Municipal Transportation Plan for the City of Northampton

City of Northampton Transportation Policies

Transportation Plan, as amended by these policies, adopted by:

Transportation and Parking Commission	March 15, 2005
Planning Board *as a Comprehensive Plan element (MGL Chapter 41, § 81 C and D)*	February 24, 2005
Board of Public Works (BPW)	March 9, 2005
City Council	April 21, 2005

Public Hearings:
October 3, 2001
October 17, 2001
January 18, 2005

Background

The *Municipal Transportation Plan for the City of Northampton* was adopted by the now defunct Northampton Transportation Committee on December 10, 2001 and by the Northampton Planning Board on January 10, 2002. The original plan was a study plan but did not fully detail the City's transportation policies. As such, the Planning Board adopted it as a plan, but not as an element in the City's comprehensive plan.

On December 5, 2002 (amended on December 18, 2003), City Council established the permanent Transportation and Parking Commission "to create clear and consistent transportation policies." Among its duties were to "adopt, amend, and help coordinate with the Planning Board the writing and implementation of a transportation plan element of the city's comprehensive plan.

In adopting these policies, it is the city's intention that:

1. These policies are the City of Northampton's transportation policies; and
2. These policies are added to the *Municipal Transportation Plan* and that, as amended, that plan is the transportation element of the City's comprehensive plan, adopted by the Planning Board pursuant to MGL Chapter 41, § 81 C and D
3. That the City agencies adopting this plan continue to work on the plan and revise it to improve its utility as a comprehensive plan.

Transportation Vision

It is the intention of the City of Northampton to have a transportation system that encourages the safe and convenient movement of people and goods. Northampton's transportation system must **allow for the safe and efficient transportation of goods and people by automobiles, trucks, and other motor vehicles and by bicycle and foot**. The City's transportation system should be a multimodal one that provides many different types of transportation options.

The Northampton transportation system should support economic development in the City through targeted transportation system improvements and overall efficiency of the system. Further, flexibility and responsponsiveness to short-term project specific needs and long-term strategic economic strategies are important goals to the City. Transportation, as well as other public infrastructure, is a key element to economic growth in the City.

In Northampton, the majority of trips beyond a certain length and those involving the movement of goods are going to be by automobile, truck, and other motor vehicles. Intersections and streets must be designed for safe movements of all appropriate vehicles and should minimize, to the extent appropriate, travel times and idling times. Motor vehicle movement must, however, be designed to enhance the quality of life in the city and reduce risks to other modes of travel.

Northampton's transportation system **must encourage pedestrian, bicycle, and other non-motorized travel**. Compared to vehicle travel, non-motorized travel is healthier, more environmentally sound, less damaging to neighborhoods, and less expensive. The City of Northampton is one of the most pedestrian and bicycle-friendly communities in the Pioneer Valley, with higher rates of bicycle and pedestrian trips for work and recreation than a majority of similar-sized communities in the country. Additional investments will provide dramatic returns in congestion mitigation, emission reductions, health, safety, economic development, quality of life, and opportunities for youth and those with limited resources. Non-motorized travel should be enhanced without creating undue barriers to traditional vehicular transportation.

Northampton's transportation system must **encourage transit**. Transit is more environmentally sound than other motor vehicle modes; it reduces congestion when it replaces single occupancy vehicles, and it provides an alternative for those without access to automobiles.

Parking for cars and for bicycles is an integral part of Northampton's transportation system. Urban core area vehicle parking must be adequate to avoid encouraging motor vehicle trips to sprawling areas with free and ample parking. Excessive parking, especially a sea of surface parking, however, can adversely harm the character of urban core areas, create dead areas in the urban fabric and can effectively discourage trips by any thing other than a motor vehicle.

Transportation demand management, which encourages alternatives to peak-hour single occupancy vehicle use, is critical to reduce air pollution and traffic congestion.

City of Northampton Transportation Policies and actions

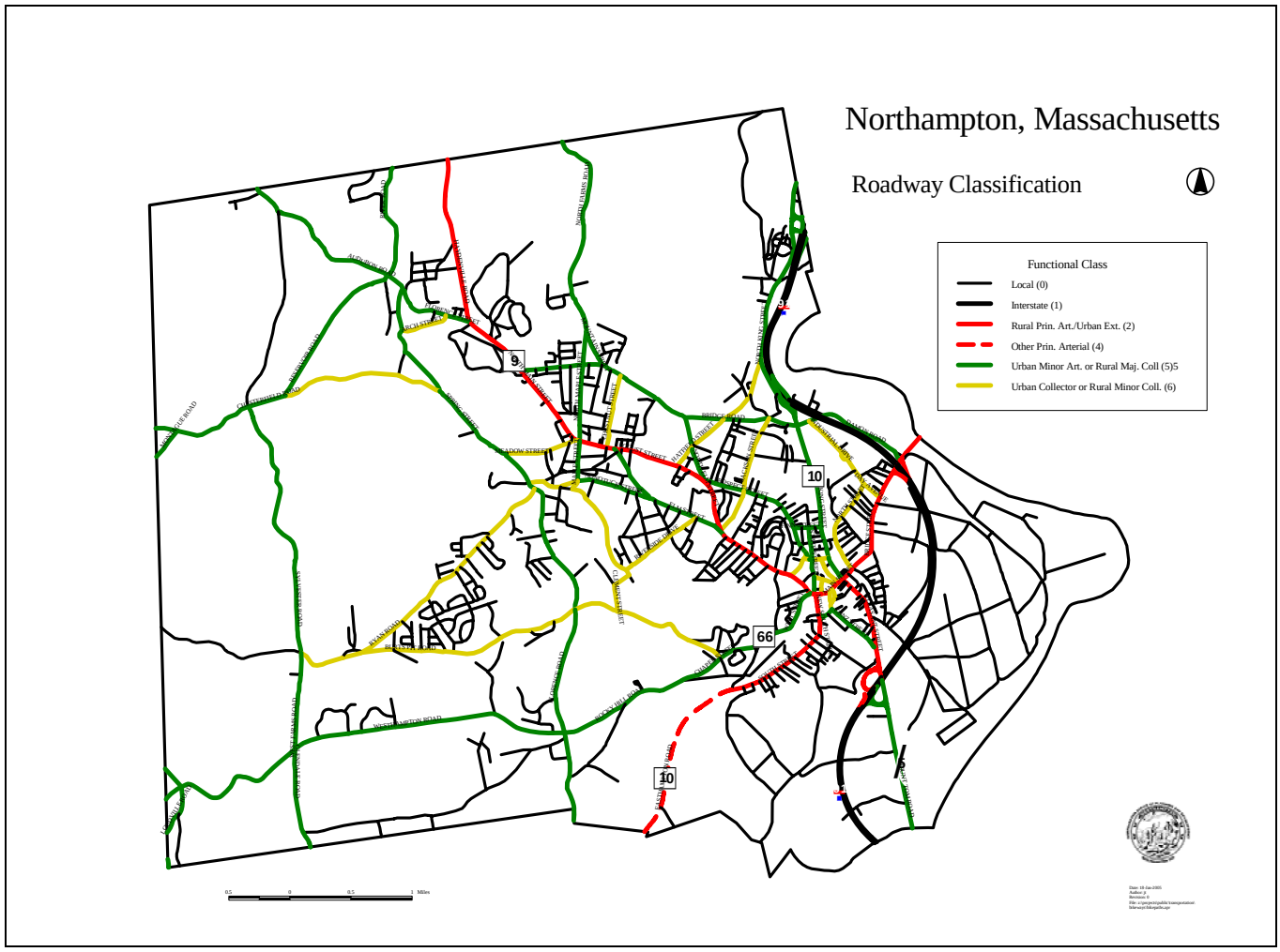
	CORE TRANSPORTATION POLICIES	**Party responsible for ensuring policy is followed**	**Partners**
1.	Ensure that safety is a primary goal in transportation improvements, systems, and operations, both to reduce crashes and to ensure that both vehicular and non-vehicular modes of traffic are safe and attractive to all users on all roads. The Police shall make available an annual report on motor vehicle collisions,	DPW BPW T&PC PD OPD	Public

	their location, and whether personal injury is involved.	PB, Mayor Council	
2.	Ensure that the needs of bicycle, pedestrian, and other non-motorized vehicles as well as transit services are considered and addressed in the design, construction, and management of every project affecting the transportation system.		
3.	Ensure that environmental impacts are considered and adverse effects are minimized on all transportation project.		
4.	Ensure that economic development implications are considered and balanced with other City goals in all transportation policies, decisions, and improvements.	Mayor DPW	PB OPD BPW T&PC
5.	Review the Transportation Plan every two years. Amend the plan as needed based on experience and planning. Amendments should be approved by the same boards who approved the original plan	T&PC PB BPW Council	Mayor
ROADWAY AND INTERSECTION POLICIES			
6.	Maintain an in-house pavement management system to inform pavement management decisions and ensure an objective decision making process.	DPW	BPW
7.	Design roadway improvements with consideration that "a bicyclist should be expected to be riding on any roadway {and a pedestrian walking along the roadway}, and therefore should be accommodated" (*Building Better Bicycling*, MassHighway, 1999).	DPW	BPW
8.	Ensure catch basin covers are in a "bicycle-safe" format.	DPW	
9.	Undertake the following in all intersection studies and designs: • Minimize queuing times at intersections (and therefore vehicle emissions) while ensuring that intersections are pedestrian and bicycle friendly. • Design for appropriate truck movements consistent with truck needs and MassHighway requirements while exploring options that avoid excessively wide intersections, including the use of mountable curbs. • The suitability of roundabouts and mini-roundabouts will be evaluated during the preliminary engineering analysis for all intersections being considered for significant reconstruction, realignment, signalization, and four-way stops. Roundabouts are the favored intersection treatment for safety, efficiency, and environmental reasons, when appropriate. The Board of Public Works and the Transportation and Parking Commission shall be consulted before making any determination not to add a roundabout or mini-roundabout. (See Appendix C, Roundabout Evaluation.) • Ensure that all new and existing traffic signals incorporate audible pedestrian signals (dedicated pedestrian-only	DPW	BPW T&PC PB OPD Mayor

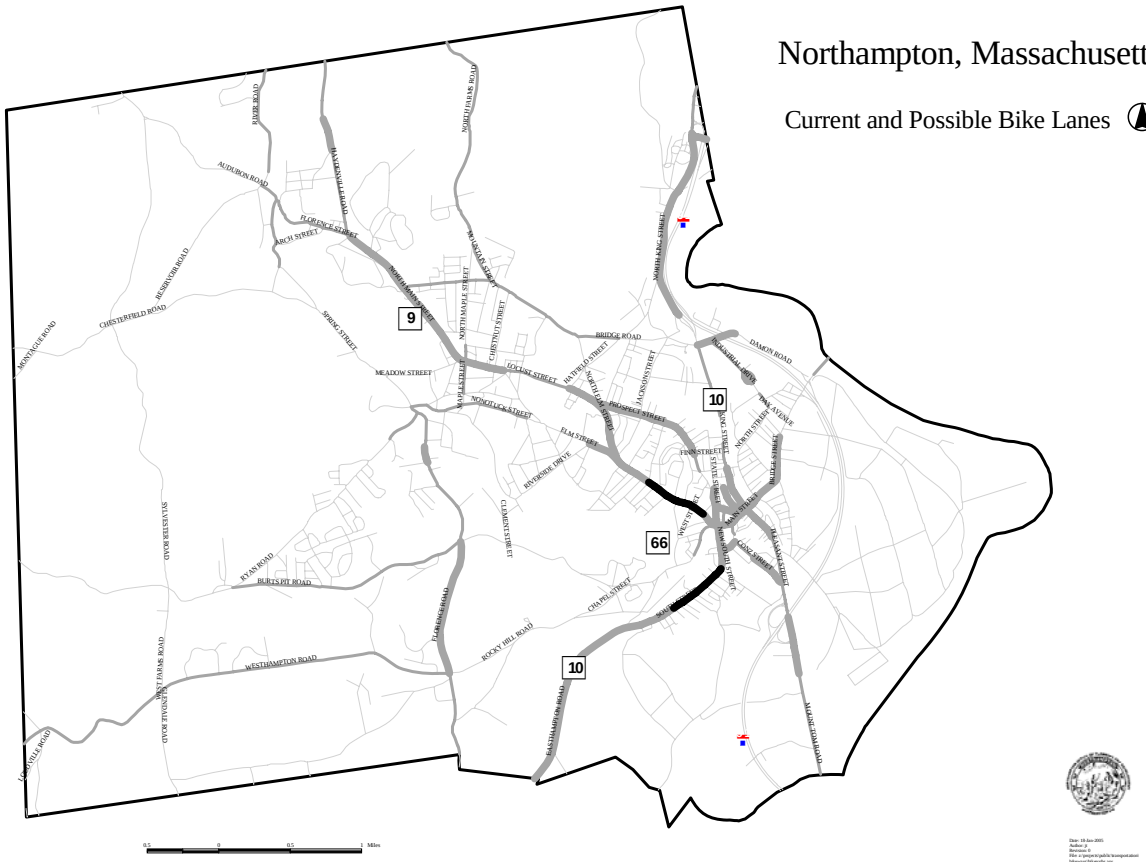
	phase, pedestrian activated pedestrian-only phase, or a shared phase). Create a prioritized list of existing traffic signals where pedestrian signals are desired. Installation of pedestrian signals shall be made as funding becomes available. When no pedestrian infrastructure (sidewalks) currently exists, traffic signal equipment shall be installed that will allow for future pedestrian signalization. In deciding what kind of traffic signal to use, consider shared pedestrian phases (where pedestrians cross with parallel vehicle traffic allowing for shorter cycle cycles and less frustration).		
10.	Share relevant crash data with other city boards and departments whenever requested.	PD	DPW OPD T&PC
11.	When funds become available, prepare a sign inventory and implement plan to bring signage and crosswalks into conformance with the Manual of Uniform Traffic Control Devices (MUTCD). Signage related to marked crosswalks is the first priority.	DPW	
12.	Layout new City streets to avoid creating cul-de-sacs and dead ends when possible and instead create a network of streets. Dead end streets, while desirable to some residents, add significantly to the delivery of city services and increases traffic flows to other local streets. Design streets to avoid creating new high-speed short cuts through residential neighborhoods.	PB	OPD DPW BPW
13.	Clear snow to provide safe driving conditions. The level of service available will be based on the resources the city is able and willing to allocate	DPW	BPW Mayor Council
14.	Traffic congestion problems should generally be addressed by providing and enhancing alternatives to single-occupancy vehicles, rather than by adding roads or road lanes. The long-term effect on "induced traffic" (individuals' decision to drive on a particular road or route encouraged by perceived low congestion) should be carefully considered whenever roadways are reconfigured or widened in an attempt to relieve congestion. When enhancing intersections, as opposed to roadways, the City's goal is to avoid inducing additional traffic while reducing intersection queuing times, to avoid polluting idling and to allow smooth flow of traffic.	T&PC BPW PB OPD	Mayor Council
15.	Roadways should be designed to be environmentally sensitive, to the extent feasible, with elements such as tree belts and curbs designed to improve the human environment and reduce impact on the natural environment.	DPW	BPW
16.	DPW should provide the T&PC, BPW, Mayor, and City Council with annual lists of street and intersections which are planned for design or construction to aid in multi-board/department communications.	DPW	T&PC BPW Mayor Council

TRAFFIC CALMING			
17.	Examine all unsafe intersections, areas of excessive speeds, and areas where neighborhoods perceive a loss of quality of life to consider possible traffic calming efforts. Adopt a policy for identifying areas which need traffic calming (see Transportation Plan).	T&PC DPW BPW PB OPD	Mayor Council
18.	Develop and implement traffic calming models and standards for subdivision and zoning major site plan approval regulations.	PB OPD	DPW BPW Mayor
19.	Ensure that the design of all new, reconstructed, and reclaimed streets considers incorporating appropriate traffic calming measures, in consultation with the Board of Public Works and the Transportation and Parking Commission.	DPW BPW T&PC	Mayor PD
20.	Implement traffic calming measures on projects listed in Appendix A (as it may be amended from time to time). Revise Appendix A to develop a more complete list of where traffic calming measures might be needed within the city. Use first few projects to develop traffic calming model (both methods and community outreach and involvement) that can be used elsewhere in the city.	DPW BPW T&PC	Mayor PD
SIDEWALKS			
21.	Ensure that all new privately-built streets include sidewalks, consistent with the Northampton Subdivision Regulations. When feasible and practical, concrete sidewalks on two sides of a street are desirable.	PB	OPD DPW
22.	Ensure that all developers provide sidewalks when necessary to serve their projects.	PB	OPD DPW
23.	Ensure that all new and reconstructed streets include sidewalks unless right-of-way or engineering issues or the rural nature (based on projected traffic and development density when the street is built-out) of a street makes it not feasible. When sidewalks are installed, no consultation with the Board of Public Works or Transportation and Parking Commission is necessary. Otherwise, the Board of Public Works and the Transportation and Parking Commission shall be consulted before any determination is made not to add such a sidewalk.	DPW BPW	T&PC
24.	Add wheelchair ramps and pavement markings necessary to make all sidewalks accessible for people with mobility disabilities.	DPW OPD	Mayor
25.	Create and update a prioritized list of routes where sidewalks are desired, ready to take advantage of funding and construction opportunities. (See current list in Appendix A.)	DPW T&PC School	BPW OPD Mayor Council
26.	Create and update a prioritized list of routes where curb extensions, raised intersections and other sidewalk improvements are desired, ready to take advantage of funding and construction opportunities. (See current list in Appendix A.) Install such	DPW T&PC	School OPD Mayor Council

	improvements as funding allows.		
27.	Submit a Capital Improvements request for a sidewalk management program modeled on the successful pavement management program to inventory sidewalks, sidewalk conditions, sidewalk usage, and to identify priorities for new or restored sidewalks. Consider whether Chapter 90 monies should be used for sidewalks or remain committed only for street improvements.	DPW BPW	Mayor Council
28.	Prioritize streets for sidewalks where 1) vehicle/pedestrian conflicts are prevalent or that will 2) serve commercial areas, 3) serve children on their journey to school, and 4) reduce the need for school buses. Ensure that all reclaimed streets on the prioritized list shall include sidewalks unless right-of-way or engineering issues make it infeasible. The Board of Public Works and the Transportation and Parking Commission shall be consulted before any determination is made not to add such a sidewalk. The current prioritized list is attached as an Appendix and shall be amended from time to time.	DPW BPW T&PC	OPD School PD Mayor Council
29.	Educate the public and enforce requirements to ensure the safety of sidewalks, including existing requirements that property owners abutting sidewalks: • Clear snow from sidewalks after a storm, with a priority on sidewalks in commercial areas and along arterial and collector streets (Section 19-19, Northampton Code of Ordinances); and • Control brush from growing over sidewalks or blocking visibility at intersections.	PD DPW Parking	Mayor
BICYCLE AND MULTI-USE TRAVEL AND FACILITIES			
30.	Develop a comprehensive city-wide bicycle system including existing and planned off-road bicycle paths, on-road bicycle lanes, and safe on-road bicycle routes. On-road bicycle routes and lanes that provide direct access to the growing rail-trail network and to urban core areas should receive a high priority. The system should include supporting services, such as signage, bicycle storage, and bicycle system maps and information.	OPD DPW	BPW T&PC Mayor Council


Northampton, Massachusetts
Roadway Classification
Functional Class
Local (0)
Interstate (1)
Rural Prin. Art./Urban Ext. (2)
Other Prin. Arterial (4)
Urban Minor Art. or Rural Maj. Coll (5)5
Urban Collector or Rural Minor Coll. (6)
9
10
66
10
0
0
0.5
1 Miles

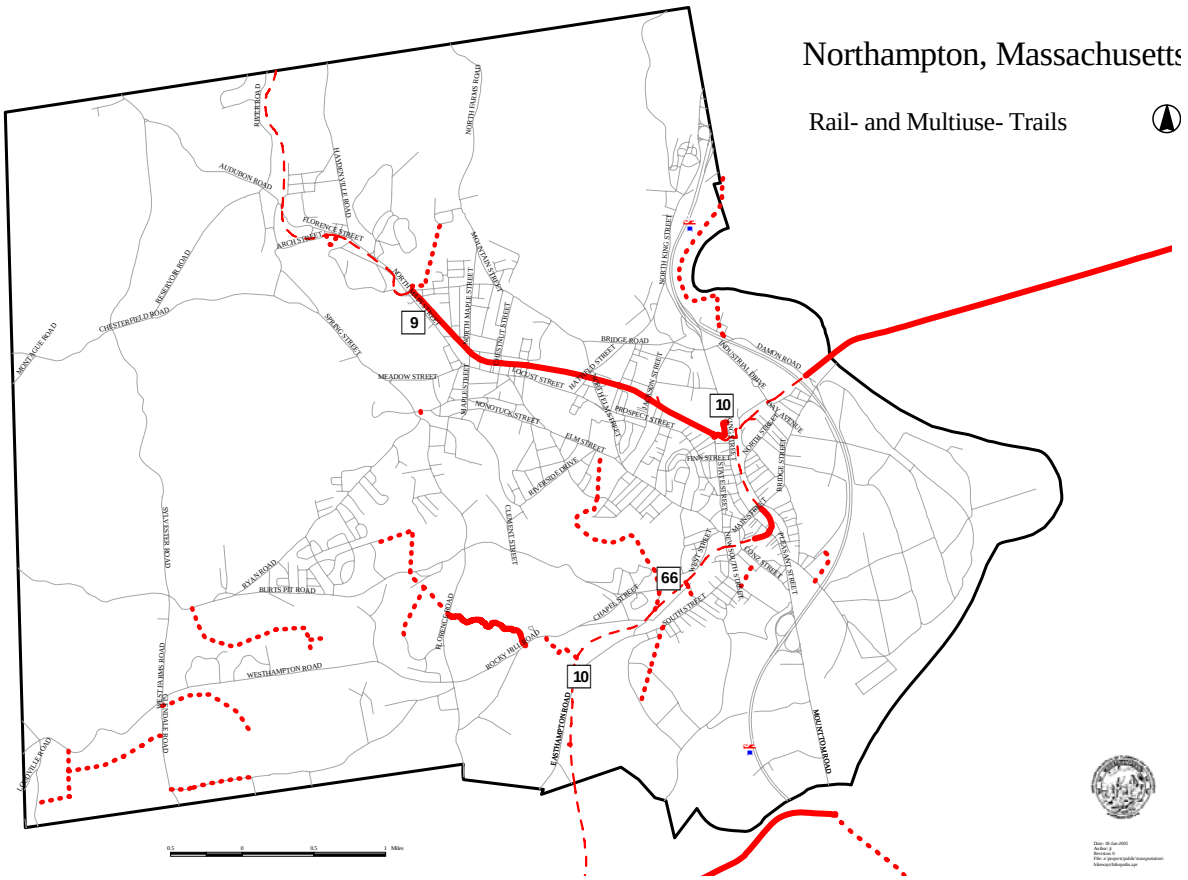
31.	Strive to add marked bicycle lanes to all surface arterial, collector, and federal aid roads whenever feasible (i.e., all surface roads except local roads.). See Roadway Classification map above. When bike lane standards cannot be accommodated, investigate adding marked shoulders to provide the best accommodation feasible for bicyclists. (See Appendix, Bicycle Lane Design Guidelines). • When arterials and collectors are constructed, reconstructed or reclaimed, add bicycle lanes unless a consensus is reached that right-of-way issues make it infeasible. • When arterials and collectors that are at least 30 feet wide are restriped, add bicycle lanes unless safety issues make it infeasible. (See lane width inventory the Transportation Plan's "Bicycle Level of Service Evaluation.") • Identified priority corridors for bike lane investigation and improvement are 1) King Street-- (see VHB King Street Corridor Study); 2) Bridge Street—the city maintained section; 3) South Street-- improving the bicycle lane layout, markings and signage; 4) Elm Street-- maintaining the bicycle lane layout and crosswalks; 5) Elm Street/Locust Street, Main Street, Florence--extend the bicycle lane. • Create an ordinance prohibiting parking in a bike lane. • When bike lanes are installed, no consultation is necessary with the BPW or T&PC. Otherwise, consult BPW and T&PC BEFORE any determination is made not to add bicycle lanes and improvements identified herein.	DPW	BPW T&PC Mayor Council OPD PB



(Solid lines are current bike lanes, gray are proposed bike lanes)

32.	Transform the Northampton Bike Path and Norwottuck Rail Trail into a complete rail trail network **with** construction funding from federal, state and local sources. Design, permitting, and land acquisition will be completed locally. See Rail Trail Network map below. Projects with estimated construction dates are shown. Actual construction is completely dependent on state and federal funds: • Norwottuck Rail Trail Extension to Woodmont (2005) • Manhan Rail Trail Round House to Earle Street (2005) • Manhan Rail Trail Earle Street to Ferry Street, Easthampton (2006-2008) • Norwottuck Rail Trail Bridge Road to Leeds/Williamsburg town line (2006-2008) • Earle Street—Village at Hospital Hill (Village developer—2005-2006) • Village at Hospital Hill to High School (future project—2010) • Ice Pond/Route 66 to Florence Road Manhan Rail Trail Spur (2004-2005)	OPD	DPW BPW T&PC Mayor Council

	• Jackson Street/Rail Trail off ramp • Rail Trail extensions, spurs, on-ramps throughout the City (see map) (2005-2010)		



(Solid lines are existing rail trails, dashed are planned, dotted are future proposed)

33.	Install bicycle racks to provide all needed bicycle parking in public high bicycle traffic areas, including schools, downtown Florence, downtown Northampton, and the Village at Hospital Hill, to the extent grant-funded racks are available. Bicycle parking should be located close to building entrances and final destinations.	DPW Parking	T&PC OPD Streetscape
34.	Ensure that private developers provide adequate bicycle parking to encourage bicycle travel. Bicycle parking should be located close to building entrances and final destinations. Include all-weather and theft resistant bicycle storage when appropriate. Develop a policy of when all-weather bicycle storage is appropriate.	PB	OPD Public T&PC Mayor

35.	Obtain funds and install bicycle lockers and improve utilization of existing bicycle lockers.	OPD Recreation	T&PC Parking
36.	Educate the public about the rights and responsibilities of bicyclists, to the extent that financial resources allow. Consider a bicycle safety curriculum at all school levels. Maintain web-based information on transportation facilities and transportation users' rights and responsibilities. Consider use of community television channel and newspapers to carry relevant stories and public service announcements.	PD School	T&PC
PUBLIC TRANSIT			
37.	Ensure higher visibility and better information about public transit stops.	T&PC	PVTA Mayor
38.	Encourage efficient transit by locating bus stops directly on major transit routes and discouraging turn-offs into private developments (e.g. shopping centers) when such turn-offs increase transit time.	T&PC PB	PVTA Mayor OPD
39.	Continue to work with PVTA and PVPC to consider a centralized public transit or multi-modal facility in Northampton.	Parking T&PC Mayor	PVTA OPD
40.	Work with federal and state governments to ensure appropriate funding and levels of service for public transit.	Mayor Council	PVTA T&PC
PARKING			
41.	Implement the recommendations of the Central Business District Parking Needs Study for parking demand mitigation, parking supply optimization, and parking supply shortfall.	Parking Mayor	T&PC Chamber
42.	Maximize the utilization of existing parking facilities and take other measures to reduce the need for new parking facilities while still encouraging the public to come downtown. Ensure high quality customer service and convenience of use to serve visitors to Northampton and ensure maximum system utilization.	Parking	T&PC OPD Mayor Chamber
43.	Explore the development of a second structured parking facility downtown (deck or garage) to address parking shortfalls and allow visitors and residents to park in a centralized facility as a smart growth alternative to commercial and residential sprawl and to minimize traffic congestion from circulating vehicles seeking parking spaces. (Such a structure could be in conjunction with a multi-modal transportation facility.)	Parking Mayor OPD	T&PC Chamber
44.	Ensure that on-street parking spaces in commercial areas not be eliminated to meet street improvements without a detailed alternatives assessment and a full community discussion.	T&PC DPW	Mayor Chamber
45.	Promote the use of special event shuttles to connect parking on the edge of downtown with downtown special events when appropriate.	Parking Police	Chamber Property owners
46.	Explore the potential for park-and-ride lots (e.g. in Leeds and the Village at Hospital Hill) to minimize traffic congestion	T&PC OPD	Mayor DPW

47.	Ensure adequate parking is present in newly proposed large projects to meet their parking demand, consistent with efforts to reduce traffic, cars, and parking needs through transportation demand management.	PB	OPD
48.	Explore the potential for the City to offer a parking cashout, where City employees receive a choice of free parking or its equivalent value in cash, to encourage employees to come to work in modes other than single occupancy vehicles. Use cash out program to promote similar efforts in the private sector.	Parking Mayor	T&PC
	ENFORCEMENT		
49.	Enforce traffic and sidewalk regulations, ordinances, and statutes on the book in order to promote safety.	PD Parking	DPW
	TRANSPORTATION DEMAND MANAGEMENT		
50.	Incorporate reasonable steps to reduce peak-hour single-occupancy vehicle trips for new projects. Transportation demand management (TDM) techniques will be tailored to suit individual project needs, user needs, and the overall feasibility of the project while addressing City TDM goals. This may include: • Capital improvements (e.g., sidewalks, bicycle lanes, non-motorized trails and connections, bus stops, car pool parking); • Incentives for low-impact transportation (e.g., transit, car pooling, cycling, and walking) along with reduced incentives for single-occupancy vehicles (e.g., below-cost employee parking); • Policies to redistribute traffic impacts (e.g., set employee hours to avoid peak hour commutes).	PB DPW Parking	OPD BPW
51.	In locating municipal facilities, one of the goals is to build close to urban centers and otherwise close to the population the facilities will serve.	Mayor Council	All city
52.	Coordinate City land use policies and the land use plan with the city's transportation plan and shall consider the impacts of land use on the city's transportation system.	PB OPD	T&PC Mayor Council
	TRANSPORTATION SYSTEM IMPROVEMENTS		
53.	Develop capital improvements requests to identify and prioritize transportation improvements that support this plan and economic development	T&PC DPW BPW Mayor	Council
54.	Encourage and facilitate transportation improvements that support economic development in areas identified for growth in the city's comprehensive and other economic development plans.	T&PC DPW BPW Mayor	Council
55.	Monitor the status of infrastructure to work towards timely upgrades to meet the economic needs of the City.	T&PC DPW	Council

		BPW Mayor	

Responsible and Partner Agencies (and their abbreviations)

BPW	Board of Public Works
Chamber	Northampton Area Chamber of Commerce
COUNCIL	City Council
DPW	Department of Public Works
MAYOR	Mayor and Mayor's Office of Economic Development
OPD	Office of Planning and Development
PARKING	Parking Division
PB	Planning Board
PD	Police Department
SCHOOL	School Department or Board
Streetscape	Streetscape Advisory Committee
T&PC	Transportation and Parking Commission
PVTA	Pioneer Valley Transportation Authority `

Appendix A
Sidewalk and Traffic Calming Priorities

Discussions between members of the Pedestrian and Bicycle Subcommittee, School Department, School Committee and Police Department identified critically needed sidewalk links. These discussions primarily focused on sidewalks that could make students' journeys to school safer and those that could reduce busing costs by allowing students who lived within reasonable walking distance of the school to walk instead of ride the bus.

All of the lists in this Appendix shall be expanded in the near future by the DPW and T&PC to reflect additional priorities for sidewalks and traffic calming.

HIGHEST PRIORITY NEW SIDEWALKS AND PEDESTRIAN IMPROVEMENTS

Street	From/To	Discussion	Busing Savings
Bridge Road (Southside)	Gables to Jackson Street	Currently under design. Sidewalk construction prioritized for funding.	
Prospect Street (Southside)	Massasoit St. to Woodlawn Ave.	Currently students from the neighborhoods on the southside of Elm Street are bused to Jackson Street School even though they are within 2 miles because of the lack of a safe walking route to the school, primarily due to the crossings of Elm Street and Prospect Street. Moving the location of two Crossing Guards would provide a safer walking route to school. One Crossing Guard would move from the x-walk at Forbes Ave. and Elm St. to the x-walk at Woodlawn Ave. and Elm St. The second Crossing Guard would move from the x-walk at Massasoit St. and Prospect St. to the x-walk at Woodlawn Ave. and Prospect St. Funding could be sought for any necessary crosswalk improvements, such as signage.	All 3 improvements could allow the elimination of an elementary bus route, saving $35,000/year
Hatfield Street (Either Side)	Locust Street to Bridge Road	This sidewalk would connect to the currently under design Bridge Road sidewalk. Hatfield carries heavy commuter traffic volumes (4,700 AADT) traveling at speed along a narrow street through a residential neighborhood. A sidewalk would open Smith Vocational High School, Northampton High School, Cooley Dickinson Hospital and the Northampton Bike Path to pedestrians from the surrounding neighborhoods.	
North Elm Street (Either Side)	Hatfield Street to Bridge Road	This sidewalk would connect to the currently under design Bridge Road sidewalk. North Elm carries commuter traffic (2,000 ADT) traveling at speed along a narrow street. A sidewalk would open Smith Vocational High School, Northampton High School, Cooley Dickinson Hospital and the Northampton Bike Path to pedestrians from the Gables	

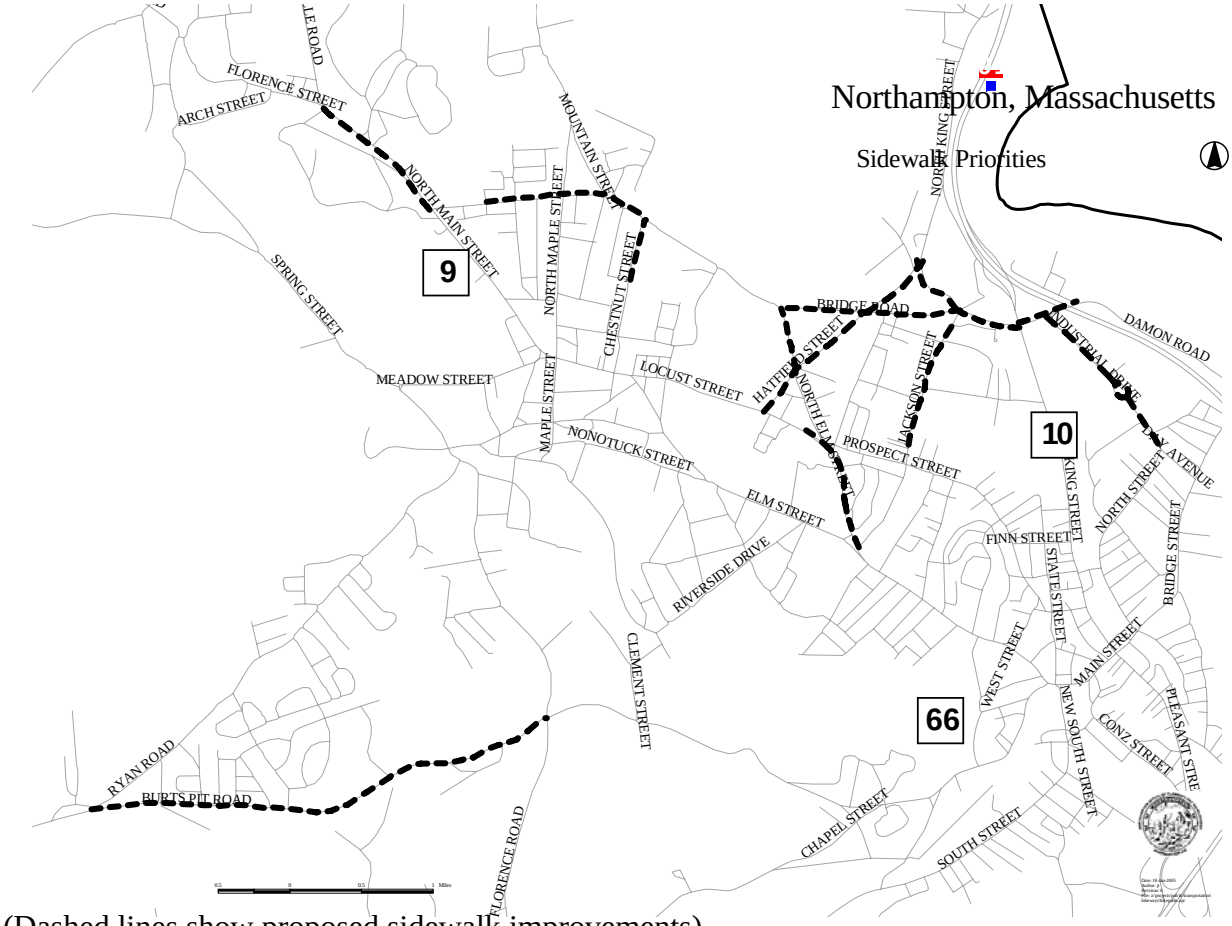
Locations are in no particular order.

MEDIUM PRIORITY LOCATIONS FOR NEW SIDEWALKS

Street	From/To	Discussion
Bridge Road (Northside)	Chestnut Street to JFK School	Students in the Neighborhoods on the north side of Bridge Road are currently bused to JFK because Bridge Road is too dangerous for them to cross to get to the existing sidewalk. With the addition of this section of sidewalk all these students would no longer require busing.
Bridge Road (Southside)	Jackson St. to King St.	
Burts Pit Road	Ryan Road to Florence Road	Students in the Neighborhoods on the south side of Burts Pitt Road are currently bused to Ryan Road School because Burts Pitt Road is too dangerous for them to cross to get to the neighborhood roads that lead to the school and are currently used by the students living on the north side. With the addition of this section of sidewalk all these students would no longer require busing.
Cooke Avenue	Bridge Rd. to Hatfield St.	
Hatfield Street	Bridge Road to Cooke Ave.	
Damon Road Industrial Drive and Bates	River Run access to King St. Damon Rd. to North St.	Students in the River Run Condominiums are currently bused to Bridge Street School. If there was a sidewalk from the complex along its access road and Damon Road, a pedestrian signal at Industrial Drive, and a sidewalk along Industrial Drive and Bates, then these students could then walk and no longer require busing. (All of Damon Road should have sidewalks when Damon Road is reconstructed.)
Chestnut Street (Eastside)	Strawberry Hill, south.	There is a short section of sidewalk missing south from Strawberry Hill, which if constructed would negate the need for pedestrians to cross the street.
Elm Street (Northside)	Woodlawn Ave. to Prospect St.	This section runs along the edge of Childs Park where there is currently a well defined “cow path” indicating a well used pedestrian route.
Route 9	Bridge Road to Florence Street	Currently there is no complete sidewalk connection between Bridge Road and Leeds. A sidewalk exists on the west side of Route 9 from Bridge Road for a short distance. The sidewalk then begins on the east side and continues to the VA Hospital entrance. A crosswalk across Route 9 connects the two sections of Sidewalk. It should be noted that there are plans to extend the Northampton bike path along the abandoned rail bed through Look Park. Additionally the intersection of Route 9 and Bridge Road is to be improved. A pedestrian connection between Bridge Road and Leeds would allow JFK students living in Leeds to walk or bike to school and residents to walk or bike to Florence or Downtown.

Jackson Street	Bike path bridge to school	Install tree belt between sidewalk and road or otherwise make improvements to minimize potential conflict between young elementary school bound walkers and cars.

Locations are in no particular order.



(Dashed lines show proposed sidewalk improvements)

INTERSECTIONS PERCEIVED AS HAZARDOUS FOR PEDESTRIANS

Intersection	Discussion
Riverside Dr./Federal Street	Sidewalk shifts from one side of street to the other. Intersection has poor sight lines
Nonotuck St./Elm St./S. Main St.	With the addition of approximately 20 feet of sidewalk on the south side, a cross walk could connect the existing sidewalks. This is a main pedestrian route to NHS.
Locust St./Elm St./Prospect St./Hospital Driveway	
Damon Rd./King Street/ Bridge Road	Pedestrian cycle needed
Woodlawn Ave./Prospect St./Jackson St.	See discussion in Top Priority List.
Florence Rd./Ryan Rd.	
Finn St./State St.	
Hatfield St./Cooke Ave.	

Locations are in no particular order.

PRIORITY SCHOOL BUS WAITING AREAS

Intersection	Discussion
Dunphy Drive/Westhampton Road	Students currently wait at this intersection for the school bus. There is no sidewalk, so students stand in the road. A formalized waiting area would allow students to wait off the road.

Locations are in no particular order.

TRAFFIC CALMING PRIORITIES

Locations	Discussion
Bridge Street School	Elementary School with children walking to school
Jackson Street School	Elementary School with children walking to school
Leeds School	Elementary School with children walking to school
Ryan Road School	Elementary School with children walking to school
Hockanum Road by Pleasant St.*	Funded by development project mitigation
Hatfield Street at Cooke Avenue*	Dangerous intersection with traffic calming funded by development project mitigation
Pine Street (near S. Main)*	Funded by development project mitigation
Bliss Street*	Opportunity because of bridge closing and eventual new bridge

*These projects are not necessarily the most critical traffic calming projects in the City, but are on the priority list because funding and other opportunities makes them the easiest projects to proceed on and to establish a model traffic calming process.
Locations are in no particular order.

Appendix B
Bicycle Lane Design Guidelines

Bicycle lanes shall be designed in accordance with the most recent edition of the American Association of State Highway and Transporation Officials (AASHTO) "The Guide for the Development of Bicycle Facilities," with attention to the following aspects:

1. Bike lanes should contain appropriate pavement markings and signage.

2. Identified priority corridors for bike lane investigation and improvement by the DPW are: King Street (refer to VHB Study), the City-maintained portion of Bridge Street, improving the bicycle lane layout, markings and signage on South Street, maintaining the bicycle lane layout and crosswalks on Elm Street, and extending the Elm Street bicycle lane up Locust Street and Main Street into Florence Center.

3. In determining whether a bicycle lane is feasible, roadway travel lanes widths of 11 feet are generally considered adequate, unless specific local conditions require a wider lane width. Four-foot bicycle lanes are desirable, but three-foot bicycle lanes are a significant improvement over no bicycle lane. In areas with on-street parking typically there should be a seven-foot parking lane with an adjacent six-foot wide bicycle lane (three-foot for bicycles and a three-foot wide door zone buffer). Bicycle lanes should not generally be added next to diagonal parking.

4. Bicycle lanes should be created by measuring from the center line of the road, creating 11' or 12' travel lanes as appropriate, leaving the rest of the space for bicycle lanes (as opposed to measuring in from the curb, which can create unduly wide vehicle lanes and create sudden curves in the bicycle lane).

5. Right-turn vehicle lanes should be located on the right side of through bicycle lanes, with pavement markings used to indicate the location where vehicles should cross the bicycle lane (typically 200' back from the intersection).

6. One-way streets without parking on the left-side of the street (as the traffic flows) can be appropriate for bicycle lanes running counter to the flow of traffic.

7. Sidewalks designed to accommodate bicycles should be installed only with consideration of AASTO Guide for the Development of Bicycle Facilities and:
    a. Should only be designed when the sidewalk is wide enough to accommodate the expected traffic; and
    b. Driveway crossings are minimized and are designed to provide visibility and right-of-way for sidewalk traffic; and
    c. Do not replace or discourage appropriate bicycle usage and/or bicycle lanes in the street.
    d. Ensure that signage reinforces safe bicycling habits in children and new riders.

Minimum Road Widths for Bicycle Lanes

	Minimum Traveled Lane Width (11’ travel lanes)	Minimum Traveled Lane Width (12’ travel lanes)
Streets with no parking	15’	16’
One lane of parking	23’	24’

Appendix C
Roundabout Evaluation

Roundabouts are the favored intersection treatment when appropriate. Suitability of roundabouts will be evaluated during the preliminary engineering analysis for all intersections being considered for significant reconstruction, realignment, signalization, and four-way stops. The following factors shall be considered when determining the suitability of a roundabout for a location.

Roundabout Benefits :

1. Roundabouts (particularly single lane) have been shown to substantially reduce the severity and number of crashes for all users (studies in the US have found safety benefits for bicyclists at roundabouts inconclusive, primarily due to the limited sample size of bicycle crashes at the locations studied).
2. The slow speed environment combined with the reduced number of conflict points provides more time for drivers to judge and react to other vehicles, pedestrians and bicyclists. This is particularly advantageous to older and novice drivers.
3. Pedestrian crossings at roundabouts provide less exposure to conflict due to the shorter crossing distances due to the spliter islands used to separate the approach and exit lanes. The slower vehicle speeds increases compliance with yield laws for pedestrians and less severe consequences if a vehicle/pedestrian collision occurs.
4. Yield control combined with low circulating speeds allow entering vehicles to accept relatively small gaps. Additionally, vehicles can simultaneously enter the roundabout from multiple approaches. These factors provide increased capacity, reduced delays, and therefore reductions in air pollution, reduced queue lengths and therefore, the need for extended storage lanes commonly seen at traffic signals.
5. Roundabouts do not have to be perfectly circular allowing their design to be adjusted to fit locations with unusual geometry and/or odd number of approaches. Roundabouts may also be useful in eliminating a pair of closely spaced intersections to combine them to form a multi-legged elongated roundabout. In locations where available right of way or geometry are limited a “mini-roundabout” design may still provide many of the benefits.
6. Traffic Calming effects on vehicle speeds are observed over several hundred feet both up and downstream of a roundabout.
7. Each roundabout installation is unique, but construction costs are typically comparable to a traffic signal installation with associated intersections improvements. Howevere, roundabouts will generally have reduced annual maintenance costs compared to traffic signals amounting to several thousand dollars a year (signal maintenance and electrical costs). Additionally the service life (time frame where acceptable operation will be sustained) of a roundabout is typically 25 years compared to 10 years for a traffic signal.
8. Roundabouts provide an opportunity to provide an aesthetic solution for intersection improvements.

Roundabout Disadvantages

1. Heavily unbalanced traffic flows may not be efficiently accommodated at a roundabout, although if a roundabout is the highly desirable option for the intersection and the unbalanced

flows occur during limited periods of the day, measures such as metering traffic signals on the unbalanced approach can often alleviate problems.

2. Intersections that experience extremely heavy pedestrian volumes may not be appropriate for a roundabout application as the capacity may be reduced.
3. Roundabouts typically require a larger footprint at the intersection and may not be able to be accommodated due to right of way or geometric constraints. In these circumstances the suitability of a mini-roundabout option should be considered.
4. Visually impaired pedestrians have expressed concern about navigating roundabouts, due to difficulty in locating crossing locations and identifying gaps in traffic at the crossing locations. Research is currently being conducted to identify the best treatments to accommodate the visually impaired. Care should be taken to ensure that sidewalks and crosswalks are designed with treatments that will assist the visually-impaired.
5. The safety benefits of roundabouts reduce as additional lanes are added.

Roundabout Capacity Analysis

1. There are currently two commonly used software packages utilized for measuring the capacity of roundabouts in the U.S., aaSIDRA and RODEL. Capacity analysis of roundabouts should be conducted using one or both of these software programs.

April 7, 2005 and April 21, 2005

Upon the recommendation of the Transportation and Parking Commission, Board of Public Works and Planning Board

BE IT RESOLVED

WHEREAS, On March 15, 2005, the Transportation and Parking Commission adopted the *Municipal Transportation Plan for the City of Northampton* (*Transportation Plan*), as the transportation element of the City's comprehensive plan pursuant to the Northampton Code of Ordinances §2-675; and

WHEREAS, On February 24, 2005, the Planning Board adopted the *Transportation Plan* as the transportation element of the City's comprehensive plan pursuant to MGL Chapter 41 §81 C and D and the Northampton Code of Ordinances §2-675; and

WHEREAS, On March 9, 2005, the Board of Public Works Planning Board adopted the *Transportation Plan* pursuant to their authority to set city public works policy; and

WHEREAS, Although the plan is now in effect, City Council endorsement is important for overall acceptance of the planning process and the plan;

NOW, THEREFORE BE IT RESOLVED,

City Council endorses the *Municipal Transportation Plan for the City of Northampton.*

Approved Northampton City Council April 7 and April 21, 2005