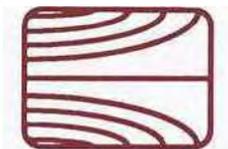


CITY OF ALBANY BICYCLE MASTER PLAN



FINAL REPORT
DECEMBER 2009



City of Albany
Capital District Transportation Committee



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EXECUTIVE SUMMARY

The City of Albany, in partnership with the Capital District Transportation Committee (CDTC) initiated a Bicycle Master Plan to identify a network of bicycle routes to improve cycling as a viable mode of transportation throughout the City. The network will support a safe and healthy transportation alternative that is paramount to achieving sustainability and enhancing the quality of life in the City.

A number of goals and commitments have led to the need for of a Bicycle Master Plan for Albany, including:

- The Mayor of Albany has signed the U.S. Conference of Mayors Climate Protection Agreement and championed the City's participation in the American Institute of Architects' Sustainable Design Assessment Team program.
- Albany is a member of ICLEI-Local Governments for Sustainability, through which the administration will develop a long-term plan of action to achieve greenhouse gas emissions.
- The CDTC's New Visions Plan commits to improving bicycle and pedestrian facilities.
- Albany's unique blend of colleges and universities, major regional employers, religious institutions, human services, and various neighborhoods, compliment the increasing number of bicyclists in Albany.
- The City's efforts of developing the downtown residential market and capturing a percentage of the workforce associated with Tech Valley benefits from creating a bicycle-friendly City where one can to bicycle to work, stores or parks.
- A comprehensive bike network in Albany would help fill gaps in the regional network of bicycle routes and paths, while fitting into the vision for a regional greenway of bike-hike trails linking parks, natural areas, cultural features, historic sites, neighborhoods, and retail areas.

In collaboration with the Study Advisory Committee (SAC), the Bicycle Master Plan study was undertaken by IBI Group in association with Rick Manning Landscape Architect. The Study Advisory Committee (SAC) is comprised of representatives from the City of Albany, Albany County, CDTC, NYS DOT, CDTA, CDRPC and a number of other stakeholders selected by the City of Albany.

Objectives of the Bicycle Master Plan

The benefits of cycling are significant to individuals, our community and the environment. Cycling is enjoyable, efficient, affordable, healthy, sociable, quiet, and a non-polluting form of transportation.

The objectives of the Bicycle Master Plan are to:

- Advance the current vision of bicycling as a viable transportation alternative in Albany
- Develop a Bikeway Network using existing and proposed routes, linking desired destinations and providing accessibility to residential areas
- Identify a hierarchy of bikeways and associated treatments, i.e. bike lanes, shared roadways, signed routes, etc.
- Examine bicycle-supportive policies to be considered in the development of the City's Comprehensive Plan
- Identify pilot projects for implementation in the short term

Numerous surveys have found that the number one reason people do not cycle as a mode of transportation is because of their fear of sharing the roadway with automobiles. Addressing concerns about personal safety and comfort is the key to creating a City where cycling is recognized as both a mode of transportation and a recreational activity. With improvements to

transportation infrastructure, the perception of cycling safety and comfort can be addressed and increase the bicycling habits of people interested in cycling as well as create a more bicycle-friendly environment for experienced and confident cyclists.

Public Participation

The study included two public workshops, stakeholders meetings and a public presentation of the final recommendations. Summaries and submissions are provided in Appendix B.

The first public workshop was held on Wednesday, February 25, 2009 and more than 165 people attended and 110 comment forms were submitted. The purpose of the workshop was to discuss with members of the public options for the bicycle network including key destinations, barriers to overcome, potential bicycle routes and types of improvements needed to make Albany a more bicycle-friendly City. When asked to identify roads in the City for bicycle routes, 56 different roads were named. The most frequently mentioned routes were Western, Central, Madison, New Scotland, Delaware and Washington, named by more than a third of the respondents as bicycle routes. When asked where more bicycle parking racks are needed, 58 different locations were named. The most frequently mentioned locations were Lark Street and Washington Park, named by more than 10% of the respondents.

A second public workshop was held on Thursday, June 18, 2009 and more than 75 people attended this workshop. The purpose of workshop was to discuss with members of the public the draft 20-year bikeway network plan, the associated menu of bikeway treatments, and their priorities regarding the long-list of draft bicycle-supportive policies, practices and programs. Some additional routes were identified for consideration in the bikeway network. When asked to select what they considered to be the five most important policies or programs to support cycling, almost 60 people selected "routinely consider the needs of cyclists in transportation / traffic projects, services and programs."; and about 40 people selected "review and update current maintenance practices for on-road bikeways", "encourage bicycle-friendly development by adopting site plan review criteria requiring bikeway routes, bike parking and other end of trip facilities", and "implement the proposed bikeway network over time".

Bikeway Design Ideas for Albany

A cycling network in the City of Albany could be viewed as responsive, affordable, and achievable by implementing a combination of bikeway design treatments for different types of roads or cycling routes:

- **Major bikeways** are located on busy roads that are more likely to be utilized by adult cyclists with some or significant cycling experience. On these routes, it is important to find "space" on the roadway so that motorists will not overtake cyclists by providing sufficient separation of at least three feet distance between the motorist and cyclists. While cycling on major bikeways, cyclists should not ride within the "door zone" of opening doors of cars parked on the street.
- **Neighborhood routes** are for less experienced or casual cyclists, teenagers, and those that are seeking an alternative to riding on the busy roads. They are intended to provide a less stressful environment to ride away from higher motor vehicle volumes and speeds. The intention is to create a "through" route for cyclists. Improvements also focus on keeping motorists' speeds low.
- **Multi-use trails** can service a broad range of cyclists from young children supervised by adults, pre-teen youth, teenagers, casual adults to experienced cyclists. The cycling quality of trails is related to the surface and width to accommodate the variety

of users, access, street crossings, and how they connect to the on-road cycling network.

- **Local residential streets** are also desirable streets to ride on. Children learning to ride a bicycle on sidewalks can be supervised by parents riding beside them on the road. Generally, no special treatments are really required for residents to ride around on quieter streets within their neighborhoods. Local bike routes signs are not even needed since most residents know the layout of the streets and how to get to destinations within their neighborhood. However, Safe Routes to School programs can assist youth cyclists by considering more localized traffic improvements.

A detailed description of various treatment options for the above bikeway designs is provided in Section 5, page 21. In addition, the Capital District Transportation Authority (CDTA) has installed bicycle racks on all of their buses so that transit passengers can take their bicycle with them. These “Bikeable Buses” extend both the bikeway and transit networks, providing an alternative to cycling in poor weather, when road conditions are poor, in areas of high traffic or difficult terrain, or bridge longer distances.

Bicycle route signage in Albany will be important for integrating the major bikeways, alternative routes on lower volume streets, and multi-use trails, along with New York State and Regional Bicycle Routes to form an overall coordinated network. The City will need to examine which signage strategy will work within the resources available to implement and maintain the signs. The signage should be easy to integrate into bicycle route maps, and address the features such as route confirmation, route intersections, advance route signing, destinations, directions, distances (or time), and amenities.

The Recommended Bikeway Network

This bicycle master plan identifies a bikeway network to be phased in over the next 20 years, depending on opportunities, support, resources and funding. The network responds to existing and planned conditions within the City including preferred routes, key destinations, planned land use changes, and opportunities to implement improvements as they are viewed at the time the network is developed. The network should be considered somewhat of a living document that guides the actions and decisions of the City. As the network is implemented, new opportunities or constraints may be identified and alternatives routes sought to connect destinations, fill gaps and bridge barriers.

The development of the bikeway network is based on a set of network guiding principles established by the Study Advisory Committee and presented to the public for endorsement. These principles will allow future changes to the bikeway network, while maintaining the objectives and intent of individual routes and the overall network. The network guiding principles for the City of Albany Bicycle Master Plan include:

- Provide opportunities for both recreational and transportation bicycling at all skill levels
- Inclusive and interdependent, extending into all neighborhoods
- Enable youth, seniors, all cultures and income levels to use the network
- Educating and marketing the value and benefits of bicycling as it is implemented

The recommended bikeway network is comprised of major bikeways, neighborhood routes, multi-use trails, Hudson River crossings and areas for future connections as illustrated on Map 1. A description of the recommended bikeway routes is provided in Section 6.2, page 38.

The City of Albany and its partners from the Bicycle Master Plan have identified a number of pilot projects to start implementing the Bicycle Master Plan. Based upon funding, current projects and opportunities, the identified pilot projects will start the developing the bicycle network with installing

street markings and signage, educate the public about bicycling and provide bicycle parking. At this time, the items listed below are items the City of Albany is currently pursuing:

- **Bicycle Education Campaign:** Cooperatively CDTC and the City of Albany are currently development a Bicycle Education Campaign to inform motorists and bicyclists the need to share the road. This program will reach out to the residents of the City of Albany, as well as the commuters and visitors. This program is funded by UPWP and will be unveiled in spring of 2010.
- **Bicycle Infrastructure:** The City of Albany has identified three bicycle routes that are consistent with the Bike Master Plan. These include two major routes and neighborhood link consisting of both neighborhood and major routes. These projects were selected based upon feasibility and will implement the proposed bikeway network. The major route will include bike lanes in a neighborhood strategy area on an east/west route. The second major route will include shared lane (“sharrow”) pavement markings at appropriate locations throughout the road with complementary signage. The neighborhood link will connect a number of the demographically varied neighborhoods throughout the City of Albany with a variety of pavement markings and signage, and provide bicycle connections on east/west streets as well as north/south streets. Along with the diversity of neighborhoods, this neighborhood link will connect a number of the neighborhoods to the downtown. Completion date is estimated for the fall of 2010.
- **Capital Regional Bike Rack Program:** Capital Region Bike Rack program will be a new addition to a set of Travel Demand Management (TDM) strategies administered cooperatively by CDTA and CDTC. This program would allow businesses, not-for-profits and municipalities to apply for bicycle racks in the spring of 2010.
- **Bicycle Racks at BRT Stations:** TDM money is also planned to put bike racks at the BRT stations.
- **Funding Opportunities:** The City of Albany has applied for a FY2010 Environmental Project Fund Local Waterfront Revitalization Program grant for the waterfront and downtown bicycle infrastructure project. The City of Albany Downtown and Waterfront Bicycle Infrastructure Program will enhance bicycle infrastructure in two ways. The first component is to provide bicycle road markings and road signage to direct people to the downtown and waterfront. The second component of this program is artistic bicycle racks for residents, commuters and visitors to use while visiting the downtown and waterfront. This program engages three communities with a new approach in how they interact. It enhances cyclist experience through better bike storage, informs motorists by guiding their shared use of the road and invites artists to provide public art by creating one of a kind sculptures functioning as a bike rack. These bicycle racks will provide general public parking and enhance the downtown streetscape experience. The application was submitted in September of 2009.
- **Transit-Oriented Development Study:** The City of Albany and the Capital District Transportation Authority were awarded Federal CMAQ (Congestion Management and Air Quality) funds in April 2009 to be utilized for the development of a Transit-Oriented Development Zoning and Guidebook for use within the City’s overall zoning ordinance pertaining to the transit intensive NY5 (State/Central) and Washington/Western and Route 32/Broadway corridors. The project is expected to begin in the spring of 2010.

Cycling Policies, Practices and Programs

There are a variety of policies, practices and programs beyond the development, funding and implementation of a bikeway network that communities can adopt to support existing and potential cyclists. A range of policies were reviewed for Albany and selected for consideration within the context of the Comprehensive Plan. They are listed below along with potential partners, and timeframe for implementation, i.e., on-going, short-term (1 to 5 years), mid-term (5 to 10 years) and long-term (beyond 10 years).

Policy / Program	Responsible Agencies / Partners	Timeframe for Implementation	Report Reference
Bicycle-Friendly Communities and Development Sites			
1. Encourage bicycle-friendly development by adopting site plan review criteria requiring bikeway routes, bike parking and other end of trip facilities	City of Albany	Short-term	Section 7.1.1, page 59
Bicycling Infrastructure			
2. Develop bicycle parking design guidelines on good rack designs and locations	City of Albany, CDTC, ABC	Short-term	Section 7.2.1, page 60 & Section 5.7, page 32
3. Implement the proposed bikeway network over time	City of Albany, CDTC, NYSDOT	On-going/Long-term	Section 6.2, page 38 & Section 7.2.2, page 61
4. Co-ordinate the Bicycle Master Plan development and execution with adjacent municipalities and the CDTC Bicycle and Pedestrian Task Force	CDTC Bicycle and Pedestrian Task Force, NYSDOT, Village of Menands, Village of Colonie, Town of Guilderland, Town of Bethlehem, City of Rensselaer, Albany County, Rensselaer County	On-going	Section 7.2.2, page 61
5. Develop a bikeway signage program for major bikeways and neighborhood routes	City of Albany, CDTC, NYSDOT	Short-term to develop strategy, Ongoing to implement	Section 5.6, page 30 Section 7.2.3, page 61
6. Collaborate on integrating cycling with transit (bicycles on vehicles, bicycle parking at stations/stops, and regional network connections.)	City of Albany, CDTA	On-going	Section 7.2.4, page 62
7. Plan for comfortable and frequent crossings for cyclists of significant barriers such as waterways, freeways and interchanges	City of Albany, Albany County, NYSDOT, CDTC	On-going/Long-term	Section 7.2.5, page 63
8. Routinely consider the needs of cyclists in transportation / traffic projects, services and programs	City of Albany	On-going	Section 7.2.6, page 63

Policy / Program	Responsible Agencies / Partners	Timeframe for Implementation	Report Reference
9. Evaluate and consider a Complete Streets policy within the Comprehensive Plan	All Partners	During Comprehensive Planning Process	Section 7.2.7, page 64
Bikeway Maintenance			
10. Review and update current maintenance practices for on-road bikeways	City of Albany	Short-term	Section 7.3.1, page 65
11. Develop standards to address the continuity of bikeway routes through construction zones	City of Albany, NYSDOT	On-going	Section 7.3.2, page 66
Encouragement Programs			
12. Collaborate with CDTC on transportation demand management TDM initiatives	City of Albany, CDTA	On-going	Section 7.4.1, page 66
13. Provide a web site / page about cycling in Albany	City of Albany, ABC, CDTC	Short-term	Section 7.4.2, page 67
14. Support a bike week or month program or campaign	City of Albany, ABC	On-going	Section 7.4.3, page 67
15. Continue to encourage the provision of bicycle parking at events and festivals supported by the City	City of Albany, ABC	Short-term	Section 7.4.4, page 68
Safety and Education			
16. Support marketing and education campaigns and programs that focus on skills training and collision prevention to complement injury intervention through helmet use	NYSDOT, CDTC, City of Albany, ABC	On-going	Section 7.5.1, page 68

Institutional Structure

It is recommended that the City designate resources in the form of a part- or full-time cycling coordinator, or senior staff with shared responsibilities for implementation until the planning and design of bikeways and bicycle-friendly communities is routine within the functions of the City. In addition to dedicated staff, legitimacy and stakeholder efficacy can be achieved through the establishment of a Cycling or Active (Non-motorized) Transportation Advisory Committee with defined roles and responsibilities. This committee can be made up of interested community members, business owners, staff from other governmental offices, and other stakeholders to provide feedback and support to the cycling coordinator or person(s) responsible from overseeing and implementing the Bicycle Master Plan. The steering committee members will be assigned specific roles to help implement the Plan.

1. INTRODUCTION

The City of Albany, in partnership with the Capital District Transportation Committee (CDTC) undertook a Bicycle Master Plan to identify a network of bicycle routes to improve cycling as a viable mode of transportation throughout the City. The network will support a safe and healthy transportation alternative that is paramount to achieving sustainability and enhancing the quality of life in the City.

1.1 Objectives of the Bicycle Master Plan

The Mayor has committed Albany to becoming more sustainable City and has signed the U.S. Conference of Mayors Climate Protection Agreement and in 2007, championed in the American Institute of Architects' Sustainable Design Assessment Team program, and initiated the creation of an Energy and Sustainability Office. In addition, Albany is an active member of ICLEI-Local Governments for Sustainability, through which the administration will establish a baseline inventory of greenhouse gas emissions, set a target for reducing emissions, and develop a long-term plan of action to achieve the target. The promotion of a comprehensive bike network that provides a safe and healthy transportation alternative is paramount to the achievement of these carbon reductions and moving towards sustainability.

This plan is related to CDTC's the New Visions' commitment to improving bicycle and pedestrian facilities. Albany's unique blend of colleges and universities, major regional employers, religious institutions, human services, and various neighborhoods, compliments the increasing number of bicyclists in Albany.

A priority bicycle network will be valuable to the City's efforts of developing the downtown residential market and capturing a percentage of the workforce associated with Tech Valley. Individuals value and consider quality of life when determining where to live, and would place tremendous value in being able to bicycle to work, stores or parks. A comprehensive bike network in Albany will help fill gaps in the regional network of bicycle routes and paths, while fitting into the vision for a regional greenway of bike-hike trails linking parks, natural areas, cultural features, historic sites, neighborhoods and retail areas.

The objectives of the Bicycle Master Plan are to:

- Advance the current vision of bicycling as a viable transportation alternative in Albany
- Develop a Bikeway Network using existing and proposed routes, linking desired destinations and providing accessibility to residential areas
- Identify a hierarchy of bikeways and associated treatments, i.e. bike lanes, shared roadways, signed routes, etc.
- Examine bicycle-supportive policies to be considered in the development of the City's Comprehensive Plan
- Identify pilot projects for implementation in the short term

This bicycle master plan includes a narrative discussing plan methodology, bikeway hierarchy and associated treatments; at least two route maps in PDF format; and an implementation strategy. The implementation strategy identifies priority routes and classifications for integrating bicycle improvements into the City's activities.

1.2 Study Process

In collaboration with the Study Advisory Committee (SAC), the Bicycle Master Plan study was undertaken by IBI Group in association with Rick Manning Landscape Architect. The Study Advisory Committee (SAC) is comprised of representatives from the City of Albany, Albany County, CDTC,

NYSDOT, CDTA, CDRPC and a number of other stakeholders selected by the City of Albany. These SAC members guided the study meeting with the consultants on a regular basis. The study involved reviewing the inventory of existing conditions, identifying key destinations, and identifying bikeway treatment options and a draft network. A final network, supporting policies and programs, and an implementation plan were prepared responding to City and public priorities.

The study included two public workshops, stakeholders meetings and a public presentation of the final recommendations. These events are documented in Section Three: Public Participation.

The City of Albany Bicycle Master Plan would not have been possible without the leadership, guidance and dedication of these key professionals and advocates who advised the development of this plan.

A special recognition is given to Mayor Gerald D. Jennings for Albany's commitment to becoming a more sustainable City.

The Study Advisory Committee included the following representatives:

- Kathleen Bronson, Senior Planner, Department of Development and Planning, City of Albany— Project Manager
- Jennifer Ceponis, Transportation Planner, Capital District Transportation Committee
- Todd Fabozzi, Program Manager, Capital District Regional Planning Commission
- Ross Farrell, Senior Planner, Capital District Transportation Authority
- Raj Malhotra, Bicycle, Pedestrian and Safe Routes to School Coordinator, NYSDOT Region 1
- Jim Mearkle, Traffic Engineer, Albany County Department of Public Works
- Douglas Melnick, Director of Planning, Department of Development & Planning, City of Albany
- Dennis Mosley, Former Executive Director of Arbor Hill Development Corporation and repetitive from the Comprehensive Master Plan Board
- Don ODell, Albany Bicycle Coalition
- Jason Purvis, Senior Transportation Planner, Capital District Transportation Committee
- Deirdre Rudolph, City Engineer, Engineering Department, City of Albany
- William Trudeau, Coordinator, Traffic Engineering, City of Albany
- Mike Wyatt, Planning & Program Development, NYSDOT Region 1

The consultant team included Norma Moores, Project Manager, IBI Group; Rick Manning, Landscape Architect; and Martin Hull, IBI Group.

This plan was funded by a CDTC Community and Transportation Linkage Planning Program and the City of Albany.

2. BACKGROUND

2.1 Benefits of Cycling

The benefits of cycling are significant to individuals, our community and the environment. Cycling is enjoyable, efficient, affordable, healthy, sociable, quiet, and a non-polluting form of transportation. The benefits include:

Helping People and Communities:

- Improved health and well-being
- Improved quality of life
- Increased accessibility
- Promotion of secure and livable communities
- Reduced travel costs
- Excellent recreational opportunities

Helping to Improve our Environment:

- Reduced air pollution
- Reduced greenhouse gas emissions
- Reduced surface area dedicated to roads and parking

Helping the Economy:

- Happier, healthier people are more productive at work and school
- Increased land values
- More efficient use of existing infrastructure
- Incentive for businesses and individuals and families to relocate to the City
- Increased tourism potential
- Revitalized urban centers

Based on the 2001 National Household Travel Survey, 46% of all trips in the Albany metropolitan planning organization area are 5 miles in length or less. This is a reasonable distance that can be traveled by bicycle in less than 25 minutes. Only 3% of these trips are currently made by bicycle.

The American Automobile Association reported that the cost of operating a sedan is approximately \$7,800/year. The League of American Bicyclists reported that the cost of operating a bicycle is \$120/year.

The Centers for Disease Control and Prevention reported in 2007 that 25% of the population of New York State was obese. They also reported that the annual estimate of direct medical expenditures attributable to obesity in New York was \$6.0 billion of which \$4.9 billion were Medicare and Medicaid expenses.

2.2 Bicycle Master Plans

Bicycle-friendly communities have one thing in common: they place a high priority on short, mid and long-term planning methods and policy-making to support non-motorized transportation. Thorough planning enables a community to become proactive rather than reactive in addressing concerns about bicyclist access, mobility, safety, comfort, and aesthetics.

Similar to other master plans, the bicycle master plan should be reviewed every five years to determine their applicability and provide any necessary updates to the plan. Adjustments to the goals, objectives and recommendations will be made with each revision to ensure the safety, comfort, and behaviors of the community.

Case Study: The City of Portland's first Bicycle Master Plan approved in 1996 helped steer Portland toward numerous awards and accolades, including the Platinum status for Bicycle Friendly Cities from the League of American Bicyclists awarded twelve years later in April 2008. Their bikeway network has expanded to more than 300 miles of bikeways, thousands of bicycle parking spaces, almost daily bike rides, events, and activities, a successful Safe Routes to School program, and a burgeoning bicycle industry. In 2008 more than 16,000 daily riders crossed their downtown bridges; more than six times as many as in 1991. The City recognizes the evolution of their bikeway planning efforts, with pre-1996 work focused on planning for the fearless cyclists, the 1996 bicycle master plan on the confident cyclist, and the 2009 bicycle master plan for all Portlanders.

Case Study: In a nation with a strong cycling culture, the Dutch Ministry of Transport, Public Works and Water Management recognizes "a direct link is visible in the Netherlands between bicycle policy and bicycle use". In 1955, up to 75% of all trips in Amsterdam were made by bicycle. From 1955 to 1970 the cycling mode share had declined to only 25% of all trips, but has risen to 37% of all vehicle trips in 2005. Historical/cultural factors, flat topography and compact cities in the Netherlands contribute to the high use of bicycles, but policy has also been used to increase trips by bicycle. A national bicycle policy was adopted in 1990 and a cycle-friendly infrastructure design manual was first published in 1993. Increasing bicycle use and improved traffic safety is inherently related to policy. Bicycle use has also been shown to be clearly linked to the quality of the infrastructure. More than three decades of Dutch bicycle master planning at the local level plus an aggressive national policy has supported the increase in bicycle safety and use.

The City of Albany can aspire to have the levels of cycling that occur in Portland or the Netherlands, but it will not happen overnight or without changes in policy and improvements to the cycling infrastructure, both of which take time and resources to implement. Thus, this bicycle master plan identifies a bikeway network to be phased in over the next 20 years, along with supportive policies and programs to make cycling a more viable transportation option. Future updates to the bicycle master plan will also evolve, responding to changes in cycling use and safety, perhaps someday making the bicycle the preferred mode of transportation for short trips in Albany.

2.3 Types of Cyclists

Numerous surveys have found that the number one reason people do not cycle as a mode of transportation is because of their fear of sharing the roadway with automobiles. This has been documented and reported in transportation literature across the United States, Canada and Europe. Addressing concerns about personal safety and comfort is the key to creating a City where cycling is recognized as both a mode of transportation and a recreational activity.

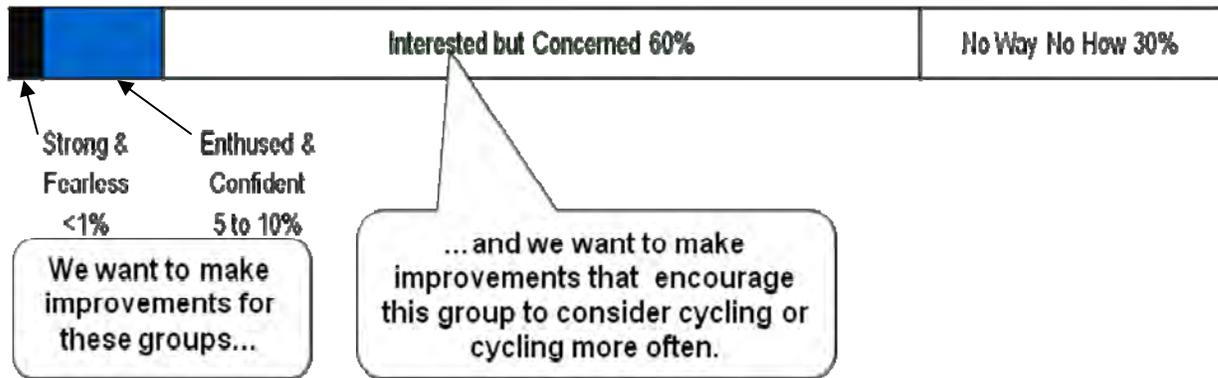
Generally, cyclists can be divided into four categories based on their comfort level while riding on a roadway with traffic as outlined below and illustrated in Exhibit 1. Some communities are using these cyclist types to describe the potential for people to choose cycling as a mode of transportation or recreational activity.

- **The Strong and the Fearless**—About one percent of the population is comfortable riding with traffic and will ride regardless of the condition of roadways.
- **The Enthused and the Confident**— Five to ten percent of the population is attracted to cycling as a result of improvements made to bikeway networks in their communities. They may be comfortable sharing the road with motorists, but appreciate bike lanes and other

facilities designed specifically for them. They may choose to cycle more often as further improvements are made.

- **The Interested but Concerned**— Approximately 60% of the population. They may like riding a bicycle, but are afraid to ride with traffic. Few ride a bicycle regularly but would ride if they felt the roadways were safer and traffic traveled slower.
- **No Way No How**— One-third of the population is not interested in or capable of cycling at all.

Exhibit 1: Types of Cyclists¹



The type of cyclists listed above illustrates a great potential to change bicycling habits with a large proportion of the population. With improvements to transportation infrastructure, the perception of cycling safety and comfort can be addressed and increase the bicycling habits with the interested but concerned population. The bicycle master plan must also create a more bicycle-friendly environment for experienced and confident cyclists.

There are many cities in modern, industrialized nations around the world with bicycle use as a mode of transportation. They have achieved these high levels of bicycle use through promoting various policies and practices. One characteristic they share in common is they lack fear associated with bicycling in an urban environment. These communities have created transportation systems in which bicycling is often the most logical, enjoyable, and attainable choice for trips of a certain length.

¹ Roger Geller, Bicycle Coordinator, Portland Office of Transportation, *Four Types of Cyclists*, <http://www.portlandonline.com/transportation/index.cfm?c=50736&a=264746>, October 2009

3. PUBLIC PARTICIPATION

The Consultant and City conducted two public workshops and a final public presentation (a total of three public meetings) that involved residents, businesses, property owners as well as other interested stakeholders within the Capital Region. The consultant utilized the collected material to provide several options for bicycle network and facility options for the public to discuss and to comment on. Along with the public meetings, the consultants contacted and attended meetings with various stakeholders.

3.1 Public Workshop No. 1

The first public workshop was held on Wednesday, February 25, 2009 at the Albany Public Library. The meeting included an informal drop-in session from 4:30 PM to 6:30 PM and a presentation/workshop from 6:30 PM to 8:00 PM. One-hundred and sixty-five (165) people signed the registration sheet and 110 comment forms were submitted.

The purpose of the workshop was to discuss with members of the public options for the bicycle network including key destinations, barriers to overcome, potential bicycle routes and types of improvements needed to make Albany a more bicycle-friendly City. Comment forms were provided to attendees requesting information about their ideas on a bicycling network and their bicycling characteristics.

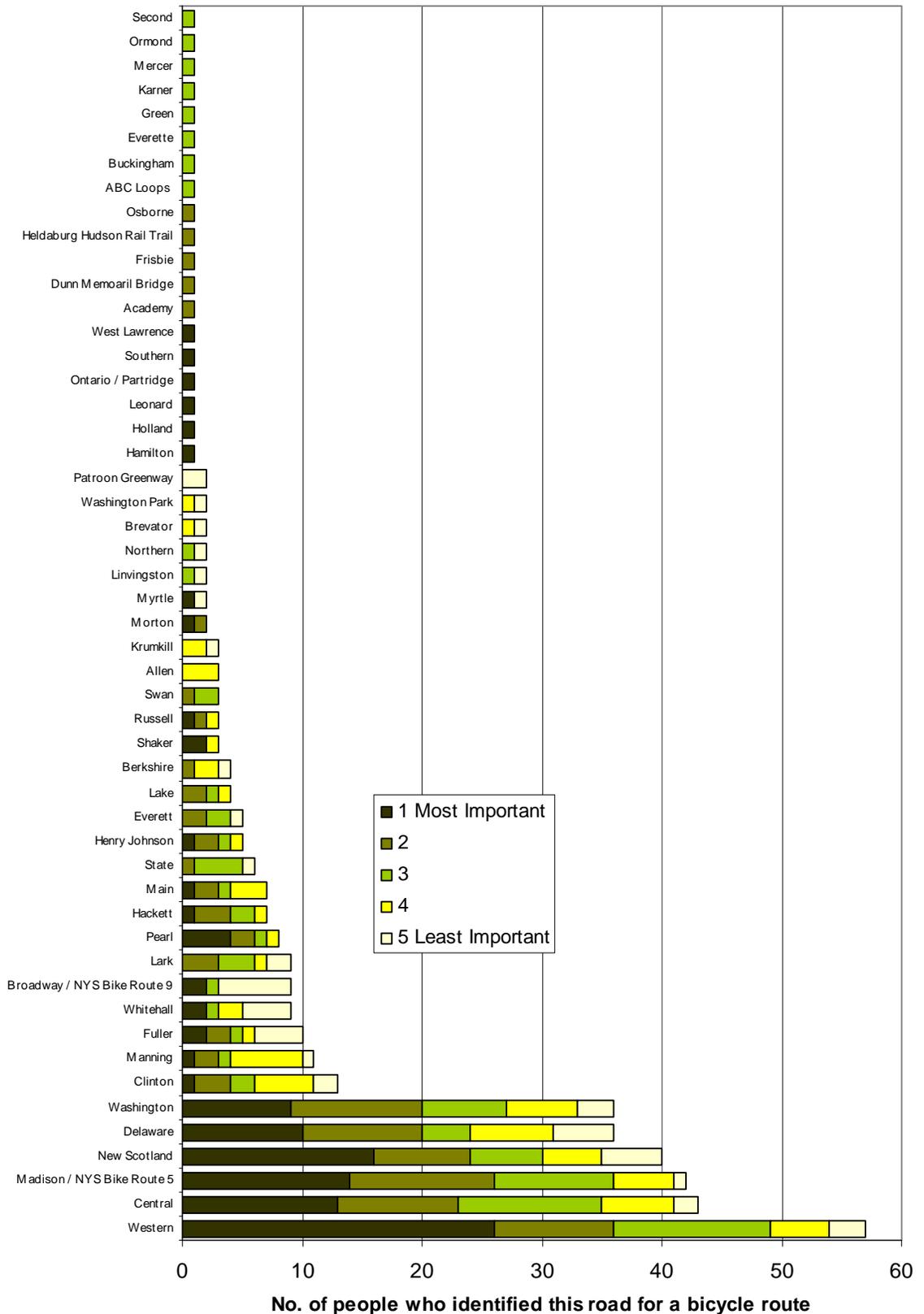
3.1.1 What We Learned

When asked to identify roads in the City for bicycle routes, 56 different roads were named. The most frequently mentioned routes were Western Avenue, Central Avenue, Madison Avenue, New Scotland Avenue, Delaware Avenue and Washington Avenue, named by more than a third of the respondents as bicycle routes, as illustrated in Exhibit 2.

Ninety-seven different destinations were named when asked to identify destinations in the City that they cycle to. The most frequently mentioned were Mohawk Hudson Bike Hike Trail and Corning Preserve, Washington Park, Lark Street, Honest Weight Co-op (current and new location), UAlbany Main Campus and the Empire State Plaza, each by more than 15% of the respondents, as illustrated in Exhibit 3.

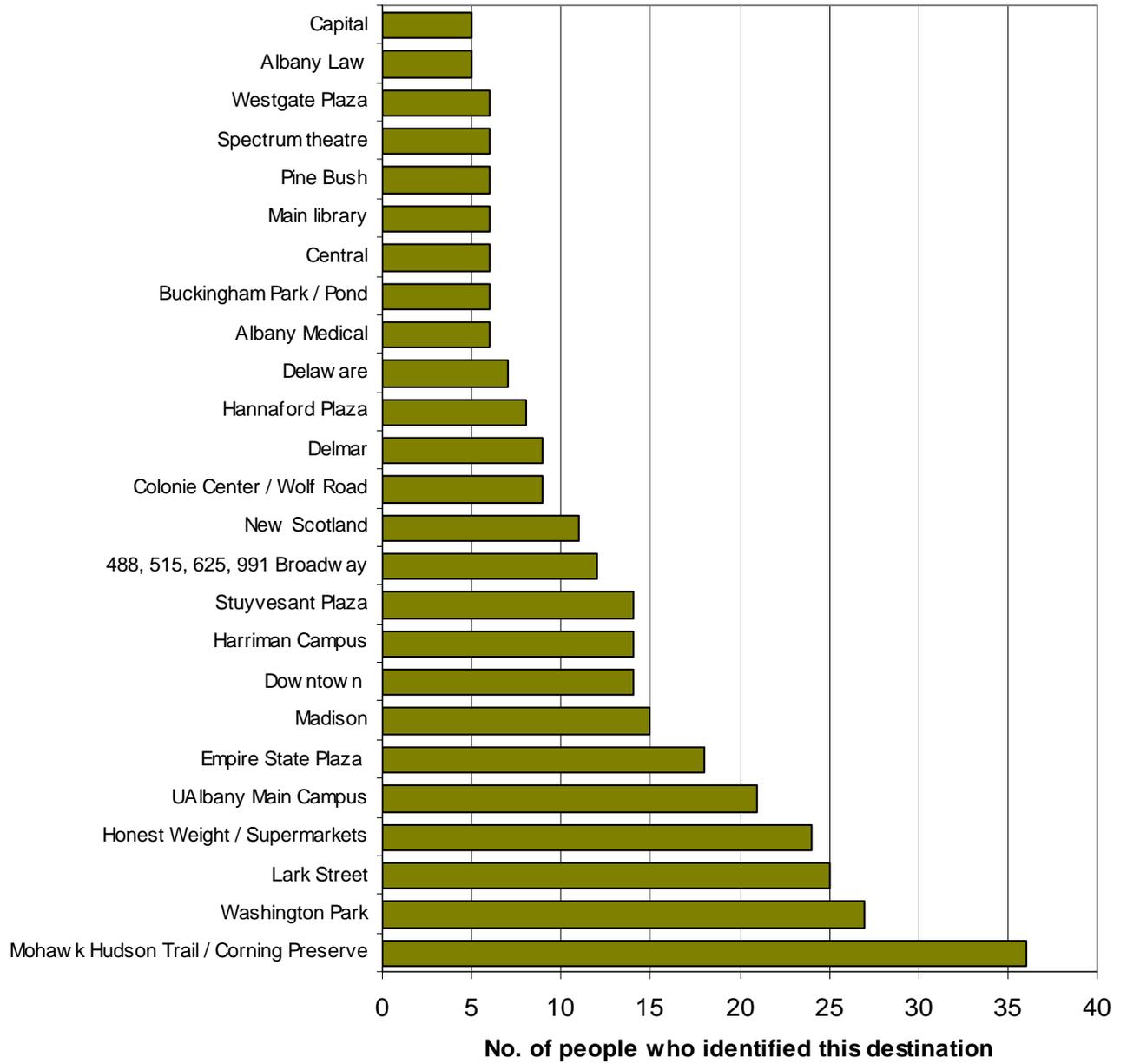


Exhibit 2: Roads Identified for Bicycle Routes by the Public



Source: Survey completed at Public Workshop No. 1 (110 responses)

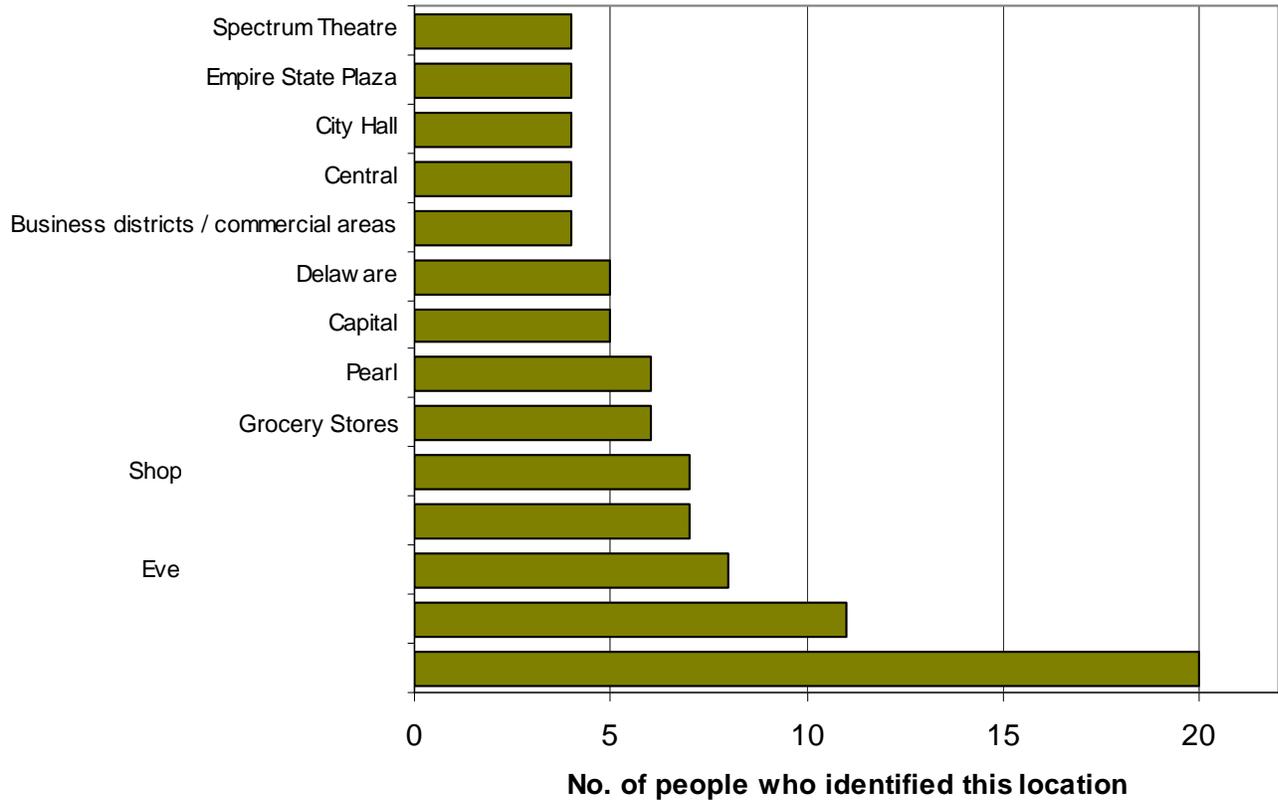
Exhibit 3: Key Destinations Identified by at Least 5% the Public that People Cycle To



Source: Survey completed at Public Workshop No. 1 (110 responses)

When asked where more bicycle parking racks are needed, 58 different locations were named. The most frequently mentioned locations were Lark Street and Washington Park, named by more than 10% of the respondents, as illustrated in Exhibit 4.

Exhibit 4: Most Frequently Named Places Identified by the Public Needing More Bicycle Parking

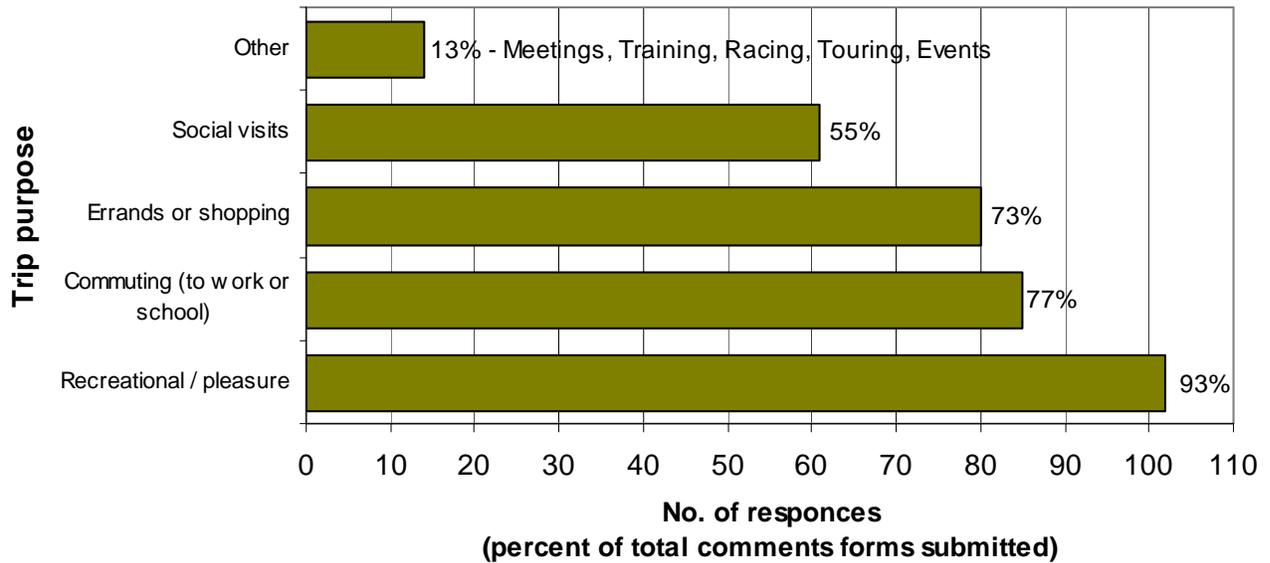


Source: Survey completed at Public Workshop No. 1 (110 responses)

When asked what type of trips were made by bicycle, almost all respondents took recreational/pleasure trips by bicycle (93%), a large majority commuted to work or school (77%) and errands or shopping trips (73%), as illustrated in Exhibit 5.

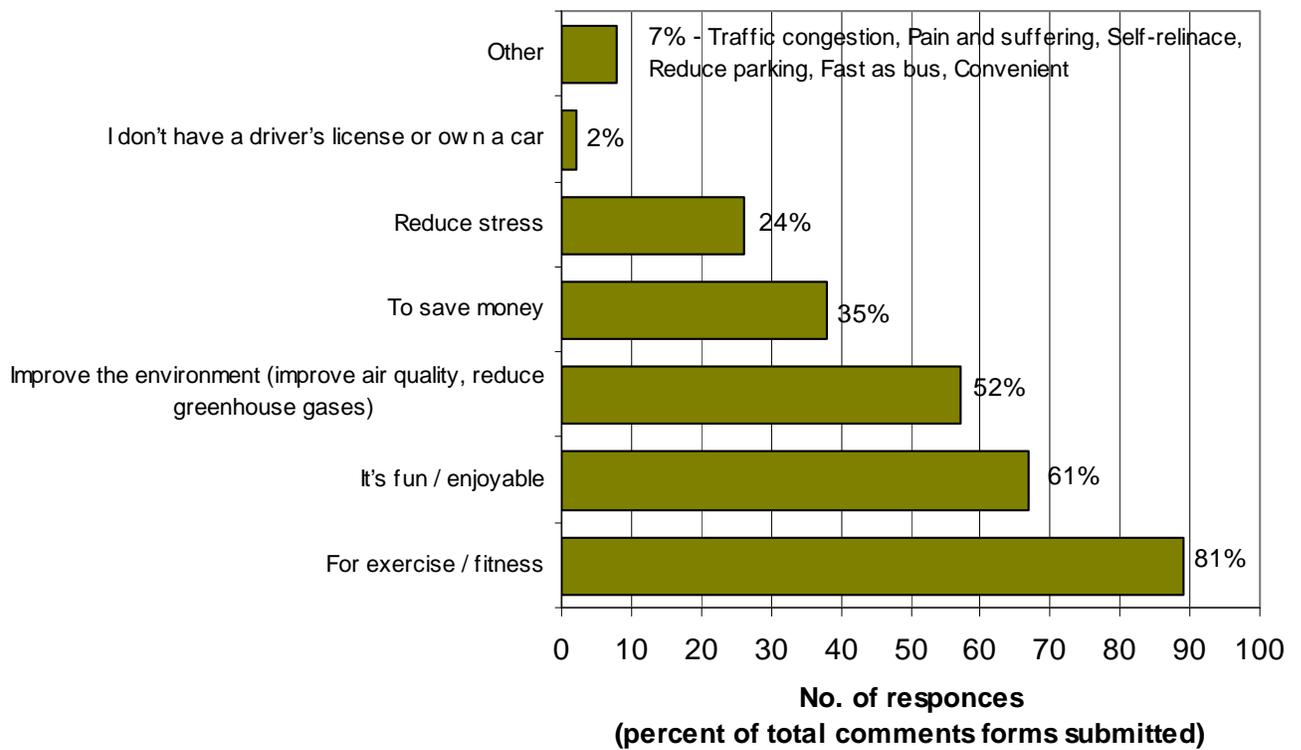
When asked why they ride a bicycle, almost all respondents chose more than one reason, even though they were asked to choose the most important reason. Perhaps this indicates that cycling typically provides more than one personal benefit. Eight-one percent said for exercise or fitness, 61% for enjoyment/fun, and 52% to improve the environment, as illustrated in Exhibit 6.

Exhibit 5: Purpose of Bicycle Trips Identified by the Public



Source: Survey completed at Public Workshop No. 1 (110 responses)

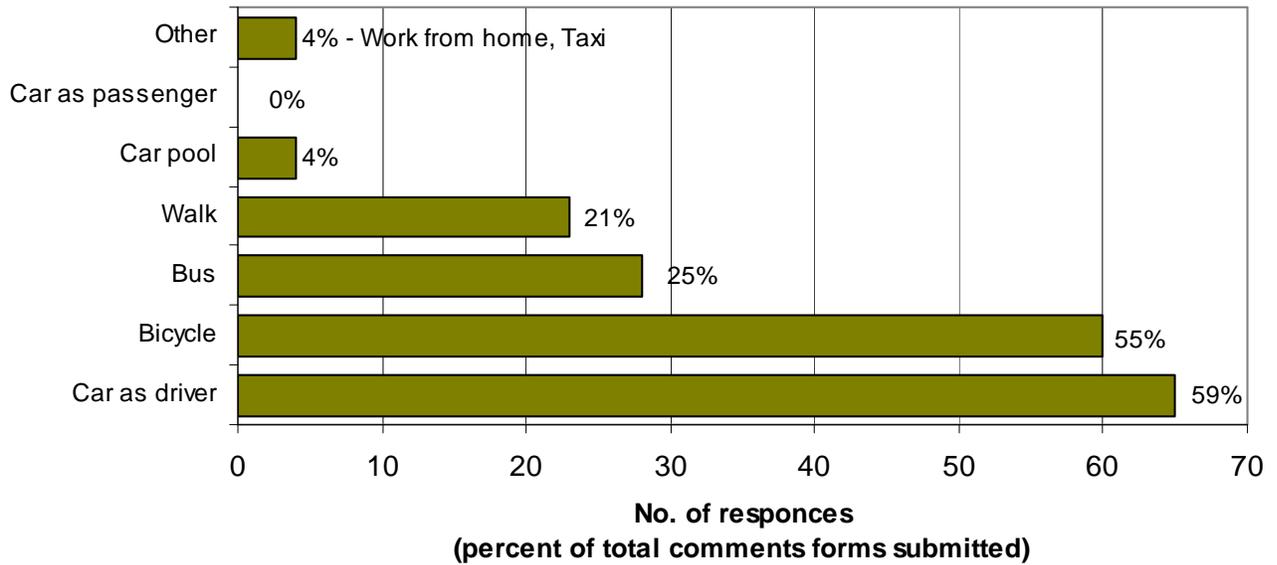
Exhibit 6: Reason Why the Public Cycle



Source: Survey completed at Public Workshop No. 1 (110 responses)

When asked how they currently commute to work, many responded that they use more than one mode of travel. Some mentioned that they drive by car or take the bus in the winter and ride a bicycle in fair weather. Twenty-eight percent said they would consider riding a bicycle to work but currently do not. These responses are illustrated in Exhibit 7.

Exhibit 7: Mode of Transportation for Work Trips Identified by the Public



Source: Survey completed at Public Workshop No. 1 (110 responses)

General, voluntary comments were also submitted and the following issues were mentioned by at least 5% of the respondents:

- Need better maintenance / filling of potholes / sweeping / snow clearing
- Connections to major destinations and to suburbs
- Need, want, support bike lanes
- More education (motorists and / or cyclists)
- More bike parking

People in attendance at the public workshop were asked to mark their ideas on maps, responding to the following questions:

- What are the most popular destinations for cyclists?
- What are some of the current challenges to cycling in Albany?
- What would make Albany a more bicycle-friendly City?
- What bicycle routes would you suggest?

3.2 Public Meeting No. 2

The second public workshop was held on Thursday, June 18, 2009 at the Albany Public Library (Main Library). The meeting included a drop-in session with two workstations from 5:00 PM to 6:30 PM, a presentation at 6:30 PM followed by a question and answer session, and a return to the workstations from 7:30 to 8:00 PM. Seventy-five (75) people signed the registration sheet.

The purpose of workshop was to discuss with members of the public the draft 20-year bikeway network plan, the associated menu of treatments, and their priorities regarding the long-list of draft bicycle-supportive policies, practices and programs. Displays provided background information on the Bicycle Master plan, a summary of what we learned from the first Public Meeting from the comment / survey form, an outline of a bikeway signage strategy with examples, and a description of the menu of possible treatments for major bikeways and neighborhood routes.

Two workstations were set up to engage attendees in providing their input. At Workstation one, attendees were asked what they thought of the proposed routes shown on the Draft 20-year Bikeway Network and the menu of treatments for major bikeways and neighborhood routes.

At Workstation two, attendees were asked to rank their top five cycling-supportive policies, practices and programs out of a list of 18 that the City should consider implementing. The top six priorities identified by the public are: routinely consider the needs of cyclists in transportation/traffic projects, services and programs; review / update maintenance practices for on-road bikeways; support bicycle-friendly site plans; implement the bikeway network over time with funding; support marketing and education campaigns and programs that focus on skills training and collision prevention to complement injury intervention through helmet use; and address bicycle parking in the City. The results are illustrated in Exhibit 8.



Exhibit 8: Priority Bicycle-Supportive Policies, Practices and Programs Identified by the Public

Cycling-supportive Policies, Practices and Programs	No. of times identified by attendees as a "top 5" priority
Routinely consider the needs of cyclists in transportation / traffic projects, services and programs: <ul style="list-style-type: none"> ▪ Complete Streets policy ▪ Planning and design projects ▪ Counts ▪ Safety audits and programs 	59
Review / update maintenance practices for on-road bikeways: <ul style="list-style-type: none"> ▪ Reporting and response protocol for hazards (pot holes, cracks, utility cover elevations, road cut repairs) ▪ Seasonal maintenance (debris, water ponding, snow and ice) ▪ Study and evaluate bicycle detection at traffic signals ▪ Signs and pavement markings 	42
Support bicycle-friendly site plans, reviewing site organization, building placement, bicycle parking, and cycling routes.	38
Implement the bikeway network over time with funding	38
Support marketing and education campaigns and programs that focus on skills training and collision prevention to complement injury intervention through helmet use	24
Address bicycle parking in the City. Options that others cities and MPOs use include: <ul style="list-style-type: none"> ▪ Create a program for installing bicycle racks on City property based on requests from cyclists or adjacent land-owners ▪ Negotiate a bulk purchasing agreement with a supplier and offer bicycle racks at that price to individuals ▪ Cost share the provision of bicycle racks, similar to Albany's shared-cost tree planting program ▪ Provide location and installation inspection services on request ▪ Add bicycle parking locations to City maps 	23
Plan for accommodating cyclists in future crossings of barriers (waterways, freeways, etc.)	22
Include cycling safety and cyclists' needs in traffic calming programs and studies	18
Provide training for City employees on how to accommodate cyclists in projects	16
Evaluate "Open" roads for Sunday cycling, connecting from park to park to park	13
Integrate cycling with transit: <ul style="list-style-type: none"> ▪ Bicycles on vehicles ▪ Bicycle parking at stations and key stops ▪ Network connections to key stations and stops 	12
Develop a bikeway signage strategy	8
Collaborate with CDTC on transportation demand management (TDM) initiatives	5
Provide bicycle parking design guidelines on good rack designs and locations.	4
Address cyclists' needs through construction zones	4
Encourage the provision of bicycle parking at events and festivals	4
Provide web page about cycling in Albany	1
Support a bike week program or campaign	1

3.3 Final Public Presentation

A final public presentation of the recommended Bicycle Master Plan was held on Tuesday, October 27, 2009 at the Main Branch of the Albany Public Library. The meeting opened at 6:00 PM with a presentation at 6:30 PM followed by a half hour question and answer session and then adjourned at approximately 8:00 PM. Ninety-three (93) people signed the registration sheet.

The purpose of Final Public Presentation was to present the Bicycle Master Plan including the 20-year bikeway network, the options for improving cycling in Albany, recommended cycling supportive policies, practices and programs, and implementation projects for 2009 / 2010. The event included a presentation, displays with additional details about the plan and a handout. These materials, along with the final draft Bicycle Master Plan report were made available on the CDTC's web site for review.

Twenty-seven (27) written questions were submitted during the public presentation and 11 comments were received from members of the public up until November 10, 2009. Key questions and comments are summarized in Exhibit 8. A record of the full comments received is in Appendix B. The most significant concern seemed to be regarding implementation: how and when the plan would be executed. City staff responded that the implementation will be based on opportunities, and available funding, including grants.

Exhibit 9: Summary of Comments Received on the Recommended Bicycle Master Plan

Issues, Question or Comment	No. of Responses Received	Revisions made to the BMP
Generally supportive of plan	4	
Emphasize cycling for transportation; viable all year	2	
Do not approve the BMP; re-visit in the Comprehensive Plan	1	
Is there a formal adoption process for the plan?	1	
Policy, practice or program related		
Adopt a Complete Streets policy	3	Revise policy statement: "Evaluate and consider a Complete Streets policy within the Comprehensive Plan"
Add policy on collaboration with adjacent municipalities on bikeway design and maintenance consistency	1	Added policy: "Co-ordinate the Bicycle Master Plan development and execution with adjacent municipalities and the CDTC Bicycle and Pedestrian Task Force"
Supportive of Public Education campaign	3	
Add winter maintenance; support winter maintenance of Mohawk-Hudson Hike Bike trail	2	Included in policies: "Review and update current maintenance practices for on-road bikeways"
Reference cycling tourism	1	
Create a DMU program for driver education and enforcement with Albany Police Department	1	
Consider a bike share program	1	Included in Section 7.4 Encouragement Programs
Design		
Mitigate missed opportunities with "sharrows"	1	
Design selection criteria needed	1	
Add cost / benefit of paved shoulders	1	

Issues, Question or Comment	No. of Responses Received	Revisions made to the BMP
"Sharrow" placement on Washington Avenue is too close to the curb	1	MUTCD recommends center of marking 4 ft. from curb
Emphasize bike lane; supportive of bike lanes	4	
Supportive of the use of "sharrows"; use "sharrows" in the center of narrow lanes and associated signage	2	
Not supportive of "sharrows"; creates a dangerous impression that cyclists do not belong on other roadways	3	
Why were the neighborhood bikeways put on high traffic roads such as Morris, Myrtle, Main and Academy?	1	
Consider street re-striping / road diets to address speeding, red light running, drag racing on four lane roadways	1	
Implementation		
Define 5-year implementation plan	1	
Add Department of State programs to funding sources	1	Department of State funding source added to Exhibit 19.
Supportive of 2009 projects	1	
Implement the Mid-City Bicycle Plan	1	
Assign staff person principally responsible for BMP	1	See Section 8.4 Institutional Structure
Plan implementation is weak	1	
Who determines feasibility of Madison Avenue re-striping and when?	2	
Beyond the 2009 to 2010 projects, how are other elements of plan going to be implemented?	1	
Is outreach planned to BIDS, neighborhoods associations to communicate the plan and reduce barriers to implementation?	1	
Is a partnership with the Office of General Services being considered to improve bicycle commuter access and facilities in the Empire State Plaza?	1	
What are the funding sources to implement the plan?	1	See Exhibit 19
Include bike lanes on all major street reconstruction projects	1	
How much of the City's large street re-paving budget is for bikeways?	1	
Re-stripe Washington Avenue as part of the current repaving	1	
Network		
Add Route 9 with paved shoulder; add Broadway route to Menands	2	Included in 20-year Plan
Extend Patroon Greenway to Albany Shaker Road	1	
Add DEC building and Visitor's Center as destinations	1	Included as part of Central Business District
Supportive of Madison Avenue being re-stripped with two travel lanes and bike lanes	2	
Supportive of Washington being restriped with bike lanes	2	
Supportive of Manning Boulevard being restriped with bike lanes	2	
Supportive of treatment on Delaware Avenue	3	

Issues, Question or Comment	No. of Responses Received	Revisions made to the BMP
Include bikeway treatment for Madison, Delaware, Lark intersection	1	Under Madison Avenue, Delaware Avenue and Lark Street route descriptions, add "consider special treatments for Madison / Delaware / Lark intersection due to its complexity"
Provide a connection between the Albany County rail trail and the Mohawk-Hudson Hike Bike Trail	1	Included: Pearl Street and Green Street connection

4. EXISTING CONDITIONS

Albany's relatively high population density, short distances between destinations, generally slow traffic speeds, and relatively flat geography (with the notable exception of the slope up from the Hudson River) make it an excellent City for bicycling. As one of the oldest cities in the Western Hemisphere, streets tend to be relatively narrow and evolved to accommodate a wide variety of transportation modes including bicycling and walking as well as auto, truck and transit traffic.

Several colleges are located in the City of Albany including the College of St. Rose, the Sage Colleges and the University at Albany. There are also numerous public and private grade schools and high schools. Students tend to use bicycles for transportation more than most people, providing a large base of riders that take advantage of the City's bicycle supportive characteristics.

As part of the Capital District, Albany has long been a leader in developing bicycle paths and trails along disused railroad rights-of-way, interstate highways, canal paths, and other routes. The Mohawk-Hudson Bike-Hike Trail is the centerpiece of the network and starts on the Hudson River waterfront in Albany, connecting the City to the regional trail system. A commitment to this bicycle transportation can be found in New Visions, the CDTC's long-range transportation plan, the strategies of which include "treat all modes fairly in the capital plan" and "support intermodal transportation."

4.1 Existing Bikeways and Trails

The existing bikeways and trails in the City of Albany are:

- Trails within existing City parks, which includes Washington and Lincoln parks.
- A 10' wide multi-use trail on the north side of Hackett Boulevard from Sycamore to Holland.
- NYS Bike Route (BR) 5 is a 365-mile signed bikeway route linking Niagara Falls to Massachusetts state line. Designated in 1994, BR 5 is located primarily on state highway routes 5, 20 and 31 and generally follows the east-west route of the Erie Canal. In the City of Albany, BR 5 is located on Madison and Western Avenues and crosses the Hudson River on the Dunn Memorial Bridge.
- NYS Bike Route (BR) 9 is 345-mile signed bikeway route, designated in 1995, that follows the Hudson River and Lake Champlain corridor and links Clinton County in the Adirondacks to New York City. In the City of Albany, BR 9 is located on Broadway Avenue and crosses the Hudson River on the Dunn Memorial Bridge.
- Mohawk-Hudson Bike-Hike Trail is a 35-mile multi-use trail that follows the shores of the Mohawk and Hudson Rivers through Schenectady and Albany Counties and is considered the easternmost portion of the (Erie) Canalway Trail. The trail begins in Albany near the Dunn Memorial Bridge, passes the Hudson Riverway Pedestrian Bridge and continues north through the Corning Preserve along the Hudson River.
- Recently completed road reconstruction projects include the following accommodations or cyclists:
 - Central Avenue/Route 5 from Everett to the City line—14 ft. wide outside lane
 - Whitehall Road from New Scotland to Cardinal—14 ft. wide outside lane
 - Western Avenue from Manning to Brevator—15 ft. wide outside lane.
 - Washington Avenue west of Jermain to east of UAlbany campus—14 ft. wide outside lane and 3 ft. wide paved shoulder. Washington Avenue west of Fuller Road is a State highway and cyclists, pedestrians and horse are prohibited
 - New Scotland Avenue from Interstate 87 overpass to City line—14 ft. wide outside lane.

Existing and planned bikeways and multi-use trails, as presented to the public at the Public Workshop No. 1, February 25, 2009, are illustrated on Map 2.

4.2 Key Destinations and Barriers

As the Capital of New York State and the County Seat of Albany County, the City of Albany is a compact City with numerous large institutions. This includes major educational, government and medical institutions, which create numerous destinations for a highly educated employee base and their clientele. In addition, Albany has some compelling recreational destinations for cyclists, including the Mohawk-Hudson Bike Hike Trail, Corning Preserve along the Hudson River and other historic and well-known City parks.

Key destinations include:

- Empire State Plaza and Harriman State Office Campus
- State University on New York at Albany - Main Campus and Downtown Campus
- Albany Medical Center and associated facilities including Albany Law School, Sage College, College of Pharmacy, Stratten VA Medical Center, etc.
- College of St. Rose and LaSalle School
- St. Peters Hospital
- Albany High School, Bishop Maginn High School, Hackett Middle School, Livingston Magnet Academy, The Albany Academy, etc.
- Washington Park, Lincoln Park and Tivoli Park.
- The Hudson River Waterfront, including the Corning Preserve, Mohawk-Hudson Bike-Hike Trail and Hudson Riverway Pedestrian Bridge.
- Commercial and business districts including Downtown, Lark Street, Westgate Shopping Center, Central Avenue, South Delaware Avenue, Honest Weight Food Coop, Crossgates Mall, etc.
- Other major employers and business parks including Sematech, Corporate Woods, etc.

However, significant barriers do exist that present challenges for existing cyclists and can discourage less experienced or beginner cyclists. These include topography, the steep road gradients on streets in the downtown waterfront district, interstate highways that essentially bound the City on four sides, the narrow streets typical of historic cities, many idiosyncratic intersection geometries resulting from the three radiating boulevards, and finally some monumental state institutional developments that set uncomfortably into the historic network of streets.

Key destinations and barriers as presented to the public at the Public Workshop No. 1, February 25, 2009, are illustrated on Map 3.

5. BIKEWAY DESIGN IDEAS FOR ALBANY

Bikeway design should be based on the application of current bikeway planning and design guidelines and engineering judgment regarding context. Context includes such elements as available right-of-way and pavement width, horizontal and vertical alignment (curves, grades, hills), sight lines, traffic volumes, truck volumes, transit provisions and headways, traffic control, intersection configurations, side street spacing, driveway types and spacing, intended users, streetscape, etc. The following are recommended guidelines on the geometric design and traffic control for bikeways:

- AASHTO Task Force on Geometric Design, *Guide for the Development of Bicycle Facilities*, American Association of State Highway and Transportation Officials, Washington DC, 1999, http://safety.fhwa.dot.gov/ped_bike/docs/b_aashtobik.pdf (November 2009); 3rd edition expected in 2010
- Federal Highway Administration, *Manual on Uniform Traffic Control Devices for Streets and Highways (Part 9 Traffic Controls for Bicycle Facilities)* (2003 Edition) and Notice of Proposed Amendments; Final Rule for the next edition of the MUTCD is anticipated in 2010
- Alta Planning + Design, *Fundamentals of Bicycle Boulevard Planning and Design*, Initiative for Bicycle & Pedestrian Innovation, Portland State University, Portland, Oregon, July 2009, <http://www.ibpi.usp.pdx.edu/guidebook.php> (November 2009)
- Pedestrian and Bicycle Information Center, *Bike Lane Design Guide*, Chicago, IL, 2002; currently being revised and updated

Guidelines are regularly updated as new research is completed regarding safety and efficiency of various elements of bikeway design. The City of Albany should keep aware of these changes and incorporate them into local practice.

A cycling network in the City of Albany could be viewed as responsive, affordable, and achievable by implementing a combination of bikeway design treatments for different types of roads or cycling routes:

- **Major bikeways** are located on busy roads that are more likely to be utilized by adult cyclists with some or significant cycling experience. On these routes, it is important to find “space” on the roadway so that motorists will not overtake cyclists by providing sufficient separation of at least three feet distance between the motorist and cyclists. While cycling on major bikeways, cyclists should not ride within the “door zone” of opening doors of cars parked on the street.
- **Neighborhood routes** are for less experienced or casual cyclists, teenagers, and those that are seeking an alternative to riding on the busy roads. They are intended to provide a less stressful environment to ride away from higher motor vehicle volumes and speeds. The intention is to create a “through” route for cyclists. Improvements also focus on keeping motorists’ speeds low.
- **Multi-use trails** can service a broad range of cyclists from young children supervised by adults, pre-teen youth, teenagers, casual adults to experienced cyclists. The cycling quality of trails is related to the surface and width to accommodate the variety of users, access, street crossings, and how they connect to the on-road cycling network.

- Local residential streets** are also desirable streets to ride on. Children learning to ride a bicycle on sidewalks can be supervised by parents riding beside them on the road. Generally, no special treatments are really required for residents to ride around on quieter streets within their neighborhoods. Local bike routes signs are not even needed since most residents know the layout of the streets and how to get to destinations within their neighborhood. However, Safe Routes to School programs can assist youth cyclists by considering more localized traffic improvements.

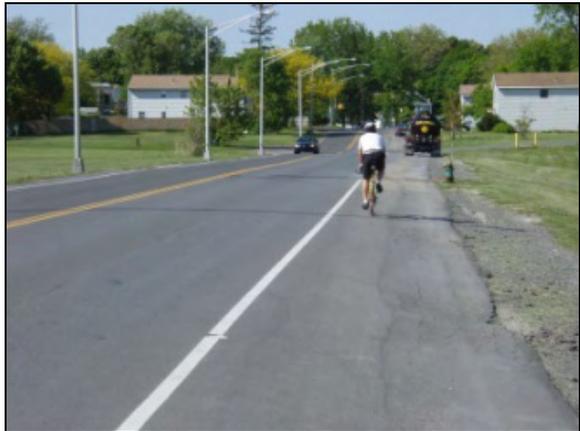
5.1 Major Bikeways

Cyclists have a desire to ride on major roadways in Albany because these roads provide direct access to key destinations and have better surface conditions or higher maintenance service levels than local streets. Exhibit 10 includes a variety of options for improving major bikeway (ones with higher volumes i.e. greater than 5,000 vehicles a day), to better accommodate adult cyclists.

Exhibit 10: Menu of Treatments for Major Bikeway Routes

Options for Improving Major Roads	Examples
<p>Fix poor road surface condition</p>	
<p>Study and evaluate potential use of bicycle detection at traffic signals</p> <div style="text-align: center;">  </div> <p>"Sweet Spot" Road marking for bicycle detection locations</p>	 <p style="text-align: right;">Photo: Richard Drdul</p>

Options for Improving Major Roads	Examples
<p>Study and evaluate potential use of cyclist push-buttons at traffic signals</p>	 <p>Photo: Richard Drdul</p>
<p>Add bike lanes (5 ft. wide)</p>	 <p>New road construction</p>
 <p>Widen road</p>	 <p>Re-stripe with narrower lanes to create space for bike lanes</p>

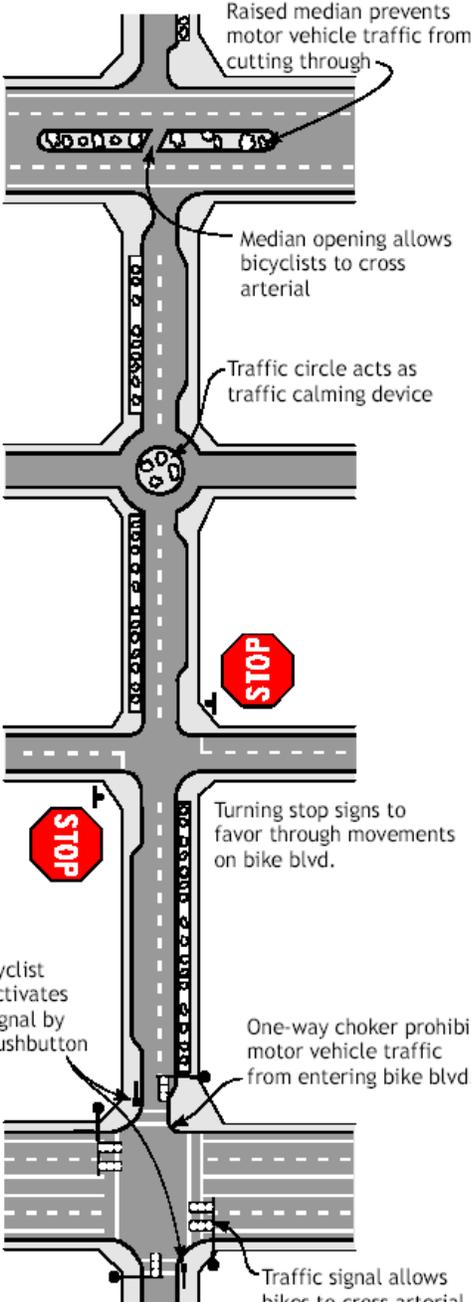
Options for Improving Major Roads	Examples
 <p>BEFORE Photos: Michael Ronkin</p> <p>Re-stripe converting a lane to bike lanes (road diet)</p>	 <p>AFTER</p> <p>Re-stripe converting a lane to bike lanes (road diet)</p>
<p>Add 14 ft. wide lanes marked and signed as shared-use for motorists and cyclists</p> <p>New road construction or re-stripe to create wider outside lanes</p> <p>Wide travel lanes generally induce higher travel speeds and are only recommended on busy, higher speed roads when local constraints prohibit the provision of bicycle lanes</p>	
<p>Paved shoulders on roads with moderate to high traffic volumes or large vehicles</p> <p>They reduce run-off-the-road motor vehicle crashes, and extend pavement life. Consider implementing when volumes exceed 3,000 vehicles per day.</p>	

Options for Improving Major Roads	Examples
<p>Use shared lane markings (speed limit \leq 35 mph)</p> <p>"Cyclists may use full lane" sign may be used where lanes are narrow</p> <p>NOTE: Use of shared lane marking and sign is pending Federal Highway Administration (FHWA) approval</p>	 <p>The image shows two examples of bicycle infrastructure. On the left is a shared lane marking consisting of a white bicycle icon on a grey background with two white chevrons above it. On the right is a rectangular white sign with a black border, featuring a black bicycle icon at the top and the text "MAY USE FULL LANE" in bold black letters below it. The sign is labeled "R4-11" at the bottom.</p>
<p>Use share the road warning signs where appropriate</p>	 <p>A photograph of a city street with a yellow diamond-shaped "SHARE THE ROAD" sign. The sign features a black bicycle icon and the text "SHARE THE ROAD" in black. The background shows a city skyline with several tall buildings under a clear blue sky. A white car is visible on the road.</p> <p>Photo: Missouri Bicycle Federation</p>
<p>Add bicycle route way-finding signage</p>	 <p>A photograph of a green bicycle route way-finding signpost. The top sign indicates "Seattle Center 0.7" with a bicycle icon and an upward arrow. The second sign indicates "Fremont 2.6" with a bicycle icon and a rightward arrow. Below these is a smaller sign that says "TO" above a bicycle icon. The bottom sign is a green circle with a white bicycle icon and the text "Interurban North" below it. At the very bottom is a green rectangular sign with a white rightward arrow.</p>

5.2 Neighborhood Routes

Neighborhood routes are streets with lower traffic volumes of less than 5,000 vehicles a day and vehicular speeds at or lower than 30 mph. Options for improving these streets to better accommodate cyclists are provided in Exhibit 11. These options include the concept of creating “bicycle boulevards” and through streets for cyclists but not motorists.

Exhibit 11: Menu of Treatments for Neighborhood Routes

Options for Improving Local Streets	Examples
<p>Bicycle boulevards</p> <p>Low traffic volume and low-speed streets that have been optimized for bicycle travel through treatments such as traffic calming and traffic reduction, signage, pavement markings, and intersection crossing treatments. These treatments allow through movement for cyclists while discouraging similar through trips by non-local motorized traffic. Motor vehicle access to properties along the route is maintained. They are sometimes known by other names, such as Local Street Bikeways, Bike / Walk Streets, and Bicycle Priority Streets.</p> <p>Bicycle boulevards are characterized by:</p> <ul style="list-style-type: none"> • Low traffic volumes and speeds • Logical, direct and continuous routes that are well marked and signed for cyclists • Minimal cyclist delay • Comfortable and safe crossings for cyclists at intersections • Convenient access to desired destinations <p>Most people know how to get around their own neighborhood so signed bicycle routes are not really needed. For cyclists who do not want to cycle on busy roads, bicycle boulevards on local streets can route them through neighborhoods to their destinations. Bicycle boulevards differ from signed routes in the intensity of treatments, adding signs, route and intersection pavement markings, intersection treatments, traffic calming and even traffic diversions.</p> <p>Cities with a network of bicycle boulevards include Berkeley, Portland and Eugene CA, Albuquerque NM and Vancouver. BC Canada.</p>	 <p>The diagram illustrates a bicycle boulevard layout. At the top, a raised median prevents motor vehicle traffic from cutting through. A median opening allows bicyclists to cross the arterial. A traffic circle acts as a traffic calming device. At an intersection, turning stop signs favor through movements on the bike boulevard. A one-way choker prohibits motor vehicle traffic from entering the bike boulevard. A traffic signal allows bikes to cross the arterial. A cyclist activates a signal by pushbutton. Stop signs are placed at various points along the boulevard.</p>

Options for Improving Local Streets	Examples
Fix poor road surface condition	
Review and redesign intersection geometry and traffic control when feasible	 <p data-bbox="1279 1192 1458 1220">Photo: John Luton</p>
Where appropriate, install traffic signals to cross busy streets	

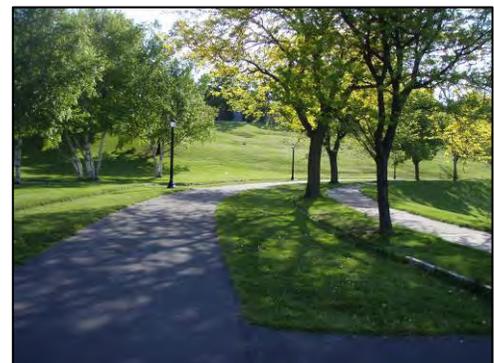
Options for Improving Local Streets	Examples
<p data-bbox="293 296 737 331">Add median refuges to cross busy streets</p>	 <p data-bbox="911 703 1117 735">Photo: Richard Drdul</p>
<p data-bbox="293 783 862 852">Study and evaluate potential use of bicycle detection at traffic signals</p>  <p data-bbox="321 1165 837 1234">"Sweet Spot" Road marking for bicycle detection locations</p>	 <p data-bbox="911 1192 1117 1224">Photo: Richard Drdul</p>
<p data-bbox="293 1276 862 1346">Study and evaluate potential use of cyclist push-buttons at traffic signals</p>	 <p data-bbox="911 1682 1117 1713">Photo: Richard Drdul</p>

Options for Improving Local Streets	Examples	
<p>Add bicycle route way-finding signage</p>		
<p>Photo Credits: City of Berkley CA and Vancouver BC</p>		

5.3 Multi-use Trails

Multi-use trails can be located in many open space places such as local short-cuts on smaller properties, City parks, campuses, along rivers and waterways, abandoned or active railway lines, utility or limited-access highway rights-of-way, etc. They are typically at least 10 ft. wide and can have various surfaces such as stone dust or rock screenings, porous or impervious concrete, or asphalt. To accommodate cyclists, it is recommended that they have a hard, all-weather surface that can be potentially maintained year-round and is at least 12 ft. wide to allow side-by-side (social) riding, passing and sharing with other users.

If attention is given to the design of the access, street crossings and integration with on-road bikeways, multi-use trails can provide a high quality recreational and transportation function that complements the on-road network.



5.4 Bike Gutter on Stairs

Access to facilities where terrain is steep is sometimes facilitated with stairways. To assist cyclists in using such stairways, a bicycle gutter or trough can be built into it to allow cyclists to roll their bicycle up or down the stairs instead of carrying it, and it may be more convenient to use than an elevator provided for accessibility. Attention should be paid to the design of the following elements:

- The grade (rise and run) so that the gutter is not too steep making it difficult to push heavier or loaded bicycles up
- The platform remaining for use by pedestrians
- The distance to railings both to allow for bicycles to roll and for use by pedestrians



5.5 Bikeable Buses

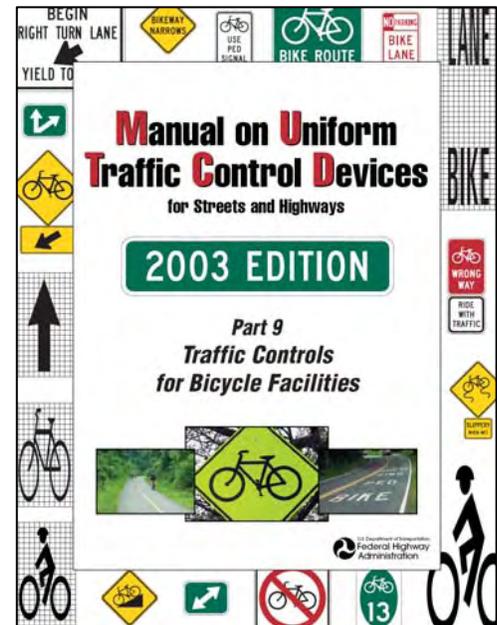
The CDTA has installed bicycle racks on all of their buses so that transit passengers can take their bicycle with them. These “Bikeable Buses” extend both the bikeway and transit networks, providing an alternative to cycling in poor weather, when road conditions are poor, in areas of high traffic or difficult terrain, or bridge longer distances.



5.6 Signage Strategy

Federal Highway Administration’s (FHWA) *Manual on Uniform Traffic Control Devices* indicates that bike route guide signs may be provided at decision points along designated bicycle routes, including signs to inform bicyclists of bicycle route direction changes and confirmation signs for route direction, distance and destination. Guide and informational signs are intended to help cyclists find their way in unfamiliar areas and provide insight into the coherence of a network of bikeway routes.

Bicycle Guide Signs and auxiliary plaques in the MUTCD and the Notice of Proposed Amendments (NPA) are illustrated in Appendix C. Note that on January 2, 2008, the Federal Highway Administration published in the Federal Register a NPA to the MUTCD. This NPA contains comprehensive revisions that are proposed for incorporation into the next edition of the MUTCD, including some of the guide and auxiliary plaques shown in Appendix C as marked (*). A Final Rule for the next edition of the MUTCD is anticipated early 2010.



5.6.1 Cyclists' Needs

Below are recommendations for signage for bike routes:

- Separate signing of these routes is required for way-finding. Some bike routes are designed to take advantage of low traffic speeds or volumes, or scenic routes and may not appear to be the most direct route; although, can be short cuts for cyclists and will need proper signage to identify the route direction.
- Cyclists generally travel shorter distances than motorists and are more concerned with direct connections to destinations and access to bicycle parking. Therefore, information on the destination and bicycle parking is recommended.
- Identify time and distance along bike routes to destinations can indicate to the traveling public that the trip is quite manageable by bicycle. This can be accomplished by signage or on bike route maps.
- Provide advance signing of a trail approaching a roadway. Advance signed will allow the cyclist to be in a safe position to allow them to turn directly onto the trail.
- A coherent and consistent system of way-finding signs for cyclists is recommended. Common shortcomings of bicycle route signage programs include:
 - Signs are inconsistently implemented across a network such that some routes are well marked and others are not.
 - Useful information from a cyclist's perspective, such as destinations, directions, distances, amenities, is lacking or inconsistent across a network.
 - Signs are not maintained with signs disappearing over time.
 - Initial implementation of bicycle route network signage is not continued as the network expands over time.
 - Sign placement is poor so that it is not easily visible to cyclists.

5.6.2 Signage Examples

Examples of bicycle route signage from North America and Europe are provided in Appendix C. These illustrate the basic bike route guide signing to more complex signing that provides useful information on destinations, distances and amenities.

5.6.3 Recommendation

Bicycle route signage in Albany will be important for integrating the major bikeways, alternative routes on lower volume streets, and multi-use trails, along with New York State and Regional Bicycle Routes to form an overall coordinated network. The City should examine which signage strategy will work within the resources available to implement and maintain the signs. The signage should be easy to integrate into bicycle route maps, and address the features described above such as route confirmation, route intersections, advance route signing, destinations, directions, distances (or time), and amenities.

Recognizing the different needs of cyclists for way-finding compared to motorists, it is recommended that the City of Albany develop a strategy in partnership with the CDTC and NYSDOT and coordinated with adjacent municipalities to sign the bikeways in such a way that the network is more visible to cyclists and the traveling public, and the signs communicate the network's connectedness, destinations and distances or travel time. It is recommended that a working group be set-up to develop the signage strategy that would consist of staff responsible for the on-road

bikeway network, multi-use trails, signage installation and maintenance, and tourism. Pilot projects could address signage for the following routes:

- Between UAlbany and the Corning Preserve, with intermediate destinations such as Harriman Campus, St. Rose, Albany High School, UAlbany Alumni Quad, UAlbany Downtown, Washington Park, Lark Street business district, and the Downtown
- Between parks, i.e., Tivoli, Washington, Lincoln and Hoffman; or Washington, Academy and Corning Preserve.

5.7 Bicycle Parking

Bicycle parking can encourage people to bike because they have a place to lock their bicycle at their destination. When people have their bicycle stolen, about two thirds ride less frequently and a quarter of them stop cycling altogether.

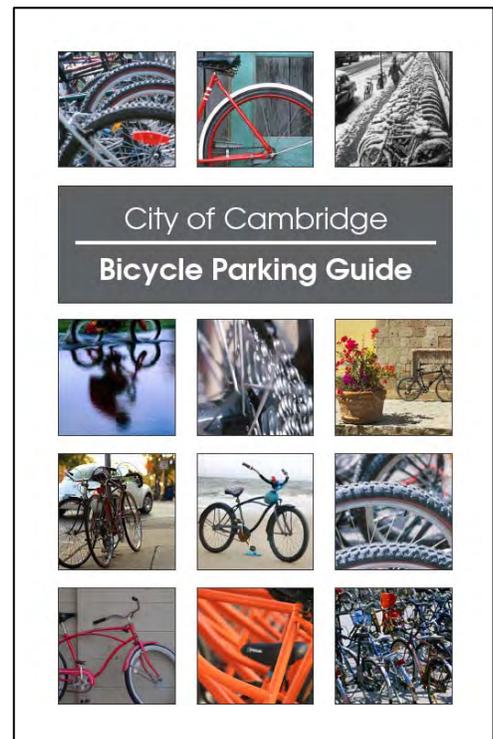
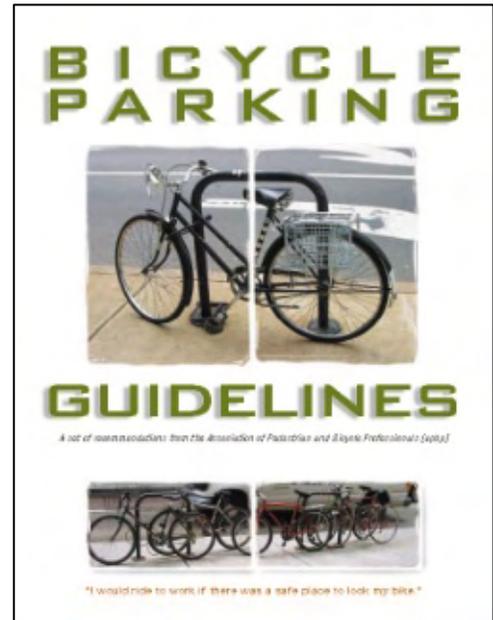
Designated bicycle parking installed properly in a good location is more orderly, prevents damage to trees, street furniture and prevents bikes from blocking the sidewalk or other pedestrian or vehicular paths. It also helps legitimize cycling as transportation and supports economic development.

Short-term bicycle parking for less than a few hours can consist of a simple rack designed to support the frame of the bicycle and allow locking of both the frame and the two wheels. They are usually not secured or sheltered and are provided for visitors and shoppers. Long-term bicycle parking for more than a few hours consists of racks or lockers, secured or enclosed, and sheltered or indoors. It is typically provided at multi-family residential development, workplaces and transit stations.

Good bicycle parking is an easy concept but often executed poorly with racks unusable, empty or damaged. Bicycle parking guidelines address:

- Good parking racks versus poor racks for supporting and locking bicycles
- The location of racks generally on a site or along a public road
- The spacing of racks in relationship to each other and other obstacles or building walls to allow easy access by cyclists and room for multiple bicycles

Expanded guidelines can include information on bicycle shelters, enclosures, lockers, and related amenities such as clothing lockers or racks, wash basins, change rooms, showers, etc. Recommended guidelines include:



- The Association of Pedestrian and Bicycle Professionals, *Bicycle Parking Guidelines*, Spring 2002 (http://www.apbp.org/resource/resmgr/publications/bicycle_parking_guidelines.pdf, July 2009)—this will be updated in 2009 with additional information on long-term bicycle parking
- City of Toronto, *Guidelines for the Design and Management of Bicycle Parking*, May 2008 (http://www.toronto.ca/planning/pdf/bicycle_parking_guidelines_final_may08.pdf, July 2009)
- City of Cambridge, *Bicycle Parking Guide*, Spring 2008 (http://www.cambridgema.gov/CityOfCambridge_Content/documents/tpat_BikeParkingBrochure.pdf, July 2009)



5.7.1 Parking Requirements

Zoning can be used to ensure the creation of bicycle parking spaces in new development. Most zoning ordinances already include motor vehicle parking requirements, and can be expanded to include bicycle parking as well. Two examples of cities that include provisions for bicycle parking are Cambridge, MA and New York City, NY.

According to the Cambridge Zoning Ordinance Article 6.37, one bicycle parking space or locker must be provided for every two new residential units. For all other land uses, one space must be provided for every 10 vehicle parking spaces required. Even if certain properties have reductions in required vehicle parking, the ratio of bicycle parking is still based on the non-reduced quantity of required vehicle parking. Exemptions include townhouse or elderly housing, cemeteries, mortuaries, veterinary establishments, kennels, pet shops, distribution centers, and auto-related establishments.

In April 22, 2009, New York City approved a text amendment to the Zoning Resolution to require all new multi-family residential properties, community facilities, and commercial buildings to have secure bicycle parking. Most cases require enclosed bicycle parking. The zoning ordinance is applicable to all new buildings, enlargements of 50% or more, and conversions to residential uses, and requires the quantities for specific facilities as listed in Exhibit 12.

Exhibit 12: Bicycle Parking Requirements, New York City

Facility Type	Units or Square Footage (ft ²) per Space	Exemptions
Residential (multifamily)	2 units	10 units or less, separately calculated if attached houses with separate entrances
Commercial Offices	7,500 ft ²	Buildings requiring ≤ 3 spaces (<26,250 ft ²)
Retail and Other Commercial	10,000 ft ²	Buildings requiring 3 spaces or less (<70,000 ft ²)
Entertainment	20,000 ft ²	Buildings requiring 3 spaces or less (<70,000 ft ²)
Community	10,000 ft ²	Buildings requiring 3 spaces or less (<35,000 ft ²)
Universities/Colleges	5,000 ft ²	Half of the spaces may be unenclosed
Public Parking Garage	10 vehicle spaces	Garages with less than 35 car spaces

Public parking for bicycles is provided for free for cyclists and as a benefit to businesses. It is more likely to consist of simple racks on sidewalks near destinations. Private bicycle may have a fee and targeted towards the commuters. Private bicycle parking is commonly offered on private properties or in commercial settings such as bike stations. Private parking is more likely to be protected from the elements and can be more secure.

5.7.2 Bicycle Parking in the Right-of-way

Similar to many cities throughout the United State, Albany provides a supply of on-street parking within the public right-of-way in business districts. To respond to the need for bicycle parking, various communities are providing bicycle parking along streets in the public right-of-way. Most major cities provide bicycle racks in the public right-of-way for free to businesses on a request basis. The racks are City property and one element of the streetscape that includes benches, trash cans, etc. Some planning agencies coordinate bulk rack purchases for groups of smaller jurisdictions, such as the MPO for the 5-county Chicago region. The City of Burlington VT takes it a step farther and actually subsidizes the cost of bicycle racks for installation outside of the right-of-way². The City of Burlington, Ontario and Whitehorse, Yukon, Canada have programs that install bicycle racks as part of public art programs.

5.7.3 Other End-of-Trip Facilities

One significant barrier to cycling to work is the lack of shower and changing facilities allowing a commuter to look professional for work after engaging in physical activity. While many jurisdictions adopt recommendations to provide such facilities, they often are not required. As an example, San Francisco’s Planning Code section 155, provided in Exhibit 13, requires that new commercial buildings and major renovations include shower and locker facilities at the following quantities per square footage. A building can be exempt if arrangements are made with a gym or health club to provide showers and lockers to employees for free.

Exhibit 13: Shower and Locker Facility Requirements, San Francisco, CA

Type of Building	Square Footage	Number of Showers and Lockers
Retail/Restaurant	10,000-20,000	1 shower, 2 lockers
	20,000-50,000	2 showers, 4 lockers
	50,000+	4 showers, 8 lockers
Other Commercial	25,000-50,000	1 shower, 2 lockers
	50,000-100,000	2 showers, 4 lockers
	100,000+	4 showers, 8 lockers

Source: San Francisco Code Section 115

Another way to support end-of-trip facilities is by supporting all-in-one facilities near transit nodes, which are usually called bike stations. Services can include secure parking, lockers and showers, rentals, repairs, tours, access to car share vehicles, and other programs. There are such facilities in Seattle, Chicago, and many Californian cities and towns. A Bicycle Transit Center in Washington D.C. at Union Station is almost complete with about 150 parking spaces, a changing room, and lockers, although there are no showers. Government can construct the stations and then contract out the operation, subsidize the operation, or find private sponsorship, such as the McDonald’s Bike Center in Chicago, which took on that name after a \$5 million grant from McDonald’s.³

² <http://www.dpw.ci.burlington.vt.us/transportation/bikewalk/docs/Bicycle%20Parking%20Assistance%20Program.pdf>, August 2009

³ [http://infoweb.newsbank.com/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=NewsBank&p_text_direct-0=document_id=\(%201125AB1FD3F2A0E0%20\)&p_docid=1125AB1FD3F2A0E0&p_theme=aggregated5&p_queryname=1125AB1FD3F2A0E0&f_openurl=yes&p_nbid=X63X59FQMTI1MDYxNTEyOS42MDA3NioxOic6cmYtODcyNQ&&p_multi=CTRB](http://infoweb.newsbank.com/iw-search/we/InfoWeb?p_action=doc&p_topdoc=1&p_docnum=1&p_sort=YMD_date:D&p_product=NewsBank&p_text_direct-0=document_id=(%201125AB1FD3F2A0E0%20)&p_docid=1125AB1FD3F2A0E0&p_theme=aggregated5&p_queryname=1125AB1FD3F2A0E0&f_openurl=yes&p_nbid=X63X59FQMTI1MDYxNTEyOS42MDA3NioxOic6cmYtODcyNQ&&p_multi=CTRB), August 2009

At a national level, the Leadership in Energy and Environmental Design (LEED) Green Building Rating System allows one LEED credit for bicycle parking and showers. It requires changing and shower facilities for 5% of building occupants, or a minimum of one shower for every eight cyclists.

5.7.4 Recommendations

End-of-trip facilities, such as appropriate parking and shower/changing facilities, are key to promoting various kinds of bicycle trips.

It is recommended that the City of Albany review and provide guidance on the provision of bicycle parking within public right-of-ways and at various building and development sites.

Following examples of other cities and towns, the City of Albany should establish guidelines in planning documents and set requirements in zoning laws that ensure the provision of end of trip facilities. Incentives can serve as an intermediate solution without creating requirements. Guidelines and requirements should be established for the type and amount of bicycle parking at various areas throughout the City, as well as the amount of facilities that should be offered. Exemptions should be carefully considered to avoid overly restrictive policies.

It is recommended that the City of Albany collaborate with the Business Improvement Districts to develop a program that addresses the need for bicycle parking within the street right-of-way.

A feasibility study identifying the potential demand, the number of necessary facilities, possible locations and available funding options for a bike station could be completed.

6. BIKEWAY NETWORK

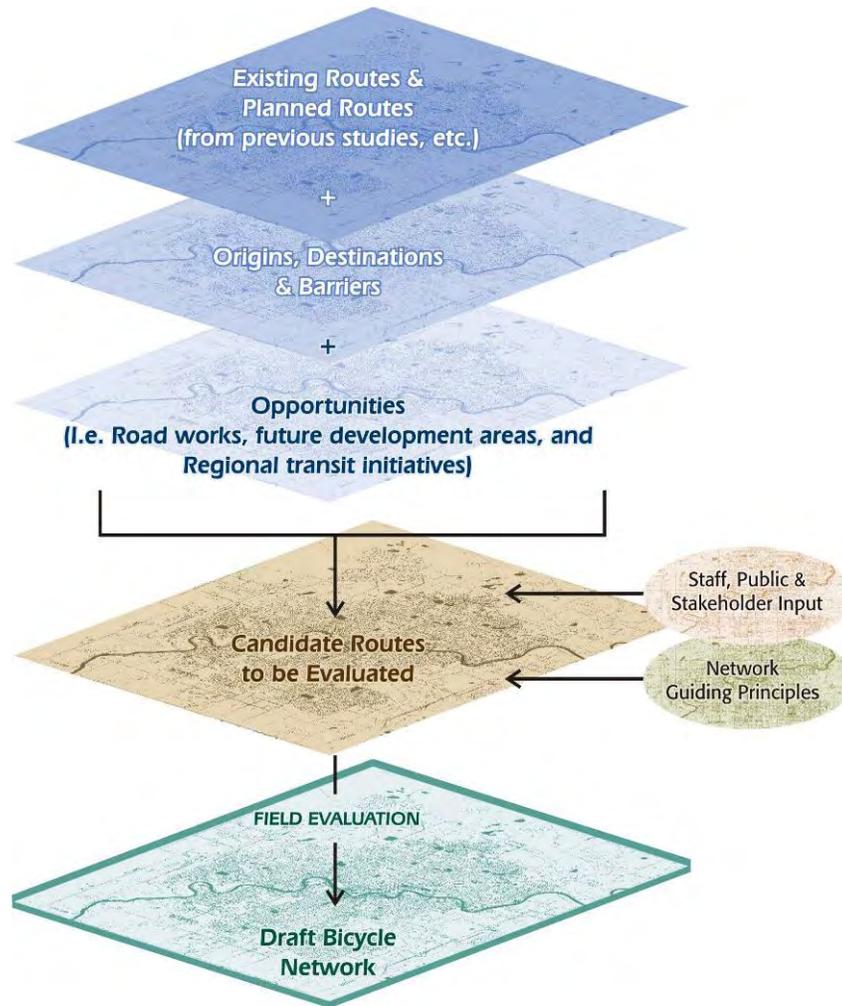
A long-term bikeway network identifies potential routes or corridors where improvements for cyclists may occur over a period of time. Typically bikeway networks created within a master plan are implemented over a 10, 20 or 30-year period. Phasing of projects or improvements allow implementation to begin in the first year following approval of the master plan and continue over time. Thus, this bicycle master plan identifies a bikeway network to be phased in over the next 20 years, more or less, depending on opportunities, support, resources, and funding.

The bikeway network is not intended to be strictly prescriptive; it responds to existing and planned conditions within the City including preferred routes, key destinations, planned land use changes, and opportunities to implement improvements as they are viewed at the time the network is developed. The network should be considered flexible within the objectives of the master plan, with revisions being made as conditions under which it was developed change. That is, as the network is implemented, new opportunities or constraints may be identified and alternative routes sought to connect destinations, fill gaps and bridge barriers. As such, the recommended bikeway network is somewhat of a living document that guides the actions and decisions of the City and allows a bike system to grow organically over time.

The cycling network is developed by mapping opportunities and constraints, reviewing aerial photography and field visits, considering City plans and public input. As illustrated in Exhibit 14, the following are considered:

- Existing bikeways and multi-use trails
- Planned bikeways and multi-use trails that have been approved in previous studies
- Origins and destinations in Albany that are important for residents and visitors to access by bicycle
- Physical barriers to cycling such as freeways, waterways and railways
- Opportunities to add bikeways to existing roadways, in road reconstruction projects and in new development areas
- Candidate routes based on ideas from the Study Advisory Committee, City staff, other stakeholders and members of the public

Exhibit 14: Bikeway Network Development Process



6.1.1 Network Guiding Principles

The development of the bikeway network is based on a set of network guiding principles established by the Study Advisory Committee and presented to the public for endorsement. These principles will allow future changes to the bikeway network, while maintaining the objectives and intent of individual routes and the overall network. The network guiding principles for the City of Albany Bicycle Master Plan include:

- Provide opportunities for both recreational and transportation bicycling at all skill levels
- Inclusive and interdependent, extending into all neighborhoods
- Enable youth, seniors, all cultures, and income levels to use the network
- Complemented by marketing that promotes the value or benefits of bicycling as it is implemented
- Complemented by driver and cyclist education

In developing network and route options, assessment criteria are considered, complementing the network guiding principles, to determine the suitability of individual routes. These criteria are listed in Exhibit 15.

Exhibit 15: Route Assessment Considerations

Context	Assessment Considerations
Roadway Conditions	What is the volume of traffic (AADT)? What is the composition of the traffic (relative amounts heavy truck and bus traffic)? What is the posted or operating speed of the roadway? Are there numerous high-volume driveways, complex intersections, high-speed skewed railway crossings or narrow bridge crossings? Are there poor sight lines? Are there steep, long grades that can be avoided on alternate routes? Is parking permitted on one or both sides of the route? Is parking under-utilized (less than 10%)? Is there sufficient width for the bikeway without affecting parking?
Bikeway Potential	What is the proposed bikeway type for this route considering safety assessment and type of cyclists that would use the route? Can the route accommodate the preferred bikeway type? If no to the above, is another bikeway type appropriate? Are improvements required and feasible (e.g. retrofit road)? Is there sufficient width for the bikeway without affecting parking?
Cost	Is the route the most cost-effective solution or is there an equivalent, parallel route that can be achieved at a lower cost? Is there the ability to reduce costs by combining route development with existing road works (reconstruction or resurfacing)?
Integration with Other Modes	Does the route provide access to transit stops / stations and benefit other user groups, such as pedestrians?

6.2 Recommended Bikeway Network

The recommended bikeway network is comprised of major bikeways, neighborhood routes, multi-use trails, Hudson River crossings and areas for future connections as illustrated on Map 4. A description of the recommended bikeway routes follows. The potential bikeway treatments are suggestions that would have to be studied prior to implementation to confirm feasibility and determine any impacts to on-street parking, traffic operations, etc. The various treatment options for major bikeways and neighborhood routes are described in Section 5.1, page 22, and Section 5.2, page 26.

6.2.1 Major Bikeways

- **Western Avenue, from Washington / Central to City Limits**

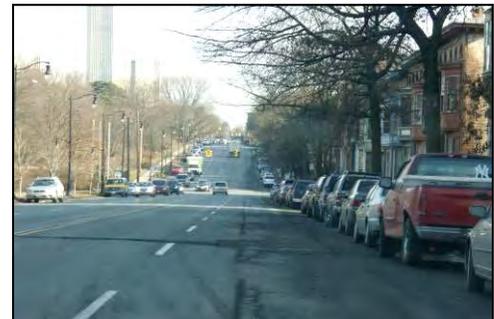
Description and Existing Conditions: Western Avenue is an east-west City street, one of three major avenues radiating westerly from downtown center. It has numerous major destinations along its length including Washington Park, downtown, College of St. Rose, Harriman State Office Campus, and University at Albany Main Campus. From the intersection of Central and Washington Avenues to Madison Avenue, it is a busy two-lane street with 19,000 AADT, on-street parking on both sides. From Madison to the University at Albany, Western is a four-lane street with 26,000 AADT and with limited on-street parking. Western Avenue is designated as part of NYS Bicycle Route 5.



Potential Bikeway Treatments: East of Madison, shared-lane pavement markings and 'Bicycles May Use Full Lane' signs could be installed. From Manning to Brevator the outside lanes are 15' wide and could be marked with shared-use lane pavement markings. Optionally, west of Madison to the UAlbany campus and City line, the travel lanes could be narrowed to 10 or 11 ft. and bike lanes striped; alternatively, shared-lane pavement markings could be installed. To accommodate bike lanes, on-street parking in this section may need to be eliminated.

- **Madison Avenue, from Broadway to Western**

Description and Existing Conditions: Madison Avenue is an east-west City street, connecting midtown to downtown and the waterfront. It has numerous major destinations along its length including Washington Park, College of St. Rose, Empire State Plaza, and the business district west of Lark Street. It also connects the Capitol Hill and Central Business Districts to the University at Albany Main Campus via Western, and the waterfront via Broadway. It is generally a four-lane street with on-street parking on both sides and carries about 14,000 AADT, except for a two-lane section with parking on one side of the street from Lark Street to Swan Street. Madison Avenue is designated as part of NYS Bicycle Route 5.



Potential Bikeway Treatments: The Pine Hills Neighborhood Association has requested traffic calming on Madison Avenue consisting of re-striping the existing four lanes and two on-street parking lanes between Allen Street and Lark Street to two lanes with a center left-turn lane, two bike

lanes and two on-street parking lanes. This may be feasible, along with an option to provide center medians and left-turn lanes at side street intersections in place of the two-way, left-turn lane. Alternatively, shared-lane pavement markings could be installed. From Lark Street to Pearl Street, the travel lanes could have shared-use lane markings and 'Bicycles May Use Full Lane' signs could be installed. Consider special treatments for Madison / Delaware / Lark intersection due to its complexity.

- **Washington Avenue, from State to Fuller**

Description and Existing Conditions: Washington Avenue is an east-west City street, one of three major avenues radiating from downtown center to Fuller Road. West of Fuller Road it is under the jurisdiction of the NYSDOT and bicycles are prohibited. It has numerous major destinations along its length including the downtown, the Armory, the Institute of History & Art, Main Public Library, YMCA, UAlbany mid-town and main campuses, Albany High School, Harriman State Office Campus, Sematech campus, Beverwyck Park, the business district at Quail Street, and it is also is near to the Empire State Plaza and Washington Park. The waterfront is accessible from Washington via Broadway. Washington is a four-lane roadway with on-street parking on both sides of the street east of Brevator Street and a center left-turn lane between Brevator and Fuller. It carries only 9,000 AADT between Western and Eagle, 19,000 to 24,000 AADT from Manning to Fuller, and about 36,000 AADT on the very busy section from Manning to Main.

Potential Bikeway Treatments: West of Jermain to near UAlbany campus, Washington Avenue has 14 ft. wide outside travel lanes and 3 ft. wide paved shoulders. Given the high speed of traffic on this section, it is recommended that the travel lanes be re-striped to 11.5 ft wide. The resulting wider paved shoulders can be marked as bike lanes. On the section from Manning to Western, shared-use lane markings and 'Bicycles May Use Full Lane' signs could be installed. From Western to Eagle, the roadway could be re-striped to two travel lanes, a center left-turn lane, and bike lanes; alternatively, shared-lane pavement markings could be installed.



- Central Avenue, from Washington Avenue to the City Limits**

Description and Existing Conditions: Central Avenue is an east-west City street, the northerly of three major avenues radiating westerly from the downtown center. It connects to the many commercial and business establishments along its length. It is also near Westland Hills Park and Swinburne Park. East of Everett, it is four-lanes wide with on-street parking on both sides. West of Everett, it was recently reconstructed with four travel lanes and a center left-turn lane. It is a very busy street carrying 24,000 to 31,000 AADT.



Proposed/Possible Treatments: West of Everett, Central Avenue has 14 ft. wide outside travel lanes. These could be marked with the shared-use lane pavement marking. On the section from Everett to North Manning, shared-use lane markings and ‘Bicycles May Use Full Lane’ signs could be installed. On the section from North Manning to Washington, the travel lanes could be re-striped to 10 ft. wide and bike lanes added, or re-striped to two 11 ft. wide lanes and two 14 ft. wide outside lanes marked as shared-use lanes.



- New Scotland Avenue, from Madison to the City limits**

Description and Existing Conditions: New Scotland is an east-west City street in the mid-town that curves southerly connecting Albany to North Bethlehem and Slingerlands. Quite a few cyclists are City and County residents use this route to commute to the City. Major destinations in the City include Washington Park, Stratton VA Medical Center, Albany Medical Center, Collage of Pharmacy, Albany Law, University Heights, Sage College, St. Peter’s Hospital, Maria College three commercial corridors, and Capital Hills at Albany golf course. Southwest of Interstate Route 87, New Scotland Avenue is a two-lane roadway. East of Krumkill, New Scotland Avenue has two travel lanes and on-street parking on both sides of the roadway. Between Route 87 and Krumkill, the cross-section varies. Traffic volumes were not available for this roadway.



Potential Bikeway Treatments: Southwest of Route 87, New Scotland was recently reconstructed with 14 ft. wide travel lanes. These could be marked with the shared-use lane pavement marking. Between Whitehall and Academy, New Scotland could be re-striped with narrower travel lanes and bike lanes or shared-use lane pavement markings could be installed. From Academy to Madison, shared-lane pavement markings and ‘Bicycles May



Use Full Lane' signs could be installed.

- **Delaware Avenue, from Madison to the City Limits**

Description and Existing Conditions: Delaware Avenue is a north-south City street connecting Bethe ham to Albany. Major destinations in the City include Washington Park and Lincoln Park, Normanskill Farm, the commercial district on Lark Street, and, of course, the commercial and business establishments along its length. Delaware Avenue is also not far from Albany Law, University Heights, Albany Academy, and the Empire State Plaza. From Madison to Morton/Holland, Delaware Avenue has two travel lanes and on-street parking on one side of the street. In 2009, Delaware Avenue was being reconstructed with two 10 ft. wide travel lanes and 8 ft. wide on-street parking lanes on both sides of the street from Morton/Holland to the border. Traffic volumes were not available for this roadway.

Potential Bikeway Treatments: Between Madison and Morton, the existing travel lanes could have shared-use lane pavement markings. From Morton/Holland to the border shared-lane pavement markings and 'Bicycles May Use Full Lane' signs could be installed. Consider special treatments for Madison / Delaware / Lark intersection due to its complexity.



- **Whitehall Road, from Delaware to New Scotland**

Description and Existing Conditions: Whitehall Road is an east-west City street connecting to the commercial and business establishments on Delaware Avenue. It provides a parallel alternate route to New Scotland Road through a quieter residential neighborhood, and provides a route parallel to Interstate Route 87 in the south part of the City. Whitehall also provides access to the Jewish Community Center. It has two travel lanes. Traffic volumes were not available for this roadway.

Potential Bikeway Treatments: From New Scotland to Cardinal, Whitehall Road has 14 ft. wide lanes. These could be marked with shared-lane pavement markings. Alternatively, since the traffic volumes appear to be low to moderate, the travel lanes could be re-striped to 10 ft. wide and 4 ft. wide bike lanes added.



- **Clinton Avenue, from Central to Broadway**

Description and Existing Conditions: Clinton Avenue is an east-west City street that connects the mid-town to downtown and the waterfront via

Broadway in the northerly half of the City, passing by Swinburne Park and providing access to commercial and business establishments on Central Avenue and Howard Johnson Boulevard. The waterfront would be accessible from Clinton via Broadway. Traffic volumes are around 7,000 to 9,000 AADT.

Potential Bikeway Treatments: The existing wide travel lanes could be re-stripped to 11 ft. wide with 5 ft. wide bike lanes adjacent 8 ft. wide parking lanes. Alternatively, shared-use lane pavement markings could be installed.



- **Broadway, from the waterfront / Quay Street to the City Limits**

Description and Existing Conditions: Broadway is a north-south City street that connects the waterfront, North Albany, the downtown, Arbor Hill, North Albany and extends to the Village of Menands. Besides the many destinations in the downtown, other destinations include the tourist services on the waterfront (tour boat landing, Dutch Cruise boats, USS Slater, etc.), Corning Preserve via existing bike lanes and trail along Quay Street, SUNY Administration, and commercial and business establishments near Interstate Route 90. Broadway provides access to the Dunn Memorial Bridge; a ramp connects to the sidewalk on the north side of the bridge, providing connection to the City of Rensselaer and the Amtrak Station. Broadway has two travel lanes. On-street parking varies from none to being provided on one side to both sides of the street. Traffic volumes are known for the section between Clinton and Menands: approximately 6,000 AADT. Broadway is designated as part of NYS Bicycle Route 9.



Potential Bikeway Treatments: From State to Quay, the cross section on Broadway varies in width and a design would have to be developed on a block-by-block basis. For the remaining sections of the street, shared-lane pavement markings and 'Bicycles May Use Full Lane' signs could be installed.

- **Green Street, from Madison to 4th Avenue, and South Pearl Street, from 4th Avenue to the City Limits**

Description and Existing Conditions: Green and Pearl provide a connection from the downtown and through the easterly South End neighborhood southerly to Bethlehem. South Pearl Street will connect to the planned Albany County Rail Trail and provide an interim connection from this trail to the waterfront. Green Street and Pearl Street to McCarty have two travel lanes and on-street parking on both sides of the street. South of McCarty, South Pearl Street has parking on one side of the street only. Traffic volumes were not available for these roadways.

Potential Bikeway Treatments: The travel lanes are wide enough on Green Street that they could be marked with shared-use lane pavement markings. South Pearl Street could also be marked with shared-use lane markings, however, the travel lanes are narrower north of McCarty and 'Bicycles May Use Full Lane' signs are recommended in this section. 4th Avenue would need way-finding / route signage to connect Green and Pearl.



- **Lark Street, from Madison to Manning**

Description and Existing Conditions: Lark Street is a destination with a well-established and vibrant retail / commercial / entertainment district south of Washington Avenue. It provides access to the Washington Avenue Armory, main Public Library and connects to the Arbor Hill neighborhood. Washington Park is nearby and Lark is on the western edge of the downtown. Lark Street has one travel lane, and parking on both sides of the street. North of Washington, the traffic volumes are around 7,000 AADT, and south they are around 12,000 AADT. Traffic generally moves slowly through the commercial district between Madison and Washington, with cyclists able to keep pace with the traffic flow.

Potential Bikeway Treatments: North of Washington, shared-lane pavement markings and 'Bicycles May Use Full Lane' signs could be installed. South of Washington, the existing lanes are fairly wide and could be marked with shared-use lane markings. Consider special treatments for Madison / Delaware / Lark intersection due to its complexity.



- Northern Boulevard / Manning Boulevard / Ten Broeck Street, from Central to Shaker Road; and Shaker Road, from Broadway to the City Limits**

Description and Existing Conditions: Northern Boulevard/Manning Boulevard/Ten Broeck Street and Shaker Road connect the north end of the City through the Arbor Hill neighborhood to Colonie. Nearby destinations include Tivoli Park with a potential connection to the proposed Patroon Greenway Trail, and Memorial Hospital. Northern Boulevard provides a grade-separated crossing of Interstate Route 90. Northern Boulevard has four travel lanes, on-street parking on one side of the street and a flush center median.



Manning Boulevard has two lanes of traffic, on-street parking on one side and parking bays. Ten Broeck Street has two lanes of traffic and on-street parking. Shaker Road has two lanes of traffic and paved shoulders. Loudonville Road has two lanes of traffic. Traffic volumes were not available for these roadways.



Potential Bikeway Treatments: One option for Northern Boulevard is to examine the feasibility of narrowing the travel lanes and the median to re-stripe with bike lanes; Alternatively, shared-lane pavement markings could be installed. Manning Boulevard has wide travel lanes that could be restriped narrower in order to provide bike lanes. Alternatively, shared-use lane pavement markings could be installed. Shaker Road paved shoulders would require localized widening or resurfacing.

- Quail Street, from New Scotland to Livingston Avenues**

Description and Existing Conditions: The northerly section of Quail Street provides access to the commercial and business establishments located along it. Other major destinations it serves are nearby Washington Park, Sage College, and UAlbany mid-town campus and dorms. Quail Street has two travel lanes, and parking on both sides of the street from Madison to Clinton, but only on one side from Madison to New Scotland. Traffic volumes were not available for this roadway.



Potential Bikeway Treatments: Shared-lane pavement markings and 'Bicycles May Use Full Lane' signs could be installed adjacent the on-street parking on this relatively narrow street.

- **Manning Boulevard, from Whitehall Road to Central Avenue**

Description and Existing Conditions: There are few continuous north-south transportation routes in Albany that traverse the City. Manning Boulevard is one of those routes and provides connectivity to access the major east-west routes. Destinations include the Jewish Community Center, Maria College and St. Peters Hospital to the south, and commercial areas along Madison and Central to the north. Manning Boulevard has two travel lanes. The section between New Scotland and Western has a raised median; the section from Western to Washington has a center left-turn lane; and from Washington to Central Avenues on-street parking on both sides of the street. Traffic volumes were not available for this roadway.



Potential Bikeway Treatments: From Whitehall Street to Washington Avenue, the existing wide travel lanes could be narrowed and re-stripped with bike lanes. Alternatively, shared-use lane pavement markings could be installed. North of Washington, shared-lane pavement markings and ‘Bicycles May Use Full Lane’ signs could be installed adjacent the on-street parking.

- **McCarty Avenue / Southern Boulevard, from Delaware to Pearl**

Description and Existing Conditions: This route provides a connection through the South End along the southern edge of the downtown. Key destinations include Hoffman Park, and the commercial and business establishments along Delaware Avenue. Connections to the waterfront from this route are via Pearl and Green Streets. Traffic is heavy near the access to NYS Route 9 and there are steep grades on McCarty as it drops easterly towards the Hudson River. McCarty has two travel lanes and parking on one side of the street. Traffic volumes were not available for this roadway.



Potential Bikeway Treatments: Shared-lane pavement markings and ‘Bicycles May Use Full Lane’ signs could be installed on this route.

- **Holland Avenue / Morton Avenue / Rensselaer Street, from New Scotland Avenue to Green Street**

Description and Existing Conditions: Holland Avenue provides access to the Collage of Pharmacy, Albany Law, Albany Medical Center, and Stratton Medical Center. Morton Avenue connects to Delaware Avenue, Lincoln Park, the commercial and business establishments on South Pearl, and eventually the waterfront via Green Street. Although the grades on Morton are fairly steep, the street provides excellent views over Lincoln Park to the Empire State Plaza. Both streets have two travel lanes and two on-street parking lanes. Holland Avenue carries about 10,000 AADT



Potential Bikeway Treatments: The existing travel lanes on both of these streets could be narrowed and re-stripped with bike lanes. Alternatively, shared-use lane pavement markings could be installed.



- **Other Major Bikeway Connectors:**

Additional, shorter routes that were added to the major bikeways network to fill in gaps, connect to key destinations or other routes, or to cross barriers include the following:

- **Brevator Street**—near the Harriman State Office Campus
- **Fuller Road**—near UAlbany main campus, Sematech and Stuyvesant Plaza in Guilderland. The Town of Guilderland is planning to provide bike lanes on the section of Fuller Road under their jurisdiction
- **Tricentennial Drive**—through Sematech
- **Russell Road**—an alternate connection near the Harriman State Office Campus to North Bethlehem in Albany County crossing Interstate Route 87
- **Frisbie Avenue and Oneida Terrace**—connecting Hoffman Park and to Lincoln Park
- **State Campus Road**—providing access into the Harriman State Office Campus
- **Robin Street**—connecting Washington Avenue to Washington Park
- **Hamilton Street (Hudson Riverfront underpass) and Colonie Street**—connecting Broadway to the waterfront and the Hudson Mohawk Bikeway. Colonie Street would provide the connection to the potential crossing of the Hudson River on the existing Livingston Railway Bridge to Rensselaer
- **Everett Road extension and the I90 interchange, I85 / I90 interchange, Fuller Road, Commerce Avenue, and Manning Boulevard at Tivoli Preserve**—provide access to the proposed Patroon Greenway

6.2.2 Neighborhood Routes

Neighborhood routes are streets with lower traffic volumes and speeds intended to provide alternate routes for cyclists to busier major bikeways. They are intended to assist cyclists in finding local connections through neighborhoods that they may be less familiar with. They should not be considered as replacements to implementing the major bikeways, for cyclists still need space on busy roads that provide direct connections to destinations, but complementary to them.

- **Glenn Street / Hazelhurst Avenue / Berkshire Boulevard**—alternative to Western Avenue and provides a grade-separated crossing (underpass) of NYS Route 85



- **Hillcrest Avenue**—connects the above route to Harriman State Office Campus
- **Ormond/Friebel Streets**—north-south route alternative to NYS Route 85 (bicycles prohibited)
- **Euclid Avenue**—north-south route alternatives to Manning Boulevard
- **Melrose Avenue**—alternative to Washington and Western, connecting directly to Harriman State Office Campus



- **Lincoln Avenue**—alternative to Washington and Central
- **Watervliet Avenue Extension / Commerce Avenue / Livingston Avenue**—alternatives to Central and Clinton
- **Austin and Colvin Avenues**—connections to Westland Hills Park and Central

- **Myrtle and Morris Streets (one-way pair)**—alternative to Madison Avenue



- **Lark Drive**—Arbor Hill neighborhood connector between the proposed Patroon Greenway Trail and the Mohawk Hudson Bikeway



- **Main Avenue**—one of the few continuous north-south, quieter routes in the City; alternative to Manning Boulevard
- **Hackett Boulevard**—westerly extension of Hackett Boulevard trail
- **Academy Road**—north-south connection near Sage College, University Heights, Albany Academy



- **Marshall / Jeanette / Tiller (one-way) and Corlear Streets**—connect Hackett Boulevard Delaware Avenue and Hoffman Park as alternatives to Second Avenue



- **3rd Avenue**—alternative to Morton Street
- **Clinton Street**—connection to the Schuyler Mansion and branch Public Library

- **Warren Avenue / Arch Street**—alternative to Morton Street and connection to Lincoln Park



- **Hudson Avenue / Ontario Street**—connection between UAlbany dorms and Washington Park
- **Benson and Kent Streets**—alternative to Washington and Central north of Albany High School

6.2.3 Multi-use Trails

Linear trail corridors that provide access to destinations provide a pleasant transportation experience. They can also provide a relatively safe environment in which child, youth and inexperienced adult cyclists can gain skills and confidence. A good experience cycling on trails can evolve into exploring comfortable routes on the road resulting in more trips by bicycle.

With attention to design of their surface and width, access points, street crossings and integration with on-road bikeways, multi-use trails provide a high quality recreational and transportation function while complements the on-road network. In general, audits of the multi-use trails should be undertaken to understand their existing conditions and plan for improvements that will improve their quality and function within the network.

- **Mohawk-Hudson Bike-Hike Trail**

One of the Capital District's most notable and popular recreational features, a co-operative project among the state, counties and their municipalities, is the Mohawk-Hudson Bike-Hike Trail. It is a 35-mile multi-use trail that follows the shores of the Mohawk and Hudson Rivers through Schenectady and Albany Counties. In many sections, the trail was built directly upon the former railroad grades and canal towpaths of the area's first transportation routes. It passes next to and through the many historic neighborhoods, buildings and sites that remain to tell the story of the Capital District's heritage.⁴



Within the City of Albany, the southerly end of the trail terminates in the Erastus Corning Riverfront Preserve. The Corning Preserve is currently accessible from the Quay Street underpass at the base of Broadway and the Dunn Memorial Bridge pedestrian walkway from Rensselaer. The Hudson River Walkway Pedestrian Bridge was recently built by the City at the base of Pine Street and provides stair / elevator access up and over the elevated



⁴ *Mohawk-Hudson Bike-Hike Trail Map*, Capital District Transportation Committee, Albany, 2004

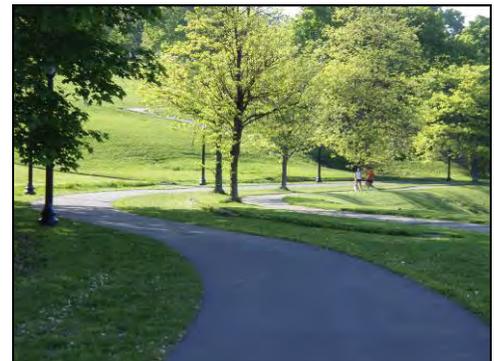
Interstate Route 787 and NYS Route 9. Besides the amenities in the Corning Preserve, the trail also provides access to the USS Slater docked just to the south of Corning Preserve.

The presence of Routes 787 and 9 result in an inhospitable pedestrian and cyclist environment between the downtown and the waterfront. Efforts should focus on improved way-finding signing, additional connections and the provisions of on-road bikeways on the connecting routes where feasible. As the waterfront re-develops, opportunities for extending the Mohawk-Hudson Bike-Hike Trail southerly to Island Creek Park should be investigated.

The recommended 20-year bikeway network includes the potential extension of the trail southerly, plus major bikeway connections including Green Street, Broadway, Hamilton Street (Hudson Riverfront underpass), and Colonie Street.

- **Lincoln Park and Washington Park Trails**

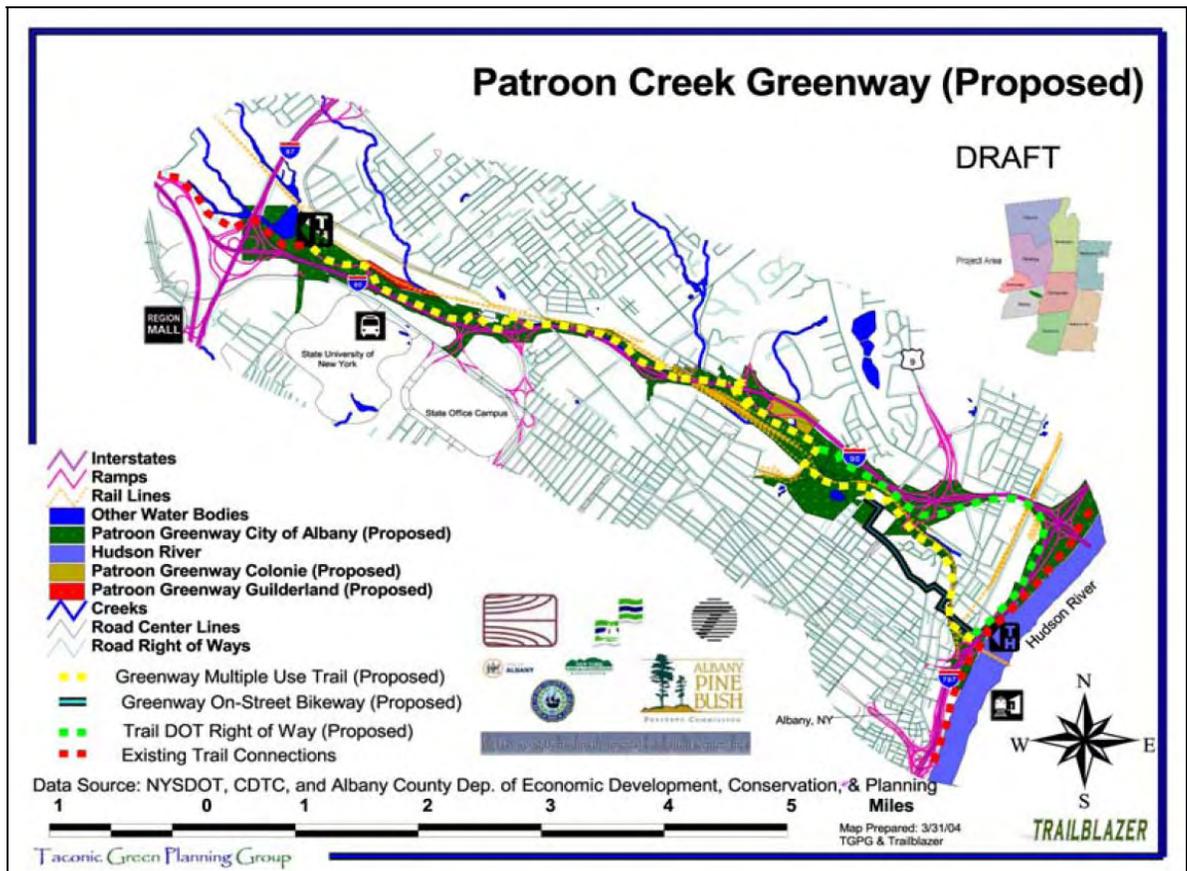
Trail loops exist within these City parks providing important recreational opportunities to the residents and visitors to Albany. The recommended 20-year bikeway network includes tying these popular trails to the on-road network using major bikeways and neighborhood routes, along with implementing way-finding signage. People who attended the public events for this study remarked on how wonderful these trails are. Washington Park is used throughout the year for City events that attract local residents and tourists. Facilitating bicycle parking during those events would allow attendees to ride their bicycle to the park and lock it up while attending the event. Lincoln Park is viewed as a hidden jewel shadowed by the Empire State Plaza, State Museum and Library. Connecting the network to this park would bring it a higher profile among citizens of Albany. The idea of a “park to park” bicycle ride was raised to allow residents of Albany to experience these trails and understand how they can be accessed from the surrounding neighborhoods and streets.



• **Patroon Greenway**

The Patroon Greenway is a proposed 6.5 mile long corridor connecting The Pine Bush, Tivoli and Corning Preserves in Albany. It follows the Patroon Creek along the Interstate Routes 90, 87 and 787 along the north side of the City. Land use adjacent this corridor is diverse: residential, commercial, institutional and recreational. The proposal is described in several planning reports including Patroon Greenway Project: Refinement of Cost Estimates and Funding Opportunities (CDTC, October 2004).

The recommended 20-year bikeway plan includes a number of ideas to make the Patroon Greenway accessible to the City, improving its function as not only a recreational corridor but also as a high-quality, active transportation corridor. These include Everett Road extension and the I90 interchange, I85 / I90 interchange, Fuller Road, Commerce Avenue, and Manning Boulevard at Tivoli Preserve—provide access to the proposed Patroon Greenway.



- **Albany County Rail Trail**

Albany County has purchased the D&H rail corridor from Route 32 (South Pearl Street), City of Albany to County Road 201 in the Village of Voorheesville, including the Pearl Street overpass. They are in the process of assessing construction requirements to convert the corridor into a multi-use trail. The proximity of the eastern terminus to the Port of Albany, Hudson River waterfront and the nearby South End make it an important facility for active transportation if tied into the City's proposed bikeway network. Access is recommended to be provided via the major bikeway South Pearl Street. Fourth Avenue and Green Street would then tie Pearl Street to Albany's downtown and the waterfront with a potential southerly extension of the Mohawk-Hudson Bike-Bike Trail. During one of the public meetings, a resident identifies a possible extension to the trail ending at Delaware Avenue. It is recommended to review this suggestion and determine the feasibility of this extension.



- **Hackett Boulevard Trail**

A 10 ft. wide multi-use trail exists on the north side of Hackett Boulevard from Sycamore to Holland. It is recommended that this trail be extended northerly behind William S. Hackett Middle School to Leonard Place so that it connects to the trails in Lincoln Park.



- **Trinity Place**

Trinity Place is a pedestrian way that connects Arch Street to Madison Avenue just east of Pearl Street. It provides an aesthetic neighborhood link for the residents, and an alternative to busy South Pearl Street. Combined with Warren Avenue, it provides access in Lincoln Park. Way-finding signage could be implemented to make this short, yet pleasant corridor a part of the overall bikeway network.



- **Hackett Boulevard Trail Extension**

Hackett Boulevard and the boulevard trail terminate at Holland Avenue. The trail could be extended northerly to Leonard Place behind Cortland, Providence and Mercer streets, near William S. Hackett Middle School. This trail extension would connect Hackett Boulevard to the school, the Leonard Place Community Garden and Lincoln Park. This corridor is currently used as an informal connection.



- **UAlbany Campus Trail Initiatives**

There have been a few projects initiated at UAlbany Main Campus regarding trail connections through and around the campus, including the Purple Path the Golden Grid (see studies listed in Appendix A). UAlbany is implementing the Purple Path, an outer multi-use trail loop.



6.2.4 Hudson River Crossings

The Hudson River Crossing Study—Final Report (Bergmann Associates et al, CDTC and NYSDOT, February 13, 2008) includes a full description of the existing conditions and improvements to the Dunn Memorial Bridge to better accommodate cyclists, and Livingston Railway Bridge as a potential pedestrian / cyclists crossing of the Hudson River.

- **Dunn Memorial Bridge**

The Dunn Memorial Bridge is the only existing crossing providing access for pedestrians and cyclists between Albany and Rensselaer. The bridge connects the Rensselaer Amtrak station with the State Capital. It is a long, high-level crossing above the navigation channel that is challenging for pedestrians and cyclists. Cyclists are required to walk their bicycles across the bridge using the pedestrian sidewalk. Winter maintenance is limited. The study recommends that connectivity, safety and accessibility issues of the existing 8 ft. wide concrete pedestrian sidewalk and associated westerly ramp (steep grades and two 90 degree bends) be addressed as opportunities for bridge rehabilitation arise. Suggested improvements include rebuilding the “dog-leg” on the westerly ramp and improving the path surface and lighting.



- **Livingston Railway Bridge**

The Livingston Railway Bridge currently prohibits access to pedestrians and cyclists; however, a 7 ft. wide timber deck path exists on the south side. It is the shortest and lowest of all the river crossings, with a swing bridge over the navigation channel. Both Amtrak and CSX freight trails use this bridge. Redevelopment projects are proposed on the banks of the Hudson River on both sides of this bridge. The study recommends that scheduled renovations to the structure consider improvements required to open this path to pedestrian and cyclists. Such improvements include providing ramp access from the existing Mohawk-Hudson Bike-Hike Trail, upgrading of the path for shared pedestrian / cyclist use, and a connection to the proposed waterfront trail on the Rensselaer side of the bridge. Liability, operations, safety and security issues of opening the crossing to pedestrians and cyclists would have to be resolved with the owners, CSK Railroad.



6.2.5 Future Connections

Areas that are under the jurisdiction owners other than the City with potential for future bikeway connections were identified. It is recommended that the City collaborate with the appropriate partners and agencies to ensure that future plans consider the needs of cyclists in these areas.

- **Harriman Campus**

Adaptive re-use of the Harriman State Office Campus is being considered. The Harriman Campus – University at Albany Transportation Linkage Study (Nelson\Nygaard Consulting Associates, CDTC, May 2007) recommends bike lanes on the Ring Road but recognizes that redevelopment could result in a new road network. Future studies are recommended to consider the needs of cyclists to access and circulate through this large campus and create a connection to UAlbany uptown campus.



- **Albany High School / College of St. Rose / St. Catherine’s Center for Children / Lasalle School / UAlbany Dorms**

Previous studies, such as The Central Albany Bikeway (2008 Graduate Transportation Planning Studio / Department of Geography + Planning, U Albany) have recognized this grouping of institutions as an important destination and an opportunity to provide pedestrian / cyclist circulation through these lands. One potential corridor extends from Chestnut Street easterly from Main to Partridge, adjacent the Albany High School. It is recommended that the City collaborate with these institutions to develop a solution that fits their needs and improves access and circulation for pedestrians and cyclists traveling to and through the area.



- **Everett Road/Route 90 Crossing and I90 / I85 Interchange**

These areas are under the jurisdiction of NYSDOT. The Patroon Greenway project recommends improvements to connect the proposed trail to the City at these crossings. The proposal is described in several planning reports including *Patroon Greenway Project: Refinement of Cost Estimates and Funding Opportunities* (CDTC, October 2004). It is recommended that the City collaborate with NYSDOT to address connectivity, safety and operations for pedestrians and cyclists gaining access to the Patroon Greenway.

- **Route 85**

Route 85 is a state highway, which is a north/south connection from the Town of Bethlehem to the Northwest portion of the City as well as Interstate 90. Creating a trail along side of Route 85 would enhance the north/south connection to the west side of the city. It is recommended to review any trail opportunities along the side of Route 85 for future renovations and connections.

7. CYCLING POLICIES, PRACTICES AND PROGRAMS

There are a variety of policies, practices and programs beyond the development, funding and implementation of a bikeway network that communities can adopt to support existing and potential cyclists. Policy themes with examples and best practices for those considered feasible in Albany are provided below. Selected policies can then be considered within the context of the Comprehensive Plan.

7.1 Bicycle-Friendly Communities and Development Sites

7.1.1 Encourage bicycle-friendly development by adopting site plan review criteria requiring bikeway routes, bike parking and other end of trip facilities

Bicycle-friendly communities and sites require attention to both transportation infrastructure as well as site design. Transportation infrastructure must include provisions for bicycles, land uses should be amenable to multiple purposes in a single trip, and site design should be carried out in a way that also accommodates and even prioritizes cyclists and pedestrians.

To address issues to do with site design and their affect on transportation, the Institute of Transportation Engineers (ITE) published Promoting Sustainable Transportation through Site Design: An ITE Proposed Recommended Practice.⁵ The guidelines in this report are for non-residential uses at destination ends of trips, though they could be applied in denser residential settings. The design element categories include site organization (building placement, entrances, etc.), site layout (internal transportation network, bicycle parking, etc.), site infrastructure (roads and facilities, etc.), and site amenities (waiting areas, street furniture and landscaping, shower facilities, etc.).

The land use and site design should complement transportation strategies to make communities more bicycle-friendly. One such strategy is the pursuit of complete streets. The U.S. National Complete Streets Coalition (<http://www.completestreets.org>) is made up of over 25 member organizations whose mission is to create streets with safe access for all users by changing policies and practices of transportation agencies. Elements of a good Complete Streets policy include:

- A vision
- Clear definition of all users
- Focus on Connectivity
- Applicable to new and retrofit projects, taking into account a project's lifecycle
- Strictly defined and evaluated exceptions
- Reference to best practice standards while allowing flexibility
- Appropriate for local context
- Performance standards
- Next steps for implementation
- Adoptable by all agencies

According to the National Complete Streets Coalition, there are 100 U.S. jurisdictions committed to complete streets.⁶ The organization provides a list of various policies that have been adopted and provides links to details. For example, Binghamton, NY passed a resolution adopting the Complete Streets/Institute for Healthy Infrastructure Policies. In Buffalo, NY, law requires that bicycle and pedestrian facilities are included in all new street construction, reconstruction, maintenance, and public works and parks projects. New York City is the only location in the state of New York with a

⁵ <http://www.ite.org/bookstore/RP-035.pdf>

⁶ See <http://www.completestreets.org/complete-streets-fundamentals/complete-streets-atlas/> for a map of such jurisdictions

Street Design Manual, which could be useful for reference. There is no state-wide policy in New York, so Albany must determine its own policy towards complete streets.

7.2 Bikeway Infrastructure

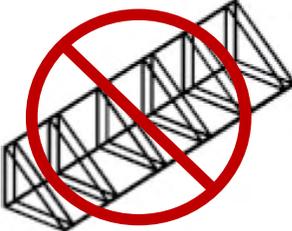
7.2.1 Develop bicycle parking design guidelines on good rack designs and locations

In order to address bicycle parking, the City of Albany should prioritize the construction of bicycle parking. Prioritization can be given to locations where few alternatives for securing bicycles currently exist. At high demand areas and intermodal centers, parking can be more secure either through the provision of bicycle lockers or rooms. All bicycle parking installed should follow recognized standards. There are multiple sources for standards, but the APBP standards are summarized in Exhibit 16.⁷

Exhibit 16: APBP Rack Design Guidelines

Topic	Guidelines
Rack Element (The part of the rack that supports one bicycle)	<ul style="list-style-type: none"> • Support the bicycle in two places • Prevent the wheel from tipping over • Allow both the frame of the bike and at least one wheel to be locked • Allow support of multiple frame types (standard, mixte) • Allow front-in and back-in parking • Strong enough to avoid being cut or detached using common hand tools
Rack (A group of elements, joined/arranged and mounted)	<ul style="list-style-type: none"> • Not easily detachable from frame or removed from mounting • Anchored so that it cannot be stolen with the bikes • Spaced to provide easy, independent bike access (e.g. "U" rack elements should be placed on 30" centers)
Rack Area (Parking area where multiple racks are separated by isles)	<ul style="list-style-type: none"> • 48" minimum isle separation (unless there is high traffic, where there should be 72" separation) • 72" depth for each row of parked bicycles • Number of entrances can vary based on turnover rate • If possible, provide shelter
Rack Area Site (Relationship of the rack area to a building entrance/approach)	<ul style="list-style-type: none"> • Do not block entrance or pedestrian flow • Locate on approach line, no more than a 30 second walk or 50 feet from building entrance • As close or closer than the nearest vehicle parking space • Multiple smaller racks are preferable to one distance central location for multiple buildings
Design	<ul style="list-style-type: none"> • Creative designs are encouraged as long as they follow the above guidelines

⁷ http://www.apbp.org/resource/resmgr/publications/bicycle_parking_guidelines.pdf

Topic	Guidelines
<p>Rack Elements NOT Recommended</p> <ul style="list-style-type: none"> • Wave: Lack of support, difficulty in utilizing full capacity • Toast, Comb: Lack of support 	 <p>COMB One rack element is a vertical segment of the rack.</p>
 <p>WAVE One rack element is a vertical segment of the rack.</p>	 <p>TOAST One rack element holds one wheel of a bike.</p>

While larger cities such as Cambridge, MA, New York City, or San Francisco, CA may have more aggressive bicycle parking guidelines and requirements, it is beneficial to consider the best practices of smaller cities. For example, Ann Arbor, MI has a guide to bicycle parking for businesses.⁸ However, to make progress it would be beneficial to establish requirements over suggestions for bicycle parking in zoning or other regulations. See Section 5.7.1, page 33, for examples.

7.2.2 Implement the proposed bikeway network over time

As in most Bicycle Master Plans, the implementation plan for bikeway infrastructure must be phased in a manner that is realistic given expected funding. Once an overall network is defined and agreed upon, phasing should consist of short-term projects that are easily accomplished with limited resources, and medium and long-term projects that complete the proposed bicycle network. High demand areas, often where roads are already slated to be reconstructed with known funds, are the easiest to prioritize initially. More challenging projects that require independent or larger sources of funding can be pursued in the long-term.

Co-ordination with adjacent municipalities and the CDTC Bicycle and Pedestrian Task Force is important so that bikeways and routes are continuous across municipal boundaries and consistent in terms of design, signage and maintenance.

7.2.3 Develop a bikeway signage program for major bikeways and neighborhood routes

The signage strategy discussed in Section 5.6, page 30, will have to be phased along with the implementation of infrastructure to prioritize way-finding goals. Pilot projects, such as the ones highlighted in Section 5.6.3, page 31, can be implemented in the earliest phases to test success and increase connectivity in key places.

⁸ http://www.a2gov.org/government/publicservices/systems_planning/Transportation/Documents/BikeParkingGuide_Sep08.pdf

7.2.4 Collaborate on integrating cycling with transit (bicycles on vehicles, bicycle parking at stations/stops, network connections to stations / stops, etc.)

Improved inter-modalism also makes a community more bicycle-friendly by enabling longer trips that use a bicycle for part of the trip: the 'first' or 'last mile.' There are two main parts to encouraging inter-modalism through bicycle and transit compatibility: one is making the areas around transit nodes friendlier to cyclists, and the other is making the transit vehicles and stations themselves compatible with bicycle use.

Transit-oriented development (TOD) can contribute to making communities friendlier to cyclists, pedestrians, and transit users. These developments center on a major transit node but prioritize pedestrians by creating a walkable community through density, connectivity, traffic calming, and appropriate land uses. Good design also incorporates bicycle networks into circulation plans. Accessibility for pedestrians can also be good for cyclists, but care should be taken to avoid conflict between the various users.

The Victoria Transportation Policy Institute has several examples of bus-oriented TOD, including Park East Development in Milwaukee, WI; the Linden Transit Center in Columbus, OH; and the Village at Overlake in Redmond, WA.⁹ The State of Massachusetts Smart Growth/Smart Energy Toolkit uses Davis Square in Somerville, MA, as illustrated in Exhibit 17, as a TOD case study that includes ample bicycle parking and storage at station entrances.¹⁰ Davis Square also provides easy access to the Minuteman bicycle trail, a long recreational bicycle path build on old railroad right-of-way.

Exhibit 17: Transit-oriented Development (TOD) Examples in Somerville, MA



Ground level Davis Square shops with offices above



Revitalized multi-family housing adjacent to Red line Station



Renovated Somerville Theater

Image source: Massachusetts Smart Growth/Smart Energy Toolkit
(http://www.mass.gov/envir/smart_growth_toolkit/pages/CS-tod-somerville.html)

A critical factor in successful TOD is having transit that is itself compatible with bicycle use. This includes bicycle racks on buses, good bicycle parking at station stops, as well as the design elements previously discussed such as a complete accessible network and compatible land uses. Albany has already made positive steps forward on making transit accessible to bicycles. Many key bus routes serve the same corridors that bicyclists identified for bicycle routes, providing a complimentary transportation service to most key destinations. All Capital District Transportation Authority buses have front mounted bike racks. The first BRT route in the Capital District, along Central Avenue in Albany, will include bike parking at all stations.

⁹ <http://www.vtpi.org/tod/tod45.htm>

¹⁰ http://www.mass.gov/envir/smart_growth_toolkit/pages/CS-tod-somerville.html

7.2.5 Plan for comfortable and frequent crossings for cyclists of significant barriers such as waterways, freeways and interchanges

In the implementation of the Master Plan, early priority should also be given to emphasizing connectivity across what are currently barriers to cycling, such as rivers, freeways and interchanges. Connectivity can be achieved by ensuring that barrier crossings exist and that they are convenient and safe. This would include providing ample space for cyclists on what are usually narrow crossings such as bridges; safe space for cyclists on crossings that are usually high speed and involving frequent turns such as freeway entrances and interchanges; and the ability to engage in safe travel along long, high-speed corridors. Increasing connectivity also requires consideration of cyclists' specific needs, including counter-flow bike lanes on one-way streets when alternatives require traveling significantly longer distances.

7.2.6 Routinely consider the needs of cyclists in transportation / traffic projects, services and programs

A variety of services and projects that a city undertakes can consider cyclists in order to better plan for and serve their needs. Examples include count programs, safety audits, traffic calming studies, traffic impact studies, safe routes to school audits, and transportation planning.

In general, institutional processes were not designed or developed in consideration of all modes. Therefore, engineers and planners must be trained to ensure that this is the case. Training can occur through a variety of avenues. Locally, the City of Albany can work with the CDTC for training on bike/pedestrian accommodation that it has developed with the CDRPC.¹¹ There are additional, less local resources that can be accessed online. Bicyclinginfo.org lists a variety of training programs and materials, such as the Federal Highway Administration's University Course on Bicycle and Pedestrian Transportation, Safe Routes to School training, League of American Bicyclists courses, and Association of Pedestrian and Bicycle Professionals (APBP) workshops.¹² Regular workshops via teleconferences through professional organizations can keep staff up-to-date on cycling-relevant training. In addition, there are national conferences, such as the APBP's biannual Professional Development Seminars, held in New York City in 2009. Albany benefits from being located in proximity to New York City, a major urban area that is dedicating resources to improving the cycling experience in the City, and regularly hosts national conferences and training workshops. As another example, the non-profit Project for Public Places, regularly holds Training Seminars like "Streets and Places" that discuss street design for all users.¹³ Visitations of other towns with best practices can also provide some input.

It is generally accepted that well-designed traffic calming is a huge benefit to bicyclists (Traffic Calming, Auto Restricted Zones and Other Traffic Management Techniques. Case Study #19, FHWA, National Bicycling and Walking Study):

- Reduced vehicle speeds associated with traffic calming projects can reduce both the severity and incidence of motor vehicle¹ bicycle crashes, making bicyclists feel more comfortable in traffic
- Traffic calming techniques may be used to reduce the number of motor vehicles traveling along particular streets, and can increase the number of bicyclists
- Traffic calming techniques can be used to provide better roadway conditions for bicyclists by better defining the space available to each mode, by improving intersection design for non-motorized users and by giving greater priority to their movement

*Traffic Calming: Do's and Don'ts to Encourage Bicycling*¹⁴ notes that traffic calming can be implemented specifically to encourage bicycling by creating bicycle-priority streets or bicycle

¹¹ <http://www.cdtcmop.org/rtp2030/e-opps.pd>, August 2009

¹² <http://www.bicyclinginfo.org/training/>, August 2009

¹³ http://www.pps.org/training/info/transportation_training_course, August 2009

¹⁴ <http://www.ite.org/traffic/documents/A1A96E98.pdf>, August 2009

boulevards. Residential streets are often used by cyclists but their utility is significantly decreased by "stop" signs at nearly every intersection. Eliminating "stop" signs on a bicycle priority street requires traffic calming measures to prevent the street from attracting motorists and to control their speeds. Care should be taken to avoid those design elements that are hazardous to cyclists such as poorly designed speed humps, bumps and barriers, lane narrowings with the exception of low volume streets, irregular surfaces, unwarranted stop signs, and meandering roadways.

The inclusion of cyclists in all transportation planning may include incorporating relevant data into widely-used planning tools, such as traffic models. For example, Bend, OR and Pendleton, OR, both significantly smaller than Albany, experimented with incorporating cycling into their mode choice models by applying adjustment factors to the mode split step in the forecasting process. Edmonton, Canada, a larger City, fully included cycling in the mode split step of a full-scale, four-step regional forecasting model.¹⁵

Careful consideration will have to be given to the best way to incorporate cycling into planning tools that were not necessarily designed to take into account cycling, or are being used at a scale that does not effectively account for low mode shares. It may make more sense to apply such tools at a more micro, project specific scale while keeping in mind the larger network in general planning documents. It is a careful balance to strike between the useful level of incorporation into all traffic planning and engineering and the level of resources required to do so.

7.2.7 Evaluate and consider a Complete Streets policy within the Comprehensive Plan

In general, cyclists should be considered in every transportation or traffic project, through a defined policy such as a commitment to *complete streets*, described in Section 7.1, page 59.

The US National Complete Streets Coalition¹⁶ is an organization with over 25 member organizations whose mission is to work together in support of streets that are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities are able to safely move along and across streets. Creating complete streets means changing the policies and practices of transportation agencies to ensure that the entire right-of-way is routinely designed and operated to enable safe access for all users that are appropriate for local context and needs. The elements of a good Complete Streets policy include:

- A clear statement specifying that "all users" includes pedestrians, bicyclists, transit vehicles and users, and motorists, of all ages and abilities, and that "all users" are considered during the planning and design process
- Recognition of the need for flexibility which implies that all streets are different and user needs will be balanced
- Ensures that any exceptions are specifically and clearly stated and sets a clear procedure requiring high-level approval for exceptions
- Aims to create a comprehensive, integrated, and connected network of transportation facilities to meet the needs of all users
- Directs the use of the latest and best design guidelines and standards in the development of solutions that fit in within context of the community
- Applies to both new and retrofit projects, and includes the entire life cycle of a project (i.e. design, operation and maintenance) for the entire right-of-way
- Establishes performance standards with measurable outcomes
- Is adoptable by all agencies to cover all roads

CDTC's *New Visions* incorporates principles that consider all modes to comply within the Capital District for use of federal funds, as follows:

¹⁵ Clark, D. (1997). *Estimating Future Bicycle and Pedestrian Trips From A Travel Demand Forecasting Model*. Paper presented at the 67th Annual Meeting, Institute of Transportation Engineers.

¹⁶ <http://www.completestreets.org>, October 2009

- **Adopted CDTC Principle #4—Plan and build for all modes.** Transportation planning and project design must consider and accommodate more than just cars. Pedestrians, bicyclists, public transit, delivery vehicles, long-distance trucks, rail crossings, and intermodal terminal access are among the modes and modal considerations elevated by the plan.
- **Adopted CDTC Principle #5—Improve the safety of the regional transportation system by creating a traveling environment that is consistent with the community context and provides a reasonable range of risk for all users of the system.** This principle reflects the more integrated approach CDTC envisions for its safety planning activities on all public roads. It not only supports the continued use of traditional safety countermeasures on high speed facilities (clear zones, rumble strips, etc.), where appropriate, but also leaves room for the integration of the “Complete Streets” concept and innovative design techniques including the use of roundabouts, the use of “visual friction” or visual cues drivers get from the road environment to slow down, arterial management techniques, etc. as well as the education and enforcement efforts of a wide variety of local safety professionals who have a real impact on driver behavior. It also integrates the community context in the design process as appropriate designs can help encourage responsible driving behavior.

Designing for a reasonable range of risk allows the transportation system to be forgiving such that when a crash does occur, lives are not threatened. This concept will help to reduce the level of risk for the region’s most vulnerable users of the transportation system, particularly bicyclists, pedestrians, children and the elderly. As required under SAFETEA-LU, CDTC’s safety planning efforts will be consistent with the 2007 New York State Strategic Highway Safety Plan and the New York State Transportation Master Plan.

- **Adopted CDTC Principle #15—In project development and design, other performance measures, such as pedestrian, bicycle and transit access, community quality of life, and safety will be considered along with congestion measures.** Trade offs among performance measures will be necessary in many projects. Congestion measures do not have higher priority than other *New Visions* performance measures. There are times when LOS (Level of Service) E or LOS F should be accepted, especially when community context or cost makes it inappropriate to widen the roadway or add lanes at an intersection.

7.3 Bikeway Maintenance

7.3.1 Review and update current maintenance practices for on-road bikeways

Cyclists in attendance at the two project public meetings stressed the importance of improved roadway pavement surfacing and maintenance practices to enhance cycling conditions in Albany. While the development of new bicycling facilities is important, and certainly among the key recommendations of this plan, maintaining these new facilities can present challenges to a community’s public works and transportation department. Following are some tasks involved in maintaining bikeway facilities:

- **Bike Lane and Stencil Restriping:** Depending on the materials and the level and pattern of vehicular traffic, bike lanes and stencils will likely need restriping every 1 to 5 years. Paints will need to be reapplied at least every 2 to 3 years. Thermoplastic tape used for stencils can last for 5 or more years.
- **Sweeping of Bikeway Routes:** Popular bikeway routes, including bike lanes and wide outside shared lanes, should be swept more frequently than other City streets to ensure that they function as intended. Gravel and debris is commonly drained or blown towards the curb of City streets, accumulating in the bike travel space. This creates hazardous conditions for cyclists or forces them to ride to the left of the debris, often in the vehicular travel lanes.

Streets with bicycle facilities or heavy bicycle use should be prioritized for early spring sweeping and be swept up to 4 times per year, or enough to be kept free of debris.

- **Sign Maintenance and Replacement:** Typical street signs need replacement on an average every 10 years and regularly monitored and straightened as needed.
- **Spot Improvements:** A program for collecting information on ‘spot improvements’ needed to address hazards along City roads, including designated bikeways, should be created. This can use the web, telephone and/or post cards to gather needed data from cyclists. A method for prioritizing and implementing spot improvement projects should be developed. Hazards that can be effectively addressed through this type of program can include pot holes, poor pavement conditions, drainage grates and manhole covers, ineffective bicycle detection at intersections, etc.

7.3.2 Develop standards to address the continuity of bikeway routes through construction zones

A clear policy and standards should explicitly consider the needs of cyclists in traffic management plans for all private and public construction projects within the public right-of-way so that traffic control requirements address the continuity of bikeway routes through construction zones. This can include signed detours around construction projects or zones, providing adequate space for bicycle travel through construction zones, or signage that indicates that bicyclists can take the lane in construction zones, if traffic speeds are slow and carefully regulated.

7.4 Encouragement Programs

7.4.1 Collaborate with CDTC on transportation demand management TDM initiatives

Transportation Demand Management (TDM) programs around the U.S. have aimed to get commuters to use alternative modes to get to work. While much of this work focuses on encouraging carpools and transit when it is available, attention is also given to cycling to work. Various incentives have been experimented with for both employers and employees. On a national level, on January 1, 2009, 132(f) of the IRS tax code as updated to include bicycle commuters. Under this code, regular bicycle commuters can be reimbursed up to \$20 monthly for bike-related expenses. Companies decide how to implement this benefit for employees.¹⁷

If companies, municipalities, counties, and states recognize the benefits of encouraging cycling over single occupancy car commuting (e.g. healthier employees, lower Green House Gas (GHG) emissions, less wear and tear on roads), other incentives may be offered. For example, in Berkeley, CA, Cliff Bar & Company launched the Cool Commute program in 2006, which includes an incentive to commute by bike two days a month. Employees who agree to do so receive up to \$500 for the purchase of a commuter bike or to make commute-related retrofits to an existing bike. Marin County, CA has a Green Commute Program that provides a \$4 daily stipend to those who get to work without driving alone.¹⁸

CDTC and CDTA have developed and maintained various TDM initiatives such as carpool matching, guaranteed rides home, and discount transit programs. In 1997, CDTC set aside TIP budget for “Spot Improvements for Bicycle and Pedestrian Access” based on suggestions from residents. The CDTC solicits suggestions for improvement every two years, at a different time than the normal TIP solicitation process.¹⁹ The City of Albany should continue to work with the CDTC to develop more TDM initiatives relevant for cycling as well as obtain support for cycling infrastructure investments when possible.

¹⁷ For a summary of the benefits see <http://www.bikeleague.org/news/100708faq.php>, August 2009

¹⁸ http://www.co.marin.ca.us/depts/pw/main/green_commuting.cfm, August 2009

¹⁹ <http://www.cdtcmpo.org/interesting.pdf>, August 2009

Bike-Share

Having access to a working bicycle will influence a person's decision to ride or not. Bicycle-sharing is gaining popularity in North America as a means to provide bicycles suitable for transportation to residents and visitors who may not own a bicycle, or have access to a bicycle at the particular location where they would like to use one. There are a variety of bike sharing models though broadly, two systems exist: those operated by public agencies including universities, giving access to bicycles located throughout the City or campus at hubs or docking stations via a small payment, deposit or smart card; and community- or membership-based bike lending programs administered by community organizations. Either may use public-private partnerships like advertising to fund programs. Washington's Smart Bike DC²⁰ and Montréal's BIXI²¹ are good examples of a large public-private run program. Two examples of campus bike sharing are the Green Bike Program at Chicago's Saint Xavier University²² and the Buffalo Blue Bicycle program²³, a community-university bike lending system.



Bicycle libraries, like Iowa City's²⁴ are an innovative model for smaller cities (population under 68,000) geared to making bikes accessible to lower-income groups, people wishing to try bicycling, and those interested in testing different kinds of bikes.

7.4.2 Provide web page about cycling in Albany

Information and support is critical in encouraging cycling to work. Web pages provide an easy way for many cyclists and potential cyclists to access such information about cycling. Various cities and towns provide such information through the City or town website, such as in Chicago, IL²⁵; Austin, TX²⁶; or Boston, MA.²⁷ These sites can be brief (such as Austin) or extensive with multiple pages (such as Boston) and provide links to many other resources.

7.4.3 Support a bike week or month program or campaign

Regular City events promoting cycling increase a sense of support and comfort levels with cycling. For example, Boston launched its Boston Bikes programs during the annual Hub on Wheels, which is sponsored by the City.²⁸ Boston also sponsors monthly Friday bike convoys to work with police experts. Riders meet at a downtown plaza for breakfast at the end of the ride.²⁹ Such rides require concentrated areas of employments so that many riders will want to take a single route.

²⁰ <https://www.smartbikedc.com>, September 2009

²¹ <http://montreal.bixi.com/home/home-bixi> September 2009

²² http://www.sxu.edu/administrative/Facilities_Mgmt/green_bike.asp, September 2009

²³ <http://www.buffalobluebicycle.org/>, September 2009

²⁴ <http://www.bikelibrary.org>, September 2009

²⁵

<http://egov.Cityofchicago.org/City/webportal/portalEntityHomeAction.do?entityName=Chicago+Bike+Program&entityNameEnumValue=127>, August 2009

²⁶ <http://www.ci.austin.tx.us/bicycle/>, August 2009

²⁷ <http://www.Cityofboston.gov/bikes/default.asp>, August 2009

²⁸ <http://www.hubonwheels.org>, August 2009

²⁹ <http://www.Cityofboston.gov/bikes/bikefridays.asp>, August 2009

7.4.4 Continue to encourage the provision of bicycle parking at events and festivals supported by the City

In addition to promoting commuting to work, many other trips, such social or recreational trips, can also be encouraged through City efforts. For example, any City festival or event can be located in areas easily accessible by bike with bicycle parking.

7.5 Safety and Education Programs

7.5.1 Support marketing and education campaigns and programs that focus on skills training and collision prevention to complement injury intervention through helmet use

The City of Albany should support marketing and education campaigns and programs that focus on skill training and collision prevention to complement injury intervention through helmet use. These programs should target multiple age groups and multi-generational, family settings. The Federal Highway Administration has developed a National Bicycle Safety Education Curriculum under the Transportation Equity Act for the 21st Century. The curriculum identifies the skills that cyclists of various ages should have and identifies resources for education training materials.

Courses can be held through schools or bicycle retail locations, or at cycling-related non-profits. Such efforts can be most effective as collaboration. For example, Recycle-A-Bicycle³⁰ is a New York City non-profit that carries out professional training, bike-maintenance courses, after-school programs, and chaperoned group rides in partnership with New York City schools. Municipal support and marketing of such programs can help ensure success.

Marketing campaigns can promote safe bicycle use and can be compatible with all other bicycle-related programs. For example, the Houston, TX “On a Roll Campaign” includes the following components:³¹

- Handbook on cycling
- Maps
- Bike rack installation
- Bike lids for protected bicycles
- Public service announcements in 30-second TV and radio spots
- Online education modules
- Bike tour videos
- City employee training
- City shared bike fleet
- Side mirror decals to remind drivers to look for cyclists
- Adopt-A-Trail program
- Organized bike rides
- Mile markers on trails

³⁰ <http://www.recycleabicycle.org>, August 2009

³¹ <http://www.houstontx.gov/mayor/press/bikeways.pdf>, August 2009

8. IMPLEMENTATION PLAN

The Implementation Plan consists of the following information to guide the development of the recommended 20-year bikeway network and associated policies and programs:

- Unit costs of construction to provide guidance in preparing preliminary construction costs estimates for the purpose of scheduling projects and securing funding
- Pilot projects to be implemented over the next few years as a approach to introducing bikeway treatments to the residents and visitors to Albany
- Priorities for implementing bicycle-friendly and supportive policies and programs, including potential partners and funding sources

8.1 Unit Costs for Construction

To assist with planning for the implementation of the cycling network, unit costs of construction for the various bikeway treatments recommended in Albany, as shown in Exhibit 18, were developed (2009 Dollars). Item unit prices were compared generally to the *NYS DOT Weighted Average Item Price Report* (Metric Contracts Let July 1, 2008 to June 30, 2009).

These costs are intended to guide the City of Albany in planning for the implementation of various routes, including scheduling with capital, operations and maintenance projects and securing funding. Additional review of in-situ conditions and material and labor costs should be undertaken during the design phase of implementing routes.

Exhibit 18: Unit Costs of Construction for Bikeways

Item	Description	Unit Cost of Construction
Bicycle Lanes	Paint bike lanes on existing wide lanes / roadway or as part of road resurfacing project (line painting and signage)—thermoplastic bike lane lines, bicycle symbol and diamond every 650 ft., bike lane regulatory signage every 1,000 ft.	\$20,000 / mile
Bicycle Lanes	Retrofit bike lanes to existing roadway— remove existing lines (assume four-lane roadway), repaint (thermoplastic) lane lines including bike lane line, bicycle symbol and diamond every 650 ft., bike lane signage every 1,000 ft.	\$70,000 / mile
Paved Shoulder	Pave existing granular shoulders as part of road resurfacing / reconstruction project—additional asphalt, paint bike lane lines, bicycle symbol and diamond every 650 ft., bike lane regulatory signage every 1,000 ft.	\$150,000 / mile
Paved Shoulder	Add paved shoulders as part of road new construction / reconstruction / widening project— additional pavement (granular and asphalt), paint (thermoplastic) bike lane lines, bicycle symbol and diamond every 650 ft., bike lane regulatory signage every 1,000 ft.; removals, grading, sub-drains included in road portion of construction costs	\$230,000 / mile
Shared Lanes	Add shared lane markings to existing travel lanes— thermoplastic bicycle symbol and double chevrons every 250 ft. both sides, share the road signage every 1000 ft both sides	\$15,000 / mile

Item	Description	Unit Cost of Construction
Bicycle Boulevard	Traffic calming, major roadway crossing (detection median refuge, or signalization every mile), bicycle route sign with tabs (directions, destinations, distances, etc.) every 1000 ft.	\$150,000 / mile
Multi-use Trail	Pave existing 12 ft. wide granular trail and add signage	\$80,000 / mile
Multi-use Trail	Construct new 12 ft. wide asphalt trail with signage—assume normal site conditions; amenities and upgraded roadway crossings extra	\$500,000 / mile
Signage	Add bicycle route signage urban area—One bicycle route sign with appropriate tabs (directions, destinations, distances, etc.) every 1000 ft, plus two on side streets every 1650 ft, additional route map sign every 3 miles	\$1,500 / mile

8.2 Plan Implementation

The City of Albany and its partners from the Bicycle Master Plan have identified a number of projects to start implementing the Bicycle Master Plan. Based upon funding, current projects and opportunities, the identified projects will help develop the bicycle network by installing pavement markings and signage, educating the public about bicycling and providing bicycle parking. At this time, the items listed below are items the City of Albany is currently pursuing:

- Bicycle Education Campaign:** Cooperatively CDTC and the City of Albany are currently developing a Bicycle Education Campaign to inform motorists and bicyclists about the need to share the road. This program will reach out to the residents of the City of Albany, as well as the commuters and visitors. This program is funded by UPWP (define) and will be unveiled in spring of 2010.
- Bicycle Infrastructure:** The City of Albany has identified three bicycle routes that are consistent with the Bike Master Plan. These include two major routes and neighborhood link consisting of neighborhood and major routes. These projects were selected based upon feasibility and consistency with the proposed bikeway network. The major route will include bike lanes in a neighborhood strategy area on an east/west route. The second major route will include shared lane (“sharrow”) pavement markings at appropriate locations throughout the road with complementary signage. The neighborhood link will connect a number of the demographically varied neighborhoods throughout the City of Albany with a variety of pavement markings and signage, and provide bicycle connections on east/west streets as well as north/south streets. Along with the diversity of neighborhoods, this neighborhood link will connect a number of the neighborhoods to the downtown. Completion date is estimated for the fall of 2010.
- Capital Regional Bike Rack Program:** Capital Region Bike Rack program will be a new addition to a set of Travel Demand Management (TDM) strategies administered cooperatively by CDTA and CDTC. This program would allow businesses, not-for-profits and municipalities to apply for bicycle racks in the spring of 2010.
- Bicycle Racks at BRT Stations:** TDM money is also planned to put bike racks at the BRT stations.
- Funding Opportunities:** The City of Albany has applied for a FY2010 Environmental Protection Fund Local Waterfront Revitalization Program grant for the waterfront and

downtown bicycle infrastructure project. The City of Albany Downtown and Waterfront Bicycle Infrastructure Program will enhance bicycle infrastructure in two ways. The first component will provide bicycle road markings and road signage to direct people to the downtown and waterfront. The second component of this program is artistic bicycle racks for residents, commuters and visitors to use while visiting the downtown and waterfront. This program engages three distinct groups and provides a new approach in how they interact. It enhances cyclist experience through better bike storage, informs motorists by guiding their shared use of the road and invites artists to provide public art by creating one of a kind sculptures functioning as a bike rack. These bicycle racks will provide general public parking and enhance the downtown streetscape experience. The application was submitted in September of 2009.

- Transit-Oriented Development Study:** The City of Albany and the Capital District Transportation Authority were awarded Federal CMAQ (Congestion Management and Air Quality) funds in April 2009 to be utilized for the development of a Transit-Oriented Development Zoning and Guidebook for use within the City's overall zoning ordinance pertaining to the transit intensive NY5 (State/Central) and Washington/Western and Route 32/Broadway corridors. The project is expected to begin in the spring of 2010.

8.3 Priorities for Programs and Policies

There are a variety of policies, practices and programs that communities can adopt to support existing and potential cyclists. Policy themes with examples and best practices for those considered feasible in Albany were presented in Section 7, page 59. They are listed in Exhibit 19 along with potential partners and timeframe for implementation, i.e., on-going, short-term (1 to 5 years), mid-term (5 to 10 years) and long-term (beyond 10 years).

Exhibit 19: Policy and Program Implementation Schedule

Policy / Program	Responsible Agencies / Partners	Timeframe for Implementation	Report Reference
Bicycle-Friendly Communities and Development Sites			
1. Encourage bicycle-friendly development by adopting site plan review criteria requiring bikeway routes, bike parking and other end of trip facilities	City of Albany	Short-term	Section 7.1.1, page 59
Bicycling Infrastructure			
2. Develop bicycle parking design guidelines on good rack designs and locations	City of Albany, CDTC, ABC	Short-term	Section 7.2.1, page 60 & Section 5.7, page 32
3. Implement the proposed bikeway network over time	City of Albany, CDTC, NYSDOT	On-going/Long-term	Section 6.2, page 38 & Section 7.2.2, page 61

Policy / Program	Responsible Agencies / Partners	Timeframe for Implementation	Report Reference
4. Co-ordinate the Bicycle Master Plan development and execution with adjacent municipalities and the CDTC Bicycle and Pedestrian Task Force	CDTC Bicycle and Pedestrian Task Force, NYSDOT, Village of Menands, Village of Colonie, Town of Guilderland, Town of Bethlehem, City of Rensselaer, Albany County, Rensselaer County	On-going	Section 7.2.2, page 61
5. Develop a bikeway signage program for major bikeways and neighborhood routes	City of Albany, CDTC, NYSDOT	Short-term to develop strategy, Ongoing to implement	Section 5.6, page 30 Section 7.2.3, page 61
6. Collaborate on integrating cycling with transit (bicycles on vehicles, bicycle parking at stations/stops, and regional network connections.)	City of Albany, CDTA	On-going	Section 7.2.4, page 62
7. Plan for comfortable and frequent crossings for cyclists of significant barriers such as waterways, freeways and interchanges	City of Albany, Albany County, NYSDOT, CDTC	On-going/Long-term	Section 7.2.5, page 63
8. Routinely consider the needs of cyclists in transportation / traffic projects, services and programs	City of Albany	On-going	Section 7.2.6, page 63
9. Evaluate and consider a Complete Streets policy within the Comprehensive Plan	All Partners	During Comprehensive Planning Process	Section Error! Reference source not found.
Bikeway Maintenance			
10. Review and update current maintenance practices for on-road bikeways	City of Albany	Short-term	Section 7.3.1, page 65
11. Develop standards to address the continuity of bikeway routes through construction zones	City of Albany, NYSDOT	On-going	Section 7.3.2, page 66
Encouragement Programs			
12. Collaborate with CDTC on transportation demand management TDM initiatives	City of Albany, CDTA	On-going	Section 7.4.1, page 66
13. Provide a web site / page about cycling in Albany	City of Albany, ABC, CDTC	Short-term	Section 7.4.2, page 67
14. Support a bike week or month program or campaign	City of Albany, ABC	On-going	Section 7.4.3, page 67
15. Continue to encourage the provision of bicycle parking at events and festivals supported by the City	City of Albany, ABC	Short-term	Section 7.4.4, page 68
Safety and Education			
16. Support marketing and education campaigns and programs that focus on skills training and collision prevention to complement injury intervention through helmet use	NYSDOT, CDTC, City of Albany, ABC	On-going	Section 7.5.1, page 68

Policies, programs and infrastructure can be funded through the City of Albany’s capital and operating budgets, and private development investment in the City. Other sources of funding are listed in Exhibit 20.

Exhibit 20: Non-local Governmental Sources of Funding

Administrator	Program
<p>Capital District Transportation Committee— Transportation Projects and Programs</p>	<p>Transportation Improvement Program: Eligible project sponsors include NYSDOT, CDTA, counties, cities and other municipalities and public entities. CDTC’s eligibility criteria require integration of modes and appropriate integration of transportation and land use in all projects. All candidate projects must be consistent with CDTC’s New Visions 2030 Plan as reflected in CDTC’s adopted Planning and Investment Principles.</p>
	<p>Community and Transportation Linkage Planning Program: Provides consultant or CDTC staff technical assistance for joint regional-local planning initiatives that link transportation and land use.</p>
<p>New York State Department of Transportation</p>	<p>Transportation Enhancement Program: Projects must fall into one or more of 12 Federal Highway Administration (FHWA) categories to be eligible for funding, including Provision of Facilities for Bicycles and Pedestrians; Provision of Safety and Educational Activities for Pedestrians and Bicyclists; and Preservation of Abandoned Railway Corridors (Including Conversion and Use for Pedestrian and Bicycle Trails). Project applications may be developed by any municipality or non-profit incorporated group; a historic preservation society, for example. All applications must be sponsored by one of the three groups: a municipality (county, city, town or village); a state agency (other than DOT); an Authority (other than the New York State Thruway Authority, Canal Corporation). The availability of future TEP application rounds will depend on the continuation of the program by Congress in the next surface transportation act.</p>
<p>New York State Office of Parks, Recreation and Historic Preservation— Trail Development</p>	<p>Land and Water Conservation Fund Program: A matching grant program for the acquisition, development and/or rehabilitation of outdoor park and recreation facilities. Funds are available to municipal public agencies and Indian tribal governments. Funded projects must reflect the priorities established in SCORP and be available to the general public. Source of funds: The National Park Service.</p>
	<p>Recreational Trails Program: A matching grant program for the acquisition, development, rehabilitation and maintenance of trails and trail-related projects. Funds are available to non-profit organizations, municipal, state and federal agencies, Indian tribal governments and other public agencies and authorities. Funded projects must be identified in, or further a specific goal of, the SCORP and must be available to the general public. Source of funds: Federal Highway Administration.</p>
	<p>Environmental Protection Fund, Parks Program: A matching grant program for the acquisition or development of parks and recreational facilities for projects to preserve, rehabilitate or restore lands, waters or structures for park, recreation or conservation purposes. Funds may be awarded to municipalities or not-for-profits with an ownership interest, for indoor or outdoor projects and must reflect the priorities established in the NY State-wide Comprehensive Outdoor Recreation Plan (SCORP).</p>
	<p>Environmental Protection Fund, Acquisition: A matching grant program for the acquisition of a permanent easement or fee title to lands, waters or structures for use by all segments of the population for park, recreation, conservation or preservation purposes. To be used for all three program areas where acquisition is of more importance than development.</p>
<p>New York State Assembly</p>	<p>Grant Action News: Free monthly newsletter identifies what grant opportunities are available. Also available is the Catalog of State and Federal Programs Aiding New York’s Local Governments (http://assembly.state.ny.us/gan/)</p>

Administrator	Program
Foundations, Private and Non-Profit Sources	Foundation Center: Maintains the most comprehensive database on U.S. grant-makers and their grants (http://foundationcenter.org)
Department of State	<p>Waterfront Revitalization Programs (LWRPs): A variety of financial assistance is available to help communities achieve waterfront revitalization goals. (http://nyswaterfronts.com/grantopps.asp)</p> <p>The Governor's Traffic Safety Committee (GTSC) oversees New York State's highway safety program and receives funding from the National Highway Traffic Safety Administration to address highway safety related problems. The goal of the program is to prevent motor vehicle crashes, save lives, and reduce the severity of injuries suffered in crashes on the state's roadways. The GTSC distributes these funds to state agencies, local governments and qualifying not-for-profit agencies through a grant award program.</p>

8.4 Institutional Structure

It is important to have a ‘champion’ for cycling that is tasked with implementing the recommendations from the Master Plan. Without this political and fiscal commitment, the policies and infrastructure recommendations in the Master Plan may not be realized. For example, the Kansas City, MO was granted \$1.8 million in federal funds for bicycle infrastructure that went unspent for seven years until a senior planner was hired to carry out the projects. In Boston, MA, after being ranked the worst cycling City multiple times, the City hired a part-time Bicycle Coordinator who has since been successful in overseeing the construction of numerous small infrastructure projects, and is in the process of implementing a bicycle-sharing program.

Without a strong political force legitimizing and advancing bicycle-friendly initiatives, the designation of resources for carrying out the initiatives is necessary. Even if political will exists, until the planning and design of bikeways and bicycle-friendly communities is routine within a municipality, such a strategy of dedicating resources is required. There are two ways to structure staff commitment: a part- or full-time cycling coordinator or senior staff with shared responsibilities for implementation.

In addition to dedicated staff, legitimacy and stakeholder efficacy can be achieved through the establishment of a Cycling or Non-motorized Transportation Advisory Committee. This committee can be made up of interested community members, business owners, staff from other governmental offices, and other stakeholders to provide feedback and support to the cycling coordinator or person responsible from overseeing and implementing the Bicycle Master Plan. For such a committee to be effective, however, public sector buy-in must not be superficial or diminish. For example, the NYC Bicycle Advisory Committee meets, but has been ineffective and mostly a ground for the bicycle community to vent anger and frustration.³² It also may help to clearly define the role and responsibilities of such a committee, as in San Francisco.³³ It is also recommended that this plan be viewed as a dynamic document that will need to be periodically reviewed and updated to reflect changing opportunities, policies and priorities. Ideally, the plan should be reviewed annually to evaluate progress and in order to map a strategy for the next year. Public comment should be solicited during this annual review.

³² <http://www.transalt.org/files/resources/blueprint/chapter1/chapter1e.html>, August 2009

³³ See http://www.sfgov.org/site/bac_index.asp, August 2009, for more information

APPENDIX A: BACKGROUND AND RELATED STUDIES

BACKGROUND AND RELATED STUDIES

The following documents were reviewed to inform the existing and future conditions for cycling in Albany and surrounding area:

Existing bikeways and trails:

- *Albany – Rensselaer Bicycle Route Map 5* (includes Route 9), NYSDOT Bicycle and Pedestrian Program
- *Capital District Regional Bike – Hike Trail Map*, Capital District Transportation Committee, 2004
- *Mohawk – Hudson Bike – Hike Trail Map*, Capital District Transportation Committee, Spring 2006

Existing transportation information:

- *iride System Map and Rider's Guide*, Capital District Transportation Agency, July 2007

Bikeway and trail studies:

- *Patroon Greenway Project, Trailblazer and Taconic Green Planning Group for Capital District Transportation Committee, 2004*—includes the multi-use trail from Tivoli Park to Rensselaer Lake Park. The on-road sections from Tivoli Park to downtown / Riverfront and from Rensselaer Park to Pine Bush Preserve are conceptual only. The concept was endorsed by all municipalities
- *Regional Trail Perspectives—A Survey of Capital District Trail Facilities, Capital District Transportation Committee, 2006*
- *Tech Valley Trails—A Greenways Concept Plan for the Capital Region, Alta Planning + Design for Capital District Transportation Committee, January 2007*—in Albany, includes the Patroon Greenway and the Helderburg Rail-to-Trail projects.
- *The Mohawk Hudson Bike Hike Trail Crossroads Connections Study, July 2003*—mentions the off-road connection between Tivoli Preserve and the Corning Preserve as a potential link
- *Urban Bike Route Master Plan, Edwards and Kelcey for the City of Schenectady, October 2001*—linkages to the southeast are identified
- Cycling Master Plans have been undertaken or are in progress for Guilderland, Bethlehem, and Menands.
- Resolution No. 330, County of Albany, Authorizing agreements regarding the development of a rail; trail and amending the 2008 Department of Economic Development, Conservation and Planning Budgets, September 8, 2008—Authorization to enter into an agreement with the Canadian Pacific Railway to acquire an abandoned rail line along the D&H rail corridor from Route 32, City of Albany to County Road 201 in the Village of Voorheesville. Acquisition is funded by the County of Albany, NYS Office of Parks, Recreation and Historic Preservation, and Scenic Hudson. The link from the trail at Albany Port to Corning Preserve needs to be identified.

Transportation studies:

- *Harriman Campus – University at Albany Transportation Linkage Study*, Nelson\Nygaard Consulting Associates for Capital District Transportation Committee, Final Report, May 2007—includes bike lanes on the Ring Road but recognizes that redevelopment could result in a new road network.
- *Hudson River Crossing Study—Final Report*, Bergmann Associates et al for Capital District Transportation Committee and New York State Department of Transportation, February 13, 2008—includes improvements to the Dunn Memorial Bridge to better accommodate cyclists, and Livingston Railway Bridge as a potential pedestrian / cyclists crossing.
- *Lawn Avenue Gateway Design Study*, Creighton Manning Engineering and The Saratoga Associates, for Albany Housing Authority and Capital District Transportation

Committee, Final Draft, June 28, 2002—cycling in the corridors / neighborhoods is recognized but no specific improvements are recommended.

- *North Swan Street Multi-modal Accessibility Study between Clinton & Livingston Ave*, Behan Planning Associates and Creighton Manning Engineering for the City of Albany, Albany Housing Authority and the Capital District Transportation Committee, March 2008
- *McKownville Corridor Study*, Creighton Manning Engineering, 2003—a Town Bike Route plan is recommended with designated routes and intersection treatments to benefit cyclists. Fuller Road is recommended as a designated bike route.
- *Pinebush Transportation Study Update*, Capital District Transportation Committee, September 2004—recommends Fuller Road and New Karner Road as part of a bicycle/pedestrian priority network.

Policy studies:

- *Albany SDAT—A Sustainable Capital for the 21st Century*, AIA Communities by Design, August, 2007—supports the benefits of investing in cycling and pedestrian improvements.
- *Capitalize Albany Transportation Policies*, The Capitalize Albany Transportation Committee, October 19, 2000—a transportation policy discussion paper includes policies specific to cycling and a sketch plan of potential bicycle routes; not formerly adopted by the City. Recapitalize Albany plan was recently updated but focuses on economic development
- *Choosing our Future—New Visions for a Quality Region*, Capital District Transportation Committee—“big ticket” projects (catalysts for change) include \$150 M for a conceptual 250 mile bikeway and trail network with no champions or funding identified. It also includes the ‘Hundred Miles of BRT’ concept. CDTA is pursuing BRT along Route 5, downtown Albany to Schenectady.

University of Albany studies:

- *Mid-City University District—A partnership for positive change*, Master’s in Urban and Regional Planning Graduate Planning Studio, 2007—recommended reducing Washington Avenue from 4 lanes to 3 and adding bike lanes; and adding bike lanes to Western Avenue
- *The Central Albany Bikeway*, 2008 Graduate Transportation Planning Studio / Department of Geography + Planning, University at Albany
- *The Golden Grid Pedestrian and Bicycle Plan*, Masters of Regional Planning Studio, 2006—the conceptual transit corridor through campus was identified as an important bike linkage through the central campus, along with connection from the northeast from Washington Avenue, and from the southwest from Fuller Road
- *The Purple Path—The Multiple Use Path for the University at Albany Community*, Master’s of Urban and Regional Planning Studio, Fall 2005—outer multi-use trail loop was implemented
- *You Can Get There from Here—UAlbany master’s in regional planning studies and their professor envision new ways to get around the uptown campus*, Carol Olechowski, UAlbany Magazine, Fall 2007

APPENDIX B: STAKEHOLDER AND PUBLIC CORRESPONDENCE

Albany Bicycle Coalition's Position Regarding The Albany Bicycle Master Plan

6/14/09

Objective – Create a bicycle friendly community by making the bicycle an integral part of daily life in Albany, particularly for trips of less than five miles. Albany can accomplish this by encouraging bicycling for safe transportation and recreation for bicyclists of all ages and abilities. The Albany Bicycle Coalition, Inc. proposes three major programs: education for cyclists, motorists, and pedestrians; a bikeway network linking neighborhoods and linking Albany to surrounding communities; and implementing projects that will improve the safety of bicycling in the City.

Albany Bicycle Coalition supports the following:

- A. **Education** - Promote bicycling through education and encouragement. Implement a program of driver (motor vehicle operator) and bicyclist education. In cooperation with bicycle advocates, produce educational materials aimed at both motor vehicle operators and bicyclists. Disseminate these materials to resident and non-resident motorists and bicyclists.
- B. **Bikeway Network** – Design and install City of Albany commuter routes to key destinations that would include major corridors entering and exiting the City. This will relieve traffic and parking congestion, encourage use of bicycles as transportation, and educate drivers that bicycles are part of traffic.

Long term, conduct neighborhood-to-neighborhood analyses, and implement bicycle, pedestrian, and motor vehicle programs that address the roadway connections between the neighborhoods and the needs and conditions found in each.

- C. **Making an Impact** – Show bicyclists and motorists that the City is making progress toward becoming a bicycle-friendly environment. Immediately implement readily attainable objectives such as the following:
 - o **Safety** –
 - **Signage and Pavement Markings** – Install signage to alert motorists that bicyclists “Share the Road” and to remind bicyclists that they are responsible for obeying traffic rules. Add pavement striping or “sharrows” (shared lanes for both cars and bikes) where appropriate.
 - **Traffic Calming** – Traffic calming or traffic management reduces vehicle speeds, improves safety, and enhances quality of life. Institute a Citywide program to encourage motor vehicle operators to obey laws on speeding, cell-phone usage, right-on-red turns, passing, and proper lane use. On the City's wider commuting corridors, install traffic calming devices such as bump outs, channelization, chokers, part-time traffic restrictions, “your-speed-is” feedback signs, bicycle-friendly surface treatments, speed humps, lane reductions, and timed lights.
 - o **Facilities** – Increase the number of bicycle racks and improve their design. Evaluate various rack designs and select one that is most effective in terms of use and installation. In the long term, install other end-of-trip facilities such as secure bicycle storage facilities at inter-modal transit hubs and in parking garages and lots.

**Pine Hills Neighborhood Association
Background Information re: Madison Avenue Traffic Calming, Addition of Bicycle Lanes**

1. Vision/philosophy

- Role of cars in the life of cities should be second to that of pedestrians and bicyclists. CDTC planning publication calls for more bicycle and pedestrian friendly cities and a less traffic dependent capital region. Madison lane reduction would allow room for bicycle lanes.
- A Sustainable Design Assessment Team Report for Albany. pg. 13 "Environment and Open Space" section, states:

As the City of Albany has grown, many people are less connected to its open spaces, not only because of the greater distances created by sprawl but also due to the growing reconfigure of the region around automobile travel over the years. This is reflected in many different ways:

--Traffic signal times do not allow people to cross streets comfortably.

--Major streets need more bike lanes, and other streets need traffic-calming measures.

2. Reasons for traffic calming through lane reduction:

- Increased safety for all users -- bicyclists, transit riders, pedestrians, and drivers
- Growth of local businesses from increased visibility and more pedestrian and bicycle traffic
- Calming of traffic to reduce passing, speeding, sudden lane changes, red-light running, making right turns from parking lanes, and related violations
- Reduction in greenhouse gas emissions following from steadier automobile speeds and increased bicycle use
- Improved access for emergency and response vehicles
- Increased maneuverability for buses and convenience and safety for bus riders
- Decrease in number of accidents due to fewer points of conflict and enhanced visibility

The spending habits of cyclists and pedestrians, their relatively high travel mode share, and the minimal impact on parking all demonstrate that merchants in this area are unlikely to be negatively affected by reallocating on-street parking space to a bike lane. On the contrary, this change will likely increase commercial activity.

3. Reasons for lane reduction/addition of bike lanes on Madison in particular:

- Madison Avenue lane reduction has written support from Albany Bicycling Coalition, NY Bicycling Coalition, CANA (29 Albany neighborhood associations, the College of and The Muddy Cup (Madison Avenue business).
- Parking is a problem in Pine Hills. Increased bicycle traffic would reduce parking congestion.
- Increased use of Madison Avenue as a State-designated bike route (#5) due to enhanced bicycle safety (bicycle lanes).
- Relatively short route from Manning/Allen to Lark, making costs associated with lane reduction less than other similar roads.
- Pine Hills NA, representing 10,000 residents of Pine Hills (population comparable to City of Watervliet) unanimously supports it.
- Madison corridor contains many businesses, churches, students, and elderly (St. Rose, St. Andrew's, St. Vincent's church, and senior housing) that generate significant amounts of pedestrian traffic, and potentially much more bicycle traffic if the street were safer.

Feb. 2009

Delaware Area Neighborhood Association's Position Statement and Goals
for the Albany Bicycle Master Plan
June 18, 2009

1. Vision / Philosophy

The role of pedestrians, bicyclists and mass transit in the life of cities should be at least equal to that of cars ("cars" is used broadly to include trucks). The goal of efficient transportation should apply to all modes of transport including walking/running, cycling and mass transit.

At an initial Delaware Area Neighborhood Association (DANA) public meeting to determine the neighborhood's top priority for the Delaware Avenue Road Reconstruction, the meeting attendees voted and their top priority was to make Delaware Ave bicycle and pedestrian friendly. At the most recent DANA meeting on 6/11/09, residents shared some additional ideas which are included below.

2. Goals / Action items / Recommendations for the Delaware Area Neighborhood (many of these ideas should be implemented City-wide as well)

-Add the following signs and pavement markings to the Delaware Ave. Reconstruction Plan and to the streetscape (See also "Rationale / Background on DANA's Position on Bicycle-friendly Signage" below).

a) Street side signage with a depiction of a bicycle and the words "May Use Full Lane" (Sign number: R4-11. This sign is in the process of being approved by the National and New York Committees on Uniform

Traffic Control Devices and should be approved around the time of the completion of the Delaware Ave. Reconstruction.

b) Pavement markings known as "Shared lane markings" or "Sharrows" be painted on / added to the pavement surface. This marking is a picture of a bicycle with two chevrons (upside down "v"s) above it.

-Install bicycling-friendly light crossings with the current road reconstruction project. Problem with the current Delaware Ave. Reconstruction Plan: safe and legal cycling was not accounted for with traffic lights. That is, the lights will be triggered by an electro-magnetic circuit when the cars approach the lights. Cyclists are obligated to obey street lights, but the street lights will not change unless a car is present to trip the trigger. Cyclists need a solution to ride legally: either a way to bypass the trigger mechanism or some other solution.

-Add bike lanes and routes to City streets and traffic calming whenever possible.

-Identify and create bicycle-friendly routes and lanes for bike traffic which originates from the Delaware Area Neighborhood to access destinations downtown such as the state office complex (e.g., make Hackett to Madison or Second Ave. bicycle-friendly). This is critical because Delaware Avenue is a major traffic route to downtown destinations.

-Identify and create bicycle-friendly routes and lanes for bicycle traffic which originates from Delmar and South West Albany to access destinations downtown.

-Create an access point to the Albany County Rail Trail for cyclists which originate from Delaware Ave. within the City of Albany. This access point would be created with the intent of giving commuting cyclists and cyclists visiting downtown businesses (originating from Delaware Ave., Albany) to use the Rail Trail to travel to destinations downtown (this is a separate point from the above goal in that with this route, the Rail-Trail would act as a “bypass” to more “developed/traffic-laden” City routes).

-Create an access point from Albany County Rail Trail to Normanside Farm. This goal is suggested for the cyclists who are more recreational users who are enjoying a casual ride or getting exercise on routes that have a more natural setting, (for example, for riders who are out to enjoy nature / natural scenery and who are not commuting to work).

-Create safe and efficient bike routes to points within the Delaware Area Neighborhood (examples: 1) from the new library to Albany Med 2)from the Spectrum movie theater to Price Chopper 3)from Stewart’s on Delaware Ave. to the Normanskill Farm.

-Install bike racks in commercial districts and at public facilities.

-Implement discount programs to encourage cycling. This is being done in Saratoga Springs and could be used as a model. There, if cyclists are a member of the program, they are given a sticker to put on their helmet and they receive discounts/promotions from various businesses/groups. Examples: Bike to Cardona's and get 10% off. Bike to work and you get something from the City. Bike to the Farmer's market and get a free lemonade.

-Implement bike sharing programs on Delaware Avenue for running errands and/or create a bike rental program (like the French program where a credit card is used to rent a bike from a kiosk at convenient places).

-Educate car drivers about cyclists’ rights to use the road. For example, cyclists should not ride on the sidewalk as it is both legal and proper for cyclists to use the road and the full lane when it is unsafe to ride on the side. Many/most Albany motorists do not know that cyclists are supposed to ride on the road.

-Educate Albany police about cycling laws. At least some, if not many, do not know the law. At least one Albany cyclist was told by the police to get off the road and ride on the sidewalk.

-Educate cyclists about how to ride legally and safely. Some suggested methods of educating: classes, Public service announcements, road signage.

-Give priority to bicycle, pedestrian and mass transit use whenever streets are reconstructed/redesigned (see also “Rationale for road reconstructions and giving priority to cyclists, pedestrians and mass transit” below).

-Create a bicycling “czar” position within the City.

-City leadership to set ambitious and specific goals to become a nation-wide leader in alternative forms of transportation (e.g., X miles of bike lanes by 2020).

Rationale / Background on DANA's Position on Bicycle-friendly Signage

While some planners and consultants argue that additional signage causes "visual pollution" and that more signage waters down the messages of signs overall, DANA would like 1) bicycling-friendly street-side signage and 2) pavement road markings to be added to Delaware Ave. While DANA agrees, in principle, that there are decreasing returns in behavior with additional signage, DANA does not agree that, currently, Delaware Ave is an appropriate application of this principle because 1) we believe we have not reached or even come near a "tipping point" of signage pollution (i.e., to the point where drivers are so distracted by signage that they will disregard a bicycle-friendly signage messages) 2) just as drivers have speed limit signs to remind them of speed limits, bicycle safety is too important to NOT include bicycle-friendly signage on Delaware Ave. That is, just as it is important to include speed limit signs and stop signs to save lives, it is important that drivers understand that bikes have the right to the road. Speed limit and stop signs will not be removed because of the "visual pollution" argument, so bike friendly signage should be a visual indicator on Delaware Ave. as well. This too, is in light of the neighborhood vote which indicated that making Delaware Ave bicycle friendly was the neighborhood's top priority for the Reconstruction. If, one day, bicycling culture becomes commonplace, and everyone generally knows and understands that bicycles belong on the road as much as cars do, then these signs can be removed.

Rationale for Road Reconstructions and Giving Priority to Cyclists, Pedestrians and Mass Transit

Rationale: If pedestrians and bicycles are given priority over cars, then all involved will begin with the goal of finding creative solutions to accommodate all uses instead of just cars. Of course, cars will be accounted for in planning efforts, since it is the predominant usage now and this usage is very much still part of our transportation culture. However, to achieve the goal of striking a balance between all uses, different priorities need to be set. Change will not occur or will occur more slowly if cars continue to be the top priority. Therefore, the focus and priority needs to shift to making areas more pedestrian- and cycling- friendly.

Additional General Observations

In Albany, as in many places that are not yet known as bicycle-friendly cities, drivers of cars are antagonistic to law-abiding cyclists. Drivers put both cyclists and themselves at risk by intimidating cyclists. For example, they 1) scream at cyclists and honk their horns to "force" cyclists off the road 2) drive dangerously close to cyclists (sometimes even grazing bikes or cutting off cyclists) and 3) throw objects at them. Many drivers in Albany believe that cyclists are legally not supposed to ride on the road and instead, are supposed to ride on the sidewalk. This above information is being shared so that all involved in the Albany Bicycling Master Plan process will be informed of the real everyday happenings for Albany cyclists.

Comments Received Regarding the Final Draft BMP Following the Final Public Presentation

From	Comments	Summary of Issues that Affect the BMP
<p>New York Bicycling Coalition</p>	<p>NYBC is pleased the City of Albany is recognizing the importance of a plan to improve safe bicycle travel throughout its city streets and we look forward to its formal adoption and implementation.</p> <p>As stated in the Executive Summary, the City has taken a sustainability pledge recognizing “the promotion of a comprehensive bike network that provides a safe and healthy transportation alternative is paramount to the achievement of carbon reductions and moving toward sustainability.” A firm commitment to adopting a “Complete Streets” policy, in conjunction with implementation of The Bicycle Master Plan, is required from the City to meet stated goals of the Climate Protection Agreement and move Albany’s sustainability initiative forward.</p> <p>As you may already know, “Complete Streets” are defined as facilities that are designed and operated to enable safe access for all roadway users, including pedestrians, bicyclists, motorists and public transit users of all ages and abilities. As NYBC has been reminding City planners and consultants throughout the planning process, creating “Complete Streets” means transportation agencies and city planners must change their orientation toward building primarily for cars. Instituting a Complete Streets policy ensures that agencies should routinely design and operate the entire right of way to enable safe access for all users. Ingredients may include: sidewalks, bike lanes, plenty of crosswalks, wide shoulders, medians, bus pullouts, special bus lanes, raised crosswalks, audible pedestrian signals, sidewalk bulb-outs, and more. The focus is to design a balanced, safety oriented and encourage convenience for everyone using the road.</p> <p>A strong demand for adoption of such a policy has been ardently voiced amongst residents and indicated within the proposed Plan as one of the highest priorities for the City: see “routinely consider the needs of cyclists in transportation/traffic projects, services and programs,” and “review and update current maintenance practices for on-road bikeways,” p. 13.</p> <p>As it currently stands, the City has allowed a number of missed opportunities to incorporate the needs of bicyclists and pedestrians into its planning: most recently and in particular, the repaving of Western Avenue (ironically, also State Bike Route 20). It is our understanding City had the chance, and was advised to negotiate bicycle accommodations into the scope of the project (beyond wide curb lanes), but neglected to work said accommodations into the budget or plan. Perhaps the addition of “sharrows,” discussed elsewhere in the plan, would mitigate this earlier oversight.</p> <p>Also not made apparent in the 100-page draft proposal are the criteria which the City is using to measure and determine which facilities will be used when (other than cost). What are the determining factors? Traffic volume, ridership, or limits in right of way ownership that determines the treatment that should be selected for safe bicycling? Providing a list of design selection criteria would afford significant opportunities for public understanding of the planning process.</p> <p>Despite the rhetoric of connectivity and continuity offered regarding the creation and development and of a Bicycle Network, there appears to be a need to clarify how projects are being targeted for completion. While the proposed map does a</p>	<p>Supportive of plan</p> <p>Adopt Complete Streets policy</p> <p>Mitigate missed opportunities with “sharrows”</p> <p>Design selection criteria needed</p> <p>Define 5-year implementation plan</p>

From	Comments	Summary of Issues that Affect the BMP
	<p>good job indicating a number street corridors bicyclists use in their current daily routines, there is no defined hierarchy regarding the priority of projects or concrete plans the City has chosen to focus on over the next 20 years, besides the 5 initial items announced at the October 27th meeting, slated for 2009-2010. The proposed Plan also fails to indicate how route(s) will connect with any major employment centers or major neighborhoods to one another (note provided definition of "neighborhood routes" connecting adjoining neighborhoods). Establishing linkage projects and truly connective bicycle routes are crucial to the success of this Plan, and should be prioritized accordingly. A five year initial program of implementation could help focus on the next steps to be undertaken.</p> <p>NYBC sits on the CDTC Bike/Pedestrian Task Force, as do your staff members. These meetings included significant discussion regarding the value and importance of education in conjunction with engineering, infrastructure and encouragement initiatives to develop more bicycle-friendly communities. The upcoming Public Education campaign, initiated by CDTC and focused on the City of Albany, is a good first step, and encourages the City to move forward in complementing such educational programs as part of its long-term planning in the Bicycle Master Plan.</p> <p>Other specific notes on the proposed Bicycle Master Plan:</p> <ol style="list-style-type: none"> 1. Rt. 9 has a serviceable 4 ft. shoulder and a good southbound service road ending at Northern Blvd. The northbound ramp from Northern Blvd needs a shoulder for about 1/5 of a mile—especially as this route is frequently used for commuting. Please map and list it accordingly, perhaps on p.14 and/or p.43. 2. The link to Corporate Woods from the Patroon Creek Greenway should extend all the way to Albany Shaker Rd. and needs to be indicated as such on the map. 3. As much as we agree with the high indication the importance of bikes shown on the table on p.11, it should be clear that these were the results from surveys made available at the two public meetings held in February and June of 2009. An extraordinary showing, to be sure, but should be qualified as such, lest it be questioned by the City's policy makers. 4. Downtown offices and attractions – such as the DEC building and Visitor's Center – could be mentioned as destinations on p.15 and p.31. This would lend support to plans for improvements to Clinton St. 5. The Broadway route headed into Menands is another popular route to state offices, such as the NYS Department of Health and others housed in the old Montgomery Ward's building. It also serves as access to/from the space under the I 787 underpass via Albany St. a popular site for concerts, boating regattas, etc. and qualifies to be indicated as a destination. 6. Roadway maintenance needs a section on p.60 discussing snow and ice controls. 7. Paved road shoulders, a significant (perhaps excessive) cost on p.64, badly needs to be qualified. If the shoulder is constructed from raw land, it is expensive, probably as shown. However, such an "added" shoulder also serves as a breakdown lane, frequently serves the needs of pedestrians and helps to preserve the road. A road with a shoulder lasts up to 20% longer than one with no shoulder. On the other hand, most decisions only involve adding proper paving to a gravel, chip-seal or a rough paved shoulder, which is a much 	<p>Supportive of Public Education campaign</p> <p>Add Route 9 with paved shoulder</p> <p>Extend Patroon Greenway to Albany Shaker Road</p> <p>Source survey exhibits</p> <p>Add DEC building and Visitor's Center as destinations</p> <p>Broadway is included in network</p> <p>Address winter maintenance</p> <p>Include cost / benefit of paves shoulders</p>

From	Comments	Summary of Issues that Affect the BMP
	<p>cheaper project.</p> <p>8. The grant sources on p.65 should add the Dept. of State programs – such as the grant recently awarded to Albany to advance the bike-plan projects near the waterfront. Private sources such as the Scenic Hudson grant to the County for the new rail-trail, small grants from the Hudson Greenway, and promotion information funded by Economic Development could also be mentioned.</p> <p>Last, but certainly not least, NYBC encourages the City of Albany to plan and budget for priorities outlined in the Executive Summary of the plan, and create benchmarks with specific timelines for implementation based on input from the public. While recognizing that funding opportunities will play a major role in the Plan's goals and timelines, the effort and expenditures the City, CDTC and the public have devoted to this Plan well justify identifying clear steps for its implementation, would clearly demonstrate the City's level of commitment toward the Plan.</p> <p>We request a response from the City regarding the questions outlined above in a timely manner. NYBC looks forward to progress being made under the plan to foster a hospitable environment conducive to safer bicycle commuting to work and other utilitarian trips, providing greater mobility for residents (including those with little or no access to automobiles), and offering a more attractive area to promote tourism and boost the local economy. We also hope this Plan will be part of the solution to easing the peak hour congestion downtown, and contributes to the health and prosperity of the City and its residents.</p>	<p>Add Department of State programs</p> <p>Plan and budget for priorities with benchmarks</p> <p>Supportive of BMP</p>
<p>Individual</p>	<p>Thank you for making bicycling rights more visible in the city of Albany. Many people are talking about the sharrows on Washington Avenue and the newly marked bicycle lanes on Clinton Ave.</p> <p>I look forward to the educational media campaign which is essential to the success of any bicycle master plan. Sharrows and bicycle lanes are only as good as the shared knowledge of bicyclists and drivers.</p> <p>I am concerned however that the sharrow placement on Washington Ave was too close to the curb. I believe they should be 4ft from the center of the marking. Putting them so close to the curb does not convey the message that a bicyclist has the right to share the lane.</p>	<p>Supportive of 2009 projects</p> <p>Supportive of Public Education campaign</p> <p>MUTCD recommends "If used on a street without on-street parking that has an outside travel lane that is less than 14 feet wide, the centers of the Shared Lane Markings should be at least 4 feet from the face of the curb"</p>
<p>Gene Bunnell, Ph.D., AICP, Department of Geography and Planning, AS 210, University at Albany, SUNY</p>	<p>I urge city planners and consultants to be more ambitious, and to place greater emphasis on establishing dedicated bicycle lanes rather than forcing bicyclists to share lanes with traffic. Specifically, I urge that the city's bicycle plan incorporate recommendations contained in the Mid-City Bicycle Plan prepared by last year's graduate planning studio, which lays out a safe route for bicycles to travel from the downtown UAlbany campus to the Uptown campus and Nanotech campus. A major segment of that recommended route can be accomplished by establishing a dedicated bicycle path between the Alumni Quad and Beverwyck Park, and along the back of athletic fields of Albany High School. What is required is a commitment to negotiating with other public entities such as the University, DGS and Albany School District. Other portions of the route can be laid out along lightly traveled neighborhood streets, which are much more preferable than Washington Avenue. The plan I am referring to</p>	<p>Emphasize bike lanes</p> <p>Implement the Mid-City Bicycle Plan</p>

From	Comments	Summary of Issues that Affect the BMP
	<p>was prepared under the direction of a nationally recognized expert in bicycle and pedestrian planning. Please make use of this resource.</p> <p>Second comment: Every city that has made progress in creating a functioning, integrated bicycle network has made bicycle planning the responsibility of a planner trained in bicycle and pedestrian planning, and has placed that responsibility in a particular office. It is unrealistic to think that the city's ambitious bicycle plans can simply be achieved by making this yet another responsibility of the city's currently overworked existing planning staff. Someone else needs to be hired to carry out this responsibility. Other cities where this has been done can serve as models. Someone needs to have this as their principle responsibility. One of the responsibilities of this person can be to obtain additional sources of funding for bicycle planning and management.</p>	<p>Assign staff person principally responsible for BMP</p>
<p>Individual</p>	<p>I asked my Town Board of Supervisors if they knew of anyone interested in PTNY's new round of Capacity Building Grants for park and trail groups in New York State.</p> <p>The grants, of up to \$3,000, will strengthen not-for-profit organizations that are working to build and protect parks and trails in communities across the state. Funds can be used to assist with activities associated with organizational start-up and development, training, communications, and volunteer recruitment and management.</p>	<p>Grant opportunity</p>
<p>Individual</p>	<p>I have quietly, without complaint (albeit with an insufferable air of moral superiority) commuted to work by bicycle for 31 years. Provided I am not run over by an idiot driving while texting, I expect to do so for another ten at least. My wife and I live in the city of Albany so that I can commute by bike. We pay \$8910 a year in property tax on our home, and the firm in which I am a Principal pays \$51,000 a year in property tax on our office (both to the city of Albany). I don't expect any special consideration on the basis of my tax-paying status, but I think it establishes that I am the sort of resident one might want to encourage to live and work in the city.</p> <p>With that as background, let me comment on the routes with which I am familiar as a result of my commuting and shopping. Here are three sections taken from the Bicycle Master Plan dated October 15, 2009, [report sections omitted from these comments] followed by my observations:</p> <p>Madison Avenue, from Broadway to Western—My comments: I am hard-pressed to understand why Madison would not be better with two travel lanes, a center left-turn lane, two bike lanes and two on-street parking lanes. The report says it "may be feasible". What, other than a lack of will to spend the money for restriping, would make it infeasible? If you are serious about making Albany a bicycle-friendly city, it would be hard to imagine Madison not being the centerpiece. It is one of the few areas where you have the density of population, the presence of a viable commercial district and the existing road width to accommodate both cars and bike lanes. If you can't do it here, the whole Bicycle Master Plan is nothing more than an exercise in literary fiction.</p> <p>Washington Avenue, from State to Fuller—My comments: The plan says that Washington from Jermain to UAlbany campus should be re-striped to 11.5 ft wide. The resulting wider paved shoulders can be marked as bike lanes. I could not agree more. The plan is silent on the section from Manning to Jermain. Unfortunately, while the Bicycle Master Plan was being drafted, this section was</p>	<p>Supportive of Madison Avenue being re-striped with two travel lanes and bike lanes</p> <p>Supportive of Washington being restriped with bike lanes; missed opportunity</p>

From	Comments	Summary of Issues that Affect the BMP
	<p>repaved and restriped as a four-lane highway with a 30 mph speed limit. Hah! You'll spend a fortune trying to enforce a 30 mph speed limit on a four-lane highway. I note that on November 2 it was "painted" with sharrows in the right lanes. I don't want to complain or look a gift horse in the mouth, but leaving it this way is a lost opportunity. I suggest the plan should propose two travel lanes, a center left-turn lane and two bike lanes. This section of Washington passes through a predominantly residential neighborhood (the only two commercial properties being KeyBank and the Mobil station), which means there is little hazard of motorists turning into businesses and running over bicyclists in the process. I also note that the two lane/center left-turn lane/two bike lane treatment was not suggested for the section from the UAlbany downtown campus to Manning. I would be curious to know why not. If you created real bike lanes from Draper Hall to Collins Circle, you'd have a reasonable, safe, level, short-line route between the two SUNY campuses. Traffic calming, particularly around the High School, would be a desirable side benefit.</p> <p>Manning Boulevard, from Whitehall Road to Central Avenue—My comments: Yes, yes! "The existing wide travel lanes could be narrowed and re-stripped with bike lanes."</p>	<p>Supportive of Manning Boulevard being restriped with bike lanes</p>
<p>Cyclotour Guide Books</p>	<p>I should have thought about sending you this URL much earlier in the year: www.ontariocyclotourismforum.ca/. I think you will find the Netherlands and Switzerland presentations very informative and eventually very useful when implementing the Albany Bicycle Master Plan.</p>	<p>Reference for cycling tourism</p>
<p>Individual</p>	<p>I've reviewed most of the bicycle master plan and I'd like to make a suggestion. In Section 7, specifically section 7.2.6 and/or section 7.3, I'd love to see something in the policies discussion about the need to have intermunicipal agreements with the communities on the other side of Albany's municipal borders where the bike lanes and trails connect to other existing trails and lanes to ensure consistency in maintenance procedures and standards, particularly in regard to snow plowing.</p> <p>A case in point: Four or five years ago I went out for a ride on my mountain bike on the Corning Trail on the Sunday after Christmas. It happened to be a beautiful sunny day in the 50's after a period of early snow and cold. I was delighted when I rode down to the Corning Preserve and found that the City had plowed the trail (YAY!). I had a great time riding north, until I came around a bend in the trail at the Menands line, and discovered that Menands didn't believe that keeping the trail open in the winter was important (BOO!). It was bad enough that the shade provided by the brush at that location had kept the sun from melting the ice on the pavement that day, but the Albany City plow had simply arrived at the border and then backed up, leaving a huge snowbank in the middle of the trail, filled with lots of solid ice chunks. I hit the icy patch, lost control of my bike, went over the handle bars and landed on my shoulder in the snowbank. In addition to destroying the fork on my bike, which had to be replaced at significant cost, I also tore up my shoulder, which has never healed properly.</p> <p>I would encourage inclusion of language in the Master Plan to have City officials enter into a compact with abutting communities to ensure that any bike facilities that are developed are useful to the public throughout the year. The Corning trail is a great trail for bike commuting from communities to the north, but if it</p>	<p>Add policy on collaboration with adjacent municipalities on bikeway design and maintenance consistency</p> <p>Support winter maintenance of Mohawk-Hudson Hike Bike trail</p>

From	Comments	Summary of Issues that Affect the BMP
	<p>isn't plowed, its effectiveness as a commuting resource is greatly diminished.</p> <p>Thanks for making biking in Albany safer and more enjoyable.</p>	<p>Supportive of BMP</p>
<p>Individual</p>	<p>I would like to thank the City for the Albany Bicycle Master Plan. It is a good start and I appreciate the City's effort to implement a number of bicycle-friendly projects in coming months.</p> <p>Some comments:</p> <p>Thank you for using sharrows and "Bikes may use full lane" signage on Delaware Ave. This will go a long way to keep both bicyclists and drivers of cars safe and it is a good time to be implementing this project with the reconstruction. Since the street is relatively narrow, I ask that sharrows be placed in the center of the lane to keep keep bikes away from cars with opened doors. I would also ask that signage be placed fairly frequently (every block or so) so that cars will really come to understand this concept. Delaware Ave is, in essence, an Albany pilot project for this type of signage, so it is important that it is not watered down. I would like someone to get back to me with information about how this will be implemented, please.</p> <p>Please paint a visual indicator of 1) where cars are to park and 2) the door zone on the pavement on Delaware Ave. Without this, cars will just take up the extra space currently designed for the door zone by parking further out from the curb. Ideas for the space that makes up the door zone: hatching or diagonal lines or a straight, broken line to indicate the few feet that makes up the door zone. I picture a solid line that the cars part inside of and a diagonal lined area (maybe even with text saying "door-opening zone") that makes up the door zone. This way, cars will park in the designated parking area and not in the door zone, thereby leaving a visually-designated door zone free from obstructions (other than opening doors). This makes it such that everybody knows what to do.</p> <p>Please include "Bike Route" signage for Delaware Ave. The specific signs I am speaking of can be seen in the video below. They say "Bike Route" and also "Shared Lane" and have a car symbol and a bike symbol.</p> <p>Paint sharrows (or apply some other life-saving planning) at the Madison Ave, Delaware Ave, Lark Street intersection. Especially install/paint signage to indicate where bikes are to be when they are making a left turn from Delaware to Madison (heading toward Washington Park), and when traveling to Delaware from Lark. This intersection is currently dangerous for cyclists (which makes it dangerous for cars too). Watch the following video for creative ideas, like street lights, for bicyclists http://www.streetfilms.org/ . Right now the projects for Delaware Ave. stops at Elm, when it really needs to include this major intersection. Please indicate that there will be planning for this intersection in the Bike Master Plan.</p> <p>Please have the plan prioritize bicycle use in Albany for transportation rather than recreation. If there are limited resources, then I think this is an appropriate prioritization of funds. An analogy that a friend made recently: if one has limited money for groceries, does one spend it on vegetables and staples or candy? If the City is made safe for transportation purposes, then recreational users can use the same transportation routes for recreation.</p> <p>An observation from the Master Plan release meeting: on two occasions the speakers referred to biking NOT being a year-round activity. A statement was</p>	<p>Supportive of BMP</p> <p>Supportive of the use of "sharrows" in the centre of narrow lanes and associated signage</p> <p>Supportive of treatment on Delaware Avenue</p> <p>Include bikeway treatment for Madison, Delaware, Lark intersection</p> <p>Emphasize cycling for transportation</p> <p>Emphasize cycling viable all year</p>

From	Comments	Summary of Issues that Affect the BMP
	<p>made to the effect of, "When spring rolls around and we get our bikes back out of storage." I was surprised to hear this from the experts in charge of this plan. I would think that they, more than anyone, would understand bicycling as transportation, which obviously happens year-round. This struck me as a serious misunderstanding that could taint the planning process. Please insert language into the plan that stresses that bicycling transportation happens year-round and does not stop in the fall.</p> <p>Implement "Complete Streets" on Albany streets. Please insert the Complete Streets concept into the plan as a goal for Albany's streets.</p>	<p>Implement "Complete Streets" policy</p>
<p>Pine Hills Neighbourhoods Association</p>	<p>Attached, please find the following:</p> <ol style="list-style-type: none"> 1. Tri-fold outlining the reasons and support for traffic calming on Madison Avenue through lane reduction. 2. PowerPoint presentation detailing the public safety benefits of Madison Avenue lane reduction. 3. Letter of support for Madison lane reduction from CANA (Council of Albany Neighborhood Associations) which represents all 29 of Albany's neighborhood associations. We also have written support from Albany Bicycle Coalition, NY Bicycling Coalition, the College of St. Rose, and the Muddy Cup. <p>In light of the strong arguments in favor of Madison Avenue traffic calming through lane reduction, and the support of major stakeholders, the Pine Hills Neighborhood Associations urges you to include include this recommendation in the final Albany Bike Plan report. Thank you.</p>	<p>Supportive of Madison Avenue restriping to two travel lanes and bike lanes</p>
<p>Individual</p>	<p>I listened in on today's presentation by the consultants unveiling of the bike plan for Albany. I am completely unimpressed. I am not a cyclist but I can see the dangers the local riders take. There is a true need for accommodations to the cyclists of today and the growing number in the future. The lack of true bike lanes shows the city isn't serious. "Sharrows" and signage is laughable, people are aware of laws and general courtesy and until they see true physical accommodations for the cyclists they will not take them serious. To be honest and let my cynicism take hold then the city really doesn't care for the cyclists. The city has the opportunity to make a clear change in policy direction and attract cyclists, make it a multimodal city and attract those who want a "green" city and they failed and I believe that it was their intent based on the results. That the city leadership really doesn't want a real change and did the plan for maybe a reason beyond it looked good, that the city isn't actively pursuing change. I know this wasn't the work of the city's planning department but of the consultant and so I would like to suggest that the comprehensive plan that is currently underway scrap the weak bike plan and include some real changes. The state is in the process of upgrading Delaware Avenue and portions of Washington avenue, and Manning is one of the widest roads in the city, there is clearly an opportunity here for road diets and true bike lanes. I'm extremely disappointed. I have high hopes for the city and this was a let down far beyond what I could have imagined. It only makes me wonder with more cynicism would result from the comprehensive planning process. The ideas aren't bad but too shy about changing the infrastructure and changes in policy. I will be paying close attention to the comprehensive plan and if I don't see something substantial result then I will likely leave Albany for Burlington, VT, or Keene, NY or even Saratoga where they take these ideas serious. It's too bad because</p>	<p>Supportive of bike lanes</p> <p>Not in support of "sharrows"</p> <p>Do not approve BMP; re-visit in the Comprehensive Plan</p> <p>Restripe Washington, Delaware and Manning</p>

From	Comments	Summary of Issues that Affect the BMP
	<p>Albany has the most potential for results that other cities can see work in larger cities. I'm not sure what kept the city from making real significant changes but I'm largely looking at the Mayor to blame since he is captain of this ship. Chalk me down for a vote for the next candidate opposing Jennings. He's done nothing for this city since his inception, whether he had blessed this plan or not, he could have said and suggested more change if he wanted. Change will come to Albany but there may not be many left here to see it when it happens.</p>	
<p>Individual (blog)</p>	<p>As expected, the final presentation of the Albany Bicycle Master plan was disappointing. I'm not sure whether the organizers wanted to limit attendance or are just inept (and am not sure which bothers me more) but they didn't announce the meeting until last week and didn't release the plan until today, so no one could read it before the presentation. Not that it would have mattered anyway, I suppose, since they again refused to allow questions or comments from the audience.</p> <p>(I was tempted to stage an uprising but was unsure of my support.)</p> <p>A few things will be implemented in the next year or so. They're entirely inadequate but I didn't think they were going to even pretend that this process was going anywhere. This spring: an education program. Woo-hoo. We'll see what this looks like, and hopefully it will be more focused on drivers not killing people than bicyclists being irritating to drivers. Also, CDTA is going to assist businesses and municipalities in bike rack installation and include bike racks along the bus rapid transit line between Albany and Schenectady.</p> <p>The big exciting finale: sharrows along a few disconnected streets.</p> <p>Sharrows are pavement markings with pictures of bicycles and arrows, intending to inform drivers that bicycles are in fact allowed on the road. Maybe they're better than nothing, but they risk giving the impression that bicyclists aren't supposed to be on the roads without them. (Bike lanes can be problematic in this way too, but at least with them the cyclists are getting something out of it.) And white paint is apparently very expensive 'round these parts because they're only putting them in a few random places. (Well, presumably they're not random and are streets that are being worked on- Delaware Avenue is one- but the final effect will be disjointed. And given how hard the City finds it to keep even lane markings painted, I wonder how long they'll be maintained.) Perhaps we need to just go in and paint our own, like these folks?</p> <p>There are going to be actual bike lanes on Clinton Avenue but only for a few blocks.</p>	<p>Plan implementation is weak</p> <p>Supportive of bike lanes; not in support of "sharrows"</p>

APPENDIX C: BICYCLE GUIDE AND WAY-FINDING SIGN EXAMPLES

Bicycle Guide Signs from the *Manual of Uniform Traffic Control Devices 2003 Edition* and Notice of Proposed Amendments

Signs Number and Name	Figures
Bicycle Guide Signs	
D11-1 Bike Route Guide	
D11-1c Alternative Bike Route Guide sign*	

Signs Number and Name	Figures
<p>D1-1b, D1-1c, D1-2b, D1-2c, D1-3b, D1-3c Bicycle Destinations signs*</p>  <p>←  Pulaski</p> <p>←  Brookfield</p> <p> Onondaga →</p> <p>←  Rochester 5</p> <p> Lockport 10 →</p>	 <p> Salem 6 →</p> <p>↑  Troy 3</p> <p>←  Utica 5</p> <p> Albany 10 →</p>
<p>M1-8 Bicycle Route sign with unique identification and M1-8a with pictograph or words associated with the route</p>	 <p> 13</p> <p>Unique pictograph and/or words for any jurisdiction  44</p>
<p>Auxiliary Plaques</p>	
<p>M2-1 Junction plaque*</p>	 <p>JCT</p>
<p>M3 series Cardinal Direction plaques*</p>  <p>NORTH EAST SOUTH WEST</p>	

Signs Number and Name	Figures
<p>M4 series Alternative Route plaques</p>	
<p>M5 series Advance Turn Arrow plaques*</p>	
<p>M6 series (M7 series in the 2003 Edition of the MUTCD) Directional Arrows plaques*</p>	
<p>D4-3 Bicycle Parking Area sign shows the direction to a designated bicycle parking area</p>	
<p>Note: * Approval anticipated with next edition of the MUTCD anticipated in 2009 / 2010</p>	

Examples of Bicycle Way-finding Signs

Seattle WA

Bike route sign with named route and destination signs including direction and distance →



Seattle WA

Burke Gilman Trail sign and street name blade at trail / street intersection →



Berkley CA

↑ Bicycle boulevard signage identifies the street as a priority street for cyclists with a route name

Destinations signs include distances and directions →

Photos from City of Berkley, CA



Toronto ON Canada

Signed route system for bicycle-friendly routes includes numbering of north-south (odd) and east-west (even) routes

- ↑ Confirmation signs with cardinal direction
- Direction change signs with arrows ↑
- Route options at intersection of bicycle routes →

Photos from City of Toronto



Vancouver BC Canada

- ↑ Street name blade with bicycle logo identifies a street as a bikeway to cyclists and motorists
- Bicycle route sign with destinations, direction, distance and average time by bicycle at decision points in the bicycle route network →

Germany

Bicycle route signage includes region name, node number, destinations, directions, distances, amenities, and map →

Photo by John van der Mark



Switzerland

Photos from SwitzerlandMobility Foundation

↑ SwitzerlandMobility national and regional cycling route signage

Destination distance and trip time signage →



The Netherlands

↑ Dutch national and regional route signage—destination route signs are green, tourist route signs are red

Photos from the Netherlands Fiets Platform

UAlbany 2008 Graduate Transportation Planning Studio—The Central Albany Bikeway

This simplified map signage concept is based on way-finding and graphic designed used for major public transit systems. The map indicates major cross streets, major institutions, and areas with bicycle parking or storage. It would be displayed at key intersections which act as entry points to the route. ➔

