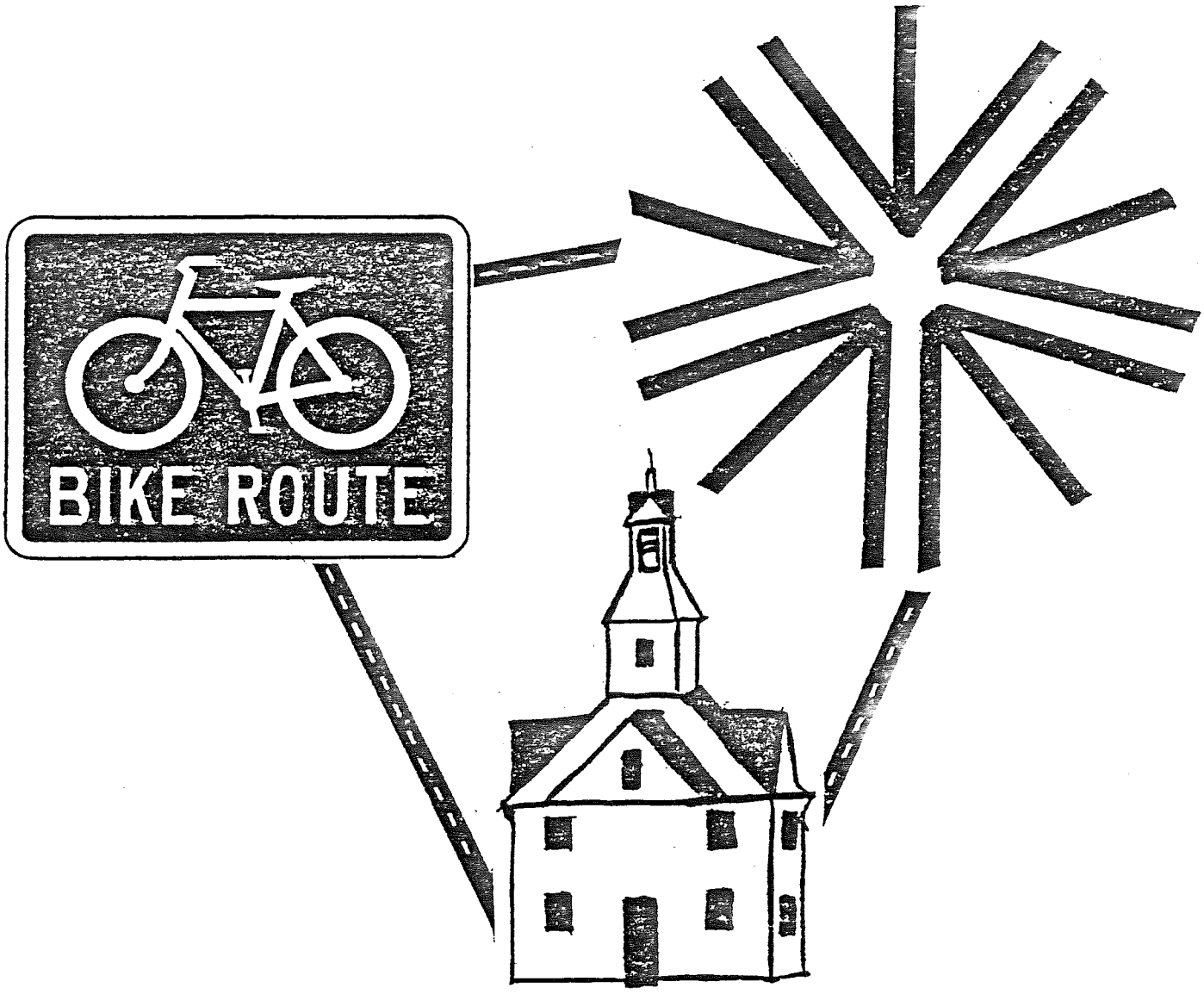
FIVE COLLEGE BIKEWAY MASTER PLAN



Lower Pioneer Valley Regional Planning Commission - August 1980

FIVE COLLEGE BIKEWAY

MASTER PLAN AND GRANT PROPOSAL

Submitted To

MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS

Prepared By

LOWER PIONEER VALLEY REGIONAL PLANNING COMMISSION
26 CENTRAL STREET
WEST SPRINGFIELD, MASSACHUSETTS 01089

AUGUST 1980

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LOWER PIONEER VALLEY REGIONAL PLANNING COMMISSION

26 Central St., West Springfield, Massachusetts 01089, Tel. 413-781-6045

K. M. MUNNICH
Planning Director

August 7, 1980

Mr. Francis J. Hoey
District Highway Engineer
Massachusetts Department of Public Works
North King Street
Northampton, Massachusetts 01060

Dear Mr. Hoey:

Reference: Five College Bikeway Master Plan and Grant Proposal

In accordance with the provisions of the Massachusetts Department of Public Works (MDPW) Bikeway Assistance Program, originally enacted in 1977 (i.e. Section 2C of Chapter 356 of the Acts of 1977), the Lower Pioneer Valley Regional Planning Commission (LPVRPC) has prepared the enclosed master plan for the development of a 26 mile Five College Bikeway which would interconnect the five educational institutions which comprise the Five College system (i.e. University of Massachusetts, Amherst College, Smith College, Hampshire College and Mount Holyoke College) as well as the communities of Amherst, Hadley, Northampton and South Hadley. The enclosed proposal also incorporates a formal request for one hundred percent state funding assistance given that the Five College Bikeway will be a highly unique regional bikeway facility serving the bicycling needs of Five College students and staff as well as the general population who live and work in Hampshire County. In fact, the Commission's proposal actually constitutes a further refinement of a Five College Bikeway fability originally recommended by the Department in 1973. The original MDPW proposal called for the development of a demonstration bikeway to link Amherst, Hadley, Northampton, and South Hadley as well as each of the Five College campuses. We agree that this proposed bikeway has great merit and an excellent potential for successful implementation. Consequently, we would now like to help advance the Five College Bikeway into the project development and design phase. Accordingly, we are submitting this master plan for the review and consideration of the Department. Correspondingly, we are seeking favorable action by the MDPW on a commitment of funds to allow the construction of the Five College Bikeway to get underway as soon as possible.

The enclosed Five College Bikeway Proposal is purposely intended to be a conceptual plan which reflects the substantial planning work already accomplished by the Commission's transportation staff working in consultation with the Regional Joint Transportation Committee (JTC), MDPW personnel, bike users, and local and state officials, among others. The proposed facility is a key element of the LPVRPC's recommended Regional Bikeway System and is consistent with all relevant transportation plans and programs presently in force. The

proposed Five College Bikeway enjoys the strong support of the JTC which has previously assigned it a high priority ranking. Moreover, the proposal enjoys the enthusiastic support of the four communities in which it would ultimately be located as well as the Five College community itself. Copies of the enclosed proposal are now in the process of being distributed to a wide cross-section of interested parties who may wish to comment on the merits of our proposal directly to the Department.

It is important to note that the enclosed proposal is purposely not intended to be the very detailed design plans which must eventually be prepared before the proposal can be implemented. Rather, it is envisioned that this master plan, once endorsed by the Department, will become the basis of such definitive design and engineering plans. Similarly, it is anticipated that MDPW and local and state officials, citizens and active bicycle users will have an opportunity to become directly involved in the process of finalizing the design of the Five College Bikeway to insure that the facility eventually constructed incorporates the highest possible standards of safety, utility and cost effectiveness. We are confident that with a pooling of resources and viewpoints, the optimal route and design configuration for the proposed Five College Bikeway can be achieved. In the proposal, we have outlined a recommended scheme for public participation in the design phase, a process which the LPVRPC will gladly coordinate.

We firmly believe that the enclosed proposal affords a rare opportunity to create a major, regional bikeway facility which will benefit substantial numbers of bicyclists who regularly travel in the Five College area. Moreover, it offers the prospect of being compatible and supportive of other important national, state regional and local goals not the least of which include the conservation of fuel, the enhancement of air quality, improved physical fitness and a gradual reduction of the inordinately heavy dependence placed on the single-occupant automobile for personal mobility. It is for all of these reasons that we believe that this is an eminently sensible and creative proposal which will have lasting benefits for the Five College community, the four host communities and the Lower Pioneer Valley Region as a whole. We trust the Department will concur with our assessment of this proposal and will see fit to lend its full support to its funding and implementation.

I shall look forward to hearing the Department's response to the enclosed proposal. If you should have any questions or need additional information, please feel free to contact Tim Brennan, Principal Planner of the Commission staff.

Thank you for your anticipated assistance in this matter.

Very truly yours,

K. M. Munnich
Planning Director

KMM/TB/ds
Enclosure
cc: J. Olver, State Senator, Amherst
Wm. Atkins, Amherst Selectmen
Joseph Wanczyk, Hadley Selectmen
David Musante, Mayor of Northampton
George Hahn, South Hadley Selectmen
James Cope, Chairman, JTC
P. Lynch, BTP&D
D. Amidon, Commissioner, MDPW
Elisa Campbell, Amherst Commissioner
Michael Kostek, Hadley Commissioner
Robert August, Northampton Commissioner
David Stickel, South Hadley Commissioner

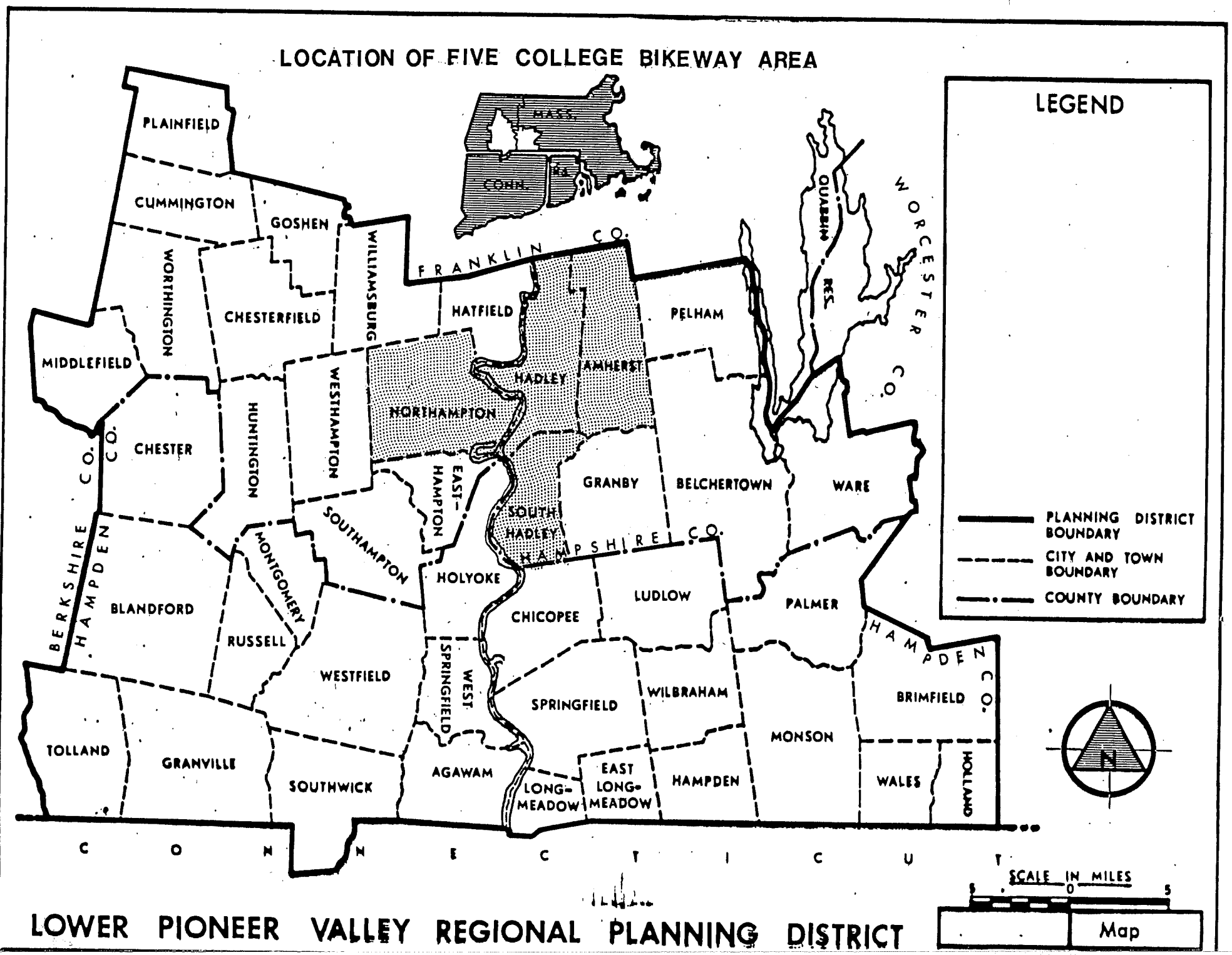
I

Introduction

The following Unique Regional Bikeway Proposal is a major revision to a 1973 Massachusetts Department of Public Works (MDPW) plan to connect the Five Colleges located in Hampshire County with a network of bikeways. This revised proposal has been developed by the staff of the Lower Pioneer Valley Regional Planning Commission (LPVRPC) in conjunction with the Regional Joint Transportation Committee (JTC), and the City of Northampton and the Town of Amherst, which are the largest two of the four communities directly affected by the proposal outlined herein.

It is projected that the establishment of the essentially triangular bikeway system connecting Five Colleges would prove to be of major local and regional import. In addition to Northampton, Hadley, Amherst, and South Hadley, the 25 to 30 mile bikeway system would also serve a high proportion of the rest of the 43 municipalities in Hampden and Hampshire Counties which comprise the Lower Pioneer Valley Region. (See Map 1) In serving the Five Colleges in Hampshire County, the system would predominantly serve the communities in the northern portion of the Lower Pioneer Valley Region, but in particular, the bikeway would provide three critical links to the southern portion: one across the Connecticut River and two crossing the mountainous divide of the Mount Holyoke Range in the southern portion of Hampshire County.

The proposed project is a key element of the recommended Regional Bikeway Plan developed by the LPVRPC during 1975; it is also wholly consistent with existing local and regional bikeway policies and plans. In particular, the proposed project would foster increased commuting by bicycle between the colleges, and between other employment centers within the affected communities. Successful implementation would also contribute to an increase in local and regional recreation trips by connecting the recreation resources of the Connecticut River with the major population centers of Hampshire County (e.g. Amherst, Northampton, South Hadley, etc.).



LOWER PIONEER VALLEY REGIONAL PLANNING DISTRICT

Map

II

Status of Bikeway Planning in the LPV Region

Prior to 1970, relatively little bikeway planning activity or development had occurred in the Lower Pioneer Valley Region, although some communities did develop plans for bikeway routes and facilities which were incorporated into their comprehensive plans. Subsequent to 1970, however, a variety of developments and circumstances combined to generate greater interest in the development of local/regional bikeway corridors for commuter as well as recreational trips.. The availability of federal, state, and in some instances, local funding for bikeway planning and development occurred simultaneously with increased levels of public awareness and commitment to new national goals such as energy conservation, air quality improvement and increased social and environmental amenities. These circumstances, in turn, rekindled widespread interest at all government levels in the bicycle as a useful alternative mode of transportation and an important component of comprehensive, multimodal transportation system.

Responding to these changing circumstances, the LPVRPC, under the guidance of the JTC and in conjunction with the Massachusetts Department of Public Works (MDPW), Bureau of Transportation Planning and Development and the Federal Highway Administration (FHWA) broadened the scope of its transportation planning program to include a bikeway planning element utilizing transportation planning funds received under a series of transportation planning contracts administered by the MDPW. Initially, work efforts concentrated on data collection and analysis, but gradually the focus has turned toward the development of a comprehensive regional/local bike path plan for the Lower Pioneer Valley Region and its 43 member communities. Individual communities have, likewise, begun to foster the development of local bikeways and in some instances have prepared community-wide bikeway plans. As a result of these activities, the LPVRPC prepared and released in 1975 a recommended Regional Bikeway Plan which identified potential regional bikeway corridors to serve the region and individual member communities.

In 1976, the LPVRPC staff completed a Short-Range Bikeway Development Proposal for state bikeway assistance funds made available for the first time as part of a statewide transportation bond issue. This proposal incorporated specific bikeway projects from four LPVRPC member communities including Agawam, Amherst, Northampton, and Springfield, Massachusetts. Although the state program included a total of only $1 million for distribution on a statewide basis, the LPVRPC's proposal was successful in securing funding for three of the four proposed projects on a 75 percent state and 25 percent local matching basis.

The following sections outline the details of two regional/local bikeway development projects which are all in varying states of design and implementation.

Project Number	Community Location	Priority Ranking
1	Northampton	High
2	Amherst	High

Project Number 1

Project Location - Northampton, Massachusetts

1. Project Title

   Northampton - Look Park Connector

2. Facility Type

   a. Portion - Bike Path - Class I (10,000 feet)
   b. Portion - Bike Lane - Class II (3,500 feet)

3. Cost Estimate

   $424,694.00 (June 1979 estimate) (in review)

4. Cost Breakdown

   State Share (?)
   Local Share (?)

5. Project Dimensions

   Length = 2.6 miles
   Width = 6 feet

6. Project Descriptions

   The proposed bike path facility would provide an east-west bikeway corridor which would connect the downtown business area of Northampton with Look Park, a major local/regional recreational facility, utilizing an abandoned railroad right-of-way owned by a major utility company. The facility would serve more than 14 major bicycle traffic generators including schools, parks, business/commercial areas, and Smith College. Construction of this facility would contribute to the development of a linear park system for the city and service a significant level of bicycle traffic associated with the Five College area which includes five major institutions of higher learning (Smith College, Amherst, Hampshire College, Mount Holyoke College and the University of Massachusetts).

7. Project Priority Ranking

   Priority Rank - first out of three projects - High priority ranking

8. Project Contact (Local)

   Peter Klejna
   City Hall, Planning Department
   Northampton, MA 01060
   Tel. (413) 584-0344

9. Project Contact (Regional)

Timothy Brennan
Lower Pioneer Valley Regional
Planning Commission
26 Central Street
West Springfield, MA 01089
Tel. (413) 781-6045

10. Other Information

The proposed facility exhibits excellent potential for future extensions to the northwest to connect w/Williamsburg, to the south to connect to Easthampton and east to connect with the proposed Five College Bikeway and Hadley, Amherst and South Hadley.

The proposed bikeway will be utilized for both commuter and recreational trips. It provides excellent safety features for cyclists as a result of the creation of a separate bikepath as a proposed class I corridor.

Project Number 2

Project Location - Amherst, Massachusetts

1. Project Title

West Street Bike Path - Crocker Farm Extension

2. Facility Type

Bike Path - Class I (West Street)

3. Cost Estimate

$16,000 (Sept. 1979 est.)

4. Cost Breakdown

State Share = $11,000
Local Share = $ 5,000

5. Project Dimensions

West Street Bike Path, Crocker Farm Extension
Length - 1200 feet
Width - 8 feet

6. Project Description

This portion of the project includes the construction of a 1200 ft. long, Class I bike path on the east side of West Street between West Pomeroy Lane and Shays Street. The eight foot wide bike path would replace a deteriorating sidewalk which is too narrow for safe pedestrian/bike traffic. It would connect with existing good quality sidewalks which link West Pomeroy Lane and a previously constructed bike path which begins at East Hadley Road. In addition to the bike

path, this project includes posting signs to direct bicyclists from the existing bike path to the West Street bike path and through the Hampshire College campus to West Bay Road. Ramping curbs at Crocker Farm School is also included in the project.

The West Street project will serve both commuter and recreational bicyclists and pedestrians. A continuous well-marked route from Amherst Center to Hampshire College would encourage recreational and commuter bicycling between Amherst College center and Hampshire College. The path would also serve as a connector between Hampshire College and a village center located at the intersection of Pomeroy Lane and West Street. The path is considered a crucial link to any bikeway route system interconnecting the Five College area.

7. Project Priority Ranking

Priority Ranking: first out of three projects - High Regional/State priority

8. Project Contact (Local)

James P. Cope
Town Hall
Amherst, MA 01002
Tel. (413) 253-2773

9. Project Contact (Regional)

Timothy Brennan, Principal Planner
Lower Pioneer Valley Regional
Planning Commission
26 Central Street
West Springfield, MA 01089
Tel. (413) 781-6045

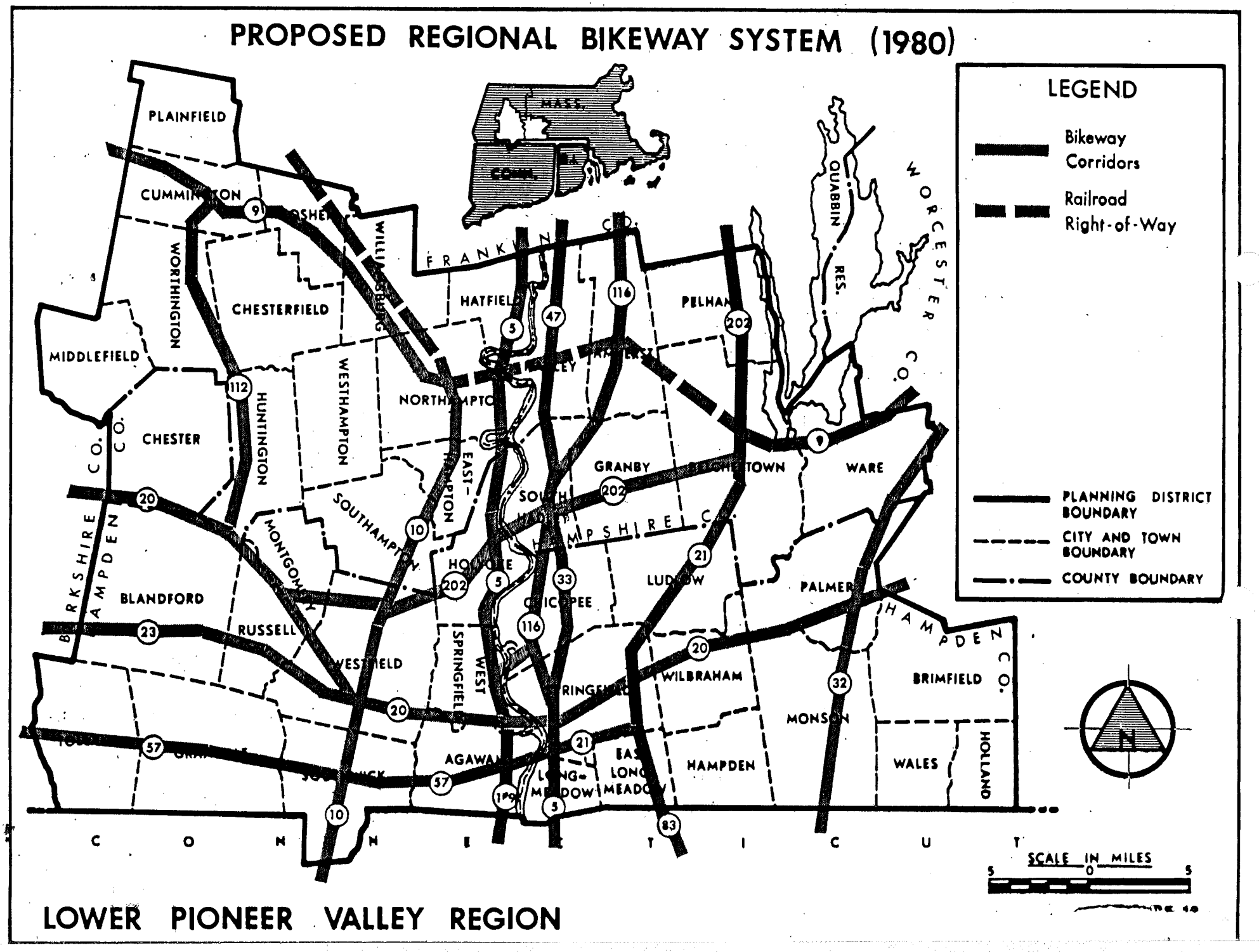
10. Other Information

The proposed facility interconnects directly with the proposed Five College Bikeway.

As two final points, it should be clearly understood that all of the potential regional bikeway corridors identified by the LPVRPC and others to date are not considered an exhaustive nor detailed listing, but rather subject to further expansion and refinement as a part of the LPVRPC's ongoing transportation work program. A number of additional regional bikeway corridors, for example, have subsequently been added to the Bikeway Plan initially released in 1975. Results of bikeway planning work completed to date also indicates that the development of a successful bikeway plan for the region is heavily dependent upon an extremely flexible regional system which interconnects bikeways developed at the local level. This seems in keeping with other reference sources which indicate the large majority of bicycle trips occur within the range of five to ten miles in length, particularly for commuter purposes.

On a related matter, it is evident that although a majority of communities have not yet developed specific bikeway plans and/or proposals, there is

widespread interest in bikeway development especially if adequate federal and state funding assistance is available. As public support for bikeways continues to grow, coupled with additional federal and state assistance programs, it is anticipated that increased investment in bikeway developments will gradually become more evident in Massachusetts as has already occurred in other states.



LOWER PIONEER VALLEY REGION

III

Background of Proposed Project

The Federal Highway Act of 1973, Section 124 authorized the appropriation of Federal Highway monies ". . .to encourage the multiple use of highway rights of way, including the development, improvement, and use of bicycle transportation." States, through their Department of Public Works, could include with Federal-aid highway projects, the construction of bikeways and bikeway facilities in connection with Federal-aid highways, up to a limit of $2,000,000 (million) annually.

With the passage of the Federal Act of 1973, the Massachusetts Department of Public Works (MDPW) proposed three demonstration projects statewide. The five-college bikeway, linking Amherst, Northampton, and South Hadley was one of the pilot projects, the Concord to Boston corridor and Martha's Vineyard were the other two. The Five College area was chosen for a number of factors: (1) because of its unique urban/rural locale; (2) the very large number of cyclists in the area including residents of local communities and the colleges; (3) the terrain is suitable and: (4) some towns had already been submitting bikeway proposals to the state--including two of the four towns which would be part of the Five College route--Northampton and Amherst. The purpose of the plan was to encourage bicycle travel which is a non-pollution causing mode of transportation, by improving bicycle travel safety and route conditions.

The MDPW presented their demonstration pilot to the Joint Transportation Committee (JTC) of the Lower Pioneer Valley Regional Planning Commission (LPVRPC) at the September 12, 1973 meeting for JTC approval. The technical staff of the JTC endorsed the preliminary site location of the proposed MDPW project, consensus was that the project would provide an alternative mode of transportation which would enhance and strengthen the region's transportation system as a whole. The technical staff and the JTC offered to participate in the planning and design of the project, with participation increasing as the project became more definitive.

Some questions were raised about the exact location of the bikeway, especially concerning the link which would interconnect Northampton and Amherst. Route 9, the federally-aided highway, was undergoing major commercial strip development which was expected to dramatically increase the traffic volume along the route. Already an increase of 44% had occurred from the average daily traffic volume of 15,000 in 1972 to an ADT of 21,700 in 1975. This significantly reduced the safety features of the proposed bikeway. The project became more complicated and costly than was originally anticipated.

During the same time frame, Boston and Maine Railroad (B & M) was beginning abandonment proceedings on their Wheelright branch line which coincidentally parallels Route 9 from Northampton through Amherst to Belchertown. Mass. Central Railroad, Inc., a small short line railroad operation formed in the mid-1970's, has been negotiating with B & M Railraod to become the designated carrier on that railraod branch line. They would anticipate continuing the same rail freight service which had been in operation until December 1979 with B & M, one weekly trip. However, the rail branch line has been embargoed

from service because of the condition of the tracks and the railroad bridge across the Connecticut River.

In the fall of 1978, the project came to the forefront of attention of the staff of Senator John Olver and the LPVRPC. This time, however, the location of the project was changed from a shared right-of-way with Route 9 to a location which would incorporate segments of the B & M Railroad right-of-way and residential streets in Hadley. Strip development on Route 9 had been continuing to such an extent that traffic volumes made it out of the realm of safety to endorse a shared right-of-way bikeway. The average daily traffic on Route 9 rose from 21,700 in 1975 to 23,000 in 1978 (about 8%) with promises of rising even higher when the new Hampshire Mall opened for business in the fall of 1978 at the Hadley/Amherst line.

Work has been ongoing with renewed interest especially with Mass. Central Railroad in terms of solving questions of the liability of setting up a shared right-of-way bikeway with a partially active railroad. As the result of a windshield survey, a potential course for the bikeway has been determined along local streets in Hadley for the link which will connect Norhtampton and Amherst. A preliminary presentation of the proposal was presented at the May 1979 meeting of the JTC.

The regional benefits of the bikeway will be a direct result of the active participation and cooperation between the local communities, local and regional planning departments and local elected officials. The results of this and previous bikeway planning work completed by the LPVRPC is reflected in the contents of this grant proposal which has been prepared in full conformance with the comprehensive, cooperative and continuing (3C) transportation planning process and with the active participation of the local citizens and officials of Northampton, Amherst, South Hadley and Hadley.

IV

Statement of Need

The need for the proposed project is in part a reflection of the larger national phenomena, a resurgence in the use of the bicycle as an important and viable mode of transportation. No longer is riding a bicycle confined to youth, but bicycle-use evaluation studies indicate that bicycle riding is increasingly popular with adults for both active recreation during leisure time as well as an alternate means of transportation for commuter purposes.

Since the country as a whole has become more physical fitness conscious, bicycle riding has become a realistic transportation alternative. Bicycles are now recognized as a utilitarian, economical means of transport whether the trip is destination-oriented or the trip itself is the objective. The project proposed herein is unique in that it incorporates characteristics of both types of bikeways.

Partially as a result of the oil embargo of 1973 and the energy crisis of 1979, the bicycle has increasingly emerged as a means of energy conservation. During critical shortages of fuel for motorized vehicles, bicycles will be a handy, economical means of transportation. More frequent use of the bicycle will save consumers money that would otherwise be spent on gas and repairs for their vehicles and save time by not forcing consumers to wait in gas lines (thereby shortening the lines for those who will be forced to wait). In general, the use of bicycles will help conserve energy in the years ahead.

Increased bicycle use has led to increased pressures to give serious attention to the development of bikeways to safely accommodate the various types of user demands. Consequently, federal, state, regional and local agencies involved with transportation planning and/or implementation, initiated efforts to provide bikeways and related facilities which had not been developed commensurate with user demand.

As an initial step in this process, these same governmental agencies took action to have bikeway planning incorporated as an integral part of comprehensive, multi-modal transportation planning programs being conducted at various governmental levels. Such efforts were undertaken in the State of Massachusetts beginning in earnest in the early 1970's as the State, acting through the MDPW and its Bureau of Transportation Planning and Development, worked to develop specific bikeway plans and programs with the 13 regional planning agencies. These agencies are charged with responsibility for the conduct of the 3C transportation planning process in each respective planning district incorporating bikeway planning activities.

The Federal-Aid Highway Act of 1973, which allowed the use of federal-aid highway funds for the construction of bicycle and pedestrian facilities independent of regular highway projects, kindled widespread interest in bikeway development. However, these funds were not reserved exclusively for bikeways. Bikeway projects were forced to compete with other priority projects for the limited funding resource.

Despite these funding limitations, the LPVRPC developed a comprehensive regional/local bikeway plan. This plan has become an integral part of the transportation plan for the Lower Pioneer Valley. These regional corridors could effectively interconnect the region as well as the local bikeway projects developing in the 43 cities and towns in the region.

One factor which points to a strong and defined need for the bikeway is the large concentration of students in the area, approximately 33,000 for the 1979/1980 school year. The Five College organization has been working to join students from one school to another, both academically and socially. The atmosphere and proximity of the schools are conducive to the union. Briefly, students enrolled in one of the Five College schools are eligible to register for classes in any of the schools. Since the inception of this program, students have increasingly begun to take advantage of academic, social and cultural activities which are available at the various schools.

A large number of students are not residents of the schools, approximately 13,400 are commuters from surrounding communities. And although the number varies, taking a course or courses at a different school than the one in which the student is enrolled is becoming popular. It provides great opportunity to meet new people and to take advantage of a variety of courses. It is too early for this year's figures, but at Amherst College alone with a student population of 1,500, approximately 300 were enrolled in courses at another of the Five College institutions during the 1978-79 term.

The Five College Bikeway offers many advantages besides interconnecting the Five Colleges. It offers greater access to recreational facilities within the project area. The bikeway can serve as a gateway to the hill-towns in the northwestern part of the region, such as Williamsburg and Goshen. The bikeway will also be a critical link in the region's bikeway system by providing safe crossing of the Connecticut River in the northern corridor of the Connecticut Valley.

The populations of the four communities involved in the Five College area are in a period of growth. In 1970, the combined population was 76,800* and the projected 1980 population is 89,200--a growth of 14%. With increased population, the commercial activity should also be experiencing expansion. By placing bicycle parking facilities in key commercial districts, cyclists will be inclined to use their bikes as a means of travel on short downtown trips.** Proper bicycle parking facilities may decrease the risk of theft or damage to bicyclists..

At the present time, the Route 9 corridor is being used as a bicycle route, despite the dangers which exist as a result of strip development. The motor vehicle traffic continues to increase in spite of high fuel prices. Route 9 itself is a narrow corridor with limited sidewalks or shoulders for use as a bikeway. As a result, cyclists share the road with motor vehicle operators and buses.

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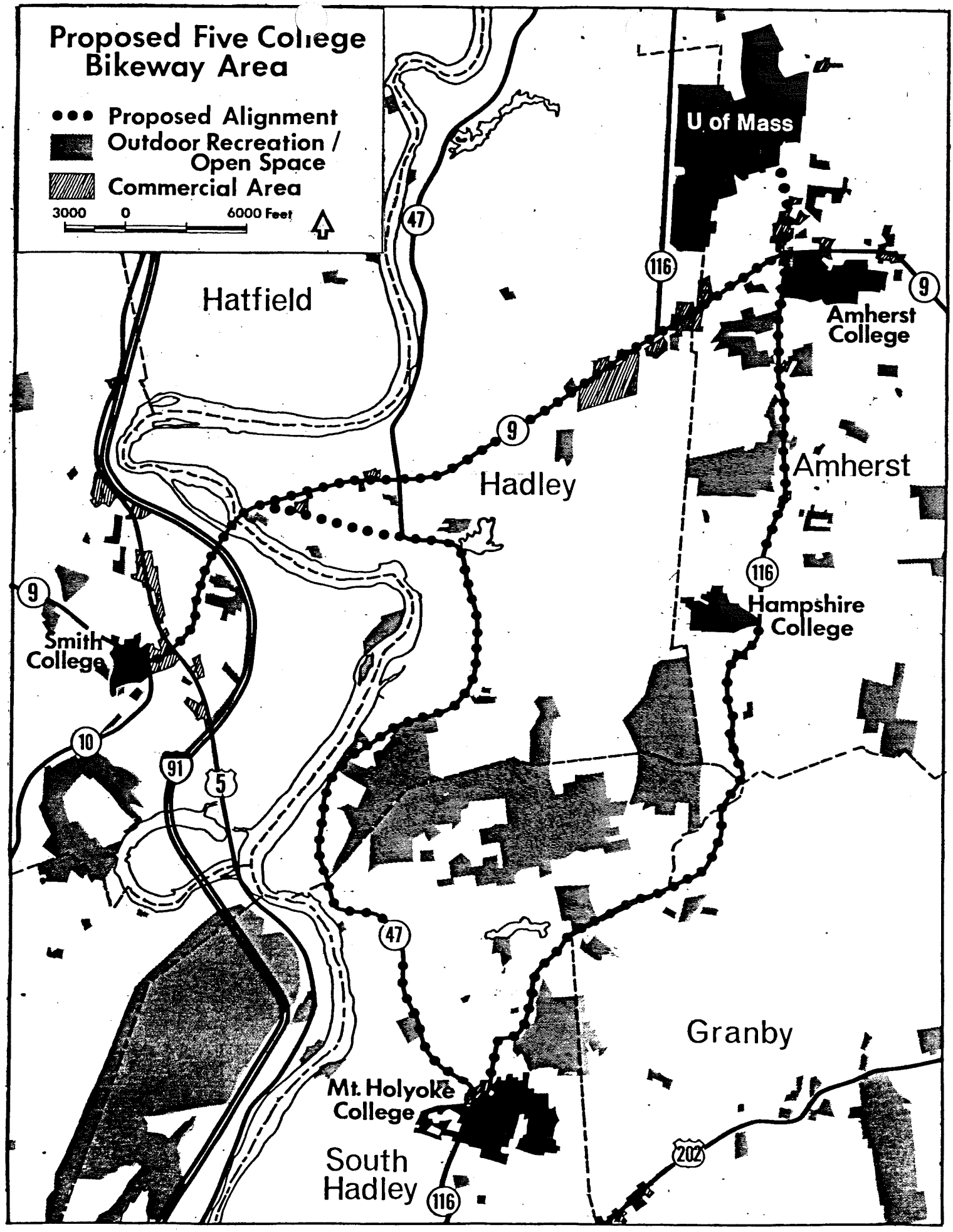
* Base Data Report

** Funding possible through Section 3 UMTA capital grant monies.

This condition creates unnecessary problems because cyclists and vehicle drivers are sometimes unaware of each others presence. There is a need to be responsible to the drivers of both bicycles and cars to make the corridor as safe as possible. There should be a bikeway away from the heavily trafficked corridors and a designated "safety zone" on the Calvin Coolidge Bridge between Northampton and Hadley.

There is a railroad right-of-way which exists as a direct corridor between Northampton through Hadley to Amherst. Continuing use of Route 9 corridor as it presently exists is dangerous. This condition reflects a need in the region to find an attractive corridor for the growing numbers of bike users.

Finally, since efforts are underway to improve air quality and reduce fuel consumption, special resource management and environmental quality considerations and needs would be supported and enhanced by the proposed project. By helping to divert increased usage of the private automobile to realize improved standards of air quality and reduce fuel consumption, the proposed project would supplement existing and proposed plans. If implemented, the project will become a component of a comprehensive Transportation Systems Management Element now under publication for the region. It will result in an attractive and useful bicycle facility which will contribute a positive alternative for reducing the rapidly increasing expenses associated with automobile usage.


Proposed Five College Bikeway Area
Proposed Alignment
Outdoor Recreation / Open Space
Commercial Area
3000 0 6000 Feet
U of Mass
Hatfield
Amherst College
Hadley
Amherst
Hampshire College
Smith College
Granby
Mt. Holyoke College
South Hadley
47
116
9
10
91
5
202

V

Regional Profile

The Lower Pioneer Valley Region is comprised of 43 cities and towns in Western Massachusetts and an area of 1,182 square miles. The region is bounded on the south by Connecticut, on the west by the Berkshire Hills, on the east by the Quabbin Reservoir and on the north by Franklin County.

As the region's name suggests, the dominating physical characteristic of the region is the broad valley formed by the Connecticut River, New England's longest river, which bisects the region as it flows southerly to Long Island Sound. The river forms a major barrier to travel in the region. There are 13 bridges which span the River, three of which are railroad bridges and one which is presently closed to vehicular traffic.

The population of the region was established by the 1970 Census to be 583,000 people. The region's largest city is Springfield, however, because the region is truly multi-nucleated, with each of several municipalities serving as commercial and industrial centers, Springfield does not dominate the region's economy to the degree one might expect. The cities of Holyoke, Northampton, Westfield and Chicopee and the towns of Palmer, Ware, and Amherst each have a relatively well-defined market and labor supply area.

The region has historically been a transportation crossroads. The Connecticut River, which bisects the valley, served as the first major means of transportation in the region. In the 1800's, railroads came to the forefront of transportation. The Boston and Albany Railroad traversed the region east to west while the Boston and Maine and New Haven Railroads moved north to south paralleling the Connecticut River. With the growth and expansion of sutomobile traffic, the Lower Pioneer Valley Region continued to be a transportation crossroads. Interstate 90, the Massachusetts Turnpike runs east-west intersecting Interstate 91, a major north-south arterial. These two highways have played a major role in the growth and development of the region.

The association of the Five Colleges in Hampshire County; Mr. Holyoke College, Smith College, Hampshire College, Amherst College and the University of Massachusetts, includes some of the nation's oldest and most well'established institutions of higher learning. As in the area of transportation, Western Mass has historically been a crossroads of education in the Commonwealth.

The formation of the close association between these five institutions has made it possible for students of one college to have the benefit of an extended educational experience available from other colleges. As the number of students interested in joint programs increases, it will become increasingly important to offer a means of transportation between these schools which will satisfy a demand for efficiency and conservation; to lessen the demand for motorized vehicles, and to enhance safety.

Community Profiles

1. Amherst - (1975 population - 33,500) over the years has been a rural colonial settlement, a 19th century industrial center, and a major educational center. It is still undergoing a change both in function and character from an agricultural community to a community which is both suburban and urban in nature. While it is experiencing a commercial growth in its business district, Amherst still is oriented almost entirely around its educational industry. The Town's economy remains primarily interconnected with its educational industry. Amherst College, built and financed by the citizens of Amherst, was founded in 1820 as a private institutions devoted primarily to liberal arts and sciences. It remains a small private institution by retaining a high caliber of admission. The number of commuters verses resident students is 10 percent. It is located off Route 9, near the center of the downtown area.

   Hampshire College, opened in 1970, is an independent experimental liberal arts college. It has created an educational system of three sequential divisions replacing the usual four year system, in close cooperation with the four neighboring schools, encourageing students to expand their educational experience. The student population has grown from 250 the first year to an enrollment of 1200 in the 1979/80 school year. The school is located primarily off Route 116 in the southeastern section of Amherst, near the borders of Hadley and South Hadley.

   The University of Massachusetts was founded in 1863 under conditions of the federal Morrill Land Grant Act as Massachusetts Agricultural College. Meeting the greater demand for public higher education brought changes. In 1931, Mass. Agricultural College became Massachusetts State College offering to the general public a Bachelor of Arts degree. In 1947, the school expanded to full University status. The student population now exceeds 26,000 in its 2 colleges (Stockbridge School of Agriculture), 6 schools and various independent departments. The school is centrally located in Amherst to the north and east of Route 116.

   The Five College Bikeway Project has been designed to strengthen the accessibility, uniqueness, attractiveness and identity of Amherst, as well as the three schools located within the community. By providing the only regional bicycle link to Amherst, it will open up the city to an increased member of bicyclists. The Bikeway will provide a unique recreational/commuter facility that will add to the attractiveness of the area.

1. Northampton - (1975 population - 29,710) was settled in 1654 as a farming community and became the center of Hampshire County government and commercial life. Manufacturing is a relatively small part of the city's economy. As the county seat, Northampton's character is strongly influenced by Smith College and the other area schools. Much of the city's cultural and commercial activities are student oriented. The declining trend of manufacturing has been offset by a growing trend in the service sector.

   Smith College is a small, private women's institution which was founded in middle 19th century. Its student population of 2500 is kept consistent

by its ridigly high admission standards, although it has grown since its inception. The Smith College campus is located on Route 9, just west of the Northampton CBD.

The growth of the student population in the Five College area has lead to renewed interest in the building of bikeway facilities, to ease accessibility to educational recreational facilities in the area. A questionnaire circulated by the Northampton Planning Department indicated that same community preference for bikeway facilities.

3. South Hadley - (1975 population - 17,200) is a residential suburb located just to the north and east of the Springfield-Chicopee-Holyoke urban core. In the Town's history, it has been a rural farming community, a thriving manufacturing center and now a semi-residential and collegetown community. It has a present day form different from the typical small New England town, South Hadley has 2 distinct urban centers: South Hadley Falls, a product of the 19th century industrial period, and South Hadley, a classical New England type town. The Town encompasses 12,032 acres of land, 75% of which in undeveloped agricultural or recreational land.

   Mount Holyoke College was founded in the early 19th century as the first women's institution of higher learning in the country. It is a private school which offers a bachelor's degree in liberal arts or sciences. Mount Holyoke sets a high admission standard, and students are increasingly taking advantage of the varied extension of courses and facilities at the other 4 schools. The College is located in the central portion of the Town, at the junction of Routes 116 and 47.

   South Hadley, as part of the Five College Bikeway, offers many areas of natural and unspoiled beauty both along the Connecticut River and throughout the Mount Holyoke Mountain Range which separates South Hadley from Amherst and Hadley to the north.

4. Hadley - (1975 population - 3,920) was settled as one of the first communities in the region. Hadley's location between the 2 largest population centers of Hampshire County, Northampton and Amherst, has produced growth problems and has had effects on the Town as a small-undeveloped rural community. The chief problem is the deterioration of the Route 9 corridor, the most travelled route between Amherst and Northampton. Three major shopping centers, plus numerous other commercial developments, have recently been built along Route 9. It is a small predominantly rural town which also serves as a major regional shopping area. Hadley has a special relationship to the Five College Bikeway because of its central location to all of the five schools. It will serve as a central focal point of the Five College Bikeway.

VI

Project Results and Benefits

1. Encourage the use of bicycles as an option toward conserving fuel during future energy shortages.

2. The project will have minimal adverse affects upon the ecology of the corridor.

3. Ameliorate air quality conditions in the corridor, to meet present federal requirement levels, by reducing the number of automobiles used and increasing thenumber of persons using bicycles for travel.

4. Offer alternative means of transportation in the Five College corridor, in effect make the Five College corridor multimodal.

5. Provide a safer crossing of the Connecticut River by area bicyclists in the northern portion of the Lower Pioneer Valley Region.

6. Facilitate greater use of existing recreational facilities and scenic areaslocated within the project area.

7. Increase access to these recreational facilities and scenic areas by local students.

8. Allow greater freedom to students of the Five Colleges to participate in programs and activities at and utilize facilities of the other colleges and universities within the Five College community.

9. One key link in the proposed Regional Bikeway System will be completed.

10. The communities of Amherst, Hadley, South Hadley and Northampton will benefit from increased activity at adjacent commercial areas to the bikeways.

VII

Recommended Bikeway Corridors and Route Alignments

This grant proposal outlines a proposed bikeway facility which can be constructed in three phases. The proposed bikeway system logically breaks into three distinct legs which taken together form a triangle route which interconnects Northampton to Amherst, Amherst to South Hadley and South Hadley to Hadley and Northampton. Each of the three basic route segments would constitute a particular phase of the project which can be briefly described as follows:

- Phase I (Northampton to Amherst) would require extensive design and preliminary engineering resources prior to actual construction. This route segment is envisioned to have the greatest use potential as it is. Phase I will involve the construction of a combination of separate Class 1 bikepath facilities and Class 3 bikeways facilities (widening, paving and signing).

- Phase II (Amherst to South Hadley) would require the creation of a Class 3 bikeway facility (widening, paving and signing) in conjunction with existing Route 116.

- Phase III (Hadley to South Hadley) would also require construction of a Class 3 bikeway facility along existing Route 47.

In determining the specific route a bikepath should follow for either commuter or recreational trip purposes, there are certain criteria which must be evaluated. These criteria include:

- The bikeway should be straight forward in the sense of being easy to locate and as direct a route as possible.

- The terrain the bikeway follows should be such that whether the rider is experienced or a relative novice, the route is not exceedingly difficult to use. There can be sections of the route where the incline/grade is more difficult for the novice rider to negotiate, but only if the distance is kept relatively short.

- Finally, safety considerations are of the utmost importance in planning or designing a specific bikeway facility. Among these are the width of the bikepath, the texture of the road, visibility of cyclists to those in motor vehicles and vice versa. The average amount of daily traffic on the roadway and the presence of parked cars on the sides of the roads must also be assessed in determining potential safety hazards along any given bikeway route.

There are several references in this section of the proposal to easements on the Boston and Maine (B & M) Railroad's right-of-way between Northampton and Amherst. This rail branch line is presently pending court action given that the B & M Railroad has proposed service abandonment of the Wheelwright Rail Branch Line (from Northampton through Belchertown). The ICC has given tentative

approval to B & M's abandonment project with the understanding that another carrier, the Mass. Central Railroad, will assume the task of providing rail freight service along this particular line. The Mass. Central Railroad is a small, short line railroad operation formed in mid-1970 under the provisions of Massachusetts state law. The Mass. Central is interested in providing rail freight service.if an operating agreement can be executed with the Massachusetts EOTC. The staff has been in contact with Mass. Central Railraod officials with regard to the possibility of shared right-of-way usage of the Wheelwright Branch Line between Northampton and Amherst for both rail and bicycle usage.

The Wheelwright Branch is presently not used for rail freight service since the entire line was embargoed in December 1979 by the B & M due to unsafe track conditions. Prior to embargo the line was operated only one day per week. It should be noted that there is precedent for joint bikeway/railway right-of-way usage. In an article by Robert M. Cleckner, the National Field Director for Bicycle Manufacturers Association of America, Mr. Cleckner describes the joint usage of a bikeway and an active railway line in York County, Pennsylvania. Based on this precedent and initial staff discussions with officials of the Mass. Central Railroad, it is anticipated that easements could be obtained for joint use of this rail corridor. The importance of a separated bikeway route is critically important given that the Route 9 highway connector can no longer be considered safe for bicycling purposes due to heavy traffic flows, high vehicle operating speed and numerous curb cuts which generate numerous vehicle turning movements throughout much of the day and evening.

Phase I - Northampton to Amherst

Several different corridors from Northampton over the Connecticut River to Amherst were analyzed for the proposed Five College Bikeway. There are a number of alternate routes which merit further consideration based on design safety and route characteristics. This additional analysis is needed in order to determine which route is the most feasible and desirable to serve bicyclists traveling the corridor between Northampton and Amherst. This leg of the Five College Bikeway will be broken down into specific route segments for the purpose of presenting herein a detailed discussion of the alternate routes available.

The first segment of the route will be from Northampton (Smith College) to the Connecticut River. This particular segment has two options for route assignment, both of which merit further analysis and discussion with local officials and area bicyclists.

The route for Option I (see accompanying map) begins at Smith College as a Class III bikeway facility moving northeasterly on Elm Street for a distance of 1/5 of a mile. The route continues northeastward along Bedford Terrace for approximately 1/5 of a mile, then turns north onto State Street for 1/4 of a mile. The route turns onto Summer Street for 1/4 of a mile and continues northerly on Northeast and Bates Street for 1/2 of a mile. It is at this point that the Five College Bikeway becomes a separate Class I facility sharing the B & M Railroad right-of-way from Bates Street under Interstate Route 91 to Damon Road. This separated Class I segment will be approximately 3/8 of a mile in length. The bikeway route continues southeasterly along Damon Road

for 1/8 of a mile as a Class III facility until the proposed bikeway route intersects with Route 9 which goes over the Calvin Coolidge Bridge into the Town of Hadley. The total distance of the route segment from Smith College to the Coolidge Bridge is 2.3 miles.

The alignment of the proposed route is consistent with the factors which are considered important in selecting any proposed bikeway. The route is removed from the majority of vehicular traffic which is moving between Northampton, Hadley and Amherst and thereby affords added safety for the bike user. Moreover, the widths of the applicable roadways make it convenient for a shared right-of-way bikeway/roadway facility (Class III). State Street is 38 feet wide, Summer Street is approximately 43 feet wide. All the roads also have sidewalks. The width of the B & M rail right-of-way between Bates Street and Damon Road is 60' expanding to 100' in width at the Route I-91 bridge underpass. The width of the right-of-way then becomes approximately 80 feet until its intersection with Damon Road.

There are a number of institutions and recreational facilities which will likely benefit from the construction of the Five College commuter/recreational bikeway facility. In the City of Northampton the proposed bikepath would serve Sheldon Field, a 10-acre public recreation area; Pulaski Park, a 1-acre open space area in the City's downotwn; and Bridge Street Park, a 2.5 acre open area located just off Bridge Street. The Connecticut River Watershed Council has recently assisted the City of Northampton to purchase Elwell Island, a small island in the Connecticut River close to the Northampton/Hadley line just north of the Calvin Coolidge Route 9 Bridge. Future plans call for Elwell Island to be used as a major light recreational/conservation area accessible to the general public. In Northampton, there are also six elementary schools, a junior high school and a public library (Forbes) which are all considered significant trip generators for the proposed bikeway.

The second possible option (Option II) for this segment of the bikeway route begins at Smith College and continues directly along Route 9 to the Calvin Coolidge Bridge, a distance of 1.5 miles. This route alignment is obviously much more direct than Option I and has the added advantage of passing through the CBD of Northampton. However, Route 9 is a heavily traveled route between Northampton and Amherst. Correspondingly, there is angular parking along Route 9 in downtown Northampton which is an added danger to the bicycle user traveling in this area of the City. Option II is desirable in that it is a direct route to the Connecticut River. There are, however, a number of safety issues to be considered before a final route determination is made.

The next segment of the route is the Connecticut River crossing. There are only two facilities which now exist in that corridor, the Calvin Coolidge Brdige and the B & M Railroad Bridge. The bikeway should be routed over the Calvin Coolidge Bridge. The roadway width is 40 feet with a sidewalk on the north side which is 7.5 feet wide.

The next segment of the bikeway begins on the Hadley or easterly side of the Calvin Coolidge Bridge. The route continues along Route 9 for a distance of 1/4 of a mile to the intersection of Crosspath Road and Route 9. The bikepath turns northerly onto Crosspath then turns off of Crosspath to the north side of the B & M railroad track alignment. At this location, the bikeway changes from a Class III bikeway facility to a separate Class I facility again,

utilizing the B & M Railroad right-of-way. The bikepath follows the north side of the railroad tracks for approximately one mile which equates to the distance between Crosspath Road and West Street. At this intersection, there is an option of either continuing along the north side of the B & M railroad track or modifying the Class I separate facility to a Class III facility utilizing a stretch of existing roadway, Railroad Street for 1/4 of a mile. Either route alignment brings the bikeway facility through to Middle Street in Hadley.

At Middle Street two options exist for continuing the proposed bikeway. For the first option the bikeway would continue as a separate Class I bikepath facility utilizing the B & M rail right-of-way through to North Maple Street. The distance of this segment is 2½ miles. At this point the bikepath would become a Class III bikeway facility and continue northerly along North Maple Street for 1½ miles to the intersection of North Maple Street and Rocky Hill Road in Hadley. The bikeway would turn east onto Rocky Hill Road and continue into Amherst for 3/4 of a mile.

There are several areas which will require extensive engineering and design analysis if the railroad right-of-way were to be utilized through to North Maple Street in Hadley. The results of this analysis would be the determining factor in assessing the feasibility and practicality of implementing this route option. Utilizing the railroad right-of-way would provide a safe and direct bikeway route into Amherst and two of the institutions in the Five College system (i.e., University of Massachusetts and Amherst College).

The second option for this segment of the bikeway begins at Middle Street in Hadley. At this location the bikeway becomes a Class III facility, sharing the roadway right-of-way with Middle Street (Route 47) northerly to Huntington Road a distance of 1½ miles. The bikeway then follows Huntington Road which merges into Rocky Hill Road and continues for 4 miles easterly into Amherst. Middle Street is 30 feet wide with shoulders of 2-3 feet. Huntington Road has a width of 22 feet with 2-3 foot shoulders. There is one hill with a slope of approximately 8%, but the distance is short. For the most part, however, the route is level and has a safe site distance for bicyclists and motorists alike.

The total distance of the segment of the bikeway from Hadley to Amherst of the option utilizing the B & M Railroad right-of-way through to North Maple Street is 6 miles. The total distance of the second option, utilizing the B & M Railroad right-of-way through to Middle Street is 7 miles.

The whole section of the bikeway from Northampton to Amherst is of primary concern in the construction of the Five College Bikeway Project. It contains within it different types of bikeway construction and deserves special consideration as the first phase of the total project. This particular leg of the triangular bikeway system could most serve as a regular commuter route between Northampton, Hadley and Amherst for at least 6 months of the year.

Once in Amherst the Class III facility would continue northerly on University Drive to various points at the University of Massachusetts campus. The facility also would extend further along Rocky Hill Road/Amity Street to the intersection of Amity Street with South Pleasant Street (Route 116).

The next portion of the bikeway route which stays within Amherst connects the campuses of UMass, Hampshire College and Amherst College and is a part of planned local bikeway projects of the Town of Amherst. From UMass a Class III bikeway facility continues south on the east side of Route 116. Amherst College is located directly off Route 116 at the junction with Route 9. Route 116 is approximately 30 feet wide and the terrain within Amherst is suitable to such a bikeway facility. At this time, a separate Class I bikeway facility is completed from Hampshire College north paralleling Route 116 to the intersection of Route 116 and Pomery Lane. Progress on the Amherst Bikeway is shown in greater detail in the "Status of Bikeway Projects in the Region" Section II of this proposal. The Amherst Bikeway Project when completed will connect the UMass area of Amherst with the Hampshire College area with a combination of Class I and Class III bikeway facilities.

Phase II - Amherst to South Hadley

This leg of the proposed bikeway essentially includes only one route segment. The designated bikeway will be a Class III shared roadway right-of-way facility along Route 116. Route 116 crosses the Mount Holyoke Mountain Range, but construction over the years has somewhat reduced the steep grade at the "Notch" at the Amherst/Granby line. It is quite a scenic route and the only direct route which travels the whole distance from Amherst to South Hadley.

Route 116 will, within a year, undergo further analysis by the MDPW for possible roadway improvements. The LPVRPC has determined that the work required to complete this Class III bikeway facility (i.e., widening shoulders, paving and signing, etc.) could be incorporated with the improvements ultimately recommended for this segment of Route 116.

At present, the width of Route 116 ranges from 30 feet wide in Amherst to 24 feet wide in South Hadley with 2 to 3 foot shoulders on either side of the roadway. The total distance from Hampshire College along Route 116 to Mount Holyoke College in South Hadley is 6 miles.

The Town of Amherst offers many trip generators to this segment of the Five College Bikeway Project. Besides three Five College institutions, the route encompasses the central business district of Amherst, many of the Town's schools, including the Regional High School and Junior High School and a variety of parks and scenic areas. Included in the group of town parks and commons is the 2,500 acre Mount Holyoke Range open space recreational area which extends into Hadley and South Hadley. These institutions and facilities increase the commuter recreational value of the bikeway project as a regional priority. This portion of the route would serve as a major recreational/ commuter facility for at least six months of the year.

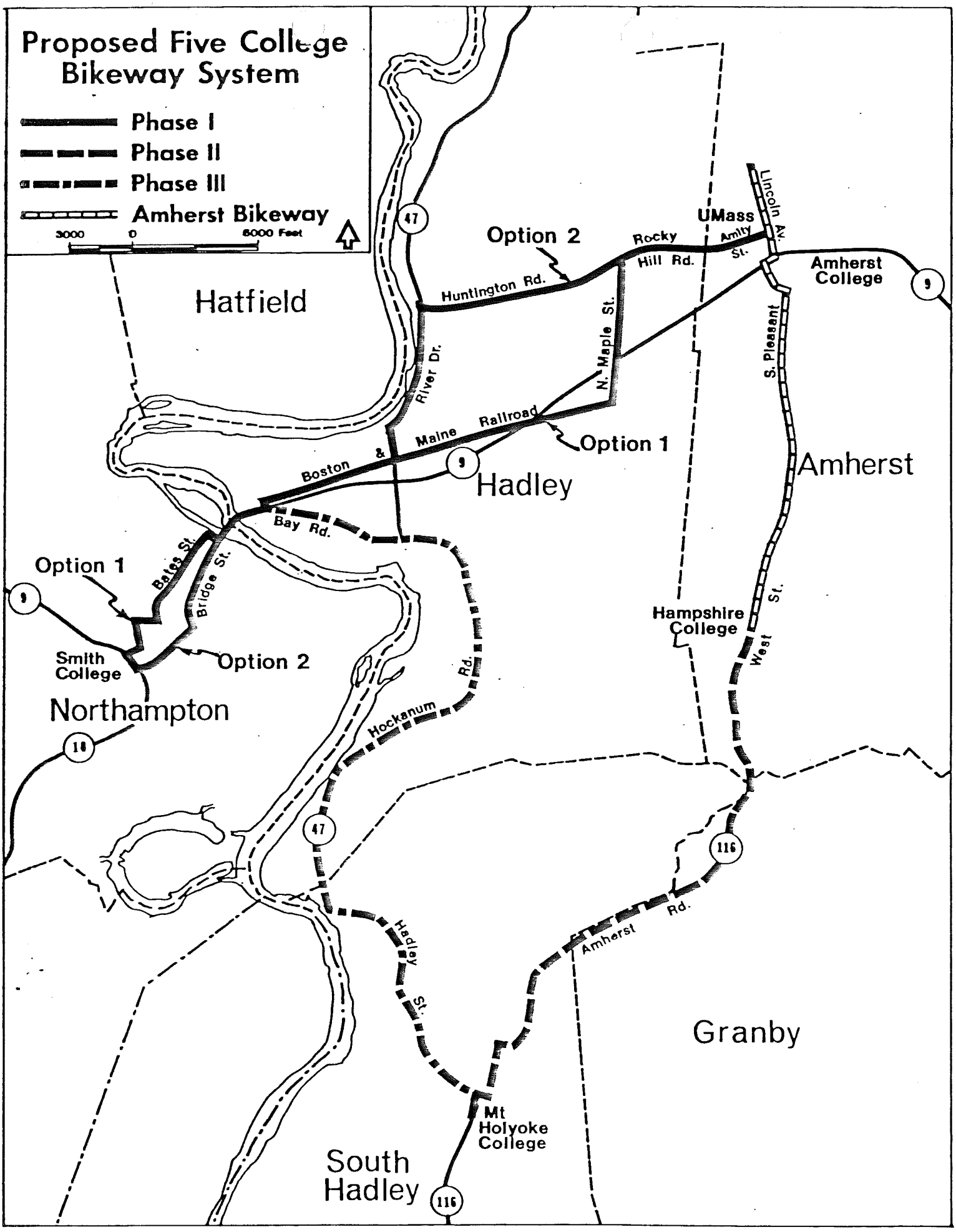
Phase III - Hadley to South Hadley

The third leg of the proposed bikeway begins in South Hadley at Mount Holyoke College located at the junction of Routes 116 and 47. The first part of the bikeway is to be a designated Class III facility along Route 47 from the Mount Holyoke campus in South Hadley to the intersection of Route 47 with Middle Street in Hadley. Route 47 through South Hadley and Hadley is an ideal bikeway facility. The right-of-way varies from 24-30 feet wide with 2-3 foot shoulders the whole route for the total distance of 8 miles. The Route 47

bikeway facility would provide a scenic view of the Pioneer Valley, and pass directly by the Joseph Allen Skinner State Park, a major regional recreational facility.

The second section, beginning at Middle Street, continues on Lawrence Plain Road which would then finish the link from South Hadley through to Route 9 in Hadley, a distance of one mile. This section of Lawrence Plain Road is 24 feet wide and is paved with 2-3 foot shoulders. This provides reasonable site distance for riders of motor vehicles and bicycles. The roadway presently is not encouraged for use by motor vehicles, creating almost a separate Class I bikeway facility. Once on Route 9, the bikeway route to Northampton has already been established as a part of Phase I of this project.

Included as an integral part of the Five College Bikeway proposal are plans to provide for facilities for bicycle storage and parking. These facilities should be located at each of the Five Colleges, the downtown business areas of Northampton, Amherst and South Hadley, the shopping centers located in Hadley, and eventually at key recreational/scenic areas en route and other major trip generators (e.g., schools, etc). With the inclusion of parking and storage areas at these convenient locations along the route, they will undoubtedly encourage greater use of the proposed Five College Bikeway. In instances where it is easy to park and securely lock a bicycle without undue fear of loss or damage, bicycles may become a more frequent mode of personal transportation, at least for those times of the year when weather conditions permit.


Proposed Five College Bikeway System
Phase I
Phase II
Phase III
Amherst Bikeway
3000
0
6000 Feet
Hatfield
Option 2
Huntington Rd.
Rocky Hill Rd.
Amity St.
UMass
Lincoln Av.
Amherst College
River Dr.
N. Maple St.
S. Pleasant
Maine Railroad
Boston &
Option 1
Hadley
Amherst
Bay Rd.
Option 1
Bates St.
Bridge St.
Smith College
Option 2
Northampton
Hampshire College
West St.
Hockanum Rd.
Hadley St.
Amherst Rd.
Granby
Mt Holyoke College
South Hadley
47
9
10
116