

Qualifications / Non-Price Proposal

Professional Consulting Services to Perform the Belmont Community Path Feasibility Study for the Town of Belmont, Massachusetts



Submitted April 22, 2016 by



COPY

TABLE OF CONTENTS

Preface:	Cover Letter.....	1
Section 1:	Technical Proposal	
	• <i>Project Understanding.....</i>	<i>4</i>
	• <i>General Approach.....</i>	<i>11</i>
	• <i>Variances.....</i>	<i>12</i>
	• <i>Insights.....</i>	<i>13</i>
	• <i>Scope of Work.....</i>	<i>14</i>
Section 2:	Project Team	
Section 3:	Relevant Experience / Disclosures	
Section 4:	References	
Section 5:	Capacity	
Section 6:	Firm Qualifications	
	• <i>Pare Corporation</i>	
	• <i>K3 Landscape Architecture LLC</i>	
Appendix:	Required Forms	





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April 22, 2016

Jeffrey A. Wheeler, Senior Planner
Office of Community Development
Homer Municipal Building
19 Moore Street
Belmont, MA 02478

Re: **Request for Proposals**
Belmont Community Path Feasibility Study
Belmont, Massachusetts
(Pare Proposal No. TP165.16)

Dear Mr. Wheeler and Members of the CPIAC:

Pare Corporation understands the Town of Belmont's desire to construct this critical multi-use path which will provide immediate recreational and mobility benefits to the Town, as well as immediate and future connections to the existing Fitchburg Path and Mass Central Rail Trail, particularly the Waltham segment currently being designed and funded by DCR. This phase of the project will focus on advancing and expanding upon the route alternatives through conceptual engineering and cost estimating. We are proud to submit the attached Proposal to provide professional Planning, Design and Engineering consulting services for the Belmont Community Path Feasibility Study. We have reviewed your Request for Proposals, visited the project area, and performed project research to better comprehend the past efforts, ongoing concerns, and study requirements. Our proposal was prepared based on our understanding of the established project goals combined with our team's extensive experience related to the planning and design of multi-use recreation trail projects and pedestrian/bicycle facilities with both on- and off-street accommodations.

Established in 1970 as a transportation and civil engineering firm, Pare has been a leader in the planning and design of multi-use trails, bike paths, and pedestrian, bicycle and recreational facilities for over a quarter of a century. Our firm is pre-qualified for Intermediate Roadway and Complex Bridge categories with MassDOT. We have provided study and design services for other Massachusetts municipalities, namely the Woburn Loop Bikeway (Woburn, MA) and the Southampton Greenway (Southampton, MA). We have successfully managed the planning and design of several dozen other bike path/multi-use trail projects totaling nearly 200 miles of trail. For nearly all these projects, the public outreach component has been a significant part of the success of the projects. Some of our significant projects are described in Section 3 of the attached proposal.

To supplement our team we have secured the services of the **K3 Landscape Architecture, LLC (K3LA) – Landscape Architecture**, led by Ms. Kathleen Ogden Fasser, ASLA, for landscape architectural services. Their experience on recreation trail facilities along with their experience in the public outreach of projects will be a great addition to the team. Pare is currently completing a project in the Town of Southborough with K3LA.





For this complex project which presents a combination of needs from planning to conceptual design and beyond, Pare has designated a Project Management Team of John Shevlin, P.E. as Principal-in-Charge and Amy Archer, P.E. as Project Manager. Mr. Shevlin has been involved in different roles for all of the trails projects completed by Pare Corporation in his 26 years of employment. Ms. Archer has been an employee of Pare for two years and was brought on to the team to bring her transportation planning and recreation trail experience to the firm. Mr. Shevlin and Ms. Archer have successfully worked on over twenty projects in the last couple years. The assignments that have been completed by Mr. Shevlin include the planning, design and construction of trails, walkways, bicycle paths, riverwalks, parks, and other recreation facilities. Pare has successfully planned and designed many bike path/multi-use trail projects including the following:

- *Southampton Greenway Feasibility Study* Southampton, MA
- *Woburn Loop Bikeway/Greenway Corridor* Woburn, MA
- *East Bay Bike Path* Bristol to Providence, RI
- *Blackstone River Bikeway Feasibility* Providence to Woonsocket, RI
- *Washington Secondary Bike Path* West Warwick, RI
- *Jamestown Reservoir Multi-Use Path* Jamestown, RI
- *Quonset Shared-Use Path* North Kingstown, RI
- *West Bay Bike Path Feasibility Study* Warwick to Narragansett, RI
- *Warren Bike Path* Warren, RI
- *Hope Spur Bike Path Feasibility Report* West Warwick to Scituate, RI
- *Blackstone Visitor's Center Bike Path* Lincoln, RI
- *RIDOT Metropolitan Providence Bicycle Facilities Studies:*
 - Pontiac Secondary Bicycle Path Cranston, RI
 - South Elmwood Spur Cranston, RI
 - Colt State Park Spur (went to design) Bristol, RI
 - Route 2 Bicycle Lanes East Greenwich, RI
 - Coventry Bike Route Coventry, RI
 - Corn Neck Road Bicycle Facility New Shoreham (Block Island), RI
- *Wickford-to-Quonset Bikeway Feasibility* North Kingstown, RI
- *RIDOT Bike & Pedestrian Facilities Studies:*
 - Poppasquash Road Bicycle Facility Bristol, RI
 - Northwest Regional Bike Path Gloucester, N. Smithfield & Burrillville, RI
 - Shoreline Bikeway Charlestown and Westerly, RI
 - Pawtuxet Riverwalk Warwick, RI
 - Conanicut Island Greenway Jamestown, RI
- *Ellis Pond Pedestrian Walkway* Norwood, MA
- *Westerly - Pawcatuck Riverwalk* Westerly, RI and Stonington, CT
- *Old Lyme Scenic Overview* Old Lyme, CT

Ms. Archer began her career performing feasibility studies and alternatives analyses throughout the mid-Atlantic region. These projects included a wide range of elements such as freeway/boulevard interconnects and extensions with adjacent shared use paths traversing through areas with and without designated right-of-way and proposed bus rapid transit service with a designated multi-use path that transitioned to and from on-street



Jeffrey A. Wheeler, Senior Planner

(3)

April 22, 2016

accommodations and off-street trail. In more recent years, Amy has transitioned to traffic and roadway engineering, focusing on the finer details that advance a project from conceptual design to construction. Her experience on recreation trail projects also includes master planning, feasibility studies and designs for several projects. Some of the projects include:

- | | |
|--|-----------------------|
| ▪ Alexandria High Capacity Transit | Alexandria, VA |
| ▪ Midcounty Highway Design | Montgomery County, MD |
| ▪ Marstons Mills Village Center Improvements | Barnstable, MA |
| ▪ Cambridge Bicycle and Pedestrian Ramps | Cambridge, MA |

In addition to the above, Section 2 of this submittal has identified and provided qualifications of other key Pare employees that will be important to the success of this project. These individuals include:

- Keith MacDonald, P.E. – Bike Path Design
- Dave Elwell, P.E. – Structural and Railroad Design
- Michael Rongione, P.E. – Tunnel and MBTA Design
- Timothy Thomson, E.I.T. – Traffic Design
- Briscoe Lang, PWS- Wetland Delineations and Environmental Permitting

In addition to our recreational trail facility planning and design, Pare has worked on nearly forty projects since 1997 with the Massachusetts Department of Transportation (MassDOT) and approximately 100 projects with the Massachusetts Department of Conservation and Recreation since 2003. We have also worked directly for many Massachusetts municipalities and agencies and are familiar with the most current national guidelines, including ADA compliance, as well as MA General Laws and bidding procedures, and would be prepared to move forward with this project to the design phase if desired by the Town. We believe the Town would benefit from selecting a team at the Feasibility Study phase that possesses these capabilities. The potential to complete the Belmont Community Path from concept engineering through construction services with one consultant will minimize delays and eliminate backtracking.

Our proposal will remain valid from the deadline of April 22, 2016 until a contract is executed or the procurement is terminated by the Town, whichever occurs first. Please note that a copy of our latest Financial Statements is provided in a separate sealed envelope marked “confidential.” This information is proprietary and confidential, and is not meant for distribution to or review by anyone other than the public agency requesting this proposal. This information is not intended for public dissemination. These cover the years 2013 and 2014; our 2015 statements are not expected until April 30.

We appreciate your review of our proposal. We look forward to meeting with the Selection Committee in person to present our views and ideas for this exciting project for the Town of Belmont. In the meantime if you require any additional information, please feel free to contact me at (508) 543-1755.

Sincerely,

John P. Shevlin, P.E.
Senior Vice President

SECTION 1

TECHNICAL PROPOSAL

TECHNICAL PROPOSAL

PROJECT UNDERSTANDING

Having reviewed the Request for Proposals and the study area, along with the referenced previous studies, Pare is confident that we have a sound understanding of the previous effort and underlying challenges and are prepared to move forward with additional recommendations and alternatives analysis for the desired multi-use path. It is evident that this connection to adjacent paths for bicyclists, pedestrians and other recreational modes would provide a monumental increase in mobility and recreation to the Town of Belmont as well as expand existing benefits to the adjacent Town of Waltham¹ and City of Cambridge. The designated route is also a component of the long-term planned route established by the Mass Central Rail Trail (MCRT) which has the potential to connect a vast portion of communities within the Commonwealth.



The ultimate goal of our team is to ensure that the Town of Belmont gets the service necessary to not only complete this phase of the project but to also provide the groundwork for the tone and communication necessary for future services required to construct this very important project for the Middlesex County region.

The Belmont Community Path Feasibility Study is the next step in creating a recreational area for residents and families in Belmont, while simultaneously forwarding the efforts of the MCRT. Started in 1997, nearly 20 years ago, the planning for this path has a long and distinct history. This study will build upon that history, looking objectively not just at recreational opportunities but addressing abutter concerns, natural resource protection, engineering challenges, and access. The previous endeavors, particularly the most recent effort guided by the Community Path Advisory Committee (CPAC) have laid the groundwork in establishing potential routes for the path as well as identifying the most prevalent public concerns.

Pare stands ready to assist the Community Path Implementation Advisory Committee (CPIAC) and the Town in providing answers needed at the feasibility stage. We bring not only our experience assisting local communities and state agencies in both Massachusetts and Rhode Island, but our passion for greenway and bike path projects as well as our responsiveness to the unique needs of our clients. Pare staff have already canvassed much of the area surrounding the 2.2 miles of railway to which the path will run parallel. We have observed the variability of the segment alternatives and taken note of the importance of the existing wooded area to shield the adjacent neighborhoods from the rail line. We share the enthusiasm of the CPIAC for the opportunities afforded to create a multi-use path that will provide enjoyment and connectivity to current residents and future generations of Belmont,

¹ Path/trail in Waltham under design/funding assumed to be complete prior to construction of the Belmont Community Path.



adjacent towns and cities, and ultimately the greater extent of all communities along the MCRT.

Although this community path project encompasses a 2.2-mile section between Waltham and Cambridge, it focuses on five distinct segments, and these segments present a vast range of potential, limitations, opportunities to connect urban centers and natural surroundings. Following is a brief highlight of each segment.

Segment 1: Waltham Border to Clark Street Bridge

At just under a mile in length, this segment is the longest of the five. Though there are neighborhoods that hug the rail line to the south, the area to the north consists of densely wooded areas classified as the Lone Tree Hill conservation land. This wooded area, if allowed to be utilized by the Town, presents the greatest opportunity for a section of the path to maintain a natural environment with adequate separation from existing development, and could provide an extension of the trails currently provided through the conservation area and along the Beaver Brook Reservation. However, a more remote location for the path itself would require longer connections to adjoining neighborhoods. This particular route may also present challenging elevation changes.



Photo 1: Segment Alternative 1N would travel through Beaver Brook Reservation providing access to recreational opportunities.



Photo 2: Segment Alternative 1S would run parallel to the active MBTA line and provide direct access to Waverly Station.

The alternate route currently carried forward from the CPAC planning phase would require additional crossings, but with increased crossings comes increased connection opportunities. A balance will be sought between a serene environment for the path and sufficient connectivity. In planning the ultimate route, we acknowledge that the path's users will be of varying ages and abilities; therefore, extensive lengths between accessible connections could limit or even prohibit use by certain individuals. In kind, Pare will use our planning experience to project proposed volumes of path users, prior to and following completion of the MCRT, to help determine if traversing existing private neighborhood streets, as proposed in segment options 1Sa and 1Sb, is appropriate.

Segment 2: Clark Street Bridge to Belmont Center

The greatest concern within this segment, at this cursory review, is the presence of wetlands on the south side of the railroad tracks. During the conceptual design phase of this project, Pare would utilize its staff of certified wetland flaggers to confirm the extent of wetland impacts associated with the currently proposed alternative, and recommend modifications or alternatives to this option that would minimize impacts to wetlands and/or reduce the extent of associated permitting.

In addition to identifying the pros and cons of each segment option to help select the most feasible alternative in each area, Pare will try to identify advantages and disadvantages, as applicable, of combining the individual segments. These segment connections will be identified as links. Link 1, connecting Segment 1 with Segment 2, for example, has an existing connection from the north side of the railroad tracks to the south side. Regardless of the options selected for each individual segment, the existing Clark Street Bridge could connect these segment options if necessary. The existing bridge appears, from preliminary observation, to be in good structural condition and to consist of accessible slopes for accommodation of all user abilities. However, with an existing width of approximately 6 feet,



the existing bridge is not adequate to support the desired bidirectional shared use path. Replacement of the bridge would be a necessity of this link. This is an understood proposed improvement already identified by the Town.



Photo 3: The existing Clark Street Bridge provides pedestrian and bicycle access across the rail between Pleasant Street and Clark Street.

Segment 3: Across Belmont Center

Though the shortest segment, at less than a tenth of a mile, the area passing the Belmont Center Railroad Station certainly provides a collection of path design and connectivity challenges. As is evident from our initial field work, there is already a desire and intent for people to bicycle through this area. However, the current conditions present challenges for such activity. The intersection of Leonard Street with Channing Road can prove difficult for side-street traffic entry and the wide intersection footprint creates an uninviting pedestrian atmosphere. Construction is currently underway at this intersection indicating that these conditions may be improved. The intersection of Leonard Street with Concord Avenue has no traffic control devices, signage, or signals, presenting a confusing and undesirable condition for vehicles, pedestrian, and cyclists. These two intersections are separated by a stone arch underpass, which additionally limits sight distances.



Photo 4: Traversing the intersection of Common Street, Concord Avenue, and Leonard Street presents challenges for pedestrians and cyclists.

This will be a key focus of traffic engineering efforts during the conceptual design phase of the project. It appears any alternative through this segment would benefit from connection to the Belmont Center Station, and therefore all alternatives will likely run in close proximity to at least one of these two intersections. Pare will rely on vehicle speed data and traffic count data to be collected during Phase 1 of the project, during a typical day midweek when adjacent schools are in session, as well as crash data extracted from the MassDOT crash portal to determine the extent of safety issues in this area and identify best practices for improving travel for motorists and pedestrians/cyclists.

One crucial design aspect within this segment will be providing safe and efficient access between the adjacent roadway network and the multiuse path. Being an urban center with an array of commercial activity and commuting activity, this location will likely be a major connection point to and from the path. With this segment acting as a confluence of many modes of transportation, pedestrian and bicycle safety in the area will be the key to proper design.

Segment 4: Belmont Center to East Belmont

Another comparatively long segment, this stretch of the path has the potential to generate the greatest volume of users. It will be critical to provide a safe connection to the Belmont High School and the adjacent Brendan Grant Memorial Field. However, care must be taken to provide access and opportunities to the school attendees while maintaining their safety from other path users who may pass the school property during school hours.

If cost constraints and/or neighborhood residents' input influence the use of the rail corridor in this segment, the existing sidewalks and bike lanes along Concord Avenue may serve the Town as a viable alternative through this segment. This corridor appears to have a modern design in accordance with current guidelines and design criteria. However, bike lanes sandwiched between travel and parking lanes are typically considered less user friendly for young, elderly, or less confident cyclists.





Photo 5: Existing Bike Lane on Concord Avenue provides an on-street segment alternative for Segment 4.

Segment 5: East Belmont to Fitchburg Cutoff Path (Connection to Cambridge)

Segment 5, as previously defined by the CPAC, is a rather short segment. Pare would consider extending Segment 4 to Brighton Road, a more viable termination point, and would convert Segment 5 into Link 4. This final link will function as the connection between Segment 4, as redefined to Brighton Road, and the existing Fitchburg Cutoff Path.

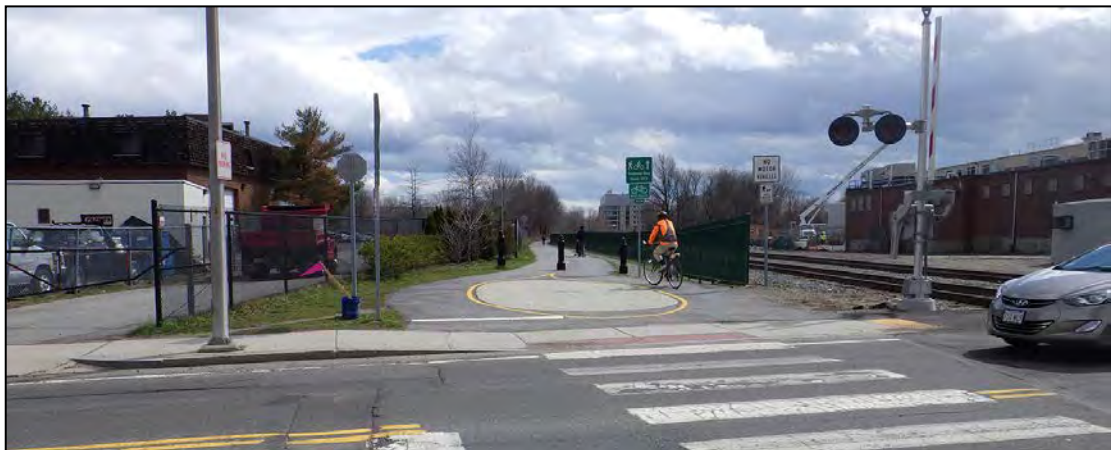


Photo 6: Terminus of Fitchburg Cutoff Path at Brighton Road

Amenities and Other Considerations

Combination of applications including street adjacent sidewalks with separated or shared bike lanes and exclusive multi-use paths will be considered. Pare will rely on a various experiences in communities around the Commonwealth to provide recommendations to the Town for segment surfaces, treatments and separations. Pare will also seek to achieve a level of cohesiveness with existing elements in Town, such as the paths spanning the Beaver Brook Reservation, Waverly Station, and Belmont Center and the existing path lanes on Concord Avenue and Underwood Street.



Photo 7: There are opportunities to connect the path with existing recreational facilities such as the Beaver Brook Reservation.

As noted, a complete path that is accessible, from both a connection and disability perspective, will provide the greatest opportunity for use to the greatest number of potential users. However, this may lack the challenges or obstacles sought by more experienced users interested in this recreational path, especially as it becomes a piece of the overall MCRT path stretching over 100 miles across the state. For this reason, Pare will consider during all recommendations if certain segments lend themselves well to a dual path. We believe Segment 1 may be a perfect candidate for such implementation, as the natural terrain of the first option will provide an ideal route for adventure seekers, while the second option, likewise, seems to have a flat terrain compliant with ADA guidelines.



GENERAL APPROACH

The Pare approach has been defined by our understanding of the project and by our previous experience on similar feasibility studies as well as shared-use path design. Pare has carefully considered the Request for Proposals/Qualifications and the scope of services outlined therein. The “Scope of Work” addresses our approach to the Belmont Community Path Feasibility Study. The key personnel and activities that Pare will provide include:

Client Coordination: Pare believes that project management and coordination with the client and all interested parties is one of the more important aspects of any project. This effort will be performed throughout the duration of the project and included within each task. Our first meeting is proposed as a Kick-Off Meeting to be conducted early on in the study. At key milestones during the development of the feasibility study, coordination meetings will be held to discuss project status and to build a consensus to resolve issues for moving the project forward. These meetings will always be attended by the Project Manager with Principal or Engineer assistance as needed.

Public Participation: There are many reasons the general public should participate in the development of the feasibility study for the Belmont Community Path. Decisions about transportation made today will surely affect people into the future pertinent to alternative modes of transportation, quality of life and economic development. Central to public participation is access and inclusiveness. The process must be transparent so the public is educated and informed before plan development, in response to plan development, and at plan adoption and implementation. Pare will build on the excellent groundwork already laid by the CPAC and those before them by providing opportunities for the public to continue to voice their values, ideas, and concerns regarding the Community Path.

We are committed to ensure early and continuous public involvement throughout the project. Pare’s staff has been through the public process for the majority of our recreation trail projects and other bikeway and roadway feasibility studies and we have gained the necessary experience to be able to address the variety of issues that may arise. Our recent experience in Woburn included extensive public outreach that included one-on-one meetings with all of the abutting property owners in addition to reaching out to the public through a series of public meetings that focused on different sections of the proposed trail/linear park. Pertinent input from the public meetings was included in the design. At the onset of the Belmont project, key members of Pare staff will correspond with key stakeholders to identify needs, issues, and concerns. Stakeholder input will serve as a preliminary data-gathering tool to gain insight into what issues and concerns can be expected when reaching out to the broader public.

Path Alternatives: Pare’s Recreation Trail Designers will coordinate with the CPIAC and the Town of Belmont regarding design alternatives within the project route. Our qualified Engineers and Project Manager will investigate alternatives for safe street crossings, viable access routes to neighborhoods and other areas of interest, connections to other modes of transportation, and areas for recreational activities. Alternative treatments for the path will be investigated and presented to the Town. Pare’s Structural and Geotechnical Engineers will perform cursory evaluations of the tunnels, bridges and culverts within the project limits that may be crossed by the proposed path. Pare’s wetland scientists will be responsible for the identification and assessment of the Bordering Vegetated Wetlands (BVW) to help minimize



or avoid impacts and to determine the permit requirements going forward. Pare's Environmental Specialists have the necessary experience in dealing with local Conservation Commissions in Massachusetts and in obtaining other state and federal permits necessary for similar types of projects.

Cost Estimating/Funding: Pare has the experienced staff that can provide current costs for the construction of this project. In the last 9 months, Pare has advertised a recreation trail project for construction which will allow us to use actual contractors' estimates for developing costs for this project. Pare will also verify these costs with the State's Weighted Bid Prices and/or RSMeans, if applicable for unique applications, and will continue to coordinate with contractors to ensure that our unit costs are current. Additionally, our Project Manager has extensive background in cost estimating for both planning and design level projects with combinations of on- and off-street bicycle facilities and other projects that included tunnels, retaining walls and bridges.

In addition to the development of construction costs, design, permitting, construction services and maintenance costs will be generated. Pare will work with the Town and the Committee in finding potential funding sources through the various State Agencies for moving this project forward.

SUMMARY: The Belmont Community Path Feasibility Study will provide answers to many of the questions raised by the public at prior Town Meetings and provide guidance for the future implementation of this project. Based on our 25+ years of multi-use trail project experience, Pare Corporation brings to Belmont knowledge of current practices in trail design and issues, flexibility to meet the local community's needs, skills in gaining consensus among varied stakeholders, and the expertise and experience for developing accurate costs estimates and assisting the community in finding sources for funding as the project moves forward. We look forward to working with you to bring this vision to the next step toward realization!

VARIANCES

Based on our review of the Belmont Community Path study area, we would suggest analyzing the proposed segment alternatives as a combination of segments and links as opposed to a segment-only approach. Each of the segment alternatives detailed in the RFP terminates at a different location, typically on opposite sides of the rail corridor. Should adjacent paths with different termini be selected, the link between these segments will be of upmost importance. We view the links between these termini as critical to the continuity of the path and safety of the user. Due to the critical nature of these links and the variability between segments, a separate investigation at each location should be considered. Consequently, Pare would consider Segment 5 a link providing the critical connection between the existing Fitchburg Cutoff Path and the proposed trail, either north or south of the rail corridor.

Pare also considers project funding as a separate phase. The identification of potential project funding sources is an item that should be investigated continuously throughout the study process. We envision this phase as an ongoing discussion with the Town where funding sources can be determined independently of alternative selection.



Pare will additionally consider the feasibility of multiple paths in each segment. This may be particularly effective in Segment 1 where Segment 1N provides valuable connections to natural surrounding that provide more of a recreational environment and Segment 1S provides a direct connection to Waverly Station and the surrounding urban center. Should funding be available that supports both alternatives, providing opportunities that allow the path to focus on both commuters and recreational users may be desired.

INSIGHTS

- During Pare's field investigation of the study area, a strong bicyclist presence throughout the study area was observed, solidifying the need for separated facilities in the area.
- In order for a multiuse path to be successful, it must be easily and safely accessible. Many of the proposed connection points to the path are located adjacent to busy roadways with high traffic volumes. Providing safe pedestrian and bicycle connections and access points to the path that invite users will be a critical to the planning and design of the path.
- Much of the proposed pathway is co-located with the active MBTA Fitchburg Line. This type of rail-with-trail facility has successfully been installed in many locations throughout the county however the design of proper separation is required to ensure safety. Pare completed the feasibility study and preliminary design for the Blackstone River Bikeway which runs adjacent to an existing active Providence & Worcester Railroad line. We also recently completed the Town Master Plan for the Town of Foxborough for which we investigated the feasibility of providing a recreation trail adjacent to the existing MBTA line as part of the Transportation component.



Photo 8: Pare has previous experience planning multi-use trails adjacent to active rail corridors, such as the Blackstone River Bikeway.

SCOPE OF WORK – TASKS

Following are brief descriptions of the Tasks that Pare will provide for the completion of this phase of the project. Pare will prepare and submit to the CPIAC a detailed Feasibility Study that will summarize the alternatives analysis of the existing rail corridor region, taking into consideration: route terrain and accessibility; potential environmental impacts; right-of-way issues; abutter issues; that will enhance the user experience; that will look favorably to the MBTA; ideal street crossing/connection locations; potential areas for parking; and the need for connections to neighborhoods and other destinations. The study will also include preliminary cost estimates that will be developed to ensure that the project can be done budget wise and that the necessary funding will be available from the Boston Metropolitan Planning Organization (MPO), MassDot or other state or Federal agencies. These will be compiled by segment, for two (2) route alternatives, and will include future design and permitting fees, construction services costs and any anticipated maintenance costs.

Phase 1 – Review and Proposal of Concepts

- Pare will attend a project kick-off meeting with the CPIAC and the Town to discuss the project. It is anticipated that one kick-off meeting will be held with the above-identified parties to discuss the project goals, schedule, and initial ideas. Pare will coordinate with the identified parties and other community representatives throughout the duration of the Project to advance the Project. It is anticipated that two (2) additional coordination meetings, via conference call, will be held during Phase 1 of the feasibility study development to advance the project. Pare will also prepare for and attend four (4) meetings (one (1) per segment) at the end of this Phase to present our findings and recommendations generated from our data collection, field reviews, input from Town and our experience. We anticipate these will be working group meetings with the involved parties to reach consensus on which segment options shall move forward to Phase 2.
- Pare will provide to the Town and the CPIAC monthly progress reports with brief descriptions of the project status. The progress reports will be in the form of a letter with bulleted items detailing the tasks completed to date, outstanding issues, and next scheduled submission dates.
- Pare will perform a thorough review of all previous efforts completed to date by both consultants and committees. We will quickly gain an in-depth knowledge of the challenges that have already been identified, enabling us to move forward with determining the most suitable route(s) for the proposed path, whether that entail components previously identified or new alternatives.
- Equipped with a firm understanding of the goals and challenges, Pare will perform an extensive field review of the project area on foot. We will walk the proposed routes for each segment as outlined in the RFP, as well as variations that seem from initial review of aerial and topographic maps to be more direct, more accessible and/or provide greater opportunity for connection. We have learned from past projects that walking the route in a small group is the best way to comparatively gauge the difficulty of each route and help identify locations where ramps or specialized accommodations will likely be needed.



- Following the concept and field reviews, Pare will formulate suggestions to the Town on which routes are recommended for further assessment by creating a matrix based on a series of criteria that we know will affect the overall quality and cost of the path including, but not limited to:
 - Length (direct cost impact)
 - Terrain (cut/fill)
 - Obstacles/impediments
 - Potential impacts
 - Distance from communities/extent of connection
 - Structures/complex ramps needed (ties to terrain)
 - Proximity to property lines (ROW implications)
 - Proximity to hazards/detractors (i.e. moving traffic, car/rail emissions, car/rail noise)

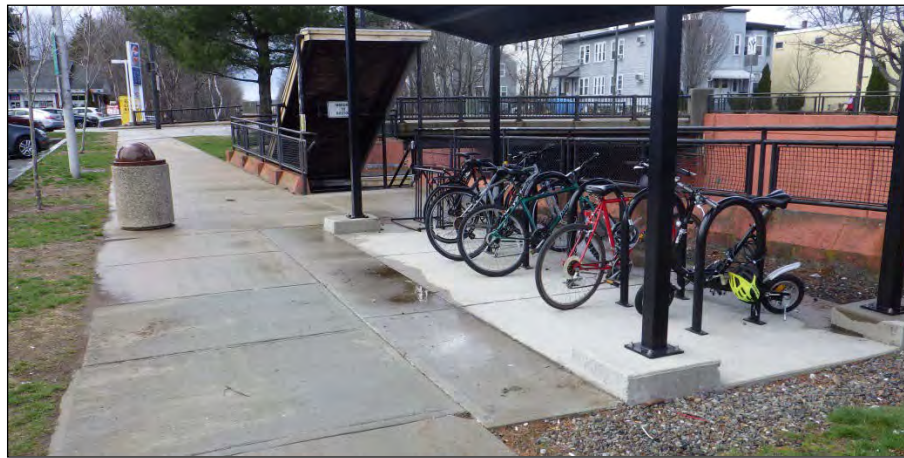


Photo 9: Segment Alternative 1S provides a value connection to Waverly Station however, may not provide the same recreational opportunities as Segment Alternative 1N.

- In addition to an alternatives matrix, based on the criteria noted above, Pare will present a series of amenities that would benefit the shared-use path. Potential amenities may include rest areas with benches (ideally located to maximize the use of existing shade, minimizing the need for the additional construction of shelters), parking areas, hardscape and/or landscape features and lighting (particularly due to the wooded nature of the segment options developed thus far).

Phase 2 – Engineering Evaluation

- Based on the decisions made at the conclusion of Phase 1, Pare will move forward with conceptual design of the selected segment options. During this phase, Pare will continue to provide project updates, via four (4) meetings and/or conference calls, and monthly progress reports, as outlined in Phase 1.
- At the conclusion of this phase, Pare will prepare for and attend an additional four (4) public meetings (one (1) per segment) with the Committee, the Town staff, abutters and other interested parties. It is anticipated that the Town will handle the notifications to the residents and the businesses for the meetings. Pare will prepare

the necessary graphics for the meetings. Graphics for these meetings shall include conceptual plans showing the route segments as selected as the end of Phase 1 along with critical components of the proposed path such as proposed ramp design, underpass/overpass design and amenities. The goal of these meetings will be to obtain input from the Town and public to determine which elements are of the highest priority as well as which potential amenities are the most favorable. These details will be utilized in completing the alternative cost segments in Phase 3 of the project.

- Pare will develop a base map that is to be used to identify the constraints and opportunities of each segment. We will prepare our project base plan (not a site survey) from available conditions and plans. Resources to be used to generate the base map include GIS mapping, assessors' maps, aerial photogrammetry, plans obtained from potentially affected utility companies, railroad right-of-way maps, and plans available for the MBTA Fitchburg Rail Line. The base plans are anticipated to include property lines, topography, resource areas, and other site features.



Photo 10: Opportunities to connect with existing bike facilities, such as the bike lanes on Concord Avenue, will be identified and mapped.

- Pare will take a finer look at the proposed routes for edge conditions such as observable wetlands, drainage problem areas, right-of-way encroachments, utilities, vegetative screening, possible fencing needs, connections with roads, neighborhoods, businesses or potential parking areas, character and aesthetics, and other opportunities or constraints. We will mark these observations and then summarize this information on a plan view.



Photo 11: The path design will require integration with the vibrant Belmont Center.

- Pare will obtain available traffic data from the Town where available at the potential roadway crossings to determine if at-grade crossings would be acceptable or if crossings require grade separation. In addition to reviewing the available traffic data, we will determine sight lines at any potential at-grade crossings. This data will be used to determine prudent safeguards for greenway users and motorists. The traffic data collected will be evaluated and analyzed, and recommendations will be made to provide safe crossings at all intersections for both the greenway users and the vehicular traffic.



Photo 12: A grade separated crossing under the rail corridor is proposed between Belmont High School and Channing Road at Alexander Avenue.



Photo 13: An example of a Pare-designed grade separated multi-use path on the East Bay Bike Path.

- Following the public meeting, a Draft Feasibility Study will be prepared identifying the feasible path routes, potential connections to adjacent uses, and possible areas suitable for parking. The plan will also provide constraints that will need to be considered for the final design including drainage issues, encroachments, structural improvements, right-of-way issues, areas where special treatments will be necessary for the greenway trail including areas where special designs like boardwalks, soft surfaces, or narrowed surfaces may be necessary to mitigate environmental impacts and areas requiring structures, for grade separation, or traffic control devices, for at-grade crossings.
 - A narrative description with appropriate photo documentation will be prepared detailing our project approach, the data collection process, our field observations, our identification of trail design issues for final design, opportunities for the development of the trail, environmental issues and a summary of the input from the community and the committee.
 - Pare will develop the conceptual design plans showing the selected alignments. The plans will show the preferred typical and critical cross section(s) and layout that will include trail materials, recommendations for grade separation and ramp structures, street/driveway crossings, right-of-way issues, emergency vehicle access, conflicts with utilities, drainage improvements, lighting if desired, and recommendations for links to adjacent properties.
 - Pare's conceptual plans will identify anticipated storm drainage design and recommend best management practices (BMPs) improvements. Where feasible the existing drainage system will be utilized. Environmental issues such as river and stream locations, wetland resources, and preferred solutions to the areas of special consideration and concern will be identified.
 - The conceptual drainage design will be developed to ensure that future design phases will meet NPDES and Massachusetts Department of Environmental Protection (DEP) guidelines for stormwater management. In this phase of the project, Pare will identify the required Town, State, and Federal environmental permits, certificates, and other approvals that are needed for the Project (such as



applicable Conservation Commission filings, Board of Appeals submissions for work in the flood plain, and Massachusetts Environmental Protection Agency (MEPA), as necessary). Trail projects that use federal and/or state funds typically are reviewed by the State Historic Preservation Office (SHPO), in this case, the Massachusetts Historical Commission (MHC), to assess the project's impacts on archaeological and historical resources. Based on our knowledge, no historical survey has ever been done at the project site, therefore this will probably need to be obtained in final design prior to construction. The MHC will need an inventory of historic resources, a description of the proposed undertaking (at whatever stage the design is), and recommendations as to the eligibility of any of the resources for listing on the National Register of Historic Places. Preparation and filing of the applications for these permits will be finalized when the project advances to final design.

- Areas requiring screening from the path via the use of vegetation or physical structures (fencing) will be identified. Feedback from abutters will be critical in determining the alternatives for the means of screening.



Photo 134: Pare has effectively incorporated landscape buffering between multi-use paths and abutters on previous projects such as the East Bay Bike Path.

- Parking alternatives to be used by the trail users will be identified.
- Pare will summarize the traffic data collected at potential at-grade crossings and discuss the need for appropriate traffic controls, especially controls with significant cost such as traffic signals, or grade separation.
- Pare will preliminarily identify right-of-way issues and encroachment issues based on best available information and our field reviews.

Phase 3 – Cost Estimates

- At the completion of the Conceptual Design development, a summary will be made of all the items of work, estimated quantities, and units of measurement, by segment. These quantities will be tabulated and shown in a distribution of quantities. The quantities will be assigned an estimated unit cost based on the best available information from the RSMeans construction database, the MassDOT weighted bid prices and recent costs estimates submitted on other recent Pare trail projects. A

preliminary opinion of probable construction cost will be generated of the summarized items. In addition to the development of construction and maintenance costs (for two recommended surfaces), design costs and permitting costs will be generated as well as costs for construction services. Pare will work with the Town and Committee in finding potential funding sources for moving the project forward.

- Pare will revise the Feasibility Study report to include a summary of the cost estimation process and results. Costs for construction, design, permitting, construction services and maintenance will be tabulated by segment. Following the final meeting with the CPIAC, Pare will perform any required and/or requested adjustments to the cost component and will issue to the CPIAC a Final Feasibility Study for submittal and presentation to the Board of Selectman.
- During Phase 3, Pare will prepare for and attend two (2) presentation meetings, one with the Committee, the Town staff, abutters and other interested parties and the other with the Board of Selectman. A conference call with the CPIAC will take place before each meeting, totaling two (2) conference calls. It is anticipated that the Town will handle the notifications to the residents and the businesses for the meetings. Pare will prepare the necessary graphics for the Board of Selectman meeting. Graphics for this meeting shall include final conceptual plans showing the route segments, recommended amenities, identified challenges that remain to be addressed in the design phase and a cost estimate summary by segment.

Phase 4 – Funding Opportunities

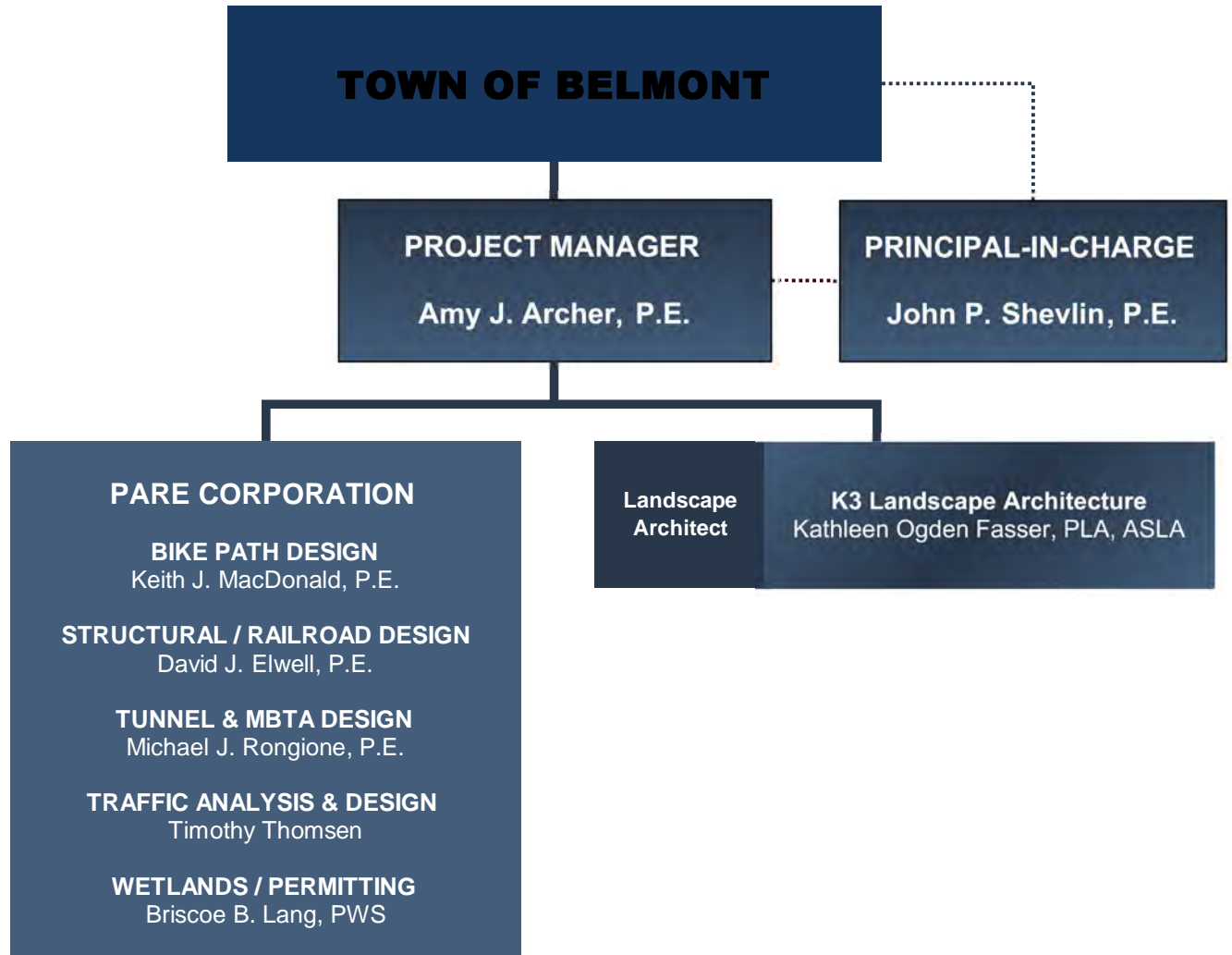
- Pare will provide with Town with funding opportunity information for local and federal dollars based on previous experiences with similar projects and on various project types throughout the Commonwealth. The opportunities will include but not be limited to the State Transportation Improvement Program (TIP), the MassWorks Program or Recreation & Trails funding.
- Based on the advancement of alternatives, cost breakdowns and proposed amenities at the conclusion of the feasibility study, Pare will research additional local and national funding opportunities that may be more customized to the study recommendations.
- A final section for funding opportunities and recommendations will be added to the feasibility study report.



SECTION 2

PROJECT TEAM

Belmont Community Path Feasibility Study





REGISTRATIONS AND CERTIFICATIONS

Professional Engineer –
Rhode Island

OSHA Construction Safety 10-
Hour Training

PROFESSIONAL AFFILIATIONS

American Society of Civil
Engineers

Rhode Island Consulting
Engineers

Institute of Transportation
Engineers (ITE)

ITS Rhode Island

Providence Engineering
Society

American Public Works
Association

EDUCATION

Continuing Education
Georgia Institute of
Technology:
Traffic Engineering, 1994

University of Rhode Island:
Intelligent Transportation
Systems, 2000

University of Massachusetts,
Amherst, MA:
B.S., Civil Engineering, 1985

RELEVANT EXPERIENCE

As manager of PARE's Transportation Division, Mr. Shevlin performs a variety of engineering and management duties associated with traffic and transportation projects. He possesses 30 years of experience on projects ranging from new public school facilities to bike paths and major highway improvements. Individual assignments have included traffic studies, realignment studies, right-of-way acquisition, drainage analysis and design, environmental permitting assistance, coordination of utilities, calculation of quantities, and preparation of cost estimates and construction documents. Representative projects include:

- **Southampton Greenway Feasibility Study:** Principal-in-Charge for a study of the feasibility of the creation of a 3.12-mile Shared Use Path facility along an inactive rail corridor. The study included wetlands investigations and associated permitting requirements, evaluation of existing conditions and identification of constraints, a public workshop, and a report detailing all findings and presenting options for development along with estimated costs for each, and funding possibilities. Southampton, MA.
- **Westfield Riverfront Development & Feasibility Study:** Principal-In-Charge as part of a multi-disciplinary team investigating the redevelopment of a downtown property adjacent to the Westfield River. PARE was responsible for access and traffic patterns, utility relocations, connections to a proposed bike path, site plan layout, parking, internal traffic circulation, and assisting reuse development types. Westfield, MA.
- **Woburn Loop Bikeway:** Principal-in-Charge of design of an approximate 0.85-mile long multi-use path in the center of Woburn on an abandoned industrial rail corridor, in accordance with MassDOT design guidelines. Woburn, MA.
- **Pawcatuck River Walk Feasibility Study and Design:** Project Manager for a Feasibility Study to investigate the development of various alternatives for a 3,000 linear foot river walk route along the Pawcatuck River. The project included incorporating public input gathered through questionnaires and public meetings; existing conditions analysis including mapping, utilities, right-of-way, historic structures, wetlands, floodplains, and accident data for at-grade street crossings; structural analysis of existing riverwalk structures; and selection of riverwalk boardwalk structures, riverbank stabilization methods, and proposed pedestrian bridge type. Prepared final design of the selected alternative. Westerly, RI.
- **Sturbridge Commercial Tourist District Improvement Plan:** Principal-in-Charge of a roadway improvement project that passes along Main Street (Route 20). The two-mile project focused on creating conceptual design plans for an improved Main Street corridor to improve the livability of the corridor by incorporating Complete Streets concepts and employing numerous streetscape amenities. Opportunities for walking, bicycling, and transit were investigated as part of the plan. Sturbridge, MA.
- **RIDOT Bicycle & Pedestrian Facilities Study and Development:** Principal-in-Charge of feasibility studies of five designated area locations throughout the state for possible development as bike and/or pedestrian facilities. Each location involved investigations of traffic safety issues; feasibility of route layouts; right-of-way issues; identification of areas

requiring potential structures at roadway or waterway crossings; and preliminary estimates of costs. Rhode Island – Statewide.

- **Town of Westport - Central Village Pedestrian & Bike Safety Improvements:** Principal-in-Charge of feasibility study followed by design of roadway/streetscape improvements to approximately 1,250-lf of Main Road to increase safety for pedestrians and bicyclists. Improvements include new sidewalk & curbing, ADA improvements, crosswalks, traffic calming features, stormwater handling, and landscaping. Westport, MA.
 - **Blackstone Visitor's Center Bike Path Site Design:** Principal-in-Charge of the design of an approximate $\frac{3}{4}$ -mile bike path to connect the Blackstone River Bikeway to a Visitor's Center on I-295 northbound. The project included horizontal and vertical alignment of the new bicycle path, wetland delineation and permitting, drainage improvements, pavement design, retaining wall design, traffic analyses, and parking layout. Lincoln, RI.
 - **RIDOT Metropolitan Providence Bicycle Facilities Site Assessment:** Principal-in-Charge of a feasibility study of various designated locations throughout Providence and the State of Rhode Island to be utilized as bicycle facilities, employing either off-road trails (on abandoned rail corridors), or on-road bicycle routes or bike lane facilities. Rhode Island – Statewide.
 - **Ellis Pond Pedestrian Walkway:** Project Manager for design of approximately 2,300 linear feet of recreational trail adjacent to Ellis and Guild Ponds. The design included vertical and horizontal alignments, necessary foot bridges, strategically located overlooks, boardwalks, bench locations, and parking. Services included wetlands delineation and permitting. Norwood, MA.
 - **Quonset Development Corporation - Shared Use Path:** Principal-in-Charge of design of a 2.5-mile at-grade shared-use path within a former Navy Base being converted into a Business Park. The bike facility is located along abandoned roadways as well as along sections of grassed fields and will require the redesign of access to adjacent commercial properties. The design also includes providing access to a parking lot designed for path users. North Kingstown, RI.
 - **Wickford to Quonset Bikeway Conceptual Design:** Principal-in-Charge of conceptual design for a bikeway through the Town of North Kingstown, investigating the use of both on-road and off-road segments, as well as an abandoned trolley line corridor. North Kingstown, RI.
 - **Warren Bike Path Design:** Principal-in-Charge of the design of an approximately 4,500-ft. long bike path on an abandoned railroad bed. The segment will include links to destinations including Warren High School and Hugh Cole Recreational Park. Warren, RI.
 - **RIDOT West Bay Bike Path Feasibility Study:** Managing Engineer for Feasibility Study/Preliminary Design for a 25-mile bicycle facility. Responsible for the evaluation of bikeway alternatives—including off-road bike paths and on-road bike routes—and the preparation of quantities and locations for signing of 12.4 miles of bike route. Narragansett and North Kingstown, RI.
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REGISTRATIONS AND CERTIFICATIONS

Professional Engineer –
Massachusetts,
Rhode Island,
Maryland, Florida

PROFESSIONAL AFFILIATIONS

Institute of Transportation
Engineers (ITE) – Rhode
Island Chapter

Women's Transportation
Seminar (WTS) – Rhode
Island Chapter

EDUCATION

Rensselaer Polytechnic
Institute:
B.S., Civil Engineering, 2005

RELEVANT EXPERIENCE

Ms. Archer has over 11 years of experience in transportation planning and engineering. She has provided analysis and design for a wide variety of roadway projects as well as urban complete streets, multi-modal transit corridors and multi-use paths. Her roadway experience has ranged from corridors with at-grade intersections and adjoining shared use paths to corridors with barrier separated express toll lanes (ETL) and direct access ramps at interchanges. Additionally, Ms. Archer has an extensive background in traffic analysis and design including several traffic impact studies, transportation master plan involvement, signal design and signal operations review. Relevant experience includes:

- **UMass Boston Transportation Master Plan Study:** Project Manager for an extensive transportation study involving 15 intersections, both on and off campus. The transit system of the University was also studied where ridership, bus routes, schedules, and stop locations/accommodations were evaluated. Intersection recommendations include timing, phasing and/or minor geometric improvements, and improvements to the transit system will also be recommended. Boston, MA.
- **Marstons Mills Village Center Improvements:** Senior Project Engineer responsible for concept and preliminary design of proposed traffic calming enhancements along Cotuit Road (Route 149) including the major intersection at the center of the village core. Proposed concepts included reduced corner radii combined with improved approach geometry; a roundabout option; and possible conversion to a one-way loop with on-street bike lanes. Improvements also included ADA compliant sidewalks and high visibility crosswalks throughout the corridor. Alternatives were vetted through a series of public outreach meetings. Barnstable, MA.
- **Waverly Street Extension:** Senior Project Engineer responsible for concept design and final design, including construction plans and contract documents, for proposed improvements to Waverly Street Extension, an alleyway along the western edge of the MIT campus. Proposed modifications will convert the current alleyway to a multi-use path surrounded by landscape/streetscape elements with vehicular access limited to local deliveries only. Cambridge, MA.
- **Cambridge Bicycle and Pedestrian Ramps:** Senior Project Engineer responsible for final design of five pedestrian ramps surrounding a new bicycle connection from a bike lane on Concord Avenue to an off-street trail. Ensured compliance of cross slopes for path of travel with MassDOT and ADAAG requirements. Cambridge, MA.
- **Key Bus Routes Improvement Program:** Senior Project Engineer responsible for assisting with final design for improvements to several MBTA bus routes throughout the greater Boston area. Designed curb reveals and sidewalk grades for bumpout locations in accordance with ADA standards. Boston, MA.
- **Roger Williams Way Relocation Cost Estimate:** Project Manager responsible for developing preliminary cost estimate for the relocation of the Roger Williams Way roadway, railway, and utilities to accommodate reconstruction and expansion of the existing General Dynamic – Electric Boat operations. Provided thorough backup for all costs and assumptions

for individual components to allow the Quonset Development Corporation flexibility in phasing or segmenting project funding. North Kingstown, RI.

- **RIDOT – Safe Routes to School:** Senior Project Engineer responsible for design and cost estimating of proposed improvements for five schools approved by the state program. Improvements included at-grade and raised crosswalks, installation of new curb and sidewalk, necessary drainage modifications and associated signage. Prepared relevant sections of accompanying Design Study Report. Barrington/Cranston/East Providence/ Narragansett, RI.
- **Middleborough Downtown Improvements:** Senior Project Engineer responsible for design of proposed traffic calming/safety improvements along Centre Street. Proposed modifications at the Everett Square and Centre Street/Oak Street intersections include reduced corner radii, modified through alignments and bumpouts to more clearly define the limits of parking, the path of each approach leg and the intended refuge for pedestrians. Middleborough, MA.
- **Midcounty Highway Design:** Project Manager responsible for alternatives analysis of six-mile corridor alignment outlined in the County's transportation master plan. The original alignment had a dedicated ROW, but snaked through several communities as well as environmentally sensitive areas. Developed typical section including sidewalks, bioswales and adjacent shared use path. Montgomery County, MD.
- **Baltimore Red Line – Planning:** Cost Estimator responsible for detailed cost estimates for various alternatives of the Baltimore Red Line, a 14-mile light rail transit (LRT) project. Assisted with a project cost timeline by segmenting the overall capital cost into separate contracts. In accordance with FTA Standard Cost Categories and methodology, converted capital costs into annualized costs and, combined with ridership data, computed Cost Effectiveness values. Baltimore, MD.
- **K Street Reconstruction:** Design Engineer responsible for conceptual design of one of two alternatives proposed for a 12-block section of K Street. Improvements included removal of the existing service roads to provide an island-separated, median running bus-transit system. Attended a series of public meetings to explain the alternatives and obtain community and stakeholder input. Washington, DC.
- **Alexandria High Capacity Transit:** Project Manager responsible for design alternatives for a feasibility study to provide higher capacity transit service within the City. Evaluated implementation of rapid bus, bus rapid transit (BRT) and streetcar located in dedicated lanes or in shared lanes with vehicular traffic. The community consisted of an enthusiastic bicycle advocacy group, and improvements expanded, through the public outreach process, to include on- and off-street bike lanes/paths and improved streetscapes, each with their own alternatives analysis. Alexandria, VA.
- **I-270/US 15 Planning Study:** Design Engineer responsible for updating horizontal and vertical alignments, based on revised travel forecasting, and associated cost estimates for a 33-mile segment of I-270/US15. Improvements included the implementation of barrier separated high occupancy vehicle (HOV) lanes or express toll lanes (ETL) with direct access ramps. Montgomery County/Frederick County, MD.



REGISTRATIONS AND CERTIFICATIONS

Professional Engineer –
Massachusetts,
Rhode Island

OSHA Hazardous Waste
Operations 40-Hour Health
and Safety Training

OSHA Construction Safety
10-Hour Training

EDUCATION

University of Massachusetts,
Dartmouth, MA:
B.S., Civil & Environmental
Engineering, 1998

Asphalt Institute,
Lexington, KY:
Superpave Mix
Design Course

RELEVANT EXPERIENCE

Mr. MacDonald provides design, analysis, and field services for a wide variety of transportation and site/civil engineering projects. He has provided study, design, and review services for roadway improvements, traffic studies and traffic designs, stormwater management, intersection improvements, sidewalk and streetscape improvements, bridge approaches and decks, maintenance and protection of traffic during construction, and construction inspections. Relevant experience includes:

- **Pawcatuck River Walk:** Senior Engineer for final design of a 3,000-linear foot river walk route along the Pawcatuck River. As Staff Engineer, performed Feasibility Study to investigate the development of various alternatives for the river walk. The study phase included incorporating public input gathered through questionnaires and public meetings; existing conditions analysis including mapping, utilities, right-of-way, historic structures, wetlands, floodplains, accident data for at-grade street crossings, and other appropriate data and physical conditions that could impact route alignment; structural analysis of existing river walk structures; and selection of river walk boardwalk structures, riverbank stabilization methods, and proposed pedestrian bridge type. Westerly, RI.
- **Salem Harbor Walk:** Staff Engineer involved in the development of preliminary design plans for an approximate 1,100-foot-long harbor walk and extension of the South River Walk. The project included condition surveys of the existing area and various traffic studies. Salem, MA.
- **Town of Westport - Central Village Pedestrian & Bike Safety Improvements:** Project Manager for feasibility study followed by design of roadway/streetscape improvements to approximately 1,250-lf of Main Road to increase safety for pedestrians and bicyclists. Improvements include new sidewalk & curbing, ADA improvements, crosswalks, traffic calming features, stormwater handling, and landscaping. Westport, MA.
- **Blackstone Valley Gateway Center – Bike Path Connector and Site Design:** Senior Engineer for the design of an approximate ¾-mile bike path to connect the Blackstone River Bikeway to a new Visitor's Center on I-295 Northbound. The project included horizontal and vertical alignment of the new bicycle path, wetland delineation and permitting, and drainage improvements. Lincoln, RI.
- **RIDOT - Colt State Park Bike Path:** Project Engineer for final design of a multi-use path connection from Hope Street to the East Bay Bike Path, and then to the existing bike path within Colt State Park. Also included is the resurfacing and repair of the existing path within the Park. Bristol, RI.
- **Quonset Development Corporation - Shared Use Path:** Project Engineer for a 2.5 mile at-grade shared-use path within a former Navy Base being converted into a Business Park. The facility is located along abandoned roadways as well as along sections of grassed fields and will require the redesign of access to adjacent commercial properties. The design also includes providing access to a parking lot designed for path users. North Kingstown, RI.
- **Ellis Pond Pedestrian Walkway:** Senior Engineer for design of approximately 2,300 linear feet of recreational trail adjacent to Ellis and

Guild Ponds. The design includes vertical and horizontal alignments, necessary footbridges, strategically located overlooks, boardwalks, bench locations, and parking. Norwood, MA.

- **Wickford-to-Quonset Bikeway Conceptual Design:** Senior Engineer responsible for providing conceptual design for a municipal bikeway through the Town of North Kingstown. Included an investigation of the use of on-road and off-road segments, as well as an abandoned trolley line corridor, for an extension of the existing bikeway facility from the North Kingstown Town Hall to the Quonset/Davisville Port and Commerce Park. North Kingstown, RI.
 - **City of Cranston – Safe Routes to School Projects:** Project Engineer for an SRTS program at two City middle schools and a total of ten associated elementary schools. Responsible for field observations to study existing conditions, preparation of a Design Study Report with recommendations for each site, and development of preliminary plans for improvements. Cranston, RI.
 - **Cold Spring Brook Place:** Project Engineer for traffic engineering services provided for a mixed use development. Investigated traffic capacity and safety issues to provide off-site mitigation to improve the traffic conditions on the surrounding roadway network. Off-site improvements consist of 5,200 linear feet of roadway improvements extending in all 4 directions from the intersection of Providence Turnpike (Route 146) and Boston Road. The mitigation also includes the redesign of the signalized intersection at the Route 146/Boston Road intersection and a new traffic signal at the Boston Road site entrance. Sutton, MA.
 - **Aquidneck Island Planning Commission – Shoreline Drive Gateways Feasibility Study:** Senior Engineer for study of upgrade of Defense Highway as scenic Shoreline Drive. Assessed existing conditions including Navy subsurface infrastructure, crash data, topography, and stormwater management for conceptual design of intersection alternatives at the Defense Highway/Stringham Road intersection. Portsmouth and Middletown, RI.
 - **Spring Street Bridge, MassDOT Bridge Repair and Replacement Program, Non-NHS/Round 3:** Senior Engineer for design of roadway realignment and utility improvement aspects of this bridge replacement project. Taunton, MA.
 - **Johnson & Wales University – Roadway Improvements:** Project Engineer for two roadway improvement projects at Johnson & Wales Harborside Campus. Upgrades to Harborside Boulevard included full-depth reconstruction of the existing roadway, and replacement and/or installation of sidewalks. Improvements to Shipyard Street involved curbing and sidewalks on both sides of the road, improving the stormwater drainage system, pavement restoration, and incorporating traffic-calming measures such as raised crosswalks and curb bumpouts. Construction observation was provided for Shipyard Street. Providence, RI.
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REGISTRATIONS AND CERTIFICATIONS

Professional Engineer –
Massachusetts,
Rhode Island

OSHA Construction Safety
10-Hour Training

PROFESSIONAL AFFILIATIONS

American Institute of Steel
Construction

American Railway
Engineering and
Maintenance-of-Way
Association

Tau Beta Pi, National
Engineering Honor Society

Chi Epsilon, National
Civil Engineering Honor
Society

EDUCATION

NHI Course No. 130078
"Fracture Critical Inspection
Techniques for Steel
Bridges," May 2008

NHI Course No. 130053
"Bridge Inspection Refresher
Training," April 2006

Rensselaer Polytechnic
Institute, Troy, NY:
M.S., Civil Engineering, 1994
B.S., Civil Engineering, 1992

RELEVANT EXPERIENCE

Mr. Elwell has worked in both the public and private sectors on a variety of bridge, waterfront, and structural engineering projects over the past 23 years. He is experienced in the performance of existing condition surveys, nondestructive and destructive testing, material analyses, computer modeling, load ratings, and structural design for new facilities and remedial modifications of older structures. Representative projects include:

- **Southampton Greenway Feasibility Study:** Responsible for evaluations of existing railroad bridges for a study of the feasibility of the creation of a 3.12-mile Shared Use Path facility along an inactive rail corridor. Southampton, MA.
- **MassDOT – Spring Street Bridge:** Engineer responsible for bridge type-study analysis, structural design, and preparation of plans, specifications, and cost estimates for a 50-foot, precast, prestressed-concrete box-girder bridge carrying Spring Street over the Mill River. The project included the design of water main utility supports. Taunton, MA.
- **MassDOT – Washington Street Bridge (Route 16) over Route 9:** Engineer responsible for structural design, preparation of plans, specifications, and cost estimates, and construction phase services for a replacement structure. The project includes modifications to existing abutments, construction of a new pile supported pier, construction of a 150-foot two-span steel stringer bridge with precast stone-faced fascia beams, and rehabilitation of stone-faced retaining walls. The project includes the design of water main, gas main, and communications utility supports. Wellesley, MA.
- **MassDOT – Pre-Engineered Bridge Program:** Engineer responsible for structural design and preparation of plans, specifications, and cost estimates for bridge replacements using precast concrete frames and arches. The bridges are located in Lunenburg, Charlemont, Tyringham, and Holden, Massachusetts.
- **P&W Railroad Bridge Load Testing and Rating:** Engineer for inspection, structural analysis, and load-rating of three bridges carrying Providence and Worcester (P&W) Railroad's main line: Front Street Bridge (steel girder with concrete deck), Worcester, MA, Bridge 34.30 (steel deck truss with ballasted metal deck), Grafton, MA, and Bridge 42.67 (steel through truss with concrete deck), Worcester MA. Due to poor load ratings and a lack of adequate as-built or design drawings, the bridge was instrumented and a P&W train was used to measure the response of the structure. Based on load-test results, the structure was re-rated. Worcester, MA.
- **P&W Railroad Bridge Inspections:** Engineer for the inspection, including report preparation, of several Providence & Worcester Railroad (P&W) steel girder and truss bridges in Rhode Island, Massachusetts, and Connecticut.
- **Washington Secondary Bike Path:** Engineer responsible for inspection and evaluation of two abandoned railroad bridges on the Washington Secondary Corridor that will carry bicycle and emergency vehicle traffic. Also responsible for design and detailing of new timber deck systems for the abandoned bridges. West Warwick, RI.

- **RIDOT Bridge Rehabilitation/Replacement Program - Group 8, Manton Village Bridge No. 78:** Engineer responsible for structural design of a 60-foot-long, built-up steel girder bridge spanning the Woonasquatucket River. Johnston and Providence, RI.
 - **RIDOT Comprehensive Bridge Rehabilitation Program – Group 6, Central Bridge No. 182:** Project Engineer responsible for field investigations, design calculations, cost estimates, development of the Design Study Report, and project scheduling for the rehabilitation of a bridge structure consisting of nine concrete T-beam spans on concrete pile bents. Barrington, RI.
 - **RIDOT Comprehensive Bridge Rehabilitation Program – Group 6, Capron Bridge No. 792:** Project Engineer responsible for field investigations, preliminary design calculations, cost estimates, development of the Design Study Report, and project scheduling for the rehabilitation of a bridge superstructure composed of monolithic concrete T-beams. Smithfield, RI.
 - **RIDOT Veterans Memorial Bridge No. 959:** Engineer for replacement of a 520-foot-long, four-span bridge with continuous spans, composite steel plate-girder superstructure, and concrete deck. Responsible for analysis of the existing substructure units, which were stabilized through the use of a rock-anchor tie-back system, and for analysis and design of new concrete abutment and pier extensions. Estimated quantities and developed a cost estimate for the new bridge. Woonsocket, RI.
 - **RIDOT Relocation of I-195 – Ramp EI Bridge and Retaining Walls:** Engineer responsible for structural design and preparation of plans, specifications, and estimates for a 40-foot long, 332-foot wide precast concrete scissor bridge carrying I-195 off-ramp traffic over an I-195 on-ramp. Providence, RI.
 - **RIDOT Routes 4 and 403 Interchange – Bridges 1013 and 1014:** Project Engineer for design of two highway bridges for interchange ramps connecting Routes 4 and 403. Each structure consists of a composite steel plate girder superstructure supported on cast-in-place concrete cantilevered abutments with spread footings; the span lengths are 77' 6" and 69' 6". East Greenwich, RI.
 - **RIDOT Replacement of Bridges 446 and 447:** Project Engineer for replacement of Bridges 446 and 447 which carry Route 102 (Great Road) and School Street over Route 146. The project included inspection and concrete testing of existing piers and abutments, preliminary geotechnical investigations, improvements to the roadway approaches, drainage design, preliminary and final bridge design plans, construction bidding assistance, and construction phase services. North Smithfield, RI.
 - **RIDOT Bridge Rehabilitation/Replacement Program - Group 8, General Nathanael Greene Memorial Bridge No. 991:** Engineer responsible for structural design for a two-span, steel girder/concrete deck superstructure supported by historic stone masonry abutments and a center stone masonry pier. Also responsible for bridge plans, estimates, and construction phase services. North Kingstown and Warwick, RI.
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REGISTRATIONS AND CERTIFICATIONS

Professional Engineer –
Massachusetts,
Rhode Island, Connecticut
OSHA Construction Safety
10-hour Training

MBTA Contractor ROW
Safety Certified
P&W Railroad Roadway
Worker Contractor Safety
Program

PROFESSIONAL AFFILIATIONS

American Society of Civil
Engineers
Precast/Prestressed
Concrete Institute
Construction Specifications
Institute

EDUCATION

Northeastern University:
M.S., Structural Engineering,
2000
B.S., Civil Engineering, 1990

RELEVANT EXPERIENCE

Mr. Rongione is a structural engineer with more than 22 years of industry experience. He has served as the Project Manager on numerous structural and construction-related projects, including schools, institutions, mass transit facilities, power facilities, manufacturing facilities, public safety facilities, pumping stations and a variety of underground structures including culverts, highway tunnels, air ventilation shafts, and slurry walls. His project experience includes developing horizontal and vertical structural designs, conducting structural condition assessments and evaluations, preparing building demolition contracts, performing pre- and post-construction inspections, and preparing plans, specifications, and cost estimates. His bridge experience includes the design of bridge superstructure and substructure components, retaining walls, foundation analyses, computer analyses, cost estimates, and preparation of contract documents. Representative projects include:

- **MWRA – North Dorchester CSO Storage Tunnel:** Project Manager responsible for overseeing pre- and post-construction survey reports of the conditions of the existing buildings and above-grade structures along the corridor of the Massachusetts Water Resource Authority's North Dorchester Bay Combined Sewer Overflow Storage Tunnel Project. The project is located in South Boston and consists of a 17-foot diameter, 2.1-mile long tunnel constructed in soft ground using a tunnel boring machine (TBM) with precast segment tunnel liners. South Boston, MA.
- **North Dorchester Bay and Reserved Channel Consolidation Conduits and Reserved Channel CSO Facility:** Senior Project Engineer responsible for analysis and design of the precast segment 13-foot diameter tunnel lining system; analysis and design for "dropshaft" structures and adjacent connecting conduits; layout and design of construction access shafts and maintenance shafts; and production of Contract Specifications. South Boston, MA.
- **North Station Transportation Improvement Project:** Structural Engineer responsible for coordination and design of 250 linear feet of integral slurry wall-supported tunnel and an access/egress headhouse structure as part of the modernization and relocation of the MBTA's existing elevated Green Line Light Rail Rapid Transit facility to resolve operations and transfer difficulties. The project lowered the existing elevated Green Line Rail system and combined it with an adjacent Orange Line Rail subway station to form a "superstation" to allow passengers access to both transitway rail lines. Boston, MA.
- **South Boston Piers and Transitway Project:** Member of structural engineering team for the Massachusetts Bay Transportation Authority's (MBTA) Courthouse Station and its adjacent cut and cover tunnel approaches. Work included analysis and design of a 450-LF underground subway station that integrates slurry walls as part of the permanent structure; design of steel roof framing system; coordination and design of architectural elements within the station; and construction-phase services. South Boston, MA.
- **Central Artery / Third Harbor Tunnel:** Structural Engineer responsible for the preliminary structural design and preparation of design documents for recommended cut-and-cover tunnels; depressed roadway sections and retaining walls; studying and evaluating various highway layouts in the

South Bay Interchange area for structural feasibility; involved in preparation of technical reports with cost estimates leading to specific structural recommendations; and directly responsible for production and coordination of preliminary design documents including scheduling, organizing and directing design review committees, reviewing construction cost estimates, and evaluating job hour estimates. Boston, MA.

- **Subway Ventilation Improvements, Massachusetts Bay Transportation Authority Red Line Ventilation Shafts R-10 and R-11:** The Red Line ventilation shaft modifications under this project were part of an overall system-wide ventilation program implemented to improve the transit system's capability to control heat and smoke flow during emergencies in order to assist in the safe evacuation of passengers. Senior Project Engineer responsible for the analysis and design of a reinforced concrete structure connected to the existing tunnel by a vertical shaft over its existing roof; coordination and preparation of final contract drawings and specifications; and performing as "task leader" responsible for overseeing and directing the design effort. Boston, MA.
 - **Field's Point Tunnel Pump Station – Narragansett Bay Commission:** Senior Project Engineer responsible for the final design and production of contract specifications for three above-grade building facilities and one underground pump station facility. The aboveground facilities consist of structural steel members, steel joist trusses, and masonry block units. The underground facility consists of cast-in-place concrete beams and columns supporting the pumps and associated equipment. Providence, RI.
 - **Marshfield Station One:** Managing Engineer for overseeing the structural design for a new fire station including a two-story wood-framed administration building (4,000 SF) and a single-story steel and masonry emergency vehicle garage (4,000 SF). Responsibilities included structural design, preparation of bid documents, and construction administration services. Marshfield, MA.
 - **Amesbury DPW Facility Feasibility Study:** Project Manager for conceptual design (25%) of a new Department of Public Works Facility, following a site selection study. Design included wetlands delineations, survey, geotechnical investigations, and a preliminary environmental due diligence of the site. Amesbury, MA.
 - **MassDOT Federal Aid Off-System Bridge Replacement/ Rehabilitation – Round 3:** Senior Project Engineer for the replacement/rehabilitation of two bridges under this MassDOT "bridge footprint" program. Engineering services included preliminary design of bridge and approach roadway improvements, preparation of bridge type studies, geotechnical engineering, and preparation of contract drawings and documents. Massachusetts – Statewide.
 - **MassDOT Federal Aid Off-System Bridge Replacement/ Rehabilitation – Round 5:** Senior Project Engineer for the replacement of four bridges under this MassDOT program which incorporated pre-engineered bridge superstructures such as precast box culverts and three-sided precast frame structures set on engineered foundations. Engineering services included preliminary and final design of bridge and approach roadway improvements, environmental permitting, preparation of contract drawings and documents, and construction-phase services. Massachusetts – Statewide.
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REGISTRATIONS AND CERTIFICATIONS

Engineer-in-Training –
Washington State

PROFESSIONAL AFFILIATIONS

Institute of Transportation
Engineers (ITE)

Providence Engineering
Society (PES)

American Society of Civil
Engineers

EDUCATION

University of Washington:
M.S.C.E., Transportation
Engineering, 2011

University of Rhode Island:
B.S., Civil & Environmental
Engineering, 2009

RELEVANT EXPERIENCE

Mr. Thomson has seven years of engineering experience with an emphasis in traffic design and planning, beginning with an internship at the Rhode Island Department of Transportation. Since joining Pare in 2011 he has been involved in a variety of traffic engineering and planning studies and roadway and intelligent transportation systems design projects. From his past experiences Mr. Thomson has performed transportation and traffic studies as a transportation engineering/planning intern with Fehr & Peers and conducted research as a graduate research assistant at the University of Washington. Representative projects include:

- **Sturbridge Commercial Tourist District Improvement Plan:** Senior Engineer for a two-mile project focused on creating conceptual design plans for an improved Main Street corridor. The Improvement Plan looks to improve the livability of the corridor by incorporating Complete Streets concepts and employing numerous streetscape amenities. Opportunities for walking, bicycling, and transit were investigated as part of the plan. The project included analysis of the existing traffic operations and safety of the corridor. Sturbridge, MA.
- **UMass Boston Traffic Impact Study:** Senior Engineer for an extensive traffic study involving 15 intersections, both on and off campus. The transit system of the University was also studied where ridership, bus routes, schedules, and stop locations and accommodations were evaluated. Intersections recommendations include timing, phasing and/or minor geometric improvements, and improvements to the transit system will also be recommended. Boston, MA.
- **RIDOT - Colt State Park Bike Path:** Senior Engineer for final design of a multi-use path connection from Hope Street to the East Bay Bike Path, and then to the existing bike path within Colt State Park. Also included is the resurfacing and repair of the existing path within the Park. Bristol, RI.
- **Foxborough – Completion of the Master Plan:** Assisted the McCabe Enterprises team in identifying policy and design options for improving transportation access along Route 1 in Foxborough, including access management. The completion of the master plan included proposing a multi-use path to connect the growth nodes in Foxborough parallel with the railroad right-of-way and a buffer zone between Route 1 and neighborhood residential development. Foxborough, MA.
- **RIDOT 1R Improvements to Dexter Street:** Senior Engineer for the rehabilitation of 1.4 miles of Dexter Street from Lonsdale Avenue to Goff Avenue. His responsibilities have spanned the length of the project from preparation of the Initial Project Report, through design, and into currently ongoing construction. Tasks for this project included safety analyses and capacity analyses for seven signalized intersections and the design of urban on street bicycle facilities including bike lanes and shared use lanes. Central Falls and Pawtucket, RI.
- **Lawrence Merrimack Street Land Use Planning Study:** Senior Engineer responsible for observing existing traffic conditions and identified proposed strategies for short-term and longer-term for improvement to the Merrimack Street-Route 114 intersection. The project has identified alternative approaches to incorporating a complete streets approach along Merrimack

Street and the South Canal, balancing the desire to improve conditions for pedestrians and bicyclists with current truck traffic generated by adjacent industry. Lawrence, MA.

- **RIDOT High Hazard Ramps – Interstate C-7 and Ramps:** Senior Traffic Engineer for the preparation of design plans and contract documents for a High Hazard Improvement Project on Mineral Spring Avenue (Route 15). The scope of the work includes complete replacement of the existing traffic signal systems, installation of fiber optic interconnection, installation of new signal heads and poles, modifications to the turning bay lane lengths, sidewalk replacement for ADA compliance, and signage and striping upgrades to improve vehicle operations and safety. Also pavement resurfacing of 0.67 miles of Mineral Spring Avenue was added to the project from Dora Street to the Route 146 Ramps during PS&E. North Providence RI.
 - **RIDOT – On-Call Traffic Consultant:** Staff Engineer for various on-call services to the RIDOT Traffic Engineering Section including the following project assignments: Rhode Island – Statewide.
 - Traffic Signal Analysis Studies: Preparation of multiple traffic studies as requested by the State Traffic Commission (STC) to evaluate signal phasing at existing signalized intersections. The studies included traffic counts and capacity/safety analysis to determine the need for adjustments to existing signal phasing, timing, lane configurations, and pedestrian amenities.
 - Traffic Safety Studies: Preparation of multiple traffic studies focusing on safety improvements to intersections and roadway segments. The studies included analysis of crash data, sight distance, traffic patterns and pedestrian use to determine appropriate safety measures.
 - Pedestrian Safety Studies: Preparation of a pedestrian safety studies as requested by the STC to evaluate pedestrian safety at intersection and roadway segments. Investigations determining the need for marked pedestrian crosswalks, sidewalks, and lighting were recommend based on pedestrian and traffic volumes, roadway characteristics, vehicles speeds, sight distance, crash history, and surrounding land use.
 - Traffic Calming: Preparation of a report investigating the feasibility of installing traffic calming devices on a residential roadway based on vehicles speeds, roadway geometry, and crash history.
 - **Massachusetts High Schools – Traffic Studies:** Staff Engineer for traffic impact analyses performed for several new “model” middle and high schools. These studies typically include investigations of off-site traffic capacity and safety issues, pedestrian safety issues, traffic circulation on-site, and development of off-site mitigation recommendations to improve vehicular and pedestrian movements. Plymouth, Somerset, Andover, Abington, Beverly, and Franklin, MA.
 - **City of Tukwila, WA Multimodal Level of Service Analysis:** Preparation of a multimodal level of service analysis, including vehicle, bicycle, and pedestrian LOS, for over 60 major transportation corridors. The project used multimodal level of service methodology developed in NCHRP 3-70 and included extensive data collection and analysis. The analysis provided the city with data to balance roadway service between different transportation modes along corridors. Tukwila, WA.
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REGISTRATIONS AND CERTIFICATIONS

Professional Wetland
Scientist #1816

Certified Wetland Delineator
(Rutgers University)

Rhode Island Low Impact
Development Master Design
Certification

Certified Invasives Manager

PROFESSIONAL AFFILIATIONS

Society of Wetland Scientists

Rhode Island Association of
Wetland Scientists

Association of
Massachusetts
Wetland Scientists

International Erosion Control
Association

Vice Chairman, Cumberland
(RI) Conservation
Commission

EDUCATION

Southern Connecticut State
University:
B.S. Earth Science 1988

University of Rhode Island:
Graduate Level Courses In
Wetland Ecology, Wetland
Field Investigations,
Wetlands and Land Use

Cook College of Continuing
Education (Rutgers
University): Vegetation
Identification for Inland
Wetland Delineations,
Methodology for Delineating
Jurisdictional Wetlands

RELEVANT EXPERIENCE

Mr. Lang is an environmental specialist with 26 years of experience applying environmental science to the planning, design, permitting and development of civil engineering projects in Southern New England. Over his career Mr. Lang has participated in hundreds of projects involving environmental planning and wetland identification, delineation and permitting. His capabilities include feasibility studies and project planning; environmental impact, avoidance, minimization, alternative analyses and wetland mitigation design; appeals and enforcement actions; erosion and sediment control planning and implementation; construction monitoring; wetland delineations and reviews; GIS mapping; and reports and permit applications for highway, utility, commercial, and residential projects, both coastal and inland. Representative project experience includes:

- **Salem Harbor Walk:** Participated in the development of preliminary and final design plans, and was responsible for Massachusetts Wetlands Protection Act, Notice of Intent, and Massachusetts Department Chapter 91 Waterways Licensing for an approximate 1,100-foot-long harbor walk. Salem, MA.
- **Pawcatuck River Walk:** Responsible for wetland delineations, natural resources inventory, and local, interstate and federal environmental permitting for a pedestrian river walk and bridge along the Pawcatuck River. Westerly, RI and Stonington, CT.
- **Pascoag River Walk:** Wetland Evaluation, State and Federal wetland permitting for a pedestrian walkway along the Pascoag River. A portion of the River Walk consists of a timber walkway constructed on piles located within the river. Project involved early coordination with State regulators and fisheries agencies and close collaboration among natural resource specialists, landscape architect, structural engineers, hydraulic engineers, and municipal officials. Burrillville, RI.
- **Warren Bike Path:** This rails to trails project extends approximately 0.85 miles from the tidal portion of the Kickemuit River to the intersection with Long Lane. The project required unavoidable impacts to adjacent wetland resources, which is prohibited under RI Coastal Resources Management Council (CRMC) regulations. Prepared permit application materials demonstrating the unavoidable nature of the impacts. Prepared variance documentation and obtained CRMC Category B Assent for the project. Warren, RI.
- **Wickford to Quonset Bikeway:** Environmental Scientist for conceptual design for a bikeway through the Town of North Kingstown, investigating the use of both on-road and off-road segments, as well as an abandoned trolley line corridor. North Kingstown, RI.
- **MassDOT – Mill Street Bridge:** Performed wetland delineation, prepared quantitative wetland impact assessments, and developed impact minimization strategies for bridge replacement project. Prepared and submitted to Client an Application for CWA Section 401 Water Quality Certification. Prepared a Categorical Exclusion checklist, with supporting documentation, for Client's use in determining the applicability of the National Environmental Policy Act to the project. Holden, MA.

- **Ben Smith Dam and Canal:** Lead environmental scientist responsible for wetland delineations, permit applications, and public hearing presentation for the reconstruction of the historic gate house on the Ben Smith Canal. The project also included installation of flow monitoring equipment at the canal and along the Assabet River in response to requirements of the Federal Energy Regulatory Commission (FERC). Maynard, MA.
 - **Westport Youth Athletic Association Sports Complex:** Project involved the development of seven new baseball and softball diamonds, three soccer fields, a field house with two indoor basketball courts and concession area, stormwater management system, and utilities on a 78.8 acre undeveloped parcel of land. Prepared Notice of Intent and Environmental Notification Form. Westport, MA.
 - **Grafton Recreation Master Plan:** Environmental Scientist for Town recreation master plan addressing four town-owned sites for potential development of multi-purpose fields, soccer fields, trails, playgrounds, and basketball courts, as appropriate. Grafton, MA.
 - **Feasibility Study and Permitting Evaluation:** Project Manager for the study and evaluation of four residentially zoned parcels of land. Issues and constraints included the presence of wetlands, Riverfront Area, and Priority Habitat (rare species). Coordinated the efforts of planning and natural resources staff and compiled a comprehensive Feasibility Study and Permitting Evaluation addressing the properties for the Owners use in determining highest and best use of the land. Attleboro, MA.
 - **Maynard Fire Station:** Provided permitting services on a fast-track schedule so that the Town could apply for a grant as a shovel-ready project. Prepared permitting documents for the submission of the site plan to the local planning board for site plan approval and a Notice of Intent to the local conservation commission and Massachusetts Department of Environmental Protection for the project's wetland permitting approval. Maynard, MA.
 - **Riverfront Area Evaluation:** Performed an objective evaluation of the existing and future functions provided by Riverfront Area on a parcel of land proposed for a 34-unit multi-family residential development to address the Performance Standards of the Regulations of the Massachusetts Rivers Protection Act. Evaluation included review of published mapping and GIS data, site investigations, literature review, and a written report. Provided testimony during Conservation Commission public hearings. Attleboro, MA.
 - **MassDOT Bridge Replacements Rounds 3 & 5:** Performed wetland delineations and field surveys, prepared quantitative wetland impact assessments, and developed impact minimization strategies for multiple bridge replacement projects. Various Towns, MA.
 - **Adams Real Estate:** Wetland Delineations, delineation report, and Abbreviated Notice of Resource Area Delineation submitted pursuant to the Massachusetts Wetlands Protection Act for a new multi-family Affordable Housing development. The wetland delineations were reviewed by the Conservation Agent and approved by the Conservation Commission without revisions. Norton, MA.
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Kathleen Ogden Fasser, PLA, ASLA

profession profile

Kathleen has over 20 years of experience as a landscape architect and is the founding principal of K₃ Landscape Architecture, LLC. Her professional experience in landscape planning and design includes award-winning parks, waterfronts, complete streets, urban design, recreation, institutional and public spaces. Her career has focused on comprehensive landscape architectural services from site planning through project implementation. Her work has proven that project success is attained through active community engagement and collaboration with her clients and allied professionals. Kathleen has been recognized for her expertise in green infrastructure on which she has been invited to present and teach on several occasions.



professional registration

Licensed Landscape Architect

MA #1566

CT #782

education

Harvard University Graduate School of Design

Master of Design Studies in Landscape and Ecological Planning

Pennsylvania State University

Bachelor of Science in Landscape Architecture

professional affiliations and leadership

American Society of Landscape Architects - Landscape Architecture Registration Exam (LARE) Subcommittee
 Boston Society of Landscape Architects - Immediate Past-President
 Boston Society of Architects Women Principals Group
 American Society of Landscape Architects Advocacy Day, Washington, DC
 Boston Fit City Steering Committee

relevant experience

Town of Southbridge, MA

Urban Downtown Design Guidelines

Ms. Ogden Fasser was the lead Landscape Architect on the development of Design Guidelines to support the new Urban Renewal Plan for Southbridge. The Southbridge Long Term Plan, adopted by the Town Council in 2004, identified several priority action objectives including the continued revitalization of the Town Center. Towards that end, the Southbridge Redevelopment Authority has adopted the Downtown Southbridge Urban Renewal Plan. It aims at taking the Long Term Plan's vision to the next level by preparing an implementation strategy for downtown. The Design Guidelines apply specifically to Downtown Center which is the largest commercial center in the Southern Worcester County region and part of the historic center of town. The purpose of the guidelines is to provide direction and consistency for future rehabilitation and construction projects in the Downtown Center area that preserves and enhances its unique historic character. (with VHB)

City of Bangor, ME - Penobscot Riverfront Development

Front Street Streetscape and Parking

Railroad Street Streetscape

Waterfront Promenade

Ms Ogden Fasser was Lead Planner, Designer and Project Manager for several consecutive projects for the redevelopment of the Penobscot Riverfront in Bangor, Maine from 2000 through 20008. Leading a team of architects, engineers and environmental specialists, the waterfront Master Plan was developed as a long-term vision for mixed-used development and extensive public re-use of this aging waterfront. A Complete Streets approach was embraced in the construction of major infrastructure, streetscape and parking improvements in each of the first two phases which provided for accessible, safe and enjoyable connections from downtown to the waterfront. The third phase included the waterfront promenade, upgrades to the bulkhead, bank stabilization and a high-speed ferry landing that now provides alternative transportation to regional sites. (with CRJA)

Kathleen Ogden Fasser, PLA, ASLA

City of Pittsfield, MA - Urban Redevelopment

*North Street Streetscape Phase II and Phase III
First Street Common
Persip Park
Sottile Park*

Ms. Ogden Fasser was Senior Landscape Architect and Project Manager for several consecutive projects as part of the City of Pittsfield urban redevelopment efforts. She led and completed design and construction documents for North Street streetscape improvements to transform the center of Pittsfield into a more vibrant space. This downtown corridor re-design strengthens a pedestrian and bicycle oriented environment with linkages to the transportation hub with parking and railroad connections to the greater Berkshire County community. Additional work with the Community Development Department and Parks Commission included the complete redesign of the city's historic Common. Ms. Ogden Fasser led a team of civil and electrical engineers for the improvements to this eight-acre green space in the heart of the City including a major entry gateway plaza, new accessible playgrounds and spray ground, walkway loops, major lawn space, a band stand and performance pavilion, and display spaces for sculpture. Ms. Ogden Fasser also led the redesign and rehabilitation of two pocket parks in downtown: Persip Park and Sottile Park. The goal of this project is to develop unique design concepts for each park consistent with the North Street Streetscape Master Plan. (with VHB)

Town of Sanford, ME

Sanford Center / Mousam River Waterfront Market Plan

Ms. Ogden Fasser was Project Manager for the Sanford Center/Mousam Waterfront Market Plan which identified a vision that will lead to improvements in the aesthetics of the area, its livability and encourage private investment. The vision for a "Blue Ribbon Community" sets a blueprint and a direction for both private and public investment throughout the downtown and waterfront mill areas. The goals of the plan include setting a design character, build community connections to public parking, downtown and the mills area. Graphics produced as part of this effort have been used by the community in securing funding for subsequent construction projects. (with Shadley Associates)

City of Westfield, MA

Gas Light District

Ms. Ogden Fasser was Senior Landscape Architect that led the visioning and development of a distinct and memorable design pallet, and oversight of construction documents for the streetscape and neighborhood enhancement project at the center of Westfield. The project includes the development of a unique identity for this historic district through the reconstruction of a network of six streets and parking lots located within the historic Gas Light District. Improvements include urban pocket parks and plazas created at the confluence of parking, pedestrian circulation and business access. The streetscape design includes pedestrian connections from several small parking areas to the downtown retail core, custom gateway designs, lighting, street tree planting, and in-road specialty pavement marking the central spine through the district. (with VHB)

City of Holyoke, MA

Canalwalk Phase II

Ms. Ogden Fasser was Senior Landscape Architect and Project Manager leading a team of engineers for Phase II of the Canalwalk in Holyoke, MA. Construction of this phase, managed by the Massachusetts Department of Transportation includes both sides of the Second Level Canal and is in keeping with Phase One of the Canalwalk. The improvements along Race Street reflect the input from the adjacent businesses and artist community. Elements reminiscent of the site as a mill city include large granite mill stones for seating, pavement stamping with the heritage logo and wood grain along the abandoned railroad tracks which are converted to a pedestrian crossing. This crossing connects both sides of Second Level Canal and provide previously unseen views of this unique canal system quintessential to Holyoke. Bicycles are accommodated on-road through this section and the wide sidewalk provides seating areas, planting and two iconic vertical features that allow for art display. (with VHB)

Town of Bedford, MA

The Great Road Streetscape Master Plan

As Project Manager and Senior Landscape Architect, Ms. Ogden Fasser led a multi-disciplinary team to develop a Complete Streets master plan in the historic Bedford Center. The primary purpose of this Master Plan is to make recommendations for the improvement of pedestrian and bicycle access and circulation, on-street parking accommodations and recommend streetscape improvements that will highlight and celebrate the "Town Center" of Bedford while taking into consideration regional traffic flow through the area, crosswalk locations, intersection and traffic control improvements, property access management and on- and off street parking. A vigorous public process shaped the final vision for this linear community space. (with VHB)

SECTION 3

RELEVANT EXPERIENCE / DISCLOSURES



Southampton Greenway Corridor Feasibility Study

Southampton, Massachusetts

**Project Owner: Town of
Southampton**

Pare Corporation (PARE) was retained by the Southampton Greenway Feasibility Committee to study the feasibility of the creation of a Shared Use Path facility—the Southampton Greenway—along the existing inactive New Haven and Northampton rail corridor managed by the Pioneer Valley Railroad Company. The existing rail corridor runs through a densely forested area from Coleman Road near the Southampton/Easthampton Town Line south to College Highway (Route 10) in the vicinity of Moose Brook Road. The corridor also runs through the Southampton Center Historic District, which is listed on the National Register of Historic Places.

The proposed Southampton Greenway is approximately 3.12 miles in length, with three at-grade roadway crossings and one above-

grade roadway crossing. Additionally, the corridor crosses adjacent farmland at two locations. Railroad ties and steel rails still remain along the length of the existing rail corridor.

For the development of the feasibility study, PARE provided wetlands investigations and associated permitting requirements, evaluation of existing conditions and identification of constraints, a public workshop, and a report detailing all findings and presenting options for development along with estimated costs for each, and funding possibilities.

Relevant Project Features:

- *Existing conditions evaluation.*
- *Wetlands investigations.*
- *Evaluation of permitting requirements.*
- *Public workshop.*
- *Final Feasibility Study.*
- *Opinions of Probable Costs.*
- *Funding possibilities*



Woburn Loop Bikeway

Woburn, Massachusetts

**Project Owner: Woburn
Redevelopment Authority**

Pare Corporation (PARE) was retained by the Woburn Redevelopment Authority (WRA) to prepare final design and construction documents for a multi use path/linear park on a .85-mile-long abandoned industrial railroad corridor through an urban setting. It is intended that this path be a driver for abutting property owners to update their facilities in a way to encourage path use by employees and residents. Although most of the structures' rear face the path, Woburn officials are encouraging property owners to design improvements that help make the path more inviting.

Right-of-way issues are often the most critical on this type of project. The City is currently negotiating with the MBTA for future ownership of the right-of-way.

Coordination with adjacent property owners for potential land purchases was an important compo-

nent of this project. Property owner coordination and community acceptance were also critical issues. Extensive stakeholder coordination was performed, including individual meetings with all property owners along the right-of-way and four separate public meetings to focus on and discuss isolated segments of the project.

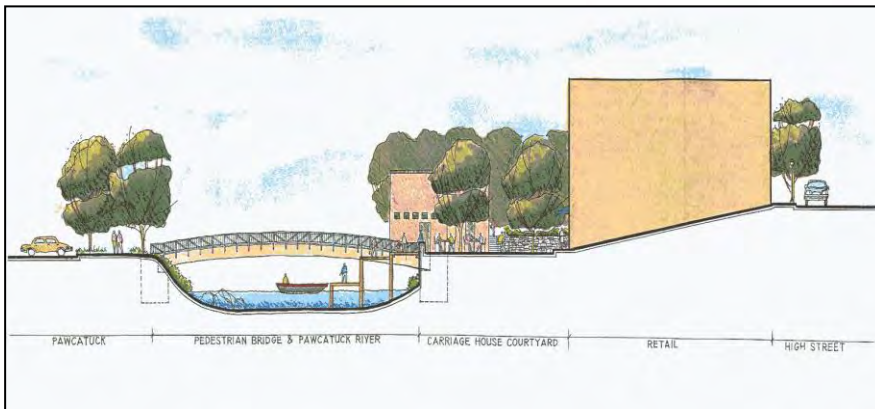
PARE followed the Project Development Manual published by MassDOT in 2006 for plan development. Federal Highway Administration manuals were also referenced in designing the horizontal and vertical components of the multi use path. In addition to the layout of the path, the design includes parking lot layouts and grading, drainage design, at-grade street crossings, design of amenities for the trail including a potential rail car for recreational uses, a proposed tot lot, resting areas, and gateways to the trail.

Relevant Project Features:

- *Design Phase for a multi-use path on an abandoned industrial rail corridor.*
- *Extensive coordination with property owners to encourage property improvements incorporating benefits of the multi-use path into their design.*
- *Includes passive recreation areas to encourage use by seniors living near the facility.*

Preliminary plans were completed in 2009. Estimated construction cost: \$1,700,000





Pawcatuck Riverwalk Feasibility Study & Design

Westerly, Rhode Island

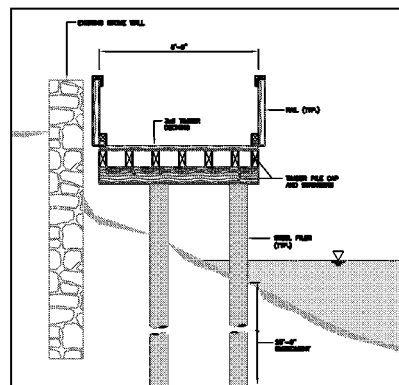
The Westerly-Pawcatuck Joint Development Task Force contracted Pare Corporation to perform a Feasibility Study for the Pawcatuck Riverwalk Enhancement Project in downtown Westerly, Rhode Island. The purpose of this feasibility study was to investigate the development of safe, attractive and continuous alternatives for a riverwalk route along the Pawcatuck River. A connection from the proposed riverwalk to Wilcox Park was also included in the study, bringing the total study route to approximately 3,000 L.F. in length.

PARE studied and presented numerous conceptual alternatives based on the evaluation of engineering and structural alternatives, assessment of environmental impacts, analysis and design of public access areas, and identification of historic preservation opportunities. PARE analyzed property information and business questionnaires, as well as crash data of the potential riverwalk intersection crossings in the town. In addition, PARE explored the need for wetland permitting and performed an on-site inspection of the existing structures.

In a subsequent bid process, PARE was selected to provide the final design of the project, which was funded in part by Community Development Block Grants.

Final Design included modifications to an existing 140' timber walkway at the Broad Street Bridge, a new 400' timber walkway on steel piles, and a new pedestrian bridge connecting Westerly, RI, and Pawcatuck, CT.

PARE designed the proposed structures and prepared contract drawings and estimates for construction. PARE also performed geotechnical investigations and design, prepared environmental permits, performed a hydraulic analysis (including scour analysis and floodplain impacts study for the new structures), and developed right-of-way plans.



Relevant Project Features:

- *Public input through questionnaires and public meetings.*
- *Existing conditions analysis including mapping, utilities, right-of-way, historic structures, wetlands, flood-plains, accident data, and physical conditions.*
- *Structural analysis of existing riverwalk structures.*
- *Geotechnical investigations.*
- *Design of a new timber walkway on steel piles and design of a new steel truss pedestrian bridge on concrete abutments.*
- *Construction estimates.*
- *Preparation of a hydraulic report, including a scour analysis for the new structures.*





Rendering of potential riverwalk and outlook area near a local mall.

Pawtuxet Riverwalk Feasibility Study

Warwick, Rhode Island

**Project Owner: RI Department of
Transportation**

Relevant Project Features:

- *Multi-use path route feasibility.*
- *Study and recommendations for challenges of urban location.*
- *Coordination with City officials.*
- *Preliminary opinions of probable construction costs.*

The City of Warwick submitted a project proposal form to the Rhode Island State Planning Council as part of the Fiscal Year (FY) 2003-2005 Transportation Improvement Program (TIP). The proposal requested that a scenic pedestrian riverwalk along the Pawtuxet River, extending from Interstate Route 95 to the Washington Secondary Bike Path, should be studied and developed for consideration of design. The project application was approved by the Transportation Advisory Committee (TAC) and included in the FY 2003-2005 TIP. The Rhode Island Department of Transportation (RIDOT) hired Pare for consultant services for the study and development phase of this project.

The project limits encompass approximately two miles of the Pawtuxet River's corridor. The topography consists of lowlands, the Pawtuxet River Valley, and adjoining gently sloping coastland. Large tracks of wetlands with small

ponds are situated within the project area, which required extensive environmental evaluations to determine feasibility and permissibility of the proposed riverwalk. In addition, the urban location presents additional challenges such as right-of-way easements, public access, and safety.

Pare also provided structural assessments of five major and one minor bridge structures along the proposed route, each spanning the Pawtuxet River, and made recommendations regarding a variety of different riverwalk compositions and structures, bridge types, and slope stabilization methods.

In addition to investigating the development of safe, attractive, and continuous alternatives for a riverwalk route along the Pawtuxet River between Interstate Route 95 and the existing Washington Secondary Bike Path, Pare also studied the feasibility of linking community services and creating a pedestrian network with connections

to various destinations within the project locality. Pare's landscape architect subconsultant prepared two renderings for selected locations in each segment of the proposed route as well as visual analyses of the entire route from birds-eye view aerial photographs.



Pontiac Secondary Bike Path Feasibility Study

Warwick and Cranston, Rhode Island

**Project Owner: RI Department of
Transportation**

The Rhode Island Department of Transportation retained Pare Corporation to perform a feasibility study which investigated the possibility of developing the inactive Pontiac Secondary Rail Line into a Shared Use Path. This report analyzed the feasibility of a continuous path from Warwick, RI through Cranston, RI, eventually connecting to the Washington Secondary Bike Path that runs north/south across Cranston. The path design investigated was a multi-use 12-foot wide paved path.

The Pontiac Secondary Rail Line, approximately 3 miles long, runs in a southerly direction, beginning at Wellington Avenue and terminating at the Cranston/Warwick City line, at Knight Street. The rail line was abandoned in 1991 and acquired by RIDOT in 1996. The corridor runs through diverse areas including forests and fields, as

well as residential, commercial, and industrial areas, and historical and special interest districts. Also included in the study were four existing bridge crossings and two existing underpasses.

Pare's effort resulted in a Design Study Report, which evaluated existing conditions and identified constraints as they relate to the proposed location of the Shared Use Path. Relevant criteria such as intersections, roadway crossings, adjacent properties, and other facilities were examined with the bicyclist's needs in mind to determine the most appropriate design alternative. The Design Study Report also included preliminary alignments of the path and preliminary cost estimates.

Relevant Project Features:

- *Traffic data collection and analyses.*
- *Right-of-way identification.*
- *Identification and evaluation of alternatives based on existing conditions and state and federal design requirements.*
- *Identification of environmental permitting requirements.*
- *Development of a Design Study Report, Cost Analysis, and Construction Project Schedule.*



Poppasquash Road Pedestrian and Bicycle Facility – Feasibility Study and Conceptual Design

Bristol, Rhode Island

**Project Owner: RI Department of
Transportation**

The Town of Bristol submitted a project proposal form to the Rhode Island State Planning Council as part of the Fiscal Year (FY) 2003-2005 Transportation Improvement Program (TIP). The project proposal requested that a pedestrian and bicycle facility along Poppasquash Road, with connections to the East Bay Bike Path (EBBP) and Colt State Park, be studied for consideration of design. The Rhode Island Department of Transportation hired Pare Corporation (PARE) for consultant services for the study and development phase of this pedestrian and bicycle facility.

The study area of Poppasquash Road is approximately 3,200 feet long, extending from Hope Street to the entrance of Colt State Park, and is located within a mixed use area of residential neighborhoods, historical districts and waterfront, recreational facilities, a cemetery, open water and wetland sites in a suburban setting at the head of Bristol Harbor.

PARE collected available data, reports, and mapping of the project area; performed site visits to document existing conditions; attended a public meeting to garner comments from area stakeholders; worked with a landscape architect subconsultant to develop conceptual renderings; and prepared a study report. Included in this study were an assessment of the environmental impacts, analysis and conceptual design of public access areas and relocation of utility poles, identification of historic preservation opportunities, identification of public concerns, coordination with the Town's Comprehensive Plan, and an opinion of probable cost.

PARE divided the route into four segments and recommended that Segments 1 and 2 be the focus of a proposed pedestrian and bicycle facility with repairs to the walls along Poppasquash Road. Segments

Relevant Project Features:

- *Bike and pedestrian path conceptual design.*
- *Environmental assessment.*
- *Structural assessment.*
- *Public involvement.*
- *Opinion of probable construction costs.*

3 and 4 present environmental and constructability challenges whose costs outweigh the benefits.



Shoreline Bikeway Feasibility Study

Charlestown & Westerly, Rhode Island

The Town of Charlestown submitted a project proposal form to the Rhode Island State Planning Council as part of the Fiscal Year (FY) 2003-2005 Transportation Improvement Program (TIP). The project proposal described the Shoreline Bikeway bicycle facility in the Towns of Westerly and Charlestown which included four roadways for consideration for signing as Signed Shared Roadways. The proposed Shoreline Bikeway would provide connections to the existing South County Bike Path and, ultimately, become part of an uninterrupted bicycle facility connecting Charlestown, Westerly, Richmond, South Kingstown, and Hopkinton. The project application was approved by the Transportation Advisory Committee (TAC) and included in the FY 2003-2005 TIP. The Rhode Island Department of Transportation (RIDOT) retained PARE for consultant services for the study and development phase of this task.

PARE performed site visits to document existing conditions; met with Town officials to garner their input; and prepared a study report. Included in this study were an assessment of existing conditions; determination of suitability of roads to be potential signed, shared roadways or roadways that could support an on-road bike lane; identification of historic and recreational links; coordination with the Towns' Comprehensive Plans; and opinions of probable cost.

The following recommendations were made for the four roadways:

1. South County Trail (Route 2) is recommended as a Signed Shared Roadway, following the implementation of recommended improvements, including widening;
2. Post Road (Route 1) from the intersection of Route 2 to the intersection of Route 216, is not recommended to be signed as a Signed Shared roadway due to safety concerns, even for experienced

Project Owner: RI Department of Transportation

Relevant Project Features:

- *Bike facility route feasibility.*
- *Documentation of existing conditions and roadway suitability for bike use.*
- *Local Town coordination.*
- *Preliminary opinions of probable construction costs.*

bicyclists;

3. Ross Hill Road/Church Street is recommended as a Signed Shared Roadway, following the implementation of recommended improvements, including widening; and

4. Post Road (Route 1)/Shore Road (Route 1A) is not recommended to be signed as a Signed Shared roadway due to safety concerns, even for experienced bicyclists.



South Elmwood Spur Bike Path Feasibility Study

Warwick and Cranston, Rhode Island

The Rhode Island Department of Transportation (RIDOT) retained Pare Corporation (PARE) to study and develop the creation of a proposed Shared Use Path facility along the inactive existing Warwick Industrial Track (South Elmwood) located in Cranston, Rhode Island. The recommended South Elmwood Bike Path runs through diverse areas including forests and fields, as well as residential, commercial, and industrial areas, and historical and special interest districts. Recreational sites that are located in the vicinity of the rail corridor include Fay Memorial Field, Pawtuxet State Park, Belmont Park, and Roger Williams Park. Several improved and unimproved walking trails are located throughout the South Elmwood section. There are also canoe and trail access points along the Pawtuxet River.

The Providence & Worcester Railroad Company currently has

ownership of a portion of the corridor and a local company has purchased another portion of the rail's right-of-way at the beginning of the project limits, forcing the path to begin on a nearby street. Design and permitting issues along the corridor include wetlands and three at-grade street crossings. The right of entry to the alignment has been restricted in locations by fences that have been installed by bordering property owners. Other encroachments upon the rail line include gardens, landscaping, play equipment, and lawn furniture. There are also abutting owners that use the land as a dumping place for grass and tree trimmings as well as other debris.

The creation of the South Elmwood bicycle facility, with tie-in to the proposed Pontiac Secondary Shared Use Path, could provide bicyclists with continuous access to the Washington Secondary Corridor Bike Path from points east and could

Project Owner: RI Department of Transportation

Relevant Project Features:

- *Traffic data collection and analyses.*
- *Right-of-way identification.*
- *Identification and evaluation of alternatives based on existing conditions and state and federal design requirements.*
- *Identification of environmental permitting requirements.*
- *Development of a Design Study Report, Cost Analysis, and Construction Project Schedule.*

also create connections to the Pawtuxet River trails, the Cranston Cross City Bike Route, parks, commercial, industrial and historical districts.



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**Project Owner: RI Department of
Transportation**

Relevant Project Features:

- *Traffic data collection and analyses.*
- *Right-of-way identification.*
- *Identification and evaluation of alternatives based on existing conditions and state and federal design requirements.*
- *Identification of environmental permitting requirements.*
- *Development of a Design Study Report, Cost Analysis, and Construction Project Schedule.*

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Conceptual rendering prepared for the Commercial Tourist District Improvement Plan.

Commercial Tourist District Improvement Plan

**Sturbridge,
Massachusetts**

Project Owner: Town of Sturbridge

The Town of Sturbridge hired Pare Corporation's team to embark on a design project within the heavily visited Commercial Tourist District (CTD) along Main Street (Route 20). The two-mile project focused on creating conceptual design plans for an improved Main Street corridor, taking into consideration the Town's Master Plan, the Commercial Tourist Revitalization Study, and the Sturbridge Reconnaissance Report for the Blackstone Valley/Quinebaug-Shetucket Landscape Inventory.

The project limits defining the Sturbridge CTD include the Main Street (Route 20) corridor from New Boston Road to Brookfield Road (Route 148). This corridor consists of two distinct sections referred to as the Eastern Gateway and Western Gateway. Land use through the CTD consists of a variety of commercial and business establishments, including hotels, restaurants, professional offices, and retail.

Old Sturbridge Village, the largest tourist attraction in the CTD,

is located just south of Main Street at Stallion Hill Road. The Quinebaug River is located south of the CTD and runs parallel to Main Street.

The Improvement Plan looks to improve the livability of the corridor by incorporating Complete Streets concepts. Opportunities for walking, bicycling, and transit were investigated as part of the plan. The project also focused on improving connections between the Quinebaug River and the CTD, improving the attractiveness of the corridor, and encouraging economic growth within the District.

The project included analysis of the existing traffic operations and safety of the corridor. Conceptual designs for a multilane roundabout and geometric improvements to signalized intersections were also prepared. Multiple public workshops were held to obtain feedback from community business owners and residents. The project was developed through conceptual design phase and will be used for obtaining future design and construction funding.

Relevant Project Features:

- *Complete Streets designs.*
- *Community outreach - public participation.*
- *Data collection.*
- *Traffic Capacity and Safety Analyses.*
- *Economic development.*
- *Intersection design.*
- *Roundabout design.*
- *Quinebaug River connections.*
- *Conceptual design alternatives.*
- *Preferred Conceptual Plan.*
- *Cost estimating.*
- *Funding opportunities.*



The Blackstone River Bikeway was the second major bicycle route to be proposed and studied at the State level in Rhode Island. The Federal Highway Administration (FHWA) provided funding for the project, which was administered by the Rhode Island Department of Transportation (RIDOT). The Rhode Island Department of Environmental Management (RIDEM) was responsible for undertaking the initial feasibility study.

Pare Corporation (PARE) was selected to perform the feasibility study and preliminary design of the 22-mile facility. The goal of the ongoing project is to establish a continuous bike route through seven towns, linking with the PARE-designed East Bay Bike Path at the Providence terminus and continuing through the historic Blackstone Valley corridor to the border with Massachusetts. The linking of these two bikeways will result in more than 36 miles of continuous bicycle route in Rhode Island. In addition, at the Northern terminus, plans are being made to link the Blackstone Bikeway with a similar facility that is proposed along the Massachusetts portion of the Blackstone River which will extend north as far as Worcester.

The feasibility study entailed the identification of commercial, educational and recreational centers that could be served through linkage to residential areas, analysis of property ownership patterns, and estimates of bicycle usage based on demographic data. As a result of the planning process, alternative bicycle routes

consisting of combinations of segment alternatives were developed and evaluated based on safety, grade and length of grade, bikeway class (I, II or III), accessibility to and from neighborhoods, travel destination features, property ownership, cost, and environmental, historic and social impacts.

Based on the feasibility study, which included four public workshops with the affected communities, an approved recommended route for the 22-mile facility was chosen. Along the Blackstone River and Canal, a separate Class I bike route was recommended. Approximately 14 miles of this route run alongside the operative Providence & Worcester railroad. Along city streets, Class II and III bicycle facilities were chosen as segment alternatives due to the lack of adequate space for a separate bike path. The feasibility study also incorporated an analysis of costs including construction of the path itself, construction of major structures including bridges and ramps, and land acquisition costs.

PARE subsequently provided construction observation services to the Providence & Worcester railroad company to ensure that minimum setbacks and safety measures were met.



Blackstone River Bikeway Feasibility Study and Preliminary Design

Northern Rhode Island

Project Engineer: John Shevlin, P.E.



Relevant Project Features:

- 22-mile-long bicycle facility, traversing seven communities.
- Development of alternative routes and design sections (off-road bike paths, on-road bike lanes, and bike routes).
- Preliminary design and cost analysis.
- Construction cost analysis including land acquisition.
- Community coordination including four public workshops.



Washington Secondary Bike Path

Project Owner: Town of West Warwick, RI

The Washington Secondary Bike Path, when completed, will provide approximately 10 miles of bicycle and pedestrian recreational facility along the abandoned Washington Secondary Railroad Corridor (WSRC), extending from the Amtrak Main Line at the Providence/Cranston city line to the West Warwick/Coventry town line. The facility will be an important addition to the Rhode Island Department of Transportation's network of bicycle facilities, ultimately linking to one or more

bike paths that will extend westward through the Town of Coventry and into Connecticut.

Pare Corporation (PARE) was hired by the Town of West Warwick to plan and design their portion of the Washington Secondary Bike Path. Beginning at the Warwick/West Warwick line, at Providence Street and extending to the Coventry town line near Route 117, the West Warwick Section of the bike path traverses nearly three miles of the former railroad corridor.

The project also included a feasibility study regarding the possible acquisition of the Hope Spur for its conversion to a bicycle path. The Hope Spur is a former rail corridor that extends approximately three miles from the WSRC in the River Point Section of West Warwick, through the northeast portion of Coventry, and into the Hope Section of Scituate.

Condition surveys and conversion plans were required for the

existing bridges along the WSRC. PARE's experience converting railroad bridges to bicycle path bridges includes the design of new deck and rail systems and modifications to steel girder/ballasted structures. Both types of modifications were encountered on this project.

Construction was completed in 2003.

Relevant Project Features:

- *Horizontal and vertical alignment of the new bike path.*
- *Wetland delineation and permitting.*
- *Drainage improvements.*
- *Evaluation/rehabilitation of two railroad bridges.*
- *Traffic analyses.*
- *At-grade intersection improvements.*
- *Parking and public access features.*
- *The redesign of one major at-grade intersection, incorporating an actuated traffic signal.*



The East Bay Bike Path (EBBP), a 14.5-mile bicycle path constructed on an abandoned railroad right-of-way, was the first major undertaking by the Rhode Island Department of Transportation (RIDOT) to create a state-owned bicycle network in Rhode Island. As the ten-foot-wide paved path weaves through five communities, it provides access to schools, business districts, and eight parks. Along its route are some of the State's most panoramic views of coastline, estuaries, and woodlands.

The Federal Highway Administration (FHWA) provided 100% of the facility's \$7.5 million estimated construction cost. A feasibility study was initially prepared to identify demographic, social, and environmental impacts and objectives for the route. Pare Corporation (PARE) prepared the feasibility study, as well as the bike path's final design.

New and innovative design standards developed by PARE, as well as standards set forth by FHWA, were used to address unique project requirements, of which safety was a primary concern. Signage and "S"-type curves were incorporated in the design where the path intersects with 49 streets, forcing cyclists to slow and alerting them of the approaching conflict. At two major streets, traffic studies were



performed and, because of the high volume of street traffic, traffic signals were installed with push-button actuators for bicyclists to cross safely while motor vehicle traffic is stopped.

Five railroad trestle bridges were also modified for bicycle path use by removing existing rails and ties, and placement of new timber decks and 4-foot-wide timber walkways with handrails for pedestrian and fishermen use. Because these bridges were in a state of considerable disrepair, additional repairs were also needed. Work on the bridges' substructures included repairs to the masonry abutments, addition of steel and timber members, and the installation of rock anchors to counter uplift forces. The clearance between piers was also widened to accommodate passage of larger boats.

Commuters find the path a welcome transportation route, utilizing the facility to ride bicycles between home, school, work, and shopping. People of all ages—including walkers, runners, parents with strollers, and in-line skaters—join bike enthusiasts in being attracted to the East Bay Bike Path for its recreational aspects and as safe alternative to hazardous riding on busy streets. The Rails to Trails

East Bay Bike Path

Bristol to Providence, Rhode Island

Project Owner: RI Department of Transportation

Relevant Project Features:

- *Feasibility study and final design*
- *14.5 miles long.*
- *Intersects 49 streets.*
- *Traffic signals at two major intersections.*
- *Rehabilitation of five railroad bridges for bicycle and emergency vehicle access.*
- *Complete drainage system.*
- *Pavement markings and signage.*
- *Curves and fencing for safety.*

Conservancy recently ranked the EBBP as the fifth-busiest rail-trail in the country, with 1.1 million annual users.





Warren Bike Path

Warren, Rhode Island

Project Owner: Town of Warren

Relevant Project Features:

- *Design of a multi-use path.*
- *Stormwater design.*
- *Links to recreational facilities.*
- *Timber pedestrian bridge.*
- *Environmental and coastal permitting.*
- *Wetlands delineation.*
- *Construction-phase services.*

Pare Corporation (PARE) was retained by the Town of Warren to prepare construction documents for a multi-use path on an abandoned rail bed. This 4000-LF segment of a larger project studied by RIDOT in the 1990's is completely owned by the Town of Warren. It will provide access to Town recreation land from various residential subdivisions.

This project was funded by RIDOT but was administered by the Town of Warren. RIDOT reviewed all submissions and provided final approval before the project was advertised for construction. RIDOT required the Town to provide construction administration and certification that the project was being built according to the approved contract documents. PARE provided these services to the Town of Warren.

PARE followed Federal Highway Administration and RIDOT guidelines for the design of this multi-use path. Significant challenges on this project included

stormwater management issues and horizontal and vertical alignment issues. The property for the path had been out of use for many years and abutters had been discharging stormwater onto the property. There was significant erosion along the path that required consideration when determining the horizontal and vertical alignment.

Allowances for emergency vehicle access while eliminating potential for unauthorized vehicle access was also developed. Crossings at two roadways were designed with the safety of both path users and motorists in mind.

As part of the project a bridge needed to be designed and constructed to carry the multi-use path over an intermittent stream crossing. The bridge needed to be capable of carrying both the path users and emergency vehicles. The timber bridge is a single span structure approximately 20' in length supported on cast in place concrete cantilever abutments. A



traffic rail frames each side of the bridge superstructure.

This project is within both RIDEM and coastal (CRMC) jurisdiction and PARE prepared permit applications to both agencies. Construction of the bike path was completed in the spring of 2010.



Quonset Shared-Use Path and Babcock Road Improvements

North Kingstown, Rhode Island

**Project Owner: Quonset
Development Corporation**

PARE was selected by the Quonset Development Corporation (QDC) to design a new off-road, shared-use path within the Quonset Business Park. This section of the proposed Quonset Shared Use Path is approximately 2.4 miles and runs along the northern and western boundary of property owned by the QDC south of Newcomb Road. The bike path route was designed to follow existing abandoned roadways and previously-disturbed areas. The completed path consists of a 12-foot wide paved path with 2-foot grassed shoulders, and is located within a new 50-foot right-of-way.

The project provides a safe and scenic route for pedestrians and bikers, stretching from Route 1 (Post Road) to Allen's Cove (via a connection to the proposed Calf Pasture Point Bike Path), and encourages the use of alternative transportation in the community.

As an additional task for this project, PARE was asked to prepare final design plans for improvements

to Babcock Road, a local road within the Business Park that provides access to several businesses. As part of the adjacent Shared Use Path project, access to Babcock Road from Newcomb Road is limited to emergency vehicle access and is controlled via a locked gate. The primary access to Babcock Road is now from Davisville Road.

The roadway improvements included the reconstruction of approximately 2,300 feet of roadway, revisions to the horizontal and vertical alignment, drainage improvements, and utility improvements. Included in the utility improvements was the design of approximately 500 feet of gravity sewer main and building services. The drainage improvements included a crossing of Davisville Road to a new detention basin.

Construction was completed in July of 2009.

Relevant Project Features:

- *Off-road path design.*
- *Roadway design.*
- *Stormwater design.*
- *Regulatory permitting.*
- *Utility improvements.*





The proposed harbor walk will extend along the south shore of the South River. The harbor walk will be designed to provide links to the surrounding businesses.

Salem Harbor Walk

**Salem,
Massachusetts**

**Project Owner: MADCR Office of
Waterways**

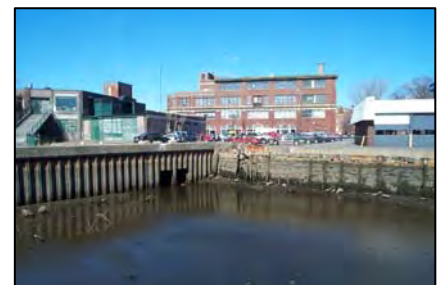
PARE was responsible for the development of preliminary design for an approximate 1,100-foot-long harbor walk, and extension of the South River Walk. The Harbor Walk will provide a vital link between the downtown Salem area and Pickering Wharf, in addition to enhancing potential future development adjacent to the path. The project goal is to develop, for the people of Salem and the Commonwealth of Massachusetts, a harbor walk that will be a continuation of the walkway east of Congress Street and that will provide opportunities to develop a vibrant and active waterfront. PARE's preliminary design included a coordinated streetscape program of sidewalk paving, signage, street furniture, trash/recycle receptacles, lighting, and plantings throughout the waterfront.

In addition to performing condition surveys and preliminary design, PARE attended progress meetings and a public workshop, and performed traffic studies for several proposed intersections with local streets. The estimated construction cost to complete the harbor walk as currently conceived is approximately \$500,000.



Relevant Project Features:

- *Condition survey of existing canal area.*
- *Conceptual design for new harbor walk.*
- *Preliminary design drawings.*
- *Permitting for coastal water work.*
- *Public participation meetings.*



DISCLOSURES

Pare Corporation has not designed, engineered, created bid specifications, proposed a budget and/or otherwise assisted in the development of a project that subsequently required rebidding, was significantly delayed and/or redesigned due to receiving bids higher than the project budget on any municipal projects in Massachusetts in the past five years.



SECTION 4

REFERENCES

REFERENCES

We are confident that Pare's track record on bike paths and municipal planning projects will illustrate our ability to provide an excellent level of service and a quality work product for this project. We are pleased to provide the following client references:

Client	Contact	Project(s)
Town of Southampton P.O. Box 397 Southampton, MA 01073	Bob Barcomb Steering Committee Chair 413-527-3511 Greenway@town.southampton.ma.us	Southampton Greenway Feasibility Study
Town of Woburn Department of Public Works 50 North Warren Street Woburn, MA 01810	Jay Duran, Superintendent 781-897-5980 jduran@cityofwoburn.com	Woburn Loop Bikeway
Town of Sturbridge Town Hall 308 Main Street Sturbridge, MA 01566 508-347-2508	Jean Bubon, AICP Town Planner	Commercial Tourist District Improvement Plan: 25% Design Improvements to Main Street (Route 20)
RI Department of Transportation Two Capitol Hill Providence, RI 02903	Steve Devine, Chief of Intermodal Planning 401-222-2023 x4063 sdevine@dot.ri.gov	Metropolitan Bike Facilities Assessments and Bike & Pedestrian Facilities Studies



SECTION 5

CAPACITY

CAPACITY / CURRENT WORKLOAD

Pare has worked hard to maintain a level of experienced staff that allows us to take on new assignments. While we have been fortunate to have on-going with various states and municipalities within Massachusetts and Rhode Island, many of our projects are nearing completion or are progressing slowly and in some cases have been put on hold for several years due to lack of municipal funding. With many of our state projects nearing completion or currently on hold, our workload in the area of transportation planning and engineering design continues to mature for our current transportation staffing. We can assure the Town of Belmont that we have gone to extremes to make certain that we have adequate manpower to handle the demands of this Community Path Feasibility Study, including recent hires in our Transportation Division. Presented below is a list of Pare's highway, traffic and bridge related projects with our current completion dates that Pare currently has under contract, many of which are on Hold or at the 100% Design or Construction Services stage of development and should be completed within the next 12 months.

Highway Projects	Client	Project Status & Development Stage
2015 Pavement Preservation Program Contract 4: <ul style="list-style-type: none"> Route 24 Improvements, Portsmouth Cumberland Hill Rd. (Rte. 122, Woonsocket) 	RIDOT Road Design	<ul style="list-style-type: none"> Final Study – 90% Pending RIDOT NTP. Draft Study – Under RIDOT Review.
1R Highway Improvement Program: <ul style="list-style-type: none"> Railroad Street, Lincoln Old Route 102/Victory Highway, Burrillville Route 4 C-2, E. Greenwich & No. Kingstown Dexter Street C-1, Pawtucket & Central Falls 	RIDOT Road Design	<ul style="list-style-type: none"> 90% – On Hold to 2018 due to funding. 90% – On Hold to 2018 due to funding. PS&E – On Hold to 2017 due to funding. Construction Services.
Town-wide Roadway Improvements	No. Smithfield	Advertising & Construction Services

Planning & Traffic Projects	Client	Project Status & Development Stage
University of Massachusetts – Boston <ul style="list-style-type: none"> Transportation Master Plan Update 	UMass Boston	<ul style="list-style-type: none"> Draft report submitted to UMass.
High Hazard Ramps-Intersections C7 <ul style="list-style-type: none"> Traffic Safety Improvements to Mineral Spring Avenue, North Providence 	RIDOT Traffic	<ul style="list-style-type: none"> Construction Services to begin June 2016.
Various On-call Traffic Tasks for RIDOT Traffic Management Center	Jacobs/RIDOT	<ul style="list-style-type: none"> 3-Year Contract; Currently No Assignments.
Various Traffic Impact Studies and Design Improvements for Massachusetts Schools	Ai3 Architects	<ul style="list-style-type: none"> Finalizing studies. No Design work pending at this time.

Bridge Projects	Client	Project Status & Development Stage
MassDOT On-Call Engineering Services <ul style="list-style-type: none"> ▪ <i>Maffa Way Bridge No. B-06-067</i> ▪ <i>Indian Brook Pond Dam</i> ▪ <i>Studley's Pond Dam</i> ▪ <i>Mill Pond Dam (Route 28)</i> 	<i>MassDOT Bridge Design</i>	<ul style="list-style-type: none"> ▪ <i>25%/Sketch Plan, fall 2016, anticipated completion 2019.</i> ▪ <i>Bridge Type Study Summer 2016, anticipated completion 2020.</i> ▪ <i>25%/Sketch Plan, fall 2016, anticipated completion 2020.</i> ▪ <i>25%/Sketch Plan, fall 2016, anticipated completion 2020.</i>
Comprehensive Bridge Improvement Program – Group 6 <ul style="list-style-type: none"> ▪ <i>Central Bridge No. 182</i> ▪ <i>Capron Road Bridge No. 792</i> ▪ <i>Coles Bridge No. 134</i> ▪ <i>Mussey Brook Bridge No. 380</i> 	<i>RIDOT Bridge Design</i>	<ul style="list-style-type: none"> ▪ <i>Construction Services.</i> ▪ <i>Advertising & Construction Services.</i> ▪ <i>Construction Services.</i> ▪ <i>PS&E, Anticipated completion fall 2017.</i>
I-195 I-Way Improvements <ul style="list-style-type: none"> ▪ <i>Ramp EI Improvements</i> 	<i>RIDOT Bridge Design</i>	<ul style="list-style-type: none"> ▪ <i>PS&E, Anticipated completion fall 2017.</i>

SECTION 6

FIRM QUALIFICATIONS

PRIME CONSULTANT QUALIFICATIONS

Pare Corporation



Engineers | Scientists | Planners



Pare Corporation was founded in 1970 with one goal in mind — providing consistently superior service to our clients. Over the years, we have expanded both our capabilities and our staff to address the ever-changing complexities and challenges of projects in both the public and private sectors.

Today, we provide a diverse array of in-house services. By combining the resources of our experienced professional staff, and staying at the forefront of emerging technologies, we maintain a track record of solid accomplishment and are able to handle projects of any size with efficient, responsive service.

As a multidisciplinary firm of engineers, planners, environmental and wetland scientists, GIS specialists, and regulatory permitting specialists, our clients depend on us to help them work through the anxieties of the design and permitting process while sharing their sense of urgency.

Pare at a Glance

- 45 Years in Business
- 80+ Employees
- 31 Professional Engineers (Registrations in RI, MA, CT, ME, NH, VT, NY, NJ, MD, VA, FL, AZ, CA, CO, NM, UT)
- LEED-Accredited Professionals
- Professional Wetland Scientists
- Registered Geologists
- NICET Level IV Resident Construction Observer

Primary Markets

- *State and Municipal Infrastructure — Transportation, Water, Wastewater, Solid Waste*
- *K-12 and Higher Education*
- *Pharmaceutical and Industrial*
- *Dam Owners and Marine Facilities*
- *Corporate, Institutional, and Commercial*
- *Public Buildings and Housing*

8 Blackstone Valley Place
Lincoln, RI 02865
(401) 334-4100

10 Lincoln Rd., Suite 103
Foxboro, MA 02035
(508) 543-1755

parecorp.com

PLANNING AND SITE / CIVIL

Feasibility Studies and Master Planning
Land Development and Site Design
Sustainable Design / LEED Assistance
Municipal Planning Services
Park and Recreation Planning
Sustainable Energy Development
Grading / Drainage / Utility Layout



ENVIRONMENTAL

Water Supply / Wastewater
Stormwater BMPs
Environmental Site Assessments
Site Remediation, Hazardous Waste
Hydrology and Hydraulics
Solid Waste / Resource Recovery



STRUCTURAL

Building Design and Rehabilitation
Condition Surveys / Inspection
Parking Decks, Towers, and Specialty Structures
Foundation Design
Pre- and Post-Construction Inspections



GEOTECHNICAL / DAM

Subsurface Investigations
Foundations and Retaining Walls
Slope Stability and Ground Stabilization
Dam Inspections, Design,
Rehabilitation, and Removal
Emergency Action Plans / O&M Manuals



TRANSPORTATION

Multimodal Transportation Planning
Highways and Roadways
Bridge Design & Inspections
Parking / Traffic Studies and ITS
Bicycle and Multi-Use Facilities
Streetscape Design
Railroads and Airports



WATERFRONT / MARINE

Piers / Docks / Wharves
Seawalls / Bulkheads
Ferry Docks & Terminals
Structural Analyses & Underwater Inspections
Port Planning / Marinas
Dredging / Coastal Studies



PERMITTING & SUPPORT SERVICES

Coastal & Inland Wetlands
Delineations / Mitigation / Restoration
Water / Groundwater
Regulatory Agency Coordination
CAD / Drafting
Geographic Information Systems (GIS)
Construction-Phase Services



MULTI-USE TRAILS AND BIKE PATHS

Pare Corporation (PARE) has experience both in the planning and final design of major bike path, multi-use trail, rail to trail, and recreational facilities. PARE is a pioneer in this relatively new field, having developed unique and innovative design standards to address the particular project requirements of several individual trails beginning in the early 1980s.

Included in the planning process are the identification of objectives and project considerations, as well as coordination with municipal comprehensive plans, transportation and open space master plans, determination of trail/bikeway use potential, identification of corridors, environmental and historic impacts, route selection, community involvement, and methods of implementation.

The final design process includes identification of design criteria, trail surface treatment, width and shoulder requirements, stopping sight distances, grades, clearance to obstacles, design of horizontal alignment, intersection design and related traffic studies for signal requirements, grade separations, drainage design, striping and signage placement, bridge designs for traversing hazards, and safety measures.

REPRESENTATIVE SERVICES:

- **Feasibility/Design Studies**
- **Shared-Use Trail, Bike Path, Signed Shared Roadway, and Bike Route Facilities**
- **Determination of Projected Need & Use**
- **Identification of Trip Origin/Destinations**
- **Analysis of Social, Economic, & Demographic Characteristics**
- **Environmental, Historic & Archaeological Impact Analysis**
- **Drainage Systems**
- **Bridges, Boardwalks, Ramps, & Tunnels**
- **Maintenance & Security**
- **Traffic Studies**
- **Coexistence with Other Transportation Systems**
- **Intersection Treatment**
- **Safety Measures**
- **Route Alternatives**
- **Amenities**
- **Cost Estimates**
- **Coordination w/Local & State Agencies**
- **Coordination w/Private Landowners**
- **Public Participation Process**
- **Environmental Permitting**

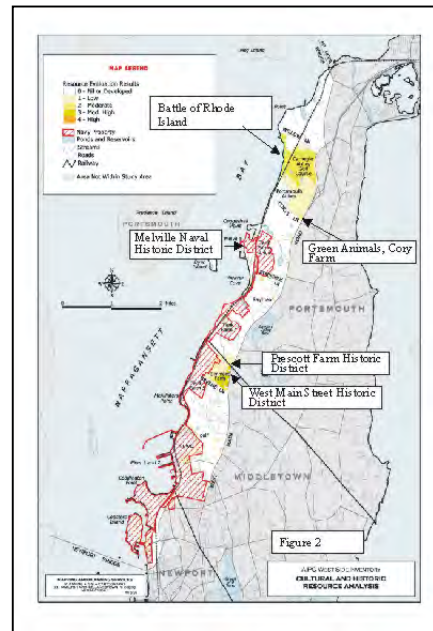


TRANSPORTATION PLANNING

Pare Corporation (PARE) has performed a wide variety of transportation planning projects, from the performance of feasibility studies through completion of design for selected improvements. Local, state, and federal government agencies rely on our transportation planning studies to determine the viability of various projects, to evaluate and select the best alternative to meet their goals, to evaluate or justify expenditure of funds, and to proceed with project implementation. Studies have been provided for sensitive projects to ascertain public support and the probability of successfully securing environmental permits. PARE's projects have contributed to both short- and long-term transportation planning projects; for example, the immediate solution of a traffic circulation problem to the development of a new bicycle facility to serve as a component of the state's planned bikeway network. PARE's transportation planning projects have required the diverse expertise of the firm's engineering, planning and environmental staff.

REPRESENTATIVE SERVICES:

- **Feasibility and Planning Studies**
- **Alternative Development and Evaluation**
- **Engineering Design**
- **Vehicular Traffic Circulation Studies**
- **Highway Performance Inventories**
- **Bicycle and Pedestrian Facilities**
- **Bicycle Facility Trip Estimate Reports**
- **Public Transportation/Transit Facility and Operations Planning**
- **Ferry Terminal Planning**
- **Multi-modal Planning**
- **Environmental Impact Assessment Documents and Identification of Required Permits**
- **Section 4(f) Statements and Section 106 Case Reports**
- **Coordination with State and Municipal Highway Improvement Projects**
- **Public Workshops and Hearings**



MUNICIPAL PLANNING AND DESIGN

Pare Corporation has provided a wide variety of planning and design services for our municipal clients. These services range from comprehensive land use planning, urban design for downtown and waterfront revitalization, master planning, harbor and waterfront management planning, wastewater facility plans, and demographic studies, to revisions to zoning, development regulations, and impact fee ordinances. Our interdisciplinary staff of planners and engineers work collaboratively on these assignments to provide municipalities with the breadth of expertise required. Through public outreach programs we assure that projects are embraced by the community. Our goal is to assist communities in addressing complex issues of growth in a positive and environmentally sensitive manner, to preserve and enhance the quality of life. Regardless of the project size, PARE recognizes overall project success is highly dependent on public participation, sequencing, scheduling, and regulatory compliance. Our ability to meet the needs of our clients is reinforced by the firm's full-service, in-house capabilities.

PARE has been responsible for the study, planning and/or design of urban riverwalks, streetscape enhancement projects, school needs assessment and site feasibility projects, revitalization plans, utility undergrounding plans, comprehensive town plans, water system management plans, stormwater management plans, parks, playgrounds, and recreational fields, traffic calming plans, land-use recommendations, septic system maintenance plans, recreation studies, and parking studies.

REPRESENTATIVE SERVICES:

- **Comprehensive Planning**
- **Visioning**
- **Growth Management Studies**
- **Conceptual and Feasibility Studies**
- **Site Master Planning and Site Design**
- **Zoning Analysis / Amendments**
- **Preliminary and Final Plan Preparation**
- **Hazard Mitigation Plans**
- **Transportation Corridor Studies**
- **Traffic and Parking Studies**
- **Wastewater Management Plans**
- **Water Supply System Management Plans**
- **Planning Commission Consulting**
- **Landfill Closure Plans**
- **Wetlands Delineation and Environmental Studies**
- **Geographic Information Systems (GIS)**



BRIDGES AND PEDESTRIAN STRUCTURES



Pare Corporation (PARE) has extensive experience in the area of bridge design. The history of the firm's key personnel is linked to the development of the interstate highway system and the design and rehabilitation of our nation's bridges. Highly professional and experienced teams of structural and geotechnical engineers are devoted to the firm's bridge projects. Our bridge design work has involved projects throughout the Northeast and continues to enhance our reputation of quality engineering and client satisfaction.

PARE has successfully worked on all levels of bridge design projects. We have performed numerous condition surveys, load ratings, prepared in-depth alternative design and rehabilitation studies, prepared environmental impact assessments, permit applications, and Section 106 and Section 4(f) documents, conducted workshops, performed associated hydraulic studies, and worked with all levels of federal, state, and local governments and agencies. Bridge designs by PARE have ranged from minor restoration efforts and small pedestrian structures to the design and construction of complex multi-span steel and concrete bridges. We have received national recognition from the Federal Highway Administration for the restoration of a historic, one-of-a-kind masonry structure. We provide the proper interaction and dedication to address all elements of a bridge project to provide an efficient, on-budget facility.

REPRESENTATIVE SERVICES:

- **Bikeway and Pedestrian Facility Bridges**
- **Highway and Railroad Bridges**
- **New Construction and Bridge Rehabilitation**
- **Single and Multi-Span Structures**
- **Inspections and Condition Surveys**
- **Structural Analyses and Load Rating**
- **Geotechnical and Foundation Investigations**
- **Computer Modeling**
- **Hydraulic Analyses**
- **Alternative Design Studies**
- **Feasibility and Design Studies**
- **Design Development**
- **Plans, Specifications and Cost Estimates**
- **Contract Administration and Construction Services**
- **Environmental Permitting**
- **Section 106 and Section 4(f) Documents**



PARK DEVELOPMENT AND RECREATION PLANNING



Pare Corporation (PARE) provides a full range of planning and engineering services associated with park and recreational improvement projects. We are familiar with the requirements of large-scale regional and state parks, as well as local playgrounds, bike paths, multi-use trails, municipal parks and sports complexes.

Regardless of the project size, PARE recognizes overall project success is highly dependent on sequencing, scheduling and regulatory compliance. Our ability to meet the

needs of our clients is reinforced by the firm's full-service, in-house capabilities.

PARE has been responsible for the planning and design of over 2,000 acres in planned park improvements involving both active and passive recreational opportunities including trail systems, playing and ball fields, tennis and basketball courts, swimming facilities, and concession and spectator stands.

REPRESENTATIVE SERVICES:

- **Conceptual and Feasibility Studies**
- **Project Planning**
- **Grading and Drainage Plans**
- **Utility Layout and Design**
- **Preliminary and Final Plan Preparation**
- **Environmental Site Assessments**
- **Environmental and Wetland Permitting**
- **Traffic Impact Studies**
- **Sanitary Facilities**
- **Water Supply and Transmission**
- **Access Roadways, Bridges, and Sidewalks**
- **Pedestrian Bridges**
- **Parking Facilities**
- **ADA Accessibility**



TRAFFIC, PARKING AND TRANSPORTATION ENGINEERING



State and local governments throughout the United States are currently faced with a serious issue—urban traffic congestion. Nowhere is this problem felt more than in the Northeast, where an aging infrastructure must provide transportation services to an ever-increasing population.

With more than 30 years of experience in the field, Pare Corporation (PARE) is well versed in all facets of transportation improvement projects including facility planning, traffic impact analyses, and design of improvements to transportation systems. PARE has been responsible for the planning and engineering of more than 75 transportation improvement projects including a variety of intermodal transportation facilities, surface and structured parking facilities, and the re-design of major intersections including traffic signals and other traffic control improvements.

PARE has conducted numerous traffic and transportation planning studies in conjunction with various types of development projects (parks, commercial centers, institutional uses, etc.). Traffic analysis, projection of future volumes, determination of parking requirements, accident and safety analyses, and engineering design to facilitate traffic flow combine to play a vital role in mitigating the impacts associated with increases in traffic volumes.

REPRESENTATIVE SERVICES:

- **Traffic Signal Design**
- **Traffic Capacity Analysis**
- **Traffic Safety Analysis**
- **Traffic Signal Warrant Analysis**
- **Transportation Planning**
- **Corridor Studies**
- **Design of Traffic Control Measures**
- **Circulation and Parking Studies**
- **Preparation of Physical Alteration Permit Applications**



WETLANDS SERVICES, ENVIRONMENTAL STUDIES, AND PERMITTING

Pare Corporation (PARE) provides expert services in the professional specialties of wetlands identification/analysis, environmental studies, and permitting. Assisting our clients throughout the life of a project, our wetland scientists offer a full range of in-house capabilities including: wetland delineations; design and implementation of mitigation wetlands; engineering, design and construction of “treatment” wetlands for the improvement



of water quality; land use planning; permit acquisition; stream diversion and dewatering plans; erosion control; surface-water quality, sediment, and pollutant-loading analysis; and mitigation monitoring before and after development. Specific project tasks may include site descriptions; fieldwork; sampling points to analyze vegetation, hydrology, and soils; and supporting documentation.

PARE’s extensive knowledge of federal, state, and local permitting regulations allows us to provide early evaluation of the potential site constraints or regulatory requirements which may influence project design. Depending on the complexity of a project, we may initiate preliminary discussions with regulatory agencies to provide early coordination and review critical issues.

We then continue to assist our clients with the completion and filing of permit applications according to established regulatory requirements and following-up with the appropriate agencies. We also conduct project presentations and expert testimony before reviewing boards and the public.

PARE can assist our clients with permitting requirements at the local, state, and federal levels, including such agencies as the US Army Corps of Engineers; state environmental protection agencies; state departments of transportation; the Narragansett Bay Commission and various sewer authorities; the Coastal Resources Management Council (CRMC); and local zoning and planning boards. PARE also provides a number of Geographic Information System (GIS) services to support and enhance our environmental studies and permitting efforts.

REPRESENTATIVE SERVICES:

- **Freshwater and Coastal Wetlands Delineation & Identification of Coastal Features**
- **Site Constraints Identification and Mapping**
- **Impact Avoidance, Minimization and Mitigation**
- **Wetlands Restoration and Replication Plans**
- **Feasibility Studies and Identification of Required Permits**
- **Permit Application Preparation and Regulatory Agency Coordination**
- **Public Presentations and Expert Testimony**
- **Dune and Beach Restoration Plans and Shoreline Protection Design**
- **Floodplain Determinations and Compensatory Flood Storage Design**
- **Hydrologic and Hydraulic Studies**
- **Erosion and Sedimentation Controls and Dewatering Systems Design**
- **Project Incorporation of Best Management Practices (BMP’s)**
- **NEPA and MEPA Environmental Documentation, Section 106 and Section 4(f)**



SUBCONSULTANT QUALIFICATIONS

K3 Landscape Architecture

K₃ Landscape Architecture, LLC (K₃-LA) was founded in 2014 by Kathleen Ogden Fasser. K₃-LA provides full service landscape architecture to public- and private-sector clients. With over 20 years of professional experience in landscape and ecological planning and design, Principal Kathleen Ogden Fasser has successfully planned, designed and built creative, technically advanced solutions at many scales. K₃-LA is committed to our clients and believes strongly that project success is attained through sensitivity to the project context, active community engagement, collaboration with allied professionals, designs developed at the highest quality, and attention to project costs and schedule.

Public parks, streetscapes, regional trail systems and public engagement are the focus of K₃-LA's work. We have extensive experience working for various municipalities as well as state and federal agencies. Meeting the requirements of and working closely with MassDOT, Ms. Ogden Fasser's experience includes the design and construction of several Complete Streets and Green Streets projects. She has facilitated extensive public and stakeholder engagement efforts, such as 16 meetings in 6 months' time, that have resulted in both community consensus and Town approvals.

Services

K₃-LA provides services from design through construction. At the visioning and master planning level, K₃-LA collaborates strongly with the client and consultant team. We are diligent to understand all opportunities and constraints of the site and its unique context to develop a robust design palette. K₃-LA welcomes working with multi-disciplinary teams to establish a clear and comprehensive vision. We can develop broad master planning goals, set time-lines and phases, establish early costs estimates and identify potential funding sources.

K₃-LA builds from a knowledge base to develop rich design solutions that are commensurate with the project goals and budget. Every project design is developed through a rigorous process to ensure quality and fully coordinated solutions. K₃-LA provides construction documentation and construction observation services to ensure compelling execution of the project vision.



Holyoke Canalwalk Phase II (with VHB)



Pittsfield North Street Phase II (with VHB)



The Park at River's Edge (with Shadley)



Webster French Riverwalk (with VHB)

K₃ Landscape Architecture, LLC
 46 Arrowhead Road, Concord, MA 01742
 o: 978.341.8938 f: 978.341.8367 c: 617.571.0641
 Contact: Kathleen Ogden Fasser kathleen@k3-la.com

FIRM PROFILE

Knowing the value of public collaboration for enhanced design solutions, K3-LA provides stakeholder engagement services for public projects. K3-LA is uniquely qualified to identify Stakeholders, analyze and develop communication strategies and facilitate community design charrettes, creative workshops and break-out groups. K3-LA believes in the development of unique methods for the engagement of diverse communities and age groups.

Design Philosophy

At K3-LA, landscape resilience is not a trend but moral and design mandate. K3-LA believes in regenerative design solutions to achieve a balance between the built and natural environments. Where feasible, our designs incorporate technically viable solutions for stormwater management, landscape succession, re-use of local and natural materials, and re-purposing existing infrastructure. K3-LA looks for opportunities in every project to design landscapes that will be pliant to changes in the environment.

K3-LA believes in lifespan solutions for every space. Whether designing engaging and educational spaces for the young, or healing and memory-evoking spaces for elders, K3-LA ensures that all sites can be accessed and enjoyed by people of all ages and abilities. K3-LA thinks beyond handicapped accessibility, and develops solutions that creatively provide social equity whether through multiple modes of transportation; or experiential access through a variety of topography, textures, seating or socializing.

K3-LA focuses on the ultimate human experience of our landscapes. Avoiding ego-centric designs, K3-LA strives to develop design solutions that reflect each unique client and community. K3-LA finds professional satisfaction in landscapes that are inviting to ALL people; spaces where ALL people can find their unique comfort and experiences where ALL people can feel represented through the expression of nature, art and culture.



Bangor Railroad Street (with CRJA)



Public Workshop
The Great Road, Bedford (with VHB)



Stakeholder Engagement,
Skatepark, Pittsfield (with VHB)



The Great Road Master Plan, Bedford, MA (with VHB)

PHASE II HOLYOKE CANALWALK

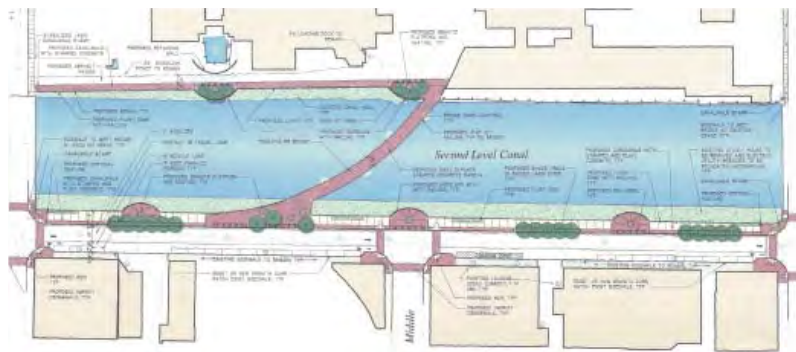
client: City of Holyoke, MA, Office of Planning and Development

completion: 2014

project features:

LA prime of all consultants
Community and Stakeholder Engagement
Regional Trail Connections
Complete Streets Design
MassDOT Coordination and Submittals

Phase II of the Canalwalk is designated as a major element of the City's downtown revitalization efforts. Construction of this phase, managed by the Massachusetts Department of Transportation (MassDOT) includes both sides of the Second Level Canal and is in keeping with Phase One of the Canalwalk. The improvements along Race Street reflect the input from the adjacent businesses and artist community. Elements reminiscent of the site as a mill city include large granite mill stones for seating, pavement stamping with the heritage logo and wood grain along the abandoned railroad tracks which are converted to a pedestrian crossing. This crossing connects both sides of Second Level Canal and provides previously unseen views of this unique canal system quintessential to Holyoke. Bicycles are accommodated on-road through this section of the trail and the wide sidewalk provides seating areas, planting and two iconic vertical features that allow for art display. (with VHB)



NORTH STREET STREETSCAPE

client: City of Pittsfield, MA
Community Development
Department

completion: 2012

project features:

Complete Streets
Green Infrastructure
Universal Accessibility
Community Engagement
Economic Development
Wayfinding
Design through Construction

Pittsfield broke new ground with the implementation of Green Street retrofits for stormwater management, which are aligned with its urban revitalization goals of pedestrian safety, traffic calming, aesthetics and wayfinding. The North Street Streetscape project included green infrastructure plant beds in this New England, urbanized corridor. While concerns relative to proper design and seasonal maintenance requirements are often a hurdle in the northeast, this project received both the City's and MassDOT's support and construction in 2012 to make it one of the first urban green infrastructure retrofits in the Northeast. This 'Complete Street' has transformed the center of Pittsfield into a more vibrant pedestrian and retail space. This downtown corridor re-design strengthens a pedestrian and bicycle oriented environment with linkages to the greater Berkshire County community. The streetscape supports downtown businesses, the growing tourism industry and celebrates the local heritage and artist community. (with VHB)



MOTOR PARKWAY TRAIL

client: Nassau County
Department of Public Works, NY

completion: 2013

project features:

Stakeholder Engagement
Regional Trail Design
AASHTO compliant
Wayfinding and Branding
Design through Phase I

awards:

ACEC-New York Engineering
Silver Award for Excellence in the
Category of Studies, Research
and Consulting

ASCE-Long Island Project of the
Year

The Master Plan for the Motor Parkway Trail development is an adaptive reuse of the historic Long Island Motor Parkway into a non-motorized alternative transportation corridor. The project included an extensive inventory of existing conditions, analysis of alternative trail alignments, and design of an accessible, historically significant easily maintainable trail for this unique 27 mile respite within urban/suburban communities. Leading a large client working committee with representatives from 11 stakeholder groups and public agencies, a vision was developed for the full corridor and an implementation plan for phase one construction was identified. The project also resulted in photo documentation of all 27 miles of the historic alignment and identified abutter encroachments on the County right-of-way. Trail details were developed to meet all ADA and AASHTO requirements and incorporated unique approaches to trail/roadway crossings that provided for safety, sightlines and gateway aesthetics. (with VHB)



MOTOR PARKWAY Trail

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS

- Project Name
- VisionPlan Goals
- Site Analysis
- Trail Alternatives
- Proposed Motor Parkway Trail
- Trail Details
- Meetings
- Acknowledgements
- Contact
- Links

Project Background

History does have a way of repeating itself.

The Long Island Motor Parkway was originally built to provide a form of recreation for William K. Vanderbilt Jr., who wanted a landscaped parkway to drive and view his vehicles. It also provided an important vehicular connection from Queens through Nassau County to Suffolk County. Whether horses are driving the current initiative to create the Motor Parkway Trail, but on a different scale.

[Proposed Motor Parkway Trail \(Click image to view high-resolution Adobe PDF file\)](#)

The Nassau County Department of Public Works is leading this planning process to provide the framework to redevelop portions of the Long Island Motor Parkway as the Motor Parkway Trail for non-motorized uses. This process will result in a Vision Plan that, when implemented, the new Motor Parkway Trail will once again provide important recreational recreation through Nassau County, provide that for future and historic. Furthermore, the Trail will provide an important alternative transportation link between communities, open across resources and employment centers for those wishing to walk or bike through Nassau County to these destinations. Therefore, a redeveloped Motor Parkway Trail can once again become an important recreational and transportation resource for the County.

WEBSTER RIVERWALK MASTER PLAN

client: Town of Webster, MA
Office of Community
Development

completion: 2012

project features:
Stakeholder Engagement
Regional Trail Connections
Downtown Pedestrian Route
Shoreline stabilization
Master Planning

The Webster Riverwalk Master Plan is the manifestation of a regional vision known as The French River Connection: to become a resource that is used, enjoyed, and treasured by residents and visitors to the French River region. The Town of Webster first completed French River Park, valued for its visibility and passive recreation within the downtown and then the first phase of the riverfront trail. The trail build-out will connect the downtown along Main Street with a pedestrian loop that runs along the river. The Master Plan includes a phased implementation plan, environmental assessment of permitting and costs, proposed shoreline stabilization/protection, removal of invasive plants, overlooks, buffer planting, seating and interpretive signage. (with VHB)



THE PARK AT RIVER'S EDGE

client: Preotle Lane & Assoc, Ltd

completion: 2008

project features:

Community Engagement
Brownfields Reclamation
Wetland Restoration
Regional Trail Connections
Design through Construction

awards:

James D.P. Farrell Brownfields
Project of the Year,
Environmental Business Council
Design Honor Award, BSLA

The Park at River's Edge at the Medford/Malden town line included an extensive environmental clean-up of this Brownfield site which has opened up views and increased access to the water's edge. The design includes new pedestrian walkways, regional bikeway connections, interpretive features, an overlook, entirely new riverbank planting and stabilization, and extensive native upland planting on this previously denuded site. The contemporary design of the 8-acre public riverfront park is strongly identifiable by its undulating land forms and sinuous monolithic granite seat walls. The design, detailing, micro-grading and planting plan for restored and new wetlands has greatly increased the biodiversity and habitat for the numerous migratory birds that move through this riverine corridor. (with Shadley Associates)



PENOBSCOT RIVERFRONT DEVELOPMENT

client: City of Bangor, ME

completion: 2000-2008

project features:

LA prime of all consultants
Community Engagement
Brownfields Reclamation
Regional Trail Connections
Design through Construction

The long-term vision for the redevelopment of the Penobscot Riverfront in Bangor, ME includes mixed-used development and extensive public re-use of this aging waterfront. A 'Complete Streets' approach was embraced in the construction of major infrastructure and streetscape improvements in each of the first two phases which provided for accessibly, safe and enjoyable connections from downtown to the waterfront. The third phase included the waterfront promenade, upgrades to the bulkhead, bank stabilization and a high-speed ferry landing that now provides alternative transportation to regional sites. The revitalized waterfront is marked by four 40' -tall kinetic gateway features. Visitors can view interpretive plaques, enjoy multiple seating areas and views of the Penobscot River. The first phase of the waterfront park has been designed to include a new sprayground, a playground, public restrooms, event staging, a multi-use trail, and green infrastructure for stormwater management through rain gardens and infiltration basins. (with Shadley Associates)



CAPISIC BROOK GREENWAY MASTER PLAN

client: City of Portland, ME

completion: 2002

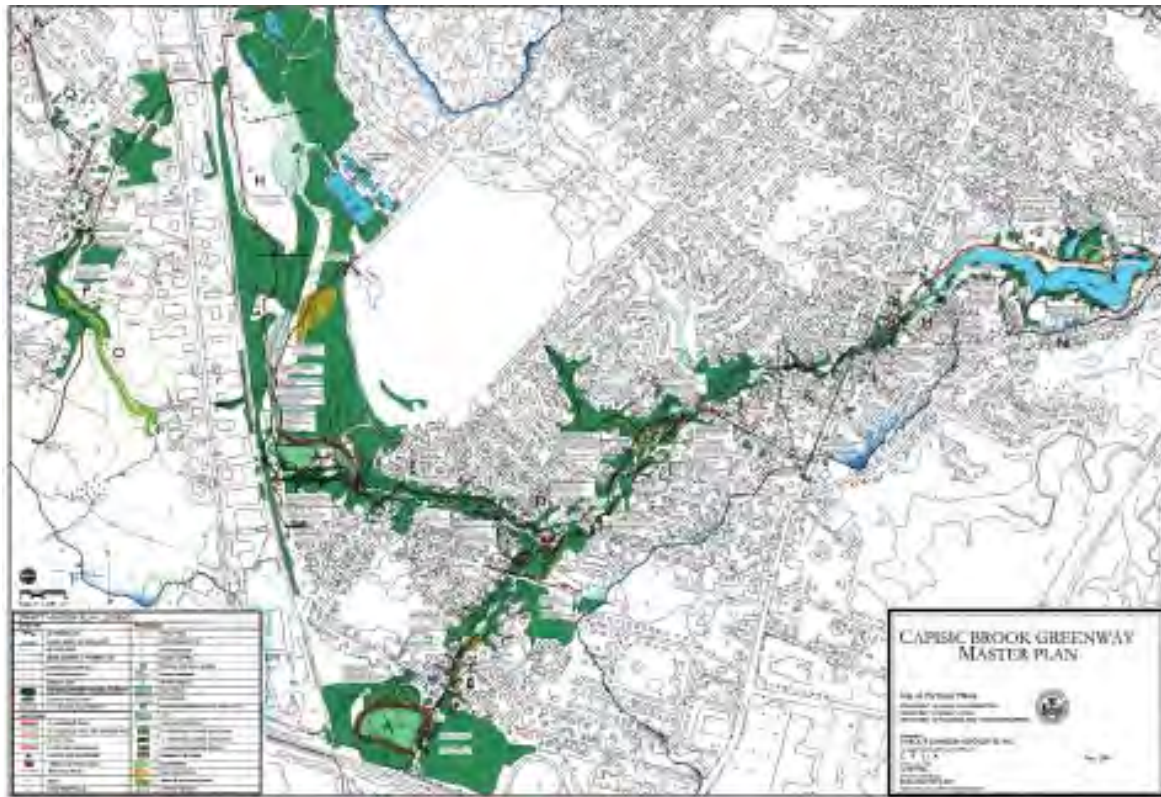
project features:

LA prime of all consultants
Community Engagement
Regional Connections
Green Infrastructure
Environmental Restoration

award:

Boston Society of Landscape
Architects Planning Merit
Award

The Capisic Brook Greenway Master Plan for the City of Portland, ME maximizes the opportunities provided to the City through the mandate for CSO and stormwater abatement by integrating other community goals for recreation, plant, wildlife and stream corridor enhancements. The Greenway includes a universally accessible trail system that doubles as a narrow maintenance access route. The trail improves pedestrian access to the stream and its adjacent wetlands and incorporates interpretive signage and outdoor education stations connected to the local schools. The Master Plan makes significant recommendations to restore the natural geomorphology of the stream corridor and floodplains to better handle the peak stormwater flows, thereby avoiding expected major channelization. (with CRJA)



APPENDIX

REQUIRED FORMS



APPENDICES

E-VERIFY FORMS



APPENDICES

INSURANCE COVERAGES



APPENDICES

AFFIRMATIVE ACTION PLAN



APPENDIX D

REQUEST FOR PROPOSALS

BELMONT COMMUNITY PATH FEASIBILITY STUDY

CERTIFICATION OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

April 22, 2016

Date

Pare Corporation

Name of Entity submitting bid, whether individual, partnership, corporation, joint venture or other business or legal entity.

Corporation

Type of Entity

10 Lincoln Road, Suite 210


Address

Foxboro, MA 02035

508-543-1755

Telephone

By



Authorized signature of entity submitting proposal

John P. Shevlin, P.E., Senior Vice President

Signer's duly authorized position, office or title

APPENDIX E

REQUEST FOR PROPOSALS

BELMONT COMMUNITY PATH FEASIBILITY STUDY

STATEMENT OF TAX COMPLIANCE

Pursuant to M.G.L. Chapter 62c, Section 49A, I certify under the penalties of perjury that this firm, to the best knowledge and belief, has filed all State Tax returns and paid all State Taxes required under law.

05-0349690

Federal Identification Tax Number

Pare Corporation

Name of Entity submitting bid, whether individual, partnership, corporation, joint venture or other business or legal entity.

Corporation

Type of Entity

10 Lincoln Road, Suite 210

Address

Foxboro, MA 02035

508-543-1755

Telephone

By



Authorized signature of entity submitting proposal

John P. Shevlin, P.E., Senior Vice President

Signer's duly authorized position, office or title

END OF PROPOSAL

