AGENDA ITEM: F
Date: November 4, 2013

MEETING ITEM COMMENTARY

AGENDA ITEM: Preliminary Interchange Justification Report

STAFF RESOURCE: Richard Michaud, City Administrator

COUNCIL RESOURCE: Councilor Eric Cote

BACKGROUND: The City of Saco and the Town of Scarborough are exploring the establishment of a new I-95 interchange at or in the vicinity of the Saco/Scarborough municipal boundary. The purpose of this preliminary study is to coordinate the Maine Turnpike Authority (MTA) and the Maine Department of Transportation (MDOT) to preliminarily identify potential locations for a new interchange, which could be a strategic infrastructure investment to direct regional travel to the Maine Turnpike, preserve the capacity of local and state routes, and better accommodate future growth. This report is intended to comply with the MTA’s “Policy for Initiating Studies of Existing and New Interchange and Access Roads” to enable the MTA and MDOT to determine whether a more comprehensive study of an interchange is warranted.

DOCUMENT HISTORY:
- Workshop 10/28/2013

EXHIBITS: Rt 112 Traffic Corridor
Ltr Mills to Mayor 02/16/12
Dev Director Lt to S. Devlin 08/08/2013
Rt 1 – Corridor Study 2005

RECOMMENATION:

SUGGESTED MOTION: “Be it ordered that the City Council accept the document titled, ‘Preliminary Interchange Justification Report, July 2013,’ and further move to request the MTA to conduct an Interchange Study.”

“I move to approve the order”.

G:\0001-Legislative-City Council\Meeting and Workshop\2013\Mtg & Wkshp 11 04 2013\Preliminary Interchange Justification Report.doc
11/1/2013  -  0 -
Joint Council meeting 1/7/13
Rt. 112 Traffic Corridor
Letter from Peter Mills to Mark Johnston 2/16/12
Letter from Peter Morelli to Sarah Devlin 8/8/12

Preliminary Interchange Justification Report July 2013
Rt. 112 Corridor Study 2005

Rt. 112 Traffic Corridor

<table>
<thead>
<tr>
<th>Problem</th>
<th>Approach</th>
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| Growth to the west of the turnpike, both in Saco and in surrounding communities is increasing commuter traffic to the turnpike, through the Rt.112 corridor. This creates congestion on Rt. 112, as well as turning movement issues, particularly at Saco Middle School, Jenkins Rd, and Garfield St. | • 2005 - Rte 112 Corridor Traffic Study completed for mitigating short term traffic impacts.  
• 2009 - Tri-Community Transportation Study  
• Rte 112 Corridor Mitigation Fee Collected within the Development Area  
• Design completed for improvements at the corner of Industrial Park Rd  
• 2013 - Interchange Justification Report (collaborative effort Saco/Scarborough) |

<table>
<thead>
<tr>
<th>Implementation Milestones</th>
<th>Next Steps</th>
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| • Extended Rt. 112 eastbound turn lane approaching Industrial Park Rd.  
• Constructed left turn lane exiting Garfield St.  
• Constructed loop road access to Saco Middle School.  
• Installed advanced traffic management signals at Industrial Park Rd and the I-195 Ramp.  
• Installed pedestrian signal at Jenkins Rd to assist with pedestrian access to Saco Middle School.  
• Added right turn slip-lane for westbound traffic on North St heading to Industrial Park Rd. | • Update to the 2005 Rte 112 Corridor Traffic Study to include more details associated with effects of Rte 5 accessing I-95 through the Rt. 112 corridor.  
• Assess benefit and cost of implementing short and long-term recommendations from the Studies.  
• Formulate a construction plan for short-term measures and a funding plan to implement long-term improvements to the area.  
• Continue to pursue MTA on options for alternative and additional connections to the Turnpike |
February 16, 2012

Mark D. Johnston, Mayor
City of Saco
300 Main Street
Saco, Maine 04072

Dear Mayor Johnston,

Congratulations on your election and thank you for hosting our meeting on January 23.

Enclosed is the MTA’s Interchange Policy referred to by Conrad Welzel during our discussion. It maps out the actions a community may take to initiate a study. You may already be familiar with it.

MTA staff are collecting past studies to forward to you. We have already met with DOT (Herb Thompson and Bruce Vaa Notte) to ask that they focus on this issue with us. I encourage you to follow through with your plan to obtain input from other communities within the region.

While the MTA’s present 30 year plan allocates no money for an additional Saco interchange, the Saco region is one of the fastest growing areas in Maine. Because the Turnpike section from Saco to South Portland is already the state’s busiest highway, it is highly appropriate for local planners to coordinate with MTA and DOT to get a better handle on future growth and begin thinking carefully about where the solutions lie.

The Tri-Community Study done by Gorrill-Palmer in 2010 provides an appropriate launching point.

It is a shame that housing development northwest of the Turnpike has made it infeasible to extend I-195 across the Pike as was originally intended. This highlights why development planning must go hand in hand with planning for future highways and interchanges. The two are highly interdependent.

If Saco will initiate compliance with the conditions spelled out in the MTA Interchange Policy, it will accelerate the process and prepare us better for another meeting to determine a course of action.

Yours truly,

Peter Mills
August 8, 2012

Sara Devlin  
Maine Turnpike Authority  
2360 Congress Street  
Portland Maine 04102

Dear Sara,

Thank you for your June 22 letter to Rick Michaud asking for information for the MTA’s system wide traffic operations planning process.

Enclosed are verbatim excerpts related to the Maine Turnpike from three recent documents: the 2011 Comprehensive Plan for the city; the 2010 Tri-Community Transportation Plan; and the 2012 Economic Development Strategy.

I think I can summarize with the following:

- The city, along with the town of Scarborough seeks improved access to the northern Route 1 area, where we have a great amount of development on the drawing boards and Scarborough already feels burdened by traffic (together we have engaged Gorrill Palmer to work on this);
- The City would like to explore the use of the Turnpike, particularly old exit 5, as a way of handling some downtown congestion and western access;
- The City would like to explore whether changes in the tolling system might provide additional local relief from congestion;
- The City would like to explore improved access to the west, where fast growing York County towns are sending commuters through Saco, especially on Routes 5 and 112. In addition, it may be worth noting two other items:
  - the Saco park and ride lot will not be adequate for long;
  - Traffic exiting the Turnpike to I-95 and Industrial Park Road backs up into travel lanes many evenings.

The City hopes to track the MTA planning process and we would like to keep Bob Hamblen, Rick Michaud, and myself on the email list for any information about the study. We would also like to learn about the structure of the study. Is there an advisory committee and regular meetings? Who is performing the analysis?

The snail mail version of this document includes the complete Comprehensive Plan.

Thanks for the opportunity to participate in this planning process.

Sincerely,

Peter F. Morelli

cc Bob Hamblen  
Rick Michaud  
Tyler Johnson  
Diane Doyle  
Tom Gorrill
AGENDA ITEM: F
Date: November 4, 2013

Preliminary Interchange Justification Report

*Mile 40 Interchange Project*
*Saco/Scarborough, Maine*

Prepared for Scarborough and Saco
by
Gorrill-Palmer Consulting Engineers, Inc.
in Association with Kevin Hooper Associates

July 2013
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Appendices:

- Conceptual Alternatives
- Traffic Forecasts

Executive Summary
The City of Saco and the Town of Scarborough are exploring the establishment of a new I-95 interchange at or in the vicinity of the Saco/Scarborough municipal boundary. The purpose of this preliminary study is to coordinate with the Maine Turnpike Authority (MTA) and the Maine Department of Transportation (MDOT) to preliminarily identify potential locations for a new interchange, which could be a strategic infrastructure investment to direct regional travel to the Maine Turnpike, preserve the capacity of local and state routes, and better accommodate future growth. This report is intended to comply with the MTA’s “Policy for Initiating Studies of Existing and New Interchanges and Access Roads” to enable the MTA and MDOT to determine whether a more comprehensive study of an interchange is warranted.

Working in partnership with municipal staff from both Saco and Scarborough, a statement of project purpose and need was drafted. The project purpose is to:

1. Enhance public safety;
2. Encourage regional traffic to use I-95 while enhancing local mobility and access, and preserving capacity along Route 1;
3. Enhance the pedestrian and multi-modal environment along US Route 1;
4. Avoid future costs and physical limitations of future Route 1 corridor improvements;
5. Support local and regional economic viability and growth;
6. Comply with the vision and strategies identified in the Saco and Scarborough Comprehensive Plans; and
7. Allow for strategic investments in the community and region.

There are significant potential economic development assets along Route 1 that may not be realized due to a limited ability to provide additional capacity along the existing corridor. This constraint is due, in part, to a significant amount of through-traffic, which contributes to congestion; particularly at key intersections including Dunstan Corner, Haigis Parkway, and Oak Hill. The goal of this project is to explore alternatives to achieve an enhanced transportation system with a more balanced distribution of traffic, resulting in a greater ability to maximize potential development assets along the Route 1 corridor.

The municipalities completed preliminary traffic forecast of the alternative which appears likely to serve and draw the most traffic and found that it reduced traffic at key points along the corridor by approximately 10% while providing additional opportunity for economic growth.
Introduction

A Preliminary Interchange Justification Report (PIJR) is required to document, on a preliminary basis, that the expenditure of additional MTA funds on a more comprehensive study is warranted. The study should document the following:

- Purpose and Need
- Consistency with Comprehensive Plan
- Previous Studies
- Alternatives
- Evaluation of Preliminary Alternatives
- Sensible Transportation Policy Act
- Public Participation

The proposed full access interchange on the Maine Turnpike would be located in the vicinity of mile 40 proximate to the Saco-Scarborough municipal boundary. There is an adjacent interchange approximately 4 miles to the south at (Exit 36) with I-195 in Saco and one approximately 2 miles to the north (Exit 42) that provides access to Payne Road and Haigis Parkway.

Under the preferred alternative, at Exit 40 the proposed interchange would utilize a connector road between Route 1 in Saco and Broadturn Road in Scarborough. This alternative would require a bridge over the Turnpike immediately south of the interchange. The preferred ramp design for this alternative is a partial cloverleaf. The selected Design Year for this project is 2035.

The following figure illustrates the traffic catchment area for the proposed Interchange.
Figure 1: Traffic Catchment Area for Proposed Interchange

The area shown in red is the area along the Maine Turnpike within which an interchange could be considered. The area in yellow is the area from which southbound traffic would likely be drawn and the area in blue is the northbound catchment area.

**Purpose and Need for Interchange**

A preliminary purpose and need statement for the proposed project is required to be submitted as part of the Maine Turnpike Authority’s “Policy for Initiating Studies of Existing and New Interchange and Access Roads”.

The following purpose and need statement was created based on discussions with the City of Saco, Town of Scarborough, and MTA, PACTS and MDOT staff. The purpose of the study, as identified by these stakeholders, is to:

1. Enhance public safety;

2. Encourage regional traffic to use I-95 while enhancing local mobility and access, and preserving capacity along Route 1;
3. Enhance the pedestrian and multi modal environment along US Route 1;

4. Avoid future costs and physical limitations of future Route 1 corridor improvements;

5. Support local and regional economic viability and growth;

6. Comply with the vision and strategies identified in the Saco and Scarborough Comprehensive Plans; and

7. Allow for strategic investments in the community and region.

The needs to be met by this project and upon which the effectiveness of the alternatives will be judged are as follows:

Public Safety

1. To reduce the number of crashes along the corridor; there are three high crash locations along the corridor;

2. To improve the safety of motorists, pedestrians and bicyclists along US Route 1;

3. To improve the safety along Route 112 from the I-195 overpass to Industrial Park Road in Saco;

4. To improve emergency response times for fire, police and ambulance due to poor levels of service in the vicinity of Dunstan Corner and Route 112.

Mobility and Access

1. To facilitate the safe movement of all travel modes within and through the Study Area;

2. To enable more regional traffic to use I-95 to avoid future improvements along Routes 1 and 112 as well as intersecting collector streets;

3. To reduce delay for residents of neighborhoods in Saco, Scarborough, Buxton and Hollis west of I-95 traveling along North Street and the Route 1 corridors;

4. To reduce congestion along Route 112 in the vicinity of the Industrial Park Road, which significantly impedes left turn movements along Route 112 from Jenkins Road to Franklin Street;

5. To improve transportation connections within the municipalities of Saco, Scarborough, and communities to the west of I-95 such as Buxton and Hollis;
6. To encourage more pedestrian and other multi-modal travel along the Route 1 corridor.

Economic Development

1. To allow for future projects within these communities by addressing regional infrastructure issues which can hinder development;

2. To encourage tourism through convenient access to key regional destinations for visitors including Old Orchard Beach, other nearby beaches, Funtown Splashtown USA and other such destinations.

3. To provide improved highway access to northeast Saco and southern reaches of Scarborough which are ripe of additional commercial, mixed use and residential development.
When considering transportation improvements, it is important that they be consistent with community goals and visions for the future. The relevant documents that were reviewed to determine whether this project will be consistent with the community’s goals and visions include the following:

- Saco Comprehensive Plan
- Scarborough Comprehensive Plan
- Tri-Community Study

The relevant portion of these documents that demonstrate this consistency are cited and discussed below:

Saco Comprehensive Plan (2011)

The Saco Comprehensive Plan references the community’s desire to explore a new interchange on the Maine Turnpike and its importance to the community both today and into the future. The relevant sections, text and pages of the plan are summarized below:

BACKGROUND INFORMATION: SECTION:

- The Flag Pond Road crossing of the Maine Turnpike offers the opportunity to develop an additional Turnpike interchange. This would improve access to the northern end of the Route 1 Corridor and the Industrial Park and provide alternative travel routes. (3-9)
- Use of the former Turnpike Exit 5 to allow northbound traffic to enter the Turnpike offers that potential for alleviating some of the congestion problems associated with Turnpike access. (3-9)
- The continued expansion of the Park North and Cascade Falls developments together with the potential for development on the west side of Route One will likely require the development of an interconnected internal road network in the area bounded by the Old Orchard Beach town line, the Scarborough town line, the Maine Turnpike, and the I-195 Spur. This network will need to provide access to the potential development sites while allowing traffic access to the arterial network. (3-9)
- The City should consider measures to maintain potential Interstate highway access. (3-2)

GOALS AND POLICIES:

- The Route One Corridor north of the I-195 Spur to the Cascades area currently plays a variety of economic roles and is the location of a number of car dealerships and commercial recreational facilities. This area offers significant potential for the future commercial growth of the City. As such, the City’s policy should be to reserve much of the land in this corridor as a commercial growth center to accommodate a wide range of retail, service, office, and light manufacturing uses. While the size of this area currently exceeds the demand for commercial land in the region, the potential for improved access to the Turnpike combined with the availability of public water and recent extension of
sewerage makes this area the most desirable location in Saco for commercial uses that require a large amount of area and are therefore inappropriate in Downtown Saco or other Intown locations. (5-4)

- The City should actively work with the Maine Turnpike Authority to explore the development of a new Turnpike interchange possibly in the vicinity of the Flag Pond and Cascade Roads to provide relief to Route One and the collector network and to improve access to major traffic generators such as the Saco Industrial Park, Mill Brook Business Park, and the Park North and Cascade Falls developments. (5-14)

- The City should work with the Maine Turnpike Authority and PACTS to explore the possible re-opening the northbound on-ramp of the former Exit 5 to allow its use by north-bound commuters with an E-Z Pass as a way to relieve traffic on local streets. (5-15)

- The Route One Corridor from the I-195 Spur to the Cascade Road represents a major potential for commercial growth. The availability of public water and sewer service combined with the possibility of expanded Turnpike access makes this area a highly desirable location for commercial uses that require large amounts of land. The basic policy of the City should be to designate most of the corridor as a commercial growth area recognizing that current demand cannot support all of this area being developed for commercial use. The City’s strategy should be to think of this as a future commercial development zone to assure that commercial land is available as demand warrants. The Future Land Use Plan identifies the types and intensities of uses that are appropriate in various sections of the Corridor. The City’s land use regulations for this Corridor should allow residential uses as part of mixed-use developments on the east side of Route One while precluding stand-alone residential developments that are not part of mixed-use projects or other uses that may be incompatible with future commercial development. (6-7)

IMPLEMENTATION STRATEGIES:

- Saco, Biddeford, Old Orchard Beach, and PACTS recently completed a draft of a transportation plan for the region, the first to follow the revised requirements of the Sensible Transportation Act. Interstate highway access and the volume of traffic from the west emerged as issues for the City. (7-3)

- The City has experienced significant growth in the volume of traffic using the City’s rural collectors west of the Turnpike. While some of this increase is the result of residential development in Saco west of the Turnpike, much of this growth in traffic is the result of residential development in the communities in the Route 5 and Route 112 corridors. (7-3)

- That the Maine Turnpike Authority considers additional access improvements in the City to reduce the impacts of this traffic on Saco including the possible use of former Exit 5 to allow northbound commuters to enter the Turnpike at that location. (7-4)

IMPLEMENTATION ACTIONS:

- Policy Reference F.1-Explore the development of a new Maine Turnpike interchange in the vicinity of the Flag Pond and Cascade Roads (Council, Administrator, PD&D) (8-7)

- Policy Reference F.2- Explore ways to minimize the impact of Turnpike-bound traffic on City streets (Council, Administrator, PWD, PD&D) (8-7)
Scarborough Comprehensive Plan (2006)

Like the Saco Plan, the Scarborough Comprehensive Plan references the community’s desire to explore a new interchange on the Maine Turnpike and its importance to the community now and into the future. The relevant sections, text and pages of the plan are summarized below:

- **Implementation Strategy 7-13**
  Objective I.1.f and Ch9 1-Establish a “regional corridor coalition” and work with other communities and regional groups on transportation initiatives.

- **Implementation Strategy 7-15**
  Ch9 item 8 - Work with Saco and PACTS on additional Turnpike interchange

- **Chapter 9-Regional Coordination- item 8. Turnpike Interchange Planning**
  The possibility of creating a new exit from the Maine Turnpike in the vicinity of the Scarborough/Saco border has been discussed for over a decade. This project is potentially beneficial to both communities and the larger region but will require significant lead time. Action: The Town should work with Saco and the Portland Area Comprehensive Transportation Study (PACTS) to encourage the Maine Turnpike Authority to undertake the necessary background studies and preliminary engineering necessary to move consideration of a new exit forward.

- **Section 9, pg 9**
  Route 1 is a major transportation corridor that serves both commuting traffic and local traffic. Planning and future development should accommodate these demands.

Tri Community Transportation Study (2011)

The Tri Community Transportation Study was funded by the Portland Area Comprehensive Transportation System (PACTS) and the communities of Saco, Biddeford and Old Orchard Beach. The three communities completed a regional study, with goals and findings relevant to the exploration of a new interchange on the Maine Turnpike:

- *Explore a collector-distributor road near the Flag Pond area to provide additional access points to the Turnpike, supported by a collector/distributor road in Saco.* (6)
- *The limited access to the Maine Turnpike is a significant issue. This restricts its use for local travel within the area and makes it difficult for people especially from the west to easily get on the Turnpike resulting in impacts on residential neighborhoods.* (13)
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- Increase the capacity of the existing road system to efficiently move traffic including the synchronization of traffic signals, intersection improvements, and upgrading of Routes 112, 111, 5, 22, and 98 to carry more traffic traffic (additional lanes, etc.). This included improved access to the turnpike for traffic from the west. (15)

- Over the years, significant interest and study has been devoted to the potential of reusing some of the former Exit 5 to the Maine Turnpike, as it would allow for dilution of inbound traffic to the Industrial Park Road interchange. However, given its proximity to the current I-195 interchange and FHWA interchange spacing requirements, reuse of this location in its current form is not feasible, as the interchanges are less than a mile apart, the minimum typically allowed by AASHTO/FHWA. An exception to this spacing would have to be agreed upon by FHWA and MTA.

- Another alternative would be a Flag Pond Road interchange, with the Flag Pond approach to Route 1 shifted to the south to align with Cascade Road. This connection would pull away Route 112 commuter traffic from the Industrial Park Road ramps and also encourage traffic coming to and from Old Orchard Beach via Cascade Road to access the Turnpike, as opposed to traveling along Route 1 into Scarborough. Ultimately, if an interchange was constructed at Flag Pond Road, it could be a first step toward constructing a collector/distributor road parallel to the Turnpike. Ideally, such a road would begin at Route 5 and terminate at Flag Pond Road, which would allow traffic on Routes 5 and 112 to access the Turnpike without utilizing the Industrial Park Road ramps, which are currently over capacity during peak hours. This road could also be served by a Park and Ride facility to allow for a Zoom Bus stop. As spacing requirements are lower for these roads (which have lower travel speeds), the potential for using former Exit 5 may become a viable option again.

- It should be noted that preliminary conversations with Tri-Community staff have suggested that these communities would be willing to partner with the Turnpike in areas ranging from land preservation in areas near the Turnpike to zoning to funding strategies. In particular, if infrastructure improvements near the Turnpike would preclude even more costly and impacting infrastructure changes closer to the Tri-Community urbanized areas, the potential for cost-sharing may exist.

-Recommendation: The Maine Turnpike Authority and the Tri-Community region can work with each other to determine a series of long-term strategies to determine future potential connections to the Turnpike in concert with MTA interchange policy and its long-term plans.

  Priority: High
  Implementation Schedule: Long Term
  Cost: High
  Responsibility: MTA, Tri-Communities, MaineDOT

-Recommendation: The Tri-Community area should work to preserve future access corridors to the Turnpike through comprehensive planning, zoning, and appropriate land use to support said preservation.

  Priority: High
  Implementation Schedule: Long Term
  Cost: Medium
Interchange Alternatives

Several alternative interchange locations were identified by Saco and Scarborough as part of this study, including:

- Re-opening the northbound on-ramp of the former Exit 5 in Saco
- Flag Pond Road interchange in Saco
- North of Flag Pond Road, south of the municipal boundary
- An interchange in Scarborough just north of the Saco-Scarborough municipal boundary intersecting a proposed connector from Route 1 to Broadturn Road
- An interchange at Broadturn Road

Each of these potential locations are described in detail in the following paragraphs and are illustrated on the maps provided with this report.

Re-opening the northbound on-ramp of the former Exit 5 in Saco

Use of the former Turnpike Exit 5 to allow northbound traffic to enter the turnpike would reduce congestion on Route 112, south of the interchange at the intersection of the Industrial Park Road and Route 112 and at the I-195 interchange. The interchange, however, is located within three quarters of a mile from the I-195 interchange with the on and off-ramp merge areas separated by approximately 750 feet. Given its proximity to the current I-195 interchange, with consideration of FHWA interchange spacing requirements, reuse of this location would require special approvals from FHWA and MTA. While this option may have some promise for southern areas of Saco and for Biddeford, it does not appear to address the issues in Scarborough or the Saco Route 1 corridor.

Flag Pond Road interchange in Saco

This interchange would be located at the Flag Pond Road overpass and would divert Route 112 commuter traffic from the Industrial Park Road ramps. It would also encourage traffic coming to and from Old Orchard Beach via Cascade Road to access the Turnpike, as opposed to traveling along Route 1 into Scarborough. Flag Pond Road would need to be reconstructed at its intersection with Route 1 to align with Cascade Road. As noted in the Tri-Community Study, if an interchange was constructed at Flag Pond Road, it could be a first step toward constructing a collector/distributor road parallel to the Turnpike. Ideally, such a road would begin at Route 5 and terminate at Flag Pond Road, which would allow traffic on Routes 5 and 112 to access the Turnpike without utilizing the Industrial Park Road ramps. This would be beneficial because these ramps are currently over capacity during peak hours.
This alternative will also provide convenient access to key regional destinations to nearby attractions such as the beaches and Funtown, Splashtown and other destinations while also providing for some additional economic development by serving land on both the east and west sides of Route 1.

This alternative is limited however in its ability to relieve southern and western Scarborough since there is no connection to Broadturn Road.

North of Flag Pond Road, south of the municipal boundary

This alternative would provide many of the same features as the Flag Pond Road alternative, in addition to providing even more access to undeveloped land between Route One and the Maine Turnpike. This alternative has two significant issues - First, it would require construction of a new bridge over the Turnpike and would, therefore have to incorporate the associated long term maintenance cost. Second, there does not appear to be an appropriate location to intersect with the Jenkins Road so, unless the parallel service road to the turnpike referenced previously is constructed, the access road would not be a through road. Thus a jug handle or some other design would be necessary at some point to prevent motorists from becoming entrapped with no alternative but to enter the turnpike. This alternative would limit its regional benefit to western Saco as well as to southern and western Scarborough. It would also create an offset intersection from Cascade Road making it less convenient for Old Orchard Beach traffic than the Flag Pond Rd alternative, as motorists would need to turn right from Cascade Road and then left onto the proposed road which is less convenient than a through movement crossing Route 1. This jog would also be less desirable from a public safety perspective.

In Scarborough north of the Saco-Scarborough municipal boundary

This interchange alternative would intersect with a new connector roadway traversing from Route 1 opposite Waterfall Drive in Saco to Broadturn Road at Ash Swamp Road in Scarborough. Similar to the previous north of Flag Pond Road alternative, it would facilitate access to undeveloped land between Route 1 and the Turnpike and could connect into a service road parallel to the Turnpike. This alternative would benefit the full study area by relieving traffic as well as provide an alternative for traffic to travel from Broadturn Road to Route 1 without passing through Dunstan Corner which avoids or significantly delays future improvements to the intersection. The connection also provides an alternative for emergency vehicles. The connection from Broadturn Road to Route 1 also enhances the pedestrian and multimodal environment.

The primary issues with this alternative are first, that a new bridge would need to be constructed over the Turnpike and, second, that the connector road is long thereby costing more to construct and maintain and having more potential for environmental issues.

Broadturn Road
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An interchange at the existing overpass on Broadturn Road would be desirable to reduce construction and environmental impacts. Under further consideration, however, this alternative does not appear feasible due to the existing or approved land uses on either side of the overpass which does not allow for the land necessary to construct an interchange.

Alternatives Recommended for Further Evaluation

After preliminary review of the above listed alternatives, it appears the Flag Pond Road location and the alternative north of the Saco-Scarborough boundary are the two most viable alternatives for further consideration since they provide the most benefit with respect to the project purpose and need particularly with respect to the following:

- Regional mobility- these alternatives provide benefits to both east and west Saco by providing alternative routes and reducing delays for traffic traveling easterly on Route 112 and for traffic in east Saco. Traffic from Old Orchard Beach can use Cascade Road to access these alternative easily providing relief to I-195 and to the intersection of Route 112 and the Industrial Park Road
- They provide alternative routes for emergency vehicles
- They enhance the pedestrian and multimodal environments along Route 1
- The extend the design life of Dunstan corner, as well as other key intersections to the north, thereby avoiding or delaying widening and right of way acquisitions in these congested areas.

However, prior to requesting that the Maine Turnpike Authority undertake a more detailed study of these alternatives, the municipalities retained Kevin Hooper Associates to prepare a preliminary forecast of the amount of traffic that may utilize a new interchange, along with the reductions in traffic that may be realized on adjacent roadways as a result. Based on preliminary reviews of the two feasible alternatives, the municipalities and consultants felt that the alternative north of the Saco-Scarborough boundary would have higher use potential and, therefore was selected for the preliminary traffic forecast.

Preliminary Traffic Forecast

Kevin Hooper Associates completed the traffic forecasts for this study utilizing the PACTS Travel Demand Model, often referred to as the TRIPS model. The model provides a system for determining future traffic volumes by utilizing historic growth patterns, traffic from future regional development, and levels of forecast congestion. In addition, the model utilizes long-term employment forecasts and relevant information provided in the US Census. The forecast year selected was 2035.

The model assumes construction of the alternative north of the Saco-Scarborough boundary, the northern most alternative considered shown in blue in the Figure below. Potential shifts in daily traffic from area roadways with the interchange in place were forecast for the area roadways. These are summarized below and presented in more detail in the study appendices:
The traffic modeling forecasts the summertime daily traffic volume for the proposed interchange to be 17,000 vehicles. This volume is comparable to the volume at the existing Exit 42 interchange in Scarborough which had a summertime 2012 volume of 13,900 vehicles (forecast to be 17,300 vehicles in 2035) and with the Congress Street/Jetport interchange and exceeds the Exit 47 Rand Road interchange 2012 summertime daily volume of 9,400 vehicles (forecast to be 12,600 vehicles in 2035).

With the level of traffic comparable to Exit 42 and 47, there is sufficient demand to warrant further study of these alternatives. The results also show traffic levels will be reduced along Route 1 in several areas:

<table>
<thead>
<tr>
<th>Location</th>
<th>2035 Traffic without Int</th>
<th>2035 Traffic with Int</th>
</tr>
</thead>
<tbody>
<tr>
<td>North of Oak Hill</td>
<td>39282</td>
<td>37357</td>
</tr>
<tr>
<td>South of Oak Hill</td>
<td>35223</td>
<td>33180</td>
</tr>
<tr>
<td>South of Payne Road</td>
<td>36820</td>
<td>32954</td>
</tr>
<tr>
<td>South of Pine Point Road</td>
<td>29052</td>
<td>25856</td>
</tr>
<tr>
<td>South of Cascade Road</td>
<td>23900</td>
<td>20817</td>
</tr>
</tbody>
</table>

These reductions of 5 to 10% will help reduce congestion along Route 1 and delay other infrastructure improvements.
Traffic increases will occur on some roadways. Most notably Cascade Road will increase from 10,760 vpd to 13,460 vpd and Broadturn Road west of Dunstan Corner will increase from 4,038 to 6,401.

Based on these forecasts, the preliminary traffic forecasts showed sufficient traffic for the municipalities to determine they should request further study by the Maine Turnpike Authority of the alternatives.

**Sensible Transportation Policy Act**

The Sensible Transportation Policy Act (STPA) was approved by Maine voters in 1991 and requires an evaluation of a full range of alternatives before choosing to expand capacity of the highway system, whether it be roadway widening or construction of a new interchange, such as the interchange under consideration in this report. The Town of Scarborough completed a town-wide Transportation Study in 2005 which focused largely on development of alternatives to maximize the use of the existing transportation system including encouragement of alternative modes such as walking, biking and transit. The Town has implemented many of the recommendations contained in the study and implementation is ongoing. These improvements, along with the Dunstan Corner improvements, have provided significant benefits in traffic flow and have reduced congestion. However, Route 1 through-traffic continues to grow, so additional measures such as an additional interchange should be explored; particularly since implementation is a long term process.

Similarly, Saco has focused on implementation of non-road building alternatives, having participated in the Tri-Community Transportation study. They continue to implement study recommendations, as appropriate and remain committed to that process.

Recommendations contained in these prior studies will be beneficial to documenting the no-build alternative in future studies.

**Public Participation**

As discussed in this report, the comprehensive plans of both Saco and Scarborough include a recommendation to work with the Maine Turnpike Authority to undertake the necessary background studies and preliminary engineering necessary to advance consideration of a new exit. The development of both plans included extensive public participation that was in compliance with state guidelines and each plan underwent review and approval by the State of Maine.
Funding Justification

Maine Turnpike Authority policy for initiating studies for new interchanges requires that the request of such studies provide a statement of why the expenditure of Authority funds would be justified under MRSA 1974(3). This statute is copied below:

Revenues for additional interchanges. In addition to interchanges which have been incorporated into the turnpike, the authority shall authorize turnpike revenues to be utilized for interchanges determined pursuant to the terms and conditions of this section, provided that the department shall request use of revenues by submitting a proposed program for additional interchanges or improvements to existing interchanges, and provided that the authority shall have and exercise sole discretion to set the level of revenues, and provided further that the additional interchanges or improvements have or would have a sufficient relationship to the public's use of the turnpike and the orderly regulation and flow of vehicular traffic using the turnpike so that the use of the turnpike revenues is warranted to pay all or any portion of the cost of maintaining or constructing such additional interchanges or improvements and all or a portion of the access roads required in connection therewith. In making the determination of whether a sufficient relationship exists, the department and the authority shall consider the following factors, no one of which may necessarily be determinative:

A. The existing road network; [1981, c. 595, §3 (NEW).]
B. The traffic impact of the construction or reconstruction on the existing road network; [1981, c. 595, §3 (NEW).]
C. The probable change in departmental or authority expenditures resulting from construction or maintenance; [1981, c. 595, §3 (NEW).]
D. The relative number of vehicles using or expecting to use those access roads on the way to or from the turnpike; [1981, c. 595, §3 (NEW).]
E. The road distance of those access roads or portions thereof from the nearest entrance to or exit from the turnpike; [1981, c. 595, §3 (NEW).]
F. The effect the construction or improvement will have on the flow of traffic to, from and on the turnpike, and in diverting vehicular traffic off or away from the turnpike; [1981, c. 698, §104 (AMD).]
G. The probable availability of turnpike revenues to make the payments; [1981, c. 595, §3 (NEW).]
H. The availability of alternative roads to or from the turnpike; [1981, c. 595, §3 (NEW).]
I. Priority shall be given to the construction or improvement of interchanges and related access roads which will promote industrial and economic development of communities adjacent to or near the turnpike, whose present lack of access tends to discourage that development. In determining the extent of effect on industrial and economic development, the department and the authority shall consider existing, committed, proposed and potential development. The first priority for the use of available toll revenues for interchanges shall be for new or a modification of present interchanges and access roads to provide the necessary access for the development of industrial parks in Lewiston and Auburn. The authority and the department shall make every effort to begin construction or modification of interchanges by January 2, 1984; [1981, c. 595, §3 (NEW).]
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J. Financial condition of the turnpike and financial impact of maintenance, improvement and construction; [1981, c. 595, §3 (NEW).]

K. The existence of any seasonal interchanges which with nominal capital expenditure could be placed into year-round operation; and [1981, c. 595, §3 (NEW).]

L. Such other factors deemed relevant, including, but not limited to, expert opinion. [1981, c. 595, §3 (NEW).]

In state fiscal year 1990-91, the authority shall make a $6,300,000 early payment representing amounts agreed to be paid by the authority for the Scarborough interchange project.

The Turnpike Authority requires that the statement of justification include the factors listed under A, B, D, E, F, H, I, and L.

This report has presented preliminary documentation on each of the items requested. The communities of Saco and Scarborough anticipate that funding for a more detailed study and modeling of an interchange and associated improvements will likely be a partnership between the communities, the MTA and the MaineDOT. We also anticipate that Old Orchard Beach which has been in transition for several months, will resume its role as a partner in this effort given the benefits to that community.

Conclusion and Recommendation

As detailed in this report, our study has found that there is a need to evaluate a new interchange with the Maine Turnpike for the following reasons:

1. To enhance public safety;
2. To encourage regional traffic to use I-95 while enhancing local mobility and access, and preserving capacity along Route 1;
3. To enhance the pedestrian and multi modal environment along US Route 1;
4. To avoid future costs and physical limitations of future Route 1 corridor improvements;
5. To support local and regional economic viability and growth;
6. To support the vision and strategies identified in the Saco and Scarborough Comprehensive Plans;
7. To allow for strategic investments in the community.

Five alternatives were evaluated on a preliminary basis and the following two were found to warrant further study based on the preliminary alignment evaluation and traffic flow:

- Flag Pond Road location
- Alternative north of the Saco-Scarborough boundary
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The study also found that a new interchange would comply with relevant sections of both the Saco and Scarborough Comprehensive Plans and the Tri Community Study.

Based on this information, it is the recommendation of the communities of Saco and Scarborough that there is sufficient information to request that the Maine Turnpike Authority undertake preliminary studies of a new interchange and related access road.
Draft

Route 112 Corridor Study
Saco, Maine

Prepared for:

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March 2005

Prepared by:

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Route 112 Corridor Study  
Saco, Maine

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Appendix

Turning Movement Diagrams  
Proposed Improvements  
Collision Diagrams
Executive Summary

Gorrill-Palmer Consulting Engineers, Inc. has been retained by PACTS and the City of Saco to complete a transportation study of the Route 112 corridor from Spring Street to Louden Road. In addition, Industrial Park Road has been included in this study, as it plays a significant role in the travel patterns along the Route 112 corridor. A study area map is provided in Appendix A. The Route 112 corridor provides access from downtown Saco to the Buxton area, and is strongly influenced by a convergence of Route 5 in the vicinity of the neighborhoods around the Industrial Park Road intersection. In addition, Industrial Park Road provides access to Interstate 195 (and therefore, the Maine Turnpike), as well as Route 1 to the north of downtown Saco. Additionally, Route 5 and various local roads carry traffic between Biddeford and the Turnpike/western suburbs. These traffic patterns result in significant congestion at the Industrial Park Road intersection with Route 112 as well as at various neighborhood street intersections along Route 112. The purpose of this study was to identify existing and short term operational and safety deficiencies along the corridor and recommend mitigation measures to address these near-term conditions. This study also identifies long-term traffic trends to be addressed by a follow-up study of potential new connections to the interstate system and/or surface street interconnections.

The goal of this study was to examine current (2005) and future (2010) traffic patterns, and to develop a traffic plan to accommodate immediate traffic needs for this area. The major needs to be accommodated for this area include, but are not limited to the following:

➢ The study area experiences directional imbalances in peak hour traffic flows due to a large commuter component.
➢ Several unsignalized intersections along Route 112 have side street traffic either currently or forecast to experience long delays.
➢ Several locations meet turning lane warrants or have insufficient lanes based on capacity analysis.
➢ A significant amount of traffic cuts through local streets to get to Route 112 from Route 5 and vice-versa.
➢ Portions of Route 112 have no shoulder for bike traffic and limited accommodations for pedestrians.
➢ There are several high crash location to be addressed within the study area.

It is important to note, however, that the intent of this plan is to satisfy short-term needs in the immediate area that is the focus of the study. As an interim plan, it is meant to provide for mitigating near-term traffic demand, and as such, focuses on utilization of the existing transportation network. While long-term changes to the local transportation infrastructure are referenced and proposed in this report, major changes to the transportation network for long-term needs would be provided in separate plans.
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➢ Widen the Spring Street approach to allow for separate left and right turn lanes, 100 feet in length
➢ Signalize intersection by 2010.

Route 112 at Tasker Street

➢ Provide left turn lane into Tasker Street as well as the housing development across from Tasker (this will be accomplished by the two-way left turn lane)
➢ The proposed second eastbound lane from Industrial Park Road is proposed to end as a right turn lane onto Tasker Street.

Franklin and Tasker Streets

➢ Potentially modify traffic flow to make these a one-way pair with Franklin northbound and Tasker southbound.

Route 112 at Industrial Park Road

➢ Provide an additional left turn lane for eastbound traffic along Route 112 destined for Industrial Park Road; this improvement will result in a three-lane approach.
➢ Utilize both existing southbound lanes for left turn movements from Industrial Park Road.
➢ Provide an additional lane for southbound Industrial Park Road traffic to turn right onto Route 112; this lane should have a delta island to facilitate truck turns and operate on signalized control.
➢ Extend the right turn lane for northbound traffic on Route 112 back to the intersection with Tasker Street.

Route 112 at Garfield Street

➢ Construct a diverter at the intersection of Garfield Street and Shadagee Road such that traffic cannot pass through from Route 5 to Route 112. Garfield and Shadagee would form two separate loops; one with access on each end to Route 112 and one with access on each end to Route 5. This could be designed to allow emergency vehicles to pass through over sloped curbing, if necessary.

Route 112 at Former I-95 Northbound Ramps

➢ Reopen the northbound off-ramp to Route 112.

Route 112 at Jenkins Road

➢ Construct a 75-foot left turn lane for eastbound traffic from Route 112 to Jenkins Road.
Based on our analysis, the following improvement plan summarized in Figure 13 is recommended:

**Route 112 from Spring Street to Tasker Street**

Utilize the existing roadway width to develop a three-lane section (one travel lane in each direction plus a center two-way left turn lane).

**Route 112 from Tasker Street to Industrial Park Road**

Widen the roadway to provide a four-lane section, with one lane in each direction being a dedicated right turn lane.

**Route 112 from Industrial Park Road to Garfield Street**

Widen the roadway to provide a four-lane section, consisting of a double left turn eastbound onto Industrial Park Road and a through lane in each direction.

**Route 112 from Jenkins Road to Middle School Drive**

Develop a three-lane two-way left turn lane section along this portion of Route 112; this may require minor widening.

**Industrial Park Road from I-195 Eastbound Ramps to Route 112**

Widen this portion of the roadway to provide a four-lane section with two travel lanes in each direction.

**Route 112 at Spring Street**

- Restripe Route 112 to provide a 75-foot left turn lane for westbound traffic from Route 112 to Spring Street
- Widen Route 112 to provide a 200-foot right turn lane for eastbound traffic from Route 112 to Spring Street
- Widen the Spring Street approach to allow for separate left and right turn lanes, 200 feet in length
- Signalize intersection (Does not currently meet warrants, but is forecast to do so by 2010.)

**Route 112 at Franklin Street**

- Restripe Route 112 to provide a 150-foot left turn lane for westbound traffic from Route 112 onto Franklin Street
- Widen Route 112 to provide a 100-foot right turn lane for eastbound traffic from Route 112 onto Franklin Street
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- Construct a 75-foot right turn lane for westbound traffic from Route 112 to Jenkins Road.
- Construct exclusive 100-foot left and right turn lanes for southbound Jenkins Road traffic.
- Signalize intersection by 2010.
- Reduce access to Hillview Market on Route 112 and shift to Jenkins Road. The Route 112 access can be narrowed or eliminated altogether.
- Investigate long-term potential for aligning Hillview Avenue with Jenkins Road.

**Route 112 at Middle School Drive**

- Construct a 150-foot left turn lane for westbound traffic from Route 112 to the middle school drive.
- Construct a 50-foot right turn lane for eastbound traffic from Route 112 to the middle school drive.
- Construct exclusive 150-foot left and right turn lanes for northbound middle school traffic, and provide adequate radii for school buses.
- Provide crosswalks.

**Route 112 at Louden Road**

- Construct a 100-foot left turn lane for westbound traffic from Route 112 to Louden Road. (This improvement is proposed to be constructed by MaineDOT in 2005.)
- Construct a 50-foot left turn lane for northbound traffic from Louden Road to Route 112.

**Industrial Park Road at I-195 Eastbound Ramps**

- Provide an additional left turn lane for traffic exiting the I-195 eastbound ramp onto Industrial Park Road.
- Extend right turn lane from the I-195 eastbound ramp to 300 feet in length.
- Widen the southbound approach of Industrial Park Road to have two through lanes.
- Provide two northbound travel lanes for Industrial Park Road traffic; these lanes will extend back to Route 112.

**Industrial Park Road at I-195 Westbound Ramps**

- Extend right turn lane from the I-195 westbound ramp to 200 feet in length.
- Extend left turn lane from the Industrial Park Road southbound onto the I-195 westbound ramp to 200 feet in length.
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- Provide two northbound travel lanes for Industrial Park Road traffic consisting of an exclusive through lane and an exclusive right turn lane; these lanes will extend back to Route 112.
- Signalize intersection by 2010, if forecast volumes are confirmed by future counts.

It should be noted that these improvements are conceptual only. Preliminary opinions of probable construction cost as well as right-of-way and other impacts will be discussed in the final report. The improvements are shown on Figures 13-26 in the Appendix.

Phasing

Several of the traffic improvements are warranted currently, with the remainder based on forecast 2010 volumes. The following improvement sequence is recommended:

Phase I Improvements

- Three lane sections to be striped on Route 112 from Tasker Street to Spring Street and from Jenkins Road to the Middle School driveway.
- Recopen northbound off-ramp from I-95 to Route 112 and signalize intersection.
- Construct additional lanes at Route 112 and Louden Road.
- Provide separate left and right turn lanes with adequate radii for buses at the Middle School driveway.
- Signalize Route 112 and Franklin Street and construct a diverter at Shadagee Road and Garfield Street.

Phase II Improvements

After the Phase I improvements have been implemented, the study area should be reexamined to determine if the following improvements are warranted:

- Signalize Spring Street and Jenkins Road.
- Widen Route 112 from Industrial Park Road to Tasker Street to four lanes.
- Widen Industrial Park Road from Route 112 to I-195 ramps to four lanes.
- Provide additional turning lanes at the intersection of Route 112 and Industrial Park Road.
- Complete lane upgrades and signal installation at Industrial Park Road and the I-195 ramps, providing future volumes warrant signal installation.

Funding

Funding for these improvements can be accommodated via several means, including the following:
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- Impact fees for development
- Local funding (bonding)
- State funding
- Federal funding (including the BTIP process)

Based on the forecast volumes and the recommended improvement plan, it is anticipated that both Route 112 and Industrial Park Road will provide sufficient capacity to adequately accommodate vehicular as well as pedestrian and bicycle needs for the forecast period.
Tri-Community Transportation Study

Tri-Community Transportation Study
Biddeford/Saco/Old Orchard Beach, Maine

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