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# DRAFT REPORT

## HISTORIC DOWNTOWN RESTORATION PROGRAM PHASE II

EXETER, NH



HISTORIC DOWNTOWN RESTORATION COMMITTEE

MAY 26, 2005

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# CREDITS

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- Don Briselden, Phillips Exeter Academy
- Funi Burdick, American Independence Museum
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# EXECUTIVE SUMMARY

# BACKGROUND

Over the past three decades, the Town of Exeter has ~~taken steps~~ worked diligently in developing an historic restoration program for the downtown area. These endeavors began with recommendations outlined in a 1974 Townscape Master Plan and have continued determinedly through the preparation of an Historic Downtown Restoration Conceptual Design Report in 1999 and current updates to the Town's Master Plan.

- In 1974, a Townscape Master Plan was presented, which included recommendations for improving downtown traffic, parking, and pedestrian facilities as part of a downtown and waterfront revitalization. This report was sponsored by the Exeter Area Chamber of Commerce, the Town of Exeter, and Southeastern NH Regional Planning Commission.
- In 1986, The Town of Exeter and the Rockingham Planning Commission commissioned a traffic study that expanded on some of the recommendations presented in the 1974 report.
- In a 1992 Master Plan Citizens Survey, three of the top four responses that were identified as serious local problems were identified as downtown traffic congestion (#1), downtown parking (#3), and speed of traffic (#4).
- The 1994 Master Plan summarized recommendations from the 1986 report for improving traffic in the downtown area, noting that only one of the ten recommendations had been implemented.
- 1999 Downtown Sewer System Separation Project What about this project?
- In 1999, the Town formed a Historic Downtown Restoration Committee and hired CDM consultant team to prepare a conceptual design report for traffic, utility, and streetscape improvements on Water, Front, and Center Streets ("Phase I"). The committee comprises representatives from: the Town Planning Department, Engineering Department, Planning Board, Historic District Commission, Board of Selectmen and Public Safety departments; Exeter Area Chamber of Commerce; Phillips Exeter Academy; the American Independence Museum, and a citizen representative.
- In 2000, Phillips Exeter Academy (commissioned VHB consultants to complete a pedestrian safety evaluation
- In 2001, the Rockingham Planning Commission completed a management plan for the "American Independence Byway," which includes Exeter's downtown Water Street corridor.
- Also in 2001, Exeter Train Station began operation with the introduction of the Amtrak Downeaster rail service. The western end of the proposed project, near the Water Street/Main Street intersection, serves as the gateway to the community from the west, including the Exeter train station. Part of the long-term vision for the community will include an expansion of the pedestrian and bicycle facilities from downtown westward to the train station, as identified in the 2003-2022 Long Range Transportation Plan prepared by the Seacoast Metropolitan Planning Organization.
- January 2003 Exeter hires Civil Design Engineering Team to carry out Phase II of the Historic Downtown Restoration Project.

- September 2003, Town of Exeter hired VHB consultant team to complete a conceptual design for intersection improvements targeting Spring, Water and Main Street intersections.

As part of the next step toward meeting these recommendations, the Town has commissioned Civil Design Engineering Consultants to provide professional utility, traffic, and streetscape engineering design services for Phase II of the restoration project. The Historic Downtown Restoration project is a multi-faceted and intricate project with many interrelated tasks and conflicting interests. The impetus for the Exeter Historic Restoration Program can be traced to the 1974 Townscape Plan, although the recent work of phase I and II began after the sewer/stormwater separation project was implemented. Considering the street pavement was patched after the utility work, it was thought that because road resurfacing would be required in the near future, any other streetscape or utility alterations should be done at that time. Program elements and objectives were further identified and outlined in the 1994 Town's Master Plan for the of Exeter, and continue to be of significant interest in 2004 Master Plan update efforts.

The Town's goals and objectives for Phase II of this program are identified as threefold:

- Reinforce Exeter's historic charm as well as stimulate the downtown economic vitality;
- Improve downtown circulation for pedestrian, bicycle, and vehicular traffic;
- Ensure coordination of the downtown streetscape project with roadway resurfacing projects and other downtown capital projects.

The 1974 Townscape Report was based upon both privately and publicly financed measures to implement projects responding to goals of economic revitalization for the central business district, civic amenities for residents and visitors, historic continuity, and compatible future growth options. Among the considerations and recommendations presented in the 1974 Townscape Plan are provisions for:

- Town Hall Common
- Street Treatments and Pedestrian Amenities
- New and Reorganized Parking Areas

The 1994 Master Plan update was prepared to provide guidance to the Planning Board in the performance of its duties as well as serving as a blueprint for growth and development within the Town. Goals and objectives in the Master Plan reflected the input received from six subcommittees represented by over sixty Exeter residents and a citizens survey. Goals and objectives outlined in the 1994 Master Plan include:

- (Land Use Goal) "The Town of Exeter should seek to preserve and enhance its rich natural, cultural, and historic heritage as a largely residential community supported by commerce and industry."
- (Land Use Objective) "The Town should prepare a 'vision' representing a community consensus of what Exeter should look like at full development."
- (Transportation Objective) "The Town should conduct a comprehensive analysis of existing and projected traffic volumes on Town roads for the purpose of identifying necessary modifications (i.e. street widenings, repairs, signalization, and new roads) to accommodate such growth."

- (Transportation Objective) “The Town should encourage the use of alternate modes of transportation (i.e. mass transit, carpooling, bicycling, walking) through all available means in order to achieve reductions in both vehicular traffic and air pollution, consistent with the Clean Air Act of 1990 and the intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.”
- (Transportation Objective) “The Town should appoint a study committee to investigate the need for additional downtown parking and make recommendations as appropriate.”
- (Utilities and Public Services Goal) “The Town should work together with all interested parties to ensure the continued adequate provision of public and private utility services to the residential, commercial, and industrial sectors.”
- (Recreation Objective) “The Town should seek to provide sidewalk, bikepath and/or trail connections between all residential neighborhoods and recreation facilities.”
- (Conservation and Preservation Objective) “The Town should seek to preserve significant historical and archaeological sites.”

The 2001 Master Plan update on chapters regarding Land Use, Community Facilities and Civic Life, and Parks and Recreation had the following recommendations

- (Land Use Chapter) Evaluate future participation of the Town in the New Hampshire Main Street Program, to further support the social, cultural and economic health of the downtown.
- Develop a green space and street tree plan for downtown
- Develop recommendations for ensuring a pedestrian-friendly environment, including developing a standard pedestrian crossing design to enhance visibility and safety, and instituting traffic calming measures that do not create unreasonable maintenance burdens. Evaluate specific conflict areas for possible re-design, including the Bandstand and Spring St./Main St. /Water St.
- Consider acquisition of additional land for providing more downtown parking, possibly including a portion of The Mill parking lot.
- Conduct a feasibility study for the transition/conversion to underground utilities in the downtown area.
- (Community Facilities and Civic Life) Create informational kiosks at selected parks and in frequented public areas to promote various programs and resources, including, but not limited to local programs, parks, trails, special events, and meetings.
- Promote and develop alternative transportation options for entry to and egress from Town, including:
  - Continued development at and advertising of train station,
  - Development of bicycle routes along main arteries,
  - Preservation of existing sidewalks and expansion of pedestrian walkways
- Improve downtown parking options.
- As part of the downtown restoration plan, the Town should look into connecting

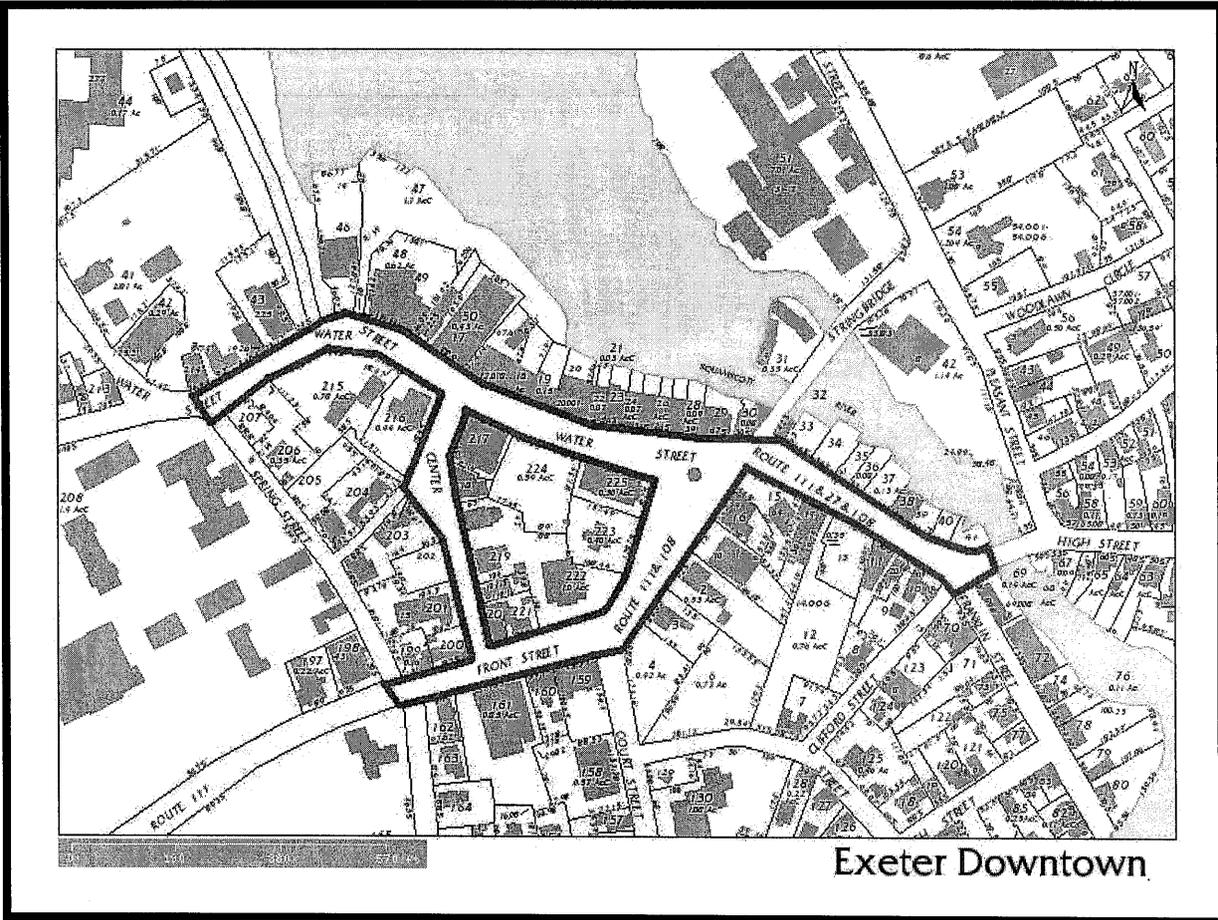
the spaces between the Bandstand, Town Hall and Town Office to make them more pedestrian friendly while maintaining safe vehicular and bicycle flow as well as parking.

- Due to the high average occupancy of the parking lots, the amount of off-street parking available should be increased. This could be accomplished through:
  - Purchase land for the purpose of creating additional public parking lots.
  - Lease of land for purposes of creating additional public parking lots.
  - Create a commuter lot to reduce the use of the large municipal lot as a carpool meeting point.
  - Construct a parking structure at the large municipal parking site or some other downtown location.
- Examine more closely the benefits and impacts of converting the under utilized on-street parking on selected streets, such as Center Street, to all day parking. A second area to consider would be the String Bridge/Chestnut Street parking.
- Consider alternative ways to finance the costs of obtaining additional parking in Downtown Exeter.
- That the Town recognizes the historical significance and educational value of structures, buildings and programs of the private organizations that contribute to the vitality of Civic Life in Exeter.
- That the Town and its representatives work to enhance the historic districts and take steps towards restoring elements that have deteriorated over time. This should include a review of the pedestrian and traffic flow in the shopping district, landscaping, sidewalks and lighting as part of the Downtown and Waterfront revitalization projects.
- (Parks and Recreation) The Planning Department and EPRD should work together develop a program to increase green space and gardens in the immediate downtown area.

The formation of the Historic Downtown Restoration Committee and the development of a Downtown Restoration Program was driven by aspirations to complete these interrelated goals and objectives in a timely, cost-effective, and logical progression.

# SCOPE OF STUDY AREA

The program study area includes Water Street, Front Street, and Center Street in the historic downtown area. As originally defined under Phase I, the scope of study was bounded by Great Bridge to the east, Swasey Parkway to the northwest and the Post Office (Center Street) to the southwest. For Phase II, the project's western limit was expanded to Spring Street, to provide a plan for the transition zone between Town projects and Phillips Exeter Academy.



# METHODOLOGY

The Historic Downtown Restoration Program Phase II is a continuation of a comprehensive program, planning and design process. The Phase II study was divided into two stages. The first six months of the study (January – July 2003) were dedicated to public outreach and data gathering. The second stage of the study consisted of the development of design alternatives, cost analyses, and refinement of project scope for each of three concurrent studies: a Utility Master Plan, a Traffic Circulation and Parking Study, and a Streetscape Design.

The purpose of this report is to document the results of the public outreach, synthesize the opinions of project stakeholders, provide preliminary design for downtown project elements, develop the framework for a build-out of downtown infrastructure improvements, and establish an effectual program that will be technically, economically, and politically feasible. Study elements and milestones conducted by the project Committee and consultant team included:

- Monthly committee meetings starting in February 2003
- Review of previous reports & studies
- Three (3) consecutive public workshops in the spring of 2003
- Project video on local cable television
- Press Releases in local and regional newspapers including Exeter News-Letter, Foster's Daily Democrat, and Boston Globe.
- Exhibit at Exeter Alewife Festival
- Public opinion survey at Exeter Brass Band Concert
- Exhibit of design concept plans at the Town Office Building for public review and comment
- Development and Refinement of multiple design alternatives
- Meetings with utility companies including Unitil (electric), Verizon (telephone), Comcast (cable), and Bay Ring (telecommunications).
- Supplemental traffic counts at key intersections (Water St/Front St/String Bridge and Water Street/Clifford/Franklin/Great Bridge).
- Committee field trips to other downtown restoration communities including: Derry, Durham, and Manchester, NH and Newburyport and Amesbury, MA
- Presentations and discussions with the Board of Selectmen, Historic District Commission, Planning Board, Town Department Heads, and Economic Development Committee.

The guiding principles of the design elements are to encourage, improve, and maintain the visual appearance and functional aspects of Downtown, while maintaining its historical integrity. Civil Design and its team was selected to lead the consultant team in the creation of a program that meets these goals. By developing a comprehensive program, rather than a series of individual projects, this report will allow the Town to develop, implement, and maintain the desired improvements in a logical and fiscally capable manner.

The fundamental philosophy of the design team is that the project is a Town project, not the consultants' project. The role of the consultant team is to lead the process, foster a strong

integrated teaming effort between the Town of Exeter, the design professionals, public utility representatives, and other project stakeholders, navigate the currents of public opinion, and guide the Town to a program that is appropriate and achievable.

This document is step in the planning and implementation of a master plan for the historic restoration of downtown Exeter. A master plan is as much a process as it is a product. It is intended to be an inclusive and on-going articulation of challenges and opportunities, guided by an overall vision that is encompassing and fosters inspiration. A well-crafted master plan is a map as well as a method, outlining a conceptual approach to decision making over an extended period of time.

The approach taken by the Civil Design team parallels the “Four-Point Approach” to downtown revitalization developed and practiced by the National Trust for Historic Preservation (NTFHP) Main Street Program. The four points advocated by NTFHP and successfully implemented throughout the country, are (1) Organization, (2) Design, (3) Promotion, and (4) Economic Development, corresponding to the four universal forces that influence, direct, and drive the energies of a downtown environment: (1) Political, (2) Physical, (3) Social, and (4) Economic. The Downtown Restoration Committee embodies the project Organization. This document is intended to form the basis of project Design. Upon completion and acceptance of this report, it is incumbent upon the committee and design team to continue the implementation of the project vision by initiating and integrating the tasks of promotion and economic development.

Next steps of the program encompass launching a public relations campaign to educate the public, decision makers, and stakeholders of the program, in advance of a Town Meeting vote to secure funding for the engineering design and construction of the project.

# UTILITY MASTER PLAN STUDY

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## ISSUES

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The utilities work that would be a part of the Exeter, New Hampshire, Downtown Historic Restoration Project includes proposed relocations of the electrical power, telephone, cable television, high speed/broadband internet communications and municipal fire alarm systems existing overhead distribution equipment and services to customer's residences and/or commercial operations to underground installations.

Water, wastewater, storm drainage, gas distribution and/or other piping systems presently installed below rights of ways and on private property are not considered a part of the utilities being addressed within this part of the report.

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## DESIGN TASKS

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Lee F. Carroll, PE, Electrical Consultant led the planning and design efforts necessary for the Utility Master Plan. Work efforts conducted by the design team under this category are:

- Initial review of reports, etc. prepared and provided to the design team.
  - An initial site review for preliminary documentation and photographing of existing utilities on the streets involved.
  - On-site reviews with utility and fire department representatives to eliminate alternatives that are unacceptable to the various utilities.
  - Review of existing utility service points on the various structures impacted by the potential project and locations of new transformers.
  - Review of streetscape, traffic, parking, and municipal utility issues directly or indirectly related to overhead utility improvements and integration of utility design data with streetscape and circulation designs.
  - Development of a utility master plan for utility pole relocation, burial of overhead wires, civic power, and building service connections.
  - Development of budgets and an implementation schedule for utility improvements
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## DISCUSSION

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### PROJECT SCOPE/OPTIONS

Based on meetings with members of the Historic Downtown Restoration Committee and public input at various public meetings, the project maximum scope will include the noted utilities from the intersection of Franklin Street, Clifford Street and High Street with Water Street (adjacent to Great Bridge) following Water Street to its intersection with Spring Street. It shall also include Front Street from its intersection with Water Street to Spring Street and Center Street from its intersection with Water Street to its intersection with Front Street. Existing utilities on Spring Street from its intersections with Water Street and Front Street would not be modified within the project scope envisioned by the parties involved. The existing overhead circuits crossing the river adjacent to the

Great Bridge intersection would not be relocated within the project scope presently envisioned as the overhead utility pole at the corner of Clifford Street and Water Street would remain.

There are also alternate costs noted herein should the Committee elect to reduce the project scope by deletion at this time of the following maximum scope areas, with changes in these deleted areas to include only the scope noted below:

- 1) Delete conversion of overhead to underground for all utilities along Water Street from Swazey Parkway to Spring Street. Retain overhead systems but include conversion of overhead services to commercial/residential structures that cross over Water Street (no overhead street crossings remain for building services).
- 2) Delete conversion of overhead for all utilities along Front Street from the intersection of Center Street to Spring Street. Retain existing overhead systems but include conversion of overhead services to commercial/residential structures that cross over Front Street (no overhead street crossings remain for building services).
- 3) Delete conversion of overhead to underground for all utilities on Center Street from Water Street to Front Street, including deletion of the conversion of any existing overhead services to commercial/residential structures that cross above Center Street. Also include within this option the items noted in #2 above from Center Street to Spring Street.
- 4) Delete conversion of overhead to underground for all utilities along Water Street from the intersection near Great Bridge to oppositely opposite the theater on Water Street. Retain existing overhead systems but include conversion of overhead services to commercial/residential structures that cross over Water Street (so no overhead street crossings remain for building services).
- 5) Remove only overhead service wires crossing the street, with all utility poles and transmission lines to remain. Decorative lighting could still be installed as a streetscape option with this alternative with removal of highway style lighting.

The various serving utilities and their designated representatives have provided estimated costs for modifications to their physical plant to accommodate the work scope within the areas stated above. Their estimates, however, do not include any costs for services from their main distribution systems to the individual customers residences/businesses (unless specifically noted otherwise). The "buyout" costs for premature retirement of their presently installed and operating overhead facilities is likewise not included (unless specifically noted otherwise), nor are associated legal costs. All estimates are based on the City of Exeter obtaining and paying for any required easements for any/all utilities.

In an effort to identify all potential expenditures, the comprehensive cost estimates (Appendix II) summarize tasks associated with utility company efforts as well as additional tasks to be incurred by the Town exclusive of the utility companies.

# TRAFFIC CIRCULATION & PARKING STUDY

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## ISSUES

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### TRAFFIC CONGESTION

The 1994 Master Plan update identified Exeter's primary transportation concern as the flow of traffic around and through downtown. As the juncture of NH Routes 27, 108, and 111, downtown Exeter serves as the hub for tremendous through traffic, including dedicated truck routes. Without a route to bypass the downtown, Water Street (Rte 27/108) and Front Street (Rte 108/111) bear the burden of over 17,000 vehicles per day. As such, the Town has evolved and adapted its seventeenth century streets to convey today's 21<sup>st</sup> century traffic.

### SAFETY

The geometric arrangement of the Water Street/Front Street intersection is complicated. The intersection is difficult to comprehend and difficult to negotiate, particularly for those unfamiliar with it. The Town has taken tremendous measures to improve the signage and traffic pattern, but the intersection will continue to confuse motorists due to its unconventional nature.

Angled parking is viewed by some as a safety hazard, while others view it as a safe means of traffic calming. Similarly, there are various opinions regarding the number and locations of crosswalks. Both of these issues need to be addressed through proper design to increase the awareness of pedestrians by motorists and awareness of motorists by pedestrians.

### PARKING

Like many small communities, Exeter has both real and perceived parking problems in its downtown business district. Parking issues, whether real or perceived, do influence the decision of potential customers to visit downtown, and must be addressed. These issues include adequate and convenient parking for customers, business owners, employees, residents, and visitors. The challenge facing Exeter, like many other communities, is determining "adequate" and "convenient" for each of these sectors of the downtown community. The Town's 2003 Master Plan transportation visioning session identified the #1 concern was to create a downtown parking garage or solve the long term parking problem.

### ALTERNATIVE TRANSPORTATION

A consistent theme in transportation planning over the past ten to fifteen years has been improving alternative modes of transportation, such as walking, bicycling, rail, transit, and water transportation. As a transportation hub with access to all of these options, Exeter has been and should continue to be at the forefront of integrating alternative transportation modes. As such, this traffic and circulation study needs to include consideration for transportation improvements as a multimodal system, not solely a vehicle oriented one. The Town's 2003 Master Plan transportation visioning session identified a major concern was to expand transit options and to make Exeter bicycle friendly.

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## DESIGN TASKS

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Civil Design led the team effort as design engineer for the traffic/parking component of the project. Work efforts conducted by the design team under this category are:

- Review existing vehicle circulation and parking patterns, referencing alternatives developed by CDM (1999) and SEA (2002) reports.
- Review the Exeter Downtown Parking Study conducted by the Exeter Area Chamber of Commerce Parking Task Force (2002).
- Review pedestrian and circulation studies prepared for and provided by Phillips Exeter Academy.
- Review the American Independence Byway Management Plan.
- Review NHDOT and Rockingham Planning Commission Traffic counts.
- Conduct supplemental traffic counts at key intersections.
- Review existing pedestrian facilities, parking facilities, bicycle facilities, and related amenities to supplement the existing studies.
- Develop traditional and innovative alternative circulation improvement plans with the Restoration Committee for public review and comment.
- Conduct Field Tests with Fire Department Ladder Truck.
- Participate in the 2003 Master Plan Visioning Session for the Transportation Chapter Review and participated as a member of the chapter's team to redevelop and revise the 1994 chapter.
- Conduct a Roundabout Field Test.
- Develop an improvement program for circulation amenities, including operational and management concerns, to include consideration for vehicle travel lanes, on-street parking, off-street parking, sidewalks, crosswalks, transit, destinations, gathering areas, and information areas.
- Coordinate circulation improvement alternatives with the utility master plan.
- Develop budgets and an implementation schedule for circulation improvements

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## FINDINGS

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Based on initial input from the Historic Downtown Restoration Committee, the design team assumed that any relocation of the Bandstand or installation of traffic signals to address congestion at the Water Street/Front Street intersection was not appropriate and should not be considered. The Bandstand relocation assumption was challenged during the public workshop phase of the study and is addressed in the "Bandstand Study" section of this report.

Water Street, between Great Bridge and Front Street conveys over 17,000 vehicles per day. For comparison, this is greater than Congress Street in downtown Portsmouth or any single leg of the Portsmouth Traffic Circle.

Average daily traffic through downtown Exeter has increased steadily, as consistent with

projections in a 1986 Segal/DiSarcina traffic study. However, peak hourly traffic numbers have reached a saturation point because of the constriction at the Bandstand intersection.

Traffic calming is not a significant issue in downtown Exeter as speeds are generally not excessive due to the roadway geometry and congestion. However, the downtown would benefit from improvements to traffic management for the purpose of increased motorist awareness of pedestrians, and vice-versa. This issue is further addressed under the "Streetscape Study" section of this report.

This report supports the findings and conclusions outlined in the Exeter Area Chamber of Commerce Downtown Parking Study (April 2002). Those findings include: The off-street parking is being utilized at or beyond its effective capacity for most of the time between 8.00 AM and 4:00 PM. The fact that the average use at noon is greater than 100% points to a serious deficiency at that time of day and additional long term (greater than 2 hour) parking is needed. On the other hand, overall, there is sufficient on-street parking capacity (59.8% average utilization), although some areas are more fully utilized than others. These conclusions also hold true for the ultimate build-out of the downtown based on current zoning. The Town needs an overhaul of parking management to better utilize the existing parking facilities, purchase or lease land to create additional long-term public parking, and consider the feasibility of constructing a parking structure at the large municipal parking site or other downtown location.

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## DISCUSSION

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### TRAFFIC CONGESTION

The economic engine of downtown Exeter is both dependent upon and a contributor to downtown traffic and parking. It can be safely stated that almost 100% of the parking facilities in downtown Exeter serve and support downtown activities, businesses, and residents. However, it must be understood that a key element of the downtown traffic component is that a majority of vehicles constitute pass-through traffic, not destination traffic.

The critical traffic node in the downtown Exeter study area is the Water Street/Front Street intersection. There are six general approaches to address traffic circulation and congestion issues, which are itemized in order of increasing complexity: (would it be possible to have small diagrams depicting the alternatives?)

- ~~"NO-BUILD CHANGE"~~ ALTERNATIVE. This option maintains the current traffic patterns through the downtown core and around the Bandstand at the Water Street/Front Street intersection. Advantages of this alternative are primarily 1. maintain the historic traffic pattern that most locals are accustomed to and ~~primarily economic (no changes in intersection alignment)~~ and (2) political (~~maintain the status quo~~) (don't fix what's not broken) in that there exists a strong desire by many to maintain the existing pattern due to the perception that there is not a significant congestion problem. Also, this alternative would ~~not reduce~~ a limited number of parking spaces ~~other than those space lost~~ due to pedestrian crossing bump outs and adding to the existing green space near the steps of the bandstand. Unfortunately, the no-build change alternative propagates the present situation of an isolated bandstand and lacks ~~public green~~ a larger civic space that other alternatives could provide. Another disadvantage to this alternative is that it would continue the current complicated traffic pattern around the Bandstand.
- THREE-WAY INTERSECTION ALTERNATIVE. This option maintains existing traffic

patterns through the downtown core but eliminates one leg of Front Street adjacent to the Bandstand and reconfigures the intersection with Water Street and String Bridge as a series of three-way “T” intersections. (this is tricky to visualize – needs diagram) This alternative was preferred by an overwhelming majority of participants during the public workshop sessions. It was also considered the best alternative by the Historic District Commission as well as the project’s committee. Advantages considered as the primary reasons to support this ~~of this~~ alternative were ~~are~~ primarily due to the (1) creation of a large civic space by providing a green connection between the Bandstand and either Town Hall or the Town Offices. Another advantage to this alternative is the clarification of traffic patterns and improvements to traffic flow along the Rte 108 corridor. The major disadvantage to this option is a reduction in level of service that will occur for traffic approaching or exiting the intersection west onto or from Water Street. Another disadvantage with this alternative is that by concentrating the traffic pattern into a three-way stop, a traffic signal may be warranted, which is inconsistent with the sentiment of most public opinion. Finally, this alternative would result in a substantial reduction in on street parking spaces between Town Hall and the Town Office Building.

- **ROUNDAABOUT.** This option maintains existing traffic patterns through the downtown core but would replace the intersection with a roundabout, or small traffic circle around the Bandstand. This solution may at first appear as a radical solution, however, a roundabout would closely resemble the current traffic pattern.. The primary advantage of this solution is that it provides a familiar movement where each leg of the intersection may move more freely than the present configuration or the other alternatives. The roundabout also eliminates the need for a future traffic signal. A roundabout would further protect the Bandstand by providing additional greenspace for activities presently centered around the Bandstand. On the other hand, a roundabout around the Bandstand may create an even more isolated public space than it is today. Finally, this alternative would result in a substantial reduction in on street parking spaces between Town Hall and the Town Office Building.
- **TRAFFIC SIGNAL.** Signalization of the Water Street/Front Street intersection has been proposed in the past. A 1968 transportation study proposed signalization, and the 1986 Segal/DiSarcina study concluded that signalization will ultimately be required to accommodate increasing traffic volumes. However, traffic signals were not considered in this study for two primary reasons. First, the installation of traffic signals will most likely lead to increases in traffic volume along major corridors. Second, traffic signals at this location are contrary to the sentiment of the majority of public opinion and are inconsistent with the goals and objectives of an historic downtown restoration.
- **ONE-WAY TRAFFIC.** During the public workshops, the idea of one-way traffic through the downtown corridor was suggested on multiple occasions. This idea was not further considered for three reasons. First, for vehicles moving through downtown, congestion is a function of the Water Street/Front Street intersection alignment and the Portsmouth Avenue signal to the east. One-way traffic circulation does not address the alignment issue and will not solve the congestion at the Bandstand. Second, many communities that have converted central business district streets to one-way in the past are revisiting the issue and the national trend has been to revert one-way streets back to two-way. Third, one-way streets are not conducive to the economy of downtowns like Exeter where the majority of businesses are

located on one major street.

- DOWNTOWN BYPASS. The idea of a bypass around Downtown Exeter received some support at the public workshops. This idea, which advocates a north-south connector of Rte 108 east of downtown for the purpose of redirecting through traffic, has been promoted in Exeter previously without success. This alternative would be a major undertaking completely separate from the historic downtown restoration program and was not further considered.

This report explored the first three general traffic circulation alternatives, each with its own merits and concerns: “No-build”, “3-way intersection”, and “Roundabout”. Variations on these three alternatives are numerous and technically achievable. However, a recommendation of any of these three must be based on a fundamental community consensus regarding the acceptance of a degree of congestion within the downtown area. As suggested in the 1986 Segal/DeSarcina report, the creation of improvements to facilitate traffic flow on Exeter’s downtown streets will not accomplish goals of reducing congestion. Rather, improvements that allow traffic to flow with shorter delays will tend to attract greater volumes of through-traffic; vehicles that currently avoid the area because of congestion.

While the general public is familiar with one-way traffic, conventional intersections, and traffic signals, there is much unfamiliarity, confusion, and misinformation regarding roundabouts. Appendix I includes text adapted from the May 2003 issue of Better Roads Magazine which clarifies much of the mystery of roundabouts.

#### IS EXETER READY FOR A ROUNDABOUT?

As noted above, a roundabout solution for the Water Street/Front Street/String Bridge intersection is not as extreme as may be perceived. With the exception of one movement, the remainder of the intersection behaves as a roundabout in its current configuration. Eleven of the possible twelve movements between Water Street, Front Street, and String Bridge move in a counter-clockwise direction with respect to the Bandstand. Traffic on Water Street that approaches the intersection from the west and continues on Water Street is the only movement that “cuts against the grain.”

The most technically optimum solution to Exeter’s downtown congestion, without weighing political considerations, is a roundabout at the Bandstand. The installation of a roundabout would formalize the currently confusing traffic pattern, significantly improve safety at the intersection, marginally improve traffic flow, and provide a reconfiguration allowing for civic greenspaces around the Bandstand and at the Town Hall.

A roundabout study was begun under this project in October 2004, funded by the Exeter Economic Development Committee. The preparation for the study included consultation with roundabout guru and advocate Michael Wallwork, PE, who concurred that a roundabout *could* be an appropriate solution at the Bandstand, based on current and projected traffic. A temporary one-day weekend test was successful in showing that a roundabout could physically fit within the existing right of way. However, the roundabout study was halted by the Board of Selectmen without the implementation of the planned full roundabout test and without the completion of Mr. Wallwork’s assessment.

The Board of Selectmen halted the study without further review with two reasons given. Individual members of the Board expressed opinions that (1) the congestion in downtown Exeter does not warrant a major realignment of the traffic patterns and (2) construction of a roundabout

would further isolate the Bandstand from the public realm.

It is agreed that the isolation of the Bandstand is an important civic threshold to consider in weighing alternatives. Nevertheless, it is the opinion of the committee that the question of a roundabout's technical feasibility was never fully answered. A roundabout appears to work in theory, but the opportunity to confirm or dispute the technical feasibility of a roundabout at the Bandstand was not afforded to the committee under this report. It appears that the Town of Exeter is not politically ready to accept a roundabout at the Bandstand at the present time. However, at some point in the future, congestion and traffic pressures at the Bandstand will force the Town to revisit the circulation issue, at which time a roundabout should be regarded as a possible solution and fully considered against any conventional intersection and signalization alternatives.

#### **PARKING**

Common perception of downtown parking is that both on-street and long-term municipal lots are over-burdened with present parking demand. As noted earlier in this report, the findings of the April 2002 Downtown Parking Study represented that there is sufficient on-street parking capacity, however, the management of on-street parking could be improved. On the other hand, the study found perceptions to be true in that long-term lots are utilized at or beyond their effective capacity during typical business hours. Therefore, strategies to resolve both on-street and long-term parking issues have been considered through out the process, since various designs for the downtown project would have impacts on the on-street parking.

The downtown committee recognized early on in the project that conflicts could arise between maintaining parking, while improving vehicular/pedestrian movements, and/or creating green space. Simultaneously, realizing the sensitivity regarding parking, the committee used caution in considering project improvements that would result in fewer parking spaces. As a result of final project impact, it may still be determined that the overall project strategy and phasing may require parking improvements such as acquiring additional land or building a parking structure to compensate for loss of parking spaces due to improvements in other project categories. It should be noted that during the 2004 Master Plan Visioning Sessions, one of the highest priorities brought forth in discussions for the Transportation Chapter revisions was creating a downtown parking garage.

#### **ALTERNATIVE TRANSPORTATION**

The Town of Exeter is currently preparing updates to the 1994 Mater Plan. Based on public comment during the February 2004 Master Plan Visioning sessions, it is expected that recommendations from the Transportation section of the Master Plan will further promote alternative and intermodal transportation. Design elements for the transportation and streetscape components of this report are based on intermodal principles with significant consideration for pedestrians and bicyclists.

# STREETSCAPE STUDY

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I THINK THIS SECTION IS MISSING A DESCRIPTION OF EXISTING CONDITIONS WHICH WOULD HELP US POINT OUT ISSUES, WHICH MAY HAVE BEEN LISTED BUT NOT DESCRIBED.

## ISSUES

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A recurring theme throughout the public outreach efforts was one of public space for the benefit of residents and visitors. With few exceptions, there was a consensus among committee members and the general public with regard to downtown streetscape preferences. Areas of differing opinion centered more on traffic and parking issues. Areas of concern centered mostly on the cost of improvements.

Streetscape aspects that received positive opinion included:

- historic character
- diversity of building styles
- retail shops
- walking downtown
- summer concerts
- two-way traffic
- green spaces
- the relationship between the Town and Phillips Exeter Academy.

Streetscape aspects that received negative opinion included:

- overhead power lines
- traffic pattern
- speed of through truck traffic
- lack of trees

Suggestions from the public for desirable streetscape improvements include

- more outdoor seating
- more green space and trees
- change in traffic pattern
- improved sidewalks and lighting
- drain and crosswalk coordination
- visual and physical connection to the waterfront

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## DESIGN TASKS

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Civil Design led the team effort as design engineer for the streetscape component of the project with support from Schoonmaker Architects and Woodburn & Company Landscape Architects. Work efforts conducted by the design team under this category include:

- Review existing streetscape amenities and existing street tree inventory.
- Conduct workshops to determine public opinion of satisfaction/dissatisfaction with existing streetscape elements and ideas/input for potential improvements.
- Prepare a slide show of representative streetscape elements for public reaction.
- Develop alternative streetscape improvement plans with the Restoration Committee for public review and comment.
- Develop an improvement program for streetscape amenities, including benches, bollards, trash receptacles, bicycle facilities, kiosks, tree grates & guards, banners, signage, street lighting, and civic power.
- Coordinate streetscape improvement alternatives with the utility master plan.
- Develop a downtown tree replacement program, including additional green space that may be gained through the streetscape alterations .
- Develop budgets and an implementation schedule for streetscape improvements.

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## DISCUSSION (IS THIS MEANT FOR A DESCRIPTION OF EXISTING CONDITIONS?)

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The Water Street/Front Street corridor serves as both a destination and an arterial. Water, Front, and Center Streets serve as the pedestrian realm for Downtown businesses. NH State Routes 27, 111, and 108 converge in the center of the project area, giving Exeter's downtown the challenging task of accommodating tens of thousands of vehicles per day, including a north-south truck route. Over the past 50 years, the street system through Exeter has focused on the goal of keeping vehicular traffic moving through downtown and around the bandstand. The proposed project is to comprehensively redesign downtown Exeter to appropriately balance the demands of vehicle traffic with the needs of pedestrians and bicyclists.

It seems what we're missing here is a description of the existing streetscape and the resulting issues. This would help answer the question of why we want to do anything at all. The above paragraph seem that it describe the traffic route but leaves me wondering about the streetscape.... What do existing sidewalks look like, how wide are they, what are their conditions, why do we want to make changes, is there a problem at all, do we have an idea from the chamber of the number of shoppers/users? What about the street trees, info areas, sign, lights, benches banners and other amenities....

The overall objective of the Historic Downtown Restoration Program is to improve the aesthetics and infrastructure of the downtown area, while preserving the true and unique character of Exeter. Through improvements to relocate overhead transmission and service wires, and coordination of the project with traffic, parking, and streetscape improvements, the overall design for Water Street, Front Street, and Center Street will provide increased enjoyment and safety for residents, merchants, and visitors engaged in exploring Exeter's attractions.

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## DESIGN CRITERIA

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### GENERAL

I think we need some sort of introduction to this list. Perhaps some of the discussion from the committee meetings on the goals of the group,...

- Provide a Cohesive Downtown Identity
- Establish Typical Street Cross-section template (11' wide travel lanes plus angle parking where possible)
- Establish Sidewalk Themes.
- Establish Street Lighting Theme
- Include Traffic Calming Elements for Pedestrian/Motorist Awareness (Bump-outs, textured crosswalks, raised intersections)
- Develop Landscaping and Street Tree pattern to establish Rhythm and Provide Shade
- Establish Accent/Focus Area
- Standardize Street Furnishings
- Coordinate Streetscape amenities with Phillips Exeter Academy, Swasey Parkway, and Great Bridge elements
- Maintain existing angle parking on Water Street
- Introduce angle parking on Front Street between the Post Office and Court Street.
- Add mid-block crosswalk at the bank parking lot midway between Center Street and Front Street

### KEY NODE: DOWNTOWN CENTRAL GREEN (AGAIN, THIS NEEDS AN INTRO)

- Create a public space linking Town Hall and the Bandstand
- Maximize green space at the Bandstand
- Make the Bandstand more accessible for public enjoyment, not isolated in the intersection.
- Reorganize traffic circulation to minimize conflicts in the Bandstand area (see Traffic Circulation discussion section above).
- Reorganize parking spaces in front of Town Hall and Town Offices
- Provide seating within the Town Hall Green area
- Utilize compatible brick sidewalks to relate Town Hall with the streetscape
- Use enhanced intersection crosswalks and extended sidewalk ramps to maximize pedestrian/motorist awareness
- Incorporate bicycle racks/storage into Town Hall area

- Establish an information kiosk in the Town Hall Green
- Reconfigure pavement area between Town Hall and the bank drive-thru for more efficient access, parking, and circulation

**KEY NODES: GATEWAYS(DISCUSSION)**

- Create Gateway Entrance Statements approaching the Historic District from the east (Great Bridge), west (Swasey Parkway), and south (Post Office)
- Provide a raised intersection at each Gateway
- Provide decorative staffs, consistent with street light poles, at each Gateway for event banners

**KEY NODE: CENTER STREET MONUMENT(DISCUSSION)**

- Reconfigure Center Street/Ladd Street intersection
- Provide mini-park at monument
- Reconfigure Ladd Street and bank parking lot for additional parking spaces.

# PROJECT COST ESTIMATES

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## DISCUSSION

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Project cost estimates are included in Appendix II. The cost analysis has been prepared for numerous combinations of streetscape and utility improvements. Possible scenarios range from under \$1 million to almost \$8 million, depending upon the degree of improvements.

Budgeted costs include the following considerations:

- Sidewalk Reconstruction
- Roadway Grinding and Resurfacing
- Street Lights and Electrical Conduit for Lighting and Civic Power
- Utility Improvements
- Granite Curbing
- Decorative Crosswalks
- Raised Intersections
- Trees and Decorative Streetscape amenities
- Engineering, administration, and program management
- Contractor Mobilization
- Traffic/Site Maintenance during Construction

Specific roadway and streetscape improvements costs have been prepared for five options:

- **Full buildout/Full Brick.** This alternative represents a full buildout of the ultimate program for the entire study area, with all brick sidewalks in an asphalt base.
- **Full buildout/Brick and concrete.** This alternative represents a full buildout of the ultimate program for the entire study area, with concrete sidewalks and brick accents.
- **Partial buildout/Full Brick.** This alternative represents a buildout of the Water Street and Front Street portions of the study area, with all brick sidewalks in an asphalt base, but eliminates all streetscape work on Central Street.
- **Partial buildout/Brick and concrete.** This alternative represents a buildout of the Water Street and Front Street portions of the study area, with concrete sidewalks and brick accents, but eliminates all streetscape work on Central Street.
- **Minimal Buildout.** This alternative represents a minimal cost for improvements that would be incurred by the Town for repairs and replacement of roadway, drainage, and landscaping infrastructure if no other improvements are implemented.

Utility improvements costs have been prepared for five options:

- **Full buildout.** This alternative represents a full buildout of the ultimate program for the entire study area, with removal of all overhead wires.

- **Alt 1.** This alternative eliminates all utility work on Water Street from Swazey parkway to Spring Street.
- **Alt 2.** This alternative eliminates all utility work on Front Street from Center Street to Spring Street.
- **Alt 3.** This alternative eliminates all utility work on Center Street and Front Street west of Center Street.
- **Alt 4.** This alternative eliminates all utility work on Water Street east of the Bandstand.
- **Alt 5.** This alternative represents the removal of only overhead wires that cross over the street and leaves all existing utility poles and transmission wires.

A summary matrix is included in the cost estimate, which identifies the expenditures associated with each scenario and every possible combination of options, including a no-build utility alternative.

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#### PREFERRED ALTERNATIVE

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The preferred alternative as developed by committee consensus and recommended by this report is a combination of the Streetscape Partial Buildout/Full Brick Option and the Utility Alternative No. 3. This alternative represents the removal of all overhead utilities and total reconstruction of sidewalks with all brick sidewalks in an asphalt base for the Water Street and Front Street portions of the study area.

The Grand Total estimated cost of the preferred alternative is \$6.3 million, including all engineering design, program management, utility relocation, and street/roadway construction costs and a 10% contingency for inflation and unknowns.

It is the recommendation of the committee to pursue a warrant article for a bond

# MAINTENANCE

The development and implementation of an Historic Downtown Restoration Program is only the beginning of a long-term investment in the community. In order for the project to fully succeed, the Town must make a commitment to continued and dedicated maintenance of the downtown. It is important that some entity, whether internal (i.e. Public Works), external (such as a contracted maintenance professional), or quasi-municipal (such as a downtown manager) be given the authority and accountability to manage the downtown in the same way that private shopping malls are managed.

It is only through proactive management and dedicated maintenance that the downtown program will prosper and compete successfully in an economic realm. It cannot be understated that the Public Works Director, or Downtown Manager, or maintenance contractor must be equipped with the appropriate resources to adequately maintain the infrastructure at a level higher than the Town is currently accustomed. This means that the Town must commit to investing in the program at an appropriate level, or develop a self-funding program, through other means such as a Business Improvement District.

Assuming a blended equipment and maintenance cost of 6% per year based on construction value of Town facilities, the estimated annual maintenance costs for the preferred alternative is estimated at  $1.28 \text{ million} \times 6\% = \$76,800$ .

# FUNDING SOURCES

I think these bulleted items could be elaborated on in many ways, ie. Some of these sources have been used by the towns we toured, include that info; explanations of the funding source; what the source might pay for, implementation vs. maintenance, some of these suggestion have been suggested in master plan visioning sessions or in the parking study or other sources, I would use past recommendations as support for what we recommend.

- Federal Transportation Enhancements (TE)/Congestion Mitigation and Air Quality (CMAQ) Grant
  - TE Application submitted in 2003 for sidewalk elements
  - Submit CMAQ Application for Intersection improvements in a future year
- Creation of Business Improvement District
- Creation of non-profit organization or finding an existing local non-profit with a similar mission to:
  - Pursue grants unavailable to municipalities through foundations
    - Initiate community fundraising
    - Solicit pro-bono in-kind donation of services
    - Engage grant writer to research and apply for grants
  - Research foundations for funding specific elements of the program:
    - Beautification Grant
    - Landscaping Grant
    - Equipment Grant
    - Greenspace/Park Grant
  - Local and regional foundations
- Community fundraising
- Add \$5.00 onto car registration for parking/circulation improvements

# RECOMMENDED PROGRAM & IMPLEMENTATION SCHEDULE

2005	2006	2007
<p>Develop project strategy including:</p> <ol style="list-style-type: none"> <li>1. Complete project report to the extent manageable.</li> <li>2. Work with Exeter Area Chamber and EDC on parking issue</li> <li>3. Begin assertive campaign for fund raising strategies</li> <li>4. Continue developing project support.</li> <li>5. Finalizing project plans.</li> <li>6. Work with budget committee and Town CIP committee to integrate the project into the 2006 CIP.</li> <li>7. Present budget committee with additional money needed in Planning budget in order to conduct additional studies as needed.</li> </ol> <p>Conduct additional studies as needed.</p> <p>Continue on all areas regarding project support, fund raising and other specific issues.</p>	<p>Work on getting voters out to support the project for March vote.</p> <p>Work with committee to hire consultant team to complete the project, from final engineering drawings to implementation.</p> <p>Hire engineering team to create final plans.</p> <p>Finalize design plans.</p> <p>Work out project schedule/task milestone spreadsheet with committee and consultant.</p>	<p>Project implementation.</p> <p>Set up information site on town/chamber web site.</p>

This study identified an ultimate buildout program for the downtown historic area, but advocates a partial buildout as the preferred alternative. It is important to cite and identify other items that have been identified through master planning, visioning sessions, and committee efforts that are desired, but included in the preferred alternative.

Implementation of a master plan is intended to be conducted over years, if not decades. With a clearly identified and articulated concept, the project can be implemented in stages according to funding, programmatic priorities, and logical site sequence without losing the coherence and

practicality of a comprehensive site plan.

Appropriate phasing of project implementation would be the construction of the preferred alternative as a first step and integration of other goals, objectives, and aspiration as later steps. As programmed in this study, early planning is considered to create the opportunity for subsequent projects.

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#### FIRST STEPS

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First steps for implementation, as identified in the Preferred Alternative, would include the following on Water Street from Great Bridge to Spring Street and on Front Street from Water Street to Spring Street

- Removal of overhead wires and utility poles
- “Softening” of expansive pavement area around the Bandstand
- Downtown arrival “Gateways” at three locations
- New brick sidewalks and granite curbing
- New crosswalks and curb extensions
- Street trees and decorative lighting
- Civic power for seasonal lighting and sidewalk vendors
- Replacement of overhead signage
- Reconfiguration of on-street parking for no net loss
- New benches, bike racks, and trash receptacles
- Joining with Philips Exeter Academy projects at Water Street and Front Street

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#### ADDITIONAL ELEMENTS

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Numerous elements were identified during the public input sessions, committee meetings, and meetings with Town department heads. These are identified as later steps for continuing the Downtown Restoration project. While important to the larger vision, these elements were not included in the preferred alternative for various reasons, including budgetary and political, or were not included in the scope of this study. Nevertheless, these elements are integral to downtown Exeter’s sense of place:

- Utility, street, parking , sidewalk, and landscaping improvements along Center Street
- Improvement/expansion of off-street parking facilities
- Development and Implementation of a Downtown Parking Management Plan
- Linking Downtown project to the Riverfront and Boardwalk
- Linking Downtown project to Lincoln Street via Main Street
- Comprehensive bicycle plan for downtown destination access
- Linking Downtown project to Library via String Bridge

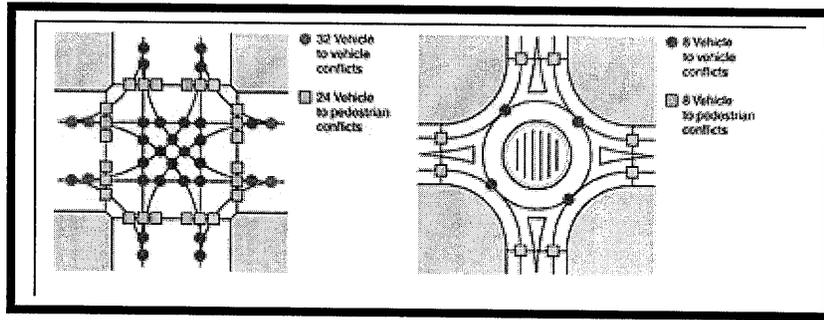
- Traffic circulation improvements at the Bandstand
- Downtown Bypass route

# APPENDIX I ROUNDBABOUTS

(from *Better Roads Magazine*, May 2003)

Designs and applications show that the United States is beginning to follow Europe's example by using roundabouts to speed traffic and prevent intersection crashes. Forty states now use or are experimenting with roundabouts. According to the *Seattle Times*, there are more than 600 in the United States today. However these should not be confused with traffic circles. Roundabouts, properly designed, reduce crashes 50 to 90% when compared to two- and four-way stop control or signalized intersections, says Michael Wallwork, P.E. Roundabouts avoid problems with old-design traffic circles too. When crashes do occur, Wallwork, a roundabout designer, says, severity is greatly reduced. The reason, according to this engineer, often called Mr. Roundabout, is that normal intersections have 32 vehicle-to-vehicle conflict points. Roundabouts have only eight vehicle-to-

vehicle conflict points. Pedestrian safety is improved, too. Normal intersections have 24 vehicle-to-pedestrian conflict points; roundabouts have only eight.



## DESIGN MATTERS

Many agencies confuse roundabouts with traffic circles and are hesitant to try them. The designs are quite different. A traffic circle is often very large, traffic enters and exits at a high speed, and complex entry and exit points can lead to more crashes rather than less. Modern roundabouts, mostly developed in the United Kingdom from the 60s onward, provide many advantages over these old, outmoded traffic circle designs. Roundabout design reduces circle size and slows vehicle entry and exit speeds. Each roundabout has a central island, 15 feet or larger in diameter. The island may be round, square, or some other shape. Each entry/exit point has a splitter island that is triangular. This keeps drivers from entering the exit area and gives pedestrians a safe haven as they cross. Vehicles enter and exit by turning right at a slow speed of 12 to 25 miles per hour, depending on the type of street. Local streets should have central islands of about 15-foot diameter, Wallwork says. Collector road roundabout islands can be 30 to 40 feet. Arterial road central islands begin at 60 feet. Freeway or major intersection islands are 120 to 180 feet.

## DESIGN FOR USE.

A Web site sponsored by Lounsbury and Associates, [www.alaskaroundabouts.com](http://www.alaskaroundabouts.com), gives roundabout myths and facts, with special focus on design and use. One myth, the roundabout design company reports, is that roundabouts are difficult to maneuver. In fact, using a roundabout is much the same as making a right turn on red. At a traffic signal, a right-turning driver stops at the stop bar, looks for conflicting traffic coming from the left, chooses an acceptable gap in the traffic flow, and then turns right onto the cross street. At a modern roundabout, the oncoming driver approaches the yield line, looks for conflicting traffic coming from the left, chooses an acceptable gap in the traffic flow, and then enters the roundabout with a right turn at the yield sign.

## HOW ROUNDABOUTS REDUCE VEHICLE CONFLICTS

Once inside the roundabout, a driver continues circling counterclockwise until reaching the desired exit. Exit maneuvers are also right turns. Modern roundabouts work better if drivers signal their intention to turn. Roundabouts keep traffic moving, since vehicles aren't stopped for several minutes waiting for a signal to change.

## THE COSTS

Roundabouts cost less than signalized intersections to build and they don't need electricity or signal parts replacement. When the power goes out, no-one needs to worry about nonfunctionality of the traffic control measure. How much can roundabouts save? In Anchorage, maintaining a signal costs about \$15,000 per year. With at least four signals at each intersection, this means a savings of at least \$60,000 per year per intersection. The Alaska Department of Transportation reports that it expects to save about \$1 million in reduced construction costs and associated lighting costs by building two teardrop-shaped roundabouts at Dowling Road and the New Seward Highway in Anchorage.

## SAFETY

Roundabouts improve safety. A study conducted by the Ryerson Polytechnic University, the Insurance Institute for Highway Safety, and the University of Maine found that changing from a signalized intersection to a roundabout decreased crashes 39% and decreased injury-producing crashes by 76%. Fatalities fell by 90%. Delays in traffic were reduced by up to 75%. A National Cooperative Highway Research Program study found that single-lane roundabouts are the safest. These cut total crashes by 51% and injury-producing crashes by 73%. Michael Wallwork cites some specific sites. In a two-lane South Carolina roundabout carrying up to 2,500 vehicles per hour, crashes were reduced by 81%. Injury crashes were eliminated. At a Clearwater, Florida roundabout, all crashes severe enough to be reported were eliminated.

## ROUNDABOUTS IN USE

Utah is one of the leaders with more than 40 roundabouts in use and more on the drawing board. Some of these were implemented to help keep traffic moving when Salt Lake City hosted the Olympic Games. The Alaska DOT makes good use of roundabouts, too, especially in larger urban areas such as Anchorage. New York, Florida, Colorado, Hawaii, Texas, Kansas, Vermont, South Carolina, Maryland, Delaware, Washington, Montana, and Illinois DOTs are some of the other leaders. Michael Wallwork says the greatest roundabout ever built in the U.S. carries up to 58,000 vehicles per day and 8,000 pedestrians each day. It's located in Clearwater, Florida. At the large, two-lane roundabout, minor property crashes have still occurred, but no reportable crashes. Prior to the roundabout, there were about 35 reported crashes per year. Many of these were injury crashes. There have been no pedestrian or bicycle crashes in the roundabout despite an average of four a year before the roundabout was built.

In Maryland, accident data collected before and after the Lisbon Roundabout in Howard County was built shows a 74% reduction in annual accidents and a 91% reduction in annual injury accidents. Alaska's DOT projects include the Southport Roundabout. It replaced an accident-prone intersection where drivers habitually sped through. As traffic increased in the area, so did accident rates. Since the intersection was on a curve in the road, blind spots intensified the problems. The DOT used Lounsbury and Associates to design a roundabout to replace the conventional intersection. The

final design used tapers at the entrances on Southport Drive and an enlarged central island to deflect traffic. A higher curb at the truck apron prevented snow and ice from compromising the value of the central island during the winter. Exit radii were increased for truck mobility and to help balance speed. In Kingston, New York an old traffic circle with a diameter of 600 feet was replaced with a 200-foot roundabout. Accident rates dropped markedly and traffic delays were decreased.

# APPENDIX II COST ESTIMATES

APPENDIX III  
PLANS

## APPENDIX IV

# HISTORY OF THE BANDSTAND

There has been much discussion and speculation about relocation of Exeter's bandstand to make way for traffic improvements in Downtown Exeter. Some people vehemently oppose any alteration to the present bandstand location, while others believe that the only way to achieve any real traffic improvement is to take the bandstand out of the middle of Downtown Exeter's busiest intersection. Another concern is the preservation of the Bandstand and its vulnerability to vehicular accidents in the middle of the intersection. Even though the two objectives need not be mutually exclusive, both arguments must be weighed before a final traffic pattern decision is made. The public must ultimately weigh the balance of improved traffic circulation and the preservation of history in Exeter.

The possibility of relocating the Bandstand, whether a few dozen feet closer to Town Hall or across town to the Swasey Parkway has fueled an expressive debate with significant public opinion. A 1975 Town Meeting proposal to move the Bandstand closer to Town Hall failed by greater than a 2:1 margin.

The bandstand that currently occupies the space in the intersection of Water and Front Streets is formally known as the Swasey Pavilion. This ornate structure was donated to the Town in 1916 as a gift from Exeter resident Ambrose Swasey. Swasey was born in Exeter. He began working at the Exeter Machine Works when he was eighteen years old. It was there that he met his future business partner, Worcester Warner. Their company became known for the manufacture of astronomical telescopes. Swasey was a founder and president of the American Society of Mechanical Engineers and received a doctorate from the University of New Hampshire in 1930. In 1890 Ambrose Swasey inherited his family farm. He was generous with his wealth donating large sums of money to the First Baptist Church, the Exeter hospital, and two separate beautiful spaces in Exeter; Swasey Parkway and the Swasey Pavilion. The Pavilion has stood at its current site since its dedication in August of 1916. Prior to 1916 Exeter had several different bandstands. Most occupied the same intersection as the Swasey Pavilion currently does, however, evidence suggests that there was at least one other bandstand located in the Park Street Common.

Over the past one hundred years there are references to many different bandstands in historic articles and photographs. It is apparent that some influential people in Exeter believed it was important to have a bandstand in town. For many years temporary wooden bandstands were built to occupy the Town Square for some time during warmer months, then taken down before winter arrived. These bandstands were apparently built to house Exeter's already established band. This band, organized in 1847 as the Exeter Cornet Band, has played in many venues and under a handful of different names through the years. Organized as the Exeter Cornet Band, it has also been known as The Piscataqua Band, The Exeter Concert Band, and the Exeter Brass Band. This band, which is alive and well today, is the pride of Exeter. There is evidence to suggest that the band may be the oldest brass band in America. There are many important artifacts preserved today that tell the history of Exeter's Band. Not surprisingly, the Town's bandstands have become synonymous with the Town's band. More accurately, the Swasey Pavilion has become synonymous with the Exeter Brass Band. In fact, the Exeter Band was entertaining members of this community for some sixty-nine years before the Swasey Pavilion was built.

Exeter News-Letter articles and the accounting book for Exeter's Band, available at the Exeter Historical Society, support the idea that the band played many different venues. First and foremost, the band appeared to be a marching band. There are many accounts of the band spending the

entire day marching around Exeter in the midst of other festivities. The Town Hall was also a favorite location to which people could go to hear the band. It is not clear whether the band performed inside the Town Hall or simply from its steps, as is shown in several pictures. Apparently the band members' favorite event at which to play was an annual company picnic sponsored in Rye, NH. Hampton Beach was also listed many times as one of the band's out of town venues.

There were also other bandstands in Exeter. On at least one occasion the band played on a bandstand in the Park Street Common. It is evident from available pictures that wooden bandstands were built and located in the town square. Unfortunately there are no pictures of the band in any of these bandstands. One can only assume that the bandstands were used by Exeter's Band. The band's accounting book chronicles engagements between 1847 and 1916. Town Hall, Rye, and Hampton Beach are all mentioned by name. Articles specifically mention that the band marched on specific occasions and one article spoke of the concert at Park Street Common. But, there is no mention of any concerts in any bandstand located in the Town Square. Nonetheless, Exeter's Band clearly performed to the enjoyment of many people long before Ambrose Swasey donated his impressive pavilion.

According to Nancy Merrill, noted Exeter historian, Ambrose Swasey hosted two important visitors in the summer of 1915. Renowned Exeter-born sculptor Daniel Chester French and well known architect Henry Bacon advised Swasey in his pursuit for a suitable gift to the Town. In addition to being friends of Ambrose Swasey, French and Bacon were known for their work on the Lincoln Memorial in Washington D.C. Together the men created a proposal for a small pavilion suitable for band concerts in the town square. The gift was accepted at a special town meeting, held in January of 1916. The Town's iron watering fountain was removed to make way for the pavilion and a new granite watering trough. The Exeter News-Letter chronicled the progress of the pavilion over the course of the Spring and Summer of 1916. Finally, on August 10, 1916 Ambrose Swasey dedicated the pavilion by presenting the keys to the selectmen before a large crowd.

Unfortunately there is no information about the band's activities from 1916 until 1947. It was in the Summer of 1947 that the band celebrated its 100th anniversary in grand style on the steps of the Town Hall. A well-attended concert was given to honor the band. The whole town supported the importance of this event as evidenced by the advertisers in the celebration program and the newspaper articles commemorating the achievement. Surprisingly, the concert was given from the steps of the Town Hall, not Swasey Pavilion. There is no information as to why the band did not play in its beautiful temple.

Finally, in an Exeter News-Letter article from 1980 there is proof that Exeter's Band played in the Swasey Pavilion. An accompanying photo shows the band happily occupying the bandstand. The article meant to focus attention on the pavilion as one of Exeter's important, historic landmarks. It made mention of the summer band concerts that had long been played there. It is unfortunate to find that there is no historical information available to support the importance of the Swasey Pavilion to the Exeter Brass Band. It is interesting to find that contrary to popular belief, there has not always been a bandstand in that spot, and the band has not always played in that pavilion. However, it is clear that the bandstand holds significant importance as a landmark in the Town of Exeter.