

Bicycle-Friendly Cities: Key Ingredients for Success

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What makes a city bicycle-friendly? How can a city become more bicycle-friendly? Seattle has twice been voted the best city for bicycling in the United States. Other cities renowned for bicycling have similar characteristics that distinguish them from cities considered less conducive to bicycling. A detailed survey of bicycle professionals has been carried out, and the criteria for judging the 10 best cities for bicycling were researched. Three key ingredients for success are identified, and their applicability to cities across the United States and elsewhere is explored.

More new bicycles are sold each year than new cars; 93 million U.S. residents enjoy bicycling, most of them adults (1). A recent opinion poll carried out by the Harris organization on behalf of *Bicycling* magazine reported that although only 1 person in 60 in the United States currently commutes by bicycle, that figure could rise to 1 in 5 if conditions were more favorable (2). *Outside Business* magazine in February 1991 rated the six "hottest" sports for the 1990s: mountain bicycling was top, and bicycle touring was fourth. Tandem cycling was first in the "what's next" category (3).

Interest in bicycling is high at the federal level. FHWA appointed a bicycle program manager in 1990, and the Office of the Secretary of Transportation followed suit in 1991. FHWA and the U.S. Department of Transportation are involved in a 2-year, \$1 million National Bicycling and Walking study. FHWA has been actively promoting bicycling through its regional and district offices with a series of publications and policy memorandums from the FHWA Administrator.

Many bicycle-specific bills have been introduced into Congress over the past 2 years; they range from general expressions of support for bicycling to proposals for guaranteeing levels of funding for bicycle and pedestrian facilities and requiring the installation of bicycle parking at all federal office buildings.

State, county, and city agencies are showing a similar level of interest. For some, bicycling is an opportunity to reduce single-occupant vehicle use. For others, bicycling is an integral part of the transportation system, or a desirable recreational and environmental policy to pursue. Cities struggling with congestion, new clean air mandates, and dwindling resources for new construction and maintenance are increasingly looking at bicycling, walking, and other transportation demand management strategies for salvation.

Whatever the reason for individual or organizational interest in bicycling, some communities are regularly portrayed as models for others to follow. A glance through the literature shows the following states and cities cited for frequent praise:

Bicycle Federation of America, 1818 R Street, N.W., Washington, D.C. 20009.

California, Minnesota, New Jersey, North Carolina, Ohio, and Oregon; and Davis, Palo Alto, and San Diego, Calif.; Boulder, Colo.; Gainesville, Fla.; Eugene and Portland, Oreg.; Arlington, Va.; Seattle, Wash.; and Madison, Wis.

WHICH CITIES ARE BEST FOR BICYCLING?

These cities may not have the highest levels of bicycle use, but they are always singled out as being among the most bicycle-friendly cities in the United States (4). For example, in 1988 and 1990 *Bicycling* magazine published a list of the top 10 cities for bicycling (5,6). The results were as follows:

- 1988
 - Seattle, Wash.
 - Missoula, Mont.
 - Eugene, Oreg.
 - Washington, D.C.
 - Indianapolis, Ind.
 - Ann Arbor, Mich.
 - Bloomington, Ind.
 - Calgary, Alberta
 - Redmond, Wash.
 - Palo Alto, Calif.
- 1990
 - Seattle, Wash.
 - Palo Alto, Calif.
 - San Diego, Calif.
 - Boulder, Colo.
 - Davis, Calif.
 - Gainesville, Fla.
 - Eugene, Oreg.
 - Montreal, Quebec
 - Madison, Wis.
 - Missoula, Mont.

In the 1990 survey, honorable mentions were also given to Ann Arbor, Mich.; Arlington, Va.; Minneapolis, Minn.; Toronto, Ontario; and Calgary, Alberta.

A 1989 survey by the League of American Wheelmen rated the performance of states in relation to bicycle policies, rules, and regulations. The top five states were Arizona, California, Oregon, Ohio, and Florida (7): an increasingly familiar list.

This paper identifies why these communities are so identified with probicycling programs and policies, what makes them different from other states and cities, and, more important, what other states and cities can do to make themselves more bicycle-friendly.

THREE KEY INGREDIENTS OF SUCCESS

When representatives of the bicycle industry, bicycle user groups, trade and consumer magazines, and government agencies met to discuss this question in 1989, a clear train of thought emerged (8).

First, they acknowledged that increasing the level of bicycling—for transportation and for recreation—is a desirable social, economic, and environmental goal, but that it will not happen as long as people believe that there are too few safe places to bicycle. More people would bicycle if they felt safer doing so.

Bicycling takes place primarily on the highway system or in parks and recreation areas controlled by government. Government action—or inaction—determines the quality of the bicycle riding environment. In almost all the places where bicycling is popular—such as those places listed—the city or state has an active bicycle program. An active bicycle program usually comprises three key ingredients:

1. A full-time bicycle program manager,
2. Supportive politicians and professionals within government agencies, and
3. An active and organized citizenry, usually exemplified by the presence of a bicycle advisory committee.

Bicycle Program Manager

In 1990 the Bicycle Federation of America (BFA) surveyed more than 250 government agency staff members at the federal, state, and local levels who work on bicycle issues. More than 120 completed surveys were returned, 34 (29 percent) from people with the title of bicycle coordinator or bicycle program manager. Five more respondents had full-time positions devoted solely to bicycle issues but were not actually called bicycle coordinators (9).

Two-thirds of the respondents were in the engineering, transportation, or planning departments of their government agencies. This is important because the vast majority of bicycling does and will continue to take place on the highway system, which is shared with other vehicles. Locating bicycle program managers in the engineering or transportation department gives them the best access to information and input to the design and implementation of projects directly affecting the quality of the places in which people ride bicycles.

Eight of the top 10 cities for bicycling in 1990 have bicycle program managers; of the two that don't, one has just recently ended a full-time position. Seattle has a bicycle and pedestrian program staffed with six full-time positions, and neighboring King County also has a full-time Roadshare Program manager. The city and county of San Diego both have full-time positions, and the city of Boulder maintains two full-time positions.

The most productive results have come from full-time positions. Some agencies—the majority in the 1990 BFA survey—give to a staff person the title or responsibilities of a bicycle program manager but allow them to spend only 10 percent or less of their time on the job. Such an allocation of time makes it difficult to carry out many of the essential functions of a bicycle coordinator.

A bicycle program manager should review all capital improvement projects, traffic plans, development proposals, and comprehensive plans affecting bicycle access and safety. Most important, the manager should develop policies, regulations, and guidelines that institutionalize the development of designs and plans to include bicyclists as a matter of course. As employees learn to implement the policies, regulations, and guidelines, the manager should need to spend less time on the review process.

In the short term, however, a major function of managers is to ensure that the government agencies in which they work incorporate bicycling into all transportation projects and that projects are not approved if they make bicycling more difficult, or impossible.

The bicycle program manager should also be able to advise on the planning and design of specific bicycle facilities—as a part of larger highway and site designs and as independent bicycle facilities such as bicycle parking and special intersection designs. Often jurisdictions like to have specific bicycle plans, or bicycle elements in their planning documents, for which the bicycle program manager will be responsible.

The BFA survey of bicycle program specialists revealed other key functions. Sixty-five percent of respondents stated that “coordination” was a major emphasis of their work. “Information flow” was mentioned by 52 percent, and 35 percent included “communication.” Bicycle program managers perform a coordinating and technical assistance function within their agencies, spreading information and advice on bicycle-related issues, both technical and general, to their colleagues.

The survey asked respondents to check the activities on which they had devoted time in the previous 12 months. The most popular answers were policy development (69 percent), facility design (63 percent), comprehensive planning (62 percent), and facility planning (61 percent). The activity most frequently mentioned by full-time bicycle program managers was dealing with the media and publicity activities. Full-time staff were more likely to be involved in highway project and site and subdivision review. In general, answers to this question were encouraging, because it would appear that bicycle program specialists spend most of their time on tasks for which they are uniquely qualified, trained, and positioned to undertake: planning, policy development, facility design, and highway project review. They do not spend a lot of time teaching bicycle safety or enforcement activities, which, although important, should be the responsibility of other departments or agencies, or even of volunteers.

Supportive Politicians and Professionals in Government Agencies

One bicycle program manager in a large highway department of hundreds or thousands of employees can get lost quickly. One of the greatest challenges of bicycle program staff, therefore, is to generate support for their activities, and to persuade, train, and require their colleagues to work toward the same aim—that of creating more safe places to ride.

In most cases, highway engineers and planners are not opposed to that idea, but they have never been given the encouragement, advice, or technical information on how to accommodate bicyclists in the highway system. A draft survey

of bicycle and pedestrian education courses in U.S. universities in 1990 revealed that only 1 percent of university engineering courses offer a separate course in bicycle and pedestrian transportation (10). Forty percent of respondents reported that they offer some bicycle material in their courses, but the average time given was just 1.5 h.

There are many ways in which the bicycle program manager (or other interested individuals and organizations) can start to reverse this process and make engineers and planners more comfortable with the notion of providing for bicycles.

- Circulate interesting magazines, newsletters, articles, and technical papers related to bicycling.
- Write articles for internal agency magazines and newsletters on the work of the bicycle program or on bicycle planning and engineering in general.
- Present different aspects of planning for bicyclists informally at staff meetings or over a bag lunch.
- Organize in-house training through the personnel department.
- Arrange training courses (from ½ day to 3 days in length) to be run by outside organizations.
- Encourage attendance at major bicycle conferences.

Just as important as the lack of formal bicycle-related training for most engineers and planners is that few of the regulations, guidelines, or policies within which they operate require them to consider bicycles. For example, most communities have zoning ordinances requiring a minimum number of automobile parking places in new developments. Very few require a minimum level of bicycle parking, and so no one thinks to include space for bicycle parking.

There are certain key public documents (plans, policies, and standards) that are essential to all levels of government. By changing these basic documents, a bicycle program manager can ensure that bicycling is considered at the earliest stages of all planning and development projects.

Highway Design Guides

Most government agencies involved in highway construction and design have standards, guidelines, or policies to be followed. Agencies may adopt standards used by others, such as another state, or a national professional association, such as ITE. Other agencies will develop their own technical documents, and these will be revised on a regular basis. A bicycle program manager should discover which documents are being used and when they are to be revised. At that time, they can provide comments on and additions to the document to better reflect the needs of bicyclists. AASHTO has a bicycle facilities handbook that many state and local agencies have adopted as their standard (11). Florida (12), New Jersey (13), Minnesota (14), and North Carolina (15) are among the states with their own design guides for bicycle facilities.

Planning Documents

All units of government engage in long- and short-range planning, and it is essential that these documents incorporate full

consideration of bicycling. During the 1970s it was common for states and cities to develop special bicycle master plans, most of which are gathering dust on government office shelves. Although these special bicycle plans can serve a valuable purpose, particularly in providing direction and focus to a bicycle program, it is usually more important to have bicycle programs, policies, and projects integrated into larger community plans. As a stand-alone document a bike plan can be isolated, marginalized, or ignored by the rest of a government agency. Nevertheless, Oregon (16), Florida (17), Minnesota (18), and Dallas (19) provide excellent examples of individual bicycle plans and program documents that work.

Other Ordinances and Regulations

Bicycle program managers need to know when state implementation plans, growth management plans, street maintenance schedules, zoning ordinances, and a host of other documents are being developed so that they can add in consideration of bicyclists' needs.

Building Political Support

Ensuring that the bicycle program has frequent, small, visible successes and products—such as parking stands, pothole repairs, signal and sign repair and replacement, lighting improvements, maps, safety brochures and publications—helps maintain a high profile, both within the agency and externally. In turn, this enables politicians to show progress and to feel good about the program.

With these small successes, support can be garnered for more ambitious projects, such as including space for bicyclists in a bridge replacement project or highway improvement and in the ongoing battle for funding.

The success of this second element of an active bicycle program can be most rewarding and effective, as evidenced by many of the top 10 cities for bicycling. The city of Seattle spends up to \$5 million each year on improvements for bicyclists, ranging from pothole repairs to major bridge renovations that incorporate bike lanes costing hundreds of thousands of dollars a mile.

In Palo Alto every new development (retail, business, and domestic) incorporates a minimum level of bicycle parking, both lockers and short-term parking stands. Resurfacing, patching, and locating metal plates in the street all take into account the need for a smooth surface for bicyclists. Metal plates, for example, must be surrounded with asphalt to remove the sharp edges and severe bumps.

The integration of bicycles with transit systems in San Diego; Arlington, Va.; and Montreal, Quebec, results from strong institutional and political support for bicycling. Progress in Portland and Eugene has been made possible by the commitment of funds and staff at the state level as well as at the city level. Florida has helped create bicycle programs in every metropolitan area in the state, and millions of dollars a year are spent in making state highways safe and accessible to bicyclists, according their highway design standards.

Active Citizens and a Bicycle Advisory Committee

The third key ingredient necessary to make a city or state bicycle-friendly is an active local bicycle community, including more general neighborhood activism and citizen involvement in government.

The bicycle community has developed a valuable structure for encouraging participation in government through bicycle advisory committees (BACs) or task forces. The 1990 BFA survey of bicycle program specialists revealed that more than half the respondents had some kind of relationship with a BAC, and almost all the best cities for bicycling have such bodies.

BACs are traditionally made up of volunteers, not necessarily all of whom come from bicycle groups. They provide input into the government process, work on bicycle-related issues within the community, activate other volunteers, and provide some vision and direction to the work of the bicycle program. (BACs may be structured so as to include mostly government agency personnel meeting to coordinate the efforts of different government agencies.)

Some common activities of a BAC (which typically comprises 6 to 10 members who meet monthly) include the following:

- Reviewing and commenting on planning documents and policies;
- Developing policies and guidelines on bicycle issues;
- Implementing community-based activities such as education programs, maps, publications, and bicycle events;
- Identifying the needs and concerns of bicyclists and the opportunities for bicycling in the community;
- Recommending and implementing programs involving the private and nonprofit sectors—such as bike-to-work promotions; and
- Reviewing the annual workplan of the bicycle program and developing their own list of priority projects.

The involvement of citizens through a BAC has distinct benefits. First, the decisions and actions of the BAC are more likely to reflect a balance between the enthusiasm and ideals of citizen members and the realism and attention to practical details of government employees. Second, working together educates all involved as to the views and constraints under which each must operate. Citizens, in particular, are better able to understand how government works as a result. Third, the BAC may be able to ask for, and say, things that government employees cannot. The BAC provides an official channel for citizen comment and requests. Fourth, a BAC provides continuity and permanence in the face of personnel changes. For example, in Eugene, Oregon,

the presence of a regular committee with a body of wisdom shared by the continuing members provides a buffer against these losses [of staff]. The program need not die and have to be re-started, and replacements are more quickly trained. Under the guidance of the committee three bicycle coordinators [in 10 years] gained their stripes and two traffic engineers learned to think bicycles. (20)

The value of citizen involvement is certainly not confined to a BAC. Indeed, BACs are often the result of citizen pres-

sure for government action on bicycle issues. The highly successful Florida bicycle program was created after citizens persuaded Governor Graham to form a task force, which in turn recommended the appointment of a full-time bicycle coordinator, back in 1979–1980.

In Seattle the bicycle community helped in securing passage of a \$33 million bond issue for open space preservation and trail development that will finance parts of the growing bike network in the city and neighboring King County.

Citizens in San Diego have worked hard to preserve the position of the bicycle coordinator and have generated two excellent technical reports on the location of bicycle parking (21) and the installation of bicycle-sensitive traffic signals (22).

CONCLUSIONS

1. Three clearly identifiable and common ingredients make up a successful bicycle program:

- A full-time bicycle program manager,
- Supportive politicians and professionals in government agencies, and
- An active and organized citizenry, usually exemplified by the presence of a BAC.

In states and cities with active and successful bicycle programs, real progress is being made toward the creation of bicycle-friendly communities in which large segments of the population will feel comfortable, willing, and able to ride bicycles for both transportation and recreation.

2. The existence of all three elements simultaneously is not necessary for success, and it is not possible to say which is the most important element. Palo Alto, for example, has not had an official bicycle program manager but has done more than most communities to improve conditions for bicyclists. The city does have good citizen involvement and a responsive government. Similarly, Montreal does not have a formal BAC, but it does have an active citizenry and the other two elements. Gainesville has not had a bicycle coordinator for 2 or 3 years, but it is still a good place for bicyclists.

3. Conversely, many communities do have one or more of the three key ingredients, but have not experienced the same degree of success as places such as Madison and Boulder. The three ingredients are not guarantees of success.

4. In all of the places best known for being bicycle-friendly, and in places with one or more of the key ingredients, there remains much to be done to fully integrate bicycling into the transportation system. They may have achieved more than Detroit, Mich., or Hutchinson, Kans., but there is still a long way to go.

5. There are no hard and fast rules about how to implement or create a successful bicycle program containing these key ingredients. Bicycle program manager positions have most often been created by transportation departments without the need for specific legislation or mandate. However, many positions so created are part time and less likely to generate substantial change. Most of the full-time and more successful positions have been created by legislation or executive order of a governor or mayor.

New federal legislation proposed by U.S. Representatives DeFazio and Oberstar would require each state to appoint a bicycle and pedestrian coordinator (23)—but no such mandate is possible to make whole government agencies more receptive to bicycling.

6. Highway and transportation agencies are continually having to deal with new issues and new pressures, ranging from fresh environmental mandates to telecommunity, transportation demand management programs, and intelligent vehicle-highway systems. The way in which bicycle programs have been able to develop and become institutionalized within agencies provides useful guidance and experience for upcoming issues.

This is particularly true for pedestrian issues, for which many of the problems faced by bicyclists and pedestrians are the same: institutional neglect, lack of funding, and lack of safe places to walk. The ways to overcome them may also be similar, and in a few short years most transportation agencies may have both a bicycle and pedestrian program manager working with citizen advisory groups to make U.S. communities more bicycle- and pedestrian-friendly.

REFERENCES

1. *Bicycling Reference Book, 1991-1992*. Bicycle Institute of America, Washington, D.C., 1991, p. 43.
2. *A Trend on the Move: Commuting by Bicycle*. Rodale Press, Emmaus, Pa., 1991.
3. The Six Hottest Sports. *Outside-Business*, Feb. 1991, p. 52.
4. *A Comparison of Bicycle Usage in Eugene-Springfield and Other Communities*. Lane Council of Governments, May 1984.
5. J. C. McCullagh. 10 Best Cycling Cities. *Bicycling*, Nov. 1988.
6. S. Martin. The 10 Best Cities for Cycling. *Bicycling*, April 1990, pp. 61-73.
7. *Rate the States*. League of American Wheelmen, Baltimore, Md., 1989.
8. *BIA News*. Vol. 2, No. 1, Bicycle Institute of America, 1990.
9. *Bicycle Program Specialist Survey, 1990*. Bicycle Federation of America, Washington, D.C., 1990.
10. M. Elliott. *Human Powered Transportation Education in U.S. Universities*. Draft report. Arizona, 1991.
11. *Guide to the Development of New Bicycle Facilities, 1981*. AASHTO, Washington, D.C., 1981.
12. *Bicycle Facilities Planning and Design Manual*. Florida Department of Transportation, Tallahassee, 1982.
13. *Bicycle Compatible Roadways*. New Jersey Department of Transportation, Trenton, 1982.
14. *Bikeway Design Manual*. Minnesota Department of Transportation, St. Paul, 1983.
15. *Bicycle Program*. State of North Carolina, Raleigh.
16. *Bicycle Master Plan*. Oregon Department of Transportation, Salem, 1988.
17. *Bicycle Sketch Plan*. Florida Department of Transportation, Tallahassee, 1989.
18. *Plan B: Letting Bicycling Work for Minnesota*. State Bicycle Advisory Board, St. Paul, Minn., 1991.
19. *1985 Dallas Bike Plan*. Dallas Bicycle Program, Texas, 1985.
20. *Bicycles in Cities: The Eugene Experience*. Department of Public Works, Eugene, Oreg., 1981.
21. *Bicycle Parking Location Criteria*. San Diego Bicycle Coalition, California, 1987.
22. *Traffic Signal Bicycle Detection Study*. Final report. San Diego Association of Governments, California, 1985.
23. H.R. 2267 and H.R. 2869, 102nd Congress (1991).

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