City of Bangor Maine

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PUBLIC SERVICES DEPARTMENT – OPERATION and MAINTENANCE
Dana R.Wardwell, Director

Date: August 26, 2014
To: Infrastructure Committee
From: Dana Wardwell

We received one RFP from TY LIN International of Falmouth for the Broadway Corridor study which includes Broadway from Center Street to Grandview Ave. At the August 19 BACTS meeting the committee voted to award a contract to TY LIN. Attached please find a summary of their proposal and a proposed schedule. I will be at the August 26, 2014 IC meeting to answer questions and note suggestions you may have.

INTODUCTION

Why Select T.Y. Lin International?

Locally based experts

Significant experience with similar studies

Passion for the work

Award- winning work

Experience assisting with securing funds for design and construction

T.Y. Lin International (TYLI) is pleased to propose on the Broadway Corridor Study and looks forward to ways in which we can lend our expertise in this area to assist BACTS and the City of Bangor in reaching their goals for this important corridor.

TYLI has significant and award-winning experience providing similar studies to other municipalities such as: North Windham, Wiscasset, Gray, Portland, Auburn and Falmouth, all of which are detailed in Section B.

We have assembled a local, Maine-based team that has worked successfully together on several studies. Responsibilities are as follows: **TYLI** – Project Management, Transportation Planning & Engineering, Public Outreach. **MRLD** – Land Use Projections, Zoning, Public Outreach, Support Graphics; **Kevin Hooper Assoc.** – Travel Demand Forecasting. Further details on our team are outlined in Section B.

Locally Based Experts

With offices in Falmouth and Yarmouth our team can attend meetings and interact with City/BACTS staff easily and affordably.

Significant Corridor Study Experience

TYLI has conducted eight similar studies in Maine for the towns of: Portland, Auburn, Wiscasset, Falmouth, North Windham and Gray.

Passion for the Work

TYLI's commitment to this type of work is evidenced by our membership and active participation with the following organizations: National Complete Streets Coalition, Institute of Transportation Engineers (New England), Bicycle Coalition of Maine and former member of PACTS Technical Committee.

Award-Winning Work

TYLI and MRLD recently received the "2014 Plan of the Year" from the Maine Association of Planners for their work on North Windham's "21st Century Downtown Plan".

Experience assisting clients with securing funds for design and construction

TYLI has assisted clients such as the City of Portland and PACTS in seeking funding opportunities through the TIP process, CDBG funding, Tiger Grants and MaineDOT funding sources.

A recent site walk of the study area produced the following observations:

Pedestrian safety concerns

Backed up traffic causes access issues for businesses

Traffic signal spacing issues

ADA compliance needs improvement

Pedestrian facilities should be improved

Properties with access management issues

Husson University access issues

In preparation for this proposal we recently walked the study area and met with BACTS and City staff to gain a better understanding of how best we can serve the City's needs. We made the following observations:

❖Safety problems are prevalent throughout the project corridor. According to the most recent MaineDOT Crash information, several locations are classified as High Crash Locations, including the I-95 Ramp intersections, Falvey Street, Shopping Center/McDonald' s and the roadway segment between Walgreens and School Street.
❖During peak periods traffic vehicle queuing blocks the entrance to McDonald's creating gridlock conditions.
❖Traffic signal spacing between I-95, Alden Street, and Falvey Street create traffic mobility problems.
❖Many properties have driveways that do not comply with national practice standards on access management.
❖Pedestrian facilities are marginal and do not promote walking in the corridor.
❖Broadway is not a bicycle friendly corridor and no facilities are provided. Overall the corridor would rank poorly on bicycle level of service.
❖Some properties do have inter-parcel driveway connections that allow for use of nearby traffic signals, but the majority of driveways only have access directly on Broadway.
❖Pedestrian facilities are not ADA compliant.
❖Long traffic signal cycle lengths, while beneficial to moving through vehicle traffic, results in very long wait times for pedestrians.
❖The corridor is serviced by Bangor area transit and must accommodate bus stops and accessibility to the stops.
❖Bangor High School is located north of the study corridor and generates traffic surges at times that may not coincide with commuter peak times.
❖Husson University's primary access is via Broadway and future growth as well as event traffic impacts will need to be a key consideration. Alternative access routings will be a study component.

We have taken a focused look at the scope presented in the RFP and have addressed and modified each Task below.

TASK 1 – DATA COLLECTION & EXISTING CONDITIONS ANALYSIS

Data Collection

Base Mapping

We will prepare reproducible base mapping that will illustrate appropriate information including ROW, driveways, buildings, and will be available from City of Bangor sources (it is our understanding that updated GIS based aerial mapping will become available in October). For mapping purposes we would assume a scale of 1"=500 feet for the entire study area. For areas like intersections, where more detail is needed, a scale of 1"=50 feet is assumed.

Review of Documents

Obtain and review all relevant documents within the study area. Including: Traffic Impact studies, comprehensive plan, etc.

Conduct a Physical Roadway Inventory -

- Roadway lane widths
- Number of lanes
- Traffic signal phasing and timing
- Intersection characteristics
- Regulatory signs
- Sidewalks and crosswalks
- Bus stops
- Driveway characteristics
- Specific land use and business operations
- Drainage
- Lighting
- General Pavement Condition
- Bicycle accommodations
- Photograph Log

Assemble All Existing Traffic Volume Counts in the Area

This data will be used to assess traffic operations at locations where modifications may impact level of service and delay. It is assumed that all traffic counts will be provided by BACTS. For the study we have assumed traffic count information will initially be provided at the following intersections (Additional intersections may be added as the study progresses and according to BACTS, they have the ability to conduct additional counts, as necessary).

- Broadway/I-95 NB Ramp/Center Street
- Broadway/I-95 SB Ramps

- Broadway/Alden Street
- Broadway/Falvey Street
- Broadway/Shopping Center/McDonald's
- Broadway/School Street
- Broadway/Husson Avenue
- Broadway/Grandview Avenue

Obtain Crash Data from MaineDOT

We will obtain crash data for the study area for the most recent three-year period for use in evaluating High Crash Locations.

Obtain Policies

We will obtain and document State and City Policies regarding access management, roadway design, zoning, land use, site plan design standards, etc.

Inventory of Built Forms

We will conduct an inventory of built forms and the scale of development along the corridor.

Inventory of Land Uses

Inventories of different types of land uses along and adjacent to the corridor such as civic, residential and commercial will be performed.

Land Use Pattern Mapping

Different types of land use patterns (mainly street layouts within the study area) will be mapped for visual presentation of information.

Review of Standards

Review of existing zones and required dimensional and performance standards in the study area will be performed.

Existing Conditions Analysis

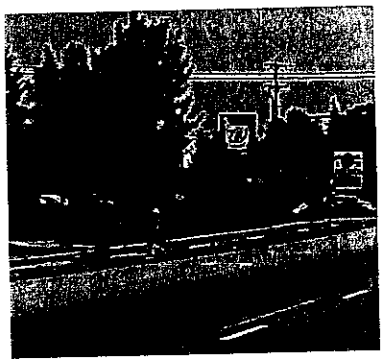
The Existing Conditions Analysis will consist of the following:

Existing Transportation Performance Analysis

❖Present existing traffic volumes. This will include daily volumes, turning movement volumes during peak hours, and seasonal traffic conditions.

❖Summarize the information for High Crash Locations and other locations that have high crash frequencies. For these identified locations, we will develop collision diagrams that note existing crash patterns and contributing factors. This data will prove helpful in noting whether improvement options are expected to ease safety problems.

❖A level of service analysis will be conducted at key intersections according to methods contained in the Highway Capacity Manual. For this project a SimTraffic model will be developed for the corridor to estimate vehicle delay and queuing. This model will best serve the evaluation due to closely spaced signalized intersections and how spillback vehicle queuing impacts nearby intersections



Access Management

We will conduct an inventory of driveways along Broadway that do not comply with local, state, and national standards from an access management perspective. This effort will identify deficiencies such as driveway width, radii, driveway spacing, channelization, throat depth (for storing vehicles), etc.

Pedestrian Facility Analysis

We will conduct an inventory and analyze pedestrian facilities to include sidewalk presence, sidewalk width, material, ADA compliance, connections between Broadway and commercial land uses, etc.

Bicycle Facility Analysis

We will conduct an inventory and analyze on road bicycle accommodations including shoulder condition (width, availability), wide curb-side lane, traffic signal detection of bicycles, internal development linkages, shared-use opportunities, signage, etc.

Identification of Nodal Pedestrian Sheds to Reinforce and Encourage Walkable and Mixed-Use, Interconnected Neighborhoods

This information will be documented in illustrative aerial diagrams and summary text.

Critical Review of Existing Zoning and Standards

We will evaluate how these requirements either encourage or discourage complete streets, density, diversity of uses and housing types, walkability, neighborhood connectivity, and excellence in design. This research will be summarized in a memorandum.

Opportunities and Constraints Mapping

Mapping will be developed of existing street networks surrounding the corridor demonstrating opportunities to create neighborhoods rather than typical service or parallel roads. The goal is to find as many opportunities to integrate the corridor into a rich matrix of streets maximizing available lands and infrastructure promoting smart growth

reasonable likelihood of being implemented in the near future. An inventory of these initiatives should include (to the extent available) land use type, square footage, number of units, number of parking spaces, anticipated traffic generation, and public infrastructure improvements including sanitary sewers and water service.

❖Bangor I-95 Corridor Study – Prepared by Maine DOT in January 2011.

❖Long-Range Transportation Plans – The 2011 BACTS Long-Range Transportation Plan including travel demand, land use and growth projections which were prepared by BACTS.

❖Community Development Plans – The latest City of Bangor Comprehensive Plan should be consulted.

❖Husson University Campus Plan.

Future Traffic Operations Assessment

A level of service analysis will be conducted for the future No-Build year at key intersections and using the SimTraffic model developed in the existing conditions analysis.

TASK 2 DELIVERABLES:

❖Future Conditions Technical Memorandum

❖A written description of the methodology and graphical depiction (at an appropriate scale) of future trends for analysis.

❖Potential build-out scenario graphics showing future land use patterns integrated with best management practices for mobility and access management.

TASK 3/4 – TRAFFIC SYSTEM MANAGEMENT PLAN/TRANSPORTATION IMPROVEMENT PLAN

We have combined Tasks 3 and 4, as presented in the RFP, to reflect how we would expect the study to progress and will include the following:

❖Short-term and long-range conceptual roadway improvements alternatives will be identified. The improvements strategies will include an analysis and screening of improvement alternatives, access

management recommendations, a scheduled series of recommendations for TSM improvements in the corridor, and a written report with appropriate mapping materials and diagrams.

❖Evaluation of the existing roadway and traffic management systems to handle existing and future traffic demands up to 2025 (e.g. at what point/amount of traffic the current systems will need to be upgraded) will be performed. We recommend one future horizon for evaluation. The SimTraffic model will be used to evaluate future traffic performance.

❖Future AM and PM peak hour traffic volumes will be developed for up to two improvement alternatives that significantly change traffic patterns from those estimated in Task 2.

❖Evaluation of potential options and recommended traffic management system upgrades once the existing traffic management systems can no longer satisfy the future traffic demands (e.g. 3-lane or 5-lane roadway, additional traffic signals, consolidation of entrances, others) will be performed;

❖Planning estimate of costs for potential future traffic management system upgrades to be used in development of projects for inclusion in future BACTS TIPs will be provided. These cost estimates will be provided for all proposed recommended improvements based on unit costs and right-of-way impacts. In addition, we will analyze the costs/benefits of accomplishing each proposed improvement according to standard planning study methods.

❖We will prioritize improvements (both short and long-term) in cooperation with the City of Bangor and BACTS.

❖The recommended plan will be developed in electronic map form, showing all elements of the plan, including the depiction of existing and proposed access points, traffic signal locations, and all other physical, spatial, and operational aspects of the plan, such as proposed lane changes, intersection modifications, driveway actions, channelization, signal modification, turn prohibitions, etc. We will identify any sensitive land areas (from City or State available sources) and locate those areas on a map. As noted in the Task 1, an overall corridor-wide plan will be prepared at approximately 1″ to 500' scale with intersections (with

Context Sensitive Solutions (CSS) Value and Mission Statement:

The TYLI team will work with Staff and the Stakeholders to draft a CSS Mission and Value Statement reflecting the goals of not only the Study, but other documents such as the Comprehensive Plan. The Value and Mission Statement will identify issues, goals and metrics that will guide the Study and provide a baseline for evaluating the recommended mobility improvements.

TSM and recommended traffic management measures) type improvements provided at approximately 1" to 50. We will recommend how each improvement interfaces with the Maine Department of Transportation's Integrated Transportation Decision-making process and the recommended process to go forward with each improvement. (Because our scope of work is CSS based, it is consistent with this MaineDOT process).

❖Recommended build-out scenarios for land uses and future street networks, with the goal of reducing congestion, protecting the integrity of nearby residential neighborhoods and minimizing the impact of lot-by-lot frontage development on the corridor.

❖The improvement plan will include access management improvements and will seek to provide appropriate access between the public roadway and all parcels of record in the study corridor. This will not only include driveway conditions on Broadway, but also include inter-parcel connections and parallel roadway options. We anticipate improvements to include driveway consolidation, narrowing, elimination, relocating driveway, etc. The plan will also include access management regulatory requirements relating to the zoning ordinance, including an overlay zone if deemed appropriate, subdivision and site plan regulations, the driveway permitting process, etc.

❖The plan will include how these recommendations would affect BACTS and the City of Bangor's goals for transit, bicycling and pedestrian activity in the corridor. We believe the project will need to include a Complete Streets evaluation and thus identifying pedestrian, bicycle, transit facility improvements will be a critical part of identifying a recommended plan for the corridor. For pedestrians we will identify sidewalk needs, ADA compliance, crosswalks, pedestrian traffic signal phasing and equipment, and sidewalk connectivity to abutting businesses. For bicycles we will review on-road bicycle conditions and whether any enhancements to the current condition are possible. For example a three-lane road section could allow for marked bicycle lanes - but with what impact to traffic flow. The study will answer this question. And lastly, identifying transit stop locations and providing space for shelters and other service needs will be included.

TASK 3/4 DELIVERABLES:

A Traffic System Management Plan/Transportation Improvement Plan with recommendations and graphics, as described above.

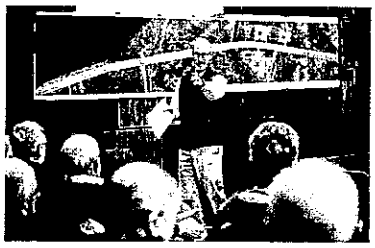
TASK 5 – RECOMMENDATIONS

The TYLI team will produce a Technical Memorandum that can be used to support the BACTS TIP process for the prioritization of funded projects.

TASK 5 DELIVERABLES:

TYLI will submit an electronic copy of the final report for this project in Microsoft Word 2010 or 2013 format along with ten (10) hard copies that documents observations, evaluations, findings, and recommendations, including the deliverables from Tasks 2-4 above.

TASK 6 – MEETINGS



Public involvement in large-scale corridor planning efforts is essential and the Project Team appreciates that the City of Bangor/BACTS will take a lead role in developing a process, establishing a Steering Committee and identifying key stakeholders in order for the effort to be transparent and politically sound.

The Project Team is recommending that the Corridor Study be a Context Sensitive Solution based process. CSS planning evolved from the desire of communities to have more structured involvement in the role of transportation planning on the impact of communities in terms of local character, the economy, the environment, historic trends, and future opportunities. The Project Team firmly believes in a CSS based approach as a way to engage and empower the community. Thus, we will be looking to work with project staff at the beginning of the process to establish a Values and Mission Statement that states the primary issues and the vision and metrics for developing responsive solutions.

Prior to the first public meeting, the Steering Committee should have developed a Values and Mission statement that will be presented along with the existing conditions analysis. The Values and Mission statement is not developed from one perspective, but it is assumed that the Steering Committee reflects a diversity of perspectives.

The Project Team believes that it is important to establish a public process with direct input from City staff and Steering Committee, but in

general it is recommended to hold a kick-off meeting where everyone is invited to identify concerns and opportunities. The exact format of this meeting is to be determined, but the Project Team has organized and facilitated numerous workshops and will assist the City, BACTS and the Steering Committee in the most appropriate manner.

The Project Team also understands the importance of meeting with key stakeholders. It is recommended that the most efficient way to handle one-on-one stakeholder meetings is to schedule them during the course of one day and by constituent groups.

A second public meeting is recommended after development of the Draft Transportation Improvement Plan, where the Plan will be presented for review. It is assumed that the plan will be available through the City website as well as hard copies at locations such as City Hall and library.

In additional to the Steering Committee and Public meetings, it is assumed that an additional four (4) meetings will be scheduled with staff, the BACTS Committees and/or Bangor Infrastructure Committee, Bangor Planning Board, and Bangor Council.

In summary, the Project Team firmly believes the CSS methodology is a structured, informative and transparent process that builds consensus and integrates transportation improvements, land use and community concern.

Proposed schedule outlining milestones and deliverables:

2014

September 1 -	Notice to Proceed
September 1 –	Begin Data Collection
September 11 -	Kick-Off Meeting with City/BACTS
October 17	Complete Existing Conditions Technical Memorandum
October 23	Advisory Committee Meeting #1 to Prepare for Public Meeting and Review Findings of Existing Conditions TM
November 6 –	Public Meeting #1
November 11 –	City/BACTS Meeting to Review Future Trend Analysis Methods
November 30 –	Complete Future Trend Analysis TM
December 9 –	Advisory Committee Meeting #2 to Review Future Trends Analysis and Review Possible Improvements Strategies
December 15-19 –	Meet with Businesses and Property Owners

2015

January 15 –	City Staff/BACTS Meeting To Review Improvement Scenarios for Analysis
February 20 –	Submission of Draft Transportation Improvement Plan
March 5 –	Advisory Committee Meeting #3 to Review the Draft Transportation Improvement Plan and Prepare for Public Meeting #2
March 19 –	Public Meeting #2 to Present the Draft Transportation Improvement Plan
March 31 –	Advisory Committee Meeting #4 to Review Public Meeting Feedback
April –	Present Plan to City Boards
May –	Complete Final Transportation Improvement Plan