March 1997

Prepared for:
City of Ithaca, Department of Planning and Development

Prepared by:
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ADDENDUM

to the
March 1997 Ithaca Bicycle Plan
As proposed by the City of Ithaca Planning and Development Board
June 16, 1998

Inclusive of this Addendum, the Planning and Development Board supports adoption of the Ithaca Bicycle Plan, in its present form. The Board believes that the Ithaca Bicycle Plan is an appropriate comprehensive planning document that establishes the foundation upon which the City can and should base its future decisions about bicycling issues. The Board recognizes that the Plan required diligent work and compromise on the part of many people to produce, and the Board has received many letters and petitions supporting adoption of this plan.

The Board also observes that many particulars of the Plan will need further examination and should be specified in greater detail. Like most comprehensive plans, implementation will not occur without modification and a detailed plan for implementation. The observation is most salient with respect to the specific street treatments associated with the proposed route network. It is this aspect of the plan, and especially the proposed changes to on-street automobile parking, which have throughout the several years of formulation of the proposed plan, generated the most public comment and critique. (However, there are a number of routes contained in the plan, such as Route 13, Seneca Street, and Green Street that would not entail changes in parking.)

The Board believes it is imperative to thoroughly consider and respond to these critiques prior to implementation of the plan. However, though the Board supports the basic concept of on-street bikes routes, it does not believe it is wise or fair to adopt a "one size fits all" street treatment policy. Instead, a fair response requires a specific and detailed street by street analysis, with appropriate notification, involvement, and negotiations with affected stakeholders, taking into account prevailing traffic conditions. This work extends beyond the typical scope of responsibility and authority of the Planning and Development Board, and is more suited to the expertise and authority of the Board of Public Works and city staff as advised by the city's duly constituted Bicycle Advisory Council.

The purpose of this addendum is to explicitly acknowledge the areas in which further planning and public input are needed if implementation is to successfully progress. It is also intended to acknowledge and highlight comments received by the Planning and Development Board on the proposed March 1997 Ithaca Bicycle Plan. This Addendum does not aim to be an exhaustive compendium or summary of comments on the plan that have been submitted. Though good answers to some of the questions noted below already exist, a more systematic review of these comments remains to be done. Nor does the addendum, focused as it is on issues that are still outstanding, give a balanced impression of the many public comments received that support the plan.
Finally, although the Addendum is not intended to suggest or recommend specific resolutions to most of the outstanding issues highlighted, the Board believes that the majority of these issues can be resolved in a way that satisfies the legitimate interests of most stakeholders, while maintaining the integrity of the proposed bike routes. The Planning Board calls upon the City to move swiftly in developing an implementation strategy to realize those aspects of the plan which the pertinent City authorities and other stakeholders agree sufficiently to achieve progress in the short term, while continuing to work actively to reach agreement on those aspects of the plan which presently lack sufficient consensus among the stakeholders.

Implementation issues that have been raised and remain to be fully resolved

1. The dollar costs of implementation have not been adequately addressed. While route networks have been completed (though are not part of the proposed Plan itself), more detailed estimates are needed. In particular, the City needs to develop and cost out one or more specific proposals for spending the $80,000.00 awarded to the City by the Intermodal Surface Transportation Efficiency Act (ISTEA) for implementation of the Ithaca Bicycle Plan. ISTEA funding is not expected to pay for complete implementation of even Phase 1 of the route network. Hence, it is clear that specific estimates for the cost of different implementation options are necessary in order to make realistic implementation decisions.

2. There is disagreement between those who commented on the plan concerning implementation priorities. For example, the identifiable cycling community as a whole is overwhelmingly in favor of implementing striped bike lanes, and largely favors the aggressive choice of striped lanes over hybrid lanes in areas where the plan is ambiguous. In direct contrast, neighborhood based critics of the Plan tend to argue most strongly against parking removal, especially on particular streets in specific neighborhoods. A small number argue more broadly against the concept of striped or even hybrid lanes on both parking removal and safety grounds. Another point of some disagreement over relative priority that should be given bike routes that serve primarily "recreational" versus primarily "commuter" cyclists, or the benefits/risks of bike lanes on high automobile traffic versus low automobile traffic streets. Some critics argue that high implementation priority should be given other elements of the plan than bicycle lanes, with education of cyclists (and to a lesser extent pedestrians and motorists) and law enforcement officials especially mentioned. Others argue more broadly that there are not enough current or potential cyclists in Ithaca to warrant any measures that impose any significant costs or inconveniences on others (especially but not exclusively neighbors).

Some, of these same disagreements exist within the Planning Board itself. The Board notes that the conceptual, practical and cost implications of specific implementation options have yet to be developed. The Board believes that the actual implementation issues at stake will be greatly clarified once specific options are available for consideration. Of equal importance, informed choices for longer term implementation can be made using information gained by the experiences the City has with the short term implementation choices it makes. However, as noted in the proposed Plan itself, without a commitment to ongoing monitoring, the costs and benefits "of initial investments in cycling improvements will be ill-defined and poorly understood".

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3. Specific route selection and street level treatments remain to be detailed or finalized. Recommendations for bicycle route facilities in the Plan include "proposed treatment" suggestions regarding such things as striped or hybrid lanes, parking removal or retention, hybrid lane stenciling and signage, lane width and so forth. However, these are simply generalized "proposed treatments" that do not give specifics on exactly where to locate paint on the street, stripping treatment at intersections, maintenance priorities for sweeping and street surface repair, drainage grate replacement, and so forth. Nor do the treatments include specific options or variations that might be relevant to specific streets on a case-by-case basis. Such variations might include, for example, trial periods of implementation, parking rules that vary by time or day or year, rules that explicitly authorize short term parking for loading and unloading, or those that assign special parking privileges to some or all neighborhood residents. As pointed out in public comments, the notion of "Bicycle Boulevards" in particular needs further conceptual development and specification with attendant public participation before it can be considered for implementation.

4. In part because specific street level treatments and priorities remain to be detailed, there are no specific estimates of routine maintenance costs of either a partial or complete route network (or of any other concepts in the plan, for that matter). As implementation decisions regarding specific aspects of the plan are considered, estimates of the long-term maintenance as well as immediate implementation costs should be on the table for consideration.

5. A definitive response concerning the implications of a bicycle route network, or lack thereof, for the City's liability exposure should be obtained from the City Attorney.

6. The Board supports the concept of bike routes that are functional in the sense that they enable riders to travel from one place to another safely and conveniently. In this context, the Board acknowledges and encourages the City to respond to the concerns of the Town of Ithaca, the Cornell Transportation Committee and the Ithaca - Tompkins County Transportation Council (I-TCTC) regarding the connections between City bike routes and routes in other jurisdictions, noting that these are in various stages of planning and development. The Board acknowledges in particular the need to consider optimization of short-term connections between any City routes and the Town of Ithaca's plans for cycling amenities on Maple Avenue and Pleasant Grove Road. The Board notes further the opportunities to work with Cornell on bicycling improvements on Wait Avenue, the issues raised about appropriate connections from east campus to Cayuga Heights Road, and the significance of the City links represented by Routes 96, 79 and 13a.

Finally, as suggested, final versions of the Plan's maps should be revised to indicate more clearly the status of roads and trails beyond City limits that are currently misleadingly labeled as "Bikeway In Neighboring Jurisdiction" and "Continuing Bikeway". These points of potential connectivity should be labeled as "Possible City/Town Bikeway Connection" or "Desired Bikeway Connection", etc.
7. The Board acknowledges the March 11, 1998 comments of the New York State Department of Transportation (NYSDOT) regarding parking impacts, hybrid lane stencils and stenciled shoulders, stripe relocation, lane widths and safety concerns, and the proposal for a bicycle exception to the one-way designation on a block of Cascadilla Street. Further communication with DOT is warranted on these issues.

8. Proposals for parking removal and other streetscape changes have generated specific comments from affected neighbors (and some response), especially but not exclusively regarding the changes proposed for Cayuga Street, Dey Street, North Titus Avenue, and University Avenue. The Board expects that as street level changes become more imminent, awareness will increase and further response will be received. A selection of specific questions raised include:

- Is an alternate street better for a bike route (e.g. N. Tioga rather than N. Cayuga)?
- Are bicycle-friendly traffic calming measures, including speed limit reductions and many others, feasible (on University, for example)?
- Is the level of existing automobile traffic on North Titus low enough that parking removal is not really justified?
- Is it appropriate in any event to send the North Titus bike route across the Six Mile Creek pedestrian bridge?
- Is the University Avenue designation as a snow emergency route in conflict with its designation as a bike route?
- Is it possible to accommodate loading and unloading parking on University (and other) streets and still maintain a viable bike route?
- Can the parking needs of residents on University Avenue and Cayuga be fully or largely accommodated with existing on street capacity, or not? If not, is it possible to redesign the street to improve accommodations (for example, at the corner of Lake and University) or to use the new authority for residential parking permits to do so?
- Is there a significant safety concern associated with consolidation of parking on one side of the street and the crossing of busy streets? If so, is it possible to accommodate a bike lane and mitigate this impact through measures such as street calming, alternating which side of the street parking is allowed on, or other creative measures?
- How significant is the impact of parking changes on Dey Street or North Titus likely to be on the neighborhood businesses?
- Can parking regulations be changed on particular blocks from the prevailing odd-even parking to 24-hour parking on one side of the street without interfering with functions of the Department of Public Works or inviting long-term storage of vehicles on the streets?

The Board acknowledges comments that the proposed Phase 1 Plan does not make complete or optimal bicycle route connections between certain residential areas and obvious destinations including the Commons, access through Collegetown and access through the West End to Cass Park. A closer look at the balance of costs and benefits associated with each of these gaps is warranted as implementation of the Plan progresses.
Executive Summary .......................................................... 5
Chapter One: Introduction .................................................. 9
Chapter Two: Vision/Goals and Objectives ....................... 13
Chapter Three: Bicycle Facilities .................................... 15
Chapter Four: Education, Enforcement, and Encouragement Programs .......... 33
Chapter Five: Developing a Bicycle Program .................. 39
Chapter Six: Bicycle-Friendly Traffic Calming ................. 43
Chapter Seven: Bicycle Policies ...................................... 49
Selected Bibliography and Resources ............................. 54
Acknowledgements

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At the final meeting of the Client Committee that was appointed to assist in preparation of the Bicycle Plan, the following resolution was adopted, approving the Plan and recommending its adoption and implementation by the City.

ITHACA BICYCLE PLAN CLIENT COMMITTEE
20 MARCH 1997

RESOLUTION

WHEREAS:

(1) A Bicycle Plan has been prepared for the city to address issues and make improvements in conditions affecting bicycle transportation;
(2) The Plan reflects a process that invited, considered, and as appropriate, incorporated comment and input from many points of view concerning actions the city should take to provide a better environment for bicycle use;
(3) This process was aided by a series of public workshops and by an advisory committee which contributed to and assisted the work of consultants and staff in evaluating the effects of proposed actions on street function, neighborhood conditions and other relevant factors;
(4) The Plan presents a comprehensive approach to improving bicycling conditions in the City of Ithaca, addressing policy, education, law enforcement, and encouragement aspects in addition to the engineering, design and maintenance aspects of bicycle facilities;
(5) The provision of new and improved facilities and other improvements in conditions for bicycling, as proposed by the Plan, will benefit all bicycle users and City residents, enhancing Ithaca's unique character and quality of life by adding to the attractiveness of alternative modes of transportation available to the community; and
(6) The Plan proposes priority implementation of a First-Phase program of improvements which can be accomplished with ISTEA grant funding currently available to the city, it is

RESOLVED that the Bicycle Plan Client Committee approve the Bicycle Plan as presented, and refer it to the Board of Planning and Development with a recommendation that it be adopted as a component of the city's Comprehensive Plan for implementation as soon as possible.

RESOLUTION ADOPTED BY UNANIMOUS VOTE (8-0)
Executive Summary

The Ithaca Bicycle Plan was developed to achieve the following objectives:

1. To determine bicycle facilities to be developed in the short term in order for the City of Ithaca to most effectively spend $80,000 in ISTEA (Intermodal Surface Transportation Efficiency Act) Transportation Enhancement Funds received through the New York State Department of Transportation (NYSDOT) in 1994.

2. To outline a long term vision for the City of Ithaca to increase bicycle use while increasing safety for cyclists, pedestrians and motorists. Elements of this long term vision for promoting bicycling in Ithaca include developing goals, objectives and related bicycle policies; identifying a bikeway route network; developing bicycle parking standards and ordinances; developing education, enforcement and encouragement programs; and identifying implementation strategies and maintenance issues.

Background
In 1993 the City’s Bicycle Advisory Council (BAC) prepared the 1993 City of Ithaca Bicycle Plan which identified a bikeway route network and made policy recommendations on bicycle-related government procedures, infrastructure, education and enforcement. The Plan was presented to the public and met considerable resistance from neighborhood representatives concerned about the lack of public involvement in the planning process and opposed to the removal of on-street parking. The Plan was not formally adopted by the City’s Planning Board. The Planning Board determined that the assistance of a professional consultant with relevant expertise and experience would be essential in developing a plan that could be adopted as part of the City’s Comprehensive Plan. The Planning Board supported the City’s successful application under ISTEA for a grant of $80,000 to be matched by $20,000 in City funds for preparation and implementation of a bicycle plan.

Methodology
The project was undertaken by Trowbridge and Wolf Landscape Architects and IMC Consulting Group early in 1996. The Ithaca Bicycle Plan was developed through a series of four public workshops and seven meetings of the Client Committee. The Client Committee, appointed by Mayor Alan Cohen to oversee the overall preparation of the plan, was comprised of representatives from the Bicycle Advisory Council, neighborhood groups, Cornell University, the Planning Board, the Board of Public Works, the Finger Lakes Cycling Club and interested city residents. Of the 13 members appointed to the Client Committee, 10 were able to attend one or more meetings.

The planning process was designed to incorporate the diverse and sometimes
conflicting viewpoints of the participants. The Community Dispute Resolution Center (CDRC) was hired by the City to facilitate public workshops to help ensure that all participant viewpoints were heard, recorded and, where feasible, included in the Plan.

Approximately seventy-five people attended one or more of the public workshops. The first public workshop was an introduction to the planning process and identified cyclist origins and destinations. At the second workshop, the consultants presented an overview of bikeway types and approaches to bicycle planning taken by other communities. CDRC then facilitated a small group discussion exercise to describe desirable road characteristics for bicyclists, pedestrians, motorists and residents. The third and fourth workshops focused on the review of the proposed bikeway route network and proposed education, enforcement and encouragement programs. The Client Committee met either before or after the public workshops to review materials to be presented to the public or to discuss and analyze the workshop discussions. After the fourth workshop and during a follow-up Client Committee meeting, an informal consensus on the bikeway route network and on the overall direction of the plan was reached.

Following the public participation process, input was solicited from the City Engineering Department and NYSDOT Region 3 transportation engineers and planners. Modifications to both the network and proposed bikeway treatments were made in response to their concerns.

Vision and Goals
Increasing bicycle use can have multiple benefits for the City of Ithaca. There are obvious environmental, health and quality of life benefits for a community that aggressively promotes bicycling as a viable form transportation. These include reducing traffic, pollution, and energy consumption while improving the health of individuals who cycle. Perhaps less obvious are the potential benefits for promoting economic development. As Ithaca struggles to promote itself as a great place to live, do business and visit, the provision of bicycle facilities will be a highly visible indicator of our City’s unique character in upstate New York. Safe, on-road linkages to our region’s emerging network of trails and greenways will be a major benefit for city residents and for visitors to the area.

Two overarching goals identified in The National Bicycling and Walking Study were adopted by the Client Committee for the Ithaca Bicycle Plan:

1. To double the current percentage of total trips made by bicycles within the City of Ithaca; and

2. To simultaneously reduce the number of bicycle-related deaths and injury accidents by ten percent.
While these goals were never put to the public for their vote, participants at the public workshops did agree in principle that we must increase the safety of the City’s roads for all users and that we must encourage alternatives to the use of automobiles in the City.

Specific objectives towards achieving these goals are described in Chapter Two.

Proposed Bikeway Route Network
Two bikeway route network plans were identified - a Phase One Bikeway Route Network and a Long Term Bikeway Route Network. Phase one identifies a bikeway network that addresses many of the critical needs of cyclists, while attempting to be politically achievable and fiscally restrained. It identifies north-south and east-west routes through town and routes up East Hill, South Hill and West Hill. Access to the Commons and to Collegetown are not fully addressed as this would require the removal of on-street metered parking and heavily-used residential parking. In general, removal of on-street parking was minimized in phase one.

The consultant, with Client Committee and BAC approval, initially proposed that the majority of the routes in the Phase One Bikeway Route Network were to be striped bike lanes. Ten-foot travel lanes were required on many routes in order to provide adequate space for bike lanes. Because of safety concerns expressed by both City and NYSDOT engineers, the ‘hybrid lane’ was proposed as an alternative treatment to a striped bike lane. Fourteen-foot wide outside travel lanes can be stenciled with pavement marking arrows to indicate the space required for bicycles and the direction of travel. For both the striped bike lane and the hybrid lane, road centerline or travel lane striping may have to be removed in order to provide adequate space for the proposed bikeway treatment. Hybrid lanes can be converted to striped lanes at a later date if deemed feasible.

The Long Term Bikeway Route Network is a comprehensive network that will build on the anticipated success of implementing the first phase of the project. It incorporates a more aggressive treatment of the proposed routes, including bicycle lanes on many commercial/arterial streets, and traffic-calmed bicycle boulevards on residential streets used for bicycle travel (Chapter Six introduces the concept of Bicycle-Friendly Traffic Calming). It assumes an increased commitment by the City of Ithaca in promoting bicycling as a viable form of transportation.

Education, Enforcement and Encouragement Programs
Increasing bicycle use while improving safety will be most successful if the facility improvements described above are coordinated with initiatives in education, enforcement and encouragement. The report describes existing pro-
grams run by the Ithaca Police’s Bike Patrol Division and by Cornell University. Additional programs are proposed including a coordinated public service announcement/targeted traffic violation enforcement campaign, the issuing of warning tickets for bicycle infractions, and a bike week with a bike festival to promote bicycling in Ithaca.

Implementation and Maintenance
The first step toward implementing the plan will be to present the plan for adoption by the City Planning Board and Common Council. Implementing on-road bikeway improvements will be done in close consultation with the Board of Public Works, the City’s Engineering and Public Works Departments and NYSDOT Region 3. It is anticipated that the $80,000 in Enhancement Funds will be used to relocate existing travel lane striping where required, provide bike lane striping and/or stencils, provide signage and to provide some bicycle parking.

Maintenance activities for the bikeway network includes, but is not limited to, reprinting and replacement of bike lane/hybrid lane stencils, sign maintenance and an increased frequency of street sweeping on proposed bikeway routes.

The successful implementation of the Ithaca Bicycle Plan depends upon a long-term commitment of city resources. This Plan calls for a strong City commitment to an ongoing monitoring program. Otherwise the benefits of initial investments in cycling improvements will be ill-defined and poorly understood.
Chapter One: Introduction

Project Background
The 1997 Ithaca Bicycle Plan is the result of more than two decades of bicycle-related planning efforts by the City of Ithaca's Department of Planning and Development and bicycle advocates. The following is a timeline of bicycle planning efforts.

1975  Ithaca Bikeway Study - prepared for the City and Town of Ithaca by the Landscape Architecture Graduate Program of Cornell University.

1978  City creates signed bike route connecting the Commons to Stewart Park.

1990  Mayor Benjamin Nichols appoints the Ithaca Bicycle Advisory Council (BAC) in response to requests from the bicycle community for safety and facility improvements. City Planner Jon Meigs is appointed the City Bicycle Coordinator.

1993  IBAC completes the 1993 City of Ithaca Bicycle Plan. The Plan outlined policy recommendations for intra- and intergovernmental procedures, infrastructure, education and enforcement. It also outlined a network of bike lanes and wide shared lanes. Existing street width and parking were inventoried and proposed route treatment, including impact on parking was described. The plan formed the basis for a subsequent grant application to NYSDOT for ISTEA funding.

1994  City Board of Public Works’ Task Force on Traffic Issues completes its Final Report. The Task Force recommended that a public participation process be undertaken to discuss BAC’s proposals “with the aim of reconciling the legitimate needs of cyclists, residents and businesses. In anticipation of an outcome agreeable to all concerned, the Task Force recommends that the City proceed with its planning and infrastructure improvements designed to make Ithaca a more bicycle-friendly city.”

1995  City receives $80,000 in federal ISTEA (Intermodal Surface Transportation Efficiency Act) funding for implementation of the Bicycle Plan.
Transportation Efficiency Act) funding through the New York State Department of Transportation for bicycle facility improvements including bicycle lanes, stenciling and signs, and bicycle parking facilities. A $20,000 match is provided by the City and a consultant with expertise in bikeway planning and public facilitation is hired to redraft the plan.

1995

Ithaca-Tompkins County Transportation Council completes 2015 Long Range Plan. The Plan addresses the development of the region’s multi-modal transportation system, including motor vehicles, public transit, airplanes, pedestrians and bicycles. The Plan will guide the expenditure of federal transportation funds within the County. The Bicycle Task Team adopts five goals:

1. Promote bicycling as a legitimate form of transportation;
2. Make bicycling safer;
3. Create a local transportation system that is bicycle-friendly;
4. Promote awareness of and sensitivity to bicycling issues and enhance cyclist skills; and
5. Protect people and property while encouraging bicycling. The Plan incorporated existing and proposed city and regional bikeways, including on-road bikeways and multi-use trails.\(^2\)

1996 - 1997

The City of Ithaca’s Department of Planning and Development, with Trowbridge & Wolf Landscape Architects and IMC Consulting Group, prepares the Ithaca Bicycle Plan.

Public Participation in Preparing the Ithaca Bicycle Plan

The 1993 City of Ithaca Bicycle Plan was presented to the City’s Planning Board for adoption. The plan was not adopted, in part, because of objections by citizens that there was inadequate public participation and that on-street parking would be removed. However, the City proceeded to submit a funding request to NYSDOT for ISTEA Enhancement Funds. $20,000 of the $100,000 grant-aided project budget was to be used to hire a consultant to seek public input from all interested parties concerning bikeway route selection and treatment.

The planning process began during the spring of 1996 after the selection of the Client Committee. Thirteen members were appointed to the Client Committee by Mayor Alan Cohen to represent a broad range of citizens, municipal officials and staff with an interest in bicycling issues, pedestrian issues, traffic flow and residential quality of life issues. The role of the Client Committee was to monitor the results of the public workshops and the work of the consultants to ensure that the Plan responded to the legitimate concerns of all interested parties.

Four public workshops were conducted during the course of the bicycle planning
process. Workshops 2, 3, and 4 were facilitated by the Community Dispute Resolution Center to ensure that all participant opinions could be expressed and recorded. The public workshop activities were as follows:

- **Workshop #1**
  Project background; Origins and destinations mapping exercise.

- **Workshop #2**
  Review of bikeway facility types common in other cities; Small group discussion to describe desirable road characteristics for bicyclists, pedestrians, motorists, and residents.

- **Workshop #3**
  Review of preliminary bikeway route selection; Review of education, enforcement and encouragement programs.

- **Workshop #4**
  Presentation of draft final bikeway plan; Discuss priority bikeway selection.

Six Client Committee meetings were held before or after the public workshops to plan for and process public input. A seventh Client Committee meeting was held after the final report was completed to consider adopting a resolution recommending that the Plan be formally adopted by Common Council.
Chapter Two: Vision /Goals and Objectives

The City of Ithaca, like many other towns and small cities in the United States, is fighting to protect its viability as a place to live and do business. Increased traffic volumes and speeds are consistently cited as one of the major negative trends in the City. Bicyclists, pedestrians, residents, and those doing business in the City are negatively impacted by increased traffic congestion and related safety and environmental problems.

The quality of life of a city is indicated by many factors, including the beauty of its parks, urban forest and natural areas, and the quality of its built environment. Bicycle facilities that increase ridership and safety are also an indicator of a community’s quality of life. Cities widely recognized as being desirable places to live and work, such as Seattle, Portland, Austin, Denver and Boulder all have extensive bicycling facilities that accommodate bicycling for both transportation and recreation.

Bikeway improvements are some of the least expensive and most highly visible strategies to improve the quality of life of a city. Already, Ithaca has New York State’s first comprehensive ‘bikes-on-buses’ program with bike racks on all Tompkins County Area Transit buses. Additional policies and programs that lead to an increase in safe bicycle use can have numerous benefits for the City of Ithaca. These include:
- reduced traffic congestion;
- reduced traffic speed due to the traffic calming effects of bicycle lanes and bicycle-friendly traffic calming measures;
- less competition for automobile parking, reducing the need for additional parking supply in the downtown area;
- reduced air pollution and noise associated with motor vehicles;
- a safer pedestrian environment because cyclists will use on-road bikeway facilities instead of sidewalks and because bicycle lanes act as buffers between travel lanes and sidewalks where no on-street parking exists;
- increased health benefits for those who cycle on a regular basis.

An added benefit of bicycle facility improvements is their attractiveness to tourists and vacationers. Tourism is becoming increasingly important to Upstate New York’s regional economy. Ithaca is well placed to take advantage of this economic trend. The Finger Lakes Region is an excellent location for...
recreational and touring cycling due to the beautiful scenery and to the wide paved shoulders that are common on most state highways in Upstate New York. The proposed development of a Cayuga Lake Scenic Byway on Routes 89 and 34 will further improve cycling conditions on existing rural state roads and increase the visibility of Ithaca as a tourism and cycling destination. Our region’s impressive state and local parks are soon to be linked by a network of multi-use trails. Creating safe bicycle and pedestrian linkages to these trail facilities from residential neighborhoods, the downtown, and Cornell University, will make Ithaca attractive for tourists while improving the quality of life for residents.

The National Bicycling and Walking Study\(^1\) is a comprehensive, nationwide research effort conducted by the U.S. Department of Transportation to establish current benchmark data and information on all aspects of bicycling and walking as transportation. Two overarching goals identified in the study were adopted by the Client Committee for the Ithaca Bicycle Plan:

1. To double the current percentage of total trips made by bicycles within the City of Ithaca; and

2. To simultaneously reduce the number of bicyclists killed or injured in traffic crashes by ten percent.

The following objectives were identified by the Client Committee towards achieving the goals described above:

- Develop a benchmark database of information regarding current bicycle use and bicycle safety;
- Identify a network of bicycle routes and proposed treatments;
- Develop bicycle parking standards and ordinances to ensure access to parking at all public, commercial and institutional destinations;
- Identify education and enforcement strategies to increase the skill level of bicyclists and of motorists through education and enforcement programs;
- Integrate bicycle use with other modes of transportation (i.e. bikes on buses, etc.);
- Identify and provide linkages to bikeway routes, both on-road and off-road, in neighboring jurisdictions;
- Identify implementation policies for City of Ithaca staff and City boards to ensure that the impact on bicycling is considered when decisions are made on city transportation and infrastructure and development proposals are reviewed;
- Develop maintenance recommendations to ensure that bicycle facilities are maintained;
- Develop recommendations for policies and procedures for the City of Ithaca for implementing the Bike Plan and managing a bicycle program.
Chapter Three: Bicycle Facilities

Proposed bicycle infrastructure includes the following facilities: a bikeway route network of striped, stenciled and/or signed on-road routes; bicycle parking; multi-use trails; and, bike racks on buses.

Bikeway Route Network

Current law provides that bicyclists may legally use all roads in Tompkins County except for Route 13 between Dey Street and Warren Road, which is designated a limited access highway by the New York State Department of Transportation. Bicycling is not allowed on city sidewalks by persons over 10 years of age or on the Ithaca Commons.

Bicyclists have the same rights and responsibilities as motorists when they ride on streets. Thus the road system should be designed to be safe for bicycles. Yet local cyclists and motorists assert that many roads are unsafe or uncomfortable when bicycles and automobiles share the road. This perception is the result of two deficiencies. First, most road users - bicyclists and motorists - are poorly educated concerning the appropriate and safe interactions between bicycles and motor vehicles on the road. Second, bicycle use has not been carefully incorporated into the design and maintenance of our road system. Often there is inadequate road space to accommodate bicycles. Hazardous conditions, such as unswept debris, unsafe drainage grates or pavement in poor condition, are often found in the right hand side of the travel lanes most commonly used by bicycles.

Cities that promote bicycle use will try to make all roads safe for bicyclists. In addition, they will typically develop a network of on and off-road bikeways. The development of a bikeway route network acknowledges that resources for road improvements and road maintenance are limited. Expenditures must be prioritized to improve those corridors that are currently used most heavily by cyclists or those where a latent demand for bicycle use can be predicted.

Determining the Appropriate Bikeway Treatment

Some participants at the public workshops questioned whether bike lanes and striped shoulders should be proposed for the Route 13 corridor (Meadow and Fulton Streets) where traffic levels approach 15,000 cars per day. Why should we encourage cycling on our busiest streets? Why not encourage cyclists to use low-volume, quiet residential streets?

Bike lanes and striped shoulders are proposed on many of Ithaca’s more heavily travelled streets for the following reasons:
1. Ithaca's population contains an extremely high proportion of residents whose age and physical condition make them most likely to choose bicycling as their preferred means of transportation when, and if, conditions permit. The city's topography and dense development, with an extensive network of narrow streets, severely limits possibilities for providing adequate off-road alternatives or for widening existing streets to serve this large latent demand.

2. Most cyclists want to reach the same destinations as motorists, often on the most direct and convenient route. When traffic exceeds 10,000 cars per day, cycling is not always a pleasant experience. These heavily traveled streets need enhanced facilities, such as a bike lane or paved shoulder, in order to improve cycling conditions.

3. Arterial and collector streets often have fewer intersections and a more continuous traffic flow than many neighborhood streets. Accident data indicates that most bike/auto crashes occur at intersections. In addition, the bicyclist will be required to stop and yield less often, reducing the temptation to ignore stop signs and traffic signals.

4. Bike lanes on busy streets make bicyclists a more visible presence in the community. Residents and visitors will understand upon entering the City that bicycles are accepted on the road system and are an important element in the overall transportation system.

The appropriate bikeway treatment will depend on the road's traffic volume, speed, width and other factors. Bike lanes are accepted as an appropriate design strategy for streets with moderate to high levels of traffic (exceeding 2,000 cars per day) and adequate street width. Residential streets with moderate traffic volumes (1,000 to 3,000 cars per day) may warrant bicycle boulevard treatment. Local streets with low to moderate traffic volumes (below 2,000 cars) may require no special treatment for bicyclists and motorists to comfort-ably share the road.

Bike Lane Safety
The safety and utility of bike lanes is a hotly debated subject among bicycling enthusiasts. Many advocates of the 'Effective Cycling' approach emphasize the importance of cyclist and motorist education over the provision of bike lanes and other facilities. Indeed, some Effective Cycling advocates argue that bike lanes are unnecessary and may even provide an illusion of safety that encourages trips by unskilled cyclists. However, among bicycle planners and engineers, there is a general consensus that the provision of bicycle lanes can dramatically increase ridership and simultaneously reduce the incidence of crashes. A recent study conducted by the University of North Carolina Highway Safety Research Center for the Florida Department of Transportation concluded that bike lanes and striped, paved shoulders offer three distinct advantages over wide shared lanes:

1. "Motorists are much less likely to encroach into the adjacent lane when passing bicyclists on facilities with paved shoulders and bicycle lanes."
2. Motorists have less variation in their lane placement when passing a bicyclist on a paved shoulder or a bicycle lane facility.

3. Bicyclists are more likely to ride further from the edge of the roadway in a bicycle lane or a paved shoulder than if they are in a wide outside lane. This allows for more recovery space to the right of the bicyclist and improves sight distance along the roadway. The increased distance from the roadway edge also offers the advantages of being more visible to overtaking motorists, motorists on side streets or driveways and oncoming motorists (who may be turning left).\textsuperscript{31}

Types of Bikeways
The following are the proposed bikeway treatments proposed:

Bike Lanes
A bike lane is a lane for the exclusive use of bicycles, delineated by a six-inch lane stripe, bicycle pavement marking symbols and/or signs. Bike lanes are typically located to the right of the outside travel lane, inside of the curb edge or the pavement edge. The recommended width of a bike lane is five feet. Six feet is preferred where traffic volumes and speeds are high and ample on-road space exists. Four feet is the minimum allowable width for a bike lane. Bike lanes greater than eight feet in width put cyclists at risk because a motorist may use the bike lane for passing on the right or for right-hand turns. Existing paved shoulders included in the bikeway network should be clearly stenciled or signed. Where on-street parallel parking occurs, the bike lane should be located between the outside travel lane and the parking lane. The parking lane is recommended to be eight feet wide, although a seven foot wide lane is acceptable. Bikeway signs will be placed at decision points or where road conditions change significantly.

Cornell University has Ithaca’s only designated bike lanes. The East Avenue bike lane shown has 10’ travel lanes with a 5’ bike lane.
Many of the bike lanes identified in the plan are proposed to be created by converting existing fourteen-foot right-hand lanes to a ten-foot travel lane to the left of a four-foot striped bike lane. In most cases, proposed bikeway route treatments will require shifting road centerlines and travel lane stripes to provide adequate space for bicyclists. The use of ten-foot travel lanes is sometimes necessary to provide adequate space for striped bike lanes. Ten-foot travel lanes are commonly used in bicycle-friendly cities where on-road space is limited in order to accommodate bicycles. They can be found in Ithaca, on Judd Falls Road near East Hill Plaza, on East Shore Drive and on Taughannock Boulevard/Route 89 within Cass Park. However City and State traffic engineers, in their review of the preliminary bicycle plan, expressed concern about the proposed use of ten foot travel lanes for safety reasons. The City also expressed concern about the addition of miles of new lane stripping that will need to be restriped on a regular basis.

In response to these concerns, the ‘hybrid lane’ is proposed as an alternative treatment. Fourteen-foot wide outside travel lanes suitable for bike lane treatment can instead be stenciled with hybrid lane pavement marking arrows. It should be noted that both the Client Committee and the BAC are strongly in favor of using striped bike lanes as opposed to the hybrid lane.

Hybrid Lanes
The hybrid lane is a lane shared by motorists and bicyclists and marked with a special pavement marking arrow. The bicycle pavement marking arrow is applied towards the right edge of the travel lane to indicate the travel corridor that bicyclists are most likely to use. It is best used in conjunction with the bikeway route signs and ‘Share the Road’ signs. In phase one, hybrid lanes are typically proposed on bikeway routes where there is at least a fourteen-foot, right hand travel lane. In some cases, the hybrid lane is recommended for use on narrower streets as a guide for bicyclists and motorists. For instance, a hybrid lane is proposed for Tioga Street between Cascadilla Creek and the Commons where metered parking is not recommended to be removed. While a hybrid lane does not provide additional space on the road for cyclists, the stencils and signs serve to reinforce the idea that bicycles belong on the street. Other advantages of hybrid lanes are that they reinforce the concept of cycling with traffic. When bicyclists are not present, motorized traffic is free to use the entire lane, helping to sweep debris to the edge of the road.

Uphill Bikeways
Uphill bikeways are proposed on hills with medium or high traffic volumes where there is not sufficient space for continuous bike lanes on both the uphill and downhill sides of the road. Treatments vary depending on the street width and parking program. They include a bike lane on the uphill side of the roadway and a wide, shared lane on the downhill side of the roadway, or a wide, shared lane on the uphill side of the roadway and standard width lane on the downhill side of the roadway. Arrows and bicycle symbols in the direction of travel, uphill and downhill, are required to discourage wrong-way riding. Bikeway signs should be included at critical locations along the route.
Bicycle Boulevards
A bicycle boulevard is a shared roadway where bicycle-friendly traffic calming techniques are incorporated into the streetscape design, to slow the traffic entering and traveling through residential neighborhoods. Street design features are implemented to reduce the difference in speed between motorists, cyclists and pedestrians, and to favor bicycle movement on the boulevard street. Neighborhoods and districts that experience a high volume of traffic, especially at gateways where traffic is passing from higher-speed areas into residential neighborhoods, would benefit from slower traffic speeds. Bicycle-friendly traffic calming techniques may include gateways at transitions from state roads to local roads, bike lanes, traffic circles, speed humps, bump-outs, medians, and chicanes. (See Chapter Six: Bicycle-Friendly Traffic Calming).
A bicycle boulevard is implemented in an area where a neighborhood-wide approach to calm traffic is taken. Traffic calming techniques need to be applied on an area-wide basis for grid network street patterns so as not to off-load one traffic problem from one street onto another, nearby street.

No bicycle boulevards are recommended in the Phase One Bikeway Route Network. The planning and design of bicycle boulevards must be undertaken as a part of a comprehensive traffic calming study.

Shared Roadway
A shared roadway is a commonly used bicycling route where most cyclists can comfortably share street space with motorists due to low to medium traffic volumes and speeds. Shared roadways may be wide enough for motorists to pass cyclists without encroaching into the oncoming traffic lane. Traffic volumes may be low enough that the cyclists share a standard width lane with motorists in relative comfort.
One-way Streets - Bicycles Excepted

In certain special cases, one-way streets can provide continuity to the bicycle network by the installation of special signage and striping to allow cyclists to ride against the one-way flow of motor vehicles. The section of street receiving this treatment should be relatively short, provide an important link or connection in the overall network and have low traffic volumes.

Multi-Use Trails

Experience in other communities indicates that a multi-use trail or trail system can become the backbone of a regional bikeway network. Typically a trail follows a waterway or other natural or man-made linear feature in the landscape, such as an abandoned railroad corridor. With a trail, or a trail network in place, a system of ‘feeder’ on-road bikeways will develop to provide easier access to the trail for residents and visitors to a region.

Multi-use trails are intended to be shared by a range of user groups, including pedestrians, joggers, cyclists, in-line skaters, families with strollers and wheelchair users. The provision of trails can significantly increase bicycle use among casual cyclists. Trails provide an opportunity for young cyclists to develop cycling skills under the supervision of their parents and away from traffic. Bikeway connections on the city street network will encourage recreational cyclists to ride to the trails, instead of taking their car to access the trailhead.

To reduce conflicts among users, multi-use trails should be wide enough to allow passing. Preferred trail width is ten feet, with a twelve-foot width recommended for intensively-used areas. A separate pedestrian trail with a gravel, native soil or bark mulch surface can be developed where pedestrian and bicycle conflicts occur and space allows.

An impressive network of regional trails and greenways is developing within Tompkins County. The Black Diamond Trail will link the City of Ithaca to four state parks: Robert S. Treman State Park, Buttermilk Falls State Park, the Allan H. Treman State Marine Park, and Taughannock Falls State Park, all on the abandoned Black Diamond railroad corridor. The South Hill and East Hill Recreation Ways, developed by the Town of Ithaca, link City neighborhoods to the surrounding countryside, serving as important recreational and commuting corridors.

The proposed 5.5 mile Cayuga Inlet Trail was identified as a priority project in the 1997 Tompkins County Waterfront Plan. The proposed ten-foot-wide asphalt multi-use trail will link key waterfront destinations including Stewart Park, the Farmers’ Market, Cass Park and the Treman State Marine Park.

Bikeways in the Central Business District

Urban design and traffic operations should balance the needs of pedestrians, cyclists and motorists to access the downtown, and enhance the attractiveness of the district. Gateways into the Central Business District should announce to
motorists that they are entering a zone of concentrated pedestrian and bicycle traffic with a high turnover of parked cars. Bicycle and pedestrian-friendly traffic calming measures should be considered for use in the CBD. Emphasis should be placed on providing adequate and secure bicycle parking, reducing conflicts at intersections by eliminating right-turn lanes where the effect on capacity would not be excessive, and consolidating driveways (where possible) to reduce the number of turning conflicts. Traffic signals should allow for adequate pedestrian crossing times, be timed to accommodate typical cycling speeds and should be set for automatic actuation by bicycles and manual actuation by pedestrians. Parking impacts in the CBD should be minimized.

Bikeways in Neighboring Jurisdictions
Connectivity and continuity are important considerations in designing a regional bikeway route network. Therefore, care has been taken to designate a network of city bikeways that connect to existing and proposed county, city, state and Cornell bikeway routes and trails outside the boundaries of the City of Ithaca.

Selecting the Bikeway Route Network
A network must be acceptable to bicyclists, motorists, neighborhood residents, and to the business community located along its length. The possible removal of parking to provide on-road space for bicyclists is most often the point of conflict when determining bikeway routes and treatments that serve cyclists and accommodate the needs and preferences of the residents and businesses along a proposed route. The process for route selection that was followed in the preparation of the Bicycle Plan was designed to identify a network acceptable to all parties.

The Client Committee and the consultant established the following goals in developing Ithaca’s proposed bikeway route network:

1. To provide bikeways that can effectively serve cyclists with different skill levels and interests;
2. To create a network of north-south and east-west routes that allow cyclists safe and convenient access to key destinations on Ithaca’s grid street network;
3. To minimize the impacts on on-street parking in residential neighborhoods and business districts;
4. To take advantage of the opportunity to retrofit existing roadways without road reconstruction or widening.

Factors considered when selecting proposed bikeway routes included:

Safety and Comfort
The number and width of traffic lanes, the volume and speed of traffic, the variation of terrain, and difficult or hazardous areas for cyclists.
Directness and Continuity
The length of the route, type and frequency of traffic control, discontinuities or narrowings, connections to other routes, and access to desired destinations.

Atractiveness
The quality of surrounding landscape, townscape and views.

Implementation
The technical and political feasibility of bikeway route implementation has a significant impact on bikeway route selection. Critical issues affecting implementation include street width and the existing on-street parking pattern.

Accordingly, the city-wide, comprehensive bikeway system proposed by this plan is divided into the phase one and long-term bikeway route networks.

Phase One Bikeway Route Network
Phase one addresses many of the critical needs of cyclists, while attempting to be politically and fiscally achievable. It identifies north-south and east-west routes through town and routes up East Hill, South Hill and West Hill. Access to the Commons and to Collegetown are not fully addressed in this phase as this would require the removal of heavily-used metered and/or residential parking. Much of phase one could be implemented with available Enhancement Funds.

The majority of the routes included in phase one are proposed to be bike lanes or hybrid lanes with pavement marking arrows and some signage. Some routes, most notably those included in the West End’s Route 96 Project, have fourteen-foot travel lanes in place and will require only the addition of bikeway pavement markings (stripe and/or stencil) and signs. Other routes, for instance Green and Seneca Streets, will require that the roadway striping be relocated to create a wider lane suitable for bicycle use. Uphill climbing lanes are proposed for East Hill, West Hill and South Hill.

The phase one plan does not fully implement connections to the Ithaca Commons. Hybrid lanes are proposed on Tioga and Cayuga Streets within the Central Business District. These lanes suggest the priority bicycling corridors to the Commons and the Central Business District without eliminating metered parking. Hybrid lanes are also proposed for Eddy Street to indicate the preferred route to Collegetown and Cornell University from the East State Street/Ithaca Road bikeway.

The Phase One Bikeway Route Network shows only existing bikeways and proposed bikeways where actual on-road improvements are proposed. Shared roadways are not shown in phase one as no physical improvements are recommended. The proposed Black Diamond Trail and Cayuga Inlet Trail are included in phase one. Design of the Black Diamond Trail by the Finger Lakes Region of the New York State Office of Parks, Recreation and Historic Preservation is scheduled to begin this year. The Cayuga Inlet Trail was identified as a
priority project in the Tompkins County Waterfront Plan. While no funding source has been identified to date, the City’s Department of Planning and Development recognizes the importance of the trail to the success of Ithaca’s waterfront development efforts. Existing trails including the East Hill and South Hill Recreation Ways are included.

A significant percentage of the Phase One Bikeway Route Network can be implemented with the ISTEA Enhancement Funds available to the City.

**Long Term Bikeway Route Network**

The Long Term Bikeway Route Network is a comprehensive network of bikeways that will build on the anticipated success of phase one improvements. Bike lanes are proposed on our busiest streets (Route 13, Seneca and Green Streets, etc.). Traffic-calmed bicycle boulevards are proposed on residential streets used for bicycle travel. Shared roadways that are comfortable for cycling with minimal or no improvements and a network of multi-use trails that link regional recreation destinations are included. Stronger bikeway linkages to the Commons, Collegetown, and to city parks and proposed trail facilities are critical components of the long term plan.

**Impact on Parking**

The Phase One Bikeway Route Network was planned to have minimal impact on parking along its proposed routes. Following are the anticipated impacts:

- Proposed parking change on Cayuga and Dey Streets from the existing odd-even parking system to parking on one side of the road only. There will be no impact on overnight parking supply. Convenience of some residents and businesses, most notably Hickey’s Music Store, may be affected by the loss of some of its daytime parking supply on Dey Street.
- Two hour parking on the north side of N. Titus, near Cayuga Street is proposed to be eliminated.
- Metered parking on one side of S. Cayuga Street between Clinton and N. Titus is proposed to be eliminated.
- Daytime parking on the downhill side of University Avenue is proposed to be eliminated.
- Overnight parking on the uphill side of Ithaca Road and two hour parking on the downhill side is proposed to be eliminated.
- Parking along the downhill lane of Hector Street is proposed to be eliminated.

The Long Term Bikeway Route Network’s impact on parking is more difficult to quantify. The main difference between the plans is the implementation of a network of bicycle boulevards. Street masterplans for proposed bicycle boulevards are not prepared. Bicycle boulevards often do not require the elimination of parking, particularly in residential areas where the parking does not have a high turnover rate. They are designed to create a slower, more
Phase One Bikeway Route Network
<table>
<thead>
<tr>
<th>No.</th>
<th>Street</th>
<th>From</th>
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<th>Length</th>
<th>Existing Conditions</th>
<th>Proposed Treatment(s)</th>
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**Proposed Phase One Bikeway Route Network Summary - March 1997**
CAYUGA INLET TRAIL - NOTES

1. TRAILHEAD AT THE TOMPKINS COUNTY VISITORS CENTER
2. BIKEWAY AND SIDEWALK IMPROVEMENTS BETWEEN ITHACA SCHOOLS AND STEWART PARK
3. PROPOSED TRAIL CROSSING OF CONRAIL LINE
4. TRAIL ON NORTHERN EDGE OF EXISTING PARKING AREA
5. DECORATIVE PAVING MATERIAL ALONG PROPOSED PERFORMANCE PIER
6. TRAIL ON NORTHERN EDGE OF EXISTING PARKING AREA
7. PEDESTRIAN/NATURE TRAIL FROM CAYUGA STREET TO STEWART PARK THROUGH FUERTES BIRD SANCTUARY
8. PROPOSED NEW BICYCLE/PEDESTRIAN BRIDGE ACROSS FALL CREEK
9. TRAIL ALONG WOODLAND EDGE BETWEEN BIOLOGICAL FIELD STATION AND NEWMAN GOLF COURSE
10. TRAIL ON EXISTING GRAVEL ACCESS ROAD ALONG 9TH FAIRWAY OF NEWMAN GOLF COURSE
11. TRAIL ON ROAD SHOULDER SOUTH OF PIER ROAD AND WEST OF WILLOW AVENUE
12. SIDEWALK AND BIKEWAY IMPROVEMENTS BETWEEN DEY STREET AND PEDESTRIAN BRIDGE
13. UPGRADE EXISTING PEDESTRIAN BRIDGE TO CONFORM TO BIKEWAY STANDARDS
14. TRAIL ALONG EXISTING PATH WILL REQUIRE UPGRADING AND RELOCATION OF PORTIONS OF CHAINLINK FENCE
15. TRAIL ON 12' FIRE ACCESS LANE ON WATER SIDE OF FARMERS' MARKET
16. SIDEWALK AND BIKEWAY IMPROVEMENTS BETWEEN SCIENCE CENTER, THIRD STREET BUSINESSES AND FARMERS' MARKET
17. TRAIL ALONG WATER EDGE, OUTSIDE OF EXISTING CHAINLINK FENCE AT NYSDOT MAINTENANCE FACILITY
18. FARMERS' MARKET SITE IMPROVEMENTS
19. NYSDOT FACILITY RELOCATION AND SITE REDEVELOPMENT
20. THIRD STREET/ROUTE 13 INTERSECTION IMPROVEMENTS
21. CAYUGA LAKE PUBLIC PORT AND BOARDWALK AT CAYUGA INLET
22. WATERFRONT COMMERCIAL DEVELOPMENT ON EAST BANK OF CAYUGA INLET
23. STRENGTHEN LINKAGES TO WEST END AND DOWNTOWN BUSINESS DISTRICTS
24. WATERFRONT COMMERCIAL DEVELOPMENT ON THE INLET ISLAND
25. INLET ISLAND AND LINEAR PARK
26. CASCIDILLA BOAT CLUB BOATHOUSE IN CASS PARK
27. CAYUGA INLET FERRY SERVICE
28. ALLAN H. TREMAN STATE MARINE PARK IMPROVEMENTS
29. BLACK DIAMOND TRAIL

Legend

- - - - - Proposed Cayuga Inlet Trail
- - - - - - Existing Cayuga Inlet Trail
- - - - - Proposed Boardwalk
- - - - - Route 96 Sidewalks and Bikeways
- - - - - Proposed Black Diamond Trail
- - - - - Proposed Pedestrian Trail
- - - - - Proposed Sidewalk and Bikeway Improvements
Long Term Bikeway Route Network
predictable and continuous flow of traffic where sharing a travel lane is comfortable for bicyclists and motorists. In commercial areas where there is a high turnover of parked cars, a high level of pedestrian activity and limited road space, it may be necessary to eliminate metered parking in order to safely accommodate bicycle travel into the Commons and the Central Business District.

Bicycle Parking
Secure and convenient bicycle parking is a critical component of a community’s bicycling infrastructure.

Types of Parking Facilities
- Class I bicycle parking facilities are bike lockers or locked, guarded storage areas that provide high-security and/or long-term bicycle storage. A high quality, durable bicycle locker costs from $700 to $1,500 for a 1 to 2 bicycle locker unit.
- Class II bicycle parking facilities are bike racks that secure both wheels and the frame of a bicycle. The bicyclist supplies the lock. They provide better security than a standard bicycle rack and are particularly effective when installed under cover. They are more complex to construct and operate than bike racks and cost up to $150 per bike.
- A Class III parking facility is the common stationary bicycle rack. The ‘inverted U’ is the least expensive and most effective design. This rack is the standard for Cornell University. It can be fabricated locally and will accommodate two bicycles. Average cost ranges from $75 to $100 installed. The inverted U rack is most effective for short-term parking.

Recommendations for Class I Bicycle Parking Facilities
Class I facilities are often provided at municipal or university parking facilities, major employment centers and office complexes, public offices, transit stations, bus stations, airports and on public property in close proximity to offices and places of employment. Communities or institutions often install and administer the locker facilities. Lockers are can be rented for a one, three or six month period and rents are commonly in the $10/month, $25/three month and $45/six month range. Keys are supplied to the locker user by the program administrator with a small refundable deposit.

City should install one or two bicycle lockers (for 2 - 4 bikes) at Seneca Street or Green Street garage with JSTEA Enhancement Funds as a pilot project. This should be coordinated with Tompkins Consolidated Area Transit as they may have funds remaining from their 'bike on buses' program to install parking facilities. The availability of secure lockers will encourage the use of bicycles for regular commuting trips.

Recommendations for Class III Bicycle Parking Facilities
The City should adopt the ‘inverted U’ bicycle rack as the city standard for short-term bicycle parking. The exception is in cases where new racks are
being installed next to existing racks. In this case new racks should be installed to match those already in place if the existing racks meet acceptable performance criteria. Bike racks should be designed to support a bicycle without damage to wheels or finish and allow easy locking of both the wheels and the frame. Those racks which do not meet these basic performance criteria should be replaced. Bike racks should be conveniently located near all building entrances at public facilities, retail stores, offices and educational institutions, easily visible to the public.

Recommendations for specific locations are identified on the Inventory of Bicycle Parking Facilities (See Appendices under separate cover).

**Proposed Parking Ordinance for Public Facilities and Residential/Commercial Development**

The provision of bicycle parking at public facilities, shopping areas and multi-family residential developments is critical to the success of a City bicycle program. Bicycle racks shall be provided in all new developments in accordance with the following requirements.

<table>
<thead>
<tr>
<th>Use Category</th>
<th>Bicycle Rack Requirement</th>
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<tbody>
<tr>
<td>1. Multi-Family Residential</td>
<td>1 per 10 auto spaces (2 minimum)</td>
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<tr>
<td>2. Commercial/Retail Development</td>
<td>1 per 20 auto spaces (2 minimum. Requirement beyond 10 spaces can be deferred until need for additional parking is demonstrated.)</td>
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<tr>
<td>3. Industrial/Manufacturing</td>
<td>1 per 40 auto spaces (2 minimum. Requirement beyond 10 spaces can be deferred until need for additional parking is demonstrated)</td>
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<tr>
<td>4. Parks and Recreation Facilities - City Wide</td>
<td>1 per 10 auto spaces (5 minimum)</td>
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<td>5. Neighborhood Parks</td>
<td>2 minimum. 5 maximum.</td>
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<td>6. Schools - K through 12</td>
<td>1 per 10 students</td>
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<td>7. Hotels/Motels</td>
<td>1 per 20 auto spaces (2 minimum. Requirement beyond 10 spaces can be deferred until need for additional parking is demonstrated.)</td>
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<tr>
<td>8. Public and Semi-Public Institutions (Gov’t Offices, Library, Non-Profit, Religious, etc.)</td>
<td>1 per 20 auto spaces (2 minimum. Requirement beyond 10 spaces can be deferred until need for additional parking is demonstrated.)</td>
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Existing uses in the listed categories shall provide bicycle parking as required within five years after enactment of this ordinance. Wherever practicable, joint development of bicycle parking to serve adjoining properties shall be permitted, in which case a reduction of not more than twenty-five percent of the combined requirements for bicycle parking shall be allowed.
<table>
<thead>
<tr>
<th>Bicycle Rack Characteristics</th>
<th>Recommended Locations</th>
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<tr>
<td>- Supports the frame of the bicycle</td>
<td>- Near main or well-used building entrances</td>
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<tr>
<td>- Allows at least one wheel along with the frame to be locked to the rack</td>
<td>- At transit stops</td>
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<tr>
<td>- Allows the use of a U-lock or a cable and padlock</td>
<td>- Along surveillance corridors, such as where there are pedestrians, visible from building windows</td>
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<tr>
<td>- Easy to understand its use without instructions</td>
<td>- Easy to access</td>
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<tr>
<td>- Allows two bicycles to be locked with one lock</td>
<td>- In areas well-lit at night</td>
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<td>- In areas well-shaded during the day</td>
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<td>- Under roofs and canopies where possible</td>
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<td>- On flat surfaces</td>
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<td>- So as not impede vehicular or pedestrian access</td>
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</table>

Bikes-on- Buses

Tompkins Consolidated Area Transit (TCAT) has New York State’s first comprehensive bikes-on-buses program with all sixty-four buses in the fleet having Sportsworks Bike Racks installed. Bus drivers report regular use of the racks throughout the mild and snowless winter and they are anticipating a dramatic increase in use when spring arrives.

Bikes can be mounted on buses at any bus stop. Key transfer stops are located at the foot of steep hills, where a high level of use of the bikes-on-buses racks is anticipated. Recommended key transfer stops are:

- East Hill - Green Street at Woolworths
- South Hill - Aurora Street at the east end of the Commons
- West Hill - State Street at the Bus Station

The key transfer stops should provide space and shelter for cyclists to wait with their bicycle off the roadway and without blocking pedestrian movement or building access. Secure bicycle parking should be provided for those who chose to leave their bicycles if bike-on-bus racks are already in use.
The Sportworks Bike Racks installed on Ithaca's bus fleet (64 total) are in use in Seattle and Portland.
Chapter Four:
Education, Enforcement & Encouragement Programs

Objectives of Education and Enforcement Initiatives
Enhancing the safety of bicycling will have the most success if engineering efforts are coordinated with other initiatives in education, enforcement and encouragement. Providing well-designed bikeways will encourage compliance with traffic regulations. The City Bicycle Coordinator can act as a centralized source for training materials, and support activities and programs among various community partners.

The objective of education initiatives is to increase bicycling through improving safety by targeting youth and adult cyclists, and motorists. Programs aimed at cyclists should emphasize handling skills, how to apply the rules of the road to the operation of a bicycle, and why the rules should be obeyed. Programs aimed at motorists should teach good driving behavior and information about cyclist behavior to help improve safety, fostering a broad and general public awareness and respect for cycling.

The objective of enforcement initiatives is to improve the compliance with the law so that all road users benefit, targeting those errors and violations that can help reduce the casualty rate among cyclists. Programs should be effective and equitable to cyclists, pedestrians and motorists, addressing issues in a fair and realistic manner. Bicycle enforcement programs need to appeal to the sense of duty of enforcement authorities, presenting cycling safety information effectively.

Current Education and Enforcement Efforts in the City of Ithaca

Ithaca Police Bike Patrol Division
The City of Ithaca Police currently demonstrate their commitment to safe-cycling skills and behavior through their Bike Patrol Division. Police on bikes execute their official duties effectively and enhance community relations through more direct, personal contact. They are provided with appropriate cycling skills training based on the Effective Cycling approach, a nationally accredited program endorsed by the League of American Bicyclists. These officers are role-models for the community and are aware of the violations of traffic laws, by both motorists, pedestrians and cyclists, that require the most attention in order to reduce cycling crashes.
The Bike Patrol Division’s success is expanding into other divisions of the City of Ithaca Police. The first Community Police Division officer was trained to carry out duties on a bike this year. All officers in this Division will be assigned bikes and trained for 1997.

**Police Cyclists Youth Mentor Program**

The Police Cyclists Youth Mentor Program is a pilot program that has been developed with the intention of partnering police on bikes with youth to promote safe-cycling skills. In turn, the trained youth participate in safe-cycling skills rodeos for younger children. The Ithaca Police on bikes have participated in the program two years in a row, despite the fact that their Division’s budget does not currently provide time for cycling skills programs. Additional community partners are needed to develop interest in the rodeos to make the program a success.

An analysis of motor vehicle crash reports involving pedestrians and bicyclists in the City of Ithaca and Tompkins County was undertaken by L. Chaplin for the years 1991 to 1993. This report provides some useful information when setting priorities for education and enforcement initiatives for Ithaca. Recommendations specific to cycling from the report include:

- develop community-based education programs
- target 18 to 24 year olds
- address the importance of adequate lighting when cycling at night, not riding on sidewalks, wearing helmets when cycling, and cycling on the right-hand side of the street
- provide an opportunity to increase traffic and handling skills of cyclists
- increase the awareness by motorists of cyclists on the roadway
- enforce vehicle and traffic laws that require cyclists to use lights when cycling at night, and motorists to yield the right-of-way to cyclists under specific conditions
- modify police reporting procedures to enable more consistent reporting on “safety equipment used” and “apparent contributing factors” with respect to cyclist behavior, and tracking of possible alcohol involvement in pedestrian- and bicycle-related crashes
- support engineering-related improvements of roadway design that concern cyclists.

The report suggests further study into the role of the Bike Patrol Division, in that their many positive benefits to the community and to cycling in Ithaca warrant documentation.
Recommended Education and Enforcement Programs

Public Service Announcements/Cycling Campaign and Traffic Violation Enforcement

The Ithaca Police Bike Patrol targets enforcement of traffic regulations for the following high-risk behaviors:

- failure by motorists to yield the right-of-way to cyclists and pedestrians when turning left or right
- cyclists riding at night without appropriate lights and reflectors
- wrong-way riding by cyclists (riding on the left, opposing traffic)
- traffic moving violations by cyclists, in particular, disobeying traffic signals and stop signs

This existing enforcement could be enhanced by coupling it with public service announcements and media campaigns that target the cycling and motorizing population. It could be coordinated by the City Bicycle Coordinator and supported by bicycle retailers, the Health Department and other agencies concerned with cycling safety. A particular violation could be the focus for a certain period of time, such as riding at night without lights during, say, the month of April. Bicycle retailers could show support for the program by prominently displaying related safe-cycling skills posters.

Warning Tickets

Warning tickets are used in other police jurisdictions to reinforce verbal warnings and provide an opportunity to inform cyclists of proper cycling behavior, without issuing a traffic violation ticket and fine. Although a system of tracking the warning tickets would identify repeat offenders, the opportunity to present written statements to the cyclist may be effective even without the tracking administration. The Cheektowaga Police Department issues Bicycle Enforcement Warning tickets.

Bike Patrol Division Baseball Cards

'Baseball' cards are used in other police jurisdictions to put a face to the department, improving community relations especially among youth. Coupled with handling skills and safety tips for cyclists, such cards could provide an opportunity to profile the effective work of the Bike Patrol Division and their image as mentors to other cyclists in a positive manner. Sponsorship from bicycle retailers or safety organizations concerned with youth could provide a source of funding.

Review of City Ordinances

The City Bicycle Coordinator should undertake a review of the City's ordinances and recommend amending those that are unfairly restrictive to cycling. With respect to police cyclists, the City's Ordinances should be amended to allow police in the line of duty to cycle in areas where cycling is otherwise
Bicycle festivals and rodeos provide an excellent opportunity for teaching bicycling skills to children. Ithaca's Bike Patrol Division has conducted many bike rodeos in Ithaca and surrounding communities.

prohibited, including on sidewalks and on the Commons in the event of an emergency, reducing the policeman’s exposure to liability.

Police Cyclists Youth Mentor Program
The feedback from those involved in this program (see Current Education and Enforcement Efforts in the City of Ithaca) has been very positive in terms of outcome. Increased support by community-based organizations could expand its popularity and enrollment.

Bicycle Festival/Bike Week
Coupled with the Police Cyclists Youth Mentor Program, an annual Bicycle Festival or Bike Week, including a competition with the Police Bike Patrol and Community Divisions, a Fun Ride, and a Bike to Work Challenge could be developed to encourage cycling. Safe cycling behavior and handling skills would be developed throughout the events. The City Bicycle Coordinator could contribute to the organization of the event, demonstrating the City's support for encouraging cycling. The loop road at the west end of Stewart Park could be closed for the events. The Festival would improve community relations, bring cyclists of varying skill levels and interests together, and profile the annual improvements to the cycling environment in the City.
Bicycle Registration through Retailers

Studies from various cities suggest that one-third of bicycle-theft victims may give up cycling forever, as a result of having their bicycle stolen. In Toronto, Canada, 90% of approximately 3,000 bicycles recovered each year cannot be matched to their owner. About 50% of all thefts occur from the owner's home. Bicycle registration creates a database for matching recovered bicycles to owners.

New York State legislation allows cyclists to register their bicycles for two years at a cost of $0.50 with the Ithaca Police Traffic Division. The name brand of the bicycle, size, color and serial number are noted and a registration sticker is issued. Modifications to the State legislation could allow the registration to take place at the point of sale of the bicycle. In turn, retailers who participate in the registration may effectively market bicycle security devices.
Chapter Five: Implementation and Maintenance

Adoption of the Bicycle Plan
The first step in the plan’s ‘adoption’ process is for the Plan to be reviewed by the Planning Board. The Planning Board may adopt the Plan to use as guide for general planning purposes. If the document is to become City policy, leading to implementation of its recommendations for for the provision of bicycle facilities, enactment of legislation, and initiation of enforcement and education programs, it must be formally adopted by action of Common Council. The Planning Board’s recommendation to Common Council will have a major impact on the Council’s decision. Common Council can choose to adopt all or part of the Plan.

The preliminary plan has been informally presented to the Board of Public Works (BPW). After the Plan is voted on by Common Council, BPW will be the key board in determining how the plan’s major route and infrastructure recommendations will be implemented.

Implementation
Communities that have successful bicycling programs typically have three elements in place:

- An active bicycling committee.
- A staff committed to managing the bicycle program;
- Politicians and officials who support bicycling initiatives.

Ithaca has an active Bicycle Advisory Council (BAC) that has, with City staff assistance, produced a Bicycle Plan that was the basis for getting ISTEA Enhancement Funds. The BAC successfully lobbied NYSDOT to provide 14” outside lanes on most roads and all bridges in the Route 96 reconstruction project. The BAC meets monthly and continues to monitor City policies and actions that impact bicycle use and safety.

City staff and elected and appointed officials have yet to demonstrate a strong and steady commitment to increase the use of bicycles in Ithaca. The City Bicycle Coordinator position is a 5 hour per week allotment of time in the Department of Planning and Development. This is an inad-
equate amount of time to manage even the current city bicycle program. Presently tasks include liaison with the BAC, co-chair responsibilities for the Bicycle Plan Client Committee, and administering the consultant’s contract for the preparation of the Bicycle Plan and the expenditure of ISTEA Enhancement Funds. Additional tasks include looking for implementation funding, tracking spot improvements, working with businesses to provide bicycle parking and monitoring relevant activities of other city departments.

As additional bicycle-related facilities and programs are developed, more staff resources will have to be allocated. The City should consider allocating a percentage of the City Traffic Engineer’s time to bicycle-related issues. The Board of Public Works, the Department of Public Works and the City Engineering Department regularly consider traffic and infrastructure issues that have a direct impact on bicycle safety. The Engineering Department has a closer working relationship with BPW and DPW, making their involvement critical to the program’s long term success.

Implementing the Phase One Bicycle Facilities
The City has $80,000 in ISTEA Enhancement Funds for use in constructing on-road bikeways and bicycle parking facilities. Preliminary estimates indicate that most of the bikeway network identified in the Phase One plan can be constructed with the Enhancement Funds. The City has many options for implementing the plan. Bikeway plans and specifications could be developed in-house by the City engineering staff and put out to bid or implemented by City Department of Public Works staff.

Given the current staffing levels and heavy work loads of the Engineering and Public Works Departments, it seems unlikely that the City will have the resources to design and implement the plan. If this is the case, the city should allot a portion of the $80,000 to hire a consultant to prepare construction drawings and specifications for the proposed on-road improvements. These documents could be put out to bid by private pavement marking contractors. The advantage of this approach is that the installation of the proposed improvements would be completed within a short period of time.

The Client Committee recommends that the target date for construction be Spring 1998. This would allow adequate time for city approvals and the preparation of construction documents for bidding. Traditionally spring is when Bike-To-Work Events are held and when people are most enthusiastic about cycling.

The exception to this target date would be within the limits of the Route 96 reconstruction project in the West End. Bicycle pavement markings and signs should be incorporated into the final striping contract for the project. A request is being made to NYSDOT by the City to fund the proposed stenciling of fourteen-foot right hand travel lanes. NYSDOT has done an excellent job of providing continuous wide outside lanes throughout the project. Adding the
signs would make the project a model for accommodating bicycles in major transportation reconstruction projects.

Maintenance
Understanding the maintenance implications of constructing new facilities is a critical concern of the Board of Public Works and the Common Council during a time of fiscal constraint and downsizing at the Department of Public Works. Maintaining bikeway facilities involves the following tasks:

Restriping bike lanes
Repainting or replacing stencils
Regular sweeping of bikeway routes
Maintaining and replacing signs
Repair of hazardous road conditions identified by the Spot Improvement Program or others
Repair and replace damaged bike racks

Bike Lane Restriping
In the City of Ithaca, most crosswalks and road centerlines require restriping on an annual basis. Cornell University restripes their bike lanes every year. Striping of Route 13, done by a private pavement marking contractor, is done every three years. While the City of Ithaca has no experience with bike lanes, it might be safe to assume that they will need to be restriped at least every two years if pavement markings are applied by a private pavement marking contractor.

Repainting or Replacing Stencils
The plan proposes that hybrid lane stencils be a high-contrast, non-slip pavement marking tape that are guaranteed to last at least four years. Tapes are more durable and more highly visible than paint. Enhancement funds should be spent on items that will have as long a life as possible.

Sweeping of Bikeway Routes
Bikeway routes need to be swept on a more frequent basis than other city streets. This is one of the most critical activities in providing safe roadways for bicycles. Gravel and debris swept to the right hand side of the road by wind, rain and motor vehicles creates very hazardous conditions for cyclists. It is recommended that bike lanes be swept first in the spring and at least four times per year. The Department of Public Works estimates the cost of street sweeping at $20 per mile, a modest cost for such a critical activity.
Sign Maintenance and Replacement
The Department of Public Works estimates that street signs need to be replaced on an average every 10 years. In addition they routinely need to be straightened and monitored. The Bicycle Plan proposes that the use of signs be held to a minimum; however some signage is an important component of the plan to heighten motorists' awareness of cyclists in the traffic mix and to help cyclists identify improved bicycle facilities. Share the Road signs and directional bikeway route signs will be judiciously used to complement on-road pavement markings, for the information and safety of cyclists and motorists.

Making 'Spot Improvements'
The City Bicycle Coordinator keeps a list of spot improvements. Spot improvement needs are identified by cyclists and recorded on postcards made available at local bike shops and at City Hall. The program will help prioritize maintenance needs and reduce the city's exposure to liability. The spot improvement program has proven effective in other cities as a way to keep track of on-road hazards.
Chapter Six: Bicycle-Friendly Traffic Calming

Restraining traffic has become a common goal of concerned residents, who feel that their streets have slowly changed for the worse over time. Streets used to be multi-purpose places which provided physical access and encouraged social links within a community. Now, the balance has changed so that the main function of many streets has become the accommodation of traffic — some of it quite unrelated to the residents themselves. The once-common social interactions amongst neighbors — the casual conversations, the play of children, the passive enjoyment of one’s front yard and street on a balmy summer evening — have become less common, less safe, less enjoyable. A vision now being promoted for local residential streets is that cars should be guests there and behave accordingly. Specifically, it is argued that vehicles should travel at no more than 30 to 40 kilometers per hour (20 to 25 miles per hour). This can be achieved most effectively through the redesign of roadways from wide, straight open places they typically are to narrower, shorter sections of street broken up by an array of different techniques. Traffic calming is the name given to this process and its techniques.

Definition of Traffic Calming from City of Toronto Traffic Calming Working Group

Traffic calming is a reaction or designed response to the context of the street, to its setting and to its traffic function. The Final Report - Task Force on Traffic Issues, City of Ithaca, April 8, 1994 recognizes the need to use street design to enhance the residential character of the street, and to define clearly the boundaries between residential and non-residential areas, and entrances to the City. Traffic calming techniques can be used as elements of the redesign. In order to be effective, re-design must extend along a street, several streets or throughout a neighbourhood. Traffic calming should be considered principally where local support exists, where existing traffic impacts are significant and within the context of a neighborhood traffic management plan.
Traffic calming techniques rely on these general principles (1995 Oregon Bicycle and Pedestrian Plan):

- the street design allows drivers to drive at, but no more than the desired speed,
- the street design allows local access, while discouraging through traffic,
- traffic calming works best when the roads are properly designed in the first place.

The benefits of traffic calming for bicycling are as follows:

- reduced traffic speeds and volumes allow cyclists to share the road with motor vehicles,
- lower traffic speeds increase safety for all road users including cyclists, and
- residents will more likely allow their children to ride a bike in the neighborhood if the streets are made safer.

Traffic calming involves physical changes to the layout of the street. To be effective, traffic calming must be considered on a neighborhood or district level so as not to off-load one street’s traffic issues onto the adjacent area or connecting street. Measures are most effective at lowering average speeds if they are used in combination and throughout an area but are placed judiciously. For example, speed tables or humps can slow traffic to 30 mph or less at a spacing of 300 ft. Traffic circles are effective in slowing traffic within 150 ft. of the circle. Designs must be site-specific, that is, a measure that works at one location may not work in the context of another location. Traffic calming techniques are reviewed below:

Narrowings
It is well known that narrow travelways reduce the speed of travelers. Several types of physical constraints can be used to narrow roads from the perspective of motorists, reducing their speed, and increasing pedestrian and cycling comfort. The constraints need to be spaced such that the motorist travels at a somewhat constant speed of 20 mph (the average speed of experienced adult cyclists) but of a length and at intervals such that they do not create friction over a long section of road between motorists and cyclists. If designed well, they could benefit cyclists by moving traffic at the average speed of cyclists, integrating them into the flow of traffic. Examples include:

- Curb bump-outs, chokers or neck-downs extend the curb into the travelway and are located at mid-block or near intersections. Bump-outs should extend no more than six feet from the existing curb line to ensure that the travel path of the bicyclist is not cut off. For pedestrians, bump-outs can decrease the width of the street that must be crossed. The pedestrian is also more visible to motorists, which can be a great advantage at crossings and intersections. The bump-outs can also protect on-street parking lanes.
- Medians installed at mid-block or near intersections narrow the travelway. They have the advantage of providing refuge for pedestrians crossing the
street and provide landscape space to create visual cues of the neighborhood’s character, particularly useful at gateways to neighborhoods.

- Bicycle lanes can be used to narrow the roadway available to motorists. They can be installed next to the curb or to on-street, parallel parking. These lanes are usually installed with a combination of pavement markings and symbols and signs. Some North American cities are experimenting with colored asphalt to delineate the road space reserved for cyclists, providing a more visual narrowing to motorists. Other options include constructing the bike lane of concrete and the motor-vehicle lane of asphalt or vice versa.

**Forced Turns**

Physical interruptions to a straight section of road create visual changes in the driver’s view of the streetscape and require motorists to maneuver around a physical barrier. This will result in slower moving traffic. As with narrowings, these need to be placed at regular intervals, but be designed so as to not create friction between cyclists and motorists sharing the same road space. If motor vehicle speeds are reduced to 20 mph (+/-), cyclists will feel more comfortable integrating into the normal flow of traffic. Examples include:

- Short radius corners at intersections and driveways require motorists to negotiate turns around these corners at a lower speed.
- Traffic circles or buttons at intersections can be used to replace stop signs or to slow traffic traveling through the intersection. Motorists must maneuver around the button, regardless of their direction of travel at the intersection, yielding to traffic in the circle. As a replacement for stop signs, they do not create the deceleration to a stop and acceleration by motorists, and do not affect the momentum of cyclists who lose significant energy when they are required to stop and restart. Stop signs could be placed on the cross street to the street with a bicycle route in order to give priority to cyclists at the traffic button.
- Chicanes, or alternating bump-outs at mid-block require motorists to divert around them from their usual straight line of travel, reducing speeds. As with bump-outs, a path near the original curb line will allow cyclists to travel straight instead of diverting around the chicanes. A similar effect can be created by alternating on-street parking; however, this is only effective when there are parked cars present. Near intersections, alternating parking can make it difficult for cyclists to cross the intersection in a predictable, straight line of travel.

**Surface Changes**

Elevation changes in the surface of the roadway can be indicators to motorists to slow down. Caution should be used in selecting surface textures and grade changes so that they do not create crevices and bumps that can trip up pedestrians, and rolling resistance and vibrations for cyclists. Examples of surface changes include:
• Speed humps, tables or platforms (as opposed to the still popular speed
bumps that require motorists and cyclists to brake almost to a stop to avoid
being jarred or jolted by the bump) are ramped and elevated, flat or slightly
curved sections of the roadway about the length of a car. They are de-
signed such that motorists can travel across them without being jarred at a
speed of 20 to 30 mph. Informal comments from cyclists where these have
been constructed indicate that they do not hinder their travel. Attention to
design details is needed to minimize the impacts on cyclists, street cleaning
and snow removal.
• Raised intersections and crosswalks are speed tables or platforms installed
at intersections or at pedestrian crossing locations. They provide for con-
tinuation of the pedestrian spatial environment through the crossings, the
motorist’s space is discontinuous visually and spatially, and the whole inter-
section is reconfigured to a pedestrian scale.

Full or Partial Road Closures
Roads can be partially blocked or fully closed to motor vehicles at intersections,
preventing through, entering or exiting movements. Pedestrian and cycling ac-
cess should be maintained by creating gaps or paths for them through or around
the barrier or diverter used to block motor vehicles. Proposed road closures
must be examined carefully by a community to determine the potential for isolat-
ing one street from the urban fabric of connecting streets and the potential im-
 pact on adjacent streets and neighborhoods. Examples are as follows:
• Diagonal diverters are located diagonally across intersections, forcing traf-
fic to turn right or left, instead of continuing straight through the intersec-
tion.
• Partial street closures can be achieved by narrowing a street to one lane
near an intersection.
• Cul-de-sacs can be created by completely blocking one leg of an intersec-
tion. The space can be used to create a mini-park.
• Star diverters are placed in the middle of intersections to force right turns.
These are difficult to design in such a way that cyclists are exempt and,
therefore, are not recommended.

Visual Changes
Changes in the visual aspects of the streetscape, including color, vegetation,
textures and other design elements can be used to help slow traffic. Techniques
include:
• changes to the surface texture and color, using alternatives to standard as-
aplt such as interlocking brick, concrete pavers, colored or stamped as-
palt, can influence driver behavior by adding visual interest reflecting the
character of the neighborhood. These changes are most effective when
associated with other traffic calming measures and can be used to empha-
size features. Caution should be used in selecting surfaces so that they do
not create crevices and bumps that can trip up pedestrians, and rolling
resistance and vibrations for cyclists.
Greening streets through use of ground cover, shrubbery and trees will contribute to the overall aesthetics of an area, changing the perception of the street which can result in changes in behavior. Landscape treatments, as with other visual design elements, should be part of the overall design and layout of traffic calming measures.

**On-street Parking**

On-street parking can be an advantage and a disadvantage to the character and use of a street. Parking as a traffic calming measure contains an inherent contradiction - the same parked cars which calm traffic by decreasing the road width are also driven on streets to arrive at the parking space. It provides a buffer for pedestrians yet takes up road space that could be reallocated to pedestrians or cyclists. Near CBD’s, on-street parking contributes to commercial viability and increases street activity. On-street parking also can obscure sight distances, interfere with public transit, encourage the use of cars, and complicate street maintenance. Car doors opening and cars pulling into and out of parking spaces create serious hazards for cyclists. Removing or retaining on-street parking is a difficult decision and must be made in consultation with planners, designers, politicians, businesses, and residents, and in an area-wide context.

**Bicycle Boulevards** are designed as through streets for cyclists while maintaining local access for motorists. Bicycle-friendly traffic calming techniques are retrofitted to reduce motor vehicle speeds, while giving a priority to cyclists.

**Consultation**

Neighborhood traffic management plans considering the traffic calming process and techniques must be planned, implemented and monitored as a partnership between residents, pedestrians, and cyclists who have much to gain. City staff and politicians, local business, schools, police and other agencies in the neighborhood, and maintenance and emergency service providers.
Chapter Seven: Bicycling Policies

The following policies are offered for consideration by the City of Ithaca as it continues to develop its bicycling program. Policies are described under the following categories: general; facilities; education, encouragement and enforcement; implementation; and maintenance.

General Policies

Cycling will be encouraged and promoted through implementing the proposed Bikeway Route Network, facility recommendations, and education, enforcement and encouragement programs as outlined in the Ithaca Bicycle Plan. The City of Ithaca shall:

• Support the Ithaca Bicycle Advisory Council (IBAC) in its mission to:
  1. Provide ongoing input on cycling issues, projects, policies and programs and in its ongoing review of transportation proposals;
  2. Monitor the implementation of the Ithaca Bicycle Plan;
  3. Promote the increased use of bicycles and increased safety for bicyclists.

A liaison with the Board of Public Works (BPW) should be appointed to provide BPW with information regarding bicycle issues and to keep the IBAC up to date on transportation-related matters. Other City agencies, boards, and departments should routinely seek input from IBAC regarding issues that relate to bicycles.

• Expand the role of the City Bicycle Coordinator to include:
  - acting as liaison with IBAC;
  - conducting site plan review of development projects concerning the provision of bicycle facilities;
  - recording and tracking of Spot Improvement Program;
  - looking for and applying for bicycle grants;
  - organizing a data collection, evaluation and monitoring program that will assist in the periodic review and updating of the bicycle plan;
  - ongoing monitoring and scanning of the agendas of all city decision-making bodies and departments for issues of relevance to cycling in the city
  - working with IBAC, Bike Police Division, the Finger Lakes Cycling Club and the Ithaca Bicycle Action Group (IBAG) to coordinate a
Bicycle Week and/or Bicycle Festival and other promotional activities;
- conducting periodic review and updating of Ithaca Bicycle Plan;
- coordinating targeted PSA/traffic enforcement program with Police Bike
  Patrol Division;
- coordinating with the ITCTC regarding bicycle-related issues;
- reviewing the relevant City Codes that affect bicycle use and safety.
  This review should be undertaken with the City Attorney to recom-
  mend changes and additions to the Code.

- Allocate a percentage of the City Traffic Engineer's time to address bicy-
  cling issues. Tasks should include ongoing liaison with the City Bicycle
  Coordinator and IBAC with regard to transportation policies, programs and
  projects that affect bicycle safety and use. Of particular importance are
  modifications in the design and maintenance of roads and bridges, new bridge
  and road construction, and changes in on-street parking regulations.

- Participate in integrating bicycles with other transportation modes including
  public transit.

- Utilize all available funding and seek additional funding for the development
  of bicycle facilities and related programs.

Policies - Facilities
In order to develop a bikeway route network, bicycle parking facilities, and road
system that is safe for bicycle use, the City of Ithaca shall:

- Adopt and take primary responsibility for the overall planning, construction
  and maintenance of the proposed Bikeway Route Network on City and
  State roads within the City as outlined in the Ithaca Bicycle Plan. Ensure
  that the City Bikeway Network is phased in with infrastructure improve-
  ments and ongoing maintenance procedures as capital and maintenance bud-
  gets allow.

- Support the principle that every road is legally accessible for bicycle use,
  except for limited access highways (Route 13 between Dey Street and War-
  ren Road); therefore, all roads should be designed and maintained for legal
  bicycle use with the expected motor vehicle traffic volume and speed.

- Support the development of multi-use trails that serve the needs of recrea-
  tional and utilitarian cyclists, to be implemented by the City and surround-
  ing municipalities, Tompkins County, and the State Office of Parks, Recre-
  ation and Historic Preservation. Consider trail development when planning
  park and open space projects. Consider need for lighting and other safety
  features when developing trails.

- Ensure that linkages from within the City to regional and state bikeway
  routes are provided.

- Adopt bikeway design standards to conform to AASHTO guidelines for the
development of cycling facilities. 6

- Ensure bicycle access to all City-owned buildings and facilities by providing
  secure and convenient bicycle parking for visitors and employees.

- Implement bicycle-friendly traffic calming measures as described in Chapter
6 to slow traffic on roads that accommodate heavy bicycle use and where neighborhood residents have expressed concern about excessive traffic volumes and speeds.

- Adopt standard specification for bicycle-friendly drainage grate covers designed to prevent bicycle tires from becoming caught in or adjacent to the grate openings.
- Locate drainage and utility covers, where possible, outside the portion of the roadway normally used by bicycles.
- Coordinate with Conrail to encourage appropriate treatment of railroad crossings.
- Ensure that traffic signals along the bikeway route network can be actuated automatically by bicyclists or manually by pedestrians.
- Provide convenient access to existing and proposed Park & Ride lots for those using bicycles in conjunction with cars or buses.
- Provide clear and consistent signing and/or pavement markings for bikeway routes identified in the Bikeway Route Network.
- Create bikeway facilities that serve the different needs of experienced adult cyclists, less experienced adults, and children who cycle.
- Adopt the proposed standard city bike rack and bicycle locker along with guidelines for bike rack placement in the public right of way.
- Adopt a bicycle parking ordinance that describes the bicycle parking recommendations for residential and commercial development, public facilities, parks, schools, etc.
- Encourage existing institutions and businesses to provide bicycle parking facilities for their customers and employees.

Policies - Education, Enforcement and Encouragement

The City of Ithaca's Bicycle Coordinator and the Bicycle Advisory Council should work with the Ithaca Police Bike Patrol Division and the Cornell Local Roads Program to develop coordinated education, enforcement and encouragement initiatives. Together they shall:

- Recognize that cyclists have the same rights and responsibilities as drivers of motor vehicles.
- Support the Police Bike Patrol Division and the Cornell Local Roads Program in conducting Effective Cycling programs and bike rodeos for interested individuals and groups.
- Encourage city employees to use bicycles for commuting to and from their offices. Provide incentives such as free, secure bicycle parking facilities, and shower and changing facilities at city offices. City employees should be encouraged to use bicycles for conducting city business by providing city-owned bicycles for employee use. Encourage city employees who choose to ride a bicycle to take an Effective Cycling course.
- Develop and implement a targeted education and traffic violation enforcement program to increase awareness of high-risk behaviors that lead
to the majority of crashes. These include not using night lights and reflectors, wrong way riding, cyclists disobeying traffic signals and stop signs and failure of motorists to yield the right of way to cyclists when turning. Program should be coordinated by the City Bicycle Coordinator.

- Consider issuing warning tickets to cyclists for first-time violations of traffic regulations.
- Develop a “Share the Road” campaign to educate motorists and bicyclists regarding traffic regulations and driving/cycling skills. Target city employees who drive buses, trucks and city fleet vehicles for education and training regarding bicycle traffic and safety issues.
- Develop and distribute a Bikeway Route Network Map that identifies bikeway facilities, safe and continuous shared roadways and obstacle areas/difficult connections.
- Support strict enforcement of bicycle infractions and consider requiring Effective Cycling courses for bicyclists who violate traffic regulations.
- Encourage the Department of Motor Vehicles to update driver education to include skills for motorists in sharing the road with cyclists.
- Promote Police Bike Patrol Division Youth Mentor Program.
- Conduct annual Bike Week that can include bicycle rodeos, competition with Police Bike Patrol Division, a Fun Ride led by Bike Police, a Bike to Work Challenge, and/or a Bicycle Festival in Stewart Park which could involve the closure of the loop for bicycle races and events.
- Enforce bicycle registration by bike retailers at the time of sale or when bicycles are brought in for repairs to encourage increased registration of bicycles.
- Encourage the collection of information on cycling in the City and region by supporting ITCTC, the City and other agencies in conducting surveys and collecting statistics on cyclists and cycling issues including safety, demand, facility use and economic benefits.

Policies - Implementation

- The City Bicycle Coordinator should undertake a review of the City’s ordinances and recommend amending those that are restrictive to cycling.
- The City Bicycle Coordinator should review City’s operating and capital budget annually to determine impact on the provision of bicycle facilities and program administration.
- City Ordinances should be amended to allow police, in the event of an emergency, to cycle in areas where cycling is otherwise prohibited, including sidewalks and the Commons to reduce the police’s exposure to liability.
- Implement Spot Improvement Program to identify infrastructure improvements including bicycle parking facilities, locations for bike lanes, signs or pavement markings.

Policies - Maintenance

- Ensure that the bikeway routes identified in the Bikeway Route Network receive high priority for maintenance related to pavement condition, debris
removal, operation of traffic control devices and bicycle parking.

- Ensure that road resurfacing projects consider bicycle safety with particular focus on the condition and width of curb lanes, outside lanes and shoulders.

- Track and implement spot improvement requests that identify hazards related to drainage grates, pavement condition, debris accumulation, fading pavement markings, hazardous railroad crossings, dangerous traffic signalization etc.
Footnotes


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