and support head injury awareness and helmet usage through awareness of state laws, educational brochures and programs.
 5. Provide full support for the Bicycle/Pedestrian Safety Education Program staff in their work on bicycle education and in developing and overseeing a program for bicyclist education.
 6. Continue development and use of video and audio PSAs, as well as short instructional safety videos to promote proper and legal bicyclist behavior.
 7. Continue and expand Police Bicycle Patrols, and dedicate a distinct percentage of their time to educational efforts on proper bicycling behavior.
 8. Provide specific line item funding to support bicyclist education.
- Measurement: Report the annual budget that is used for bicyclist education.

Objective 7: Promote Trail Use and Bicycling as a Non-Polluting, Cost-Effective and Healthy Mode of Transportation and Recreation

1. Continue and expand marketing efforts to promote bicycling as an alternate mode of transportation, especially through cooperative efforts with a regional Travel Reduction/Rideshare Program. Work with businesses to provide bicycle commuting information to employers and employees and to learn how bikeways to and from their locations can be improved.
2. Provide outreach and personal travel cost information that shows how bicycle transportation can be beneficial to both employees and students.
3. Prioritize implementation of multi-use trails, which contribute key linkages to the on-street bikeway network, including interim trail improvements where needed and spot safety trail improvements.
4. Promote air quality benefits of bicycling through public outreach efforts to major public and private sector employers, such as the University of New Mexico (UNM), KAFB, Sandia National Laboratories, Intel and area schools.
5. Develop and support cash incentive programs to promote bicycling, such as parking cash-out allowances (i.e., cash payments to bicyclists in lieu of employer-provided parking) for City, UNM, KAFB and other employees who work for public or private sector employers.
6. Develop and implement bicycle parking ordinances where they do not currently exist. Monitor and fine-tune existing local bicycle parking ordinances based in part on bicyclist and business feedback and recommendations.
7. Continue and expand the interface between bikes and buses, including such features as bicycle racks on all buses and bicycle racks and lockers at park-and-ride lots. Promote bike/bus programs through ABQ Ride literature and PSAs.
8. Develop and implement specific incentive programs to encourage existing businesses and other entities to provide facilities for bicycling, such as bicycle racks, bicycle lockers, changing areas, showers, clothes lockers and guaranteed ride home programs.

9. Develop and distribute to employers short videos that promote bicycle commuting, demonstrate bicycle commuting tips, show legal and safe riding techniques and promote bicycling awareness and acceptance.
10. Promote organized bicycle events and racing on city streets as a means of increasing public awareness of bicycling as a viable sport for public viewing and participation.
11. Promote the health benefits of cycling as a way of reducing stress, increasing daily physical activity, minimizing the risk of coronary heart disease and an effective method of weight control.

Objective 8: Develop and Implement a Traffic Law Enforcement Program for Bicyclists and Motorists and Linked with Education Program Efforts

1. Update or develop materials for use by law enforcement personnel to support education and enforcement efforts.
2. Commit appropriate police time (bicycle and motor vehicle patrols) to target bicyclist and motorist enforcement efforts.
3. Develop and implement a consistent, balanced traffic law education program for law enforcement personnel for improving motorist and bicyclist compliance with traffic laws.

Objective 9: Develop and Maintain Databases Useful for Bicycle Planning, Prioritization of Bicycle Improvements and Accident Prevention

1. Periodically conduct community wide public opinion surveys to: 1) determine reasons why people do or do not ride bicycles; 2) develop bicycle trip patterns and purposes; and 3) gain input on bicycle projects and programs that could improve bicycling in Albuquerque.
2. Routinely conduct and update bicycle counts to estimate usage levels and to help determine progress toward achieving future bicycle mode split goals. Conduct before and after bicycle counts for roadways that are reconstructed or restriped to have bicycle lanes and for other improvements to bikeways to gauge the effect of prioritized improvements.
3. Maintain and update the bikeway and multi-use trail network inventory developed as part of the Albuquerque Bikeways and Trails Master Plan Update. The facility information will be provided to AGIS and MRCOG in GIS format. Maintain and update the bicycle accident database. Utilize the database to identify high accident locations and/or high accident severity locations to help in the prioritization of bicycle project and program improvements. Review each bicycle collision/accident in a timely manner to identify system deficiencies and potential improvements.

5. Procedures for Design Development & Review

The Design Development and Review Process were developed by the Parks and Recreation Department and are intended to be used for Public as well as Private trail development.

Private Trails are to be constructed to City Trails Standards even if proposed to be maintained by a Private entity in the unlikely case that the City may have to maintain the trail in the future. Private Trails available for Public use shall be included on the Trails Map. Private Trail located within a gated community and maintained by the Home Owners Association shall not be included on the Trails Map.

All Trails shall be reviewed and approved by the Parks Management Division and Trails Planner prior to review and approval for construction by the City Design Review Committee (DRC).

Developer Requirements/Future Trail Segment Construction

Future proposed trails shown on the Bikeways and Trails Map and future Major and Minor Arterials and Collectors shall be built by developer at time of development.

Future development areas without proposed roadway system shall be identified in a future study and be shown on the Bikeways and Trails map in either shading or textured as “Growth Areas.” These Growth Areas are envisioned to develop within the next 10 years as the City population and land area expand – particularly on the west side and in the southwest area. It is not possible to foresee the exact location of future streets; therefore, new development within this “Growth Area” shall be subject to the following requirements:

1. The existing 1993 *Bikeways and Trails Facilities Plan* requires trail dedication and platted access for proposed trails shown on the Trails Map as part of the Development Review and Approval Process. This requirement shall remain in place.
2. Future development requests with Major or Minor Arterials, or Collector Streets shall include provisions for off street trails in addition to required sidewalks within the right of way.
3. When new Development is proposed to provide a trail or trail corridor, a platted public access easement (“Neighborhood Pathway”) shall be granted to the City.
4. Where a proposed future trail is shown on the Map to be on or to cross the property, the trail shall be built by the Developer to City Standards and dedicated to the City for public Trail use.
5. If a trail cannot be built by the Developer at the time of Development Review and approval, due to development phasing or other necessary delay, a Trail Easement shall be dedicated for public use and granted to the City.
6. Trails shall be provided within City ROW for all Major Arterials, Minor Arterials and Collectors. Major Arterials shall have minimum 10’ wide trail in addition to standard sidewalk on both sides of the roadway to reduce pedestrian and bicycle crossings of the streets. Local streets shall not be required to provide a separate bicycle facility.
7. Where trails are provided, a sidewalk may be on only one side of the street if the other side of the street is constructed with a minimum 3’ wide soft surface stabilized crusher fines path adjacent the minimum 10’ paved trail surface.
8. Trails designation and approval shall occur at the Development Review Board (DRB) and design shall be reviewed and approved by the Parks Management Division prior to the Design Review Committee (DRC). All paved trails are to be designed to accommodate different types of users – include cyclists (including upright, recumbent, and children), pedestrians (including walkers, runners, people using wheelchairs, people with baby strollers, people walking dogs), skaters, equestrians, and people with physical challenges.
9. Trails should be designed to meet the current ADA standards to the maximum extent feasible. Situations that warrant exceptions to this requirement include, but are not limited to, various constraints posed by space limitations, roadway design practices, slope, and terrain. At such time as new ADA standards are adopted by the U.S. Access Board, the City shall conform to those new standards.
10. The City will only maintain trails and bikeways that are built within the Public right-of-way.
11. All public and private development shall be built to the minimum design standards, as adopted in the Bikeway and Trails Facility Plan and/or the Development Process Manual. Facilities that cannot meet these minimum standards shall demonstrate the need for a design variance and

present the request to the Advisory Group, DMD Engineering Division, and the Bike and Trail Coordinators, as appropriate. DMD Engineering Division shall make the final determination.

B. Legislative Recommendations

The State of New Mexico Code, City's Code of Ordinances, Zoning Code, and the Development Process Manual (DPM) were reviewed where they address the design and use of bicycle and trail facilities. In most cases these documents provide adequate information for developers, users, and law enforcement. However, to meet the goals set forth in this plan the following changes are recommended: Include an additional method for the hand signaling of a right-turn movement, add parking restriction in bicycle lanes and marked bicycle boxes, improve reporting of bicycle crashes by law enforcement, remove bicycle front fork size restriction, and redefine the way a bike lane width is referenced in the DPM.

These three documents have extensive sections that pertain to the design and use of bicycle and trail facilities. In most cases these documents provide adequate information for developers, users and police; however to meet the goals set forth in the *Bikeways and Trails Facility Plan*, the following changes are recommended:

1. New Mexico State Motor Vehicle Code

New Mexico Code Chapter 66 contains statutes describing legal uses of roadways for all system users (e.g., cyclists as well as motorists). The following statute describes legal hand and arm signals:

§66-7-327. Method of giving hand and arm signals: All signals herein required given by hand and arm shall be given from the left side of the vehicle in the following manner and such signal shall indicate as follows:

- A. left turn: hand and arm extended horizontally;
- B. right turn: hand and arm extended upward; and
- C. stop or decrease speed: hand and arm extended downward.

Proposed Change: Amend subsection B to allow bicyclists to signal a right turn by extending their right hand and arm horizontally. Example language can be found in Oregon's statute ORS 811.395.2.A, which reads, "To indicate a right turn, either of the following:

1. Hand and arm extended upward from the left side of the vehicle. A person who is operating a bicycle is not in violation of this paragraph if the person signals a right turn by extending the person's right hand and arm horizontally.
2. Activation of front and rear turn signal lights on the right side of the vehicle."

Discussion: While enclosure within a motor vehicle prohibits the use of the right hand for signaling in many situations, a cyclist has the potential freedom to signal turning movements with either the left or right hand. In addition to having this potential freedom, many youth educators recommend that signaling a right hand turn with the right arm can be less confusing for youthful riders.

The city can work with legislative advocates to amend the existing state law during a future legislative phase.

2. Traffic Code, Albuquerque Code of Ordinances

In general, there are some items about driver behavior towards bicyclists/pedestrians that should be added to the general traffic regulations, not buried IMO

§8-5-1-1 Stopping, Standing or Parking Prohibited – No Signs Required

No person shall stop, stand or park a vehicle except when necessary to avoid conflict with other traffic or in compliance with the law or the directions of a police officer or traffic control device, in any of the following places:

Discussion: Bicycle lanes are travel lanes. It can potentially increase conflicts for cyclists using a lane to have to weave in and out of motor vehicle traffic to avoid cars parked in the bike lane. The DPM, in section N.3.c.2., also states the following:

“Bike lanes are traffic lanes, therefore, automobile parking or motor vehicle use of a bike lane as a driving or passing lane should be prohibited.”

Yet elsewhere in the DPM, Appendix A, Section a, is a statement that indicate that in bike lanes “vehicle parking and cross flows by pedestrians and motorists [are] permitted.”

Recommendation: Add the following:

- (O) In a marked bicycle lane
- (P) In a marked bicycle box

§8-5-1-15 Parking Not to Obstruct Traffic

No person shall park a vehicle upon a street, other than an alley, in such a manner or under such conditions as to leave available less than ten feet of the width of the roadway for free movement of vehicular traffic.

Discussion: This section of the traffic code does not specifically address bicycle lanes as vehicular travel lanes. As discussed in above for §8-5-1-1, bicycle lanes should specifically be mentioned as a travel lane.

Recommendation: Add the following: “Bike lanes are traffic lanes, therefore, automobile parking or motor vehicle use of a bike lane as a driving or passing lane is prohibited.”

§8-2-9-1 and 8-2-9-2 Accidents, Reports

Discussion: Bicycle crashes are under-reported and a complete record of bicycle related crashes in the City will be a valuable tool for future planning, identification of roadway conflicts and identification of areas in need of better enforcement of traffic laws.

Recommendation: Each of the items in these two sections should be re-worded to clearly include bicycle crashes.

3. Zoning Code, Albuquerque Code of Ordinances

§14-16-3-1 Off-Street Parking, Parking for Bicycles

An applicant for a building permit for construction of a new building or building addition of 200 square feet or more shall provide parking in accordance with the general requirements of this section. In addition, new buildings and building additions over 2500 square feet constructed after November 1, 2002 shall also be required to comply with all parking design requirements set forth in this section.

(B) Parking for bicycles shall be provided on-site or on a site within 300 feet of the use, measured along the shortest public right-of-way, as follows:

- (1) Residential use, five or more dwelling units or mobile homes per lot: one bicycle space per two dwelling units.
- (2) Dormitory, fraternity or sorority house: one bicycle space for each six persons in residence.
- (3) Nonresidential uses: one bicycle space per each 20 parking spaces required for automobiles and light trucks, but not less than two spaces per premises, unless otherwise specified below:
 - (a) Drive-in theater, mortuary, or motel or hotel rental unit: None.
 - (b) School elementary and middle: one bicycle space for each 20 students.
 - (c) School high, commercial, and trade: one bicycle space for each 50 students.

Discussion: The trigger for requiring bicycle parking is new construction or an addition over 200 square feet in multi-family residential and non-residential developments. Bicycle parking requirements are based on the total number of vehicle spaces required for each different land use type, which is described in §14-16-3-1(A). There are additional requirements for schools, which are likely to have a higher number of cyclists. The existing bicycle parking code does not include requirements for long-term parking.

Recommendation: Add parking requirements for long-term bicycle parking, where applicable. The following rates are provided for consideration from the 2010 Bicycle Parking Guidelines produced by the Association of Pedestrian and Bicycle Professionals. The minimum requirement for long term and short term parking is 2 spaces each.

Civic/Cultural – Non-assembly (library, government buildings, etc.): 1 space for each 10 employees, long-term parking; 1 space per 10,000 SF building area, short term parking

Civic/Cultural – Assembly (Church, stadium, park, etc.): 1 space for each 20 employees, long-term parking; short term parking for 2% maximum expected daily attendance.

Health Care/Hospital: 1 space for each 20 employees, long-term parking; 1 space per 20,000 SF building area, short term parking.

Rail/bus terminals and stations/airport: spaces for 5% of projected am peak period of ridership, long term parking; spaces for 1.5% of projected am peak period daily ridership.

Retail –food sales: 1 space for each 12,000 SF of building area, long term parking; 1 space for each 2,000 SF of building area, short term parking.

Retail – general: 1 space for each 12,000 SF of building area, long term parking; 1 space for each 5,000 SF of building area, short term parking.

Office: 1 space for each 10,000 SF of building area, long term parking; 1 space for each 20,000 SF of building area, short term parking.

Auto-related (automobile sales, rental and delivery, automobile repair, servicing, and cleaning): 1 space for each 12,000 SF of building area, long term parking; 1 space for each 20,000 SF of building area, short term parking.

Manufacturing and Production: 1 space for each 15,000 SF of building area, long term parking; the number of short term parking spaces required is prescribed by the Planning Director.

4. Albuquerque Development Process Manual

N1.2.a. Development of Bike Lanes on New or Reconstructed Roadways: Cross section diagrams show the bike lane measured from edge-line of the outside lane to the face of the curb. The language in the manual indicates the measurement should be from edge-line to the edge of gutter. The diagrams should be updated to match the text.

Discussion: The guidance given is contradictory and should be consistent to ensure the desired outcome.

C. Maintenance & Operations Recommendations

1. Current Trail Maintenance Practice

Two full-time staff are assigned to trail maintenance (to cover approximately 177 miles of urban recreational trails). Staffing has not changed much since 1993 when there were 39 miles of trails. Several workers from the Streetscape crews help out as is feasible. The 2015 Fiscal Year Budget proposes to shift maintenance responsibilities related to medians and streetscapes, which may result in an increased capacity of trail maintenance staff.

The current maintenance protocol is to:

Maintain a clear 3' recovery zone on both sides of trails, spraying for weeds both sides of trail, mowing both sides of trail to keep weeds and grasses at a manageable height, sweeping trails on an as-need basis. Asphalt repairs include filling in cracks and remove and replace sections of trail as needed. This is limited due to funding and staffing, major repairs need to be contracted when funding is available. Painting and replacing bollards as needed, sign replacement and installation as needed, pruning of trees and shrubs that encroach into bike trails; this is on an as needed basis.

In practice, however, this procedure may not be effective, and more detailed written procedures for systematic evaluations, routine and preventive work, as well as spot repairs are needed. And these will have little meaning unless there are adequate staff and resources to perform the work.

Park Management's work is largely driven by 311 complaints. They currently have a large backlog of 311 complaints, some of which may be duplicates. Other complaints have been addressed, but haven't been recorded as completed. PM is implementing the YARDI system. This will help with scheduled maintenance and make the 311 dispatching system much more efficient, saving the trails maintenance crew valuable time. The trails layer is anticipated to come on line in March.

Bernalillo County and NMDOT also maintain paved trails in the metropolitan area. In addition, MRGCD, AMAFCA, COA Street Maintenance, and Weed and Litter may perform work along trail corridors. There is sometimes informal coordination and occasional opportunities for cooperation, but is no regular coordination among crews working in the same area.

Trail Maintenance Recommendations

Community service workers

Community service workers are a good source of hand labor that could be strategically utilized for certain trail maintenance tasks. The Adopt-a-Trail Program doesn't provide significant assistance.

Timing

Effective weed control is highly dependent on timing. Limited manpower limits the ability to apply herbicides at the optimum time. COA Open Space, which has a full time worker to manage a portion of the Paseo del Bosque Trail, has managed to reduce the goat head population because of his ability to stay on top of the problem.

Equipment

Park Management and other agencies performing trail maintenance have identified needs for additional equipment for sweeping, mowing, etc. that is especially suited to trail maintenance. Larger, heavier, less maneuverable equipment can potentially damage trail surfaces or disturb desirable native plants adjacent to the trails. PM is currently seeking funds for updated equipment for the trails.

Inventory

An accurate inventory and map of existing trails are needed, with consistent names, confirmed mileages, and clear beginning and end points. The Trails Coordinator has developed a map showing primary maintenance responsibility for trails in the metropolitan area as part of this planning effort. Duplications should be eliminated and responsibility for maintenance clarified to the extent possible. Many of the trails are operating under license agreements or intergovernmental agreements with other entities which stipulate maintenance responsibilities and regular reporting. These should be noted in the inventory. A process should be developed for updating the inventory and map on a regular basis. YARDI will eventually provide a platform for integration between the map that James Lewis is creating, an inventory, and Park Maintenance's maintenance practices.

Collaboration

Presently City Park Management is responsible for off-street trails and trails within neighborhood or regional park facilities, including trails along AMAFCA channels. Bernalillo County Parks and recreation is responsible for trails outside of the City limits. The Open Space Division is responsible for trails within Major Public Open Space and trails along open space arroyos.

The number of responsible agencies makes coordination of maintenance difficult. Possible solutions include:

- Creating a government agency whose primary responsibility is to maintain and promote trails in the region. However, a new level of government may be met with skepticism.
- Promoting the creation of a regional non-profit trails organization to maintain and support trails.
- Some entities may have partial responsibility for maintenance of a trail corridor, such as graffiti removal, weed control in a broad corridor outside the narrowly defined trail corridor, or at-grade crossings of streets. There may be opportunities to share duties and organize who is doing what. The City should investigate if Street Maintenance or an on-call contractor for the City help with crack repair, as is done in Bernalillo County.

Trail Maintenance Workshops

The City should conduct a "trail maintenance workshop" which we envision as a 1/2 day event, with presentations on practices and sharing of strategies and experiences. In addition to discussing issues and approaches, it may help facilitate discussion of opportunities and build relationships among various personnel. We would like to discuss this with P&R and PM. It could be internal to the City (PM, Weed and Litter, Street Maintenance, Open Space) or broader, including Bernalillo County, NMDOT, MRGCD, AMAFCA, Rio Rancho, etc.

One initial concept: AMAFCA has offered to host such an event in their big conference room. We would have display maps for people to write on and have discussions to cover subjects such as: practices, equipment, costs, specifications, future collaboration, overlaps, and gaps. A facilitator would assist and provide a summary of the discussion and outcomes.

Test Weed Control Strategies

There is broad agreement among the parties we've interviewed so far that if we can get native grasses and other desirable native plants that don't require irrigation and a lot of mowing established next to the asphalt trails, the use of herbicides can be reduced over time, the weed problem can be abated, and the trails will be more pleasant to users, both aesthetically and practically. However, establishing native grasses and forbs without irrigation is highly dependent on rainfall and other weather variables. The first step is to protect existing stands of native plants as much as possible during initial construction or reconstruction.

We think it worthwhile for Parks Maintenance to consider potential ideas for test sections to try different strategies for weed control/establishment of native grasses and plants in narrow areas along existing trails. We have discussed some ideas with Parks Maintenance, and they are briefly described below, but they need to be fleshed out, and designed and implemented by Park Management personnel or a contractor. These would include various combinations of soil prep (including ways of removing or reducing the existing weed seed bank), seeding of native grasses and forbs, and mulching (principally based on City of Albuquerque reclamation seeding specifications). This is intended for the 2-3' recovery zone adjacent to the trail.

Maintenance Schedule

Maintenance programs can be divided into three levels depending on the regularity of services needed.

- Regular maintenance, performed weekly or monthly, includes such activities as mowing and landscape maintenance, sweeping and litter removal.
- Periodic maintenance, performed annually, includes crack repair, sign replacement, painting, drain clearing and facility evaluation.
- Occasional maintenance includes resurfacing or sealing the asphalt widening and furnishing replacement. This last level of maintenance can be accomplished on an as-needed basis.

Governmental agencies responsible for trails are delineated in the Albuquerque Trails and Bikeway Facility Plan. Presently City Park Management is responsible for off-street trails and trails within neighborhood or regional park facilities, including trails along AMAFCA channels. Bernalillo County Parks and recreation is responsible for trails outside of the City limits. The Open Space Division is responsible for trails within Major Public Open Space and trails along open space arroyos.

The number of responsible agencies makes coordination of maintenance difficult. Possible solutions include:

- Creating a government agency whose primary responsibility is to maintain and promote trails in the region. However, a new level of government may be met with skepticism.
- Promoting the creation of a regional non-profit trails organization to maintain and support trails.

2. Citizen Maintenance Requests

The City has in place a centralized reporting system, "Citizen Contact Center," that can be used effectively to report problems and request maintenance. Several methods for reporting are available: call

311 by telephone, using Twitter and by visiting www.SeeClickFix.com. Comments are then routed to the appropriate people. To increase utilization of this service the City should promote its use by informing bike clubs and organizations and bicycle advocacy groups and consider developing a Public Service Announcement.

3. Spot Improvement Program

The City should consider implementing a “spot improvement” identification program where bikeways and trail users can provide recommendations. Soliciting comments from users can help the City identify specific problem locations that need maintenance and/or rehabilitation. Institutionalizing this process in the form of a spot improvement program can provide ongoing input and, in many cases, help identify problems before someone gets hurt. In addition, such a program can dramatically improve the relationship between an agency and the bicycling public.

D. Monitoring & Evaluation

For evaluation efforts, the City’s top priority should be to perform *Annual Bicycle and Trail Counts*. The resources needed to support this effort will primarily be staff time, so a lead city staff person should be identified who is able to set aside sufficient time to manage the count effort. Many communities seek volunteers to do the counts. It is recommended that the City follow the National Bicycle and Pedestrian Documentation Project (NBPDP) methodology, which recommends counts in September. The advantages of starting with the NBPDP approach is that a) count forms, training materials and instructions are ready for use and b) the results can be compared with communities around the U.S.

1. Trail and Bikeway Counts

User Counts

Annual or semi-annual counts: The City should consider participating in the annual National Bicycle and Pedestrian Documentation Project. This will help to better estimate existing and future bicycle and pedestrian demand and activity. This nationwide effort provides consistent model of data collection and ongoing data for use by planners, governments and bicycle and pedestrian professionals. Annual counts are normally conducted in mid-September. Additionally a second set of counts, possibly in April, could be conducted at the same locations and time period of the September counts to better understand seasonal fluctuation in the number of cyclists.

Day long counts: The City should conduct day long (sunrise to sunset) counts at selected locations to better understand the off-peak user patterns and to accurately identify the peak user time of day. This data can reveal the recreational and utilitarian usage of the bikeways in the city.

Counts at high crash location: At locations identified as having experienced greater than normal crashes with motor vehicles the City should conduct bicycle user counts. These counts can provide data to help in the determination of the greater than normal crash rate. Evidence has shown that as ridership increases, crash rates decrease. It has been speculated that this can be attributed to the expectation of cycling activity.

Permanent count locations: Permanent, automated bicycle count locations can be established where the City would like to record daily bicycle use. The location selected can be based on the type of target user group such as commuters, recreational, utilitarian and students. The information gathered can be used in determining commute mode-share, provide a fuller understanding of variation of use by time-of-day,

season, weather and special events and provide supporting evidence of the change in use of the targeted facility.

- Consider day-long counts at along key corridors to determine daily citywide use.
- Consider counts along high crash corridors without existing bicycle facilities to determine current level of use.
- Conduct annual or semi-annual counts at selected locations on bikeways and multi-use trails across the city.

2. Crash Data Collection & Analysis

The detailed crash analysis presented in this report should be repeated every few years to identify high crash locations and solutions to improve safety for non-motorized transportation users. This could be done as a part of a periodic bikeway and multi-use trails 'report card' that documents relevant metrics, including new bikeway miles, new trails and crossings, major completed projects, number of bicycles and other trail users, crash analysis, user satisfaction, public perception of safety, etc. This periodic review could be used to create updates to the *Bikeways and Trails Facility Plan* that can tune the plan's implementation strategies to respond to changing safety, walking and bicycling patterns.

The City should consider education or enforcement programs that address specific causes of crashes involving bicycles and other non-motorized transportation users. The most frequent type of crashes were instances where a car hit a bicycle at an angle

The City should consider a detailed analysis of conditions along top crash corridors and at top intersections. This analysis should help the city determine whether the higher numbers of crashes are related to difficult conditions or higher numbers of cyclists using the corridor.

The majority of reported bicycle crashes have occurred on major roadways with four to six travel lanes, no dedicated bicycle facilities, and posted speeds of at least 35-mph. Future roadway design and corridor retrofit of these corridors should focus on increasing safety through increased separation and enhanced crossing treatments.

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- The city should consider education or enforcement programs that address specific causes of crashes involving bicycles and other non-motorized transportation users. The most frequent type of crashes were instances where a car hit a bicycle at an angle.
- The City should consider a detailed analysis of conditions along top crash corridors and at top intersections. This analysis should help the city determine whether the higher numbers of crashes are related to difficult conditions or higher numbers of cyclists using the corridor.
- The majority of reported bicycle crashes have occurred on major roadways with 4 – 6 travel lanes, no dedicated bicycle facilities and posted speeds of at least 35 mph. Future roadway design and

corridor retrofit of these corridors should focus on increasing safety by through increased separation and enhanced crossing treatments.

3. Survey

The City should consider conducting a survey of the bicycle and trail users. This survey could be led by a local advocacy organization under the direction of the City. The survey results could be used to evaluate the City's progress and identify areas of concern and evolving needs of the users.

- Consider programs to increase bicycle parking at high priority locations across the city.
- Continue and when possible expand education, encouragement and enforcement programs. Target these programs to key groups that are under-represented in the city's current cycling demographic including women and groups that would benefit from education such as school age children.
- Consider placing high priority on filling gaps in the multi-use trail network.

E. Funding

1. State and Local Sources

New Mexico Department of Transportation

The Department of Transportation provides funds to match Federal-aid projects on New Mexico and U.S. highways within Albuquerque.

New Mexico Legislature

During its annual legislative sessions, funds can be provided for bicycle projects through special appropriation bills (e.g., capital requests or memorials).

2. Local Sources

Capital Implementation Program (CIP)

Funding for capital improvement projects is provided through the General Obligation (GO) bond program and Urban Enhancement Trust Fund (UETF). Both the City of Albuquerque and Bernalillo County have set aside 5% of the Public Works Streets portion of their GO bonds to be used exclusively for bicycle projects, beginning in 1995. The City set aside is equally distributed between the on-street (2.5%) and trails (2.5%) programs. The GO bonds are obligated in 2-year cycles, generating \$600,000 for the on-street system biennially. Additional monies from the CIP (e.g., major pavement rehabilitation or specific roadway construction projects) may be used for bicycle projects. On-street bikeways will be incorporated into new roadway construction and street rehabilitation/resurfacing projects wherever feasible.

Gross Receipts Tax

A 1/4-cent gross receipts tax for fixing existing streets, building new roads, expanding transit and constructing bikeways/trails was approved by voters in 1999. A set percentage (4%) of this revenue, or \$1.65 million biennially, is earmarked for trails used for both commuting and recreational travel; however, no dedicated funds were specifically identified for on-street bikeway improvements.

Land Development

There also exists an opportunity to work with the private sector to implement bicycle projects. This is accomplished through right-of-way dedications, infrastructure improvements and/or impact fees. Impact fees are deposited to the City's General Fund, which is allocated through the CIP and GO Bond Process.

F. Summary of Implementation Actions

The following matrix lists the actions that the City will complete to implement this *Bikeways and Trails Facility Plan*. The actions are grouped according to work that is currently ongoing, and a part of our standard practice today. The other sections classify future actions or projects as Short-Term, Mid-Term, and Long-Term.