OKI Regional Bicycle Plan

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OHIO-KENTUCKY-INDIANA REGIONAL COUNCIL OF GOVERNMENTS (OKI)

REGIONAL BICYCLE PLAN

EXECUTIVE SUMMARY

The OKI Regional Bicycle Plan is a component of the region's multi-modal Regional Transportation Plan. The Regional Transportation Plan contains a summary of the existing bicycle facilities and of the recommendations for improving cycling conditions in the region. Towards this end, **it is the vision of the Regional Bicycle Plan that vehicular travel by bicycle become an integral mode of travel, both by its inclusion in OKI's regional transportation planning process, and by its consideration as a choice for trip-making by residents of the OKI region.**

The goals of the plan are stated as follows:

GOAL 1: Develop a regional bicycle system that is integrated with other transportation systems.

GOAL 2: Promote an active and supportive bicycle culture in the Cincinnati region.

GOAL 3: Secure adequate funding for bicycle improvements in the region.

GOAL 4: Encourage and support bicycle safety, education and enforcement programs.

A recognized guide for the design of bicycle facilities is published by the American Association of State Highway and Transportation Officials. This guide contains the statement that "The majority of bicycling will take place on ordinary roads with no dedicated space for bicycles." It further states that "All highways, except those where bicyclists are legally prohibited, should be designed and constructed under the assumption that they will be used by bicyclists".

Consequently, many of the recommendations of this plan are oriented toward improving the region's road system so that the streets can more safely be shared by bicycles and motor vehicles. Recommended improvements, where needed, may vary from signed bike routes, to wide outside lanes or paved shoulders, to striped bike lanes. Particular attention is also directed at improving bridges and viaducts, as these facilities are replaced less often. Bicycles can also augment transit usage. Therefore, the plan recommends bike racks on buses and improvements to roads serving transit centers. Recommendations also address protected and secure bicycle parking.

A major catalyst for the growth of bicycling in the region is the growing network of shared use paths which include the Little Miami Scenic Trail, The Great Miami River Trail, the Mill Creek Greenway, the Ohio River Trail, the Kentucky River Path and Shaker Trace. The construction, extension and connection of these trails is encouraged. Although primarily used for recreational trips currently, their value for utilitarian travel will increase as they are extended through and connected to population centers.

The Regional Bicycle Plan recognizes that progress made towards implementing these recommendations must come through initiatives of the local governments in the region. These entities have the responsibility for the construction and maintenance of the street system and the authority to initiate funding applications for such purposes that include bicycle facilities. Changes in federal policies governing the use of federal highway funds, first in ISTEA and now in SAFETEA-LU, mandate the inclusion of bicycle and pedestrian facilities for new and rehabilitation projects, and, furthermore, provide the flexibility in the use of these funds to achieve these goals.

The OKI Regional Bicycle Plan was prepared by the OKI staff with the guidance of an advisory committee comprised of area cyclists, state and local transportation engineers, planners and local

officials.

OKI REGIONAL BICYCLE PLAN

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Photographs used in this report are by OKI staff

Chapter 1
BICYCLE USE IN THE CONTEXT OF REGIONAL TRANSPORTATION

The vision of this program is the creation of a changed transportation system that offers not only choices among travel modes for specific trips, but more importantly presents these options in a way that they are real choices that meet the needs of individuals and society as a whole.

FHWA Guidance – Bicycle and Pedestrian Provisions of Federal Transportation Legislation

Regional transportation planning has undergone changes in several respects that have favorably influenced bicycle use for transportation.

One aspect has been increased concern about the relationship between travel and the distribution of activities to be connected (land use). Development patterns, resulting from reliance on automobile travel, have spread out residential, work and commercial activities causing excess consumption of land, connecting infrastructure and the energy needed to travel between activities. A consequential transportation issue being dealt with is the degradation of the region's air quality to the extent caused by motor vehicle emissions.

Another change has been the ability to handle increasingly more data to analyze travel demand and the impact of alternative solutions within the constraints of system capacity, air quality standards and potential funding.

A result of both of these changes is a greater inclusiveness in the modes of travel considered in the regional transportation process of moving people and goods. Notably, greater consideration is being focused on non-motorized modes of travel, including bicycling and walking. Walking has always been a component at either end of most vehicular trips as a link between the vehicle and the desired activity location. This component of vehicular trips, and trips made solely by walking, are not included in most travel demand modeling.

Bicycling trips are similarly left out of travel demand modeling in part because of the small share of trips made by bike, the exclusion of bicycles from vehicle counts and because many bike trips now occur on pathways that are not part of the roadway system.

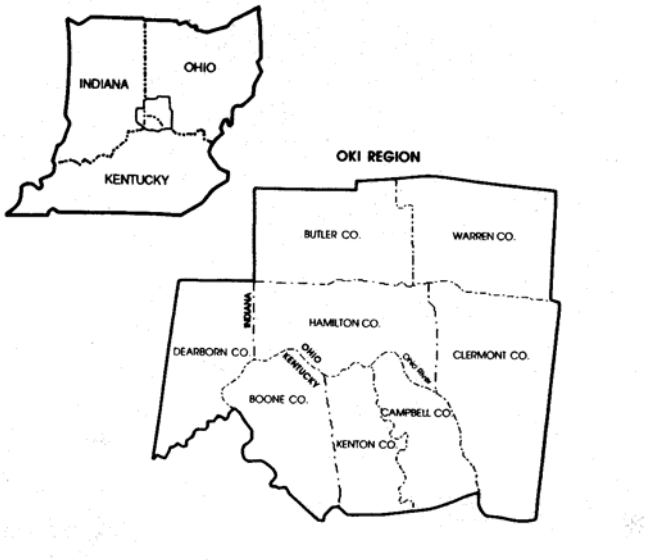
It is the vision of this Regional Bicycle Plan that vehicular travel by bicycle become an integral mode of travel both by its inclusion in OKI's regional transportation planning process, as well as by its consideration as a choice for trip-making by residents of the OKI region.

This plan represents an incremental step towards this vision. It represents an update of the plan prepared in 2001 as well as a continuation of bicycle-specific planning begun by OKI in 1976. This report is also the source of those recommendations for bicycle transportation included in the 2008 Regional Transportation Plan update occurring as this report is prepared.

The plan documents progress made towards past goals for the region and progress made in the practice of bicycle facility planning (although not necessarily incorporated locally as yet). It considers the following:

- Bicycle use by trip purpose: recreation vs. transportation (work/school, shopping, errands and social visits)
- Characteristics of cyclists for planning purposes
- Current guidelines and standards for selecting bicycle facilities
- Roadway characteristics conducive to bicycle safety and use
- Comments of the users and providers of the region's bicycle facilities
- National, state and local policies mandating consideration of bicycle facilities
- Funding resources for bicycle facilities and related services
- Bicycle use in relationship to transit
- Bicycle use as a contribution to achieving regional air quality standards
- Resources for encouraging bicycle use for transportation trips
- Resources for educating motorists and cyclists in safe roadsharing

The past decade has seen remarkable progress towards accepting and encouraging bicycle use in the OKI region. The success of the Little Miami Scenic Trail, a rail-trail conversion project of national significance, has gotten people on bikes and increased local demand for more and safer cycling conditions. Simultaneously, national transportation policies (SAFETEA-LU) have provided a mandate and funding to follow through with the means for integrating bicycling as a component of the regional transportation system. The OKI planning region includes the following tri-state counties as shown below: Butler, Clermont, Hamilton and Warren Counties in Ohio; Boone, Campbell and Kenton Counties in Kentucky; and Dearborn County, Indiana.



Chapter 2
SUMMARY OF CURRENT CONDITIONS

"For the city bike to catch on we need a revolution in our society's infrastructure. Right now a city rider needs to be a road warrior, and the bike needs to be cheap and ugly so it won't get stolen. That's not a bike-friendly culture."
- Gary Fischer, Founding Father of Mountain Bikes

CYCLING ACTIVITY

It is difficult to document cycling activity, particularly for transportation purposes, as there is no regular program for counting bicycles as with motor vehicles. Available data does include the following:

Decennial Census – Journey to Work

The 2000 Census[1] documented mode of travel for work trips including bicycle. The specified mode is that used most often for the reference week. Although the reference week was the last week of March, when weather conditions may not be favorable to cycling, the Census nonetheless recorded 1,164 bicycle commuters (0.13 percent of the total commuters) for the eight county OKI region. Numerically, this represents a 40% increase over 1990 (832). The 1980 count of bicycle commuters was 784, so there was a 6% increase by 1990. Despite this increase in bicycle commuting, the proportional share of bicycle commuters, 0.1%, has not significantly changed over this time because of the increase in the total number of commuters. Within the City of Cincinnati, 0.2% of the commuters traveled by bike in 2000. The largest concentration of bicycle commuters in both number and percent share, around 3%, is the Oxford / Miami University area (the census sampling does not include dormitory population). Nationally, the percent of bicycle commuters surveyed in the decennial census has been stable over the past three censuses: 1980 – 0.5%, 1990 – 0.4% and 2000 – 0.4%. However, over this time there has been a 20% increase in the number of bicycle commuters.

US Department of Transportation

The U.S. Dept. of Transportation, National Highway Traffic Safety Administration prepared the 2002 National Survey of Pedestrian and Bicyclist Attitudes which reported that 27.3% of the population 16 or older rode a bike at least once in the 30 days preceding the survey. Applying this rate to the 2000 OKI population provides an estimated 413,000 riders. The same survey found that 34% of the males and 21.3% of the females biked, and 27.8% of the non-Hispanic white, 22.5% of the non-Hispanic black and 29.4% of the Hispanic population biked.[2]

The U.S. Department of Transportation, Bureau of Transportation Statistics periodically surveys households and individuals regarding trips of all types taken on both a daily basis, and for long distance travel. The National Household Travel Survey (NHTS) was last taken in 2001 and, at the national level, provides data for a variety of trip purposes by mode of travel. For lack of local data, the following findings in Table 2.1 for daily trips may be considered representative of local patterns[3] Also, from the NHTS:

- 88% of persons 15 years of age and over are licensed drivers.

- On the average, households have 1.8 drivers and 1.9 personal vehicles.
- 8% of the households have no personal vehicle (OKI: 9.8% of households from the Census).
- Individuals average 4 trips per day totaling 40 miles.
- Walking was the second most frequent mode of travel (9%) after personal vehicles (87%). Bicycle trips were 0.9% of the total (last).
- 45% of daily trips by all modes were for personal and family reasons, 15% were commuting to work.
- 0.48% of the work trips were by bicycle (OKI: 0.13% from the 2000 Census).

Figure 2.1 presents NHTS daily travel data for trip purpose by mode of travel. This shows how selected modes compare for different types of trips. Bicycling trips, shown to comprise nearly 0.9% of all trips, are primarily for social and recreational purposes (53%) followed by visiting friends and relatives (15%), and family/personal business (9%). The large recreational component likely reflects cycling for physical fitness. Eight percent of all cycling trips are to go to or from work, while 0.5% of all trips to or from work are by bike. To or from work was the fourth most common trip purpose for both car/truck (16%) and bike (8%). The dominance of car/truck travel, 87% of all trips, is shown in the similar percentage distribution in the trip purposes by all modes.

Figure 2.1 2001 National Household Transportation Survey
(travel day person-trips in millions/selected trip modes)

Trip Purpose	Walk		Bicycle		Local Transit		Car/Truck		Other Modes		All Modes	
	#	%	#	%	#	%	#	%	#	%	#	%
To/From Work	1,790	5.1%	290	8.2%	1,187	28.9%	55,674	15.8%	1,952	12.4%	60,893	14.8%
Work-Related Business	453	1.3%	17	0.5%	96	2.3%	9,666	2.7%	1,485	9.4%	11,717	2.9%
Shopping	4,714	13.3%	195	5.5%	694	16.9%	73,455	20.9%	657	4.2%	79,715	19.4%
Family/Personal Business	7,596	21.5%	304	8.6%	535	13.0%	84,999	24.1%	1,452	9.2%	94,886	23.1%
School/Church	3,508	9.9%	224	6.4%	600	14.6%	29,133	8.3%	6,755	42.9%	40,220	9.8%
Medical/Dental	250	0.7%	4	0.1%	271	6.6%	8,165	2.3%	173	1.1%	8,863	2.2%
Vacation	467	1.3%	72	2.0%	17	0.4%	1,906	0.5%	213	1.4%	2,675	0.7%
Visit Friends/Relatives	4,045	11.5%	520	14.8%	292	7.1%	26,805	7.6%	607	3.9%	32,269	7.9%
Other Social/Recreational	11,954	33.8%	1,874	53.2%	368	8.9%	59,678	16.9%	1,905	12.1%	75,779	18.4%
Other	341	1.0%	8	0.2%	21	0.5%	1,615	0.5%	265	1.7%	2,250	0.5%
N/A	214	0.6%	15	0.4%	33	0.8%	1,124	0.3%	275	1.7%	1,661	0.4%
Refused	5	0.0%	0	0.0%	0	0.0%	27	0.0%	7	0.0%	39	0.0%
All	35,326	100.0%	3,522	100.0%	4,114	100.0%	352,246	100.0%	15,746	100.0%	410,969	100.0%

Notes: "Car/truck" is the sum of Car, Van, SUV and Pickup truck assuming all are used as household vehicles. "Other modes" included in this table include Other truck, RV, Motorcycle, Commercial/charter airplane, Private/corporate airplane, Commuter bus, School bus, Charter/tour bus, City to city bus, Amtrak/intercity train, Commuter train, Subway/elevated rail, Street car/trolley, Ship/cruise, Passenger line/ferry, Sail/motor boat, Taxicab, Limousine, Hotel/airport shuttle, Other.

Rodale Press Survey

The most recent "Pathways for People" survey by Rodale Press was in 1995. Among their findings were that 37% of those surveyed had ridden a bicycle in the past year. Of those, 55% had not ridden in the previous month, and 12% had ridden 10 or more times. "Driving alone" was the primary means for travelling for work and errands, 76%, while bicycling was reported by 2%. Given the existence of "good facilities" for all modes, preferences changed to 56% driving alone and 6% would bike. Of those who have ridden a bike in the past year, those who would commute by bike sometimes or more often accounted for the following percents for these "good facilities": safe bike lanes – 39%, separate designated bike paths – 40%, showers and secure storage – 36%, and employer incentives – 36%. Respondents were also asked how often they rode in the last mild weather month. Of these, only 19% had not ridden, 22% rode once or twice, 16% three to four times, 10% five to nine times and 25% ten or more times. Nine percent had biked to work and, of those, 30% rode 10 or more days and another 25% three or four days a month.[4]

National Bicycle and Pedestrian Documentation Project

In 2006, OKI joined in the National Bicycle and Pedestrian Documentation Project, sponsored by the Institute of Transportation Engineers (ITE) Pedestrian and Bicycle Council. Its purpose is to establish a national database of bicycle and pedestrian count information collected with a consistent national count and survey methodology. These local counts are submitted to ITE along with a demographic and street or trail characteristic description to be used for national analysis.

OKI staff has conducted three count sessions at three locations in Cincinnati as well as counts at the Loveland trailhead of the Little Miami Scenic Trail. The street count locations were chosen on known routes for bicycle commuting. The Pete Rose Way counts were done east of Eggleston to count riders using Eastern Ave. The Clifton Ave. counts were taken at Good Samaritan Hospital to count commuters to UC. Madison Rd. (a signed bike route) was counted just west of the O'Bryonville business center. The AM counts were done between 7:00 and 9:00 AM and the PM counts from 4:00 to 6:00. These are presented in Figure2-2.

The bicycle counts at these locations have been lower than expected, and new locations may be chosen for future counts.

Figure 2-2 ITE Bicycle and Pedestrian Counts

	Pete Rose Way	Clifton Ave.	Madison Rd.
September 2006			
AM bike	2	4	15
AM ped	9	68	29
PM bike	12	18	18
PM ped	41	116	71
May 2007			
AM bike	6	1	10
AM ped	21	79	28
PM bike	13	9	10
PM ped	32	127	41
September 2007			
AM bike	3	14	15
AM ped	31	157	36
PM bike	6	23	20
PM ped	21	145	149

Counts were also taken on the Little Miami Scenic Trail to supplement those taken by OKI for the 1997 Little Miami Trail Users study. That report estimated an annual total of around 170,000 users. No trail counts have been taken since then by OKI or the Ohio Department of Natural Resources, the trail management agency. The OKI counts were taken in the morning and afternoon peak periods on July 3, 2006. The 7-9 AM counts included 96 cyclists and 46 walkers. The 4-6 PM counts found 99 cyclists and 48 walkers. Counts were totaled for each fifteen minute interval and it was noted that counts increased during the morning period and decreased over the afternoon period indicating a peak in use midday. To check this, additional counts were taken between 12 noon and 2 PM on Saturday, September 16, 2006. These totaled 282 cyclists and 106 pedestrians. These counts were used to estimate the trail users from 10-noon and 2-4 PM to get an estimate of daytime users on a good weather weekend day. This estimate came to around 1,500 users / day. A second midday count was taken on July 4, 2007 an found 535 cyclists and 115 walkers, or 68% more than on September 16. An estimate of total July 4th users (good weather) of 2,500 was made by inflating the previous daily estimate by that percentage.

Cincinnati National Bike Month

The month of May is National Bicycle Month as designated by the League of American Bicyclists (LAB). A number of events are held to promote cycling for recreational and utilitarian purposes during the month. The Cincinnati Bicycle/Pedestrian Advisory Committee has held rallies on Fountain Square and collected commuter miles for cyclists in Cincinnati. When commuter registrations have been held, they typically attracted around 50 cyclists who reported a total of around 2,000 miles for bike-to-work week.

During the May 2007 Bike Month activities, a survey was issued to find out how Cincinnati cyclists use their bikes, where they ride, and how they view Cincinnati streets. The surveys were distributed during Bike to Work Week at locations including the Fountain Square rest stop, Findlay Market, Second Sunday on Main, Park and Vine and at the Sawyer Point Bike Rally. A total of 183 completed questionnaires were collected, 103 from men and 80 from women. Responses showed that 71% ride on unmarked streets, the predominant available facility. People could choose multiple places to ride, and 26% also ride on trails. Of the six trip purposes for riding, they ranked Recreation first, followed by Fitness, Running Errands, Commuting to work, Social, and Commuting to School. Regarding their confidence riding in the street, most respondents said that they are "Confident", 50%, or "Somewhat Confident", 34%. The remaining 16% reported "Not Confident" on the local streets. In general Cincinnati cyclists don't consider sharing the road a pleasant experience; only 9% consider the streets here as "Friendly". "Somewhat Friendly" was chosen by 52% and "Not Friendly" by 39%. Among those completing the bike to work questions, the average commuter has been commuting by bike for three years for an average of 3.2 days per week and 4.7 miles one way.[5]

Cincinnati Cycle Club Commuter Challenge

The Cincinnati Cycle Club (CCC) has encouraged its members to submit commuting miles in a competition with the Dayton Cycling Club. "Commuting" miles include those for utilitarian travel where a bike is used instead of a car. These include trips to work, school, shopping, friends and relatives and appointments. They do not include the CCC

recreational club rides. In 2007, thirty-six club members reported nearly 54,000 utilitarian miles. Primarily a touring club, the CCC also offers around forty-five scheduled recreational rides per month in the peak cycling season, plus four nationally advertised invitational rides per year. Current membership is around 1,000.

Crash Data

Bicycle/motor vehicle crash data for the OKI region over the past several years are presented in Table 2.3 "Bicycle/Motor Vehicle Crashes – Deaths and Injuries"[6]. The information on the number of deaths is insufficient to represent any trends. For the five years from 2002 to 2006, six bicyclists were killed in the four Ohio counties: one each in Butler and Warren Counties and four in Hamilton County. These deaths have been evenly distributed over the time period except for three fatalities in Hamilton County in 2006 of which two occurred in one crash. There was one Kentucky fatality in Kenton County in 2004. Generally, the incidents are proportional to the county population.

The injury statistics do show higher rates of cyclist injuries to all injuries for Campbell and Kenton Counties, 1.5% and 1.4% respectively compared to the regional average of 1.1%.

OKI obtained individual crash records from Ohio and Kentucky to analyze hazardous locations for the Regional Transportation Plan update. These records were sorted to create a file of crashes in the OKI region involving bicycles. The Ohio records were for 2005 and 2006, while those for Kentucky included 2002-2006. They totaled nearly 400 incidents. In general, these crashes mirror national characteristics in that most occurred at intersections (62%), in daylight, on dry pavement and straight roads. Ten percent occurred at driveways. While scattered throughout the region, they concentrate in the population centers such as Cincinnati (particularly Price Hill and Clifton), Hamilton and Middletown. Only 3 were found in Oxford, fewer than expected with the Miami University students. Crashes on major roads, including Beechmont, Dixie Highway, Glenway, Colerain and Hamilton Avenues indicate that cyclists use these roads and that safety improvements are needed.

Of the bicycle/motor vehicle crashes analyzed for the nation, most (53%) are the fault of motorists turning left or right in front of the cyclist, running a stop sign or opening a car door into the path of a cyclist. The most common cyclist faults are riding facing traffic, left turn from the right side of the road, rideout from a driveway, and running a stop sign or light. Overtaking crashes account for 8% of all collisions of which 5% were caused by the cyclist swerving in front of the car and 3% motorist inattention (didn't see the cyclist).[7]

Nationally, in 2006, the National Highway Traffic Safety Administration reported that bicyclist fatalities totaled 773 and an additional 44,000 were injured in traffic crashes. These figures represent 2% of both the total of all traffic fatalities and injuries. The number of fatalities has also been trending upward from 665 in 2002. The fatality rate per capita was seven times higher for men than women and the injury rate was five times higher. Of note is that alcohol consumption by the motorist or cyclist was a factor in 32% of the crashes resulting in a cyclist's death. Nationally, the percent of cyclist

fatalities to total traffic fatalities was 1.8% in 2006. By state, the rate for Ohio was1.4%, for Kentucky 0.5% and Indiana 2.3% (highest was Florida at 3.9%).[8]

Figure 2.2 BICYCLE / MOTOR VEHICLE CRASHES – DEATHS AND INJURIES 2002-6

		Butler	Clermont	Hamilton	Warren	Boone	Campbell	Kenton	Dearborn	8 Co.Total
2002	All deaths	28	22	76	17	15	11	15	n/a	184
	Bicyclists	0	0	1	0	0	0	0	n/a	1
	Percent	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	n/a	0.5%
	All Injuries	4,458	2,459	10,934	1,820	1,030	669	1,435	n/a	22,805
	Bicyclists	43	10	150	17	5	11	27	n/a	263
	Percent	1.0%	0.4%	1.4%	0.9%	0.5%	1.6%	1.9%	n/a	1.2%
2003	All deaths	32	28	69	18	13	10	11	11	192
	Bicyclists	0	0	0	0	0	0	0	0	0
	Percent	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	All Injuries	4,324	2,508	10,975	1,830	1,184	640	1,340	557	23,358
	Bicyclists	55	18	107	13	4	11	20	2	230
	Percent	1.3%	0.7%	1.0%	0.7%	0.3%	1.7%	1.5%	0.4%	1.0%
2004	All deaths	32	25	67	16	15	12	16	9	192
	Bicyclists	0	0	0	0	0	0	1	0	1
	Percent	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	0.5%
	All Injuries	3,947	2,453	10,723	1,884	1,132	661	1,306	524	22,630
	Bicyclists	43	15	138	10	6	8	19	2	241
	Percent	1.1%	0.6%	1.3%	0.5%	0.5%	1.2%	1.5%	0.4%	1.1%
2005	All deaths	39	28	61	21	18	11	15	5	198
	Bicyclists	0	0	0	1	0	0	0	0	1
	Percent	0.0%	0.0%	0.0%	4.8%	0.0%	0.0%	0.0%	0.0%	0.5%
	All Injuries	3,953	2,155	9,586	1,815	1,065	570	1,340	506	20,990
	Bicyclists	41	12	121	14	7	9	15	1	220
	Percent	1.0%	0.6%	1.3%	0.8%	0.7%	1.6%	1.1%	0.2%	1.0%
2006	All deaths	40	15	62	10	19	7	13	10	176
	Bicyclists	1	0	3	0	0	0	0	0	4
	Percent	2.5%	0.0%	4.8%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%
	All Injuries	3,940	2,181	8,952	1,790	1,025	604	1,211	454	20,157
	Bicyclists	50	12	100	15	6	9	13	1	206
	Percent	1.3%	0.6%	1.1%	0.8%	0.6%	1.5%	1.1%	0.2%	1.0%
Total	All deaths	171	118	335	82	80	51	70	35	942
	Bicyclists	1	0	4	1	0	0	1	0	7
	Percent	0.6%	0.0%	1.2%	1.2%	0.0%	0.0%	1.4%	0.0%	0.7%
	All Injuries	20,622	11,756	51,170	9,139	5,436	3,144	6,632	2,041	109,940
	Bicyclists	232	67	616	69	28	48	94	6	1,160
	Percent	1.1%	0.6%	1.2%	0.8%	0.5%	1.5%	1.4%	0.3%	1.1%

Source: Ohio Department of Public Safety, Traffic Crash Records System
Kentucky Transportation Cabinet, Traffic Division
Indiana Automated Reporting Information Exchange System (ARIES)

It should be noted that bicycle/motor vehicle crashes account for only 12% of bicyclist injuries based on emergency room visits. Most, 59%, are single vehicle crashes with no other object or person (falls, running off the road), and the remaining, 29%, collisions with fixed objects, other cyclists, pedestrians and animals.[9]

PLANNING ACTIVITY

Significant progress has been made toward implementing the recommendations of the 2001 Regional Bicycle Plan. Much of this progress can be attributed to national and regional events supporting bicycle use for both recreation and transportation.

At the national level, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and its most recent successor, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, have mandated state and regional planning requirements for incorporating bicycle and pedestrian modes into a multi-modal transportation system. As a result, state bicycle plans now exist for both Ohio and Kentucky, and OKI's transportation plan incorporates the recommendations of the separate bicycle and pedestrian plans. Supplemental guidelines issued by FHWA in 1999 have further emphasized the need to accommodate bicyclists and pedestrians in all highway projects (completing the streets).

This legislation has also provided funding for non-motorized modes through conventional highway and transit grant programs as well as categorical funding under the Transportation Enhancement program. Available funding has had a significant impact on the ability of local implementing agencies to get bicycle facilities built.

At the regional level, we have benefited considerably from having the Little Miami Scenic Trail within the region. This state developed rail-to-trail shared use path, which opened in 1984, has been very successful in stimulating interest in bicycling and bicycle facilities. Examples include other long distance trails such as the Great Miami River Trail to Dayton, connecting trails such as the Lebanon Connector and the Miami 2 Miami Connection, and numerous community trails included in residential developments in Butler, Warren and Boone Counties. It is the intent of this plan's goal "To provide a safe convenient and appealing bicycling environment", that cyclists who ride these trails for recreational use will make the transition to cycling the streets for transportation purposes.

Numerous local units of government in the region have developed their own bicycle plans or have included these facilities in overall transportation or land use plans. It is OKI's role to work with these communities as a resource for bicycle and pedestrian recommendations, to assist with project funding as a component of highway improvements or as independent trail projects. The recommendations of local plans for on-road and separate trail facilities, are included in the OKI regional bikeway system where they have independent regional significance or function as a part of the regional system.

Summary of Progress

The 2001 bicycle plan contained over seventy recommendations, many of which involve long term processes. In the past six years, significant progress has been made on most of them. Among these, notable accomplishments include:

- Continued support for bicycle planning at the regional level and growing support within local governments in terms of developing projects and support staff with specific bicycle and pedestrian responsibilities.
- The OKI *Strategic Regional Policy Plan* has been completed by the Regional Land Use Commission with the purpose of improving the integration of land use and transportation planning. Among the results was definite support for both land use patterns and transportation facilities that will better accommodate bicycle and pedestrian travel and to reduce auto dependency.
- Definition of priority cycling resources in the region including more detailed inventories of regional trail facilities and on-street facilities. As part of this update, a "primary shared road" network has been defined.
- A recommendation of the 2001 Bicycle Plan was to establish a means of disseminating information about regional bicycle issues and information to the regional cycling community. To implement this, the *OKI Bicycle E-Info News* was created. From August, 2001 through December, 2007, 72 issues have been electronically distributed. The distribution lists have grown to nearly 250 individuals.
- OKI created a 2004 promotional brochure for bicycling in the region, *"Wanna Bike?"*, containing information about shared use paths, mountain bike trails and road riding in the region. It is distributed through bike shops, events and requests. It was updated as part of the FY 08 work program.
- OKI has continued to seek advisory assistance with bicycle and pedestrian planning through ad hoc committees as recommended in the 2001 plan. (This means for input was preferred over a permanent standing committee.) Temporary advisory committees were created for the Kentucky and Ohio Bike Route Guide updates, the Regional Pedestrian Plan, the Walkable Communities Workshops, and this update of the Bicycle Plan.
- OKI continues to offer technical training to local planners, engineers and officials with seminars on bicycle facility planning and programs including eight Walkable Communities Workshops in 2004, a Safe Routes to Schools program workshop in 2006, a presentation on the Portland, Oregon bicycle program in 2007 and annual presentations at the Traffic Engineering Workshops.
- Bike racks have been installed on all Metro and TANK buses since the last plan. The Metro fleet of 450 coaches was outfitted with racks in 2002, while TANK's fleet of 110 coaches received the racks in 2006. (TANK keeps track of boardings by passengers with bikes, and counted 943 rack users in May, 2007.)
- Progress toward bicycle safety and education is being investigated through

participation in existing health and safety organizations. OKI staff attends meetings of such agencies in Hamilton and Butler Counties, and has assisted the Northern Kentucky Health District with the Safe Routes to School program.

- OKI participates in annual bike-to-work promotions during National Bike Month programs in May. The OKI Bike Route Guides are used by cyclists in finding commuting routes. Additionally, approximately 180 requests for bicycle information are filled annually.
- The recommendation of the previous plan to compensate OKI staff for the use of their bicycles for OKI business was implemented in the revision of the OKI Employee Handbook in 2005. The rate for bicycle miles is 10¢/mile.
- In 2002, OKI updated the three Kentucky county bike route guides, and in 2005, updated the four Ohio county maps. Since 2002, 221 sets of the Kentucky maps and 359 sets of the Ohio maps have been sold. The 1998 Cincinnati Bike Route Guide is programmed for updating in FY 09.
- OKI maintains a collection of bicycle plans, guidelines and safety videos. Additional materials have been added since the last plan update.
- Progress has been achieved regarding bridge and viaduct facilities. Generally, shoulders and wide right lanes have been incorporated in several new bridges including the new Central Bridge and the Hopewell Road bridge over the Little Miami River. The most significant success has been the restoration of the L&N Bridge between Newport and Cincinnati as a bicycle and pedestrian facility by state and private interests. The "Purple People Bridge" was dedicated in April 2003.
- Bicycle parking facilities at businesses and public facilities are encouraged as a means of promoting bicycle use for utilitarian trips. During 2004–2005, OKI carried out a pilot bicycle parking program under the CMAQ air quality program placing 35 bike racks and 2 bike lockers at 15 locations.

- Several recommendations from the 2030 Regional Transportation Plan have advanced through corridor studies since the last bike plan update. This planning work is similarly required to consider bicycle and pedestrian needs. The following documents the recommendation of the recent studies:
    - Western Hamilton Co Transportation Study – Feb. 2007 The Western Study follows the bike plan recommendations with the statement: "Create Shared Roads and Shared Use Paths as Roads are Upgraded" and does not have specific facility recommendations. Additional attention to bike facilities includes general recommendations for bicycle connectivity.
    - Uptown Transportation Study – Jan. 2007 Chapter 7 – Pedestrian and Bicycle Plan contains four specific bike facility recommendations for wide curb lanes:
        - Clifton Ave. from Ludlow Ave. to W McMillan St.
        - Jefferson Ave. from ML King Dr. to Corry St
        - E University St. from Burnet Ave. to Jefferson Ave.
        - E Daniels St. / Oak St from Burnet Ave. to Jefferson Ave.

The existing signed bike routes are to be retained with the new wayfinding plan along with adding Share the Road signage. Bicycle parking is recommended for new developments and at the transit centers.

- US 50 Gateway Study – Jan. 2007 Within the Dearborn Co. US 50 Gateway Study corridor is the Dearborn Trail. At the time of the study, it still had several gaps to be completed. In addition, the American Discovery Trail, southern route, follows US 50 and will do so until the gaps in the Dearborn Trail are filled in. The plan recommends completing the Dearborn trail and creating connections from the community.
- Dixie Fix – Aug. 2006 Chapter 6 – Pedestrian and Bicycle Accommodations contains general recommendations for Dixie Highway in Kenton Co. of additional space for cyclists, access management improvements, customer bike parking, "Share the Road" signs, encouraging bike use and promoting bike education. The plan also recognizes Dixie Highway as a designated Primary Bike Route in the Northern Kentucky Area Planning Commission's Bike Plan for Kenton Co.
- Boone County Transportation Plan – 2005 While the automobile is the predominant mode of transportation in Boone County, this study recognizes the importance of developing alternative modes to produce a more efficient and better connected transportation system. The plan includes bikeway and pedestrian projects in Florence and Boone Counties.
- Southwest Warren County Transportation Study – Sept. 2005 Based on a review of existing bike facilities and proposed bikeways in OKI and local plans and studies, three additional bikeway/pedestrian facilities were proposed: the Maineville connector from Socialville Fosters Rd west of the Little Miami River to Maineville, the Hamilton Connector between Butler County and Mason Montgomery Rd, and the SR 741 connector between Bunnel and Hamilton Roads. Priority recommendations for Bethany Road improvements are to include bicycle facilities for the M2M Connection.
- North – South Transportation Initiative – 2004 The N-S Transportation initiative addresses freight and personal travel in the I-75 corridor from Kenton and Boone Counties, KY to Miami County OH north of Dayton. It includes I-75, the parallel railroad lines and regional roadways and local streets. No consideration of pedestrian or bicyclist needs were addressed in this study although it will impact these modes through the recommended capacity improvements affecting the arterial and local streets in the corridor.
- Northwest Butler Transportation Study – 2004 This study focuses on the US 27 and SR 73 corridors and the recommendations are highway oriented. The Purpose and Need statement mentions pedestrian safety issues around Miami University campus, however these are not addressed in the plan recommendations. The plan includes the Oxford Perimeter Path and recommendations for bike and pedestrian improvements in the Transportation System Management plan.
- Campbell County Transportation Plan – 2003 While this plan reviewed existing documentation and recommended facilities, including the Ohio River Path, Newport Riverwalk and Licking River Trail, it recommends

utilizing alternative modes for traffic improvement but does not include specific recommendations. Instead, a specific bicycle/pedestrian plan for Campbell County is recommended.

- Significant progress on the regional trails since the last plan includes the following. For more detailed information on these and other plans, see the Status Report on Trails and Greenways in the OKI Region in Appendix 1.

  - Extension of the Little Miami Scenic Trail south from Milford, through Terrace Park to the Little Miami Golf Center on Newtown Rd in 2006.
  - Construction of the Lebanon Connector Trail from downtown Lebanon to the Little Miami Scenic Trail near Kings Mill in 2005.
  - A multi-jurisdictional feasibility study for the Miami 2 Miami Connection was managed by OKI and identified specific routes and facilities. Construction and planning for segments of the Connection are underway in Butler and Warren Counties.
  - A similar multi-jurisdictional feasibility study was managed for the Williamsburg – Batavia Hike/Bike Trail in Clermont County. Funding has also been secured for a portion of the trail.
  - There are active projects in Cincinnati, Anderson Township and New Richmond for the Ohio River Trail connecting Cincinnati to New Richmond along the Ohio River. Plans for Cincinnati's Central Riverfront Park include the trail.
  - A portion of the West Fork Mill Creek Trail was built in Woodlawn and this was subsequently extended north to Glenwood Gardens county Park.
  - Extension of the Great Miami Trail from Montgomery County south through Franklin in Warren County in 2006 and additional segments built in Middletown and Fairfield in Butler County.
  - Construction of the Dearborn Trail in 2006-7 through Greendale, Lawrenceburg and Aurora in Dearborn County.
  - Anderson Township sponsored the development of the Five Mile Trail which opened in 2007. The two mile trail utilizes an old right of way journalized in the 1960s for the extension of Five Mile Road.
  - The abandoned CSX rail corridor through Cincinnati's Western Hills and Green Township has been lost to adjacent property owners and developers. It was long considered as a possible right-of-way for passenger rail transit and a trail.
  - More bicycle improvements are being made to the roadway system with the addition of bike lanes, wide curb lanes and sidepaths to state, county and local roads in the region. Notable progress has been made by the Kentucky Transportation Cabinet under its 2002 bicycle and pedestrian policies. As part of this Bicycle Plan update, OKI inventoried these facilities for the first time. Surveys were sent to local government

engineering and planning offices to locate such facilities. These were then field checked by our staff and added to the OKI GIS street base map. The facilities are shown on the map in Figure 2.3 and tabulated by county in Figure 2.4 and listed in Appendix 7. In rural areas, shoulders are included for highway safety reasons which also benefit cycling and walking.

Figure 2-3 - OKI On-Street Bicycle Facilities

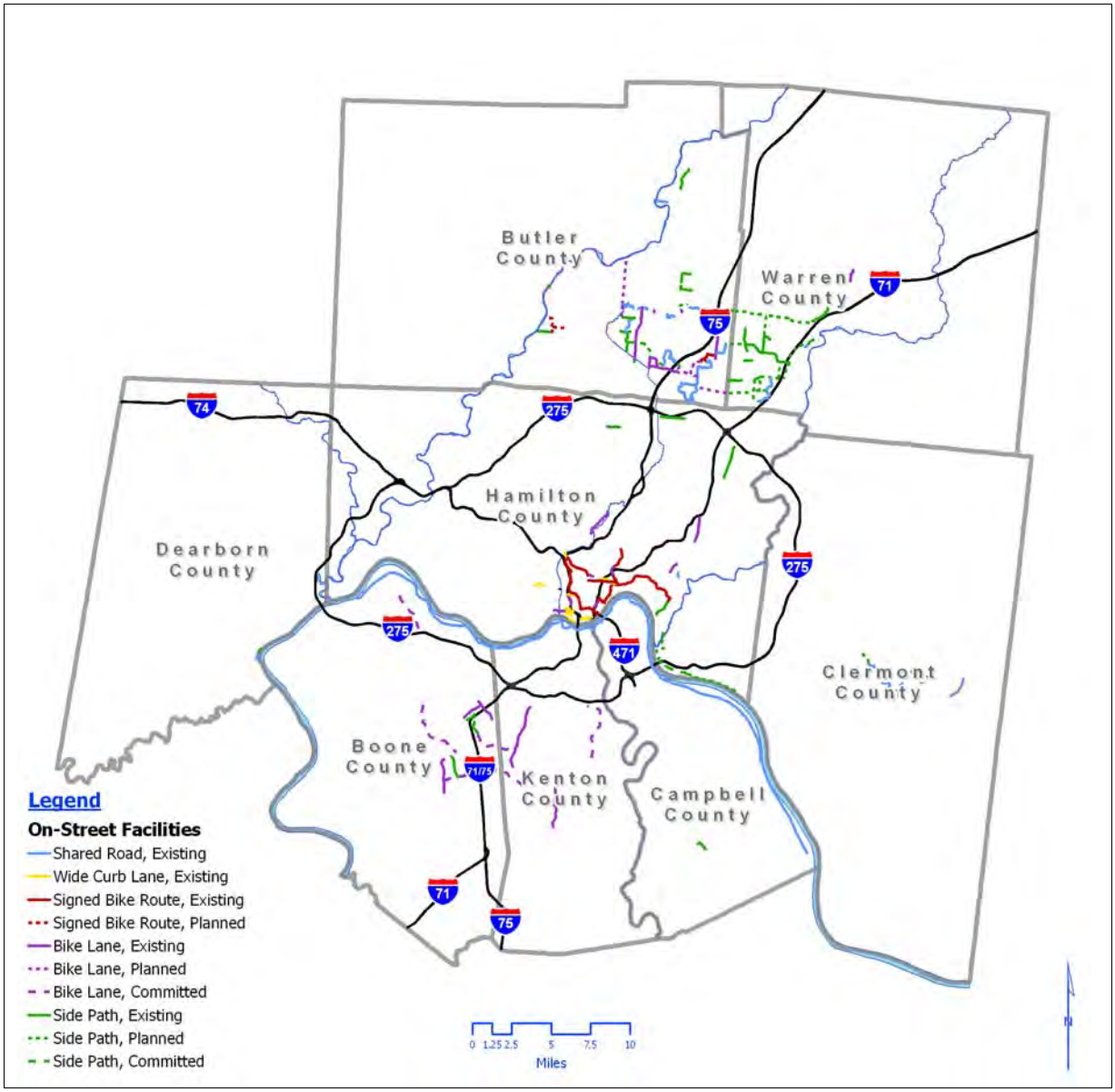


Figure 2.4 – Existing On-Street Bicycle Facilities

(miles)	Striped Bike Lanes	Wide Curb Lanes	Side Paths	Signed Routes
Butler	**2.1**	**0**	**4**	**1.3**
Hamilton	**6.3**	**5.6**	**6.7**	**20.3**
Warren	**0.8**	**0**	**8.4**	**0**
Boone	**5.2**	**0**	**3.1**	**0**
Campbell	**0**	**0**	**0.8**	**0**
Kenton	**8.2**	**0**	**0**	**0**
Dearborn	**0**	**0**	**0.3**	**0**

Transportation Improvement Program Projects

Transportation projects selected and approved for federal funding are listed in the regional Transportation Improvement Program or TIP, a schedule that identifies the timing and funding for each phase of a project including design, right of way, engineering and construction phases over successive four year periods. The TIP also includes a cooperative process for prioritizing the region's projects selected for funding from the limited resources available. This process is carried out by OKI's technical and prioritization committees. The TIP prioritization criteria awards points for several elements including "intermodal facilities integration" and "multimodal investment" which favor road projects that include bike lanes or transit facilities with bike parking.

The Complete Streets approach recommended in this plan, Appendix 2, encourages project applicants to comply with existing guidelines and recommendations to include the appropriate bicycle and pedestrian accommodations in their projects. The description of complete streets used for the policies is: "Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and bus riders of all ages and abilities are able to safely move along and across a complete street." While there are exceptions stated in the policies for not including them, not doing so requires a documented explanation.

Regarding the bicycle projects funded under the Transportation Enhancement (TE) program, in 1998, the Ohio Department of Transportation established an Urban Area TE program for the sixteen Metropolitan Planning Organizations in the state funding each in an amount equal to 10 percent of each MPO's Surface Transportation Program funds. Thus OKI now has a direct role in funding projects requested by communities in the four Ohio counties of the region. TE projects funded through OKI's Urban Area program are listed in Appendix 3 – Transportation Enhancements Project Status.

REGIONAL ISSUES AND BICYCLING

Land Use

There has been a growing awareness of the relationships between land use and transportation, including concern with the "sprawl" resulting from automobile dependent development. OKI's 1993 transportation plan update, Managing Mobility: Year 2010

Regional Transportation Plan addressed this issue by calling for a regional commission on land use. Among the charges to the commission is the following:

> "The commission would also adopt incentives which would encourage county and local land use policies to account for desired relationships between land use, transportation, and other supporting infrastructure. Policies would promote land use patterns consistent with plan objectives to minimize the need for new highway construction and foster travel by transit, bicycle, and walking."[10]

In July 1997, the OKI Executive Committee was named as the Land Use Commission and directed the staff to work with local planning authorities toward defining regional land use policies that will be sensitive to the respective roles of OKI as the Metropolitan Planning Organization, and local governments as the authority for administering land use regulations. This charge was fulfilled with the adoption of the *Strategic Regional Policy Plan – Where do We Grow From Here*, (SRPP) in April, 2006.

Among the 101 policies is that stating "Local and regional investments in transportation facilities and services will support compact, pedestrian, bicycle and transit-friendly land uses, where appropriate, and facilitate travel demand management strategies."

The SRPP is being implemented in two principal ways. First, considerable variation was found in the completeness of the local plans for administering growth. Also, many plans were out of date and some communities were lacking plans of comprehensive scope. To address these issues, OKI's Regional Planning Department has prepared guidelines and model ordinances for preparing a comprehensive development plan that will address land use, public services (including transportation), and the fiscal resources for funding. The staff supports these documents with technical assistance in their use and review of the results.

Second, land use criteria have been added to the Transportation Improvement Program project application process for both highway and transit projects to support projects from communities that have complete and current comprehensive plans, and for which the project is consistent. For multi-jurisdictional projects, consistency with the respective plans is sought.

Fuel Costs

Related to the Land Use issue above is the extensive use of private automobiles that has somewhat been enabled by low gas prices. This facilitated the sprawling suburban development that has increased average daily travel over the years. As of 2001, when this Bicycle Plan was last updated, gas prices had trended below the average consumer price index (CPI) and averaged $1.30/gallon. For many reasons, gas prices have climbed substantially in the past six years, and at a rate significantly faster than the CPI. As of December, 2007, at around $3.00/gallon, gasoline was 30% above the average CPI for all items.[11]

During this time, the popularity of high fuel consumption trucks and sport utility vehicles has persisted. Remedial measures have focused more on maintaining the supply of gas rather than conserving fuel. As it becomes apparent that the high cost of gas is

permanent, support for more energy efficient vehicles and land development patterns, as in "new urbanism", may prevail. Fortunately, the OKI region has many older neighborhoods developed in the compact manner now regaining popularity. These cultural and economic changes will encourage more use of bicycling for neighborhood trips.

Air Quality

A basis for the increased support for non-motorized modes of transportation in current transportation planning programs is the link established between transportation and air quality by the federal Clean Air Act Amendments of 1990 and the Intermodal Surface Transportation Efficiency Act of 1991. Both call for the use of transportation control measures toward achieving the national ambient air quality standards and specifically identify human powered modes of travel, cycling and walking, for their potential to reduce emissions.

The nine counties in southwestern Ohio, northern Kentucky and southeastern Indiana that comprise the Greater Cincinnati urban airshed were classified as basic nonattainment under the eight-hour ozone standard in 2004. In addition, the area was classified as non-attainment of the particulate matter standard. More stringent ozone standards have reduced the attainment level from 80 to 75 parts per billion. County level attainment designations are expected in 2010 at which time attainment deadlines will also be announced. Non-compliance may affect future transportation funding and restrictions on businesses.

OKI's Regional Clean Air Program works to publicize smog alerts when high ozone and particulate matter levels exist and recommend actions for individuals, companies and local governments to take in order to avoid increased pollution levels. OKI's efforts include an aggressive media relations and advertising campaign to keep the clean air issue at the forefront of local radio, television and newspaper reporting; strategic event marketing activities aimed at educating a vast portion of the public; and partnerships to encourage alternatives to driving alone. Bicycling is among the alternatives that are promoted.

Substituting bicycle and pedestrian travel for motor vehicle trips will continue to offer potential for reducing mobile sources of pollution. Progress has been made toward improving the street system with bicycle facilities and supplementing it with a separate regional trail system. Additional needed steps are a marketing program to promote bicycle use and the means to forecast and estimate the impact increased use of non-motorized travel has on reducing vehicular emissions.

Towards this end, OKI prepared an estimate of pollutant emissions per mile for use in evaluating potential emissions for travel demand modeling in 2005. The rates in grams per mile are[12]:

Volatile Organic Compounds	1.23 g/m
Carbon Monoxide	12.46 g/m
Nitrous Oxides	2.20 g/m

In addition, Carbon Dioxide (CO^2) emissions for automobiles are estimated at 1 lb./mile.

As an example, applying these rates to the 53,585 commuting miles recorded in 2007 by the Cincinnati Cycle Club, 27.7 tons of combined pollutants were averted through these efforts.

Personal Health

In the last ten years or so, bicycling has gained support from the public health sector in response to declining physical activity and soaring obesity rates. Most recent data from the Center for Disease Control on leisure time physical activity, 2004, showed that 30% of the adult population participates in regular leisure-time activity. Another 30% have some activity while the remaining 40% are inactive. Two-thirds of the adult population is overweight or obese including 32% of the population considered obese. Among children 6-11 years old, 19% are overweight as are 17% of adolescents 12-19. These trends have increased the incidence of heart disease, high blood pressure, diabetes and depression.[13]

Cycling is an excellent source of physical activity for improving personal health. Recreational cycling is becoming a more popular form of physical exercise, particularly along the bike trails. Bike commuting to work or school, and cycling for personal errands, provides productive ways to incorporate exercise into daily activities to achieve the recommended 30 minutes five times per week of regular sustained exercise.

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[1] US Department of Commerce, Bureau of the Census, 2000 Census of Population and Housing.
[2] National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, 2002. National Highway Traffic Safety Administration (NHTSA) and Bureau of Transportation Statistics (BTS).
[3] Highlights of the 2001 National Household Travel Survey, Bureau of Transportation Statistics, US Department of Transportation, 2003.
[4] Pathways for People, Rodale Press from surveys by Parkwood Research Associates, 1995
[5] Cincinnati Bicycle/Pedestrian Advisory Committee, OKI Regional Council of Governments, Bicycling in Cincinnati - 2007
[6] Ohio Department of Public Safety, Traffic Crash Records System; Kentucky Transportation Cabinet, Traffic Division; Indiana Automated Reporting Information Exchange System.
[7] Kenneth Cross, Bicycle Safety Education – Facts and Issues
[8] National Highway Traffic Safety Administration, Traffic Safety Facts – Bicyclists and Other Cyclists, 2006, DOT HS 810 802
[9] Bob Mionske, Bicycling and the Law, 2007
[10] Ohio-Kentucky-Indiana Regional Council of Governments, Managing Mobility: Year 2010 Regional Transportation Plan, (Cincinnati, Ohio: OKI Regional Council of Governments, November, 1993) page 7-70.
[11] US Department of Labor, Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers (CPI-U), Seasonally adjusted US City Average, February,2008.
[12] Andrew Reser, OKI Regional Council of Governments. Carbon dioxide emissions from US EPA Mobile6 model.
[13] National Centers for Disease Control and Prevention, Physical Activity and Health – A Report of the Surgeon General, http://www.cdc.gov/nchs/fastats/Default.htm

Chapter 3
GOALS AND OBJECTIVES

To double the current percentage of total trips made by bicycling and walking; and to simultaneously reduce by ten percent the number of bicyclists and pedestrians killed or injured in traffic crashes.

FHWA, The National Bicycling and Walking Study – Transportation Choices for a Changing America, Chapter 1 – Goals

OKI serves the Greater Cincinnati region as the federally designated Metropolitan Planning Organization (MPO), a body primarily composed of the region's local governments. It is charged with determining the region's transportation needs and with equitably allocating available funds to implement planned projects. Partners in the process include the region's transit providers and the respective three state transportation departments.

As described in the first chapter, the scope of regional transportation planning has expanded beyond the construction of highways to include transportation impacts on land use, air quality and social equity. To the extent that non-motorized travel (bicycling and walking) can contribute to these overall regional concerns, they are being encouraged.

The OKI Regional Bicycle Plan is intended to serve as a guide for the improvement and expansion of the bicycle transportation system in the OKI region, to encourage the use of the bicycle as a mode of transportation, and to serve the needs of bicyclists in the region.

The following goals are directed toward achieving the vision stated in Chapter 1 and are general statements for defining the specific actions stated in the accompanying objectives.

GOAL 1: Develop a regional bicycle system that is integrated with other transportation systems.

Objectives:

A. Define a regional bicycling system comprised of on-street and trail facilities to serve the transportation and recreation needs of bicyclists of all ages.

B. Coordinate bicycle planning with other local, county, regional and state transportation plans, programs and projects. Encourage local bicycle coordinators.

C. Identify and recommend the use of nationally accepted and/or recommended design guidelines for the development of bicycle facilities, including standards for construction, signing and pavement markings.

D. Require the appropriate bicycle facility treatments for highway construction projects funded through the OKI Transportation Improvement Program (e.g. road lane width and shoulders, storm water inlets, bridges, transit access) in urban and rural projects according to recommended Complete Streets roadway design guidelines.

GOAL 2: Promote an active and supportive bicycle culture in the Cincinnati region.

Objectives:
A. Monitor the activities of regional and state cycling organizations and provide support as appropriate.

B. Continue publishing the OKI Bicycle E-Info Newsletter as a digest of area cycling activities and opportunities for participating in the transportation planning process.

C. Encourage adult cyclists to use their bicycle instead of their motor vehicle for more work and personal business trips.

D. Provide technical assistance to units of local governments and other public and private agencies that want to expand and improve the bicycling environment.

E. Promote improved maintenance of bikeway facilities by the responsible jurisdictions to repair damage from deterioration and remove accumulated debris.

F. Continue to publish and update the OKI Bike Route Guides for the eight counties in the OKI region to inform cyclists of recommended roads and paths for bicycle travel.

GOAL 3: Secure adequate funding for bicycle improvements in the region.

Objectives:
A. Identify available local, state and federal sources of funding for bicycle facilities and programs.

B. Administer the Ohio sub-allocated Urban Area Transportation Enhancement (TE) program for the four OKI Ohio counties with an emphasis on trail facilities.

C. Identify potential private and corporate funding sources, including user's fees.

D. Maintain files for applicant eligibility, application requirements, project eligibility and administrative guidelines for the various funding sources.

E. Advise local governments of upcoming application deadlines.

F. Promote state legislation to enable gas tax revenue to be spent for bicycle and pedestrian improvements.

G. Participate in the development and review of the OKI corridor studies and Transportation Improvement Program to incorporate bicycling and bicycle facilities into appropriate regional programs and projects.

GOAL 4: Encourage and support bicycle safety, education and enforcement programs.

Objectives:

A. Distribute bicycle safety and education materials to schools, law enforcement agencies and other organizations and individuals involved in promoting safe bicycling practices.

B. Promote and encourage bicycle safety programs, such as Safe Routes to Schools, for bicyclists, schools, law enforcement agencies, and motorists for sharing roadways and shared use paths.

C. Partner with health and community safety coalitions in the region to promote bicycle and pedestrian safety education programs.

Chapter 4
STRATEGIES AND RECOMMENDATIONS

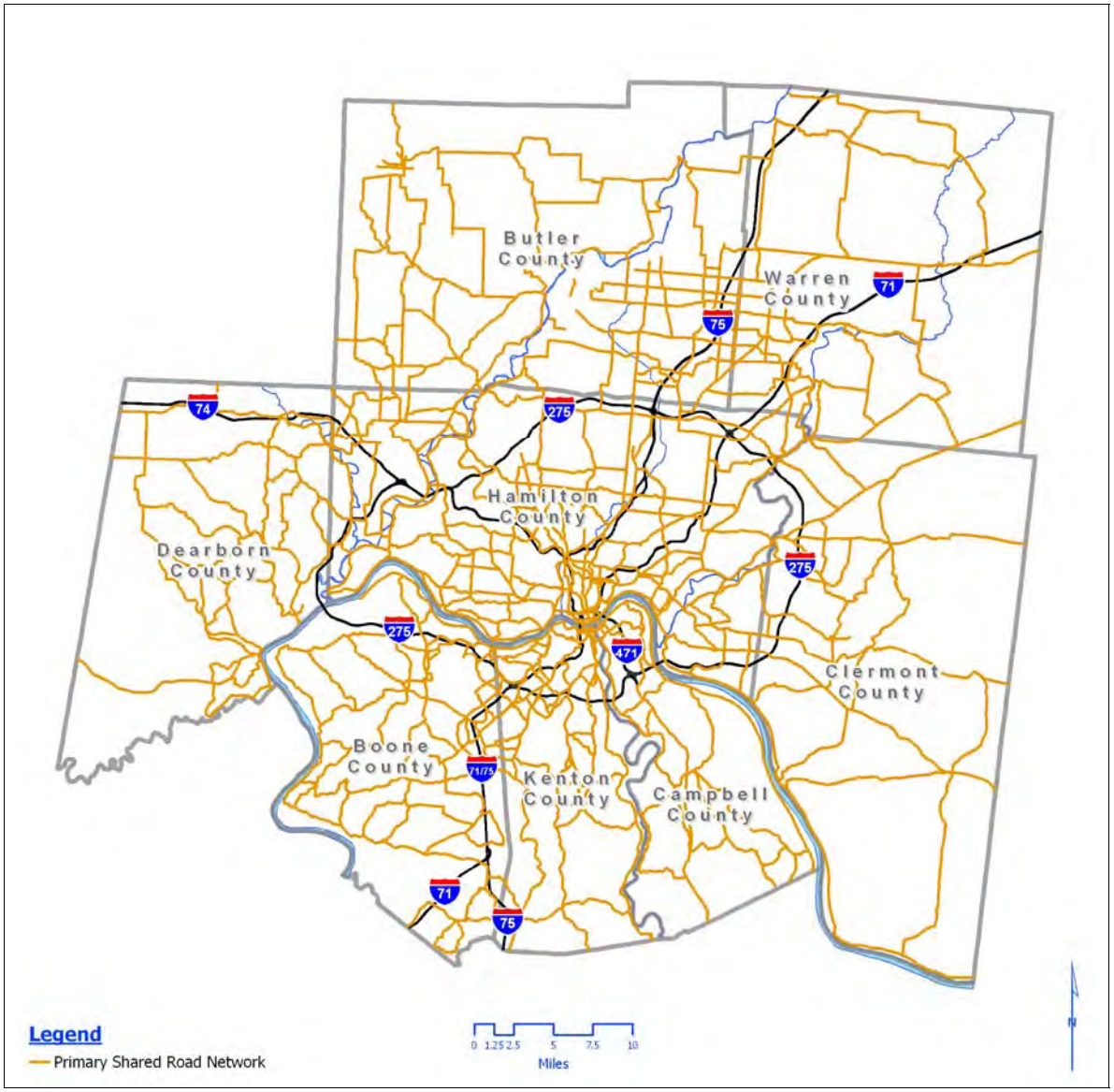
Complete Streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and bus riders of all ages and abilities are able to safely move along and across a complete street.
--- Complete Streets Coalition

The recommendations for the updated Regional Bicycle Plan are presented in this chapter. Many of these recommendations have been carried over from past plans as they propose activities that are ongoing. New recommendations have been added from the comments of the OKI Regional Bicycle Plan Advisory Committee and from the comments received at the public meetings held for the plan. Progress in implementing the plan has fulfilled some recommendations which have been removed.

Many of these recommendations are long term in that they will need to be implemented on an ongoing basis. For example, Chapter 2 reviews many of the recommendations from the 2001 plan and documents activities undertaken in the interim to carry them out. Many also involve a partnership between OKI and other agencies, particularly city, township and county governments which are most often the sponsors for projects and responsible for the maintenance of facilities. Bicyclists are also critical to the plan implementation process as the "constituents" being served by the recommended improvements. It is important for cyclists to work with local jurisdictions to express their needs, provide technical input to project development and express appreciation for projects implemented.

While the regional bicycle plan still considers all roads, other than freeways, as shared roads for biking, this plan update attempted to define a more specific, higher priority road network. The result is the Primary Shared Road Network shown in Figure 4.1. These roads were selected from input by Cincinnati Cycle Club members, the Bicycle Plan Update Advisory Committee, public comment at the first round of long range plan open houses, local bike plans, and staff input to fill in gaps. The resulting network is still extensive and includes many major arterials indicating the needs of cyclists for direct travel routes to their destinations. It also supports the past general policies for incorporating bicycle facilities in all roads as they are scheduled for improvements (see the new Complete Streets recommendations). Roads of particular importance to cyclists were also identified for improvements such as Round Bottom, Bridgetown and Kemper Roads and Dixie Highway. These are often roads used by cyclists in urban areas to ride out to the rural countryside.

Figure 4.1 – OKI Primary Shared Road Network



RECOMMENDATIONS FOR THE REGIONAL TRAIL NETWORK

Chapter 2 documented the additions to the regional trails system that have occurred since the previous update of the Regional Bicycle Plan. A detailed description of the component trails and local contacts can be found in Appendix 1, the status report on trails and greenways. The trail system, existing and proposed, is shown on the map in Figure 4.2, the Regional Trails System. The following activities are recommended for the continued expansion of the trails system.

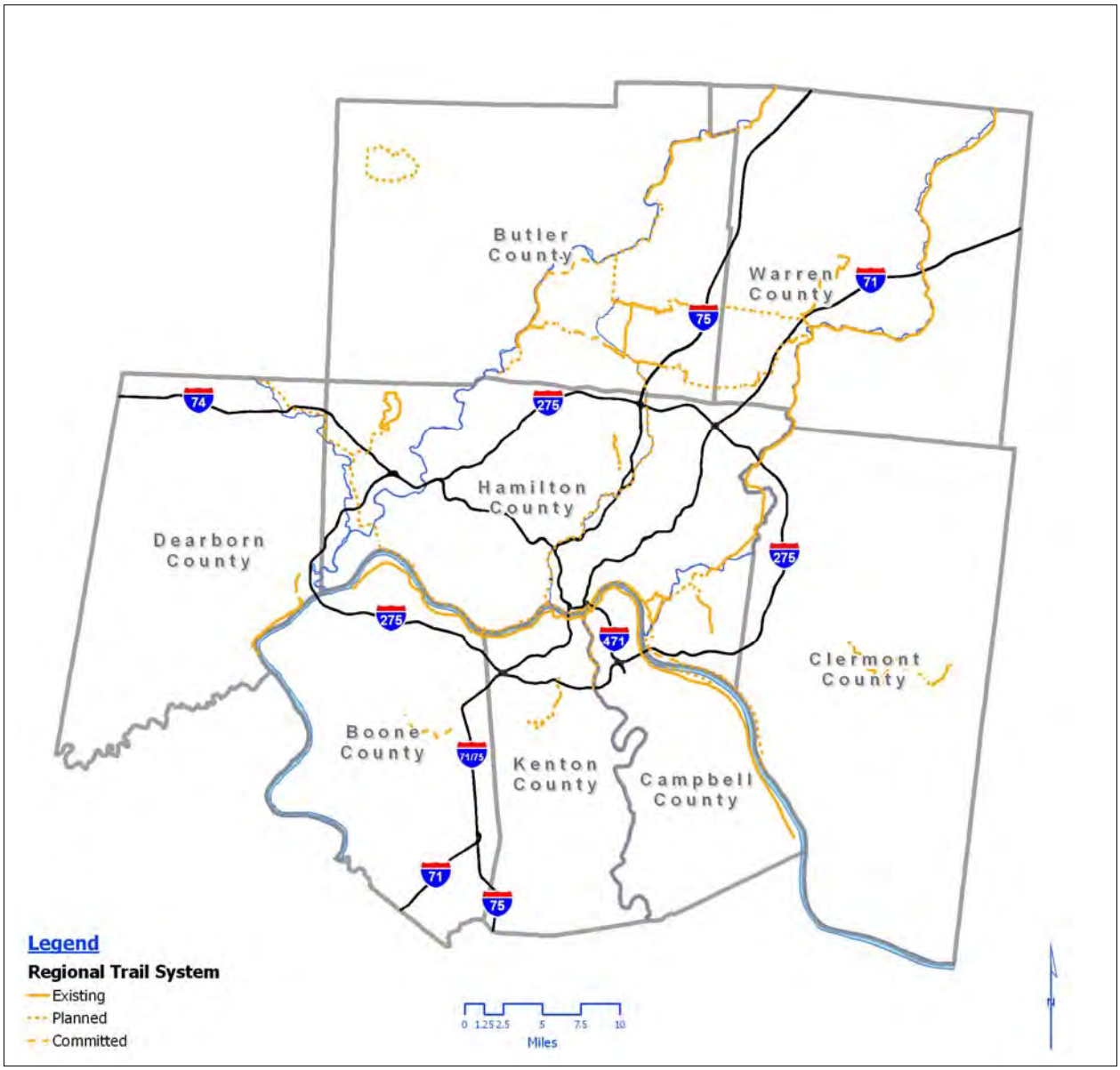
Little Miami Scenic Trail

It is recommended that OKI, the City of Cincinnati, Hamilton County Park District, Anderson Park District and other affected organizations coordinate the identification and extension of the Trail from the Little Miami Golf Center to a

connection with the Lunken Playfield Bike Path. A commitment should be made to the connection to the proposed Ohio River Trail at Kellogg Ave. Current alternatives include using the Lunken Path west of the river or the Elstun Rd. corridor east of the river. These are dependent on river crossings at either or both existing bridges at Beechmont and Kellogg Avenues.

It is recommended that connecting trails be studied between the Little Miami Scenic Trail and nearby communities to facilitate bicycle access as opposed to transporting bikes by motor vehicle. Proposed connections at this time include extending the Anderson Twp. Five Mile Trail, the Murray Rd. Trail in Fairfax, the Williamsburg – Batavia Hike – Bike Trail, and the Miami 2 Miami Connection.

Figure 4.2 – OKI Regional Trails System



Great Miami Bike Trail

It is recommended that the Great Miami Trail be constructed from Franklin to Fairfield including connections to Dayton's River Bikeway. This includes completing the two mile gap in Middletown from SR 4 to Baxter Ave. in Frankiln, the seven mile gap from SR 73 in Middletown to Rentschler Forest and the four mile section from High St. in Hamilton to Rentschler. Lead agencies include the Miami Conservancy District, the cities of Hamilton and Middletown, and Metroparks of Butler Co.

Support a bikeway connection between the Fairfield end of the Trail and the Shaker Trace Bike Trail in Hamilton County's Miami Whitewater Forest.

The Plan supports the Hamilton County Park District plan for a shared use path connection between Shaker Trace in Miami Whitewater Forest and Shawnee Lookout Park on the Ohio River and connection to Cincinnati's Western Riverfront Bikeway.

It is recommended that connecting trails be studied between the Great Miami Bike Trail and nearby communities to facilitate bicycle access as opposed to transporting bikes by motor vehicle. Proposed connections at this time include Harrison, Fairfield, Trenton and the Miami 2 Miami Connection.

Ohio River Trail

It is recommended that the Ohio River Trail be constructed from Lunken Airport east to New Richmond. The feasibility study completed in 2000 should be used as a guide for implementation. A one mile section from Sutton to five Mile Road has been funded and is in design.

It is recommended that the development of the proposed Cincinnati Ohio River Trail from the central riverfront connecting to the Lunken Bike Path be completed. Current proposals include a "temporary" alignment proposed for the Oasis rail line with private funding and a "permanent" route along the banks of the Ohio River.

It is recommended that the Ohio River Trail be continued past the Great American Ballpark and through the "Banks" Central Riverfront Park redevelopment.

Studies should be initiated for extensions of the Riverfront Trail through the western Cincinnati riverfront ultimately to Shawnee Lookout Park.

Mill Creek Greenway Trail

It is recommended that a shared use path be developed in the Mill Creek corridor as part of the stream restoration and flood protection program and as recommended in the 1998 Mill Creek Greenway Master Plan and the previous US Corps of Engineers re-channelization project.

It is recommended that connecting trails be studied between Mill Creek Trail and nearby communities, such as on the West Fork of the Mill Creek, to facilitate bicycle access and encourage bicycle transportation.

Western Hamilton County

Trail recommendations from the Western Hamilton County Transportation Study include the Hamilton County section of the Great Miami River Trail. The Hamilton County Park District is planning for this facility as a connection between the eight mile Shaker Trace loop trail in Miami Whitewater Forest to Shawnee Lookout Park. A connection from Shaker Trace to the Great Miami Trail in Fairfield is recommended.

Previous planning recommendations for a rail-trail conversion of the abandoned C&O rail corridor through Westwood and Bridgetown are withdrawn due to the loss of the right-of-way.

Other bicycle facility recommendations of the Western Hamilton County Transportation Study are for on-street facilities to accommodate safe bicycle travel.

Kentucky Route 8 River Path

KY Route 8, along the Ohio River in Campbell, Kenton and Boone Counties, represents the River Path and should receive priority consideration for bicycle facility improvements as recommended in the Forward Quest River Path proposal in 1996 and the Vision 2015 report for Bellevue, Newport and Covington in 2006 which includes a Licking River Trail. This would include shared use paths and improvements to the existing roadway as feasible to add bike lanes, paved shoulders, edge striping, appropriate signage, overlooks and restrooms.

Williamsburg – Batavia Hike and Bike Trail

Federal transportation funds have been allocated for a portion of the trail. This initial phase will connect Williamsburg and the campground at East Fork Lake State Park. Bike route signing is recommended for the shared road portions of the trail. A bridge over the East Fork is recommended to connect with Sycamore Park, the western terminus, in Batavia.

Miami 2 Miami Connection

This project involves eight jurisdictions and several different types of bikeways. The trail gap along SR 129 in Liberty Township should be completed to connect the trailhead at Maud Hughes Rd to the Wetlands Park. Another 1.6 mile recently built trail along the Miami-Erie Canal in West Chester has been extended two miles further west to Gilmore Ponds Preserve. Reconstruction plans for Bethany Road in Butler and Warren Counties should include bike lanes to accommodate the M 2 M as recommended.

Dearborn Trails

The Dearborn Trail has components in Greendale, Lawrenceburg and Aurora that primarily follow the Ohio River. Recommendations include closing the gap at the

Argosy Casino to connect the Greendale trail and the Lawrenceburg River Walk, replacing the sidewalk on the George St. bridge in Aurora, signing the bike route through Aurora to Lesko Park and reconstructing the Lesko Park Trail. The planned reconstruction of SR 56 from Aurora to Rising Sun is to include shoulders to accommodate cyclists and hikers. With the completion of the trail through the AEC power plant, the coast to coast American Discovery Trail will be rerouted from US 50 to Dearborn Trail.

In general, OKI supports plans for local recreational trail projects that may not be of regional significance, but do conform with regional goals for a safe, convenient and appealing bicycling environment and may provide connections to the regional trail network. Additional local trail projects proposed at this time include:

- Oxford Perimeter Path – Butler County
- Greater Cincinnati Airport Loop Trail – Boone County
- Stone House Trail – Campbell County
- Murray Ave. Trail Extension – Hamilton County
- Five Mile Trail Extension – Hamilton County
- Licking River Greenway – Campbell / Kenton County
- Banklick Creek Trail – Kenton County
- Gunpowder Creek Trail – Boone County

For all components of the Regional Trail Network, support facilities should be considered for trailheads, bike parking, water, rest rooms, phones and camping.

Monitor little used and announced abandoned rail corridors in the region for future development as shared use paths. Priority should be given those lines that connect with the trails along the Ohio, Little Miami, Great Miami and Licking Rivers and the Mill Creek.

RECOMMENDATIONS FOR ON-STREET BIKEWAY IMPROVEMENTS

OKI, in cooperation with local jurisdictions and area bicyclists, should define the regional bikeway system including 1) the bicycle routes identified on the OKI Bike Route Guides for Ohio and Kentucky 2) the Primary Shared Roads network defined for this plan, shown in Figure 4.1 and 3) the regional trail system identified in Figure 4.2.

Roads identified in the regional bikeway system should be given priority for funding to improve cycling safety and continuity of the system. Recommended improvements, depending on the context, include bike lanes, wide curb lanes, shared lane markings (sharrows), bicycle boulevards, paved shoulders, edge striping and appropriate signage, including distances and destinations.

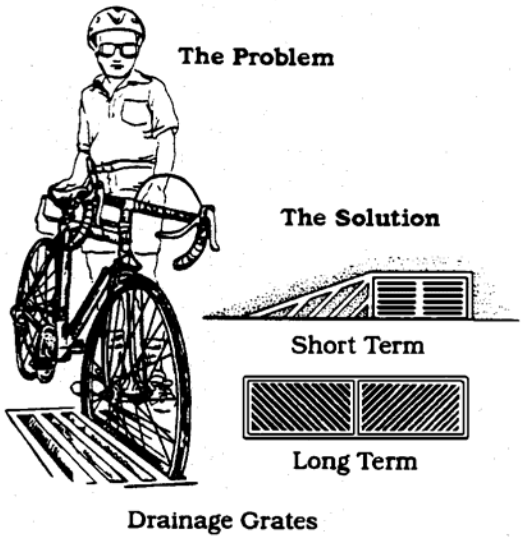
Note: In developing the OKI Bike Route Guides, area cyclists assigned the suitability classifications according to their personal experience with these roads. "Recommended Bike Routes" (blue on the map) should be protected from degradation of their level of safety, particularly where exposed to urbanization and increased traffic. "Alternate Bike Routes" (shown in yellow) and "roads not

recommended for bicycle travel" (shown in red) should receive consideration for improving the safety of bicycle operation.

Roads traversing steep hills should receive priority for widening, signage and other improvements for bicycle safety. Cycling in this region routinely requires traversing hills between the river valleys and upper plateau with a 300 to 400 foot difference in elevation. Cyclists climbing these hills at speeds of 5 to 10 mph are at greater risk than when descending the hills because of the greater difference in speed from passing traffic, exposure to more overtaking vehicles and less stability at lower speeds. Where such roads are improved, priority should be given to widening the uphill lanes.

Plans for all bridge and viaduct construction, replacement or rehabilitation in the OKI region are required by FHWA to provide for safe accommodation of bicycle traffic where bicycles are permitted to operate at both ends of the bridge or viaduct.

State and local highway departments throughout the region should assure that bicycle-safe storm water inlets are used in new road construction and rehabilitation.



State and local highway departments throughout the region should also assure that metal construction plates, used in road construction, have beveled edges to prevent flat tires for bikes.

It is recommended that a policy statement be prepared addressing the use of "rumble strips" along highway shoulders as related to bicycle safety.

> Note: Rumble strips are sometimes provided within the shoulder of a road to alert inattentive or sleeping motorists that they are out of the travel lane. Most often rumble strips are lateral grooves cut or embossed into the pavement. They adversely affect cyclists with vibration that can cause loss of control. Considerations to minimize the effect of rumble strips for cyclists include the width and depth of the groove, the width of the strip, the placement of the strip within the shoulder (next to, or away from the travel lane), the presence of breaks of smooth pavement in the strip for cyclists to cross, and the need for rumble strips at all.

This plan encourages the maintenance of bikeway facilities by the responsible jurisdictions to repair damage from deterioration and remove accumulated debris.

Appendix 4, OKI Regional Bicycle Plan 2030 Future Projects, lists projects extracted from the 2030 Regional Transportation Plan recommendations. The first section contains

projects specifically including bicycle facilities while the second section contains recommended highway projects on roads identified as needing bicycle accommodation either in specific plans, or on the Primary Shared Road system.

In addition, there are roads in the region that are heavily used by cyclists that are experiencing increasing traffic from urban development resulting in increased concern for cyclist safety by both the cyclists and motorists. Several such streets were suggested by Cincinnati Cycle Club members for inclusion in the Primary Shared Road system. One of these is Round Bottom Road in Hamilton and Clermont Counties which is heavily used by cyclists from eastern Cincinnati riding to rural Clermont County. Round Bottom is narrow, two-laned with physical constraints and increasing car and truck traffic. Although not currently programmed for improvements, road widening for shoulders or striped bike lanes should be initiated. Other roads mentioned with a high cycling demand are Bridgetown Rd. (SR 264), Kemper Rd. in Hamilton County, Eastern/ Riverside Dr. in Cincinnati and Ky. Route 8 in Campbell, Kenton and Boone Counties.

PLANNING RECOMMENDATIONS FOR BICYCLE FACILITIES

Complete Streets

Federal transportation legislation adopted in 1991 required state and metropolitan transportation plans to broaden their scope for multi-modal planning and include provisions for bicycle and pedestrian travel. Supplementary guidelines in 1999 specified that accommodating these modes should be a routine part of roadway project development. These policies are now referred to as creating complete streets to accommodate motorists, transit, cyclists, and pedestrians of all ages and abilities. Toward these goals, the following recommendations are offered.

Sponsors of roadway construction, expansion and resurfacing projects should incorporate bicycling facilities into all such projects unless exceptional circumstances exist. Planning guidelines and standards should be applied to determine appropriate treatment for the roadway. Exceptional circumstances are set forth in the recommended OKI Complete Streets approach in Appendix 2.

The ICC Prioritization Subcommittee members should review TIP projects and amendments to evaluate the impact of projects on bicycling and recommend bicycle facility improvements where appropriate. This review should also consider integrating a Complete Streets approach into the prioritization scoring process.

Planners and engineers should include the needs of bicyclists when designing transportation facilities (e.g. road lane width and shoulders, storm water inlets, bridges, transit access and parking) in urban, suburban and rural areas according to recommended roadway design standards including standards for construction, signing and pavement markings such as the AASHTO design guidelines and FHWA design treatments. These will normally call for on-street improvements such as wide right lanes, striped bike lanes, or paved shoulders. Parallel sidepaths should only be used where conditions are conducive to avoiding conflicting movements.

Note: Parallel sidepaths (shared use paths within a road right-of-way, but separated from the roadway pavement) are often perceived as safer than sharing the road with traffic. This may be the case where the path is used by children riding at near pedestrian speeds, and adjacent to a waterfront, hillside, railroad or other barrier where there are no crossing streets or driveways. In urban applications where streets and drives would cross the sidepath, cyclists are put at greater risk from being out of the sightlines of turning motorists. This is especially true for cyclists traveling in the opposite direction of the adjacent travel lane. At both ends of the sidepath, these cyclists also need to cross the street to access to or from the proper side of the road for their direction of on road travel. Sidepaths may also cause hostility from motorists towards cyclists who choose to remain in the street (as they are legally entitled to do) rather than use the sidepath because of greater risk, conflicting pedestrian use or inadequate maintenance. In no case should cyclists be required to use a sidepath and be prohibited from using the street.

Additional consideration of the needs of child bicyclists and pedestrians should be incorporated into local and regional bicycle facility planning. Consideration of the "Safe Routes to School" infrastructure needs should occur as part of roadway improvements within two miles of elementary and middle schools. Encouraging such school trips by biking and walking has transportation benefits of reduced congestion and motor vehicle emissions.

OKI will coordinate with transit operators and bicyclists in the region regarding bike racks on buses and/or bikes in transit vehicles, and the installation of bike lockers at park and ride lots and transit centers.

Identify and secure available local, state and federal sources of funding for bicycle facilities and programs.

- Review Ohio license and gas tax highway funding legislation for potential use for bicycle and pedestrian facilities. Develop legislation needed to enable the use of these funds for bicycle and pedestrian facilities.
- Prepare single page handouts for each state and federal funding program for which bicycle and pedestrian improvements are eligible.
- Identify potential private and corporate funding sources, including user's fees, and foundations.
- Maintain files for applicant eligibility, application requirements, project eligibility, and administrative guidelines for the various funding sources.

Technical Assistance Program

OKI will continue to designate a staff planner to maintain the regional bicycle planning programs and activities and provide technical assistance to local jurisdictions.

Local jurisdictions are encouraged to develop bicycle plans to promote bicycling as a mode of transportation and maintain an official plan for determining the compliance of

project funding requests. These plans should be coordinated with neighboring jurisdictions and the regional plan and seek the involvement of local bicyclists.

Cities and counties are encouraged to designate a bicycle coordinator who can integrate bicycle projects with ongoing transportation and development projects and coordinate these activities with other departments, adjacent jurisdictions and bicycling organizations. The bicycle coordinator need not be a full-time position, but should be knowledgeable about the transportation needs of bicyclists.

Local jurisdictions are encouraged to consider pedestrian and bicycle circulation within and between residential subdivisions during the land development process.

Transportation corridor studies, thoroughfare plans and comprehensive plans for counties and cities should seek the participation of bicyclists and pedestrians to include the needs for these modes of travel as well as those of motor vehicles.

OKI will continue to maintain an up-to-date library of bicycle resource material and will distribute bicycle safety information and other related materials.

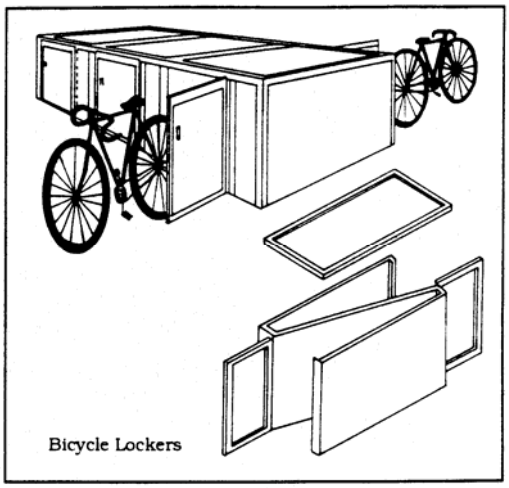
OKI will facilitate and participate in bicycle facility planning workshops on a regular basis for planners, engineers and other professionals in the region.

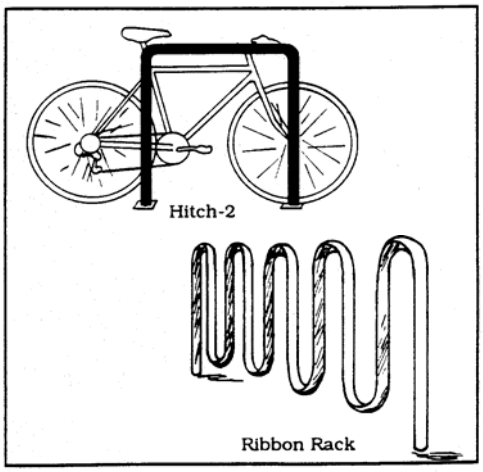
Participate in the development of the OKI Unified Planning Work Program and Transportation Improvement Program to incorporate bicycling and bicycle facilities into appropriate regional programs and projects.

Major Investment Studies and Corridor Plans shall include consideration of all modes including bicycle and pedestrian travel through the participation of OKI staff and cyclists living in the area. Where consistent with the purpose and need of a study, considerations include:

- Appropriate on-street accommodations
- Appropriate interchange accommodations
- Consideration of alternatives' impacts on bike suitability of local roads
- Incorporate local bike plan recommendations in MIS plan
- Opportunities for trails
- Covered bicycle parking at transfer points
- Bike accommodation in or on transit vehicles
- The effect of transit rail flangeways in streets on bicycle use

Bicycle parking facilities, e.g. lockers and/or covered racks, should be provided at all major public and private destinations, e.g. employment and retail areas; professional buildings; restaurants; schools, libraries and universities; apartments; parks and recreation areas; public and private parking lots and garages; park-and-ride lots and transit centers. Local jurisdictions that approve development plans and enforce zoning regulations are encouraged to include provisions for secure bicycle parking facilities in their parking regulations. OKI will look into ways to resume the experimental bike rack program to provide free racks to businesses and agencies for their employees and customers.





Participate in the interdepartmental work of OKI to incorporate the role of bicycle and pedestrian travel in its activities toward integrating transportation and land use planning.

- OKI Transportation/Land Use Connection
  Since the last update of the Bicycle Plan, the Land Use Commission, a committee of the OKI Board as a whole, has completed its work with the preparation and adoption of the *OKI Strategic Regional Policy Plan*. This report contains general goals and objectives intended to guide local jurisdictions with their land use plans and encouraging coordination with the regional goals and policies. In turn, these local comprehensive plans are used in the scoring of transportation projects submitted for funding through the OKI TIP. The Policy Plan encourages better local and regional planning for, and investment in, pedestrian, bicycle and transit friendly land uses. Progress toward these objectives is now focused at the local level where cycling interests need to participate with the local planning agencies.

- Regional Clean Air Program
  OKI's Regional Clean Air Program works to publicize smog alerts when high ozone and particulate matter levels exist and recommends actions for individuals, companies and local governments to take in order to avoid increased pollution levels. OKI's efforts include an aggressive media relations and advertising campaign to keep the clean air issue at the forefront of local radio, television and newspaper reporting; strategic event marketing activities aimed at educating a vast portion of the public; and partnerships to encourage alternatives to driving alone. Bicycling is among the alternatives that are promoted. Cyclists interested in working towards improved regional air quality should consider converting their car trips to bicycling or transit for errands and to work. Cyclists can also contact OKI to be added to the smog alert notification list.

  Information about these and other OKI committees is available on the OKI web site at www.oki.org.

Develop a bicycle component for the OKI regional GIS program based on the OKI travel demand model highway network plus additional information needed to determine bicycle level of service. The following items are a preliminary list of the anticipated needs:

- Adapt the OKI street network to a bicycle facility network including OKI Bike Route Guide street system with suitability ratings (5 layers)
- Local facilities, existing and proposed (striped lanes, wide curb lanes, signed routes, shared-use paths) (8 layers)
- Posted speed limit (1 layer)
- Bus routes (1 layer)
- Roadway specs – lanes, shoulders, lane width, volumes, condition (data)
- Major traffic generators (1 layer)
- TIP projects (1 layer)
- Private facilities, description of general area served (1 layer)
- Mountain bike off-road recreational trails (parks) (1 layer)
- State defined cross-state bicycle routes (1 layer)
- Other defined trail routes (Buckeye, Ohio to Erie, Underground Railroad, American Discovery Trail) (4 layers)

Establish procedures for communication with the bicycling community about the regional bicycling environment on an ongoing basis.

- Develop a handout for a citizens guide to promoting bicycle and pedestrian facilities in their communities.
- Continue the OKI Bicycle E-Info News e-mail newsletter to a distribution list of persons in the region who express an interest in receiving regular information about bicycle issues, plans, meetings and projects.
- Prepare, publish and update the OKI Regional Bike Route Guide maps for the eight counties in the OKI region and the City of Cincinnati to inform cyclists of the recommended roads and paths for bicycle travel.
- Revise the Clean Air Guaranteed Ride Home program to include bicycle commuters who need transportation for personal emergencies or severe weather.
- Encourage adult cyclists to use their bicycle instead of their motor vehicle for more of their work and personal business trips through education, encouragement, enforcement and enactment policies and programs. Appendix 5 presents the constraints and incentives for bicycle commuting in the region.

  Note: These types of support programs have long been recommended in bicycle facility plans. However, they are not normally a function of regional or local transportation planning agencies. This recommendation now suggests partnering with appropriate agencies in the region around their specific program areas of expertise to promote more and safer bicycling. Such agencies could include school districts, police departments, public health agencies, air quality agencies, environmental organizations and others.

- Prepare funding source files with eligibility, application and administration guidelines for the identified funding sources.

- Distribute notices to the appropriate local governments of upcoming application periods for state and regional funding programs and notify local governments of upcoming application cycles for state and regional funding programs.
- Provide technical assistance to units of local governments and other public and private agencies to expand and improve the bicycling environment.
- Contribute to the national safety goal of reducing the number of bicyclists killed and injured while, at the same time, increasing the number of trips made by bicycle.
    - Participate in the recommendations and implementation of the respective state Strategic Highway Safety Plans as required under SAFETEA-LU.
    - Continue distributing bicycle education and safety brochures.
    - Partner with other agencies specializing in community safety education and enforcement and assist them in promoting bicycle safety.
    - Provide technical assistance to communities participating in Bicycle Friendly Community programs.
- Research education programs and public service announcements for motorists and cyclists on cyclists' rights on roadways regarding rights and duties for roadsharing and coping with biking problems and motorist hostility.

"To lane or not to lane,
That is the question.
Whether 'tis nobler in the street to suffer
The calls and honks of dysfunctional drivers,
Or to take refuge from a queue of traffic,
In a marked bicycle lane. To "claim the lane"
No more; and, by a space to say we end
The tension and the bad misunderstandings
That bikes are heir to, 'tis a countermeasure
Some would devoutly wish."
--- Anonymous

Chapter 5
IMPLEMENTATION

There is no question that conditions for bicycling and walking need to be improved in every community in the United States; it is no longer acceptable that 6,000 bicyclists and pedestrians are killed in traffic every year, that people with disabilities cannot travel without encountering barriers, and that two desirable and efficient modes of travel have been made difficult and uncomfortable.

--- FHWA Design Guidance for Accommodating Bicycle and Pedestrian Travel

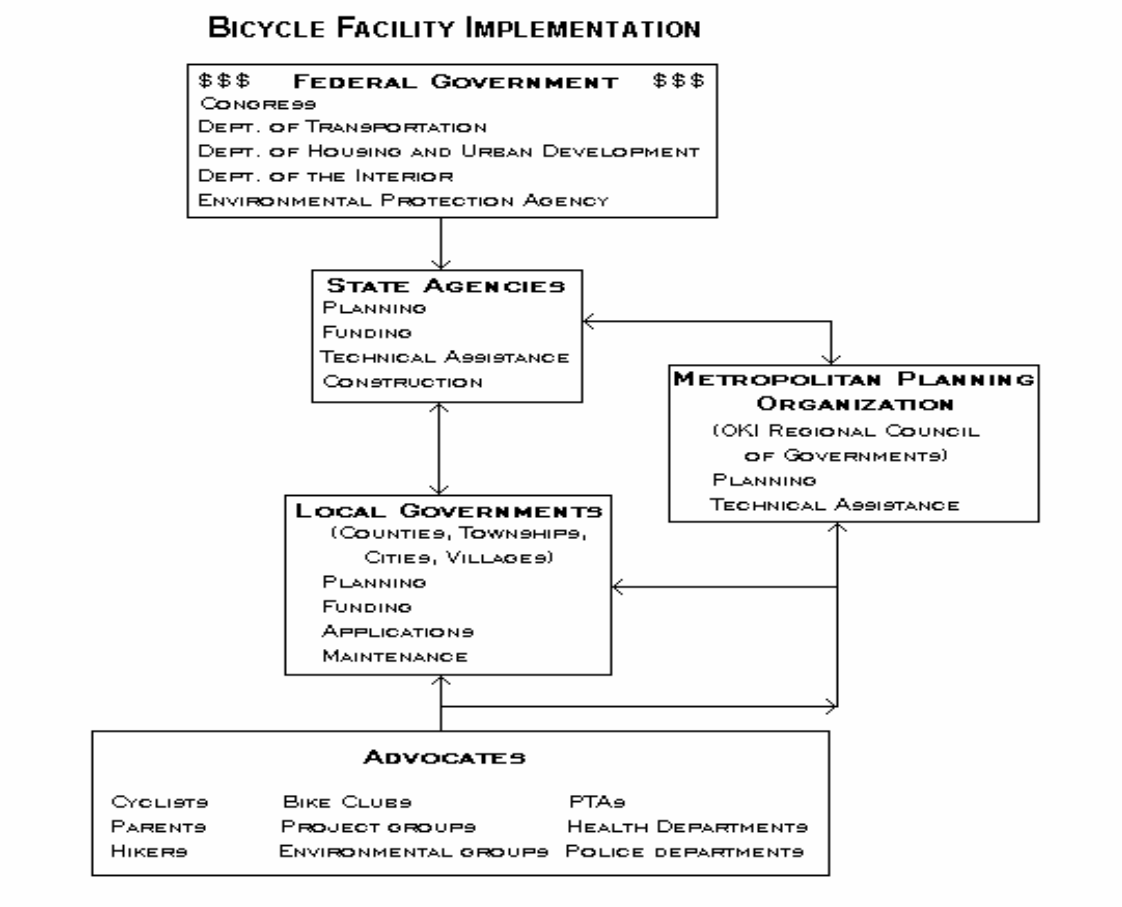
POLICY / PROJECT IMPLEMENTATION

Getting bicycle projects done requires time, money, motivation and persistence. Both the on-road and trail components of this bicycle plan are a part of the region's surface transportation system and primarily the responsibility of government agencies. The expenditure of public funds involves accountability for their appropriate use and conformance with accepted standards for legal defensibility. One result of this is the evolution of public agencies and procedures to be dealt with to put an idea on the ground.

Bicycle use has gone through several rounds of favor since the 1890s when cyclists were the motivating force behind the first paved roads. The current growth in support, represented by the planning requirements in the Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005 (SAFETEA-LU), began in the 1970s with popular interest in physical fitness and, to some extent, bicycle transportation encouraged by rising gas prices. This was assisted by the deconstruction of the nation's railroad system which created opportunities to convert unused railroad right-of-ways to trails. Locally, the 45 mile Little Miami Scenic Park was purchased from the Penn Central Railroad in 1979 by the Ohio Department of Natural Resources, with the Loveland to Morrow section opening for use as a paved trail in 1984. Such facilities have encouraged bicycle use with the result of greater demand for an expanded trail network and safer conditions on the existing street network. The current federal planning requirements in SAFETEA-LU, applicable to state and regional transportation planning agencies, including OKI, address both bicycling and pedestrian needs. These are backed up with flexibility in the use of highway and transit funding, as well as Transportation Enhancement categorical funding, to encourage the implementation of bicycle facility improvements such as recommended in this plan.

Participants in the Surface Transportation System

The relationship of the various governmental entities and private advocates is shown in the following chart. At the bottom, the Advocates include users of the facilities including cyclists, parents and PTAs who want safe cycling facilities for children, and also certain public agencies including health departments concerned with physical conditioning and police departments concerned with



cyclist safety. At the top of the chart is the Federal Government which sets policy for transportation planning and facility construction, and allocates the majority of the funding used to implement the planning and construction of the transportation system. The State Agencies are designated as the agents for conducting the federal planning requirements and building and maintaining the state and federal highways. States also generate additional funds for matching the federal share of the costs, and for passing through to local governments to maintain local roads. OKI is represented in the chart as the Metropolitan Planning Organization (MPO) to the side and between the State and Local Governments. The MPO is comprised of the local governments within a defined metropolitan area, and provides the means for these local governments to participate in the transportation planning and in the allocation of the federal funding for projects. By following the arrows in the chart, it can be seen that the Local Governments box is its focus. Local governments receive the Advocate input, pass it along as priorities in the transportation planning process, and apply for the project funds to build the facilities. Local Governments are the key to implementation.

USERS

Bicycles are chosen as a mode of travel by a variety of people and for the same trip purposes as other modes (see Figure 2.1). Cyclists may include children too young to operate motor vehicles; persons who have lost their operator's license; persons with an interest in their personal health, environmental concerns or the accomplishment of self-propelled travel; those who can't afford the costs of automobile operation; or those who

may have a disability preventing them from operating a motor vehicle. Regardless of motivation or trip purpose, the bicycle is considered a vehicle under Ohio and Kentucky law and entitled to the use of the roads. Bicycles do, however, require some special consideration for incorporation into the flow of traffic.

Given the variety of skills, confidence and preferences among bicyclists, it is necessary to take these differences into consideration when planning bicycle facilities. The Federal Highway Administration uses three design categories of cyclists to address these differences. These include children; basic or casual adult riders; and experienced riders comfortable riding in traffic. Guidelines have been developed for appropriate road treatments for these three groups which are more completely described in the following section on standards.

Beyond these planning considerations, project implementation also depends upon the needs expressed by cyclists as users of the transportation system. The local governments initially need this input as justification for committing funds to build bicycle facilities and to make the long-term commitment for maintaining them. User input also contributes to defining needs to which the planning criteria are applied.

As stated previously, the Little Miami Scenic Trail has served as a catalyst to encourage bicycling throughout the region and has generated vocal support among users for more such trails and improved cycling conditions within their communities.

OKI has not maintained an ongoing bicycle advisory committee but, instead, created ad hoc committees for plan update assistance and road definition for the Bike Route Guides. Two citizen advocacy organizations exist in the area: the Cincinnati Bicycle/ Pedestrian Advisory Committee primarily works with City of Cincinnati issues, including bike-to-work week; and the Ohio Bicycle Federation. The Kentucky Bicycle and Bikeway Commission was created within the Transportation Cabinet in 1992 and is appointed by the governor. It, and the Ohio Bicycle Federation, is primarily oriented to state level issues of road access, education and legislation. There are also several active bicycle clubs in the region including the 1,000 member Cincinnati Cycle Club. These clubs also do some bike advocacy, education and promotion in the community, but primarily promote recreational riding both on-road and on mountain bike trails. In 2001, OKI established an electronic *OKI Bicycle E-Info Newsletter* for collecting and distributing local and regional bicycle planning information in addition to the OKI web site. This serves the information function of an ongoing bicycle committee.

PRIVATE SECTOR

Opportunities exist for improving bicycling conditions as land is developed for urban use. Residential subdivisions can be developed using a grid street system rather than the curvilinear cul-de-sac pattern for greater connectivity. Local and collector streets can be built to incorporate

sufficient width for motorists and cyclists to share a lane. Trail networks can also be integrated within the street system such as shown here in the Landen development in Warren County. Landen's trail network connects the ends of cul-de-sac streets and provides alternative trail access to neighborhood schools, parks, churches and shopping. It was an integral part of the design and development and is maintained by the neighborhood association.

Commercial and employment activities can be developed on a neighborhood scale to encourage walking and biking for errands. Site planning for shopping and service facilities can be done with thought toward reducing access conflicts between motor vehicles and cyclists as well as pedestrians who may arrive by transit. Secure, covered bicycle parking should be provided.

While the street system is normally the jurisdiction of the public sector, as described in the following section, trail facilities have been developed with private resources. An example is the Thomas J. Evans Trail in Licking County, Ohio. The Evans Foundation has developed two sections of trail along discontinued rail right-of-way. A fourteen mile section connects Newark with Johnstown to the west. A ten mile section extends from Newark east past Hanover. The Evans Trust paid for trail construction and maintenance. Locally, the Hamilton Community Foundation will provide $2 million for a five mile section of the Great Miami Trail between the High St. bridge and Rentschler Preserve.

PUBLIC SECTOR

As mentioned in the beginning of this chapter, the surface transportation system is the responsibility of state and local governments. The delegation of this responsibility is as complex as the types and numbers of state, county, township and municipal governments comprising the region, but is somewhat related to the type of roadway.

Types of Roadways and Governmental Responsibility

An understanding of the basic types of roadways that comprise the regional street network is helpful in determining the proper bicycle facility treatment and the responsible entity for its implementation. The following five categories are used for transportation planning and have a corresponding functional relationship as to their use for either mobility or access to adjacent property.

- Interstate Highways – (I-71, I-74, I-75, I-275, I-471)
  Designed exclusively for mobility to move traffic.
  Capital improvements and maintenance are the responsibility of the respective state transportation departments: the Ohio Department of Transportation (ODOT), the Kentucky Transportation Cabinet (KYTC) and the Indiana Department of Transportation (InDOT).

- Freeway – (SR 562/Norwood Lateral, SR 129/Hamilton Connector)
  Designed exclusively for mobility to move traffic.
  Capital improvements and maintenance are the responsibility of ODOT (if a federal or state highway outside a municipality) or the city in which it is located. In Kentucky, it may be KYTC if it is a federal or state highway, or the county or city in which it is located.

- Arterial (Primary rural and urban roads) – (Montgomery Road, Breiel Boulevard, Beechmont Avenue, Alexandria Pike)
  Designed primarily for mobility and for access to adjacent properties (access management practices are recommended to minimize compromising the mobility functions of arterials).
  Capital improvements and maintenance are the responsibility of ODOT (if a federal or state highway outside a municipality) or the city in which it is located. In Kentucky, it may be KYTC if it is a federal or state highway, or the county or city in which it is located.

- Collector (Secondary rural and urban roads) – (Waycross Avenue, Clough Pike, Dudley Pike, East Bend Road)
  Designed primarily for access to adjacent properties and for mobility.
  Capital improvements and maintenance in Ohio may be the county, township, city or village in which it is located. In Kentucky, it may be the county or city in which it is located or KYTC if a federal or state highway.

- Local – (subdivision and neighborhood streets and some rural roads)
  Designed primarily for access to adjacent properties.
  Capital improvements and maintenance in Ohio may be the county, township, city or village in which it is located. In Kentucky, may be the county or city in which it is located.

Collector and local streets in urban areas (secondary and local roads in rural areas) are the types of roads most commonly used for bicycling because of their accessibility and generally lower traffic volumes. On the other hand, the collector and local streets are less likely to be reviewed and coordinated through the regional transportation planning process, which focuses on roads of regional, rather than local, importance. This emphasizes the importance of working with local governments in implementing bicycle facilities.

Various plans are prepared by cities, townships and counties including comprehensive plans, thoroughfare plans and capital improvement budgets. When developed, these plans are generally presented for review and discussion at public meetings. These plans are excellent sources about proposed local transportation improvements and the meetings are excellent opportunities for requesting inclusion of bicycle facilities.

OKI maintains a map of roads eligible for federal funding. Projects funded with federal dollars require some percentage of local matching funds. Under SAFETEA-LU, this is usually 80 percent federal and 20 percent local. Projects funded with federal transportation dollars require federal and state approval and, in Ohio, local consent legislation. Such projects are selected and scheduled for implementation through OKI's Transportation Improvement Program. SAFETEA-LU also provides for greater decision making authority for Metropolitan Planning Organizations, like OKI, related to the use of Surface Transportation Program funds. Ohio has further chosen to pass through a portion of its Transportation Enhancement program funds directly to the sixteen MPOs in

the state. Thus OKI can now select from applications proposed by local governments in its four Ohio counties for funding Enhancement projects.

Metropolitan Transportation Planning

OKI is designated the Metropolitan Planning Organization (MPO) for the Cincinnati area by the US Department of Transportation and the states of Ohio, Kentucky and Indiana. As the MPO, OKI is required, under the federal SAFETEA-LU transportation legislation, to develop transportation plans and programs for an intermodal transportation system for the region. The process for developing these plans and programs shall consider all modes of transportation, including bicycles, and be continuing, cooperative and comprehensive.[1]

Two specific products are required: a Long Range Regional Transportation Plan with a minimum twenty year horizon and project list constrained to the expected revenue and, second, the Transportation Improvement Program (TIP), which includes a prioritization committee and process resulting in a list of projects to be implemented for a four year period. Proposed federally funded projects for pedestrian walkways and bicycle transportation facilities, as well as projects funded with federal Transportation Enhancement money, must be included in the TIP. In 2000, the OKI TIP Prioritization Process was updated and includes several project scoring criteria that will favor projects accommodating bicycle and pedestrian travel. These criteria include intermodal integration, multimodal investment, and safety in terms of both accident exposure and project impact.

The Long Range Transportation Plan is updated on a four year cycle which occurred concurrently with this bicycle plan update. Because OKI has adopted separate documents for bicycle and pedestrian transportation recommendations, these have been summarized for inclusion in, and referenced by, the 2008 update of the 2030 Regional Transportation Plan Update. The regional plan also contains other sections related to bicycle and pedestrian transportation including transportation measures for attaining air quality standards, tactics for managing travel demand, and accessing bus and rail transit. A requirement for the Long Range Plan is that the cost of the projects recommended for the planning period (2008 to 2030) must be constrained to the expected funding over this time.

OKI also conducts more detailed corridor level studies. It is their purpose to provide continuity between the planning and project development processes. The federal planning guidelines call for defining problems to be solved within the corridor with the involvement of the local communities, interested individuals, and implementing agencies. It further seeks to identify a broad range of alternatives for solving these problems and comprehensive evaluation to derive the most suitable projects and programs. The resulting locally preferred strategy will likely include large-scale projects.

Corridor studies are intended to result in project implementation. Consequently, it is important that the functions of bicycle and pedestrian travel within the corridor are identified in the planning process and appropriate facilities incorporated in the recommended projects. Bicycle/pedestrian issues of typical concern are safety improvements for accommodating cyclists on the roads planned for improvements,

accommodating cyclist and pedestrians through redesigned interstate highway interchanges and access to transit vehicles and parking at transit stations.

Inherent in the role of the MPO, with its local government composition, is the overriding purpose of coordinating regional needs and resources among the 191 jurisdictions in the region. This requires coordination with the local governments and the ability to provide technical assistance related to planning requirements and federal funding sources, as well as regional plans that are consistent with the needs of the local communities. OKI, as a planning agency, does not actually construct or maintain roads or bike trails. These responsibilities belong to the various levels of government (state, county, township and municipality) or to state and local park and recreation agencies.

State Transportation Planning

State transportation agencies have an integral role in the partnership for establishing and maintaining a safe and effective multi-modal transportation system. These departments plan and implement the Federal-aid Highway Program at the state level and coordinate projects with local governments and, in the urban areas, with the MPOs. In addition to serving as a conduit for federal highway and transit funds, the states also generate revenue for transportation projects. Like the MPOs, the state planning programs are prescribed by the requirements of SAFETEA-LU and consequently mandated to include consideration of bicycle and pedestrian needs. SAFETEA-LU further requires states to fund a bicycle and pedestrian coordinator to promote and facilitate the increased use of non-motorized modes. State transportation projects are also prioritized and scheduled with a State Transportation Improvement Program.

Ohio Department of Transportation (ODOT)

Ohio's bicycle/pedestrian program was initiated in 1985, well in advance of federal requirements. It is now based in the Office for Local Projects in ODOT headquarters in Columbus. The statewide long range transportation plan, *Access Ohio*, was last adopted in 2004 and contains the Ohio bicycle plan.

Of the 12 Ohio district offices, the District 8 ODOT office in Lebanon (Warren County) serves the four OKI Ohio counties. Project administration for the federal and state funded facilities, including Transportation Enhancement projects, is done through the District office.

Kentucky Transportation Cabinet (KYTC)

The Office of Special Programs, which is responsible for Kentucky state-level bicycle and pedestrian planning, is located at the central offices of the KYTC in Frankfort. A Kentucky Bicycle and Bikeway Commission was formed in 1992 with representatives from around the state to guide the state program. Kentucky's highway capital improvements and maintenance responsibilities include all bridges over the Ohio River. The *Kentucky Long Range Statewide Transportation Plan* for 2025 was adopted in 2006. The state bicycle plan *Kentucky Bicycle and Pedestrian Plan* was drafted in 2000, but never adopted. This plan was updated in 2007 and is currently awaiting adoption.

Kentucky also has 12 district offices of which District 6, located in Crescent Park (Kenton County), serves the three OKI Kentucky counties. Transportation Enhancement grant administration is handled out of the central office in Frankfort.

Indiana Department of Transportation (INDOT)
As of 2006, OKI assumed comparable MPO transportation planning responsibilities for Dearborn County, Indiana as for its Ohio and Kentucky counties. These planning functions were previously carried out by the state central office headquartered in Indianapolis. The bicycle and pedestrian programs operate within INDOT's Multi-modal Transportation Division. The *Indiana DOT 2030 Long Range Transportation Plan* was last updated in 2007. Bicycle and pedestrian needs are covered in Chapter 4, Multi-modal Coordination.

Indiana has seven district offices of which the Seymour office serves Dearborn County. Transportation Enhancement grants are administered at the Indianapolis central office.

Federal Transportation Planning
The US Department of Transportation, including the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), is responsible for maintaining the federal transportation programs authorized by Congress. At the end of the 1980s, federal transportation policies were significantly changed with the completion of the national interstate highway system. These changes were implemented in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) which redirected resources into maintenance of the existing highway system and into a more balanced and integrated multi-modal transportation system. The result is greater emphasis for transit and non-motorized modes of travel as alternatives to driving alone, for conserving existing system capacity and maintenance of the existing system. Federal policy now states that "the safe accommodation of pedestrians and bicyclists should be given full consideration during the development of federal-aid highway projects, and during the construction of such projects".[2]

Subsequent guidelines state: "'Due consideration' of bicycle and pedestrian needs should include, at a minimum, a presumption that bicyclists and pedestrians will be accommodated in the design of new and improved transportation facilities. In the planning, design, and operation of transportation facilities, bicyclists and pedestrians should be included as a matter of routine, and the decision to not accommodate them should be the exception rather than the rule. There must be exceptional circumstances for denying bicycle and pedestrian access either by prohibition or by designing highways that are incompatible with safe, convenient walking and bicycling."[3]

Federal authority related to bicycle transportation is contained in the following sources:

- Title 23 of the United States Code - Highways
- Part 652 of the Code of Federal Regulations – Pedestrian and Bicycle Accommodations and Projects
- Part 450 of the Code of Federal Regulations – Planning Assistance and Standards
- Public Law 109-59, the Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005 (SAFETEA-LU)

- The National Bicycling and Walking Study – Transportation Choices for a Changing America, (FHWA-PD-94-023)
- Accommodating Bicycle and Pedestrian Travel: A Recommended Approach

These citations contain the requirements for conducting state and metropolitan transportation planning as described in the respective previous sections. They further clarify that bicycle facilities and non-construction projects are eligible expenses under most all highway funding sources as explained in the following section on funding.

In the intervening years, this legislative and financial support, along with the growing public support that initiated the legislative changes, has resulted in the development and implementation of numerous projects improving bicycle mobility. A secondary result has been an improvement in the quality of these facilities and the guidelines for designing and constructing them.

STANDARDS AND GUIDELINES

Design Cyclists

Accommodating bicycle travel must take into account that one type of facility does not fit all cyclists as they vary in their experience and capabilities. As a result, the Federal Highway Administration recognized three types of cyclists in its 1994 report *Selecting Roadway Treatments to Accommodate Bicycles*. These classifications have been included in the 1999 update of AASHTO's *Guide for the Development of Bicycle Facilities*. These include the following:

- "Advanced or experienced riders are generally using their bicycles as they would a motor vehicle. They are riding for convenience and speed and want direct access to destinations with a minimum of detour or delay. They are typically comfortable riding with motor vehicle traffic; however, they need sufficient operating space on the traveled way or shoulder to eliminate the need for either themselves or a passing motor vehicle to shift position.

- "Basic or less confident adult riders may also be using their bicycles for transportation purposes, e.g., to get to the store or to visit friends, but prefer to avoid roads with fast and busy motor vehicle traffic unless there is ample roadway width to allow easy overtaking by faster motor vehicles. Thus, basic riders are comfortable riding on neighborhood streets and shared use paths and prefer designated facilities such as bike lanes or wide shoulder lanes on busier streets.

- "Children, riding on their own or with parents, may not travel as fast as their adult counterparts but still require access to key destinations in their community, such as schools, convenience stores and recreational facilities. Residential streets with low motor vehicle speeds, linked with shared use paths and busier streets with well-defined pavement markings

between bicycles and motor vehicles, can accommodate children without encouraging them to ride in the travel lane of major arterials."[4]

These three categories are referred to as Type A (advanced), Type B (basic) and Type C (children). It is important to consider the type of riders likely to be using a particular route and to realize that conditions may not be suitable for accommodating all types of riders. That is, road conditions may be too busy for children, or trail conditions may be too busy or have a variety of other type users to be suitable for advanced riders. Also unmentioned in this typology is the education of the bicyclist. A child can be trained in the rules of the road and be safer in traffic than an advanced cyclist who chooses to disregard the rules of the road.

Types of Bicycle Facilities

The following types of bicycle facilities have not changed in recent years, although the design specifications and guidelines have been refined and need to be adapted to specific conditions. The type of facility used is also guided by the FHWA report *Selecting Roadway Treatments to Accommodate Bicycles* as well as factors such as the type of user, corridor conditions and costs. The following descriptions are derived from the AASHTO *Guide for the Development of Bicycle Facilities* and other sources. Note that the dimensional standards included in the following descriptions are general. As project conditions vary, planners are referred to the FHWA, AASHTO and other documents that do present these standards as well as the interpretive guidelines necessary to determine specific applicability.

BIKEWAYS

The term "bikeway" is a collective term that may include any of the following techniques for accommodating bicycles in the transportation system. It is useful for referring to a network of bicycle facilities which includes a combination of types of facilities or a proposed facility for which the appropriate treatment has not yet been determined.

SHARED ROADWAY (NO BIKEWAY DESIGNATION)

Most bicycle travel in the OKI region occurs, and will continue to be, on streets and highways without bikeway designations. For many streets with low speeds and traffic volumes, such as urban and rural local streets, there is no need for specific bikeway treatment. An exception for such streets would be where directional route signing is needed to provide continuity to the rider. Other streets and highways may be unsuitable for biking and it would be inappropriate to encourage their use with bikeway treatments.

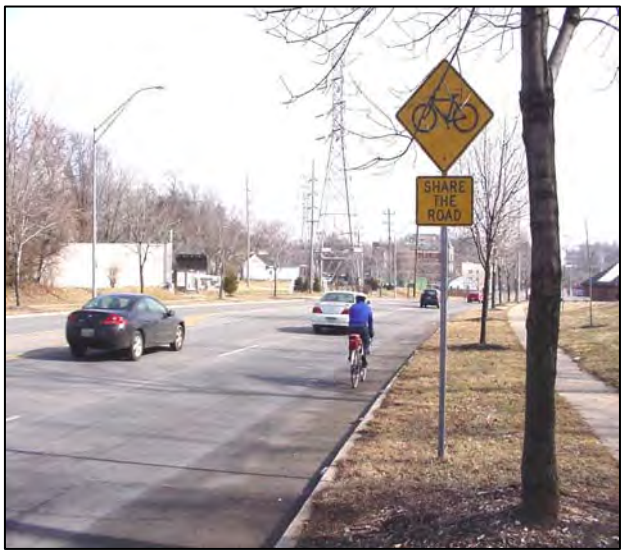
BIKE BOULEVARDS

Where urban development has occurred within a grid street pattern, local streets one or two blocks parallel from arterial roads may be reworked for use as bike boulevards. These are intended to provide a more peaceful and less trafficked route within a corridor. Bike boulevards do not exclude motor vehicle traffic. Typical modifications include changing stop signs to allow through movement along the street and stopping cross traffic. To discourage motor vehicles from also using them for through travel, traffic islands are installed at a few intersections which force motor vehicles to turn while providing a channel for cyclists to pass through.

SIGNED SHARED ROADWAYS (BIKE ROUTES)

Streets may be signed with bike route signs to indicate to cyclists that there are particular advantages to these routes compared to alternative routes through high demand corridors and to provide continuity between gaps in other facilities such as bike lanes and trails. Such a bike route might identify a series of low-volume local streets to follow as an alternative to cycling on a parallel arterial street. Bike route signing also serves to advise motorists that bicycles are likely to be present. The recommended travel lane width for shared use by motor vehicles and bicycles is 14 feet, however low-volume local streets with lesser width may be signed for bike routes. Estimated costs are $2,500/mi. with signs every ¼ mile on both sides, plus two signs for turns or junctions.[5]

WIDE RIGHT TRAVEL LANES



Wide curb lanes are a technique that improves cycling conditions on roads without designated bikeways by providing an outside or curb lane sufficiently wide for motor vehicles to pass bicycles in the same lane without needing to change lanes or crowd the cyclist. For this type of improvement, there is no lane stripe to indicate the space for the respective vehicles. On an existing road, the additional space for a wide right lane may come from restriping the existing lanes or eliminating parking. The recommended travel lane width for shared use by motor vehicles and bicycles is 14 feet.

SHARED ROADWAY MARKING

A recent technique that is currently experimental is the Shared Roadway Marking, a bicycle symbol below two chevrons. Its purpose is for use where a travel lane width is insufficient to share by a car and bicycle. This includes where there are parked cars with the danger of a cyclist being struck by an opening door, or where hazards may exist in the road itself. The symbol indicates the position within the lane to be taken by the cyclist which will likely be within the space also occupied by motor vehicles. Research has found that it

encourages cyclists to ride outside the "door zone" of parked cars and also increases the distance between passing motorists and cyclists. It also discourages cycling on the sidewalks, and the directional chevrons reduce wrong way riding in the street. In 2007, the National Committee on Uniform Traffic Control Devices approved the symbol, also referred to as the "sharrow" to recommend to the Federal Highway Administration for inclusion in the Manual on Uniform Traffic Control Devices in the 2009 update.

BIKE LANES

Bike lanes are established with appropriate pavement markings and signing along streets particularly suitable for bicycle travel because of demand or destinations served. "Bike lanes are intended to delineate the right-of-way assigned to bicyclists and motorists and to provide for more predictable movements by each. Bike lanes also help to increase the total capacities of highways carrying mixed bicycle and motor vehicle traffic."[6] On an existing road, the additional space for bike lanes may come from restriping the existing lanes or removing parking. Additional measures needed to ensure the effectiveness of the bike lanes include replacing any parallel storm water inlets that may trap bike wheels and to keep the lanes swept clear of glass, dirt and debris. The minimum recommended width for bike lanes is 4 feet, excluding inlets. Estimated cost on existing pavement is $13,000/mi. for a 4 in. stripe and cyclist symbols every 1/8 mi. on both sides of the road. Construction costs for an additional 5 ft. of roadway ranges from $102,000/mi. on rural roads to $200,000/mi. for urban roads with sufficient right-of-way.[5]

SIDEPATH

A sidepath is a shared use path constructed to the side of the roadway within the street right-of-way. It is usually provided on one side of the road and intended for two-way bike and pedestrian traffic. A 5 foot pedestrian sidewalk is usually provided on the opposite side of the road. As a sidepath is carrying a mix of modes, guidelines call for a minimum of 10 feet of pavement width and 5 feet separation from the roadway curb, or a barrier. While favored for their separation from traffic, they are not recommended because they move the cyclist out of the sight lines of motorists turning into and from driveways and side streets while causing cyclists to ride opposing traffic in the adjacent travel lane. They require street

crossings at their termini or may result in wrong-way riding. Motorists may also react hostilely to cyclists who legitimately choose to ride in the street. Sidepaths may work where they are next to a feature, such as a river, where there won't be any street or driveway crossings.[7]

SHARED USE PATH (PREVIOUSLY BIKE PATH OR MULTI-USE TRAIL)

"Generally, shared use paths should be used to serve corridors not served by existing streets and highways or where wide utility or former railroad right-of-way exists, permitting such facilities to be constructed away from the influence of parallel streets." [8] In addition to unused rail corridors, shared use paths are most often used along water fronts, canals, within college campuses and parks, and to connect cul-de-sacs and circumvent barriers to cyclists. By definition, shared use paths are intended to be used by a variety of users besides cyclists including walkers, runners, roller bladers, and wheelchair users. The design of these facilities should take into account the potential types and volumes of users. The minimum recommended width for shared use paths is 10 feet plus 2 feet clear space on either side. Where a shared use path is provided within a street right-of-way (a sidepath), cyclists should not be prohibited from using the street. Costs for rail-trail conversions are estimated at $130,000/mi. for a 12 ft. trail assuming an existing base. New facilities for a 10 ft. trail, 6 in. base and 4 in. bituminous paving is $300,000/mi.[5]

Guideline References

There are several sources of information related to bicycle facility development with which local government officials and staff, and bicycle advocates should be aware. These apply not only to the physical facilities, but also to bicycle operation. This, in turn, emphasizes the need for education of motorists and cyclists as to proper roadsharing skills for on-road facilities, and of the variety of users of shared use paths. As mentioned in the previous section, the user of this plan is referred to the source material for dimensional standards and the related guidance for their application. OKI does maintain copies of these resources in the agency library for in-house use and reference.

SELECTING ROADWAY DESIGN TREATMENTS TO ACCOMMODATE BICYCLISTS

This document was published by the Federal Highway Administration in 1994 (FHWA-RD-92-073) and provides a model planning process for identifying a network of routes on which bicycle facilities should be provided to accommodate bicyclists of moderate ability. It includes the descriptions of types of bicyclists and facility design treatments described above. It further brings this information together in a set of tables which suggest the appropriate facility and dimensions taking into account bicyclist type; urban

section with and without parking; rural section; average annual daily traffic volume; sight distance; operating speed; and presence of trucks, buses and RVs.

GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES

The 1999 update of the Guide by the American Association of State Highway and Transportation Officials is its third edition. The AASHTO Guide also presents a planning process to determine an appropriate network of facilities for a community. More important, it contains the latest design guidelines for the various types of bicycle facility treatments including widths, grades, clearance, bridges, drainage, pavement structure, intersections and crossings, lighting and pavement markings. While the AASHTO Guide is the most authoritative source for this information, it is likely that the implementation of local projects will encounter situations not specifically covered in the guide. The AASHTO Guide is the recommended reference for bicycle facilities for both the Ohio and Indiana Departments of Transportation although ODOT has included some changes in its version of the design standards. The Kentucky Transportation Cabinet has not adopted official guidelines as yet.

TRAILS FOR THE TWENTY-FIRST CENTURY

An excellent guide for citizen groups seeking to establish trails is Trails for the Twenty-First Century, available through Rails to Trails Conservancy. It addresses identifying stakeholders, land ownership, site characteristics, planning and design, public involvement, construction, marketing and maintenance.

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

There are other "standards" documents published by the federal government as guidelines for state and local projects, especially where federal funding is involved. The Federal Highway Administration publishes the MUTCD containing national design, application, and placement standards for traffic control devices such as signs, signals and pavement markings. It is their intent to promote the safe and efficient movement of traffic on the nation's streets through uniform devices throughout the country. State transportation agencies will normally adopt these standards at some point in time as well as updates that take place periodically. Part 9 of the MUTCD pertains to bicycle related control devices.

UNIFORM VEHICLE CODE

Like traffic control devices, a national model ordinance exists for the operation and equipment of vehicles using the public roadway system. The Uniform Vehicle Code is administered by the National Committee for Uniform Traffic Laws and Ordinances. This code is advisory as far as adoption by states. Chapter 11 of the UVC, Rules of the Road, contains the guidelines on which local and state traffic laws are based (Ohio Revised Code section 4511, Kentucky Revised Statutes chapter 189 and Indiana Code title 9).

Of significance in the operating statutes regarding bicycle use is the issue of the cyclist's position on the roadway that requires that "Every person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable…"[9]. In defining "practicable", the national Uniform Vehicle Code specifically recommends the following situations:

"Any person operating a bicycle or a moped upon a roadway at less than the normal speed of traffic at the time and place and under the conditions then existing shall ride as close as practicable to the right-hand curb or edge of the roadway except under any of the following situations:

1. When overtaking and passing another bicycle or vehicle proceeding in the same direction.
2. When preparing for a left turn at an intersection or into a private road or driveway.
3. When reasonably necessary to avoid conditions including, but not limited to, fixed or moving objects, parked or moving vehicles, bicycles, pedestrians, animals, surface hazards, or substandard width lanes that make it unsafe to continue along the right-hand curb or edge. For purposes of this section, a "substandard width lane" is a lane that is too narrow for a bicycle and a vehicle to travel safely side by side within the lane". [10]

At issue is the need to specify under what conditions a cyclist, as the operator of a vehicle, can "take a lane", that is, occupy the center of the lane so that overtaking traffic must change lanes or wait for a break in oncoming traffic to pass. It is important that state vehicle operating statutes incorporate provisions that make it clear that a cyclist can take the lane when passing; turning left; when it is too narrow to share; when hazards (glass, litter, grates) are present along the edge of the road; and that motorists are educated that cyclists taking a lane, under these conditions, is a legal operation.

VEHICULAR CYCLING

The importance of education of both cyclists and motorists in roadsharing skills has been carried forward in this report from the previous plan. State driver education courses exist for training motor vehicle operators, and driver's manuals include sections for sharing the road with bicyclists. The most respected education program for cyclists is the Effective Cycling program developed in 1975 by John Forester, in a book of the same name. The book includes chapters on bicycle maintenance, cycling technique, and various types of riding. The principles of vehicular cycling on the roads with traffic are presented in the chapter on "Cycling Environment". The Effective Cycling premise is that "Cyclists fare best when they act and are treated as drivers of vehicles."[11] This means that cyclists are safest when they take their place in the traffic stream and operate according to the vehicular rules of the road. (Bicycles are defined as vehicles in most statutes.) The League of American Bicyclists has incorporated the principles of vehicular cycling in its Road 1 bicycle education program which includes courses targeted primarily toward adults through bike clubs and adult education. It is also adapted for children and for training motorists in how to cope with bicyclists on the road.

FUNDING

Previous sections of this plan have mentioned the historic growth in cycling over the past thirty years and the significance of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), and its 1998 and 2005 successor bills. As a result of this increased federal support and funding for non-motorized travel, new and traditional non-federal funding sources have likewise evolved. These sources are necessary for doing the preparatory planning work for facility construction, providing required matching funds

for the federal money, and, for smaller projects, as alternative funds to federal grants for more expeditious project implementation.

The following sections catalog various sources of funds available for developing bicycle facilities and programs. This is related to the goal to "Secure adequate funding for bicycle improvements in the region" and the related objective to "Identify available local, state and federal sources of funding for bicycle facilities and programs".

Two points from the beginning of this chapter deserve repeating: First, most projects and programs are initiated, implemented and maintained through sponsorship of local governments. OKI, as the federally designated Metropolitan Planning Organization, provides a regional framework for maintenance and improvement of the multi-modal transportation system and coordinates the allocation of federal funds among competing local projects.

Second, for many of these programs, proposed bicycle and pedestrian projects are competing for funding with other recommended highway and transit projects. Furthermore, the number of projects that can be funded is constrained to the amount of available funds. For this reason, it is more efficient to incorporate on-street facilities into street improvement projects and to provide more than the minimum matching share of local funding.

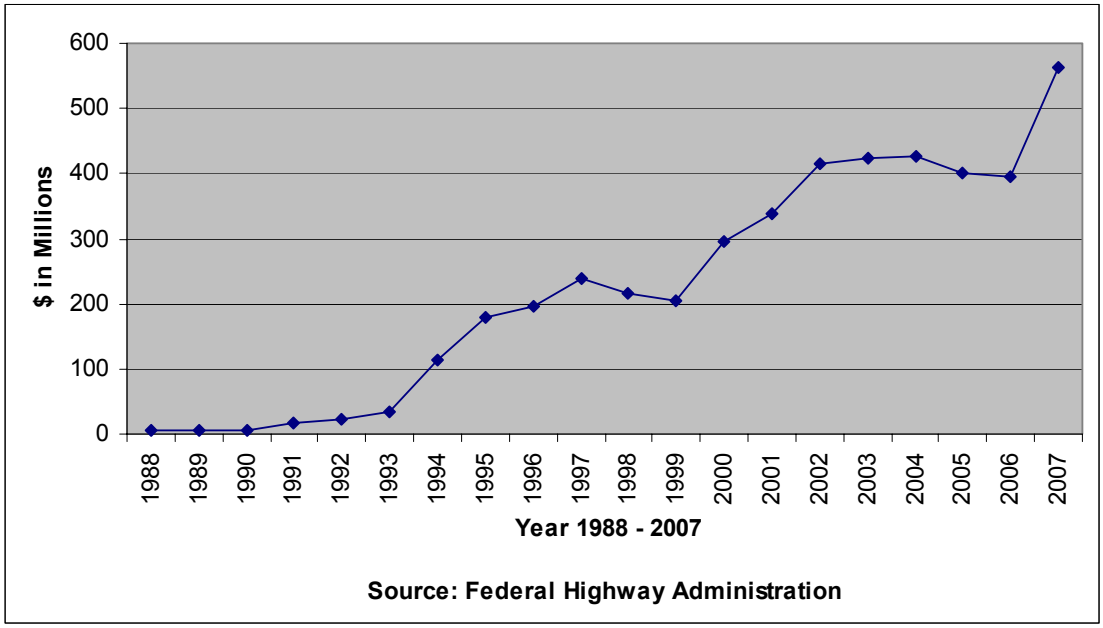
Federal Sources

The role of the US Department of Transportation in implementing national transportation policy through guidelines and funding was presented previously in this chapter. As a result of new congressional priorities implemented in ISTEA, federal aid for bicycle and pedestrian projects has increased dramatically from the $4 million annual allocations during the 1980s as shown in Figure 5.2. The lags in growth in 1998 and 2005 correspond with delays in Congressional renewal of the transportation act.

Program funding has been maintained through the current bill, SAFETEA-LU, passed in 2005. Further, the region benefitted by funds specifically allocated for the Ohio River Trail in Hamilton County and the Williamsburg-Batavia Hike and Bike Trail as High Priority projects in that bill. SAFETEA-LU will expire in 2009 and must be renewed.

In regard to the federal funds allocated through SAFETEA-LU, it is important to understand that they are distributed by formula to state departments of transportation with considerable spending flexibility within the legislative guidelines. Thus local project applications do not go to the federal government, rather they are submitted to the state transportation departments and to the regional Metropolitan Planning Organizations such as OKI. Figure 5.3, TEA-21 Bicycle/Pedestrian Funding Opportunities, provides a matrix of SAFETEA-LU programs and the appropriate projects and programs that can be funded through each. Each program is briefly described as follows[12]:

Figure 5.2 National Federal Aid Obligations for Bicycle / Pedestrian Projects



National Highway System (NHS) – Defined in ISTEA, the NHS includes the Interstate highway system plus other major national and state highways in urban and rural areas that serve major population centers, major travel destinations, international border crossings and intermodal transportation facilities (such as airports). Bicycle improvements may be incorporated into regular maintenance and construction including within Interstate rights-of-way. Match rate: 80 percent federal, 20 percent state or local.

Surface Transportation Program (STP) – Flexible funding is allocated to states for use on any federal-aid highway, any bridges on public roads and transit facilities. Eligible bike and pedestrian facilities include on-road facilities, off-road trails for transportation purposes, pedestrian sidewalks and crosswalks, and bike parking facilities. STP money can also be used for bicycle and pedestrian facilities on local streets not part of the federal aid system. Match rate: 80% percent federal, 20 percent state or local. Note: funding for the Transportation Enhancement program, described below, comes from this STP program at a rate of 10% percent of a state's apportionment.

Transportation Enhancements Set-aside (TE) – This program is part of the STP program and funded with 10 percent of each state's STP allocation. It is intended for activities that enhance the transportation system in ways not traditionally included in design or construction in the past. SAFETEA-LU lists twelve eligible Enhancement activities:

- Pedestrian and bicycle facilities
- Pedestrian and bicycle safety and education activities
- Acquisition of scenic and historic easements and sites
- Scenic or historic highway programs including tourist and welcome centers
- Landscaping and scenic beautification
- Historic preservation

- Rehabilitation and operation of historic transportation structures or facilities
- Conversion of abandoned railway corridors to trails
- Control and removal of outdoor advertising
- Archaeological planning and research
- Environmental mitigation of runoff pollution
- Establishment of transportation museums

Transportation Enhancement projects must show a direct relationship to the surface transportation system. Eligible bicycle projects include construction of wide travel lanes, bike lanes, bike route marking, storm grate replacement, shared use paths, parking facilities, bike route maps and bike safety education. As most bike facilities are eligible for, and should be funded with, NHS and regular STP project funds, enhancement funds should be used for retrofitting poorly designed pre-ISTEA projects and projects clearly outside of traditional highway design. As TE funds are limited to construction, initial preparations including planning, environmental analysis and preliminary engineering must be completed in advance at local expense. Land acquisition is discouraged as an eligible activity in Ohio, but is accepted in Kentucky and Indiana applications. Match rate: 80 percent federal, 20 percent state or local. TE funds awarded in OKI's four Ohio counties are documented in Appendix 3.

Table 5.3 SAFETEA-LU Bicycle / Pedestrian Funding Opportunities

	NHS	STP	TE	HSIP	CMAQ	RTP	FTA	TTE	BRI	402	PLA	SRTS	TCSP	JOBS	BYW
Bike & pedestrian plans		●			●						●		●		
Bicycle lanes on roadways	●	●	●		●		●	●	●			●			●
Paved shoulders	●	●	●		●				●						●
Signed bike route	●	●	●		●							●			●
Shared use path / trail	●	●	●	●	●	●			●			●			●
Single-track hike / bike trail						●									
Spot improvement program		●	●	●	●										
Maps		●	●		●					●		●			
Bike racks on buses		●	●		●		●	●							
Bicycle parking facilities		●	●		●		●	●				●			●
Trail / highway intersection	●	●	●	●	●	●									●
Bicycle storage / service center		●	●		●		●	●					●	●	
Sidewalks, new or retrofit	●	●	●		●		●	●	●			●			●
Crosswalks, new or retrofit	●	●	●	●	●		●	●				●			●
Signal improvements	●	●	●	●	●							●			
Curb cuts and ramps	●	●	●	●	●							●			
Traffic calming		●	●	●	●							●	●		
Coordinator position		●			●							●	●		
Safety / education position		●			●					●					
Police patrol		●			●					●		●			
Helmet promotion										●		●			
Safety brochure / book										●		●			
Safety Training										●		●			

Source: FHWA, Transmittal of Guidance on Bicycle and Pedestrian Provisions of the Federal Aid Program, Feb. 1999, Updated for SAFETEA-LU. (See program descriptions in text)

Highway Safety Improvement Program (HSIP) This program was revised in the 2005 SAFETEA-LU act and replaces the Safety Set Aside program formerly a part of the STP program. Funding has been increased and is primarily for facility safety improvement projects. A new requirement is for states to prepare a State Strategic Highway Safety Plan. This requires local and regional coordination and response to identified problem areas including bicycle and pedestrian safety. Railroad crossing improvements are continued in this program and must also take cyclist safety into consideration which is particularly important for angled crossings. Match rate: 90 percent federal, 10 percent state or local.

Congestion Mitigation and Air Quality (CMAQ) – This program is to assist areas designated as non-attainment or maintenance under the Clean Air Act (including Cincinnati) to achieve and maintain a healthy level of air quality using transportation projects and programs. Bicycle projects include mapping and signing bikeway networks, facility construction, bike parking, bike racks on buses, and bike safety and promotion programs including working with employers. Proposals must quantify their contribution to improving the air quality, including potential for reducing overall vehicle miles of travel. Match rate: 80 percent federal, 20 percent state or local. Local partnerships with private and non-profit organizations are permitted.

Recreational Trails Program (RTP) – The RTP funds are limited to off-road trails for recreational purposes rather than transportation and may not be used for facilities along roads. Thirty percent of the funds must go for trails for motorized users and 30 percent for trails for non-motorized users. The remaining 40 percent is flexible. Eligible activities include development, maintenance and restoration of trails, acquisition of land or easements for trails, and education programs for safe use and environmental protection. This program is administered by the Ohio Department of Natural Resources, the Kentucky Department for Local Government and the Indiana Department of Natural Resources. Match rate: 80 percent federal, 20 percent state or local. Grants may also be made to private organizations.

Urbanized Area Transit Formula Grants (FTA) – This program provides capital and operating funds for transit operators in metropolitan areas. Eligible projects include bike lanes and parking facilities related to transit centers, and bike racks for buses (the local transit providers, Metro and TANK, have used CMAQ funds to equip their fleets with bike racks). Match rate: 80 percent federal, 20 percent state or local, although bicycle projects may be funded at 90 percent.

Transit Enhancements (TTE) – The Transit Enhancement program was added under TEA-21 and is funded with 1 percent of a transit agency's formula grant. Its purpose is similar to the STP Transportation Enhancement program in that projects should be non-traditional from past transit practices and enhance the appeal and utilization of transit services. Bicycle projects include bicycle access to transit centers and vehicles, including racks on buses and bike storage facilities.

Bridge Program (BRI) – The Highway Bridge Replacement and Rehabilitation Program assists states to replace or rehabilitate bridges on any public road over waterways, major highways and railroads. Such barriers are significant to pedestrian and bicycle trips and can result in trips not being made or being made, instead, by car. Where bicyclists are permitted to operate on the roads at each end of a bridge, federal code requires that bridge improvements be designed to safely accommodate bicyclists and pedestrians. Match rate: 80 percent federal, 20 percent state or local.

Section 402 State and Community Highway Safety Grant Program (402) – These funds are administered by the National Highway Traffic Safety Administration and are allocated to states by a formula based on population and road mileage, and the submittal of a State Performance Plan. The program supports activities that reduce deaths, injuries and property damage resulting from traffic crashes. State-funded bicycle projects include bicycle education and enforcement programs, bike safety and "Share the Road" brochures, safety events, helmet promotions, and training courses for traffic engineers. Match rate: 80 percent federal share, 20 percent state or local.

Statewide and Metropolitan Transportation Planning Funds (PLA) – A portion of a state's allocation of Interstate Maintenance, NHS, STP, CMAQ and Bridge funds are set aside for state and metropolitan area transportation planning (2 percent and 1 percent respectively). These funds are used for the required Long Range Transportation Plans (LRP) and state and regional Transportation Improvement Plans (TIP). The SAFETEA-LU planning guidelines require the inclusion of bicycle and pedestrian transportation elements in these plans. The preparation of this report was financed, in part, with metropolitan planning funds. Match rate: 80 percent federal share, 20 percent state or local.

Transportation and Community and System Preservation Pilot Program (TCSP)
This is an initiative of research and grants to investigate the relationships between transportation, community, and system preservation practices and identify private sector-based initiatives to improve such relationships. States, metropolitan planning organizations, and local governments are eligible for discretionary grants to carry out eligible projects to improve the efficiency of the transportation system, reduce environmental impacts of transportation, examine community development patterns and identify strategies to encourage private sector development patterns.

Safe Routes To School Program (SRTS)
SAFETEA-LU, in 2005, introduced the Safe Routes To School program to encourage more children to walk and bike to school both to increase physical activity and to reduce auto congestion around schools. Funds are available for infrastructure facilities and non-infrastructure programs for safety education, encouragement and enforcement programs. Funds are administered by the state transportation departments. Match rate is 100% federal to encourage participation by lower income communities.

Access to Jobs Program (JOBS) – This is a competitive grant program for local governments and non-profit organizations for connecting low-income persons and welfare recipients to employment and support services. Such projects may include

activities that encourage bicycling and transit. In the Cincinnati area, this program is administered by OKI. Match rate: 50 percent federal, 50 percent local or private.

National Scenic Byways (All-American Roads) Program (BYW) – This program recognizes and designates roads that have outstanding scenic, historic, cultural, natural, recreational or archaeological qualities. It was established under ISTEA, and is administered by FHWA. Such roads are likely to be attractive for bicycle travel and are eligible, through this program, for bicycle improvements such as wide travel lanes, bike lanes or paved shoulders, provided that they do not adversely affect the scenic qualities. Match rate: 80 percent federal share, 20 percent state or local. Within the OKI region, the following National Scenic Byways have been designated: the Ohio River Scenic Route on US 50 and 52 in Dearborn, Hamilton and Clermont Counties; the Big Bone Lick Scenic Byway in Boone County; and the Riverboat Row Scenic Byway in Newport (Campbell County). In addition, the Accommodation Line Ohio Scenic Byway has been designated by the State of Ohio between Waynesville, in Warren County, and Spring Valley in Greene County and generally follows US 42.

Over the duration of the ISTEA and SAFETEA-LU programs, FHWA has made provisions to streamline the processing and implementation of bicycle and pedestrian projects. Prior to these programs, such projects were subject to the same processing as major highway projects. As the bicycle and pedestrian projects inherently comply with the program goals and objectives and, frequently, involve minor pavement widening or re-striping within existing right-of-way, it is logical to relax some of the project requirements. Such streamlining steps have been implemented in regard to environmental impact assessments, matching rates (subject to overall state compliance), in-kind contributions toward local match, combined project funding approval, and exemption from air-quality conformity requirements.

Land and Water Conservation Fund – The US Department of the Interior provides funds for land acquisition and recreation facilities under the 1964 Land and Water Conservation Fund Act. Under the state grant program, funds are available to states and local political jurisdictions and are administered by the Ohio Department of Natural Resources, the Kentucky Natural Resources and Environmental Protection Cabinet and the Indiana Department of Natural Resources. Biking and hiking trails are eligible projects for these funds. Funding is provided on a reimbursable basis. Match rate: 50 percent federal share, 50 percent other federal, state or local funds (a minimum of 20 percent local funding is required).

Community Development Block Grants – The US Department of Housing and Urban Development provides grants to local governments for neighborhood revitalization, economic development and community facilities. Such projects need to show a benefit for low and moderate-income communities. These funds are administered by the Ohio Department of Development, the Kentucky Development Cabinet and the Indiana Office of Community and Rural Affairs. As a local example, the Village of New Richmond has received a Block Grant to develop trailhead facilities for the Ohio River Trail in their downtown area.

State Sources

The state departments of transportation, ODOT, INDOT and KYTC, are the lead agencies for receiving and distributing funds for which bicycle facilities are eligible. Most federal sources listed above and destined to local governments are distributed through the transportation departments. Likewise, revenues generated through state programs, such as gasoline taxes and motor vehicle registrations, are directed to the state transportation departments and either spent directly on state programmed improvements, or are passed on to local governments as allocations or in response to project applications.

Federal transportation programs, administered by the states, have been previously described and will not be repeated here. However, it does bear repeating that most transportation projects are initiated locally, especially those for cycling and walking. Further, SAFETEA-LU legislation calls for the consideration of bicycle and pedestrian needs in all highway project development. Therefore, road improvements for accommodating bicycles need to be integrated into the project's design as well as the funding. Road projects funded with National Highway System, Surface Transportation Program and Urban Area Transit funds, need to include the bicycle component costs from these respective sources. Bicycle projects not associated with a road improvement project are more appropriately funded with the Transportation Enhancement, Congestion Mitigation/Air Quality, or Recreational Trails programs.

Area Development Fund – Kentucky funds a local capital improvement grant program administered by its thirteen Area Development Districts. The Area Development Fund allocates funding for economic development to each county on an annual basis considering county population, employment and per capita income. Among the eligible capital improvement projects are parks and recreational trail facilities. Roads and other transportation facilities would not be eligible. Applications are initiated by cities for a minimum grant of $2,500 and are approved by the respective county. No matching local funds are required. The Northern Kentucky Area Development District serves Boone, Campbell and Kenton Counties in the OKI region.

Nature Works – Local jurisdictions in the state of Ohio are eligible for recreational facility funds through the Ohio Department of Natural Resources. These funds come from the Ohio Parks and Natural Resources Fund bond issue passed in 1993. Bicycle trails and land acquisition are eligible expenditures and funds are provided on a reimbursable basis. Match rate: 75 percent state share, 25 percent other federal, state or local funds (a minimum of 20 percent local funding is required).

Aid to Local Governments Improvement Program (Issue 2) – Local governments in Ohio are eligible for the Aid to Local Government Improvements program administered by the Ohio Public Works Commission. Funding is derived from the sale of bonds, authorized in 1988 as Bond Issue 2, by the State and provided as loans and grants. Eligible projects include roads and bridges (which can include bicycle facilities), water supply, waste water disposal and solid waste facilities. Priority is given to repair and rehabilitation of existing facilities over new facilities and expanded capacity. Funding programs include the State Capital Improvements Program (SCIP), the Local Transportation

Improvements Program (LTIP), and the Small Governments Program. Local governments desiring funds must prepare a five-year capital improvements program. Ohio is divided into 19 districts including District 2, comprised of Hamilton County, and District 10, comprised of Butler, Clermont, Clinton and Warren Counties. Local applications are screened by a District Public Works Integrating Committee which receives a District allocation of funds based, in part, on population.

Conservation and Revitalization Fund (Clean Ohio Fund) – In 2000, Ohio Bond Issue 1 was approved by the voters and provided $400 million of state bond funds over a four year period for the purpose of urban brownfields redevelopment and farmland and green-space preservation. Of the $400 million, $100 million was allocated for green-space preservation including river corridors, forests and wetlands. An additional $25 million was provided specifically for recreational trail development. These programs are administered by the Ohio Department of Natural Resources. At this time, funding approved in the 2000 bond issue has been spent. It is expected that a new bond issue will be proposed to resume funding this popular program.

Ohio and Kentucky both maintain funds for voluntary contributions to preserve natural habitat. The Kentucky Heritage Land Conservation Fund and the Ohio Nature Preserves, Scenic Rivers and Endangered Species Protection Fund are supported through contributions, donations from income tax refunds and sales of special license plates. Lands thus acquired for public use may be suitable for trail development.

Local Sources

The primary sources for local general operating funds are sales, occupational and property taxes. While local governments have the flexibility to use these revenues for bicycle improvements, they must compete with the full range of necessary public services including public safety and administration. Local general fund revenues are partially allocated through capital improvements budgets for recreational programs and facilities which may include bike facilities directly or as matching funds for federal grants.

Municipalities and townships may also pass special purpose property tax levies to fund a variety of needs including trail and sidewalk improvements, and land acquisition for parks and green space. The enabling legislation for Ohio's townships to pass such levies was initiated by Anderson Township which has used this authority for a levy funding sidewalk and trail improvements.

Local governments, including counties, cities and townships, have a variety of funding sources for transportation facilities along with varying responsibilities for portions of the roadway system. The largest sources of such funds are gasoline sales taxes and motor vehicle licensing fees described under the state funding sources. In Ohio, these funds may only be used for road and bridge construction and maintenance and not for specific bicycle or pedestrian improvements, although construction of shoulders along rural highways serves both motor vehicle and bicycling needs. These funds are paid locally, but collected by the states and returned to local governments as rural, county and

municipal aid road funds. In Ohio, these funds serve as the operating funds for the county engineering departments.

Park districts in Butler, Clermont and Hamilton Counties operate independently from the county governments with separate operating levies. While these districts have a primary responsibility for preserving green space, they also develop and operate recreational facilities including shared use trails. Hamilton County Park District has loop trails in Miami Whitewater Forest, Winton Woods and Sharon Woods, and is working on continued development of the Little Miami Scenic Trail. Butler Metroparks is a principal participant in developing the Great Miami River Trail and the Miami 2 Miami Trail system. The Clermont County Park District is developing the Williamsburg to Batavia Trail and partnering with the Hamilton County District on the Ohio River Trail project. These park districts are also eligible applicants for federal funding programs.

Private Sources

NON-PROFIT ORGANIZATIONS

Many shared use paths are being built with encouragement and funding from non-profit tax-exempt (501(C)(3)) organizations created for these projects. The Rails-to-Trails Conservancy is a national organization providing technical assistance and information for developing trails along both unused and active railroad corridors. Rails-to-Trails has a Midwest Regional chapter serving Ohio and Indiana. In Ohio, the Ohio to Erie Trail Fund is creating an off-road trail from Cincinnati to Cleveland by building links connecting other existing facilities. The South Western Ohio Trails Association is a local group, but does not sponsor a specific trail at this time. Such groups serve to raise public awareness and support for a project, provide volunteer labor for clearing and construction (which may possibly qualify as local match for grants), and as a repository for tax-free individual and corporate donations for their projects.

FOUNDATIONS

Thousands of foundations exist to provide funding for as many specific purposes. Foundation money is generally constrained by the guidelines of the foundation, but may be used to fund the operation of a non-profit organization or the development of a trail. Such funds may be used instead of government grant money, or as a portion of local matching funds. The Conservation Fund supports trail development though its American Greenways Awards program funded by the Kodak Corporation. Grants of up to $2,500 are available. An example in Ohio is the Thomas J. Evans Foundation which was created to develop and maintain the 24 mile Evans Trail in Licking County, a rail-trail conversion. Locally, the Hamilton Community Foundation is providing funding for a five mile extension of the Great Miami Trail between downtown Hamilton and Rentschler Forest. The Cinergy Foundation makes financial and volunteer support available for education, economic development, health, arts and cultural activities. Information on foundations is available from the National Foundation Center (www.fndcenter.org) with a database on 53,000 grant makers. The Public Library of Cincinnati and Hamilton County is affiliated with the Foundation Center and offers access to foundation information and general technical assistance.

FUND-RAISING EVENTS

Organizations often undertake their own fund-raising events to cover operating expenses, preliminary planning work not eligible for grants, or for actual trail construction and maintenance activity. Examples of fund drives include purchases of land acreage needed for a park and trail in Ashtabula, OH; a "yard sale" of symbolic yards of trail in Jackson County, OR; and trail improvements paid for by an adjacent property owners association in Colorado Springs.[13]

OTHER RESOURCES

Businesses selling merchandise such as bicycles, camping equipment and outdoor apparel often will provide funds for trail development as a good will gesture and to attract new users and potential customers. The Bikes Belong Coalition, Ltd. is such an organization sponsored by the American Bicycle Industry. In addition to assisting public bicycle advocacy, Bikes Belong also operates its own grants program providing grants of up to $10,000 to local non-profit organizations for development of trail facilities. These funds are often used towards matching Transportation Enhancement funds, as Bikes Belong is an active supporter of the SAFETEA-LU legislation. Another company that financially supports local trail and conservation projects with seed grants of $200 to $2,000 is Recreational Equipment, Inc. (REI). PowerBar also provides grants of $2,000 to $5,000 to protect and restore recreational lands through its Direct Impact on Rivers and Trails (D.I.R.T.) Program.

Trail construction and maintenance is often accomplished through the volunteer efforts of users clubs, such as the Queen City Wheels and Cincinnati Off Road Alliance bicycle clubs, which build and maintain mountain bike trails in public parks. Local Boy Scouts of America troops have undertaken trail construction and maintenance as community service activities. Local service clubs, such as the Lions and Rotary may provide financial or volunteer services for such community projects. In Connecticut, the National Guard has been used to assist in trail construction as a public works project. The Corporation for National Service operates several service organizations nationwide including AmeriCorps, a domestic Peace Corps, and the National Senior Service Corps. Full time paid workers can be assigned to work with state commissions, non-profits, and civic organizations for up to a year.

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[1] Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU), August 2005, Sections 3005 and 3006

[2] Chapter 23, Code of Federal Regulations, Section 652.5

[3] Federak Highway Administration; FHWA Guidance, Bicycle and Pedestrian Provisions of Federal Transportation Legislation, Updated April 4, 2007

[4] American Association of State Highway and Transportation Officials, Guide for the Development of Bicycle Facilities, 1999, page 6.

[5] Facility costs based on estimates from T.Y. Lin International BASCOR, Inc., and the Florida Dept. of Transportation. Cost estimates are as of 1999.

[6] American Association of State Highway and Transportation Officials, Guide for the Development of Bicycle Facilities, 1999, page 8.

[7] American Association of State Highway and Transportation Officials, Guide for the Development of Bicycle Facilities, 1999, Shared Use Paths page 33

[8] American Association of State Highway and Transportation Officials, Guide for the Development of Bicycle Facilities, 1999, page 8.

[9] Ohio Revised Code 4511.55; corresponding Kentucky Revised Statute is 189.300
[10] National Committee for Uniform Traffic Laws and Ordinances, Uniform Vehicle Code, Section 11-1205
[11] Forester, John; Effective Cycling, The MIT Press, Cambridge, MA, 1992
[12] Federal Highway Administration; Kenneth R. Wykle, Federal Highway Administrator; Transmittal of Guidance on Bicycle and Pedestrian Provisions of the Federal-aid Program; Feb. 24, 1999
[13] Pedestrian and Bicycle Information Center (bicyclinginfo.org), Policy and Planning, Funding Revenue Sources.

"You should know that bicycling improvement construction costs run about $70,000 a mile; for 12-foot shared paths about $128,000 a mile; 5-foot bicycle lanes about $189,000 a mile; 5-foot paved shoulders on rural roads about $102,000 a mile.

You should also know that one mile of urban freeway costs on average $46 million a mile. Don't let anyone tell you we can't afford bicycle lanes! You know better."

--Congressman James Oberstar, (D-MN), in a 1998 speech describing the $4 billion dollars made available in TEA-21 for bicycle facilities.

Chapter 6
EVALUATION

Although there are many outcomes associated with bicycle and pedestrian programs, the ultimate measure of success is to safely increase the level of bicycling and walking.

--- The National Bicycling and Walking Study

With the increase of resources being devoted to bicycle facilities, it becomes more important to be able to track the progress of this plan's implementation. Chapter 2 contains a review of the recommendations of the previous edition of the Regional Bicycle Plan with an accounting of progress made.

PERFORMANCE MEASURES OF PLAN IMPLEMENTATION

During the interval until this plan is next updated, certain measures will be undertaken to better track the progress of the recommendations and fulfillment of the plan's objectives. The following activities will be tracked:

Cycling Activity

Much of the cycling activity documented in Chapter 2 was gathered from national surveys and presented with the assumption that the national characteristics are representative of the Cincinnati area. The following resources will be used to estimate bicycle trips for the purpose of comparison with the national goal of doubling the number of trips.

Principal national sources include the five-year National Household Travel Survey (NHTS) and the Decennial Census of Population. The National Household Travel Survey results of 2001 are reported in Chapter 2. The survey is taken every five years, so results of the next survey are not yet available. This survey is of greater value than the Census Journey to Work as it is taken during the summer and also reports mode of travel for all trip purposes. A review of the NHTS resources has found that national proportion of bicycle travel, defined by trip purpose, have declined somewhat between the 1995 and 2001 surveys.

The 2000 Decennial Census was taken on April 1, 2000. Results documenting mode of travel to work, including bicycle travel, are also reported in Chapter 2. The value of these data is limited as the reference week for reporting is the last week of March when weather conditions may not be suitable for cycling. Nevertheless, comparable local data down to census tract level are available for comparison over four censuses (1970 – 2000) to track trends for this source. The 2000 Census Transportation Planning Package special tabulation was released in 2004 from which both origin and destination data for bicycle work trips can be determined for OKI's transportation analysis zones. The 2010 Census will discontinue the sample survey, replacing it with the ongoing American Community Survey which was initiated in 2005 and will require several years of surveys to gather sufficient results for valid small area data.

The Internet has facilitated the exchange of information both by encouraging creation of sites for sharing data, and by making it easier to locate and access the information. These resources will be monitored for participation characteristics that can be applied to this area and for reports of local cycling activity.

Usage of the Little Miami Scenic Trail was estimated at 150,000 to 175,000 in OKI's 1997 Trail Users Study. As this trail is extended, and other trails are built, OKI will work with the implementing units of government to monitor usage. Counts taken by OKI staff in 2006 and 2007 at the Loveland trailhead provided estimates of around 2,000 users per good weather, weekend day.

On-road bicycle usage has been difficult to monitor as traffic counting work does not count or distinguish bicycles. OKI has been taking manual counts for certain road segments or intersections expected to be traveled by cyclists as reported in Chapter 2. This will be considered for roads where facility improvements are planned in order to estimate their impact.

Miles of Facilities

Given the preference for separate trails and designated on-road facilities by cyclists in the region, additional lengths of such facilities can be used as a measure of progress towards plan implementation. The current inventory of facilities is based on local reports of existing bikeways followed up by field checks. Trail facilities are now tracked through a regional geographic information system by Global Positioning System survey. This plan also recommends attribute data describing type of bicycle accommodation for inclusion with the street segment records for the OKI highway network.

Motor Vehicle Collisions

Local success toward the national goal for a 10 percent reduction in the number of bicyclists killed or injured can be tracked with county level crash statistics kept by the state highway safety agencies. Historic data from these sources are presented in Chapter 2. The frequency of fatalities for the region is (fortunately) too low to reliably measure change. Injury crashes are more frequent and incidents of bicyclist injuries, as a percent of all injury crashes, will be tracked for change, either up or down. Comparing the annual average of bicycle/motor vehicle crashes for the 1990s as documented in the 2001 plan with those in Figure 2.2 of this report finds a significant drop from 353 to 232 injury crashes per year.

Facility Funding Applications

Project applications to OKI and the state transportation departments for the categorical Transportation Enhancement (TE) grants are easily tracked. The TE expenditures indicate progress toward plan implementation in two ways: the funded projects for bicycle improvements likely represent specific project recommendations being implemented. Second, the share of the respective TE allocations funding bicycle facilities, as opposed to Historic/Archaeological, Scenic/Environmental and Pedestrian projects, is also a measure of plan implementation.

More difficult to track, but more meaningful, are the bicycle facilities integrally funded and built with conventional highway funds (National Highway System, Surface

Transportation Program, Hazard Elimination or Bridge Replacement) as part of ongoing highway reconstruction, maintenance or new construction projects. Besides the benefits from the projects themselves, there is the more significant achievement of incorporating bicycle improvements into the process of managing the surface transportation system.

ASSESSING PROGRESS

The SAFETEA-LU metropolitan area planning regulations call for a review and update of the regional transportation plan on a four year cycle. This process will provide the opportunity to assemble information for the performance measures described above and evaluate the past years' activities in terms of the listed recommendations in Chapter 4 and their respective goals and objectives. A major revision of the Regional Bicycle Plan, such as this, is not scheduled on a regular basis.

Many of the objectives, and even some of their recommendations, are continuing activities to be implemented as needs and opportunities arise. As such, they are never entirely completed. Others, such as roadsharing education for both bicyclists and motorists, are beyond OKI's program responsibilities. Progress on these will depend on the success of work with other appropriate agencies

MAKING CORRECTIONS TO BETTER MEET GOALS & OBJECTIVES

The evaluation of the regional bicycle program accomplished through the progress assessment, described above, should provide some indication of which goals and objectives have progressed and which have not. Adjustments in the transportation plan recommendations, and the corresponding overall work programs for subsequent years, should be sufficient to refocus on priority accomplishments.

B-BOPP to Work Week – 2000 Fountain Square Rally
(Bike – Bus Or carPool and Pedestrian)

APPENDIX 1

Status Report on Trails and Greenways in the OKI Region

January 2008

Introduction

The Ohio-Kentucky-Indiana Regional Council of Governments is the federally designated Metropolitan Planning Organization (MPO) for transportation planning in the Cincinnati metro area. In addition to our multi-county geographic area, our transportation planning responsibilities are also multi-modal as they include freight and personal movement by motorized and non-motorized modes.

Shared use paths are a component of the regional transportation system including roadways. In some respects they can be considered a specialized network for non-motorized travel, just as the interstate highway system is for limited access motorized traffic. Like auto travel, the majority of non-motorized travel (bicycling and walking) still shares the local and arterial road system. While the regional trail system may be comprised of many local trail components, it excludes recreational loop trails less than four miles serving one park, walking paths and mountain bike trails.

Like the highway system, OKI's role for the regional trail system is to plan for a network of trail facilities, recommend guidelines for their construction and identify resources for implementation. This work is included the Regional Bicycle Plan. Implementation of these recommendations is normally initiated by local and state governments. The OKI staff provides technical assistance and coordination to trail groups and local governments in determining the detailed planning, design and funding requirements. A recommended resource for local trail groups is Trails for the Twenty-first Century available through Rails to Trails Conservancy. OKI also administers Transportation Enhancement funds, sub-allocated to us from the Federal Highway Administration through the Ohio Dept. of Transportation. OKI has prepared applicant guidelines for jurisdictions seeking these funds.

The following trail projects are regional in scope and in various stages of planning and development.

- **Ohio River Trail - New Richmond to Cincinnati (Lunken Airport)**
  A feasibility study was completed and published in April, 2000 which identified a feasible route for a 16 mile shared use path at a cost of around $7 million. The multi-jurisdiction Ohio River Trail Planning Committee still meets periodically and, in 2003, commissioned a follow-up study for supplemental planning and engineering and alternate alignments. The supplementary study considered a two bridge alternative for the Little Miami River at Beechmont and Kellogg Ave. which would use the existing Lunken trail along the west side of the Little Miami River. It also included a greater portion of the trail to be placed along the Ohio River side of Kellogg (US 52) at the request of the local jurisdictions resulting in a higher estimated cost of $17 million. The City of Cincinnati has prepared engineering plans for inclusion of the trail on the Kellogg Ave. bridge at the Little Miami River to connect the Lunken Bike Path to Magrish Preserve. None of the three alternatives for the connecting section of the Little Miami Scenic Trail between Beechmont and Kellogg Ave. (Beechmont bridge only, Kellogg bridge only or both bridges) has been selected as yet. Anderson Township was appropriated $220,000 in High Priority Project funding in the SAFETEA-LU transportation reauthorization bill adopted in August 2005 for the portion of the trail between Sutton and Five Mile Roads. The project is

currently in the engineering stage with construction expected in 2008. This segment would be built on the north side of Kellogg partially on reserved right-of-way. A crossing of Kellogg is included to access the Township's Kellogg Park.

Action Needed: Commitment to the preferred trail route. Continuing planning and advocacy by the Ohio River Trail Planning Committee; continuing financial and political support for trail development from the corridor communities, park districts, private interests, trail users, and state and federal governments.

Contacts: John Heilman (jheilman@oki.org) or Don Burrell (dburrell@oki.org), OKI Regional Council of Governments, 720 E Pete Rose Way, Suite 420, Cincinnati, OH 45202; Phone: 513-621-6300; Website: www.oki.org.

- **Ohio River Trail – Cincinnati (Lunken Airport to Downtown)**
  There are two possible trail routes in this six mile corridor. The Oasis rail line still carries freight and is in public ownership by the Southwest Ohio Regional Transit Authority for the potential of rail transit service. If this comes to be, construction plans will consider the possibility of rails-with-trails. Otherwise, if rail use for freight and transit is abandoned, the right-of-way could be used for a trail from downtown to Lunken Airport. In the meantime, the City of Cincinnati is pursuing an alternative trail route along the riverside. Council passed a motion in 2001 to open a trail along this route between Lunken and downtown by 2007. Planning, engineering and property acquisition discussions have been underway since that time. Construction funding from the Clean Ohio Trails fund was used for a one mile section between Corbin St. and Stanley Ave which opened in June, 2004. Funding has been secured for an additional 0.8 mile from Carrel St. to Lunken Airport which is expected to be constructed in 2008. An additional one mile segment has opened through the new International Friendship Park extending the trail from Great American Ball Park. An appropriation of $2.6 million was included in the SAFETEA-LU transportation bill adopted in 2005 to construct the trail between downtown and Salem Rd. Cincinnati may apply this toward a costly section between Carrel and Congress St. or toward improving the Salem Rd. bridge at the Little Miami River. The City has also recently undertaken a study to design the remaining segments of this portion of the riverside trail. With approval of the City of Cincinnati, the Ohio River Way organization is promoting an alternate trail alignment using the inactive portion of the Oasis rail line for as a temporary alignment until the rail transit service is initiated. With the support of citizen groups, private funding may be sought to build this temporary trail. A trail connection across the Ohio River to Newport (the Purple People Bridge) opened in 2003 on the old L&N bridge. Plans for the redevelopment of the central riverfront include a park along the river between the new stadiums. Given the competition for various activities and limited space, it is important for trail advocates to keep decision-makers aware of the need to continue this trail into the heart of the city with the potential for future extension along the western riverfront. Replacement of the Waldvogel Viaduct should include provisions for this trail along US 50 (River Rd.) between State Ave. and the Mill Creek. This trail will also be part of the Ohio to Erie Trail connecting Cincinnati and Cleveland.

  Action Needed: Continued advocacy by interested trail groups, Cincinnati Bicycle / Pedestrian Advisory Committee and the East End and Columbia-Tusculum neighborhoods. Public support for privately funding the temporary Oasis line trail. Continued budgetary support by the City for trail development and applications for construction funding from state

and federal sources.

Contact: Jim Coppock (jim.coppock@cincinnati-oh.gov); Cincinnati Department of Transportation and Engineering, 801 Plum St., Cincinnati, OH 45202; Phone: 513-352-5305; Website http://www.cincinnati--oh.gov/transeng/pages/-6807-/

- **Little Miami Scenic Trail (Southern Extension)**
  In June, 2006, an additional 5 mile trail extension was opened south from Milford through Terrace Park to the Little Miami Golf Center on Newtown Rd. This segment included the remaining unpaved right-of-way originally purchased by Ohio in 1979. The Little Miami Scenic Trail is complete for 77 miles from the golf center to Springfield. In Springfield, there are connections to the 6 mile Buck Creek Trail to Buck Creek State Park and to the 15 mile Simon Kenton Trail to Urbana. At Xenia Station, the 18 mile Creekside Trail connects to Dayton, the 29 mile Prairie Grass Trail to London and the partially completed 11 mile trail to Jamestown. Within OKI, 50 miles of the Little Miami Scenic Trail pass through Warren, Clermont and Hamilton Counties. A 1998 OKI study of the Little Miami Scenic Trail between Loveland and Corwin (in Warren County) reported 150,000 to 175,000 trail users annually in this 27 mile section of the trail. Counts taken at the Loveland trailhead in 2006 for a weekend day in good weather resulted in an estimated user count of 1,500 cyclists (66%) and pedestrians (34%). The remaining undeveloped 3.5 miles from the golf center to the Lunken Bike Path are in both public (Hamilton County and Anderson Township Park Districts and City of Cincinnati) and private ownership and await an agreement with the private owners at an undetermined time. At Kellogg Ave., the Little Miami Scenic Trail will connect with the Ohio River Trail east to New Richmond and west to the Cincinnati Central Riverfront (described above).

  Action Needed: Support and advocacy from public and private decision-makers; continued advocacy by the Cincinnati Cycle Club, Bike/PAC and OKI; financial and political support for trail development from corridor communities, park districts, private interests, trail users, and state and federal governments.

  Contacts:
  Jim Coppock (jim.coppock@cincinnati-oh.gov); Cincinnati Department of Transportation and Engineering, 801 Plum St., Cincinnati, OH 45202; Phone: 513-352-5305; Website: http://www.cincinnati-oh.gov/transeng/pages/-6807-/
  Ross Hamre (rhamre@greatparks.org), Hamilton County Park District, 10245 Winton Road, Cincinnati, OH 45231; Phone: 513-728-3555, Ext. 256.
  Ken Kushner, kkushner@andersonparks.com Anderson Park District, 8249 Clough Pike, Anderson Township, Ohio 45255; Phone: 513-474-0003 Ext. 3005.

- **Murray Avenue Trail**
  In 2004, the Village of Fairfax opened a 0.8 mile trail on a former interurban line next to Murray Ave from the Erie Ave. bike route to the Mariemont / Fairfax line. With the Little Miami Scenic Trail extension, there is interest to continue the Murray Ave. trail through Mariemont and connect with an undeveloped segment of railroad right-of-way owned by the Hamilton County Park District in Columbia Twp. to connect with the Little Miami Scenic Trail at Newtown Rd.

Action Needed: Continued advocacy by interested trail groups and individual users, the Cincinnati Cycle Club and families of students in the Mariemont School District (which includes Terrace Park). Applications for construction funding from county, state and federal sources.

Contact: John Heilman (jheilman@oki.org) or Don Burrell (dburrell@oki.org), OKI Regional Council of Governments, 720 E Pete Rose Way, Suite 420, Cincinnati, OH 45202; Phone: 513-621-6300; Website: www.oki.org.

- **Five Mile Trail**

The Five Mile Trail is a component of the Anderson Twp. Trail and Sidewalk Network. It was initially proposed in 1993 and was built with a combination of federal state and local funding. A 2.0 mile section of the Five Mile Trail was opened in July, 2007 between Newtown and State Roads. Most of this trail uses Hamilton Co. right-of-way originally purchased for the extension of Five Mile Rd. Plans call for extension of the trail along Five Mile Rd. north from State Rd. to connect with the new Anderson Twp. government center and Towne Center. A connection to the Little Miami Scenic Trail is also being sought.

Action Needed: The trail has been very popular with local residents who are advocating for its extension. A feasible alternative for connecting to the Little Miami Scenic Trail should be determined and timed to join that trail when it is extended from the Golf Center to Beechmont Ave.

Contact: Tom Caruso, Anderson Twp. Trails Coordinator, 7954 Beechmont Avenue, Anderson Township, OH 45255 Phone: (513) 474-5560
tcaruso@andersontownship.org

- **Great Miami River Recreation Trail (The Great Connection)**

The Great Miami Recreation Trail, as proposed, extends more than 70 miles from Fairfield north through Hamilton and Middletown (Butler Co.), Franklin (Warren Co.), Dayton (Montgomery Co.), and Troy and Piqua (Miami Co.). The completed portions include 5 miles in Hamilton and Fairfield (the southern end), 10 miles in Middletown between SR 73 and SR 4, 5 miles in Franklin (Warren Co.), and 25 miles in Dayton (the northern end) with connections to Xenia and the Little Miami Scenic Trail. In the unincorporated areas and portions of Middletown, most of the right-of-way is owned by MetroParks of Butler County or the Miami Conservancy District.

From the Warren-Montgomery County line south to Hamilton, the trail is being implemented in four segments:
Segment 1 – 5 miles from the Montgomery County line through Franklin and Franklin Township, to Baxter Drive. Work on this section of the trail was completed and dedicated in October, 2006 by the Miami Conservancy District. This segment is now continuous into Dayton.
Segment 2 – 10 miles through Middletown along the Miami and Erie Canal and Great Miami River greenway on property owned by the Miami Conservancy District. This will be constructed in four parts, the first from Bicentennial Commons north to SR 4 was completed in 2004, the second from Bicentennial Commons south to SR 73 was built in 2005 with funding from the Clean Ohio Trails Fund. The third and fourth parts will connect SR 4 to Baxter Drive in Franklin

(Segment 1, above) and are not currently scheduled.
Segment 3 – 8 miles from SR 73 to Rentschler Forest through Fairfield, Liberty and Lemon Townships and Monroe. Preliminary design and environmental studies have been done, but no funding for engineering or construction has been determined.
Segment 4 – 5 miles from Rentschler Forest through Fairfield Township and Hamilton, connecting with the north end of the existing trail at the Main Street bridge. The new Main Street bridge crossing the Great Miami River includes space on the south side sidewalk for trail use. Construction funding has been secured through a grant from the Hamilton Community Foundation and construction could be started in 2008 pending resolution of property issues.

Transportation Enhancement and Clean Ohio Trails funding was obtained by Fairfield for a 1.7 mile section which was completed in 2004. This extended the existing 3 mile Hamilton trail south from Joyce Park to Waterworks Park for a total of nearly 5 miles.

The possibility of extending the Great Miami Trail south from Fairfield to Hamilton County's Shaker Trace trail is being considered. This would require crossing into the Whitewater River watershed possibly using on-street bike routes. While Shaker Trace is currently an 8 mile loop trail within Miami Whitewater Forest, the Regional Bicycle Plan recommends extending a connection 9 miles to Shawnee Lookout park on the Ohio River. The park districts and communities have formed an "Extend the Trail Committee"--led by the Miami Conservancy District--to oversee the preparation of necessary environmental and preliminary engineering studies.

Action Needed: Continuing planning and advocacy by the Extend the Trail Committee; financial and political support for trail development from the corridor communities, private interests, trail users, and state and federal governments.

Contacts: Hans Landefeld (hlandefeld@conservancy.com) Miami Conservancy District, 38 East Monument Avenue, Dayton, OH 45402; Phone 937-223-1278. Website: http://www.miamiconservancy.org
Jonathan Granville (granvillejr@butlercountyohio.org) MetroParks of Butler County, 2051 Timberman Road, Hamilton, OH 45013; Phone: 513-867-5853

- **Miami 2 Miami Connection**
  The Miami 2 Miami Coalition was formed in 2001 to coordinate several independent trail projects in southeast Butler and southwest Warren Counties. A common goal was trail access to both the Great Miami River Trail and the Little Miami Scenic Trail. The Coalition planning committee was assembled with representatives from twenty private advocacy groups and local government departments. A feasibility study was completed in October, 2002 which recommends two route alignments to connect the Great Miami Trail at Hamilton with the Little Miami Trail at Kings Mills. Both the north and south routes are recommended for implementation and will include shared roads, bike lanes and separate shared use paths. The northern route passes through Liberty and Deerfield Townships and the City of Mason. Around 2 miles of completed trail are available connecting Reserves and Wetland Parks in Liberty Township and parallels SR 129. A trailhead has been built at Maud-Hughes Rd., under the SR 129 bridge, and the trail built approximately ½ mile to the west including a stairway with channels for bikes. Liberty Twp. is planning to complete the ½ mile gap to Wetlands Park. The southern route goes through Hamilton, Fairfield, Mason and West Chester and Deerfield

Townships. In West Chester, 1.5 miles of trail was built in 2004 along the Miami-Erie Canal between SR 747 and the township line. This will be extended along the canal into Fairfield 1.5 miles to the SR 4 Bypass in 2008. In Mason, the southern M2M route follows the re-aligned Tylersville Rd. which includes an adjacent sidepath along the north side of the road (this does not preclude cycling in the road). Both routes join to cross the Little Miami River on an abandoned railroad bridge rehabilitated and now part of the 8 mile Lebanon Connector project.

Action Needed: Continuing planning and advocacy by the Miami 2 Miami Coalition; continuing financial and political support for trail development from the corridor communities, park districts, private interests including land developers, trail users, and state and federal governments.

Contacts: John Heilman (jheilman@oki.org) or Don Burrell (dburrell@oki.org), OKI Regional Council of Governments, 720 E Pete Rose Way, Suite 420, Cincinnati, OH 45202; Phone: 513-621-6300.

- **Lebanon – Countryside YMCA Trail**
  A testimony to perseverance, the 8 mile Lebanon Connector was dedicated for use on October 1, 2005. The project was initiated more than ten years ago to connect Lebanon to the Little Miami Scenic Trail and has been beset with many problems. The trail begins near the Lebanon railroad depot on South St. near Harmon Park and serves the new Justice Center, the Countryside YMCA and the developing industrial areas along Fujitec and Kings View Drives. The trail crosses the Little Miami River on an abandoned railroad bridge rehabilitated to connect to the Little Miami Scenic Trail. Construction was funded by Transportation Enhancement, Clean Ohio Trails, local and private funds. The river crossing between Kings Mills and South Lebanon is a strategic connection that will also be used by the Miami 2 Miami Connection.

  Action Needed: Continued support from trail users for the jurisdictions involved in implementing the facility and to use the trail for to access the businesses served and the Little Miami Scenic Trail.

  Contacts: Scott Brunka (sbrunka@ci.lebanon.oh.us) or Jason Millard (jmillard@ci.lebanon.oh.us) , City of Lebanon, 50 S. Broadway, Lebanon, OH 45036, (513)-932-3060.

- **Mill Creek Greenway**
  The Millcreek Restoration Project--with the assistance of an advisory committee and a team of consultants—has prepared a *Mill Creek Watershed Greenway Master Plan*. The master plan outlines a number of different projects, including trails, which are seeking funding from various city, county, state, and federal sources. Two miles of trail are completed in Reading. Funding has been allocated for a 1.5 mile segment between Caldwell and Seymour Parks in Cincinnati from the Supplemental Environmental Projects Fund derived from fines levied against polluters and administered by the Ohio Environmental Protection Agency. Subsequent phases include a 0.5 mile connection along Dan's Creek from Mill Creek into Seymour Park and a one mile connection between Mitchell Ave. and Salway Park. A recent threat to the integrity

of the public lands by the proposed dissolution of the Millcreek Conservancy District was averted by reorganization.

Action Needed: Continuing advocacy by the Millcreek Restoration Project, the Millcreek Watershed Council, and the Millcreek Valley Conservancy District for implementation of the recommendations in the *Greenway Master Plan;* continuing financial and political support for trail and greenway development from the corridor communities, private interests, trail users, and state and federal governments.

Contact: Robin Corathers, Millcreek Restoration Project, 1617 Elmore Court, Cincinnati, Ohio 45223, (513) 731-8400, http://www.millcreekrestoration.org

- **West Fork - Millcreek Greenway**

The West Fork of the Mill Creek originates in Colerain Twp., flows east through Winton Woods Lake, then south to its confluence with the main stem of the Mill Creek in Arlington Heights. The West Fork Mill Creek Task Force is coordinating the greenway designation and, ultimately, trail development. There is one mile of existing trail through Woodlawn connecting to Glenwood Gardens County Park and Glenwood Crossing shopping center. Woodlawn is seeking funds for design and construction of a ½ mile extension south to the Wyoming city limit. Wyoming was awarded $480,000 in the fourth round of the Clean Ohio Trails fund in 2005 for engineering and construction of a 0.6 mile segment from Oak Park to the northern city limits with Woodlawn which has not been built yet. There is potential to also extend the trail upstream to connect with the trail system in Winton Woods.

Action Needed: Continuing advocacy by the West Fork Mill Creek Task Force, the Millcreek Watershed Council, Cities of Woodlawn, Wyoming and Lockland, Hamilton County Park District; continuing financial and political support for trail and greenway development from the corridor communities, private interests, trail users, and state and federal governments.

Contacts: Cindi Simmons, Recreation Director, Village of Woodlawn, 10120 Woodlawn Blvd. Woodlawn, OH 45215, Phone: 513-771-5745
Alan Weiner, Anchor Brothers Properties, Ltd.; 9909A Springfield Pk., Cincinnati, OH 45215; Phone: 513-595-8673

- **Williamsburg - Batavia Hike / Bike Trail**

A network of potential trails and bikeways was identified in the Clermont County 2000 Vision Plan for the SR 32 corridor. A 13 mile segment has been identified for implementation which would connect Batavia and Williamsburg villages. The route under study would also pass through Batavia and Williamsburg Townships as well as East Fork State Park. Trail development in the Park will be facilitated by public ownership of the land, several miles of abandoned roadway that predate the establishment of the park, and potential for upgrading existing park trails. Portions of the route outside the park will likely be shared roads using low volume rural roads. In 2004, a preliminary feasibility study was prepared for the Clermont County Park District to review the desired corridor and split the route into segments with "independent utility" for staged implementation. The study also estimated construction costs at around $3 million. Initial priorities of the Committee are being focussed on the eastern 3 mile segment from Williamsburg to the campground at East Fork Lake State Park. The 2005

SAFETEA-LU transportation re-authorization act included $240,000 of High Priority Project funds for the trail which will be applied to this 3 mile segment. Construction plans are now underway. Implementation will require an interagency agreement between Clermont Count Parks, Ohio Dept. of Natural Resources and the US Army Corps of Engineers. When completed, this trail could be incorporated into the route of the American Discovery Trail.

Action Needed: Continuing planning and advocacy by the Williamsburg-Batavia Hike Bike Trail Committee; continuing financial and political support for trail development from the corridor communities, Clermont Co. Park District, East Fork State Park administration (ODNR), trail users, and state and federal governments.

Contact: Chris Clingman, (clclingman1@aol.com) Clermont Co. Park District, 2228 Highway 50, Batavia, OH 45103; Phone: 513-732-2977

- **Oxford Perimeter Path**
  A local trails committee, including Miami University students and faculty, is working to establish a shared use trail surrounding the City of Oxford. Feasibility studies have been done and a route selected which connects parks, schools and residential areas. Implementation will be facilitated by University ownership of much of the property where the trail will go. A 1 mile section of the trail has been built in the Oxford Community Park. Funding is being sought to extend the trail south and east to SR 732.

  Action Needed: Continuing planning and advocacy by the Oxford Perimeter Path Committee; continuing financial and political support for trail development from the City of Oxford, Oxford Township, Butler County and Miami University.

  Contacts: Doug Hamilton, BikeWise Oxford, 9 N. Beech St. Oxford, OH 45056, www.bikewiseoxford.com ; Gail S. Brahier, Oxford Parks and Recreation, 6025 Fairfield Rd., Oxford, OH 45056, 513-523-6314, gbrahier@cityofoxford.org

- **Kentucky Route 8 River Path**
  The Kentucky Route 8 Riverpath is a 1998 proposal of Forward Quest, a Northern Kentucky business alliance for economic and cultural promotion. The route extends 45 miles along the Ohio River from the Campbell - Pendleton County line to Route 8's end in northern Boone County and is intended to result in a separate shared use trail following the Ohio River and Ky. Route 8. The route would connect 32 parks and pass through Newport and Covington. The River Path Committee was organized with separate sub-committees for the Boone, Campbell and Kenton County route segments. Professional staffing of the committee through Forward Quest was ended in 2003 and the committee has become dormant. Renewed interest in the portion of the route through Dayton, Bellevue, Newport and Covington came about in 2007 with the Vision 2015 program. This includes a "Riverfront Commons" walking and biking trail and a Licking River Greenway (see below). A one-mile loop trail has been built in Campbell County's Pendery Park. Recreational Trails funding was obtained for a segment connecting Pendery Park and Melbourne, however property easements were withdrawn and the funding was redirected to extend the trail system within Pendery Park. Campbell County continues to seek funding for a 2 mile trail to connect Melbourne and Silver Grove. Southbank Partners is working on establishing the section of the trail through Dayton, Bellevue, Newport and

Covington. The proposed route for the Kentucky River Path can be followed with a map in the promotional brochure.

Action Needed: Local trail advocates in one or all three counties need to reorganize, reformulate the project goals and resume planning and advocacy work to raise financial and political support for trail development from Boone, Campbell and Kenton Counties and the corridor communities, trail users, private interests, and state and federal governments; research into alternative funding resources. Support for the Southbank Partners Riverfront Commons trail is needed in the face of active riverfront commercial development.

Contact: Don Burrell (dburrell@oki.org), OKI Regional Council of Governments, 720 E Pete Rose Way, Suite 420, Cincinnati, OH 45202; Phone: 513-621-6300.

- **Licking River Greenway**
  While trail proposals along the Licking River have been suggested in the past, a Licking River Greenway Master Plan was initiated in 2007 based on the Vision 2015 Urban Renaissance recommendations. The project encompasses the portion of the river from its confluence with the Ohio River, south to the I-275 overpass for a system of parks and trails. A steering committee has been formed and a consultant hired to prepare a development plan scheduled for completion in 2008.

  Action Needed: Participation on the steering committee; continuing financial and political support for trail development from the corridor communities, park districts, private interests including land developers, trail users, and state and federal governments.

  Contacts: John Heilman (jheilman@oki.org) or Don Burrell (dburrell@oki.org), OKI Regional Council of Governments, 720 E Pete Rose Way, Suite 420, Cincinnati, OH 45202; Phone: 513-621-6300.

- **Dearborn Trail (Aurora – Lawrenceburg Trail)**
  In Dearborn County, Indiana, the communities of Aurora, Greendale and Lawrenceburg are developing a trail system along the Ohio River to connect the three cities. The one mile Lawrenceburg Riverwalk portion has been completed along the top of the floodwall. Greendale recently completed a one mile trail atop the levee parallel to US 50. Both of these segments end near the Argosy Casino and a connection along streets in Lawrenceburg is being planned. The 4 mile connection from the end of the Riverwalk to Aurora was built as a rail-to-trail conversion along an unused rail corridor. Funding was obtained from the Indiana Dept. of Transportation, and, after several years of obstacles, the trail was dedicated on March 4, 2006 with a trailhead at Manchester Landing. A ¼ mile gap at the American Electric Powerplant in Lawrenceburg was closed and dedicated in October 2007. From Manchester Landing, a sidepath has been built west along George St. to the bridge where a sidewalk will be replaced to accommodate the trail. At Lesko Park, an existing one-mile trail follows the Ohio River south. This will become a walking path when a new bike trail is built through the park with a Transportation Enhancement grant received by Aurora in 2007.

  The City of Rising Sun (Ohio County) funded design studies for the inclusion of bike lanes (8 ft. shoulders) with the reconstruction of SR 56 between Aurora and Rising Sun. The project

will be administered by the Indiana Dept. of Transportation and is expected to be completed in 2008. The American Discovery Trail will be re-routed from US 50 to the Dearborn Trail as far as Laughery Creek Rd. where it turns west.

Action Needed: Continuing support and advocacy by the Dearborn Trails Committee to complete a trail connection through or around Argosy Casino; financial support and monitoring of trail construction from the corridor communities, trail users, private interests, and state and federal governments. Promotion of the facilities is encouraged to maximize their use by local residents and tourists visiting the casinos. Coordination with the American Discovery Trail Society for re-routing their coast-to-coast hiking trail from US 50 to the Dearborn Trail facility.

Contact: Matt Probst, President, Main Street Aurora, www.mainstreetaurora.com , (812) 926-1100 ; Mike Northcutt, City of Rising Sun, 812-438-2260 or mike@cityofrisingsun.com; Don Burrell (dburrell@oki.org), OKI Regional Council of Governments, 720 E Pete Rose Way, Suite 420, Cincinnati, OH 45202; Phone: 513-621-6300.

- **Ohio River Way**

  This project proposes a greenway with trail along both sides of the Ohio River between Maysville Ky. and Madison In. (around 120 miles), thus encompassing the portion of the Ohio River within the OKI planning area. The proposed Ohio River Trail, the Kentucky River Path and Dearborn Trail projects described above would be components of this trail. Additional greenway preservation and trail development will be advocated for other local governments in the corridor. The project is coordinated by The Ohio River Way, Inc. and includes other cultural, educational and economic enhancements of the corridor based on the river theme. (This project also coordinates activities with the state and national Ohio River Scenic Byway designated in 1998 for the north shore of the Ohio River through Ohio, Indiana and Illinois.) In 2007, Ohio River Way, with the approval of the City of Cincinnati, has undertaken a feasibility study for building a temporary trail in the Oasis Line corridor between downtown Cincinnati and Lunken Airport. This would replace the inactive railroad tracks with a "temporary" trail until commuter transit service is initiated. (See Ohio River Trail above.)

  Action Needed: Ohio River Way no longer has a professional staff, however its programs, including trail advocacy are being continued by its board and volunteers. Continued monitoring and advocacy for funding and political support for trail development from the corridor communities, trail users, private interests, and state and federal governments; research into alternative funding resources.

  Contact: Charles Baylis, ORW Recreation and Heritage Trail and Greenway, charles.baylis@languagelogic.net

- **Western Corridor Trail**

  For years, OKI has shown an abandoned C&O rail corridor as a possible rail transit line or a shared use path. This line ran from the Mill Creek Valley through Fairmount, Western Hills, Green and Colerain Townships. Railroad use was discontinued in the 1970s, although, north of the Great Miami River in Crosby Twp., it remains an active CSX line from Butler Co. In the meantime, in Hamilton Co., the railroad trestles were demolished, the underpasses filled in and the right-of-way sold to adjacent land owners and commercial enterprises. As part of

OKI's 2006 Western Hamilton County Transportation Study, the County's property ownership records for the corridor were checked and the railroad right-of-way is indeed gone and will no longer be shown as a trail.

Action Needed: In the 1980s, with the opening of the Little Miami Scenic Trail, the C&O corridor was considered to be a possible rail-trail for western Cincinnati and Hamilton County. In response to that demand, the Hamilton County Park District enlarged their Miami Whitewater Forest and constructed the Shaker Trace, a popular 8 mile loop recreational trail. While the C&O line is no longer available for a shared use path, plans for the Great Miami River Trail include a 10 mile shared use path connection between Miami Whitewater Forest and Shawnee Lookout Park at the mouth of the Great Miami River (see the above section on the Great Miami River Trail). The loss of the C&O corridor as a trail opportunity also makes it imperative to accommodate bicycle use on the existing street system both as special bike lane projects and as part of roadway improvement projects to include bike lanes.

Through Trails and Routes

The trails previously described are of regional scope. In addition, the following state and national routes originate or pass through the OKI region.

- **American Discovery Trail**

The ADT crosses the United States from Cape Henlopen, Delaware to San Francisco, California. In Elizabethtown, in western Hamilton Co., it splits into a north and south route between here and Denver. The ADT primarily follows low-travelled roads and is used by hikers and cyclists. Where possible, off road trails are used. When complete, the Williamsburg – Batavia Hike Bike Trail and the Dearborn Trail will be integrated into the ADT route. More about this trail can be found at: http://www.discoverytrail.org/index.html

- **Underground Railroad Bicycle Route**

This route was developed by the Adventure Cycling Association in 2007 and follows a representative route used by slaves escaping bondage in the south. It originates in Mobile, Alabama and ends in Owen Sound, Ontario, Canada. For the most part, it follows low travelled roads although it joins the Little Miami Scenic Trail in Milford. Also in Milford, there is a spur route to downtown Cincinnati and the Underground Railroad Freedom Center. See: http://www.adventurecycling.org/routes/undergroundrailroad.cfm

- **The Ohio to Erie Trail**

The O to E Trail is intended to be an off-road trail facility from the Ohio River (Cincinnati) to Lake Erie (Cleveland) using both abandoned railroad and canal routes. Currently around 58% is completed including the Little Miami Scenic Trail locally. More at: http://www.ohiotoerietrail.org/Map.aspx

- **North Country National Scenic Trail**

This trail is designated through the National Park Service and passes through the northern tier states from Lake Sakakawea in North Dakota to Lake Champlain in New York. Within Ohio, and the OKI region, the North Country Trail follows the route of the Buckeye Trail. See: http://www.nps.gov/noco/

- **The Buckeye Trail**

The Buckeye Trail is a 1,200 mile circular route around Ohio passing through Clermont Co. with a spur route to Eden Park in Cincinnati. It is primarily used by hikers and uses trails, private properties and low traveled roads. It is marked with blue blazes and maintained by the Buckeye Trail Association. See more at: http://www.buckeyetrail.org/

- **Ohio Cross State Bicycle Routes**

This is a network of nine routes crossing Ohio using low traveled roads intended for bicycle touring and documented by Columbus Outdoor Pursuits. Detailed maps are available for each of the routes. Routes A, B and C originate in Hamilton County and go to Toledo, Cleveland and Marietta respectively.
See: http://www.outdoor-pursuits.org/main/forsale/routes.htm

APPENDIX 2

OKI COMPLETE STREETS APPROACH

The following OKI Complete Streets approach is derived with consideration of federal and state policies for routine accommodation of bicycle and pedestrian travel in roadway system improvements and previously adopted regional planning objectives. The federal USDOT Design Guidance for Accommodating Bicycle and Pedestrian Travel has been used with some adaptations to apply to metropolitan planning organizations. The purpose is to achieve a regional transportation system based upon equality of safety, convenience, and choice for pedestrians, bicyclists, transit users, and motor vehicle operators. This approach applies to roadway and transit projects using OKI funds. Inclusion of these facilities in the early planning stages of new highway construction and land development reduces the complexity and costs of adding these facilities in the future.

1. Bicycle and pedestrian ways shall be provided in new construction and reconstruction projects in all urbanized areas, except as noted in Part 3.
   - Sponsors are required to include key stakeholders in the planning and design of projects. In particular, sidewalks, on-street bicycle facilities, shared use paths, street crossings, pedestrian signals, signs, street furniture, transit stops and facilities, and all connecting pathways should be designed, constructed, operated and maintained so that all modes and pedestrians, including people with disabilities, can travel safely and independently. To this end, project sponsors are expected to:
   - Initiate early and on-going coordination and communication with OKI staff regarding the proposed improvements to identify bicycle and pedestrian issues.
   - Provide written documentation of the coordination as part of the application with the project application.

2. The design and development of the transportation infrastructure shall improve conditions for bicycling and walking through the following additional steps:
   - Plan projects for a long useful life. The design and construction of new facilities that meet the criteria in Part 1 above should consider future demand for bicycling and walking facilities and not preclude the provision of future improvements. For example, a bridge that is likely to remain in place for 50 years, might be built with sufficient width for safe bicycle and pedestrian use in anticipation that facilities will be available at either end of the bridge even if that is not currently the case.
   - Include provisions for connections across jurisdictional boundaries. As the metropolitan planning organization, OKI has a vantage point from which to recommend to the jurisdictions within the region the connection and continuity of bicycle and pedestrian facilities for the purpose of qualifying for federal funding. The *OKI Regional Bicycle* and *Pedestrian Plans* are used toward this purpose.
   - Address the need for bicyclists and pedestrians to cross corridors as well as travel along them. Where bicyclists and pedestrians may not use a

particular travel corridor that is being improved or constructed, they will likely need to cross that corridor safely and conveniently. Therefore, the design of intersections and interchanges shall accommodate bicyclists and pedestrians in a manner that is safe, accessible and convenient.

- The existing, committed, and proposed bikeways and pedestrian pathways in the transportation plans created by OKI should be considered the priority bikeways and pathways for the region. However, planners and designers must accommodate bicycling and walking in all transportation projects for which OKI attributable federal funding is requested, regardless of whether or not a bikeway is included and/or designated as a priority in bikeway and pedestrian pathway plans.
- In rural areas, paved shoulders must be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day. Paved shoulders have safety and operational advantages for all road users in addition to providing a place for bicyclists and pedestrians to operate. Rumble strips are not recommended where shoulders are used by bicyclists unless there is a minimum clear path of four feet in which a bicycle may safely operate.
- Design context-appropriate facilities to the best currently available standards and guidelines. The design of facilities for bicyclists and pedestrians should follow design guidelines and standards, or state equivalents, that are commonly used, such as the American Assoc. of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*, the AASHTO *Guide for the Planning Design, and Operation of Pedestrian Facilities*, AASHTO's *A Policy on Geometric Design of Highways and Streets*, the FHWA *Selecting Roadway Design Treatments to Accommodate Bicycles*, the ITE recommended practice *Design and Safety of Pedestrian Facilities* and the *Americans with Disabilities Act Accessibility Guidelines* (ADAAG).

3. Exceptions to the requirement for appropriate bicycle and pedestrian treatments include:
    - Where bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the same transportation corridor and at interchanges with surface streets.
    - The cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. In accordance with federal guidelines, excessively disproportionate is considered to be exceeding twenty percent of the cost of the total transportation project (including right of way)
    - Where the project consists of minor maintenance or repair (reconstruction is not included).
    - Where the project consists primarily of the installation of traffic control or safety devices and little or no additional right-of-way is to be acquired. However, it is highly recommended that detection methods for traffic control be capable of detecting bicycles.

- The ADT is projected to be less than 1,000 vehicles per day over the life of the project.
- Where scarcity of population or other factors indicate an absence of need for current and future conditions. Projects justified for increasing capacity in urbanized areas will be considered as representing a need for bicyclist and pedestrian facilities.
- Where roadway standards or bicycle and pedestrian standards can not be met. Many times bicycle and pedestrian facility standards can not be met due to roadway topographic constraints. Non-standard treatments for bicycle and pedestrian accommodations should be reviewed for possible inclusion into roadway projects to avoid not having any bicycle and pedestrian accommodations.
- Exceptions for the exclusion of bikeways and walkways shall be documented with supporting data that indicates the basis for the request.

APPENDIX 3

TRANSPORTATION ENHANCEMENTS PROJECT STATUS
OKI URBAN AREA TE PROGRAM (Through March, 2008)

Fiscal Year	Project	Federal Share	Local Share	Total	Status
FY01:	Lebanon Railroad Reconstruction	$236,000	$59,000	$295,000	Completed
FY02:	Building Rehab. - Waynesville's "Old Lockup"	$56,708	$87,829	$144,537	Completed
FY03:	Springdale Streetscaping	$294,026	$636,591	$930,617	Completed
	Little Miami River Bike/Hike Bridges	$745,000	$1,453,836	$2,198,836	Completed
	Cincinnati Bicycle Grates	$266,650	$66,662	$333,312	Completed
	West Sharon Road Bike Path	$103,000	$46,315	$149,315	Completed
	Murray Road Hike-Bike Trail	$339,986	$0	$339,986	Completed
	Oxford Bikeway & Raised Crosswalks	$39,576	$8,604	$48,180	Completed
FY04:	Market Street Hub Improvement	$205,600	$51,400	$257,000	Completed
	SR 129 High Street Bridge Replacement	$1,200,000		$1,200,000	Completed
	Delhi Springhouse Renovation	$180,225	$81,460	$261,685	Completed
	SR 747	$126,788	$31,697	$158,485	Completed
	L&N (Purple People) Bridge	$238,749	$0	$238,749	Completed
	Fairfield Bike Path	$141,600	$123,000	$264,600	Completed
FY05:	SR 4 Streetscape (Fairfield)	$760,000	$190,000	$950,000	Completed
	SR 73 Streetscape (Springboro)	$472,000	$118,000	$590,000	Completed
FY06	Lebanon Streetscape	$600,000	$150,000	$750,000	Completed
	Five-Mile Road Shared-Use Trail	$480,000	$480,000	$960,000	Completed
	Oxford Road Bridge	$126,000	$31,500	$157,500	Completed
	Springfield Pike Streetscape - Phase II	$661,862	$165,465	$827,327	Completed
FY07	Central Parkway Streetscape	$661,050	$165,262	$826,312	Completed
	Gilbert Avenue Streetscape	$674,960	$168,740	$843,700	Completed
	Muddy Creek Bikeway (Mason)	$347,780	$86,945	$434,725	Completed
FY08	Five Mile Streetscape (Anderson Township)	$592,000	$148,000	$740,000	Completed
	Main Street Streetscape (Williamsburg)	$704,000	$276,000	$980,000	Construction in 2008
FY09	Mt. Adams Steps (Cincinnati)	$647,000	$713,000	$1,360,000	Construction in 2008
	Sutton - Five Mile Trail (Anderson Township)	$553,000	$188,300	$741,300	Construction in 2008
	Buckwheat Sidewalks (Miami Township)	$217,596	$54,000	$271,596	Construction in 2009
	Lebanon Streetscape - Final Phase	$600,000	$1,100,000	$1,700,000	Construction in 2009
FY11	Asbury Sidewalks (Anderson Township)	$536,000	$134,000	$670,000	Construction in 2011
FY13	Muddy Creek Trail - Phase II (Mason)	$665,600	$187,500	$853,100	Construction in 2013
	Totals, 2000 - 2008	**$13,472,756**	**$7,003,106**	**$20,475,862**	

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Appendix 4 - OKI Regional Bicycle Plan 2030 Future Projects

State	ID #	County	Facility	Location	Description	Cost ($M)
The following projects are specifically bicycle facilities.						
OH	631	Hamilton	SR 32 relocated	US 50 to Eight Mile Rd.	New 4-lane facility	292.65
OH	624	Hamilton	Vine St./Jefferson	McMicken to Erkenbrecker Ave.	Improve intersections, standard width lanes, restrict parking, bike/ped facilities, extend Short Vine to Taft/McMillan.	6.45
OH	2631	Hamilton	Bike/Ped - Ohio River Trail	City of Cincinnati - Lunken Airport to Salem	Separate Shared Use Path (Bike/Hike Trail) across Little Miami River next to Kellogg Avenue Bridge	2.16
OH	2630	Hamilton	Bike/Ped - Ohio River Trail	City of Cincinnati - Lunken Airport to Downtown	Separate Shared Use Path (Bike/Hike Trail) along Ohio Riverbank	21.63
OH	1595	Hamilton	Signage	Uptown	Implementation of a new comprehensive Uptown Wayfinding sign system	1.35
OH	2681	Warren	Core Loop Rd. NE	City of Middletown - Union Rd. to SR 122	New roadway loop with sidewalks and multi-use paths.	4.61
OH	2682	Warren	Core Loop Rd. SE	City of Middletown - SR 122 to Union Rd.	New roadway connecting developments on the SE corner of Union Rd and SR 122 to a new signalized intersection @ Union. Sidewalks and multi-use paths included.	2.63
OH	2699	Warren	Towne Blvd. / I-75 Overpass	City of Middletown - Towne Blvd. to Union Rd.	New roadway overpass, application of access management principles, inclusion of sidewalks and multi-use paths.	18.42
OH	703	Warren	Bethany Rd.	City of Mason - West Mason Corp. Limit to Mason-Morrow-Millgrove Rd	Widen to 5 lanes and conect Bethany and Mason-Morrow-Millgrove Recommended facility for Miami 2 Miami Trail	18.39

State	ID #	County	Facility	Location	Description	Cost ($M)
KY	2122	Boone	KY 3151	Mall Road	Second Funding Phase to complete this project = reconstruct with curb, gutter, sidewalks and bicycle facilities. First Phase has received SNK funding in the amount of $4.7 million for FY 2010, 2011 and 2012. This First Phase is included in OKI's TIP.	4.38
KY	2150	Boone	KY 18 (Burlington Pike)	between KY 842 and Burlington	Pave and stripe both existing shoulders on KY 18 to provide bike and pedestrian lane	0.43
KY	2136	Boone	KY 842	Weaver Road	Reconstruct with additional through lanes, curb, gutter, sidewalks and bicycle facilities	34.21
KY	2193	Boone	KY 237	between KY 18 and Hebron	Pave and stripe existing shoulders to provide bike and pedestrian lanes	0.32
KY	742	Kenton	KY 1303	KY 536 to Richardson	Widen with bike lane	17.52
KY	741	Kenton	KY 1303	Dudley to US 25	Reconstruct and widen with bike lane north to end of 4 l lanes & add 2 lanes north of I-275	41.45
IN	2673	Dearborn	Bicycle and Pedestrian Projects	OKI - IN	per OKI 2008 Bike Plan Update	0.66

The following projects are highway projects recommended for including bicycle accommodations

State	ID #	County	Facility	Location	Description	Cost ($M)
OH	628	Hamilton	Red Bank Rd.	US 50 to I-71	Grade separation and frontage roads	346.34
OH	1513	Hamilton	Cheviot Road/North Bend Road	West Fork to Poole Road	Addition of Lane, Improve Intersection with turn lanes, left turn approaches	10.39
OH	1259	Warren	Waterstone Connector	Extend Waterstone Drive over I-71 to Duke Drive	New extension	11.78
OH	1434	Clermont	Clough Pike Widening	Mt. Carmel-Tobasco to Eastgate Blvd. extension	Roadway widening to three lanes with sidewalks, curb and gutter. SCIP funding $4M. TPC=$5M	1.08
OH	1517	Hamilton	Harrison Avenue	Bridgetown Road to Boudinot Avenue (Cheviot)	Corridor Study, restrict mid-block left turns, left turn lanes at key intersections, improve intersections	4.87
OH	1505	Hamilton	Cheviot Road	Jessup Road to Poole Road	Access Mgmt. Reconstruct Chev/Blue Rock Intersection, Signal System, Add one lane in each direction	8.66
OH	835	Hamilton	Paddock Rd. / SR 4	I-75 to Sharon Rd.	Add one lane. Intersection improvements. Replace RR bridges.	3.79
OH	638	Hamilton	US 27	IR 74 to Washburn	Interchange improvements @ I-74 with 2 additional lanes	4.33
OH	1607	Hamilton	Reading Road	Elsinore to Forest	Provide 5 lanes and intersection improvements	3.29
OH	1423	Hamilton	ML King Drive	Central Parkway to Reading Rd.	Widen to 5 lanes w/ TWLTL from Central Pkwy to Clifton, 8 lanes from Clifton to Reading.	20.78
OH	962	Hamilton	Rail Transit - Eastern Corridor Oasis Line	Oasis Line	Rail transit plus feeder bus. TPC= $411, assume 50% is local	354.99

State	ID #	County	Facility	Location	Description	Cost ($M)
OH	2315	Clermont	Aicholtz Road Connector	Mt. Carmel-Tobasco to Eastgate Blvd.	Reconnect Aicholtz Rd. under I-275 to Mt. Carmel-Tobasco Rd. PID 82553	10.39
OH	2316	Clermont	Aicholtz Road Extension	Glen Este-Withamsville Rd. to Bach-Buxton Rd.	New Connection between GE-W and Bach-Buxton Rd. PID 82552	14.48
KY	759	Kenton	KY 371	Avon Dr. to Anderson	Add 2 lanes with sidewalk	17.31
KY	732	Kenton	KY 8	4th St. Bridge over Licking River	Add 3 lanes. Difficult existing ROW constraints noted by County	26.84
KY	1257	Boone	KY 338 (Richwood Rd)	(KY 2951) Chambers Rd. to US 25 (Dixie Hwy)	Widen to 5 lanes and interchange improvements at I-75 and Dixie	34.61
KY	735	Campbell	KY 8	Riviera Dr. to Hallam Ave. (Bellevue)	Reconstruct, improve intersection and widen	8.65
KY	2219	Campbell	KY 8	from the 4th Street Bridge to US 27	Realign KY 8	3.68
KY	751	Boone	KY 3060 (Frogtown)	US 42 to US 25	Reconstruction and widen	5.40
KY	760	Kenton	US 25	KY 236 to Hallam Ave.	Widening and replacement of RR Bridge	31.17
KY	731	Campbell	KY 9	I-275 to US 27	Major widening from US 27 to I-275	35.53
KY	739	Kenton	KY 1501 (Hands Pike)	KY 16 to KY 17	KYTC#6-8307.00. New 3-lane facility north of existing KY 1501 (following Wayman's Branch alignment)	59.22
KY	2152	Campbell	US 27	from KY 2345 (Martha Lane Collins Blvd.) to I-471	Major widening	32.90
KY	714	Boone	US 42	I-75 to KY 842	Reconstruction/Major widening	16.58
KY	723	Boone	KY 237 (Gunpowder Rd.)	US 42 to KY 536 (Mt. Zion Rd)	Widen/improve	31.58

State	ID #	County	Facility	Location	Description	Cost ($M)
KY	1256	Boone	US 25	KY 338 to Walton	Widen to 4 lanes	43.29
KY	907	Boone	KY 3151 (Mall Rd.)	KY 18 to Woodspoint Drive	New 4-lane extension	12.63
KY	758	Kenton	KY 236	Cherry Tree Ln. to US 25	Reconstruct/widen	12.12
KY	2138	Boone	US 42	from KY 237 to KY 842	Widen	20.99
KY	746	Kenton	KY 536	KY 17 to KY 16	Major widening and relocation	22.37
KY	748	Kenton	KY 536	KY 16 to KY 177	2-lane facility on new alignment	95.24
KY	2170	Campbell	KY 2345	from Martha Layne Collins Blvd to I-275 - includes Rerou	Reconstruction and widening of Johns Hill Rd.	4.11
KY	2262	Boone	KY 236 (Donaldson Rd.)	from Cherry Tree Lane to Mineola Pike (KY 3076)	Major widening	24.24
KY	1250	Boone	Camp Ernst Rd.	KY 237 to I-71 at KY 14	Upgrade and extend as 4-lane divided facility	90.74
KY	2102	Boone	US 42	from KY 1292 to KY 3060	Reconstruction	62.34
KY	2126	Kenton	US 25	Turfway Rd. to KY 236	Reconstruction. O6 059 B0025 123.00	32.90
KY	2091	Kenton	KY 236	from KY 1303 to US 25	Reconstruct Stevenson Rd	15.59
KY	2090	Kenton	KY 16	from Grand Ave. to KY 177	Reconstruction	13.16

State	ID #	County	Facility	Location	Description	Cost ($M)
KY	2283	Campbell	KY 1120	from Clover Ridge Rd. to North Fort Thomas Ave.	Reconstruction with curb, gutter and sidewalks	4.93
KY	1475	Kenton	US 25	Park Hills: Entire length	4 to 2 lanes with landscape median and sidewalk connectivity	8.66
IN	1419	Dearborn	US 50	Argosy Parkway to I-275, frontage road from Walnut St. to Rudolph Way.	Access management improvements and beautification (The Greendale bike trail is on the east side of this section of US 50.)	4.87
IN	1248	Dearborn	SR 1	US 50 to Nowlin Av.	Realign and add a lane each direction	26.06

Source: These projects are selected from the "Draft Fiscally-Constrained 2030 Plan UpdateProject List" for the OKI 2030 Regional Transportation Plan

The highway projects are either included in specific plans for bicycle facilities or are roads identified as "primary shared roads".

APPENDIX 5

BICYCLE COMMUTING IN THE REGION

Most of the recommended projects and programs in this plan update are intended to accommodate bicycle use within the existing roadway system and as a component of an intermodal transportation system. As mentioned in Chapter 2, the 2001 National Household Transportation Survey reported that 70% of the bike trips were for social and recreational purposes. The other 30% can be considered as utilitarian trips where the bicycling mode is secondary to the trip purpose. Eight percent of these were work trips. Also reported in Chapter 2 was the 1995 Rodale Press poll result that 40% of the adult cyclists would consider biking to work if safe facilities were available.

One of the plan objectives, 2C, proposes the use of bicycles by adult cyclists to replace motor vehicles for more of their utilitarian trips. These include trips for shopping, work, church and personal business. This appendix addresses some of the regional constraints to bicycle travel and presents some incentives for encouraging bicycle use for additional purposes.

CONSTRAINTS TO BICYCLE TRAVEL

Many people who are active bicyclists do not currently use their bikes for utilitarian purposes but might, if given the appropriate incentives and conditions. When people are asked why they do not bike, the responses are fairly similar[1]:

- Length of trip and travel time
- Absence of bike lanes or other safe places to bike
- Lack of secure bicycle parking and/or showers at work
- Fear of crime

The following discussion focuses on these and other constraints related to bicycle commuting.

Some constraints to bicycle travel involve interaction with motor vehicle traffic. One of these is roadsharing skills. Many motorists perceive bicycles as toys associated with their childhood. As a result, they are uncertain how to cope with cyclists in traffic and may believe that bicycles are not entitled to use the roads, or that automobiles have the right-of-way over bicycles. This often results in passing bicycles in unsafe conditions and not seeing cyclists in the traffic stream. For cyclists, experience handling the bike, compliance with the rules of the road, riding on public roads with motor vehicles, and knowledge of their own physical capabilities, are necessary for coping with rush-hour traffic.

The "toy bike" attitude also affects some bicycle riders who believe that they can disregard traffic laws even though most are licensed motor vehicle operators. These attitudes on the part of both motorists and cyclists create unsafe traffic conditions and a lack of respect which have a greater impact on the cyclists' safety because of their greater vulnerability.

An additional constraint to cycling for utilitarian purposes is the lack of secure parking facilities at common destinations. Bicycles have evolved over the years into technologically complex machines costing hundreds to thousands of dollars. As such, bicycles and their components are easy and popular targets for theft and vandalism. Lack of secure parking is an often cited deterrent to bicycle commuting.

In the Cincinnati region, climatic conditions are also a constraint to bicycle use. Winter temperatures below freezing--with the associated risks of icy conditions--are a deterrent, as is rain throughout the year. In the summer there are occasional problems with air quality standard violations which create health risks that are aggravated by physical activity. Ironically, these air quality problems can actually be improved through bicycle transportation.

A constraint related to weather conditions that affects bicycle commuting is a lack of facilities for cleaning up and changing clothes at workplaces. Standard restrooms are usually inadequate for these purposes and lack showers and space for storing a change of clothes. With the increasing emphasis on physical fitness and exercise, however, some companies are providing employee showers and lockers. This is less of a problem for personal errand trips where casual clothing is appropriate and travel time is more flexible.

Lastly, travel routes routinely taken when commuting by car may be unsuitable for a cyclist, or prohibited in the case of Interstate highways. Often a route between home and work can be found along streets that are more compatible with bicycle use. Lower traffic volumes and speeds are desirable as is the need to safely cross barriers such as rivers, expressways, or areas susceptible to crime. At the same time, it is important that these constraints not be addressed at the expense of adding significant time or distance to the trip.

INCENTIVES FOR BICYCLE TRAVEL

The following is a discussion of incentives to encourage residents of the region to use bicycles for utilitarian transportation and to reduce the effects of the constraints listed above. It is important to repeat that most bicycling will take place on ordinary public roads with, as yet, little dedicated space for bicyclists. Bicyclists can be expected to ride on all roadways, except where prohibited by law.

1. An educational program is needed to inform both motor vehicle and bicycle operators about roadsharing.

This would include a legal component stressing that a bicycle is legally a "vehicle", and that bicyclists are entitled to the same rights to use the roads as motorists. It would also stress that the cyclist is required to operate according to the same rules of the road as motorists. It should further include measures to promote an attitude of tolerance, courtesy and respect between cyclists and motorists. Formal instruction courses for school children are available from the Bicycle Federation of America. The League of American Bicyclists has bicycle education programs for children, adults and motorists.

Classes for the LAB courses, taught by League Certified Instructors, may be arranged through the Cincinnati Cycle Club. There are now a wealth of resources on the internet with guidance for utilitarian cycling including the League of American Bicyclists, Bicycling Life and Bicycle Driver.

The media can also be effective by creating an awareness of potential traffic conflicts and the need for roadsharing by motorists and cyclists. An opportunity for publicizing this issue is during the summer smog alerts when bicycling can be promoted as one of several alternate forms of transportation for reducing motor vehicle air pollution.

2. An enforcement program is needed in support of education.

Many of the misconceptions about bicycle operation mentioned above also exist in law enforcement and the courts. Motorists at fault in collisions with cyclists have not been prosecuted or have been exonerated at the expense of cyclists' rights. Also, police are sometimes reluctant to warn and/or ticket cyclists for traffic law violations. This is particularly true in the case of child riders. Equitable law enforcement is a most effective tool for education.

3. The roadway system should be improved to reduce the friction between motor vehicles and bicycles.

Current guidelines for bicycle facilities engineering advocate wider shared travel lanes (minimum of 14'), separate striped bike lanes (minimum of 5’ on both sides), or paved shoulders (minimum of 4' on both sides) as the most significant and cost effective means for accommodating bicycle traffic. This provides adequate room for motorists to pass bicycles without interfering with traffic in adjacent lanes. Other improvements include bicycle safe storm water grates, traffic signal sensors that respond to bicycles, smooth and clean pavement, and, where these conditions exist, bike route signs or “share the road” signs to indicate that bicycles belong on the road. All of these roadsharing improvements, along with sidewalks for pedestrians, can be economically provided in accordance with OKI Complete Streets policies as new roads are built and existing roads maintained and reconstructed.

Within the region, the 2005 OKI Strategic Regional Policy Plan recommends that development objectives should include more compact urban development. This will reduce trip lengths and provide streets designed with the appropriate pedestrian and bicycle facilities as development patterns are established and streets built. Existing areas of significant bicycle travel, such as the University of Cincinnati and the hospital complex, should also be targeted for improvements. In order to recognize the opportunities for bicycle travel and implement these recommendations, it is also necessary to incorporate bicycle facility planning into existing local and regional Complete Streets transportation planning processes.

4. Parking facilities are needed at major destinations.

These destinations include central business districts, shopping centers, schools and universities, and parks. Many industrial and office employment centers have been

developed at densities which preclude centrally located parking facilities. In these situations, provision of bicycle parking would be the responsibility of the respective businesses or building managers. Where parking garages are available, adequate sheltered bicycle parking can be provided at the expense of only two or three automobile spaces. Bicycle parking facilities are also recommended at designated park-and-ride lots and at selected transit stops to encourage bicycle use in conjunction with carpooling and transit for additional fuel efficiency.

5. Other incentives to encourage bicycle transportation.

It is likely that future transportation policies being developed to achieve air quality standards in the OKI Region will include disincentives to discourage single occupant vehicle use. Correspondingly, incentives should be developed to encourage the use of more efficient modes of travel, including bicycling. Information should be provided through news articles and brochures describing commuting techniques for route selection, appropriate bicycles and accessories, clothing, and riding techniques. Public service announcements (PSAs) are recommended for promoting safe bicycle use and roadsharing.

A technique used by over 400 public transit agencies to integrate cycling and transit is to provide bicycle racks on buses. This allows "sandwich" commuting where transit can be used between bike trips from the trip origin to the bus stop, and from the bus stop to the trip destination. This also serves to extend the service area radius around each bus stop and to cross barriers such as hills or rivers. In 1999, Metro studied the feasibility of adding bike racks to their fleet of 450 buses. They reached a favorable conclusion based on their review of bike racks on buses programs by other transit authorities, and the testing of a rack-equipped Metro coach on all routes in Cincinnati. Bike racks, capable of carrying two bikes, were installed on all Metro coaches in 2002. In 2006, the Transit Authority of Northern Kentucky installed racks on their fleet of 110 buses.

Bicycle travel for work and personal trips should also be marketed to the public similar to the promotional campaigns now used for carpooling and transit. A bicycle marketing program should emphasize cycling as a healthful and pleasurable activity, as a way to reduce vehicle emissions, and should also address solutions to the constraints listed previously.

There are also incentives that can be offered by employers and businesses to generally encourage bicycle commuting or to achieve compliance with local trip reduction ordinances. These incentives may include merchandise, services, or time off based on number of days of bicycle commuting; shower and locker facilities for changing clothes; guaranteed rides home in case of emergencies or inclement weather; emergency repairs and pick-up in case of breakdown; company discounts at bike shops; and gifts such as helmets, mirrors, lights, or gift certificates.

[1] HDR Engineering, Inc., National Bicycling and Walking Study: Interim Report, University of North Carolina, Highway Safety Research Center, for the Federal Highway Administration, US Department of Transportation, November 1991, p.12

APPENDIX 6
OKI BICYCLE PLAN ADVISORY COMMITTEE

The OKI Bicycle Advisory Committee was organized to provide information, advice, and technical assistance to OKI staff in the preparation of the update of the *OKI Regional Bicycle Plan.* Their responsibilities include, but are not limited to, the following:

- To participate in the meetings of the OKI Bicycle Advisory Committee
- To attend the public open houses for the Regional Bicycle Plan and 2030 Regional Transportation Plan
- To serve as liaison between their local community or the organization they represent and the Advisory Committee
- To provide input to the plan development

The following people were members of the Bicycle Advisory Committee. Stephan Louis, a member of the OKI Board of Trustees, served as the Chair.

Committee Members

Mr. Stephan Louis	Committee Chair OKI Board of Trustees
Mr. C. Kevin Armstrong	Cincinnati Cycle Club
Mr. Tommy Arnold	Ohio Dept. of Transportation, District 8
Mr. Matt Becher	Boone County Planning Commission
Mr. Tim Bender	Transit Authority of Northern Kentucky
Mr. Ben Bishop	Kentucky Bicycle and Bikeways Commission
Mr. Carl Bishop	Cincinnati Cycle Club
Mr. Larry Bloomfield	Cincinnati Cycle Club
Mr. John Braun	Cincinnati Cycle Club OKI Intermodal Coordinating Committee
Mr. Tom Caruso	Anderson Township
Mr. Chris Clingman	Clermont County Park District
Mr. Jim Coppock	Cincinnati Transportation and Engineering
Mr. Andy Dobson	Hamilton Co. Regional Planning Commission
Mr. Mark Feldhaus	Cincinnati Cycle Club
Mr. Walt Fick	Cincinnati Cycle Club
Mr. Larry Fronk	Miami Twp. (Clermont) Community Development
Mr. Timothy Gilday	Hamilton County Engineers Office
Mr. Peter Glenn	City of Florence
Mr. Scott Goodfellow	Cincinnati Cycle Club
Ms. Bethany Hahn	Metro / SORTA
Mr. Ross Hamre	Hamilton County Park District
Mr. Robert Hans	Kentucky Transportation Cabinet, District 6
Mr. Tim Hershner	Clermont Co. Planning and Development Comm.
Mr. Ed Hess	Cincinnati Cycle Club
Ms. Martha Kelly	Cincinnati Transportation and Engineering
Mr. Dan Korman	Park and Vine
Mr. Hans Landefeld	Miami Conservancy District
Ms. Kimberly Lapensee	Warren County Regional Planning Commission

Mr. Michael Lober	Clermont County Engineers Office
Mr. Keith Logsdon	Northern Kentucky Area Planning Commission
Mr. David Mick	Warren County Engineers Office
Mr. Ralph Mitchell	Kentucky Bicycle and Bikeways Commission
Mr. Dan Mocsny	Cincinnati Cycle Club
Mr. Michael Muska	MetroParks of Butler County
Mr. Dennis Reller	Campbell County Parks and Recreation
Mr. Jason Reser	Reser Bicycle Outfitters
Mr. Kevin Reynolds	Cincinnati Cycle Club
Ms. Susan Schultz	Seven Hills Cycling Club
Mr. Steve Sievers	Anderson Township
Ms. Lydia Thacker	Butler County Engineers Office
Mr. Richard Ulrich	Dearborn Trails
Mr. Reggie Victor	Cincinnati Transportation and Engineering
Ms. Melissa Williams	Campbell County Fiscal Court
Mr. Todd Williams	Cincinnati Cycle Club

OKI Project Staff

Regina Fauver	Project Administrator
Don Burrell	Senior Planner / Bicycle Pedestrian Coordinator
John Heilman	Technical Services Coordinator
Aaron Crary	Senior GIS Analyst
Florence Parker	Public Involvement Specialist

Appendix 7
On Street Bicycle Facilities

9/12/2007

County	City/Twp	Type	Street	From	To	Length (mi)	Notes
Boone		Striped lanes	Houston (ky842)	Ky 18	Turfway(Ky1017)	1.38	By KYTC
Boone	Union	Striped lanes	Ky 42	Braxton Dr	Raiders Run	2.35	By KYTC
Boone	Florence	Striped lanes	Turfway (Ky1017)	Houston (Ky842)	Main (US 42)	1.44	KYTC - under construction
Boone		Sidepath	Conrad Ln	Idlewild (Ky338)	Bullitsville	0.50	By Boone Co
Boone	Florence	Sidepath	Woodspoint Dr	Ky 18	Meijer Dr	0.80	Florence
Boone	Florence	Sidepath	Ewing Blvd	Ky18	US 42	0.60	Florence
Boone		Sidepath	Wetherington Blvd	US 42	Mt Zion (Ky536)	1.70	Boone
Kenton	Edgewood	Striped lanes	Turkey Foot (Ky1303)	Dudley	Spring Valley	2.51	By KYTC
Kenton	Erlanger	Striped lanes	Turkey Foot (Ky1303)	Spring Valley	Beech Grove	1.60	By KYTC
Kenton	Independence	Striped lanes	Ky 17	Pelly	Ky 16	4.07	By KYTC
Campbell		Sidepath	Race Track (Ky842)	Sugarhill	Jolly Park entrance	0.76	AJ Jolly Park connection
Hamilton	Cincinnati	Striped lanes	Erie Av	Ashworth	Rosslyn	0.57	Cincinnati
Hamilton	Cincinnati	Striped lanes	Eighth St Viaduct	Burns	McClean	0.62	Cincinnati
Hamilton	Cincinnati	Striped lanes	Goodman St	Vine	Eden	0.20	Cincinnati
Hamilton	Cincinnati	Striped lanes	Victory Pkwy	Gilbert	Lexington	0.46	Cincinnati
Hamilton	Cincinnati	Striped lanes	Este Av	Kings Run	Seymour	1.80	Cincinnati
Hamilton	Cincinnati	Striped lanes	Winchell Av	Ezzard Charles	Bank	0.75	Cincinnati
Hamilton	Cincinnati	Striped lanes	Gilbert Av	Court	Elsinore	0.40	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Ludlow Viaduct	Central Pkwy	Spring Grove	0.34	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Eighth St	McClean	Linn	0.51	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Linn St	Dalton	Court	0.30	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Freeman	Sixth St	Gest	0.40	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Dalton	Budd	Linn	0.36	Cincinnati

County	City/Twp	Type	Street	From	To	Length (mi)	Notes
Hamilton	Cincinnati	Wide curb lane	Gest	Dalton	Western	0.11	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Mehring Way	Freeman	Gest	0.29	Cincinnati
Hamilton	Cincinnati	Wide curb lane	MLK Dr	Victory Pkwy	Reading	1.00	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Bank	Winchell	Linn	0.46	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Second St	Central	Main	0.77	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Third St	Central	Main	0.77	Cincinnati
Hamilton	Cincinnati	Wide curb lane	Queen City Av	Tillie	White	0.30	Cincinnati
Hamilton	Cincinnati	Signed route	Eggleston	Pete Rose Way	Central Pkwy	0.66	Cincinnati
Hamilton	Cincinnati	Signed route	Central Pkwy	Eggleston	Ludlow	4.41	Cincinnati
Hamilton	Cincinnati	Signed route	Reedy - Court	Eggleston	Gilbert	0.18	Cincinnati
Hamilton	Cincinnati	Signed route	Gilbert / Victory Pkwy	Court	Reading	5.12	Cincinnati
Hamilton	Cincinnati	Signed route	Madison	Victory Pkwy	Observatory	3.12	Cincinnati
Hamilton	Cincinnati	Signed route	Observatory / Linwood	Madison	Wilmer	2.70	Cincinnati
Hamilton	Cincinnati	Signed route	Ludlow	Spring Grove	Clifton	1.63	Cincinnati
Hamilton	Cincinnati	Signed route	University / Lincoln	Jefferson	Woodburn	1.74	Cincinnati
Hamilton	Cincinnati	Signed route	Goodman / Eden	Vine	University	0.57	Cincinnati
Hamilton	Cincinnati	Signed route	Old Red Bank	Red Bank Rd	end	0.40	Cincinnati
Hamilton	Cincinnati	Sidepath	Red Bank	Old Red Bank	Murray	0.50	Cincinnati - connect to Murray Av
Hamilton	Cincinnati	Sidepath	Wilmer	Airport Rd	Playfield Ln	1.30	Cincinnati - Part of Lunken trail
Hamilton	Madeira	Striped lanes	Kenwood Rd	Euclid	Whetsel	1.50	Madeira
Hamilton	Montgomery	Sidepath	Montgomery Rd	Main (north x)	Weller	2.70	Stamped brick
Hamilton	Sharonville	Sidepath	E Kemper	Mosteller	Lebanon (US 42)	1.40	Sharonville
Hamilton	Springdale	Sidepath	Sharon Rd	Springfield (SR4)	Ballinger	0.80	Springdale
Butler	Middletown	Sidepath	Verity Pkwy	Girard	Lafayette	1.52	Crosses street, part striped lanes
Butler	West Chester	Striped lanes	Cox Rd	Barret	Hamilton Mason	2.10	on access roads Old part 4' new part 7'
Butler	West Chester	Signed route	Oak/Bonnie/Grinn	Cox	Barret	1.30	To Keehner Park
Butler	Liberty	Sidepath	Kyles Sta/Maude Hughes	Woodgate	Rodeo	1.50	In ROW

County	City/Twp	Type	Street	From	To	Length (mi)	Notes
Butler	Liberty	Sidepath	MaudeHughes/Milliken	Ashdale	Hawthorn	0.80	In ROW
Butler	Hamilton	Sidepath	High/Main Bridge	Monument	South B	0.20	South side of new bridge
Warren	Lebanon	Striped lanes	Deerfield Rd	Cook	Rockwood	0.75	Part of Lebanon Connector
Warren	Lebanon	Sidepath	Kingsview Dr	Fujitec	Turtle Creek	1.54	Part of Lebanon Connector
Warren	Mason	Sidepath	Snider Rd	Reading Rd (US 42)	Mason Rd	1.49	Mason
Warren	Mason	Sidepath	Tylersville / Stitt Rd	Nicholas Ln	Golf Center	3.28	Mason
Warren	Mason	Sidepath	Mason-Montgomery Rd	Tylersville	Main St (US 42)	1.11	Mason
Warren	Mason	Sidepath	Western Row Rd	railroad	Indian Wood Blvd	0.51	Mason
Warren	Mason	Sidepath	Socialville Fosters Rd	Wilkins	Mason-Montgomery	0.43	Mason
Hamilton	Blue Ash	see notes					Blue Ash striped lanes are 2 way on one side of the road. Their sidepaths contain street funiture, have no separation from the street and curbs on the driveways. (Not included.)

Source: OKI survey of state DOTs and local planning and engineering departments followed up with field checks.