

Tri-Community Transportation Study

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

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Population for the Tri-Community Area:

Old Orchard Beach: 9,394

Saco: 18,276

Biddeford: 21,756

TOTAL: 49,426

Source: 2010 Census Data
(Preliminary)

Growth:

Residential growth in communities to north and west

Commercial growth on Route 1 in Saco and Route 111 in Biddeford

Challenges:

Commuter traffic originating from north and west

Commuter traffic destined to north and east

Limited connectivity

Limited transit

Land use and transportation connection

Opportunities:

Growth in transit use

Zoom Bus successful

Downeaster a model of growth for passenger rail

New interest in downtown areas

Interest in regional cooperation

Executive Summary

Introduction

In recent years, transportation policies have undergone a significant shift in their focus. Traditionally, transportation plans have been centered on the automobile, with the goal often being to provide additional capacity during peak hours of operation. This approach has often resulted in major impacts to established urban areas and required significant expenditures in new and/or modified infrastructure.

Current transportation policies in Maine are now based upon the requirements set forth in the Sensible Transportation Policy Act (STPA) and a companion guide published by MaineDOT, *Handbook for Local and Inter-Community Transportation Planning in Maine*, which encourages land use planning to work hand-in-hand with transportation planning, with the goal of reduced expenditures, more options for other modes of travel, and in general, more sustainable types of growth.

The communities of Biddeford, Saco and Old Orchard Beach have worked together with the Portland Area Comprehensive Transportation System (PACTS), the Maine Turnpike Authority, Maine Department of Transportation, transit providers, municipal planners and others, along with a Consultant Team to craft a long-term Transportation Plan that satisfies the STPA requirements, as well as *Destination Tomorrow*, the long-term required of PACTS.

Purpose and Need

This Transportation Plan builds on the following observations:

- 1) Growth in active land uses and increases in transportation volume have primarily been outside of the urbanized area; in particular, areas to the north and west of the three communities.
- 2) The vast majority of travel in the three communities is completed by private vehicle, and the majority of employment is outside the Tri-Community employment area.
- 3) Opportunities exist for mixed-use, moderate to high-density development in the Tri-Community area; this type of development could foster transportation options such as transit and non-motorized modes.
- 4) Implementing the broad-based and multi-modal recommendations in a coordinated Plan for the next quarter century can better position the area for applying for STPA-based transportation incentives.

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Visioning (Public) Process

Community Visioning

Challenges

Opportunities

Balance of Spending for modes:

Double transit funding
Triple Bike/Ped funding

Land Use Forecasting

Examine Current Trends

Recommend Alternative Development in Key Areas:

Cascades/Route One (Saco)
Sweetser Property (Saco)
SMMC (Biddeford)
West of Exit 32 (Biddeford)
Homewood Area (OOB)
Downtown OOB

Transportation Demand Forecasting

PACTS model (TransCAD)

Based on socio-economic forecasting

Based on development potential from communities

Findings from Forecasting

Generally slow growth rates (Less than 1 percent per year)

Greater rates of growth near Turnpike exits

Could be mitigated by a combination of strategies

In March of 2009, the members of the Study Committee, municipal and PACTS staff, as well as the Consultant Team spent a morning with the public discussing transportation concerns and hopes for the Tri-Community area. This workshop included discussion on transportation challenges, opportunities, and allocation of resources.

The overall public sentiment at the meeting was that while roads and private-passenger vehicle based transportation should retain the largest share of funding in the Tri-Community area for the foreseeable future, the proportion of funding for transit should double, and the proportion of funding for pedestrian and bicycle improvements should triple. These changes could improve bus schedules and decrease wait times between bus runs, and allow for more intensive development of non-motorized facilities.

Land Use Forecasting

Likely potential land development through the year 2035 was examined in the three communities. Ultimately, two land use forecasts were created. The base forecast scenario anticipated continued growth along historical patterns. In addition, a second scenario was developed for the following series of high-intensity development locations:

- 1) Cascades/Route One area of Saco
- 2) Sweetser property area in Saco
- 3) Southern Maine Medical Center (SMMC) area in Biddeford
- 4) West of Maine Turnpike in Biddeford
- 5) Homewood area of Old Orchard Beach
- 6) Downtown Old Orchard Beach

The idea for the high-intensity development areas is that they can provide for denser mixed-use development in addition to the base land use forecasts. This would allow for more development in the Tri-Community area, close to major transportation assets, and with greater options for multi-modal travel, thus reducing the demand on the state highway system. This, in turn, could be rewarded with incentives (i.e. bonus points) and also reduced for local match requirements from MaineDOT based on STPA rules.

Transportation Demand Forecasting/Analysis

Peak hour traffic volumes for the year 2035 were developed based on the following land use scenarios:

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- 1) The base land use scenario (i.e. continuation of historic land use scenario).
- 2) The Alternative Development scenario (increased growth rates at the six [6] alternative development locations, plus the base land uses scenario).

Based on these scenarios, the Consultant Team examined existing and future operations of the transportation network, including an assessment of vehicular delay at intersections, transit system linkages, and bicycle and pedestrian facilities.

Action Plan

As this is a regional transportation study, the recommendations and strategies range from broad-based land use and transportation policies to specific implementation action items, to allow for the broadest array of solutions for this region.

The goals of the Plan are the following:

- The Plan should reflect the Visioning Session.
- The Plan should include strategies on land uses and transportation, and also provide funding ideas.
- The Plan should provide for a balance of transportation modes that serve all users.
- The Plan should encourage increased vitality and activity in Tri-Community urbanized centers.
- The Plan should favor continuing or improving downtown activity versus maintaining high mobility and levels of service (LOS) in downtown areas.
- The Plan should be consistent with STPA policies and the PACTS *Destination Tomorrow* Plan.

What follows are a series of short, medium, and long-term strategies from the detailed Plan, which is discussed in greater detail in the Report narrative.

Short-Term Strategies/Recommendations

Regional Planning and Cooperation

- Create financial incentives for new employment opportunities for residents to live and work in the Tri-Community area.
- Update this Transportation Plan as needed.
- Promote car-free tourism in the Tri-Community area.

Action Plan

Based on a broad series of strategies:

Land Use/Transportation Policies

Connections to the Maine Turnpike/I-95

Transportation Demand Management (TDM)

Vehicular Traffic

Bicycle/Pedestrian

Transit

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Short-Term Strategies

Create incentives for job growth in the Tri-Community area

Establish the Alternative Development Districts

Update Transportation Plan as needed

Create Transportation Demand Management Plan

Have Tri-Community joint delegated traffic movement permit review process

Provide Park and Ride facility on future industrial road in OOB near the end of I-195

Update bus systems with improved stop features and route interlining

Provide bicycle storage facilities at key areas in the three communities

Create impact fee zones and/or TIF districts in the alternative development areas

Land Use

- Establish mixed-use, high-density Alternative Development Districts serviced by transit, bicycle, pedestrian and vehicular modes of travel.
- Encourage development that promotes year-round employment and residences.

Roadways/Transportation Demand Management

- Develop and implement a Tri-Community Transportation Demand Management Plan with a delegated Coordinator from each community.
- Seek approval from MaineDOT to implement a delegated traffic movement permit process for the region.
- Update signal timing in each community (can be part of the development permit approval process) on a regular basis.
- Complete intersection improvements already recommended in the three communities.
- Establish local truck routes with signage to encourage heavy vehicles on certain streets.

Parking

- Provide a Park and Ride area on the Industrial Road to be built in Old Orchard Beach, and connect it to a transit system.
- Modify existing downtown parking areas as per the Biddeford Downtown Parking Plan to include parking meters for some on-street locations and parking permits in some municipal lots.

Transit

- Improve the Biddeford/Saco/Old Orchard Beach (BSOOB) Transit bus systems by providing GPS, additional transit stop amenities, and route improvements via interlining (one bus running along multiple routes).

Bicycle and Pedestrian

- Provide secure bicycle storage at major transit stops (Saco Transportation Center, Hannaford, Biddeford Gateway Center, etc.) and improve bike access to the Downeaster.
- Examine roadway striping and on-street parking and make recommendations where feasible for additional bike lanes.
- Identify and improve sidewalk deficiencies, including connections to transit stops.

Funding

- Provide impact fee structure and/or TIF districts in Alternative development areas to fund transportation improvements.

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Medium-Term Strategies

Improve progression along Elm Street to encourage travel along the corridor

Construct a parking garage in downtown Biddeford

Update and improve Zoom Bus and Park and Ride facilities

Increase BSOOB funding to allow for 30-minute waits (as opposed to 60 minute)

Connect Eastern Trail to downtown OOB

Convert Eastern Trail to bituminous surface to facilitate long-distance biking

Pursue funding of Transportation Plan Improvements via the Transportation, Community and System Preservation Program and the TIGER II/HUD Challenge Grants program.

Medium-Term Strategies/Recommendations

Roadways/Transportation Demand Management

- Complete improvements at major roadway bottlenecks, including the Industrial Park Road area and Garfield Road.
- Improve mobility along Elm Street in Saco and Biddeford by retiming and coordinating, traffic signals, restriping, extending turn lanes and evaluating the potential to eliminate the Spruce Street signal.

Parking

- Adjust parking requirements to increase parking flexibility and density, and provide for more shared uses and off-site facilities.
- Construct a 400-space parking garage at the Alfred/Jefferson/Washington block in Biddeford.
- The three communities, the Maine Turnpike Authority (MTA), MaineDOT and BSOOB should work together to improve ZOOM Bus and Park-and-Ride facilities for greater travel flexibility.

Transit

- Increase transit funding to add two buses to BSOOB fleet in order to reduce waiting time (30 minute versus 60 minute headways) and examine the potential for expanded hours.
- Provide more uniformity to fare structures and improved bus waiting facilities (including passenger waiting lights).

Bicycle and Pedestrian

- Analyze and improve pedestrian deficiencies including areas needing sidewalks and improved crossings in each of the village, downtown and business areas, and at transit stops.
- Provide bicycle lanes and shoulders wherever possible, especially during roadway and intersection improvement projects.
- Examine the potential to provide a direct connection from the Eastern Trail to downtown Old Orchard Beach.
- Convert the Eastern Trail to a bituminous surface in order to facilitate more long-distance use; the facility could be used as a bicycle highway.

Funding

- Pursue the funding of Transportation Plan improvements via the Transportation, Community and System Preservation Program, the TIGER II/HUD Challenge Grants program, and other grant/funding programs as they become available.

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Long-Term Strategies/Recommendations

Roadways/Transportation Demand Management

- The Tri-Community area should preserve existing corridors near the Turnpike for future connection considerations.
- Explore a collector-distributor road near the Flaggy Pond area to provide additional access points to the Turnpike, supported by a collector/distributor road in Saco.
- De-emphasize Level of Service as a driving factor for infrastructure modifications, particularly in downtown areas.

Parking

- Examine the potential for high-density parking behind buildings on Main Street between Water and Storer Street in Saco, potentially with mixed-use development.
- Provide coordinated parking and wayfinding signage for the Tri-Community area.

Transit

- Examine the potential for commuter rail access to the Saco Transportation Center from Portland as originally envisioned in *Destination Tomorrow*.
- Examine the potential for locating rail access in downtown Portland to facilitate closer access from Tri-Community via rail.

Bicycle and Pedestrian

- Work with Pan Am and other land owners to provide an Eastern Trail connection on or next to the Eastern Railroad Bridge over the Saco River.
- Ensure all stops are in compliance with the Americans with Disabilities Act (ADA) and that village areas have safe pedestrian and bicycle connections.
- Advocate for allowing the placement of trails adjacent to active rail lines.

With these recommendations and strategies in mind, Biddeford, Saco and Old Orchard Beach will have a blueprint for sustainable growth for a generation.

Long-Term Strategies

De-emphasize use of LOS as driving factor for transportation, mainly in urbanized areas

Preserve land near Turnpike for future access

Construct Collector Distributor Road adjacent to Turnpike in vicinity of Flag Pond Road area

Add denser parking in downtown Saco

Provide coordinated wayfinding signage for Tri-Community area

Support concept of commuter rail access to Saco Transportation Center

Examine the potential of extending Eastern Trail over Saco River alongside or on Eastern Railroad Bridge

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Chapter 1 Introduction

History of Tri-Community Transportation



Former Eastern RR Bridge,
later acquired by Boston and
Maine RR

The entire area of the Tri-Community began as Biddeford in the early 1700's. At this time, most transportation was either by horse (private coach) or by boat. Growth in the community and the transportation network was hampered by Indian attacks from the French and Indian War until the 1750's, when hostilities ceased.

At about that time, the area known as Saco and Old Orchard Beach were split off from Biddeford to become Pepperellborough, becoming Saco in 1805. The area remained largely rural until industrialization came in the early to mid-1800's, when the first mills were built along the Swanckadocke River, later known as the Saco River.



Downtown Biddeford with
Trolley, circa 1900

Transportation in the early days was largely for shipping, and along the Saco River. In 1759, a share of Indian Island (later Cutts Island, Factory Island, and now Saco Island) was purchased for \$2000. This began a period of intensive use of the river, which eventually led to industrialization. By 1800, seventeen sawmills were producing lumber along the river.

The railroad era began in 1843, when the Portsmouth, Saco and Portland Railroad line (later the Eastern Railroad) opened for business. (A small portion of this line still serves the Saco Industrial Park.) The primary railroad still was the Boston and Maine Railroad, opened in 1873. Now owned by Pan Am Railways, it still provides freight and passenger access today.



Atlantic Shore Line car, early
20th Century.

Old Orchard Beach grew around the Boston and Maine line, and its growth was such that it became its own town in 1883. Following the opening of the decades later, the Grand Trunk Railroad opened, providing access from Quebec for vacationers to Old Orchard Beach, beginning a tradition that continues to today (minus the train).

The rapid growth associated with industrialization created dense urban downtown areas, best suited for traveling on foot, by horse/carriage, or on a bicycle. The first major change for intra-city travel came in the mid 1880's when the Biddeford and Saco Railroad began operating streetcar lines in the Tri-Community

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I-195 in Saco/Old Orchard Beach



AMTRAK Downeaster

Current Transit Services:

Zoom Bus

Old Orchard Beach Trolley

Tri-Community Bus Service

Intercity Bus Service

Campground Bus Service

Downeaster

area. These began as primarily horse-drawn conveyances, but were electrified by the turn of the century. They provided access to and from all the major areas of the Tri-Community area and ran every fifteen minutes. They were used for shopping, as school buses, and for work commutes.

During the early part of the twentieth century, electrified rail travel continued to surge with the operation of the Atlantic Shore Line, which carried millions of passengers per year as well as significant freight during its peak of operation around 1907. The service provided regular and dependable transportation for Cape Porpoise, Kennebunkport, Biddeford, Kennebunk, Alfred, Sanford, Springvale, Wells, Ogunquit, York, York Beach, Kittery, Eliot and South Berwick.

The 1930's to the 1950's saw the rapid decline of public transportation in this area. Floods damaged equipment and structures along the streetcar system in the mid 1930's, and within a span of three years the streetcar system went from thriving to extinct. By the mid 1960's, passenger service had ceased along the Boston and Maine Railroad and Grand Trunk lines, leaving bus service to accommodate non-motorized passengers. This coincided with the closure of the mills in the Tri-Community area, resulting in the loss of many thousands of jobs.

At this same time that mass-transit was collapsing the modern interstate highway was arising. The Maine Turnpike was constructed in this area in 1947, and was later incorporated into the Eisenhower Interstate System in the late 1950's. I-195 began construction in 1980, completing the highway system now active in the area. During this same time, many local roadways were either paved over or reconstructed and then paved, to accommodate the explosion in automobile traffic.

As a result of the loss of the mills as well as the arrival of speedy passenger vehicle travel, it became more and more common for those living in the Tri-Community area to travel to the Portland area for work. As of 2000, the Tri-Community area has been redefined as being part of the PACTS area, as it has become part of the PACTS Census defined urbanized area.

Another commuting trend playing a large role in transportation issues in the Tri-Community area are commuters destined for the Portland area from Hollis, Lyman, Alfred and Sanford and other communities "passing through" the Tri-Community area, which Census data confirms. Historically, residents of these

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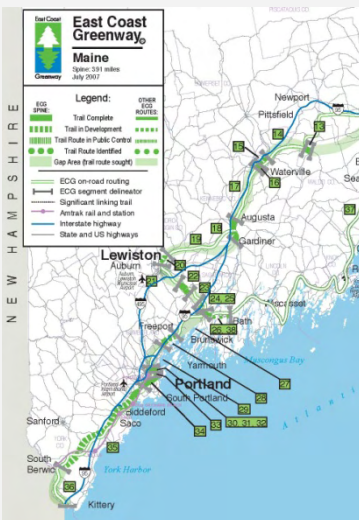
communities would either use the Rochester and Portland Railroad line, or local roadways, such as what is now Route 202. Currently, the most desirable route includes commuting on I-95. Although Saco, Biddeford, and Old Orchard Beach does not experience economic benefit from this pass-through traffic, it does experience resulting congestion.



ShuttleBus Local

Seasonal traffic plays a significant role, particularly in Old Orchard Beach, but to some extent in all of the communities. Tourists who once arrived in sleeper cars on Boston and Maine and Grand Trunk trains now arrive in cars and RV's, resulting in significant congestion, particularly in downtown Old Orchard Beach. This poses challenges to infrastructure, as constructing roadways for eight to ten weeks of the year for increased travel would likely not be cost effective.

Following the closure of the mills and the rise of the highway, intercity busing was common in the Tri-Community area, run by private entities. However, this did not prove sustainable, and in the late 1970's, the bus system was taken over by what is now called the Biddeford-Saco-Old Orchard Beach Transit Committee. This organization manages both the ShuttleBus and Old Orchard Beach Trolley, operated since the 1980's. The Zoom Express Bus service was begun in the late 1990's, and the bus serving UNE (Nor'easter Express) began a few years ago, in 2007. In total, these buses carried over 200,000 passengers in 2008, and in particular, ZOOM bus ridership continues to increase.



East Coast Greenway in Southern/Central Maine

Mass transit has begun to play a larger role in the Tri-Community area, and not just in the form of bus service. In 2001 passenger rail returned in the form of the Downeaster, the fastest-growing passenger rail service in the nation, which increased once again by 28% in 2008. It now has five runs northbound and southbound per day, stopping here at the train station as well as seasonally at Old Orchard Beach. Over 12,000 people a year use the OOB stop, and over 40,000 people per year use the Saco/Biddeford stop. The Downeaster overall carries almost a half million passengers per year.

The area is also currently served by the Biddeford Municipal Airport, which saw some use for corporate and industrial flights, but is currently used primarily for private flights. The future and status of this airport is uncertain.

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Transportation Plans previously based on providing greater vehicular capacity/ infrastructure

Results:

- Segregated land uses
- Auto-dominated trips
- Young and old not served by system

Tri-Community at crossroads

- Current, even slower level of growth too great for some areas
- Plan must incorporate all aspects of travel
- Plan must examine land use Policies
- Funding from sources other than State or Federal

The former Eastern Railroad bed is now seeing new life as part of the East Coast Greenway, which will eventually provide a bicycle route that parallels the full span of U.S. Route 1. This will give bicyclists additional options to travel in and out of the tri-community area. A significant segment of this route, which will connect Saco to Scarborough, will soon be constructed.

Having gone from the past to the present, the Tri-Community area has witnessed a transition. What was once a train and streetcar-based transportation model in the late nineteenth and early twentieth has transitioned to a more individualized model, largely consisting of passenger vehicle travel. Recently, some increases have occurred in transit and other modes, but they are still in the minority. The overriding question asked as part of this Study is what balance of transportation options is ultimately desired? Does it look more like the older model, the current model, or some blend of the two?

Looking Ahead

In the past, many regional transportation studies have focused on the idea that wider intersections with greater capacity would address capacity and transportation shortcomings. However, if a balanced transportation plan is to be implemented, the need to accommodate ever-increasing numbers of private passenger vehicles without providing changes in commuter behavior and creating additional opportunities for travel will ultimately prove unsuccessful. Recent events have shown that the costs of property acquisition, road construction, and the traditional forms of bonding and taxation for payment of this construction may not remain as viable. This Plan will need to be a guiding document for three communities and their surrounding region and as such will have to provide solutions that look to the future, not the past.

Past zoning ordinances provide for segregated business, residential, and industrial uses, and in much of the area, has encouraged low-density residential and business development, which is where much of the growth in the past 25 years has taken place. A combination of such ordinances, state and federal funding policies (such as Farmer's Home loans that guaranteed rural residential construction) and construction codes have resulted in a development pattern requiring a vehicle for almost every trip away from the household. As such, the transportation network cannot even serve many younger and older residents, and given the high proportion of elderly people in Maine as a whole, this can result in costly special transportation services. In recent

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years, Biddeford, Saco and Old Orchard Beach have been working aggressively to address these issues.

As such, the Tri-Community area stands at a crossroads. Continuous growth in peak hour traffic is unsustainable at some point, and alternative measures can help to create a more sustainable model. Each municipality, PACTS, MTA and MaineDOT will need to make a number of decisions regarding traffic control, transportation management, and the potential use of other modes in an ever more challenging economic climate. Therefore, the recommendations from this study will need to be multifaceted, factoring in not only the automobile but all modes of travel in a context-sensitive manner to develop a well-balanced transportation plan that determines several potential solutions to the current and future congestion problems in a cohesive manner that can be implemented in phases. In addition, coordination with alternate modes must be improved upon, and the entire Plan backed by a cohesive strategy for funding mechanisms that are not solely dependent on state and federal transportation funds.

Project Goals

- Balance needs of all users
- Maintain or improve quality of life
- Be sensitive to existing development
- Inform future development
- Comply with STPA policy and MaineDOT publication *Handbook for Local and Intercommunity Transportation Planning in Maine*

Project Tools

- TSM
- TDM
- Public-Private Partnerships
- Improve existing services
- Incorporate new services

Project Goals

The overall focus of the Tri-Community Plan is to determine transportation strategies that balance the needs of driver safety, vehicular mobility, increased transit use, pedestrian safety, access to the young, the elderly, and the handicapped. This diversity of travel modes, in concert with supporting land use policies, can maintain or increase the high quality of life that brought people to Biddeford, Saco and Old Orchard Beach. This balance should be sensitive to existing downtown development as well as future development and the overall sense of community in the Tri-Community area. The precise balance of this development has been determined during the course of the project through our work and the contributions of Biddeford, Saco, Old Orchard Beach, PACTS, MaineDOT, Maine Turnpike Authority, and SMRPC - the Advisory Committee. The strategies developed during the course of this study are in compliance with the MaineDOT publication, *Handbook for Local and Inter-Community Transportation Planning in Maine*.

The overall goal for this Plan, and for Saco, Biddeford, and Old Orchard Beach, is to link existing and future land use patterns to the transportation network, as alluded to earlier in this report. One way to affect transportation on a large scale is to create land-use patterns and provide connections that result in greater efficiency than is currently experienced (as opposed to

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Main Street, Biddeford.

construction of new infrastructure, for example). For example, mixed-use development on Routes 1 and 111 or additional Turnpike connections can provide significant benefits to the Tri-Community area as a whole. In any case, along with improved travel options wider-scale land use and transportation planning recommendations are the key to the future success of this Plan.

More localized strategies accompanying land use and other major recommendations come in several forms. One solution is to use the existing transportation network more efficiently, through Transportation System Management (TSM), including parking management and Transportation Demand Management (TDM) practices. These include new types of public-private partnerships, various travel strategies that can be adopted by major employers, or some combination of these practices or cooperative agreements between adjacent landowners and businesses to optimize the existing transportation infrastructure. Other measures include more use of transit and additional transit connections, from intercity shuttles, expanded commuter rail, and fixed-route bus service.

The Plan detailed in this report provides a guiding document for future use in the Tri-Community area, balancing the needs of through traffic and local accessibility, while striving to maintain the viability of major travel corridors.

This report has reflected upon past strategies and uses this knowledge, along with state-of-the-art measures to recommend options that, when used in combination, maximize the transportation network with a minimum of changes and adjustments. This Plan is intended to be a practical guiding document for the Tri-Community area and the surrounding region for transportation policy and infrastructure improvements for the decades to come.

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Chapter 2 Public Meetings

Meeting 1: Visioning Session

Visioning Workshop

March 28, 2009

Saco Transportation Center

Sought input from Tri-Community area

41 attendees

Nine members of Advisory Committee

Five Consultant staff

Broke into groups of seven:

Discuss transportation concerns

Contemplate future transportation potential

The Advisory Committee for the Tri-Community Transportation Study held a “Visioning Session” to obtain community input on the transportation issues facing Saco, Biddeford, and Old Orchard Beach and on possible opportunities for improving the transportation system. In addition, the session began to develop a vision for the transportation system by looking at the possible allocation of transportation improvement funding among the various elements of the system.

The Visioning Session was held on Saturday, March 28, 2009 at the Saco Transportation Center. Forty-one people representing the three communities and area transportation interests participated in the session together with nine members of the Advisory Committee and five staff from the consultant team.

After an introductory presentation on the evolution of the area’s transportation system and a review of the elements of the current transportation system, the participants worked on three exercises in six small groups, typically comprised of seven members. The groups focused on transportation challenges and opportunities. Each group had a facilitator who was either a member of the Advisory Committee or the consultant staff and about seven participants.

Summary of Exercise #1 - Transportation Challenges

Each of the six small groups identified 3-5 challenges to transportation that they felt were the most important facing the area. These are identified on the lists in the appendix. The following is an overview of the challenges that emerged when the priorities of the six groups were merged:

- The lack of efficiency and congestion on the existing road/street system is a significant concern. This includes issues such as a lack of synchronization of traffic signals and poor, outdated intersections. A related issue was the lack of alternative routes around congested areas.
- 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

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Group Exercise 2: Summary

Dedicate share of funding to bike/ped improvements

Redefine or eliminate urban compacts

Create local "free zone" for interchanges

Upgrade Routes 112, 111, 5, 22, and 98

Incorporate Travel Demand Management solutions

Expand local and regional transit options

Coordinate transportation planning on regional level

Provide free downtown trolley service

Improved bicycle facilities

Provide emergency vehicle pre-emption

Improve way-finding signage

get on the Turnpike resulting in impacts on residential neighborhoods.

- The lack of adequate funding for improvements to all modes of the transportation system is a key issue.
- The limited availability of transit options both for travel within the area and between the area and Greater Portland was identified. There was concern about the lack of frequent service during commute to work times and the lack of a "high speed" service to Portland.
- The ability of the road system to accommodate commuter traffic from communities to the north and west (i.e. Dayton to Sanford) is a growing concern. This results in peak commuter hour congestion. The need for a better connection from Route 112 and Route 5 to the Turnpike was identified.
- Parking in the downtown areas emerged as an important issue. While this applies to all three communities, it seemed to be a bigger issue in Saco.
- Providing for the efficient movement of trucks through the area while minimizing the impacts of this type of traffic is an issue.
- Concerns about walkability and the provision of pedestrian facilities emerged.
- There was some sense that there is a need for a change in attitudes about the use of various transportation modes.

In addition to these issues that were identified as "most important" by one or more of the small groups, a few other issues/problems were identified in a number of different groups. These included:

- A number of groups specifically listed problems with the Halfway intersection in Old Orchard Beach.
- The need for expanded Park and Ride lots (mainly at Exit 32) was identified in a number of groups.
- There was a theme in a couple of the small groups about the need for better education and information about the available transportation options including "real-time" information about the transit system.
- The issue of improved accommodations for bicycles was identified in a number of groups.

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Summary of Exercise #2 - Transportation Improvement Opportunities

Each of the six groups also identified their highest priorities for improvements to the area's transportation system. These are identified on the lists in the appendix. The following is an overview of the transportation improvement opportunities that emerged when the priorities of the six groups were merged:

Group Exercise 2: Summary

Dedicate share of funding to bike/ped improvements

Redefine or eliminate urban compacts

Create local "free zone" for interchanges

Upgrade Routes 112, 111, 5, 22, and 98

Incorporate Travel Demand Management solutions

Expand local and regional transit options

Coordinate transportation planning on regional level

Provide free downtown trolley service

Improved bicycle facilities

Provide emergency vehicle pre-emption

Improve way-finding signage

Group Exercise 2: Opportunities

Potential improvements to system

Focus on regional improvements

- Improved funding for transportation improvements emerged as a priority including a dedication of a share of the available funding for alternative transportation such as pedestrian and bicycle facilities. This included discussion of the need to modify the state funding concept of "urban compacts" (i.e. boundaries defining local versus state maintenance of roadways).
- Improved use of the turnpike through the creation of additional interchanges and a "toll free zone" for local travel.
- 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.
- Institute Travel Demand Management (TDM) options to make better use of the existing transportation system.
- Expand the transit options available for both transportation within the area and to Greater Portland including more frequent service.
- Coordinate transportation planning within the area. This included better coordination among the three communities (there was a suggestion for a regional transportation board) as well as coordination with area employers and transportation user groups.
- Provide free trolley service serving the downtowns with funding from the business community.
- Improve facilities for bicyclists including retrofitting existing roads with bike lanes.

In addition to these high-priority improvements, there were a couple of other transportation improvement concepts that were identified by a number of groups but did not rise to the level of "most important" in any one group. These included:

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Group Exercise 3: Summary

Roadways continue to get largest share of funding – but lower share than currently allocated

Transit to obtain increased share, and primarily for local service

Bike/Ped to get small, but dedicated share of funding

Little interest in funding airport

Group Exercise 3: Resource Allocation

Spread resources over 8 areas

Improvements to ped facilities

Improvements to bike facilities

Improvements to Tri-Community bus service

Improvements to Portland/South Portland bus service

Improvements to airport

Improvements to roadways for traveling outside of Tri-Community area

Improvements to roadways for travel within Tri-Community area

Improvements to roadways to allow commuters from west to reach Turnpike

- Providing for the pre-emption of traffic signals by emergency vehicles to allow better movement during periods of congestion.
- Providing improved “way finding” signage for motorists as well as for pedestrians and cyclists.

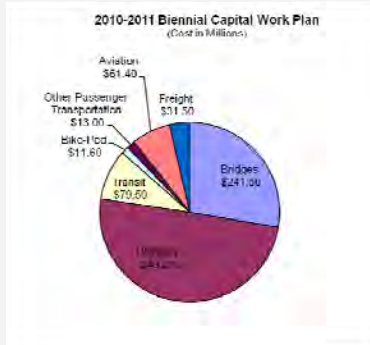
Summary of Exercise #3 - Allocation of Transportation Improvement Resources

When participants were asked to allocate the available transportation improvement funding among various elements of the transportation system, there was some consensus among the six groups. The results of this exercise are included in the appendix. Here is an overview of the themes that emerged from this exercise:

1. Improvements to the road system were consistently allocated the largest share of the resources, as would be expected (55 percent of overall spending). The larger share of these resources was allocated to improvements to travel within the local area with a smaller share allocated to improvements to travel outside of the area.
2. Improvements to transit service received a significant share of the resource allocation in most groups although much lower than improvements to the road system (23 percent of overall spending). There was a sense that although transit should receive a small share of the resources overall, that share should be larger than it is currently provided. As with roads, the focus of transit improvements was more on local service than on improved service between the area and Portland, such as increased frequency of service.
3. In general, the groups allocated a small share of the available resources to pedestrian and bicycle improvements (18 percent of overall spending). There was a sense though; that there needs to be a dedicated share of the available resources for these facilities even though it is a very small percentage of the available resources.
4. There was almost no support of allocating improvement funding to the Biddeford Airport (one percent of overall spending). One group suggested that giving the airport a very small amount of funding could resolve an ongoing problem.

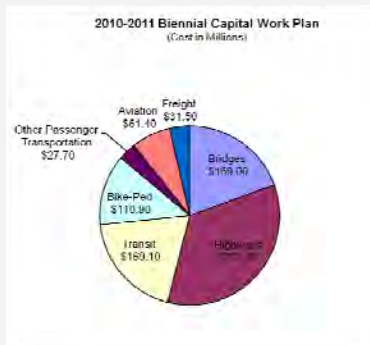
While the roadway share of funding was desired to consume the majority of transportation spending in the Tri-Community area, historically roadway funding constitutes a much greater overall

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2010-2011 BCWP (MaineDOT)

- 77% Roadways/Bridges
- 11% Transit/Passenger Transportation
- 1% Bike/Ped (Say 6% accounting for roadway/bridge work)



2010-2011 BCWP (Visioning)

- 54% Roadways/Bridges
- 23% Transit/Passenger Transportation
- 13% Bike/Ped (Say 18% accounting for roadway/bridge work)

proportion, as shown in the top graphic to the left. Based on information provided by MaineDOT, roadway funding on a state level constitutes approximately 75 to 80 percent of total transportation funding. Transit and passenger transportation currently comprises about eleven percent of funding, while bicycle and pedestrian projects constitute about one percent of funding. It should be noted that part of the cost of bridge and roadway work includes such improvements as bicycle lanes and sidewalks, and so for the purposes of this discussion it is assumed that bike/ped work constitutes an additional five percent of overall funding, or about six percent of overall spending.

The visioning workshop results have made it clear that its participants desire a far greater amount of money to be spent on alternative modes of travel, including about a quarter of funding on transit, and a fifth of funding on bicycle and pedestrian improvements. Based on the public input, the current Biennial Capital Improvement Plan would more closely resemble the bottom graphic on the left, following adjustments to maintain the same level of funding for aviation and freight.

This level of funding presents a significant shift in allocations of funds. Going from six percent to eighteen percent of overall funding for bicycle and pedestrian improvements represents a tripling of funding, and approximately a doubling of funding for transit improvements. This also suggests that if this were the future funding model, while money would exist for roadway and bridge maintenance, funds for expanded facilities would be largely eliminated, or at least with the current funding mechanisms.

Meeting 2: Feedback on Plan

A public meeting was held on October 16, 2010 to present the recommendations for the Plan and to obtain feedback from the public. This information was utilized in finalizing this Plan. Based on the discussions, the overall sentiment was the following:

- More bicycle access on the Downeaster
- More connections/greater use of the Eastern Trail
- A potential water taxi near Ferry Beach/Camp Ellis
- Promotion of car-free tourism
- Later-day transit options
- Allow for construction of trails along active rail lines

Chapter 3 Land Use Forecasting

Role of the Land Use Forecast

Traditionally, the land use forecast in a transportation study has focused on how development is likely to occur and how employment is likely to change. The resulting forecasts provide a means of updating anticipated travel demands for use in said study. This forecast is often based upon past experience and a continuation of current patterns of development.

Role of Land Use Forecast

Anticipates future development

Based on:

Past development patterns

Economic development forecasts

The new state transportation planning handbook *Sensible Transportation - A Handbook for Local and Intercommunity Transportation Planning in Maine*, published June 2008 is a guidebook to the new requirements set forth in the Sensible Transportation Policy Act, (STPA) challenges those focused on land use planning and transportation to think not only of what is likely to occur under a continuation of current development patterns but also to look at whether it is feasible and desirable to try to alter the long-range development pattern to make transportation alternatives more viable. This, of course, is a more complex task, but ultimately more rewarding, as it will allow for bringing land use and transportation infrastructure into harmony.

Changing Land Use Patterns

Planning should be consistent with Sensible Transportation Policy Act

Viable Approaches:

Increasing the intensity or density of use within walking distance of existing or potential transit corridors

Concentrating development within walking distance of transportation hubs

Changing the future development pattern to increase the potential range of transportation alternatives essentially means increasing the concentration of use or density of development in some areas. The two most likely and viable approaches are:

- Increasing the intensity or density of use within walking distance of existing or potential transit corridors, or
- Concentrating development within walking (and biking) distance of transportation hubs.

The Transit Route Map in the Appendix identifies the parts of the Tri-Community area that fall into these two categories. The green bands show the areas within walking distance (1,500') of the current bus lines while the blue band shows areas close to the UNE shuttle bus route. The pink band on the map shows the area within walking distance of the currently unserved portion of the Route One corridor. The red circles show the area with walking distance (2,000 feet) of the Saco Transportation Center,

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the OOB Amtrak station, and the Zoom Bus stops in the Biddeford and Saco Park-and-Ride lots. While the locus areas on the maps may not be entirely indicative of walking distance, they provide a starting point for thinking about future development patterns.

The Transit Route Map provides a backdrop for thinking about future development in the three communities and if there are ways to increase the intensity/density of development and use within these areas or to create other concentrations of use that could be served by transit. The following sections address both the “likely” development under current development patterns and possible changes to that development pattern to increase the viability of transportation alternatives.

Assumptions

Given the economic environment as of the writing of this Plan, it is a challenging time to forecast potential future development and changes in land use over the next twenty years in the Tri-Community study area. The land use forecast is based on the following set of assumptions about the economy and rates of future growth and development.

Forecast: Assumptions About Economy

3-5 years: Return to pre-recession conditions.

5-10 years: Growth slower than during the 2000-2008 period.

10-15 years: Growth at 40-50% of pre-recession rate.

15-20+ years: Growth at 60-75% of the pre-recession rate.

1. Basic Assumptions about the Economy

Future development and changes in land use that may influence travel demand are tied closely to the economic situation. At this point in time, there is a high degree of uncertainty about the future of the national economy. This makes any forecast of likely development a guess based upon assumptions of what is likely to occur with respect to the national and local economies. The forecasts below are based on the following assumptions about the economy:

- It is likely to take three to five years to work our way out of the recession and return to pre-recession conditions. For example, a recently released employment forecast for Maine suggested that it could take until 2014 for employment to return to 2007 levels.
- In the five to ten year timeframe (2015-2019), growth will re-emerge but it will be at a much slower rate than during the 2000-2008 period. For the purpose of the land use forecast, growth and development is assumed to be at a rate that is only 40-50% of the pre-recession rate of growth.

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Forecast: Development Assumptions

Planned projects completed as approved over the next 20 years. Includes:

Redevelopment of the Biddeford Mill district

Redevelopment of Saco Island

Development of the North Park project in the Cascades/Route One area of Saco

A number of smaller developments

Approved projects not yet under development or in planning pipeline

Growth and development limited in designated rural areas

Large-scale development is not likely to occur in rural areas except where near existing development/services

Limited development from infill on vacant lots and addition of units in existing buildings including accessory apartments in existing neighborhoods

- In the ten to twenty year time frame (2020–2029), the forecast reflects an assumption that growth and development will occur at a rate that is higher than the 2015-2019 rate but still below the pre-recession rate. For the purposes of the forecast, growth and development is assumed to be at a rate that is only 60-75% of the pre-recession rate.

2. Development Assumptions

In addition to the rate of growth and development, the land use forecast also considers where that development is likely to occur. The forecasts below are based on the following assumptions about the type of development and where it is likely to occur:

- Projects that are in the “pipeline” – that have received development approvals and have started construction – will be completed essentially as they have been approved. While most of these projects were conceived and approved in a “pre-recession” economy, it is assumed that these projects will be built over the next twenty years. This includes the redevelopment of the Biddeford Mill district and Saco Island and the development of the North Park project in the Cascades/Route One area of Saco as well as a number of smaller developments.
- Projects that have been approved but have not begun development may or may not be built as approved but since the sites are under consideration for development, the development of these properties over the next twenty years is likely.
- The three communities will continue efforts to limit growth and development in designated “rural areas” and that large scale development is not likely to occur in these areas except in limited areas adjacent to existing developed/developing areas where public services are available.
- Within the developed residential neighborhoods of the three communities, there will be limited intensification of use resulting from infill development on vacant lots and the addition of units in existing buildings including accessory apartments.

Land Use Implications

Combining the economic and development assumptions results in the following land use implications that are built into the land use forecasts:

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Forecast: Development Assumptions - Residential

1-5 years: 25% of pre-recession development rate

5-10 years: 50% of pre-recession development rate

10-20 years: 75% of pre-recession rate

20+ years: 60% of pre-recession rate

Forecast: Development Assumptions - Retail

Retail largely saturated

Limited development in and around existing commercial districts

Forecast: Development Assumptions - Industrial/Office

Moderate growth in established industrial/business parks

Includes major developments already in the process

A. Residential Land Use

- Five year timeframe: residential development will continue to be limited and will occur at a rate of about 25 percent of the pre-recession (2000-2007) rate of development. Most residential development will occur in projects that are already in the pipeline.
- Five to ten year timeframe: residential development will begin to rebound. New projects will begin to be developed as projects in the pipeline begin to be built out. The rate of residential development will be about 50 percent of pre-recession rate.
- Ten to twenty year timeframe: the rate residential development will increase to about 75 percent of the pre-recession rate.
- Twenty year study period: combining these results in a rate of residential development over the twenty year period that is about 60 percent of the 2000-2007 pre-recession development rate.

B. Retail Land Use

The construction of the Biddeford Crossing development and related “big-box” development in the Route 111 corridor in Biddeford has likely saturated the retail space market in the Tri-Community area for the near term; several retail facilities currently have empty space (Biddeford Crossing, Five Points, etc.). While there will continue to be small growth in this category over the next twenty years as existing operations upgrade and expand and new operations enter the market, these will be limited in scale and will likely be located within existing commercial districts.

C. Industrial-Office Land Use

Activity in this category of land use will be strongly influenced by the state of the local and national economy and related employment growth. The forecast envisions moderate growth in this category with most development occurring within established industrial/business park areas and the major developments already in the pipeline.

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Land Use Forecast

OOB Base Forecast

1,100 housing units

90,000 square feet of retail/
restaurant/service-sector

50,000 square feet of light
industrial/warehouse space

Saco Base Forecast

1,425 housing units

110,000 square feet of retail/
restaurant/service-sector

120 hotel rooms

20,000 square feet of
entertainment

650,000 square feet of light
industrial/warehouse

Biddeford Base Forecast

525 housing units

1,200 dorm-style housing units

150,000 square feet of retail/
restaurant/service-sector

50,000 square feet of college
athletic complex

100,000 square feet of
medical office

500,000 square feet of light
industrial/distribution

250,000 square feet of
office/service

The spreadsheet and maps in the Appendix forecast the likely amount, type, and location of development that will potentially generate additional travel demand that will need to be addressed in the study. This forecast is based on the assumptions set forth and the current land use planning and regulation in the three communities.

The overall basic forecast is summarized as follows:

➤ *Old Orchard Beach:*

- 1,100 units of housing
- 90,000 square feet of retail, restaurant, and service-sector commercial
- 50,000 square feet of light industrial/warehouse space

➤ *Saco:*

- 1,425 units of housing
- 110,000 square feet of retail, restaurant, and service-sector commercial
- 120 hotel rooms
- 20,000 square feet of entertainment-related facilities
- 650,000 square feet of light industrial/warehouse space

➤ *Biddeford:*

- 525 units of housing
- 1,200 dormitory style (UNE/etc.) housing
- 150,000 square feet of retail, restaurant, and service-sector commercial
- 50,000 square feet of college athletic complex
- 100,000 square feet of medical office facilities
- 500,000 square feet of light industrial/distribution space
- 250,000 square feet of office/service space

Alternative Development Options

A fundamental question is whether there are alternatives to the land use and development pattern implicit in the land use forecast that would enhance the viability of transportation alternatives. The land use forecast includes six potential areas where more

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intensive development could occur. Development of some of these areas would require a change in local land use regulations and/or the extension of public utilities to service the development. For the purpose of travel demand forecasting, these alternatives development options are in addition to the development included in the basic Land Use Forecast. The forecast development potential for these areas is shown as separate items on the community forecast spreadsheets.

Alternative Development Areas:

- 1.) Cascades/Route 1 (Saco)
- 2.) Sweetser Property (Saco)
- 3.) SMMC Area (Biddeford)
- 4.) West of Turnpike (Biddeford)
- 5.) Homewood Area (OOB)
- 6.) Downtown OOB

1. **Cascades/Route One Area of Saco:** The approved development in the Cascades/Route One area of Saco is essentially lower intensity, suburban style development based primarily on the automobile. Both sides of the Route One corridor in this area offer the potential for a more concentrated form of development that could potentially support transit service along this portion of Route One.
2. **Sweetser Property Area in Saco:** The Sweetser property in Saco adjacent to the Turnpike interchange and industrial park may offer the potential for the development on a concentrated, higher density, mixed-use development immediately adjacent to the Turnpike. If this was combined with a relocated park-and-ride lot and Zoom Bus stop, this could be the beginning of a transit-oriented development at this location.
3. **SMMC Area in Biddeford:** The development at and adjacent to the Southern Maine Medical Center (SMMC) on Alfred Street in Biddeford creates a relatively high density area with a significant travel demand. The City currently views the area on the northwest side of Alfred Street from 5 Points to the Turnpike interchange as an industrial-business park area with a suburban, auto-oriented character. This area could develop/redevelop as more of a mixed-use, higher intensity development area.
4. **West of Turnpike in Biddeford:** The land behind the “big-box” retail development on the north side of Alfred Street west of the Turnpike in Biddeford (Kohl’s-Home Depot) is currently zoned for low-density rural residential use. This property has the potential to be developed as a concentrated, higher-density, mixed-use, transit-oriented development.
5. **Homewood Area of Old Orchard Beach:** The Old Orchard Beach Comprehensive Plan identifies the outer portion of Cascade Road adjacent to the Saco line (the Homewood area) as a potential high density residential development area. With the extension of the sewer up Route One to serve the North

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Park development in Saco, the potential exists for providing sewer service to this area. This area could be an extension of higher-intensity development in the Cascade area.

6. **Downtown Old Orchard Beach:** A significant amount of land in the immediate downtown area of Old Orchard Beach is currently devoted to surface parking that primarily serves seasonal day-visitors. Another large area is occupied by a seasonal amusement park. In the long term, this area on both sides of the railroad tracks has the potential to evolve into a higher-density transit oriented development with the day user parking relocated to remote lots (such as shared parking at the ball park).

OOB Alternative Forecast

400 housing units

50,000 square feet of retail/
restaurant/service-sector

50,000 square feet of light
industrial/warehouse space

Saco Alternative Forecast

350 housing units

70,000 square feet of retail/
restaurant/service-sector

100,000 square feet of light
industrial/warehouse

Biddeford Alternative Forecast

300 housing units

The overall alternative land use forecast is summarized as follows:

➤ *Old Orchard Beach:*

- 400 units of housing
- 50,000 square feet of retail, restaurant, and service-sector commercial
- 50,000 square feet of light industrial/warehouse space

➤ *Saco:*

- 350 units of housing
- 70,000 square feet of retail, restaurant, and service-sector commercial
- 100,000 square feet of light industrial/warehouse space

➤ *Biddeford:*

- 300 units of housing

It is important to note that these forecasts were developed in close consultation with Old Orchard Beach, Saco, and Biddeford staff. They are based on an understanding of zoning and anticipated conditions as staff perceives them to be.

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Chapter 4 Transportation Forecasting

PACTS Forecast Intersections for Tri-Community Study

Route 1 at Cascade Road
Route 1 at Flag Pond Road
Route 1 at Ross Road
Route 1 at I-195
Route 1 at Route 9 (Saco)
Route 1 at North Street
Route 9 at Beach Street
Route 5 at Garfield Street
Route 112 at Garfield Street
Route 112 at Industrial Park Road
Industrial Park Road at I-195 EB
Industrial Park Road at I-195 WB
Route 1 at South Street
Route 111 at Pool Street
Route 1 at Five Points North
Route 1 at Five Points South
Route 111 at MTA Exit 32
Ross Road at Cascade Road
Cummings Boulevard at Union/Saco Ave.
Halfway Rotary

As has been referenced previously in this document, the land use forecasts have been utilized as the basis for generating future traffic and other transportation-related volumes via the PACTS model. The PACTS model is a transportation demand-based model that is based on journey-to-work information and other factors. The uses cited in both the base land use forecast as well as the alternative land use forecast were converted into peak hour trips based on journey-to-work and other trip generation data. The transportation forecasts were projected to the year 2035, which is the forecast year for which the model is calibrated.

Again, it is important to understand that two different sets of forecasts were prepared. The first forecast was prepared from the base land use forecast and economic information referenced in Chapter 3, while the other was based on the alternative forecast. The alternative forecast is an additive forecast; in other words, the proposed development associated with it would occur *in addition* to the base land use forecast, resulting in somewhat greater levels of growth.

Peak Hour Turning Movement Data

Kevin Hooper utilized the information discussed above and entered this information into the PACTS forecast model. The initial year for the model was 2009; the forecast year, 2035. Again, the forecasts were completed both for the base and alternative land use. The forecasts were compiled for the following intersections:

- Route 1 at Cascade Road
- Route 1 at Flag Pond Road
- Route 1 at Ross Road
- Route 1 at I-195
- Route 1 at Route 9 (Saco)
- Route 1 at North Street
- Route 9 at Beach Street
- Route 5 at Garfield Street
- Route 112 at Garfield Street
- Route 112 at Industrial Park Road

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- Industrial Park Road at I-195 EB
- Industrial Park Road at I-195 WB
- Route 1 at South Street
- Route 111 at Pool Street
- Route 1 at Five Points North
- Route 1 at Five Points South
- Route 111 at MTA Exit 32
- Ross Road at Cascade Road
- Cummings Boulevard at Union/Saco Ave.
- Halfway Rotary

The volumes are summarized in Excel-based spreadsheets. The data is enclosed in the Appendix.

Preliminary Findings of Forecasts

Based on the PACTS information, there are anticipated to be significant variations in the volume of traffic volume increases. The traffic volume and percentage increases for the PM peak hour are summarized on the following tables.

Intersection Volume and % Increases for PM Peak Hour: Base LU

Intersection	2009 TEV	2035 TEV	TEV Increase	% TEV Increase	Annual % Inc
Route 1 at Cascade	2183	2655	472	22%	0.8%
Route 1 at Flag Pond	2177	2624	447	21%	0.8%
Route 1 at Ross	2400	2798	398	17%	0.6%
Route 1 at I-195	4409	5045	636	14%	0.5%
Route 1 at Route 9	2049	2337	288	14%	0.5%
Route 1 at North	1639	1905	266	16%	0.6%
Route 9 at Beach	1939	2133	194	10%	0.4%
Route 5 at Garfield	798	1230	432	54%	1.7%
Route 112 at Garfield	2448	2888	440	18%	0.7%
Route 112 at Ind. Park	3362	3698	336	10%	0.4%
Ind. Park at I-195 EB	2627	2982	355	14%	0.5%
Ind. Park at I-195 WB	1696	1968	272	16%	0.6%
Route 1 at South	1743	2031	288	17%	0.6%
Route 111 at Pool	1877	2139	262	14%	0.5%
Route 1 at 5 Points N	3977	4386	409	10%	0.4%
Route 1 at 5 Points S	4279	4735	456	11%	0.4%
Route 111 at MTA 32	4867	5665	798	16%	0.6%
Ross at Cascade	728	1006	278	38%	1.2%
Cummings at Union	1372	1527	155	11%	0.4%
Halfway Rotary	2537	2896	359	14%	0.5%

Note: TEV = Total Entering Volume.
LU = Land Use.

The rates are summarized (and color coded by percentage increase in peak hour traffic) graphics in the Appendix.

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An examination of this forecast data reveals that, for the most part, growth rates will remain relatively slow over the course of the forecast period. Overall, the greatest growth appears to be taking place along northern Route 1 in Saco down Cascade Road into Old Orchard Beach, as well as Route 5 near Garfield Street. In the case of Route 1 and Cascade Road, given the recent levels of development, as well as those anticipated, this is to be expected. The growth along Route 5 is primarily driven by increases in volumes along Garfield Street. However, these volumes are not showing up along Industrial Park Road to the same degree. As the PACTS model accounts for congestion, this may suggest that the Garfield traffic is ultimately destined for other locations, and may be rerouting to new outlets.

Increases in Peak Hour Volumes for Base Land Use Forecast

Assumes moderate growth in transit

Based on economic and development forecasts (Chapter 3)

Typical overall growth in 26 years: 10-20%

Slowest overall growth: Route 9 at Beach Street and Route 1 at Five Points (10%)

Greatest overall growth: Route 5 at Garfield (54%)

Annual Growth typically 0.5% to 1% per year

Annual Growth ranges from 0.4% to 1.7% per year

Relatively slow rates of growth

Greatest growth in feeders from north and west to Maine Turnpike

Results similar to base forecast (additional development does not add significant peak hour traffic growth)

Intersection Volume and % Increases for PM Peak Hour: Alt. LU

Intersection	2009 TEV	2035 TEV	TEV Increase	% TEV Increase	Annual % Inc
Route 1 at Cascade	2183	2754	571	26%	0.9%
Route 1 at Flag Pond	2177	2696	519	24%	0.8%
Route 1 at Ross	2400	2831	431	18%	0.7%
Route 1 at I-195	4409	5094	685	16%	0.6%
Route 1 at Route 9	2049	2335	286	14%	0.5%
Route 1 at North	1639	1905	266	16%	0.6%
Route 9 at Beach	1939	2133	194	10%	0.4%
Route 5 at Garfield	798	1231	433	54%	1.7%
Route 112 at Garfield	2448	2892	444	18%	0.7%
Route 112 at Ind. Park	3362	3698	336	10%	0.4%
Ind. Park at I-195 EB	2627	3017	390	15%	0.5%
Ind. Park at I-195 WB	1696	2023	327	19%	0.7%
Route 1 at South	1743	2036	293	17%	0.6%
Route 111 at Pool	1877	2139	262	14%	0.5%
Route 1 at 5 Points N	3977	4386	409	10%	0.4%
Route 1 at 5 Points S	4279	4735	456	11%	0.4%
Route 111 at MTA 32	4867	5686	819	17%	0.6%
Ross at Cascade	728	1022	294	40%	1.3%
Cummings at Union	1372	1552	180	13%	0.5%
Halfway Rotary	2537	2917	380	15%	0.5%

Note: TEV = Total Entering Volume.

Note: LU = Land Use.

This data also suggests that even with the Alternative Development Areas added to the system, peak hour traffic growth in general will not be significantly affected. And as intensive, clustered development may provide opportunities for increased transit use, the growth rates for traffic may be further reduced.

Chapter 5 Operational Analysis

Although this report is a regional planning document, and, as such, does not focus on operational analyses on the same level as a corridor study, for example, it can be useful to look at overall intersection operations at the study area locations now and in the future to determine where network constraints may exist.

It remains important to frame this discussion in the light of the Sensible Transportation Policy Act, and its interpretation by MaineDOT, metropolitan planning organizations (MPO's), the MTA and regional planning commissions and councils of government. The STPA rules charge these organizations with examining all other options prior to roadway or intersection widening. This can include alternatives to the current land use and development plans, use of alternative routes, more efficient intersection control methods, increased use of transit, and transportation demand management programs.

Route 1 at Cascade Road

2009 PM Peak LOS: B
2035 Base PM Peak LOS: B
2035 Alt PM Peak LOS: B

Route 1 at Flag Pond Road

2009 PM Peak LOS: B
2035 Base PM Peak LOS: B
2035 Alt PM Peak LOS: B

What follows is a discussion about each of the study area intersections, operations issues (if any), and potential actions. It should be noted that these items are to be considered subservient to the overall Tri-Community Action Plan, but inform the broader goals of that plan. Levels of service are similar to an academic ranking scale, with an 'A' indicating little in the way of vehicular delay, and an 'F' indicating extensive delay, with entering volumes exceeding the capacity of the intersection.

Route 1 at Cascade Road

2009 PM Peak LOS: B
2035 Base PM Peak LOS: B
2035 Alternative PM Peak LOS: B

This intersection was recently reconstructed to provide storage lanes and has updated signal equipment. Based on the forecast volumes and the analysis information, this location will have excess capacity for the foreseeable future.

Route 1 at Flag Pond Road

2009 PM Peak LOS: C
2035 Base PM Peak LOS: F
2035 Alternative PM Peak LOS: F

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An unsignalized location, the level of service results refer to the STOP-controlled approach of Flag Pond Road, which will experience delay as Route 1 volumes increase over the next 25 years. Discussions have taken place over the years to examine the potential for relocating Flag Pond Road to the Cascade Road intersection.

Route 1 at Ross Road

2009 PM Peak LOS: A
2035 Base PM Peak LOS: A
2035 Alternative PM Peak LOS: A

Route 1 at Ross Road

2009 PM Peak LOS: A
2035 Base PM Peak LOS: A
2035 Alt PM Peak LOS: A

This location is anticipated to operate with a minimum of delay for the foreseeable future.

Route 1 at I-195

2009 PM Peak LOS: B
2035 Base PM Peak LOS: C
2035 Alternative PM Peak LOS: C

Route 1 at I-195

2009 PM Peak LOS: B
2035 Base PM Peak LOS: C
2035 Alt PM Peak LOS: C

Operations at this location are anticipated to remain under capacity. However, long-term, potential queuing and interaction with the nearby Hannaford signalized location may yield challenges.

Route 1 at Route 9

2009 PM Peak LOS: C
2035 Base PM Peak LOS: D
2035 Alt PM Peak LOS: D

Route 1 at Route 9 (Main Street at Elm Street)

2009 PM Peak LOS: C
2035 Base PM Peak LOS: D
2035 Alternative PM Peak LOS: D

Route 1 at North Street

2009 PM Peak LOS: D
2035 Base PM Peak LOS: E
2035 Alt PM Peak LOS: E

Operations at this location are anticipated with remain under capacity.

Route 1 at North Street

2009 PM Peak LOS: D
2035 Base PM Peak LOS: E
2035 Alternative PM Peak LOS: E

By 2035, operations are expected to reach capacity for this intersection, although it should be noted that this location only just meets the criteria for a level of service 'E'.

Tri-Community Transportation Study

Route 9 at Beach Street

2009 PM Peak LOS:	C
2035 Base PM Peak LOS:	C
2035 Alternative PM Peak LOS:	C

Operations at this location are anticipated to remain under capacity.

Route 5 at Garfield Street

2009 PM Peak LOS:	C
2035 Base PM Peak LOS:	E
2035 Alternative PM Peak LOS:	E

An unsignalized location, the level of service results refer to the STOP-controlled approach of Garfield Road, which will experience some delay as Route 5 volumes increase over the next 25 years. However, traffic volumes on Loudon Road to the west, often used for the same cut-through commuter route, are also increasing, which may lessen the demand at this location.

Route 9 at Beach Street

2009 PM Peak LOS:	C
2035 Base PM Peak LOS:	C
2035 Alt PM Peak LOS:	C

Route 5 at Garfield Street

2009 PM Peak LOS:	C
2035 Base PM Peak LOS:	E
2035 Alt PM Peak LOS:	E

Route 112 at Garfield Street

2009 PM Peak LOS:	F
2035 Base PM Peak LOS:	F
2035 Alternative PM Peak LOS:	F

An unsignalized location, the level of service results refer to the STOP-controlled approach of Garfield Road, which already experiences and will continue to experience delay. This location may well justify a signal in the future.

Route 112 at Garfield Street

2009 PM Peak LOS:	F
2035 Base PM Peak LOS:	F
2035 Alt PM Peak LOS:	F

Route 1 at Ind. Park Road

2009 PM Peak LOS:	E
2035 Base PM Peak LOS:	E
2035 Alt PM Peak LOS:	E

Route 112 at Industrial Park Road

2009 PM Peak LOS:	E
2035 Base PM Peak LOS:	E
2035 Alternative PM Peak LOS:	E

This location operates with peak hour delay currently. Based on the forecast model, volumes are anticipated to increase very slowly at this location due to congestion, so future delay is not anticipated to be significantly greater than existing delay. Potential improvements are discussed in the Plan.

Tri-Community Transportation Study

Industrial Park Road at I-195 Eastbound Ramps

2009 PM Peak LOS:	F
2035 Base PM Peak LOS:	F
2035 Alternative PM Peak LOS:	F

This location has experienced delay for some time now during peak traffic periods, and this is anticipated to continue for the foreseeable future. Potential improvements are discussed in the Plan.

Ind. Park Road at I-195 EB

2009 PM Peak LOS:	F
2035 Base PM Peak LOS:	F
2035 Alt PM Peak LOS:	F

Industrial Park Road at I-195 Westbound Ramps

2009 PM Peak LOS:	F
2035 Base PM Peak LOS:	F
2035 Alternative PM Peak LOS:	F

This location has experienced delay for some time now during peak traffic periods, and this is anticipated to continue for the foreseeable future. Potential improvements are discussed in the Plan.

Ind. Park Road at I-195 WB

2009 PM Peak LOS:	F
2035 Base PM Peak LOS:	F
2035 Alt PM Peak LOS:	F

Route 1 at South Street

2009 PM Peak LOS:	C
2035 Base PM Peak LOS:	D
2035 Alt PM Peak LOS:	D

Route 1 at South Street

2009 PM Peak LOS:	C
2035 Base PM Peak LOS:	D
2035 Alternative PM Peak LOS:	D

This location is anticipated to operate acceptably for the foreseeable future, providing that signal equipment and signal timing are kept up-to-date.

Route 111 at Pool Street

2009 PM Peak LOS:	C
2035 Base PM Peak LOS:	D
2035 Alt PM Peak LOS:	D

Route 111 at Pool Street

2009 PM Peak LOS:	C
2035 Base PM Peak LOS:	D
2035 Alternative PM Peak LOS:	D

This location is anticipated to operate acceptably for the foreseeable future, providing that signal equipment and signal timing are kept up-to-date.

Five Points North

2009 PM Peak LOS:	F
2035 Base PM Peak LOS:	F
2035 Alt PM Peak LOS:	F

Five Points North (Route 1 at Route 111)

2009 PM Peak LOS:	F
2035 Base PM Peak LOS:	F
2035 Alternative PM Peak LOS:	F

Tri-Community Transportation Study

This location is anticipated to operate with delay for the foreseeable future; a potential improvement is discussed in the Plan.

Five Points South (Route 1 at Route 111)

2009 PM Peak LOS: F
2035 Base PM Peak LOS: F
2035 Alternative PM Peak LOS: F

This location is anticipated to operate with delay for the foreseeable future; a potential improvement is discussed in the Plan.

Five Points South

2009 PM Peak LOS: F
2035 Base PM Peak LOS: F
2035 Alt PM Peak LOS: F

Route 111 (Alfred Road) at MTA Exit 32/Precourt Street

2009 PM Peak LOS: D
2035 Base PM Peak LOS: F
2035 Alternative PM Peak LOS: F

Route 111 at Exit 32

2009 PM Peak LOS: D
2035 Base PM Peak LOS: F
2035 Alt PM Peak LOS: F

This location is anticipated to operate with delay by 2035. However, it should be noted that as a large intersection with a long cycle length, a certain level of delay is to be expected. Based on a review of the analyses, it does not appear that vehicular stacking from this location will impact operations at adjacent locations for the foreseeable future. A potential improvement is discussed in the Plan.

Ross Road at Cascade Road

2009 PM Peak LOS: B
2035 Base PM Peak LOS: C
2035 Alt PM Peak LOS: C

Ross Road at Cascade Road

2009 PM Peak LOS: B
2035 Base PM Peak LOS: C
2035 Alternative PM Peak LOS: C

Saco Ave. at E.E. Cummings

2009 PM Peak LOS: B
2035 Base PM Peak LOS: B
2035 Alt PM Peak LOS: B

An unsignalized location, the level of service results refer to the STOP-controlled approach of Ross Road, which is anticipated to operate under capacity for the foreseeable future.

Saco Avenue at EE Cummings Boulevard and Union Avenue

2009 PM Peak LOS: B
2035 Base PM Peak LOS: B
2035 Alternative PM Peak LOS: B

This location is anticipated to operate with additional available capacity for the foreseeable future.

Tri-Community Transportation Study

The Plan addresses some of the deficient locations with a series of smaller to broader strategies. In the case for a localized unsignalized location such as Route 5 and Garfield Road, monitoring may be useful. For locations with broader transportation implications, such as the Industrial Park Road area and I-195, a series of improvements for the short and long-term are recommended in the Plan.

Chapter 6 Action Plan

Introduction to Plan

Unlike a localized transportation plan that may focus primarily on a downtown, or an arterial, a transit system, or a series of non-motorized facilities, the Plan is charged with the following:

- Connecting land use, policies, and infrastructure improvements
- Approaching transportation in a multi-modal fashion
- Finding solutions in a regional context

As outlined in the original Request for Proposals issued by PACTS and the three communities comprising this region, the Plan is to utilize the underlying principles and philosophies espoused in MaineDOT's *Sensible Transportation Handbook*. While this is a regional plan, it contains recommendations down to the local level.

The Plan as described herein will work from the “outside in”, beginning in the regional manner, and working down to the more local level, including a number of specific location-based improvements.

However, the most critical pieces of the Plan will involve regional land development and transportation policies, as well as recommending significant long-term investments to improve mobility options for the traveling public.

Major Factors Affecting Plan

The Tri-Community Transportation Plan must respect the context in which it is created; in other words, specific issues affecting this region must be addressed.

Current Land Uses

The single greatest challenge to an effective Plan is the change in land uses for not only the Tri-Community area, but York County as a whole. As late as the 1950's, most of the employment and housing in each of the three communities were concentrated not only within these communities, but within their urbanized (i.e.

Charges of Plan:

Connect land use, policy, and infrastructure improvements

Holistic approach to transportation

Solutions in a regional context

Levels of Plan:

Regional

Community

Neighborhood

Factors Affecting Plan:

Changes in land use patterns

Peak hour traffic flows

Auto-oriented peak hour trips

Non-motorized peak hour trips

Transit peak hour trips

Off-peak trips

Tri-Community Transportation Study

Changes in Land Uses/Employment

Significant employment in urbanized portions of Tri-Community up until 1950's

Most Tri-Community jobs now outside of urbanized area and even communities altogether

Growth in residences has shifted away from downtown

Majority of new residences now in rural areas to north and west

Tri-Communities have underutilized urban cores

Urban cores represent opportunities

Peak Hour Traffic Flows

Most growth forecast along Routes 111, 112, and 5

Puts pressure on Turnpike interchanges

built up) areas. The major economic engines for Saco and Biddeford were based on manufacturing, and employees rarely lived more than five to ten miles away. Old Orchard Beach was a seasonal community with many transit-based tourist trips.

More rural communities to the north and west, such as Lyman and Hollis, had a far lower population base, and much of this population was employed in small farms. Farther to the west on Route 111, much of Sanford's workforce was locally-employed in manufacturing.

In the past 50 years, job growth has primarily occurred to the north and east, to Scarborough, South Portland, and Portland. At the same time, new residential development has been constructed in the formerly agricultural and other rural communities to the west, as prevailing land use and investment policies favored this trend.

The result is three communities with an underutilized urban core, particularly in the Mill District of Biddeford and Saco. In addition, rapid levels of commercial development on the urban periphery have resulted in a significant clusters of retail/service space, to the point where vacancies exist in some locations.

Peak Hour Traffic Flows

Directly related to land use are peak hour traffic flows. Much of interior York County, from Waterboro to Alfred to Sanford funnels down Routes 111, 5 and 112 to access Maine Turnpike Exits 32 and 36 in Biddeford and Saco, respectively to access the Portland-area market. These areas appear to experience the greatest amount of congestion, and are also the areas forecast to experience the greatest amount of growth.

Future Development and Growth

Working with PACTS, the communities of Biddeford, Saco and Old Orchard Beach, and Kevin Hooper, the Project Team was able to determine that 85 percent of the built area forecast in the three communities for 2035 is already on the ground and generating vehicular, transit, and bicycle and pedestrian trips. Currently, this balance is weighted very heavily toward the single-occupant automobile.

Tri-Community Transportation Study

Other Forecast Findings

85% of future built environment already on the ground

Annual rate of development approximately 0.6% per year

Rate of development about equal with rate of peak hour traffic growth

Model assumes significant vehicular traffic

Peak hour volumes can be reduced:

- More Bike Use
- More Ped Use
- More Transit Use
- More car share
- More Van pool
- Staggered Work hours

Growth rates may therefore be conservative

Increasing peak hour vehicular capacity does not always equal economic development

In addition, the economic forecasts supplied by Planning Decisions for Biddeford, Saco and Old Orchard Beach suggests very slow growth through 2020, with steady and sustained growth not until after 2020. If extrapolated in a linear fashion, the annual rate of development increases at about 0.6 percent per year, which lines up well with the typical rate of peak hour traffic growth established and discussed in the forecasting section of this report. Correlating with the overall forecast data results in the expectation that the next ten years should see 0.3 to 0.5 percent growth per year, followed by closer to one percent annual growth.

PACTS Model

It should be noted that the PACTS model is based on forecasting auto-based trips, and as such, subtracts peak hour trips based on certain modal assumptions. As such, it may be difficult to estimate the impact of improved transit frequencies, better biking facilities, and improved pedestrian connectivity. A similar modeling technique was completed for Boston's Central Artery Project, where models predicted massive traffic impacts during extended closures; this congestion did not ultimately materialize. This "vanishing traffic" went to unpredicted and uncongested routes (or modes) with no noted significant impact to arterials or transit lines.

Similar results are reported with recent highway removal projects in San Francisco, Milwaukee, and Chattanooga. Alternative modeling techniques have demonstrated that significant vehicle trip reductions can be predicted by incorporating detailed simulations of user travel preferences and sensitivity to factors such as congestion, development density, use mix, cost, and convenience. As such, care should be taken in regional forecasting for removal or addition of major infrastructure, as the variables are often complex.

It is worth comparing regional traffic volumes and networks to similarly sized regions that have not expanded road capacity, either by policy, funding constraint, or geography. In addition to places like Multnomah County Oregon (home to Portland) and Kitsap County Washington (home to Bainbridge Island), Maine has its own example of Portland, where significant regional growth has not been matched by road capacity expansion in its most congested downtown (the peninsula) - yet local commerce, businesses, and the real estate market thrived for over three decades without significant changes to its roadway infrastructure.

Tri-Community Transportation Study

As such, the relative growth tells us several things:

1. The most effective solutions will be those that address the transportation needs of existing land uses.
2. As growth in the near term will be small, there is sufficient time to enact a number of strategies before existing transportation deficiencies are noticeably exacerbated.
3. Growth in traffic volumes at the periphery appears to be largely due to forecast growth outside of the Tri-Community area.
4. Strategies that are flexible enough to satisfy existing deficiencies while anticipating long-term ones will be by far the most effective.
5. Deficiencies identified in the long-term may be addressed by changes in land-use policies, a more robust transit system, and/or use of transportation demand management planning.

Funding Changes Based on Visioning Session

Funding Changes

Visioning/Public Process

Highway: 77% now, 54% future

Double Transit Funding

Triple Bike/Ped Funding

The Visioning Session allowed for public input on the relative proportions of transportation funding. While roadways retained the largest share of spending, the proportion of the funding dropped from 77 percent to 54 percent if compared to current MaineDOT spending allotments, or a 23 percent overall reduction of the total dollars. This reduction in funding would be shifted to transit and bicycle and pedestrian improvements.

As such, while most money would remain for roadways and bridges, this level of reduction suggests a primarily maintenance-based philosophy for roadways. Increasing transit and bicycle/pedestrian funding by the amounts envisioned at the public session would result in the potential for significant investments in these modes.

However, as highway funding currently comes in part from vehicular excise taxes and gasoline taxes, other funding strategies would need to be examined in order to make such a shift a possibility.

Use of Other Modes for Commuter Trips

Based on 2000 US Census data, trips by vehicle comprise approximately 93 percent of the commuter-related trips for Tri-Community area residents. Roughly comparably-related communities in many cases have a lower commuter share of work trips by car for residents. The City of Portland has 82 percent of

Tri-Community Transportation Study

Modal Shares

Commuter Trips are predominantly by car in Tri-Community for its residents

Car rate higher than many other areas:

Tri-Community, ME:	93%
Portsmouth, NH:	87%
Portland, ME:	82%
Ames, IA:	77%
Burlington, VT:	75%
Ithaca, NY:	49%

(Based on 2000 Census)

Most workers who live in Tri-Community work elsewhere

Keeping workers in communities important to using other modes

Plan Philosophy

Should serve all users

Should provide balance of options

Should minimize or reduce peak hour traffic volumes

commuter-related trips by car. Portsmouth, New Hampshire, 87 percent; Burlington, Vermont, 75 percent; Ames, Iowa, 77 percent; Ithaca, New York, 49 percent.

While each of these other communities may have some advantages due to configuration or differing demographics, it does make clear that many smaller communities do indeed have a lower use of vehicles by workers to commute. As commuters tend to comprise a significant proportion of peak hour traffic, a shift in these percentages could reduce or to some extent, reverse the growth in peak hour traffic volumes.

In terms of overall vehicle-miles traveled by individuals on state roadways in the Tri-Community area, based on data compiled by MaineDOT, travel by vehicle accounts for about 98 percent of trips, while transit accounts for the remaining two percent (excluding bicycle travel and walking, as data is unavailable).

A significant issue that impacts modal share in the Tri-Community area is the proportion of workers who leave the area for employment. For example, based on 2000 Census data, 48 percent, or about half of Biddeford workers are employed outside the Tri-Community area. As part of the Plan, it is important to address the proximity of housing and jobs, as this can play a large role in travel patterns.

Plan Philosophy and Goals

The Plan is based upon a series of transportation solutions that balance the needs of driver safety, vehicular mobility, pedestrian safety, as well as transportation access to the young, the elderly, and the handicapped. In addition, this Plan endeavors to have a balance of transportation options. The future of transportation in the Tri-Community area cannot solely be based on the private automobile. Non-motorized transportation and various transit options must play an increasing role in the communities.

The goals of the Plan, are to balance the needs of these modes and users, connect land uses and transportation policies, and last, but not least, minimize or even reverse the increase in peak hour vehicle volumes. By reducing these peaks, and moving people away from peak hours or into other modes, the need for costly projects can be avoided. As funding for transportation infrastructure remains diminished and is expected to do so for some time, preservation and optimization of the existing network will be essential to the mobility of residents, employees and visitors in the region.

Tri-Community Transportation Study

Plan Organization

- Regional Cooperation
- Land Use Strategies
- Regional Trans. Strategies
- Local Trans. Strategies

Plan Organization

In order to serve the needs of Biddeford, Saco, and Old Orchard Beach, as well as PACTS, MaineDOT, MTA and other agencies, as well as the public, the Plan has been organized as follows:

- Regional Cooperation
- Land Use Strategies/Recommendations
- Regional Transportation Strategies/Recommendations
- Local Transportation Strategies/Recommendations

Within the transportation strategies and recommendations, information is grouped together by mode, i.e. vehicular, parking, bike/ped, transit, etc.

Proposed Strategies and Recommendations

Regional Cooperation

Transportation Policy

Regional Cooperation

Recommendation: Establish Tri-Community Transportation Committee

Recommendation: Utilize and update Tri-Community Transportation Plan

One of the largest challenges to implementation of long-term transportation recommendations is the ability for a region to coordinate and act as a unified whole. In the case of the Tri-Community area, consensus and agreement results in the equivalent of a community with close to 50,000 people, or a group larger than any single municipality in Maine other than Portland.

This cooperation would translate to coordination on transportation policy and infrastructure construction being agreed up amongst Planning Boards, Councils, staff, and, ideally, representation at the PACTS and state level (i.e. the House of Representatives and the Senate).

Ideally, this work would be coordinated by a Tri-Community Transportation Committee, comprised of public works directors, planners, and other community staff as needed, with input from elected representatives, PACTS, MaineDOT, MTA, and the public as needed. In essence, it would largely be a smaller version of the Committee established for the establishment of this Plan.

In addition, the Tri-Community Action Plan would be an active guiding document, updated by the Committee in coordination with the MaineDOT Six-Year Plan. As such, there would be a continuously updated 25-year plan.

Tri-Community Transportation Study

Car-Free Tourism

Promote use of rail, transit, bikes

Decreases seasonal traffic

Recommendation: Work with Maine Board of Tourism to promote

Employment Incentives

Keep workers local

Makes other modes more viable

Could get more journey-to-work trips out of cars

Recommendation: Examine job growth strategies, such as with excise credits/reductions

Recommendation: The communities can examine the potential for a Tri-Community Transportation committee, comprised of public works directors, planners, and other community staff as needed, with input from elected representatives, PACTS, MaineDOT, MTA, BSOOB Transit and the public as needed.

Priority: Low

Implementation Schedule: Medium to Long-Term

Cost: Low

Responsibility: Tri-Community/PACTS

Recommendation: Utilize the Tri-Community Action Plan as an active guiding document, updated by the Tri-Community Transportation Committee on a six-year basis.

Priority: Medium to High

Implementation Schedule: Short to Long-Term

Cost: Low

Responsibility: Tri-Community/PACTS (Input from MaineDOT)

Car-Free Tourism

One opportunity for the area would be to work with the Maine Board of Tourism to promote rail-based (i.e. car-free) trips in the Tri-Community area, given the area's numerous seasonal attractions ranging from Funtown to the OOB Pier.

Recommendation: Pursue promotion of car-free tourism.

Priority: Medium

Implementation Schedule: Short to Medium-Term

Cost: Low

Responsibility: Tri-Community, Maine Board of Tourism

Employment Incentives

As alluded to earlier in this Chapter, a major factor in peak hour travel is the proportion of trips for Tri-Community workers by car, which appears to be largely related to the rate that workers seek employment in other regions. Residents who live in the Tri-Community area and have jobs in the same area will be far more likely to use alternative modes, as biking, walking, and most transit are more user-friendly for short trips.

If employers were encouraged to locate to the Tri-Community area, and given a reduction on excise taxes for employers that commute locally, it would encourage commuting by other modes, foster job growth locally, and grow the local economy in general. One possibility would be for the region to apply for federal grants to fund a multi-year pilot project to encourage local jobs growth (discussed in greater detail later in this Plan).

Tri-Community Transportation Study

URIP Funding Rates

Rural Towns

\$600 per lane-mile for town ways

\$600 per lane-mile for State Aid/minor collectors

\$300 per lane-mile for seasonal town ways

Urban Compact Municipalities

Within urban compact areas

\$2,500 per lane-mile for summer maintenance of State Highway and State Aid highways

\$1,250 per additional lane-mile for summer maintenance of State Highway and State Aid highways

\$1,700 per lane-mile for winter maintenance of State Highways only

\$0 per lane -mile for town ways

Outside urban compact areas

Same rates as "rural towns"

Land Use Strategies

Recommendation: Support shifting urban compact boundaries as per simplification study

Recommendation: Revise URIP program as per simplification study

Recommendation: The Tri-Community area should examine job growth strategies, including the potential for an excise tax credit, reduction or equivalent method to keep workers local, in order to reduce the rate of auto-based peak hour trips.

Priority: High

Implementation Schedule: Short to Medium-Term

Cost: Medium

Responsibility: Tri-Community

Land Use Strategies and Recommendations

The Plan is based upon a series of transportation solutions that balance needs of various users, as discussed above. However, transportation solutions and land use solutions are closely tied together. As such, it is important to understand major land use issues and policies in order to ascertain how changing policies may ultimately affect transportation itself.

One of the major issues surrounding land use and development patterns are the policies define urban versus rural development.

Urban Compacts

In the state of Maine, urban compacts were originally designated in 1913. Upon the passage of the bill, the Legislature declared that no construction bond funds could be utilized for state highways inside compact areas, and each Town had to maintain those roads in good repair at their sole expense.

While this has proven to be valuable, particularly for areas of the state where roadway maintenance can be seen as burdensome, the methodologies for determining the locations of urban compacts can result in boundaries that bisect a community, resulting in complexities in maintenance and paving programs. While it is unlikely that the urban compacts as they are currently utilized will disappear, a policy of shifting them to align with municipal boundaries is one potential strategy, although potentially complex. Short of this measure, reducing the complexity of these boundaries allows for simpler maintenance agreements between the compact communities and MaineDOT. This examination is taking place in a highway simplification study, which hopes to reduce the complexity of urban compact boundaries.

Recommendation: The Tri-Communities and other areas with urban compact boundaries should provide input on the highway simplification study, co-sponsored by MaineDOT and the Maine Municipal Association to recommend shifting the urban compact boundaries in a beneficial manner.

Tri-Community Transportation Study

Priority: Medium

Implementation Schedule: Short Term (ongoing)

Cost: Low

Responsibility: MaineDOT, MMA, Tri-Community (input)

Urban-Rural Initiative Program

Closely related to the system of urban compacts in Maine is the Urban-Rural Initiative Program (URIP), which replaced the Local Road Assistance Program (LRAP) in 1999. This program was set forth for use by MaineDOT to determine funding for roadways in Maine. A variable rate of state funding was established to allow communities and MaineDOT to determine the level of money available for roadway improvements.

The URIP program provides funding at a different rate for urban versus rural roadways, but it should be noted that the state does not fund construction on minor collectors within compact zones, nor does it fund maintenance paving for those roads. Again, as part of the highway simplification study, modifications to this funding formula should be considered.

Recommendation: The Tri-Community area should play an active role in the highway simplification study to ensure that the URIP allows for transportation funding in urban areas that benefit it.

Priority: Medium

Implementation Schedule: Short Term (ongoing)

Cost: Low

Responsibility: MaineDOT, MMA, Tri-Community (input)

Alternative Development Areas

As discussed in the land use and transportation demand forecasts earlier in this report, while a certain level of development exists in the planning stages in the Tri-Community area as well as the long-term potential throughout the area on various undeveloped parcels, a series of denser and more multi-modal oriented development plans could be achieved in the following areas:

1. Cascades/Route One Area of Saco
2. Sweetser Property Area in Saco
3. SMMC Area in Biddeford
4. West of Turnpike in Biddeford
5. Homewood Area of Old Orchard Beach
6. Downtown Old Orchard Beach

Examine Denser Alternative Development Areas

1. Cascades/Route One Area of Saco
2. Sweetser Property Area in Saco
3. SMMC Area in Biddeford
4. West of Turnpike in Biddeford
5. Homewood Area of Old Orchard Beach
6. Downtown Old Orchard Beach

Tri-Community Transportation Study

In addition, the mill/island districts and adjacent parcels should continue to be a development priority. Both the downtown Old Orchard Beach area and the mill/island districts are adjacent to significant existing transit stops/rail stations; as such, special focus should be paid to these areas for higher-density, mixed-use, transit-oriented development.

Recommendation: The Tri-Communities should establish development guidelines that encourage denser, mixed-use development in the Alternative Development Districts as well as continuing to encourage development in the downtown mill/island areas.

Priority: High

Implementation Schedule: Medium Term

Cost: Low to Medium

Responsibility: Tri-Community

Recommendation: The Tri-Community area should continue to encourage development adjacent to passenger rail stops, and potentially implement funding strategies (such as transit-based TIF districts discussed elsewhere in the Plan) to generate additional revenue for commuter rail operation.

Expand Year-Round OOB Developments

Residential

Commercial

Office

Recreational

Priority: Medium

Implementation Schedule: Short to Medium-Term

Cost: Low

Responsibility: Tri-Community

Year-Round Development in Old Orchard Beach

Recommendation: Newer residential developments, such as Dunegrass, suggest that OOB may have opportunities to increase its year-round housing stock, which could result in less variable seasonal traffic flows. As such, the Town may wish to focus on more year-round development in general to stabilize traffic flows.

Priority: Medium

Implementation Schedule: Short Term (ongoing)

Cost: Low

Responsibility: OOB

Other Land Use Recommendations

What follows is a listing of additional land use and development-related recommendations:

Tri-Community Transportation Study

Other Recommendations

Increased density

FAR/Transit Access Bonuses

Transit Planning in Alternative Districts

Bicycle Storage Facility Requirements

Transit-Based TIF Districts

Pedestrian-Friendly Site Design Requirements

Increased Density: Denser land uses similar to the Alternative Land Development Areas cited earlier in this report should be encouraged, with related changes made to the Ordinance as needed. Zoning rules should encourage mixed-use development in denser areas. For encouraging transit, the overall buildout in the Alternative districts should be three to five dwelling units per residential acre or 700 square feet of floor area per 1000 square feet of lot area for commercial developments.

FAR/Transit Access Bonuses: Denser land use could be achieved with providing density/FAR (floor to area ratio) bonuses for new or infill development, and encouraging transit-based access. This could be accomplished with tax credits, a simplified and fast-tracked approvals process, or a combination of incentives.

Transit Planning in Alternative Districts: New developments, especially those in Alternative development districts, should be planned with transit access in mind, encouraging easy access to buses, and having sufficient facilities for non-motorized modes, such as pedestrian and bicycle.

Bicycle Storage Facility Requirements: Already incorporated into the City of Portland's site plan review process, the Ordinance could include requirements for bicycle storage facilities, ranging from the use of standard outdoor bicycle racks for smaller development projects to indoor secure facilities, preferably a separate space, for larger projects.

Transit-Based TIF Districts: The use of Tax Increment Financing (TIF) districts has been used by many Maine communities to implement infrastructure improvements, as it shifts taxes from a general fund into a targeted series of planned modifications. The City of South Portland is in the process of creating transit-based TIF districts, and it is recommended that the Tri-Community area consider the same, esp. in the Alternative development districts.

Pedestrian-Friendly Site Design Requirements: The desire to accommodate large delivery vehicles - in particular, WB-50 to WB-67 tractor trailers at a wide variety of sites and locations has resulted in the creation of many large driveways with broad and sweeping curb lines. The net effect is the creation of an environment often hostile to the needs of pedestrians, who benefit from smaller curb to curb distances. It is recommended that the Ordinances for the Tri-Community Area default to minimal curb radii and driveway widths in site design requirements, and those applicants justify the need for larger driveways for delivery vehicles on an per-case basis. Ordinances should also require pedestrian facilities, including sidewalks and safe crossings in urban areas.

Tri-Community Transportation Study

Platted Streets/Site Interconnections: Historically, as many communities grew, municipal planners worked with land owners to plat, or grid out land in order to foster a cohesive and efficient plan of development. This simplified the process of utility, roadway and other types of growth, while minimizing the consumption of land. In recent decades, zoning requirements, comprehensive plans, and site plan approval requirements have resulted in a less cohesive manner of land use planning, resulting in a rigid hierarchical system of roadways, disconnected land uses, and “leapfrogging” of developments into rural areas without planning for the implications of this practice. It is recommended that the Tri-Community area work with landowners to determine a long-term series of pre-planned roadway and utility improvements. This, in turn, will encourage development in said planned areas, as applicants can enter into a more predictable approvals process.

Platted Streets/Site Interconnections

Interconnected Streets = less local traffic on major streets

Interconnected Streets = more bicycle/ped activity

Interconnected Streets = redundancy (emergency access)

In addition, as part of this process, site interconnections should be a part of any approvals process. Adjacent but non-connected developments, particularly those with complementary uses, force additional trips onto collectors and arterials, many of which have little or no peak hour excess capacity. In addition, many residential developments have been designed as a series of cul-de-sacs that force all traffic onto certain routes (known as the “lollipops on a stick” phenomenon), also reducing capacity on major roadways. Such design also results in a lack of roadway redundancy that can hamper emergency response times if a major arterial is blocked. It is recommended that Ordinances in the Tri-Community area call for site interconnections where feasible.

These connections can also be exclusively for non-motorized modes. Recent research by Lawrence Frank, Bombardier Chair in Sustainable Transportation at the University of British Columbia, examined a number of neighborhoods in King County, Washington and determined the following: Residents in areas with the most interconnected streets travel 26 percent fewer vehicle miles than those in areas with many cul-de-sacs. Recent studies by Frank and others show that as a neighborhood’s overall walkability increases, so does the amount of walking and biking—while, per capita, air pollution and body mass index decrease.

As such, even if cul-de-sacs exist for cars, providing connections for pedestrians and bicycles will promote more use of non-motorized modes as well as improving the health of residents in the Tri-Community area.

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Priority: Medium to High
Implementation Schedule: Short to Medium Term
Cost: Low to Medium
Responsibility: Tri Community

Regional Transportation Strategies and Recommendations

While many transportation plans provide recommendations on a micro-scale, i.e. the addition of a turning lane or retiming of a traffic signal, an important part of this Plan is the examination of transportation issues from a more regional context, in addition to so-called “spot treatments”.

Regional Vehicular Recommendations

Transportation Demand Management

Transportation Demand Management, or TDM as it is often called, refers to a broad umbrella of strategies intended to reduce peak hour vehicular traffic. The goals of these measures are primarily focused on preserving existing infrastructure capacity, and they can come in many forms. This section of the Plan primarily deals with TDM policies and changes to vehicular traffic, while the bicycle and pedestrian as well as the transit sections will discuss in greater detail the Plan’s recommendations for increasing the overall share of these modes of travel.

TDM Planning Assistance via GO MAINE/GPCOG/PACTS

GO MAINE is a program of the Greater Portland Council of Governments (GPCOG). From the website:

“GO MAINE provides information on, and access to, healthy, economical and eco-friendly modes of transportation for Maine commuters: Carpools, vanpools, transit, bicycling and walking to work.

We work with commuters, employers, business groups, planning agencies, transit operators, and other local and regional partners throughout the state to build demand and advance the mutual goals of improved air quality, reduced traffic congestion, energy conservation and lower commuting costs.”

It currently has a staff of three whose sole purpose is to find commuting alternatives to the single-occupant passenger vehicle.

Transportation Demand Management

Broad array of strategies

Reduce peak hour traffic

Examine other travel methods

Adjust transportation policies

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Recommendation: The Tri-Community area could work with Go Maine (and GPCOG/PACTS) to prepare a detailed TDM Plan for the region. This would be part of an overall strategy to be used by the TDM coordinators from each community (see below).

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: GPCOG/PACTS/GO Maine, Tri Community

TDM Planning

The Tri-Community itself can designate a staff member (likely a land use or transportation planner) to serve as a TDM coordinator. These coordinators can draft TDM plans for the individual communities, or create a Tri-Community TDM plan. If done regionally, the coordinators could work together in a Tri-Community TDM Committee.

TDM

Can coordinate efforts with Go Maine/PACTS/GPCOG

Each community have TDM Coordinator – form TDM Committee

Create three local or one regional TDM Plan

Recommendation: Designate a staff member from each of the Tri-Communities to serve as a TDM Coordinator

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: Tri-Community

Recommendation: The TDM Coordinators can oversee the creation of a community-specific plan, or preferably, a Tri-Community TDM Plan.

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: Tri-Community

Aspects of TDM Plans

What follows are a series of potential elements of TDM plans, as well as a means of encouraging the use of plan elements:

Financial Incentives for Use of Zoom Bus, AMTRAK, WAVE, and other Transit Services: The Tri-Communities could buy large groups of monthly passes to be distributed to local employers, in order to obtain lower rates. Employers would receive a tax break equivalent to the amount of the cost of the passes. The passes, in turn, could be distributed to employees for a greatly reduced cost or for free.

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Aspects of TDM Plans

Financial incentives for transit

Encourage car pooling/van sharing

Reductions in parking requirements if TDM objectives are met

Guaranteed ride home program

Employee benefits for walking/biking

Working with advocacy groups

Targeted TDM goals

Funding opportunities/sources

Encouragement of Car Pooling and Van Pooling: The TDM Coordinator for each community could coordinate with employers and GO MAINE to create clusters of proximate employers for potential ride sharing. This is likely a necessary step, as there are few sizable employers in the Tri-Community area as compared to the City of Portland, for example. Within each cluster, employees with similar schedules from a group of adjacent work origins could ride together. As further incentive, those employees with professions that could work away from the office (often in the legal, medical, or professional service fields) could utilize a wi-fi connection in the van.

Reductions in Parking Requirements via TDM

For those employers that do not have dedicated parking (i.e. parking is shared or rented from other sources), they could track the number of employees utilizing TDM as opposed to driving and determine whether their parking needs have been reduced. If so, the communities could reduce the parking requirements on a per-employer basis, to be confirmed by the TDM coordinator.

For those employers seeking to build in the Tri-Community area, a TDM plan would be required as part of the site plan review process. For those employers demonstrating a quantifiable reduction in the amount of on-site parking required, a reduction in a parking lot or structured facility would be allowed.

Guaranteed Ride Home Program

The GO MAINE TDM Coordinator would oversee a guaranteed ride home program, and a hotline would be created to allow employees to call in for a ride home if alternative and unplanned schedules arose. The simplest route is to contract with taxi drivers and/or car rental services at the beginning of this process, moving up to a van pool system as enrollment increases.

Employee Benefits for Walking, Biking or Transit

For employees either walking or biking, on average, once or more a week, part of a benefits package could include a monthly stipend toward walking or biking equipment; this money could accrue in a separate account, potentially with an associated credit-type card (much like health care accounts). This could be a small sum of money, perhaps \$25 per month, but over three years, for example, this would allow for the purchase of a completely new bicycle. For participating employers, this could be a tax credit. The same credits could be applied to provide either some or all

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the cost of using transit, particularly for downtown employers otherwise saddled with the potential of constructing a costly parking garage.

Working with Advocacy Groups

A way to increase awareness of the viability of other modes would be to work with local advocacy groups. One such group locally is the Community Bicycle Center, which encourages and recruits young people to actively use bicycles in a safe, conscious manner, fostering healthy activities and an appreciation for travel by bicycle. On a statewide level, the Bicycle Coalition of Maine advocates for all aspects of bicycle travel, from new infrastructure to state legislation promoting bicycle use and bicycle safety.

The Tri-Communities could partner with these organizations to have rallies, festivals or fundraisers for community building and increased awareness of non-motorized modes.

Targeted Goals for TDM Programs

Aspects of TDM Plans (cont.)

Working with advocacy groups

Targeted TDM goals

Funding opportunities/sources

TDM programs have value only if they result in their goals of reducing peak hour traffic. At an employer, community, regional, and PACTS-wide level, a series of targeted annual goals should be attained. Ideally, these goals would require a reduction in peak hour commuting volumes by one percent every two years (or one half percent every year). This is a relatively minor change in traffic on an annual basis, but it would offset anticipated growth in most of the Tri-Community area.

If more aggressive TDM plans were successful, on the order of one percent per year, the decrease would more than offset forecast growth, and peak hour traffic volumes would begin to slowly decline.

Funding Opportunities

The PACTS Region could create a series of general funding determinations for roadway improvements over the next 25 years, based on a non-TDM growth rate, and a TDM-growth rate. This could be done five years or so after the initiation of PACTS region TDM plans, in order to utilize existing reduction data to forecast long-term reductions. As the TDM-based forecast would likely have less peak hour traffic, and therefore, fewer changes required to the transportation network, the argument for reduced funding could be made. Some percentage of this differential, say 50 percent, could be applied to future TDM programs to make them even more robust.

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Regional Tolling

Recommendation: Explore outreach campaign to encourage more MTA use by local traffic

Recommendation: Encourage a joint resolution to examine local tolling potential

Congestion Pricing

Likely a long-term solution only

Not currently viable in political climate

Differing tolls at different times of day

Tri-Community should work with local representatives to explore options

Regional Tolling

Currently, the Maine Turnpike has three Main Line Toll barriers: York, New Gloucester, and Gardiner. In addition, the Turnpike has specific enter/exit tolls. One opportunity for the Tri-Community region would be an examination of regional tolling, in order to create a Tri-Community zone in order to encourage use of the Turnpike for more local use, but reflect the costs inherent with utilization of the Turnpike as a more regional travel corridor.

Recommendation: The Maine Turnpike Authority and the Tri-Community region could explore an expanded outreach campaign that would encourage greater use of the Turnpike by local traffic.

Priority: Medium

Implementation Schedule: Medium Term

Cost: Medium

Responsibility: Tri-Community, MaineDOT, MTA

Recommendation: The Tri-Community can create a joint resolution with the assistance of the MTA to request that additional study be focused on the potential for regional tolling.

Priority: Medium

Implementation Schedule: Medium Term

Cost: Medium

Responsibility: Tri-Community, MaineDOT, MTA

Congestion Pricing

Congestion pricing is a concept that has existed for some time, and has been used in a number of communities and regions, most notably, London, England. It is based on the idea that a lower toll during off-peak periods and a higher toll during peak periods may encourage commuters and employers to travel away from the peak hour, thus fulfilling its role as a potential TDM strategy.

This concept was originally discussed in Maine in 1996, when it was viewed as a larger region issue for the Turnpike as a whole. The Maine State Legislature, concerned that such pricing would affect tourism in the state along the primary connection to and from major northeast markets, ultimately voted it down.

However, the ability to use congestion pricing more locally, in particular at Exit 32 and the Industrial Park Road interchange on I-195 may allow for some shifting of peak hour volumes to off-peak times. As such, examination of this measure may have value

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as a long-term strategy. It should be noted that the Advisory Committee is not in favor of this strategy in the current political environment; this is unlikely to move forward in the near future.

Recommendation: The Tri-Communities may work with their local representatives, if desired, to review the concept of a more localized congestion pricing policy as a potential long-term strategy.

Priority: Low

Implementation Schedule: Long-Term

Cost: Medium

Responsibility: Tri-Community, State of Maine

MaineDOT Traffic Movement Permit

Typically administered by MaineDOT (Southern Region in case of Tri-Community)

Applies to projects generating in excess of 100 trips in a peak hour

Permit process for 100-200 trips: 3 months

Permit process for 200+ trips: 3-6 months

Can be delegated by community

Recommendation: Tri-Community communities should explore a joint delegated review process

Traffic Movement Permit Process

Since 1997, the MaineDOT has overseen permitting for all projects in the State of Maine for developments generating 100 trip ends or more during a peak hour of operation (a trip end being a trip to or from a site). Currently, the exceptions to this rule are those few communities that presently oversee the review themselves via delegated review (Portland, Lewiston and Auburn).

The ability to complete the review locally allows the community to more closely tie it into its site plan review process, as well as making sure that local transportation-related requirements are met, if more stringent than those set forth by MaineDOT. As a result, it can often simplify the approvals process and expedite projects moving forward.

Recommendation: The Tri-Community area should explore a delegated review process, either by community or together.

Priority: Medium to High

Implementation Schedule: Short Term

Cost: Low

Responsibility: Tri-Community, MaineDOT

Level of Service

As is often referenced in transportation impact studies, as well as permitting documents for infrastructure of various types, infrastructure's ability to carry certain volumes of traffic, be it vehicular, transit, pedestrian, or bicycle, is often discussed much like an academic report card, with an 'A' meaning little delay and an 'F' meaning extensive (and by correlation, understood to be unacceptable) delay. Essentially, a 'low' level of service suggests that a piece of infrastructure has reached its carrying capacity.

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In recent decades, this concept has often been tied with the idea of increasing capacity to accommodate a specific mode, i.e. the automobile, usually resulting in a greater number of travel lanes, new intersection controls, or roadway widening. As the infrastructure has become more automobile-oriented, and travel by auto therefore facilitated, the result has been a continuous inducement of demand for additional auto travel, and the need for infrastructure modifications ongoing. These changes have resulted in significant socio-economic impacts, land impacts, and shifting of economic activity away from established urban centers. Furthermore, the addition of new infrastructure often results in neglect or even abandonment of older infrastructure, resulting in wasted previous investment.

Level of Service (LOS)

Signifies ability of infrastructure to carry movement

Often utilized to justify costly infrastructure expansion

Can use LOS to examine other mitigation strategies

De-emphasize overriding significance of vehicular capacity as driving force in urbanized areas

While level of service is a useful tool, it may serve a region better if the recognition was that once infrastructure reaches its carrying capacity, regardless of mode, other solutions should be examined to provide an alternative as per STPA. For example, if a transportation study indicated that peak hour traffic volumes for an intersection resulted in that location experiencing volumes five percent over capacity, the goal of the study should be to investigate solutions that might reduce peak hour traffic volumes by up to five percent. In particular, this is a philosophy that should be adopted in the urbanized areas within the Tri-Community.

Recommendation: Revise peak hour level of service (LOS) requirements, particularly in the Tri-Community urbanized areas, to de-emphasize the need to add capacity through infrastructure expansion in the case of low levels of service, and explore other mitigation strategies, in accordance with STPA.

Priority: Medium to High

Implementation Schedule: Medium to Long-Term

Cost: Medium

Responsibility: Tri-Community, State of Maine

Encouragement of Specific Routing

Where two or more potential routes through a region exist, if one route has more traffic or congestion, it can aid in moving peak hour flows if one route is promoted more than another. While prohibitions cannot be placed on state-aid roadways, signage could be used to encourage use of certain routes.

Recommendation: Shift through traffic away from the Main Street corridor in downtown Saco/Biddeford to favor Elm Street with signage posting Elm at the through street by reducing travel time

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Encouragement of Routing

Less traffic on Elm versus Main

Encourage through traffic on Elm with signage

Encourage use of Route 5 with signage

Roadway Improvements

Roadway widening last resort

Major roadways to Tri-Community should be kept up to standards and maintained

Congestion can make other modes more viable in downtowns, save money on costly new infrastructure

Recommendation: Complete multi-modal alternatives analysis prior to major infrastructure investments

on Elm Street (signal coordination, geometric improvements, etc.). Elm currently carries 25 percent less peak hour traffic, and does not face constraints such as Pepperell Square or an active at-grade rail crossing.

Priority: Medium

Implementation Schedule: Medium-Term

Cost: Medium

Responsibility: Tri-Community, MaineDOT

Recommendation: If a local collector-distributor road is eventually constructed in the vicinity of the former Exit 5 interchange, encourage use of Route 5 for peak hour travel with signage, as it carries approximately half the traffic of Route 112.

Priority: Low

Implementation Schedule: Long Term

Cost: Medium

Responsibility: MaineDOT

Roadway Improvements/Expansions

While the carrying capacity of roadways is an issue, as previously discussed, capacity constraints typically exist at intersections. In addition, this report, as it is in harmony with the policies established in the Sensible Transportation Policy Act (STPA) seeks to widen roadways and/or otherwise expand infrastructure as rarely as possible, instead seeking a balanced series of solutions.

This being said, the major roadways to and from the Tri-Community area should be designed and maintained to current pavement condition and safety standards, whenever possible. In areas where the configuration of the roadway results in significant turning conflicts, such as the four-lane section of Route 1 in Saco north of downtown, an alternatives analysis should be completed to determine the most cost effective solutions prior to major expansion. For example, the MaineDOT has discussed the potential of making the four-lane section of Route 1 a five-lane section, which would likely cost tens of millions of dollars.

The alternatives analysis could include the potential measures or combinations of measure that could be undertaken for equivalent cost. Could transit use be significantly expanded? Could a combination of transit use and roadway narrowing, to three lanes, be accomplished?

Additionally, a certain level of congestion may be beneficial in urbanized areas, as it keeps vehicular speeds slower, and

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ultimately closer to non-motorized travel speeds. In areas such as Pepperell Square in Saco, the result is that it is often easier for pedestrians to cross the street where traffic is frequently queued than where traffic is flowing freely. Combined with transit that has signal pre-emption capability, congestion can also encourage use of non-vehicular modes.

The larger concern with certain routes, 112, 111, 5, 22, 98 in particular may be addressed by the Central York County Connections Study and the potential for a collector-distributor road in Saco (discussed elsewhere in this Plan).

Recommendation: Complete a multi-modal alternatives analysis prior to the design and implementation of major modifications to Tri-Community transportation infrastructure. Roadway analysis should examine bicycle, pedestrian and transit needs and include sidewalks, shoulders/bike lanes and transit stops where feasible.

Local Trucking

No existing signage encouraging truck routing

Progression on Elm affected by signal timing/coordination, roadway grade

Priority: Medium

Implementation Schedule: Medium Term

Cost: Low

Responsibility: Tri-Community, MaineDOT

Truck Routing on Local Streets

Raised during the Committee meetings, and observed in the field, large trucks, ranging from WB-50 tractor trailers (and larger) to logging trucks at times utilize the local infrastructure system. Given that there are local industrial generators, typically in the vicinity of the Saco Industrial Park area and the Precourt Street corridor in Biddeford, trucking on local routes is to be expected.

However, at this time, there is little in the way of signage directing trucks to preferred routes. Trucks cannot be prohibited on state-aid roadways, but they can be encouraged to utilize certain streets utilizing signage. Based on a review of the major connections through Biddeford and Saco, it would appear that Elm Street makes is preferable to Main Street, although the grade on Elm Street headed southwesterly from South Street results in trucks frequently taking significant time to come up to speed.

Trucks also enter the community via other routes, such as Route 5, and unless specifically routed, may resort to urban residential streets to reach major access points, such as Industrial Park Road. Ideally, a collector-distributor road near former Exit 5 by the Maine Turnpike would aid in keeping trucks off of residential streets.

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Old Orchard Beach is seeking to develop industrial areas with a new access road, likely to receive funding this year. As the area would be adjacent to the terminus of I-195, it is anticipated that large trucks on local streets would be minimized.

Recommendation: Designate Elm Street (Route 1) as the primary truck route through Biddeford and Saco, and encourage its use with truck route signage (it should be noted that field visits suggest this is already the primary trucking route).

Priority: Medium

Implementation Schedule: Medium Term

Cost: Low to Medium

Responsibility: MaineDOT

Recommendation: Coordinate the traffic signals along Elm Street at Main Street and South Street (approximately 1,000 feet apart) to create progression for trucks, reducing the potential for a stopped truck headed up the hill on Elm Street at South Street. This would reduce delays and emissions.

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: MaineDOT

Recommendation: If desired, Saco, Biddeford and Old Orchard Beach can work with PACTS, MaineDOT and MTA to study trucking issues in greater detail and provide additional recommendations on routing and signage. This would also include a survey of local trucking generators.

Priority: Low

Implementation Schedule: Short to Medium Term

Cost: Low

Responsibility: Tri-Community, PACTS, MaineDOT, MTA

Recommendations:

Route 1 (Elm) Primary Route

Use Designated Signage

Provide Signal Coordination, Updated Timing

Work with MaineDOT, MTA, PACTS on determining local trucking route issues and solutions

Regional Parking Recommendations

Parking Policies

Parking Regulatory Changes: A hidden obstacle to expanded transit usage in most communities is the requirement to provide parking far in excess of actual demand and with no revelation of the cost to provide the parking. If a commuter has a car and is only comparing the cost of gas versus a bus fare, the travel time savings of departing in a personal car versus walking to a bus will never encourage people to ride the bus. However, the cost

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equation is poorly revealed, as road construction and maintenance costs per traveler are hidden in fuel taxes and other fees, and parking spaces – even in high-value areas – are typically provided for free.

Meanwhile, the Tri-Community area implicitly encourages driving over transit use through zoning codes. Besides specific issues with the communities’ parking requirements, outlined as follows, the simple existence of minimum lot sizes, subdivisions, and untapped floor area outside of dense districts means that more and more driving is necessary.

Parking Regulations

Parking often provided in excess of demand

Most parking requirements in Tri-Community in excess of published data

Recommendations:

More flexible requirements

Allow for reduced demand

In-lieu payments

More Off-site parking

Discourage front yard placement where feasible

With regard to parking requirements, the Tri-Community’s codes all use parking quantities that are above the national standards published by the Institute of Transportation Engineers (ITE) in their *Parking Generation Manual*. This source clearly states caution should be used when applying these numbers to places that are not stand-alone and possess transit service, a mix of uses, and sufficient density to allow for non-motorized travel between uses – all of which are characteristics of at least half of the built area in the tri-towns. At this time, Biddeford, Saco and Old Orchard Beach all require more parking than the ITE publication. Serious utilization of transit cannot be encouraged with regulations that work directly opposite to the densities, mix of uses, and constrained parking that are needed for transit.

Old Orchard Beach: While OOB has Downtown District definitions that suggest a dense, mixed-use environment with design controls, the parking code works against this goal. All land uses in OOB’s code require noticeably more parking than ITE. With the exception of retail, restaurant, and office uses in the downtown overlay district, the community is requiring an oversupply of parking on all new development – and a Planning Board waiver is required to reduce this level of parking provision. In its downtown, off-site parking can relieve these requirements, but the off-site lot must be within 500 feet (less than half the recommended walk distance) and under common ownership.

Given that landowners often do not own multiple parcels in a downtown, particularly contiguous ones, this provision does not accommodate infill development without Planning Board waivers. Some relief is provided for shared parking in the downtown, but only for planned unit developments. Meanwhile, there are no form-based controls other than some downtown parking lot screening and setback requirements, but front-yard parking is not

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discouraged anywhere. Driveways are not required to be raised to sidewalk level across sidewalks, and the minimum split driveway median width of five feet is too small to safely protect a bicycle or adult with baby stroller.

Recommendations:

- Investigate lowering parking minimums in applicable categories
- Eliminate parking minimums in the downtown (with an in-lieu payment offset if desired - similar to Portland)
- Greater off-site distance requirement and no ownership requirement in the downtown areas
- Town-wide shared parking
- Bicycle parking requirements
- Discourage front-yard parking in all zones
- Improved driveway standards

Shared Parking

Demand varies throughout the day

Mixed-uses with shared parking facilities allow for reduced parking areas

Saco: Saco's parking requirements are very similar to Old Orchard Beach's, with parking provided higher than conservative ITE rates in all categories. Reduced parking is allowed in the B-3 district (includes some of downtown) and off-site parking can be provided as far as 1,200 feet away without ownership requirements in several districts; public lots can be considered for this allocation. Shared parking also is encouraged for all downtown properties with no ownership requirement, and waivers for changes of use are easily granted. Parking on Saco island is negotiable. Saco does limit front-yard parking in commercial districts.

Recommendation: Investigate lowering parking minimums in applicable categories - eliminated in the downtown (with an in-lieu payment offset if desired); bicycle parking requirements; and improved driveway standards.

Biddeford: Similar to the other two towns, Biddeford requires more parking than ITE for all land uses with the exception of restaurants. In its downtown zones, Biddeford provides waivers to encourage redevelopment. Uniquely, it allows public on- and off-street parking to be part of the zoning allocation within 1000 and 500-feet respectively. Off-site private parking within 400-feet is encouraged with no ownership requirement, and sharing is encouraged throughout the downtown. Similarly, no front-yard parking is allowed. Biddeford goes beyond its peers by requiring consideration of biking, walking and transit in site design.

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Recommendation: Investigate lowering parking minimums in applicable categories - eliminated in the downtown (with an in-lieu payment offset if desired); greater off-site distance requirement; and specific bicycle parking quantity requirements.

Priority: High

Implementation Schedule: Short to Medium Term

Cost: Low

Responsibility: Tri-Community

Regional Bike/Ped Recommendations

Regional Eastern Trail Recommendations

The former Eastern Railroad, now long-defunct and serving as a gas line corridor, is being converted to a multi-use bicycle and pedestrian facility, known as the Eastern Trail. It currently traverses most of the Scarborough area, and the trail continues to be developed. As of the time of this report, this facility is being designed from Thornton Academy to Cascade Road, including a bridge crossing of Route 1. This will allow for travel on a separated facility beginning near the Biddeford/Saco downtown area. Another project under construction is the connection between Kennebunk, through Arundel, into Biddeford, with a bridge under design and due for construction in 2010 over the Maine Turnpike. The trail is typically ten feet in width, and composed of stone dust.

The trail is part of the East Coast Greenway project; while the current Eastern Trail route utilizes a number of local roadways south of the current Eastern Railroad bed conversion, the long-term goal is to extend the Trail southerly along the Eastern line to South Berwick. By 2011, while the Trail will be opened between Kennebunk and Biddeford, trail users will need to access existing streets to get into Saco. Also, by 2011 the Trail will be open between downtown Saco at Thornton Academy through Saco to the existing portion of the trail connecting OOB to Saco. This will allow for seamless travel with the exceptions of the Biddeford and Saco downtowns as well as between South Portland and Scarborough.

The primary challenge to the Tri-Community area will be to connect the Biddeford to Kennebunk section with the Saco to Old Orchard section via access the former Eastern Railroad bridge spanning the Saco River, owned by Pan Am, or by other means.

Eastern Trail

On former Eastern Railroad right-of-way

Non-motorized "highway" through Tri-Community

Ten feet in width – stone dust surface

Should be converted to bituminous surface for more rapid travel, better conditions in inclement weather

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Recommendation: The Eastern Trail should be considered the primary “spine” of non-motorized travel for the Tri-Community area. Much like a major highway, it should have access points to other non-motorized connections, such as sidewalks, bike lanes, and trails, to encourage local and long-distance travel.

Recommendation: The Eastern Trail should eventually be converted to a bituminous asphalt surface, in order to facilitate long-distance travel between communities. The existing on-road portions should eventually be converted to off-road.

Priority: Medium

Implementation Schedule: Medium to Long Term

Cost: Medium

Responsibility: ETA, Tri-Community, MaineDOT

Other Regional Bike/Ped Recommendations

Other Bike/Ped

Recommendation: Narrow lanes/reconstruct where possible to allow for bike lanes/paved shoulders.

Recommendation: Narrow lanes on existing urban streets to eleven feet in width where feasible (in particular, along Routes 111 and 1) to provide additional striped shoulder area and/or bicycle lanes. Collector and arterial streets in general should have shoulders to allow for the placement of industry-standard bike lanes, including through intersections.

Priority: Medium

Implementation Schedule: Short to Medium Term

Cost: Low to Medium

Responsibility: MaineDOT, Tri-Community

Recommendation: Major roadway reconstruction projects along urban streets should include a determination of on-street parking demand; if a neighborhood determines that is only desires on-street parking on one side of a street, the potential for bicycle lanes becomes that much greater.

Priority: Medium

Implementation Schedule: Ongoing

Cost: Low

Responsibility: MaineDOT, Tri-Community

Recommendation: Construction of curb cuts that keep pedestrians at the sidewalk elevation in order to avoid the undulations constructed on many sidewalks, which can create hazards for people in wheelchairs or even runners.

Priority: Medium

Implementation Schedule: Medium Term

Cost: Medium

Responsibility: MaineDOT, Tri-Community

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WAVE Service.

Recommendation: The Tri-Communities should consider adopting provisions for Association of Pedestrian and Bicycle Professionals (APBP) and American Association of State Highway and Transportation Officials (AASHTO) approved bicycle parking in their ordinances for new developments.

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: Tri-Community



ZOOM Express

Recommendation: Policies should be investigated that would make it more feasible to develop trails along active rail lines.

Priority: Medium

Implementation Schedule: Long Term

Cost: Low

Responsibility: Tri-Community, trail groups

Regional Transit Recommendations



Shuttle Bus Local

Although relatively small in population, the Tri-Community area is served by a number of transit providers, discussed as follows:

Downeaster: Intercity rail, operated by AMTRAK, currently providing regular service between Portland and Boston, with two stops in the Tri-Community region.

WAVE: The Wheels to Access Vocation and Education (WAVE) service, operated by the York County Community Action Corporation (YCCAC) provides on-demand service from Sanford to major shopping points in Biddeford and Southern Maine Medical Center (in addition to a separate service to Wells).



Shuttle Bus Intercity

ZOOM Turnpike Express: Funded by MaineDOT and the Maine Turnpike Authority and operated by Biddeford-Saco-OOB Transit, this service provides access from Park and Ride lots in Biddeford and Saco to downtown Portland via the Maine Turnpike and I-295.



Downeaster

Shuttle Bus Local: This service provides local stops and access for the Tri-Community area, running between the Shops at Biddeford Crossing through Saco and arriving at the Cascade Shopping Plaza in Old Orchard Beach on hourly intervals.

Shuttle Bus Intercity: The intercity service begins at SMMC and provides regular service to the Chamber of Commerce in Old Orchard Beach, Dunstan Corner and Oak Hill in Scarborough, the Maine Mall in South Portland, and ultimately Monument Square and City Hall in South Portland.

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Nor'easter Express: This is a seasonal service, from September to May, which provides access for UNE students to downtown Biddeford and Saco as well as the Saco Transportation Center. It operates seven days a week.

Trolley: A summer seasonal service in Old Orchard Beach and Scarborough; a west side and east side route is operated to serve the various campgrounds and attractions in the community.

Transit Interoperation

Many services provided for a small population base

Services not typically coordinated

Opportunities exist for additional coordination

Transit mode share typically two percent or less of trips (based on total travel miles per year)

Transit Use and Interoperation

Existing transit services in the Tri-Community region have some coordination, but could serve specific markets and specific alignments with increased interoperability, especially where services overlap. This is most noticeable in the relative isolation of Zoom service from other services, the narrow service of the UNE shuttle, the impact Amtrak train stops have on bus operations in Saco, and the uncoordinated stop locations of the overlapping ShuttleBus and Tri-Community routes. The potential exists for significantly increased coordination.

Transit Cost versus Automobile Cost

An important aspect of examining the viability of transit from a return on investment standpoint is the operational cost per passenger mile. One way of looking at this cost is to compare it with a typical vehicle cost. The standard reimbursement for a vehicle per mile based on federal standards as of July 1, 2010 is \$0.50 per mile. The cost per passenger mile for transit services were also compiled based on data provided by operators and is as follows:

Transportation Cost

(Passenger Mile – Est.)

Car (1 person):	\$0.50
ZOOM:	\$0.22
ShuttleBus Local:	\$0.65
ShuttleBus Intercity:	\$0.42
ShuttleBus UNE:	\$1.41
OOB Trolley:	\$0.21
Downeaster:	\$0.63

Many modes competitive on a per-mile basis with private vehicles (assuming single occupant).

Passenger Vehicle (single-occupant):	\$0.50/pass. mile
ZOOM Turnpike Express:	\$0.22/pass. mile
ShuttleBus Local:	\$0.65/pass. mile
ShuttleBus Intercity:	\$0.42/pass. mile
ShuttleBus UNE:	\$1.41/pass. mile
OOB Trolley:	\$0.21/pass. mile
Downeaster:	\$0.63/pass. mile

These numbers are approximate, and additional information is provided in the Appendix. Based on data provided for the WAVE Service, it is expected that the operational cost is somewhere between \$5.00 and \$20.00 per passenger mile, although more information is required to make a final determination.

Tri-Community Transportation Study

Given the cost shown on the previous page, many of the transit services are competitive with vehicles per passenger mile. It should be noted that ZOOM and trolley services achieve a significantly lower cost per passenger mile than a single-occupant automobile, and the ShuttleBus and Downeaster are competitive. None of these rates account for cost of infrastructure, but are useful for discussion purposes in terms of benefit/cost.

Downeaster

Operated by AMTRAK

Fastest-growing route in AMTRAK system

Intercity (not commuter) rail

Extended to Brunswick in 2012

Operates primarily on single-track facility

No funding provided by NH

Recommendation: Support eventual commuter rail service to Portland on Pan Am/Downeaster line

Recommendation: Improve OOB Chamber of Commerce building for year-round service

Recommendation: Support initiatives to locate passenger rail access to downtown peninsula and/or coordinate with ZOOM and other buses

The WAVE Service is more costly per mile than the other services, which is typical for paratransit, as it tends to serve a more individualized, dispersed market.

Downeaster

In 2001, after several decades of no passenger rail service to Maine, the Amtrak Downeaster was inaugurated. It has become one of the fastest-growing routes (in terms of ridership) in the entire Amtrak system, and its current terminus of Portland will be extended to Brunswick in 2012. The service currently provides northbound and southbound access to Boston's North Station five times per day.

The service utilizes the Pan Am (formerly Boston and Maine then Guilford) rail line. The Tri-Community area is served by two stops; the Saco Island-based Transportation Center, and the seasonal stop at the Chamber of Commerce building in Old Orchard Beach.

The Downeaster is designed to operate as an intercity rail provider. As such, its schedule is primarily intended to facilitate travel from points north of Boston to Boston, and back. This has allowed for a commuter base to be established for points of origin destined for places of work in Boston, but does not currently allow, for example, residents of downtown Biddeford, Saco and Old Orchard Beach to commute to Portland for work. This issue is further hampered by the fact that the current Transportation Center in Portland is along the Mountain Division Line, and is on the opposite side of I-295 from downtown Portland, making connections to downtown difficult. In addition, access to METRO from the Downeaster requires passing through the Transportation Center; this transfer could be served by scheduled bus service arriving on the other side of a shared platform.

Tri-Community Transportation Study



Downeaster Route Map

Long-term, more intensive service is limited by the fact that the majority of the Pan Am line between Portland and Boston is single-tracked, and the need to share the single track with freight rail can result in delays, even for existing service. It should be noted that the 2006 Destination Tomorrow Study included the concept of commuter rail access to the Saco Transportation Center from Portland. The Gorham-East West Study includes a bus-based transportation corridor along from Gorham, potentially to the Center or downtown as part of its future year analysis.

Old Orchard Beach has been investigating the potential for year-round service by adding heating to the Chamber of Commerce facility.

Recommendation: Support the long-term goal of commuter rail service to Biddeford as conceptualized in the Destination Tomorrow Study.

Priority: Medium

Implementation Schedule: Long Term

Cost: High (Likely require double tracking)

Responsibility: Pan Am, NNEPRA, MaineDOT



Downeaster passing through Ocean Park, Old Orchard Beach.

Recommendation: Year-round use of the Old Orchard Beach stop should be a priority, especially in light of greater year-round residences being constructed in the community.

Priority: Medium

Implementation Schedule: Short to Medium Term

Cost: Low

Responsibility: OOB, NNEPRA

Recommendation: Continue to investigate the long-term potential to locate passenger rail access to downtown Portland (i.e. rail station) in order to allow for potential commuter access to the City; this should be coordinated with ZOOM Bus schedules in order to maximize transit potential between the Tri-Community area and Portland.

Priority: Low

Implementation Schedule: Long Term

Cost: High

Responsibility: MaineDOT, Portland

Tri-Community Transportation Study

WAVE Service

The Wheels to Access Vocation and Education (WAVE) service, provided by the York County Community Action Corporation (YCCAC), provides flexible transportation options in an area that does not have the population or housing density to support fixed route transportation and where trip origins and destinations are in the “many-to-many” category (i.e. mass-transit). The current service provides door-to-door service on a demand basis within an hourly scheduled time frame per bus from Sanford-Springvale to two major destinations –Wells and Biddeford.

Several studies have identified the Route 111 corridor between Biddeford and Sanford as suitable for some sort of transit service. Existing population and housing densities along that route don’t currently support fixed route, scheduled transit; however, the WAVE ridership shows that there is significant demand along that corridor to support some “regular” service along the Route. A concept of providing a route-deviation scheduled service for WAVE along the Route for two trips in the morning and two trips in the afternoon is proposed. The service is basically scheduled around arriving and departing ZOOM Express Bus Service between Biddeford and Portland. Funding for the provision of this service needs to be coordinated with the YCCAC.

WAVE Service

Operated by YCCAC

Alternative to fixed-route transportation

Provides door-to-door service

Service from:
Sanford to Biddeford
Sanford to Wells

Recommendation: Adjust WAVE Service to allow for connections to ZOOM Express Bus Service

Recommendation: Coordinate with YCCAC to determine funding mechanism for expanded service

Recommendation: Adjust WAVE service to allow for connections to the ZOOM Express Bus Service.

Recommendation: Coordinate with YCCAC to determine an appropriate funding mechanism for expanded WAVE service.

Priority: Medium

Implementation Schedule: Medium Term

Cost: Low to Medium

Responsibility: MaineDOT, YCCAC

Transit Information: Existing transit services in the Tri-Community region are strong given their level of funding but must operate generally unconnected, mostly serving three core markets: turnpike commuters (ZOOM Turnpike Express), UNE students (Nor’easter Express), and local service (Shuttlebus Local). While there is a degree of coordination for connections between Portland and UNE as well as between Local and Intercity services, transfers are typically required – sometimes two. Meanwhile, other markets must deal with long transfer penalties or long rides, particularly any Tri-Community commuters bound for Portland who don’t first drive to a ZOOM lot as well as Southern Maine Medical Center employees living north of Old Orchard Beach.

Tri-Community Transportation Study

A number of recent and planned efforts are underway to improve transit information in the region, placing it in the hands of more potential riders. These include:

- The production of a new regional transit map by PACTS, which includes schedule and route information for ShuttleBus and ZOOM services plus route information for WAVE and the Nor'easter
- The planned installation of new bus stop signs on the ShuttleBus/ZOOM system
- A new transit information webpage at GoMaine
- The planned inclusion of greater Portland's transit systems on Google Transit

Current Transit Initiatives

Regional transit map from PACTS – includes schedule, route info for ShuttleBus/ZOOM/WAVE/Nor'easter

New bus stop signs on ShuttleBus/ZOOM routes

New transit info webpage (GO MAINE)

Inclusion of Portland-area transit on Google Transit

Recommendation:

Implement transit buddy program (corporate partnerships)

Recommendation:

Implement transit trip planning software

Recommendation:

Update key stops on transit system to have real-time information

These efforts will begin to expand the potential market for the existing transit services in the region. Additional improvements are recommended:

Recommendation: Transit Buddy Program. Local businesses, such as retail destinations, hotels, and larger employers, can be invited to become “transit buddies” that can have their business name listed on transit marketing and information materials (maps, brochures, websites, etc.) in return for installing and maintaining up-to-date schedule and route information in weatherproof schedule holders at nearby bus stops. Local transit providers can recommend preferred equipment and notify buddies when to print and mount schedule or route updates.

Priority: Medium to High

Implementation Schedule: Short Term

Cost: Low

Responsibility: BSOOB, Employers, Tri-Communities

Recommendation: Trip Planning Software. All providers should work to direct potential riders who call, visit a website, or receive written materials to trip-planning websites that include the services of all local providers. Google Transit has not yet launched the data for Portland. However, local providers should anticipate this service becoming active soon or should initiate such service.

Priority: Medium

Implementation Schedule: Short Term

Cost: Low

Responsibility: BSOOB, Tri-Communities

Tri-Community Transportation Study

Improved Transit Stops

Construction of new stops can be costly

Cost-effective solutions are preferable

Recommendation #1: Provide signage with route-specific information

Recommendation #2: Provide passenger waiting lights at stops

Recommendation #3: Begin "adopt-a-spot" program



Lit bus stop pole.

Recommendation: Real-Time Information. Recent research is suggesting that providing potential riders with the knowledge of whether there is a bus coming soon or not can be enough to shift many new travelers to transit. Real-time arrival systems eliminate the anxiety about whether a rider has just missed the bus – especially where headways are larger, as they are in the Tri-Community region. This research also suggests that real-time information can overcome any concerns about reliability and frequency, as long as the next bus can be seen or predicted. While a regional system of electronic kiosks with real-time bus information is not likely in the near future, many web and cell-phone enabled services exist today that can provide riders with real-time locations and even arrival predictions for area transit services before they have to stand and wait at a bus stop. Serious consideration should be given to equipping local transit providers with the necessary GPS units, wireless equipment, and internet interfaces to make real-time services a reality. Many university systems in the US have done this for well under \$1,000 per vehicle, with some regional providers developing full real-time systems for as little as \$60,000. YCCAC services already have GPS, and PACTS operators are looking into the same.

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: BSOOB, YCCAC

Improved Transit Stops. Every transit rider must become a pedestrian for a portion of their trip, and in regions attempting to attract new riders, the amount of time spent walking to/from a bus stop can be a notable component of the overall trip time. Today, the amenities at Tri-Community bus stops are minimal if not entirely missing. Acknowledging that attractive and comfortable bus shelters are expensive to maintain and install system-wide, many transit providers in the U.S have begun to implement many cost effective solutions that should become part of a simple bus stop improvement program in the region.

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: BSOOB, YCCAC

Recommendation: Route-Specific Signs. In addition to ensuring that a sign exists at every bus stop, providers have made signs that call out all route names/numbers serving a stop to help provider riders with a guarantee of the buses serving a stop – especially

Tri-Community Transportation Study

when a rider must occasionally use an unfamiliar stop. These more customized signs can be made with very little incremental production cost and should be part of planning for every transit provider in the region.

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: BSOOB

Recommendation: Passenger Waiting Lights. A valuable technology that greatly reduces the anxiety of waiting passengers is the actuated waiting light, mounted atop the bus sign pole. Solar powered and weatherproof, the LED light that alerts bus drivers to the presence of a rider is actuated by a push-button that is set to time out before the shortest possible route headway is reached. Passengers have the comfort of knowing that drivers will stop – especially at night or along higher-speed roads – even if the rider is not carefully looking down the street, which allows riders to conduct other tasks (reading, writing, talking, etc.) and help reduce their perceived wait time. Many options include small passenger benches built into the base of the lighted sign pole. Passenger waiting lights should be installed in all areas with posted speed limits above 35mph that are outside commercial areas, or where local lighting conditions are not optimal. This includes much of Route 1 and Route 9 outside of the town centers.

Priority: Medium

Implementation Schedule: Short to Medium Term

Cost: Low to Medium

Responsibility: BSOOB

Recommendation: Adopt-A-Stop Program. A step beyond the “transit buddy” program is an adopt-a-stop program for local businesses. Similar to adopt-a-highway programs, local businesses can have their name advertised on local stops in return for a minimal level of improvement or maintenance. For those capable of installing new shelters, passenger waiting lights, or other substantial transit stop amenities, the installations can carry their business name on a sign or placard. For others committed to maintaining existing infrastructure, another version of such signs can be installed. This program helps provide essential transit amenities in partnership with the private sector.

Priority: High

Implementation Schedule: Short to Medium Term

Cost: Low

Responsibility: BSOOB, Employers

Locations with Adopt-a-Stop

South Portland, ME

Houston, TX

Austin, TX

San Jose, CA

Orlando, FL

Durham, NC

Greensboro, NC

Pittsburgh, PA

Athens, GA

Tacoma, WA

(Note: Some programs volunteer-based.)

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Interlining Services: Interlining is the practice of running a bus to a different route at the end of one route, thus allowing passengers to continue toward a major destination without changing buses.

The ShuttleBus/ZOOM system provides a very predictable and efficient set of services to the region as well as other area commuters. With headways as little as 30 minutes, the system serves local residents, regional commuters, and intercity commuters (to and from Portland) with only five buses operating at a time. Unfortunately, these five buses are serving three completely different routes that do not directly interface: local, intercity, and express commute.

Local service connects the three Tri-Community downtowns using two buses that depart their end terminals in Biddeford and Old Orchard beach hourly. A run takes one hour, one-way. At the eastern terminus in Old Orchard Beach, this local service conveniently provides a timed transfer to the intercity service, whose single bus continues north to Portland on a one-hour trip – providing connections to and from Portland every two hours. For Tri-Community residents seeking to commute by bus from their downtowns to Portland, service is only available every two hours, and it requires a transfer in Old Orchard Beach. From Biddeford, this is a two-hour commute with a transfer.

Meanwhile, the express commute service (ZOOM) operates two buses on limited stop 30-minute long service between Biddeford and Portland, enabling departures every 30 to 40 minutes throughout the day. While local service stops outside the Exit 32 Park and Ride lot that ZOOM serves, these services are not coordinated and effectively operate independently. Tri-Community residents must typically drive and park to use ZOOM, often competing with other users of the service arriving and departing from farther to the north and west.

Recommendation: Due to the unique characteristics of the system’s well-timed existing frequencies, a notable change can be made to the operation of ShuttleBus services in the Tri-Community service area that interlines four of the five buses. By connecting the ZOOM route to the local and intercity route and then through-routing portions of every run made by one ZOOM bus, the intercity bus, and both local buses, several notable advantages can accrue:

- The need to transfer at Old Orchard Beach is eliminated,

Interlining Services

ShuttleBus ZOOM Service

30-minute peak headways

Carries many passengers with few buses

Three major routes – do not interface

Portland access from downtowns difficult

ZOOM requires driving from downtown

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allowing passengers to have a single seat ride between Biddeford and Portland along the coast route on every other local bus.

- Westbound local buses in the Tri-Communities become express runs when they reach the turnpike, as opposed to stopping and turning around as they do today. For residents in Saco and Biddeford, what is now a 90-minute or two-hour ride to or from Portland (that includes a transfer) with two-hour frequencies can become a 30 to 60 minute single-seat express ride every hour.
- Express turnpike service continues to operate every 30 minutes.
- All existing service frequencies are maintained at all local stops.

A schematic service plan for the interlined service is included in the Appendix. This work could be done with minimal to no additional cost, assuming that time-saving improvements such as the transit priority corridor in Portland are in place.

Recommendation:

Interconnect ZOOM and local bus services

Recommendation:

Pursue adjacent area speed-inducing strategies to improve Tri-Community and Portland-area transit services

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: BSOOB

Recommendation: Successful interlining of bus service is dependent upon gaining some travel time efficiencies in the current ZOOM service. While some runs can be reduced to a 60-minute effective cycle by dropping the recovery time from their schedule and utilizing the recovery time currently scheduled at Old Orchard Beach, other runs cannot due to congestion delays in Portland - particularly during the afternoon. Several parallel transit speed strategies should be pursued:

- The City of Portland is evaluating operations changes on Congress Street that create a “transit priority corridor” where ZOOM service could terminate (in addition to other stops such as MMC), as opposed to making multiple stops on the peninsula. One well-placed stop can continue to serve many commuters with a single-seat ride while others can utilize the higher frequency local services on Congress Street.
- With local service for Biddeford residents interlined with ZOOM, the Biddeford Park and Ride lot may not be an essential ZOOM stop.
- To offset the loss of service to the Biddeford Park and Ride,

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serious consideration should be given to utilizing the conference hotel exit for park & ride service instead of the existing Saco Park and Ride lot. This location can serve commuters coming from both the turnpike and local roads while avoiding the congested intersections near the existing Saco lot.

- If preserving the Saco Park and Ride were a priority, ZOOM service would be greatly benefitted by the striping of a new bypass bus-only shoulder lane on northbound Industrial Park Road with a large transit shelter connected by a high-visibility crosswalk to the parking lot (pending a shoulder review for bus loading). This operation could reduce bus route delays and can be accommodated by reducing the median/lane widths.

Integrated Fare/Pass

Seven different transit operators in Tri-Community area – each has differing fare structures

Recommendation: Examine potential for unified fare and pass structure for southern Maine transit users

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: BSOOB

Integrated Fare/Pass Structure: With a total of seven different transit operators in the Portland and Tri-Community area, a single fare structure would go a long way in simplifying use of various services for riders, as well as making the potential for greater use of monthly passes much greater. Something akin to the E-Z Pass system and/or the Charlie Card (MBTA) system could encourage ridership by simplifying the user experience. This topic will likely be examined in greater detail in a forthcoming transit coordination and consolidation study to be funded by PACTS.

Recommendation: Examine the potential for a unified fare and pass structure for southern Maine transit users.

Priority: High

Implementation Schedule: Medium Term

Cost: Medium

Responsibility: BSOOB, PACTS, METRO

Transit Priority: Transit speed and some possible reliability impacts can be reduced through transit-specific intersection and stop improvements that help buses clear areas of delay or congestion more quickly. Three primary tools should be considered in the region:

Recommendation: Signal Preemption. Where buses experience start-up delays after stopping before a congested intersection,

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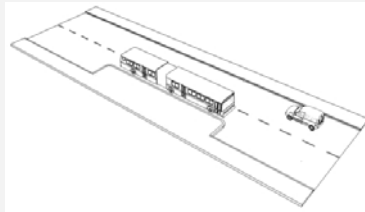
some jurisdictions in the U.S. have turned to signal preemption as a solution. With this feature, a bus approaching an intersection can transmit a wireless signal to the traffic signal control box, extending the green phase just long enough for the bus to enter the intersection. A likely location is Five Corners at Routes 1 and 111 in Biddeford, one of the Shuttlebus Local stops.

Priority: Low to Medium

Implementation Schedule: Short to Medium Term

Cost: Low to Medium

Responsibility: MaineDOT, BSOOB



Bus stop extension.

Recommendation: Bus Stop Extensions. In regularly congested or low-speed downtown environments with higher transit demand, many jurisdictions have installed curb extensions that bring bus stops and shelters to the edge of the travel lane - essentially the opposite of a bus pull-out. In these environments, the delay to vehicular traffic associated with a bus stopped for a few seconds in the travel lane for boardings and alightings is a small percentage of the existing downtown delays. Of greater value are the safer and more predictable bus operations, as opposed to the complexity of merging a bus back into a traffic stream after a curb lane stop is made - not to mention the impact on transit speed. This is recommended in the downtown areas of Biddeford and Saco in particular, such as on Main Street and Elm Street, where the speeds are low, and reducing times for bus stops important.



Former Portland and Rochester Railroad.

Priority: Low to Medium

Implementation Schedule: Medium to Long Term

Cost: Medium

Responsibility: MaineDOT

Recommendation: Increased Shuttle Bus Frequency/Extended Schedules. Based on the consensus at the Visioning Sessions, increased funding is desired for transit; increasing the ShuttleBus local frequencies from 60 minutes to 30 minutes would encourage greater use of the service. In addition, consideration should be given to the potential of limited bus scheduling in the evening for those working outside of a standard shift, or doing activities at night.

Priority: High

Implementation Schedule: Medium Term

Cost: Medium to High

Responsibility: MaineDOT, BSOOB

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Transit Corridor along Route 25 & 202/Former RR R-O-W

Transit for Route 25/Route 202 Corridor

Former Portland-Rochester Line - connected:

Portland
Westbrook
Gorham
Buxton
Hollis
Waterboro
Alfred
Springvale
Sanford

Many communities once served by line now using Tri-Community infrastructure

R-O-W abandoned by 1961

Much of former R-O-W still intact

Use of route from Portland to Gorham examined in Gorham West Study

Routing can be done on Route 25 to Route 202

Long-term transit options:

Bus Rapid Transit (BRT)
Rail (Likely beyond 2035)

High-quality transit could divert activity away from Tri-Community infrastructure

Once part of the Worcester, Nashua and Portland Division of the Boston and Maine Railroad, this rail service provided freight and passenger rail access from Portland through Westbrook, through Hollis, over to Sanford, and into New Hampshire through Nashua prior to reaching Worcester. As it was ultimately one of three parallel lines operated by the Boston and Maine (the other two being the current Pan Am/Downeaster line and the Eastern Railroad line now hosting the Eastern Trail), it was largely abandoned in Maine by 1961, with one portion acquired by MaineDOT; in Westbrook, much of this right-of-way has been taken up by Hutcherson Drive, Laurence Road, and William L. Clarke Drive. A similar connection can be made with Routes 25 and 202 by car – or bus.

Although this line never served the Tri-Community area directly, (the only active lines are the Pan Am primary line and a portion of the former Eastern RR line) it allowed for a direct passenger connection from many communities to the north and west on to Portland, and roadway travel by car is less direct and more congested today. As significant housing growth has taken place in these communities, but the large jobs base remains in and around Portland, the result is the large influx of vehicular traffic into the Tri-Community area, as discussed elsewhere in this Plan.

The Gorham West Study conducted by MaineDOT and MTA has included the potential for a transit corridor (bus-based) roughly parallel with this former right-of-way, along Route 22.

New Britain-Hartford Busway project has been submitted for \$45 million in New Starts funds and will use a former rail right-of-way for a BRT (bus rapid transit) service. In the case of this facility, bus service could use of local streets such as Route 25 and go to the Portland Transportation Center or downtown. If ridership continued to increase, this service could shift to a re-acquired right-of-way and become higher-speed in nature. Eventually possible, but likely beyond 2035, could be use of rail service.

Although acquiring rail right-of-way can be time-consuming and expensive, it is currently being completed along the Lewiston Lower Line from Lewiston to Lisbon by the Lewiston-Auburn Railroad Company, which was abandoned by Guilford (now Pan Am) in the 1980's. And it can cost less than securing entirely new rights-of-way for highway construction (especially when environmental and socio-economic costs are considered).

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Although the transit recommendations in the Gorham East-West Corridor Study focus on access as far as Gorham (as it is the project study area), the potential for transit service connecting through Buxton, Hollis, Waterboro, Alfred and Sanford can be studied in greater detail. A high-quality, low headway, high-speed service along this route would have the long-term potential to divert peak hour commuter traffic away from the Maine Turnpike, and could delay or eliminate entirely the need for costly infrastructure improvements within the Tri-Community area. This topic could be reviewed as part of the Central York County Connections Study; however, the Committee does not see it as a viable solution at this time, given its likely high cost.

Recommendation:

Investigate option further as part of Central York County Connections Study

Phasing:

1. Use Route 25/202 for bus transit corridor
2. Transfer to separate R-O-W if ridership is great enough

Recommendation: Investigate the potential for transit access along Routes 25/202 and in or near the former Portland to Rochester right-of-way. This alternative could be included in the analysis for the Central York County Connections Study; however, it is unlikely to be implemented for the foreseeable future.

Priority: Low

Implementation Schedule: Long Term

Cost: High

Responsibility: MaineDOT, BSOOB

Local Transportation Strategies and Recommendations

In addition to the regional strategies, localized changes are recommended as follows:

Local Vehicular Recommendations

Former MTA Exit 5 (Exit 36) - Saco

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.

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The Maine Turnpike Authority, as well as MaineDOT have reviewed the potential for some form of additional connectivity for this area in the past. An alternative to this connection would be to examine an extension to Jenkins Road or an overpass of Jenkins and back to Route 112. This would have a similar benefit for interception of vehicular traffic from the north and west that the former Route 5 would accomplish.

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

Former MTA Exit 5

Existed prior to I-195

Northbound connections only

Serves hotel/convention center

Spacing insufficient for use as full interchange

Other Options

Flag Pond Road-area interchange with Cascade Road

Collector/Distributor Road providing connections to Routes 5 and 112

Recommendation: Tri-Communities and MTA could explore series of long-term strategies to determine future Turnpike connections

Recommendation: Tri-Communities should preserve future access corridors

Tri-Community Transportation Study

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

Responsibility: Tri-Communities

Route 1 (Main Street), Saco

Turning conflicts

Five HCL's along road

Recommendation: Continue to pursue potential funding for widening/capacity improvements

Exit 32

Carries traffic from Route 111 and Biddeford retail district

Experienced significant growth in recent years

Interchange recently reconstructed

Intersection with Route 111/ Precourt Street carries heavy peak hour traffic

Will be further studied as part of Central York County Connections Study (CYCC)

Recommendation: Tri-Communities should be able to review and comment on recommendations from CYCC study

Route 1 (Main Street) - Saco

Main Street north of Elm Street in Saco typically consists of four lanes, two in each direction. Given the number of access points and businesses along this corridor, the demand for left turns is relatively high, which results in turning conflicts. The result is that a number of sections of this corridor are classified by MaineDOT as High Crash Locations, particularly between Elm Street and I-195. For some time, the potential for adding a turn lane to this corridor has been examined by MaineDOT. At this time, no such project is funded, but the City should continue to pursue potential improvements along this route.

Recommendation: The City of Saco should work with MaineDOT to pursue improvements to the capacity and safety of Route 1 north of Elm Street.

Priority: High

Implementation Schedule: Short to Medium Term

Cost: High

Responsibility: Saco, MaineDOT

Exit 32 - Biddeford

In the past ten years or so, this exit has had major reconfigurations completed to its ramps, and its intersection with Route 111 (Alfred Road) and Precourt Street has been modified significantly as part of off-site mitigation requirements for nearby commercial developments. As the capacity at this interchange has increased, so has demand, particularly during peak hours. This demand is primarily due to three factors, which are the increase in housing units in small communities along Route 111, the loss of jobs in the Sanford/Springvale area over the past several decades, resulting in long commuter trips from this area, and the addition of a significant amount of commercial/retail space.

Tri-Community Transportation Study

Exit 32 Park & Ride/ ZOOM Bus

Peak parking in lot may exceed demand

Parking may occur across the street

No revenue source for adding structured parking

Various strategies can be explored to provide revenue enhancement

Other solutions (WAVE, etc.) may reduce demand on lot parking

Recommendation: Explore cost sharing for ZOOM Bus to allow for accommodation of parking expansion

Recommendation: Explore other options/solutions to parking demand, including increased transit (i.e. WAVE)

As one of the locations expected to see future growth, the long-term capacity of this interchange will likely face challenges. Over the years, several potential solutions have been contemplated, ranging from the potential of new interchanges to a new roadway. The MaineDOT as well as the Maine Turnpike Authority have recognized the significance of connections to Central York County, and as such a large-scale study, the Central York County Connections Study will soon be underway.

Recommendation: The Tri-Community area should be provided with an opportunity to provide review and comment on the Central York County Connections Study, as its findings and recommendations will ultimately affect this area. Pending the outcome of that study, the communities should continue to a dialogue with the Maine Turnpike Authority on a long-term solution for this location in concert with MTA interchange policy and its long-term plans.

Priority: High

Implementation Schedule: Short Term

Cost: N/A

Responsibility: MTA, MaineDOT, Tri-Community

Exit 32 Park and Ride/ZOOM Bus - Biddeford

At this time, the Maine Turnpike oversees and allocates funding to the operation of this surface lot; at this time, this location experiences peak loading that comes close to lot capacity. In addition, there is anecdotal evidence that additional parking takes place on the south side of Route 111 near the Wendy's parking area by Wal-Mart.

One potential solution to the parking demand would be to increase the parking capacity at the existing lot by adding a level of structured parking. However, there is currently no means of generating revenue for the existing lot, which is a disadvantage.

As such, if an expanded facility were desired as a solution, a revenue source would be required. This is something that can be explored by Biddeford in particular as well as MaineDOT and MTA.

Other potential solutions to the Park-and-Ride exist as well, including transfers to the ZOOM from the WAVE bus (discussed in greater detail elsewhere in this report). Another potential solution would be the placement of other Park-and-Ride facilities to reduce the load at the Exit 32 location. It should be noted that

Tri-Community Transportation Study

Recent/Planned Intersection Improvements

Elm/Water (Saco): signal upgrade

Route 112/Industrial Park Road (Saco): signal upgrade

Elm/Main/North/Beach (Saco): signal upgrade

I-195 ramps to Main (Saco): queue detection

Main/I-195 eastbound ramps (Saco): signal upgrade

I-195 EB Ramp to Industrial Park Road (Saco): queue detection

Main/Hutchins/Shannon (Saco): signal upgrade

Main/King/Fairfield (Saco): signal timing plan

Route 111 corridor from Biddeford Crossing to Five Points (Biddeford): signal system/timing updated

Biddeford Downtown: Signal retiming recommended

Saco/Union/EE Cummings (OOB): signal upgrade

Halfway Rotary (OOB): roundabout conversion

some of the transit recommendations may reduce the demand for parking at this facility.

Recommendation: Explore the potential for cost-sharing between Biddeford, MaineDOT and the MTA, which would be compiled as necessary to allow for expansion of the Park-and-Ride facility.

Priority: Medium

Implementation Schedule: Medium Term

Cost: Medium

Responsibility: MTA, MaineDOT, Biddeford

Recommendation: Other options to the existing Park-and-Ride facility, such as expanded WAVE bus service and other ZOOM-accessed Park-and-Ride facilities should be explored.

Priority: Low to Medium

Implementation Schedule: Medium Term

Cost: Low to Medium

Responsibility: MTA, MaineDOT, Tri-Community, BSOOB, YCCAC

Recent/Planned Intersection Improvements

Typically, capacity constraints, especially for vehicular traffic, are most significant at the intersection of two or more streets. These issues are often addressed by implementation of various forms of traffic control, often with signalization equipment. Often, small changes to operations of intersection control can result in a significant reduction in delays for a relatively small amount of money.

What follows is a listing of projects either recently completed, underway, or already planned:

- Saco: The intersection of Elm/Water is being upgraded with improved signal equipment. (Pending)
- Saco: The intersection equipment at Route 112/Industrial Park Road is being upgraded. (Pending)
- Saco: The detection for the intersections of Elm/Main/North Beach is being upgraded to video. (Pending)
- Saco: Queue detection improvements for I-195 ramps to Main Street have been designed. (Completed)
- Saco: New signal equipment for Main Street at the I-195 eastbound ramps has been recently installed. (Completed)

Tri-Community Transportation Study

Intersection Recommendations

Recommendation: Complete work on intersections designed in Saco

Recommendation: Retime signals in downtown Biddeford

Recommendation: Route 111 Corridor (Biddeford): conversion to roundabouts

Recommendation: Elm NB to North (Saco): prohibit lefts

Recommendation: Elm Street Bridge (Saco): restripe for longer LT storage

Recommendation: Eliminate Elm/Spruce traffic signal

Recommendation: Close inner lane of NB Main (Saco) for one week – measure queuing – determine if feasible solution

- Saco: Queue detection improvements for the I-195 eastbound off-ramp to Industrial Park Road have been designed. (Pending)
- Saco: An updated signal plan for the intersection of Main Street at Hutchins and Shannon has been designed. (Pending)
- Saco: An updated signal plan for the intersection of Main Street at King/Fairfield has been designed. (Pending)
- Biddeford: The traffic signal along Route 111 corridor from Biddeford Crossing to Five Points in Biddeford was updated in 2006. (Completed)
- Biddeford: Retiming was recommended for several downtown signals in the Biddeford Downtown Traffic/Parking Plan. (Proposed)
- Old Orchard Beach: New signal equipment at the intersection of Saco/Union/EE Cummings is to be placed. (Pending)
- Old Orchard Beach: The Halfway Rotary was a candidate for a roundabout; this should continue to be pursued providing that the Town is willing to provide the local share of the improvement costs. (Uncertain)

Intersection Recommendations

In addition to those locations already in the planning stages, other improvements may happen as follows:

Recommendation: Implement intersection improvements already designed in Saco as funding allows.

Recommendation: Retime the intersections in downtown Biddeford:

- Elm Street at Main Street
- Elm Street at South Street
- Alfred Street at Jefferson Street

Recommendation: The intersection of Elm Street with Spruce Street does not appear to meet signal warrants. A warrant analysis should be completed to determine if the signal should be removed; field visits indicate that it interferes with progression along the Elm Street corridor.

Recommendation: If long term-downtown traffic growth continues in Biddeford, convert the intersection of Hill Street at Main Street and Water Street to a roundabout; this could also be pursued as a downtown improvement/gateway treatment.

Tri-Community Transportation Study

Intersections

Convert Hill at Main and Water to roundabout in Biddeford

Convert Route 111 corridor in Biddeford to multi-lane roundabouts if capacity constraints dictate

Prohibit left turns from Elm Street northbound in Saco to North Street; relocate to Lincoln Street

Restripe Elm Street Bridge in Saco to provide longer LT lane

Examine Garfield Road intersections for possible signals/other improvements

Close inner lane of Main northbound at Beach for one week to determine if operations acceptable in Saco

Make improvements along Industrial Park Road in Saco a priority

Recommendation: Route 111 in Biddeford in the commercial district near the Turnpike will likely never be widened - if additional capacity is needed at intersections within the next 25 years, the only solution (in addition to TDM policies) may be the construction of multi-lane roundabouts at the following locations:

- Route 111 at Biddeford Crossing
- Route 111 at Biddeford Gateway Center
- Route 111 at Wal-Mart
- Route 111 at Exit 32
- Route 111 at Shaw's

Recommendation: Left turns from Elm Street northbound to North Street westbound in Saco should be prohibited, and the relatively low volume of left turns should be routed from Elm to Lincoln to Spring to North and Elm to Scammon to North.

Recommendation: Restripe the Elm Street Bridge from Biddeford coming into Saco to extend the left turn storage area on Elm eastbound, in order to accommodate the changes to the intersection of Elm and North Street.

Recommendation: Monitor Garfield Street at Routes 5 and 112 to determine when a traffic signal may be warranted. In addition, appropriate turning lanes should be provided at these intersections.

Recommendation: Lane geometry at the intersection of Main Street, North Street and Beach Street is awkward, based on the need to complete lane transitions in a short distance. This could be alleviated by having one northbound through lane on Main Street, but previous studies have indicated that there may be some queuing issues. As such, a testing method is proposed. The inner through lane of northbound Main Street at North Street in Saco could be closed for one week with barrels and/or jersey barriers and observe queues during summer with and without second lane to determine feasibility of adjusting geometry without committing to restriping.

Recommendation: Monitor Five Points in Biddeford to determine if congestion becomes a significant issue. Five Points south could be given added capacity if West Street was restored as a one-way eastbound street, as the conversion to two-way added a signal phase and lost capacity.

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Recommendation: Continue to pursue transportation improvements at the Industrial Park Road ramps with I-195 as well as Industrial Park Road with North Street, as increased congestion may result in diversions of traffic to other streets. This includes added approach lanes off of the I-195 ramps, and the eventual construction of a dual left turn movement from North Street to Industrial Park Road.

Priority: High

Implementation Schedule: Short to Long-Term

Cost: Low to High

Responsibility: MaineDOT, Tri-Community

Main Street Near Transportation Center

Wide-four lane section

Continuous NB left turn lane

Continuous SB right turn lane

Recommendation: Evaluate RT lane on Main to determine if portions or all can be eliminated

Recommendation: Add raised islands to LT lane to reduce potential for lane bypassing

Main Street Near Transportation Center

This segment of Main Street was significantly widened to provide a continuous left-turn lane from the southern end of Factory Island to Pepperell Square for northbound traffic, and a continuous right-turn lane into one of the Factory Island access points for southbound traffic. As this section of the roadway is in an urban location, the speed differential is lower than that usually desired for a right turn lane, and the use of a continuous one can result in driver confusion.

The northbound continuous left-turn lane is of greater concern. Site observations indicated that vehicles would utilize the lane to “jump”, or bypass the northbound through queue, resulting in a potentially dangerous condition.

Recommendation: Complete an evaluation of the continuous right-turn lane near the Transportation Center to determine if portions or the entire lane can be eliminated and the roadway narrowed.

Recommendation: Add small raised islands to convert the continuous left-turn lane on Main Street to three separate left turn lanes in order to minimize driver confusion and reduce the potential for lane bypassing.

Priority: Low

Implementation Schedule: Short to Medium Term

Cost: Medium

Responsibility: MaineDOT, Tri-Community

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Seasonal Traffic in Old Orchard Beach

While Biddeford and Saco do see some seasonal fluctuation, it is significantly less of an issue than in Old Orchard Beach, where the community's population and related peak hour traffic flows increase significantly from June through August. As it is unrealistic to expand the Town's roadway system for a short season, given the cost and the community impacts, other solutions should be explored.

Seasonal Traffic in OOB

Traffic heavy only in mid-summer

Expansion of infrastructure too impacting, not cost effective

Recommendation: Explore additional transit options with partners beyond campground operators

Recommendation: Add Park-and-Ride lot on future ID road and access with transit

Parking in OOB

Significant parking potential by Ballpark, off of future IP road

Recommendation: The Town, BSOOB and the region should explore more transit options (likely through expanded use of the Trolley), which could include shuttles from Park and Ride lots or more downtown shuttles for visitors already driving into town. In the near-term, implementation of these options would require partnerships with private entities, above and beyond the campground operators already participating in their operation.

Priority: Medium

Implementation Schedule: Short to Medium Term

Cost: Medium

Responsibility: Old Orchard, BSOOB

Recommendation: The Town has been pursuing a potential industrial access road off of the end of I-195, which appears to be moving forward. As part of the development of this project, the Town should examine the potential for developing Park-and-Ride lots on some of the adjacent land and integrating this into the local bus system.

Priority: High

Implementation Schedule: Short Term

Cost: Medium to High

Responsibility: OOB

Local Parking Recommendations

This portion of parking focuses on specific items; additional policy-related discussion is contained in the Land Use Policy portion of this Plan.

Parking in Biddeford

Parking accommodations in downtown Biddeford have been extensively evaluated and discussed in the Downtown Traffic Circulation and Parking Management Study completed for PACTS and the City in 2006. The recommendations included

Tri-Community Transportation Study

the addition of metered parking and included the potential for a parking garage at Alfred/Jefferson/Washington block.

Parking in Saco

Downtown Saco also has a variety of on and off-street parking areas, particularly along Main Street between Water Street and School Street. Some signage exists for municipally-owned parking along the east side of Main Street, but the size of the signs is relatively small. A number of privately-owned parking areas exist behind buildings on the west side of Main Street, but these tend not to be signed. A significant cluster of parking areas exists between Water Street and Storer Street, but drivers along Main Street may not be aware of their presence. In addition, the configuration of these parking areas is inefficient, and could benefit from reconfiguration and/or consolidation.

The proximity of the Hannaford to the proposed alignment of the Eastern Trail, which will pass by the site to the north in order to cross the I-195 interchange with Main Street/Route 1 provides potential for trail-related parking.

Recommendation:

Implement Downtown
Biddeford parking study
recommendations

Recommendation:

Consolidate parking in Saco off
of Main – could involve long-
term development potential

Parking in Old Orchard Beach

Old Orchard Beach has a significant amount of on and off-street parking near Grand Avenue and Milliken Street. In addition, the Town's goal of reusing the Ballpark will likely result in another possible parking area. If additional parking is required, the Park-and-Ride facility recommended along the industrial access road anticipated near the terminus of I-195 may allow for significant "overflow" in the case of special events.

Recommendation: Continue to support and implement the recommendations included in the Biddeford Downtown Traffic Circulation and Parking Management Study, including the potential for structured parking at Alfred/Jefferson/Washington block.

Priority: High

Implementation Schedule: Short to Medium Term

Cost: High (Parking Garage)

Responsibility: Biddeford

Recommendation: Examine the potential for increased parking consolidation and efficiency on the back of the block of Main Street in Saco from Water Street to Storer Street.

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Priority: High
Implementation Schedule: Medium to Long Term
Cost: Medium
Responsibility: Saco

Recommendation: Investigate the long-term potential of development of the back of the block of Main Street in Saco from Water Street to Storer Street to structured parking associated with mixed-use development.

Priority: Medium
Implementation Schedule: Long Term
Cost: High
Responsibility: Saco

Recommendation: Create a unified system of Tri-Community wayfinding signage for parking distinctive to these communities.

Parking

Recommendation: Create unified Tri-Community wayfinding system

Recommendation: Examine potential for trail head/limited parking near Saco Hannaford

Recommendation: OOB can provide special-event overflow at Ballpark or by IP Road

Priority: Medium
Implementation Schedule: Medium to Long Term
Cost: Low to Medium
Responsibility: Tri-Communities

Recommendation: Work with Hannaford to provide a trail head and related parking near the Route 1/I-195 crossing of the Eastern Trail in Saco (Hannaford has agreed to a similar configuration in Turner).

Priority: Low
Implementation Schedule: Short Medium Term
Cost: Low
Responsibility: Saco, ETA

Recommendation: Old Orchard Beach can provide for special-event overflow parking at the Ballpark, or utilize the Park-and-Ride lot recommended along the Industrial Park Road during evening hours coupled with increased transit access.

Priority: Medium
Implementation Schedule: Short to Medium Term
Cost: Medium
Responsibility: Old Orchard Beach

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Local Bike/Ped Recommendations

Bike/Pedestrian Access at the Saco Transportation Center

The Saco Transportation Center, provides parking for vehicles, access to bus service, and provides a stop for the Downeaster. In addition, its location in downtown Biddeford and Saco provides for pedestrian access. At this time, bicycle access and storage is more of an issue. Improved pedestrian access is recommended, including improved crossings and sidewalk connections from surrounding neighborhoods.

Recommendation: Biddeford, Saco, and Eastern Trail Alliance could work with Pan Am to provide a bicycle connection alongside the railroad line from the facility south to where it runs alongside the Eastern line to connect to the Eastern Trail as well as nearby neighborhoods (this recommendation was previously identified in the PACTS Bike/Ped Plan).

Priority: Low to Medium
Implementation Schedule: Long Term
Cost: Medium to High
Responsibility: ETA, Biddeford, Saco

Recommendation: Provide bike lanes/facilities where feasible; examples include along Lincoln Street and Water Street in Saco by using narrowed lanes to get access to the future Eastern Trail (this recommendation was previously identified in the PACTS Bike/Ped Plan).

Priority: Low to Medium
Implementation Schedule: Short Term
Cost: Low to Medium
Responsibility: Saco

Local Eastern Trail Recommendations

Recommendation: Saco - The Eastern Trail should be provided with a connection near the overpass of Route 1 to Route 1 itself, potentially through the Seacoast RV Sales lot.

Priority: Medium
Implementation Schedule: Short to Medium Term
Cost: Low to Medium
Responsibility: Saco, ETA

Saco Transportation Center

Can provide connections from transit/auto modes to bike/ped modes

Recommendation: Provide trail connection to future ET adjacent to Downeaster (Bidd/Saco)

Recommendation: Provide bike connection to future ET along Water/Lincoln (Saco)

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Eastern Trail

Recommendation: ET should have connection to Route 1 near proposed overpass

Recommendation: Extend Route 1 sidewalks from downtown Saco to ET crossing

Recommendation: OOB should examine potential connections from downtown to ET

Recommendation: Tri-Community could work with Pan-Am to examine southerly extension of ET

Recommendation: Create pathway along former Atlantic Shore line from Granite Street to Kennebunks

Recommendation: Biddeford could examine Granite Street and the remnants of former Atlantic Shore Line to provide a pathway with connections to the Kennebunks; given its low volumes and width, Granite Street could be a bicycle boulevard.

Priority: Low

Implementation Schedule: Long-Term

Cost: High

Responsibility: Biddeford

Recommendation: Biddeford and Saco, in association with PACTS, could work with Pan Am and other land owners to secure rights to construct additional portions of the Eastern Trail alongside the former Eastern RR line south of Thornton Academy to connect to the existing Biddeford, Arundel and Kennebunk section - this process would require cantilevering from Saco River RR bridge (or some other mechanism), or a new bike/ped bridge, if trains are to be accommodated for the long-term.

Priority: High

Implementation Schedule: Medium to Long Term

Cost: High

Responsibility: Biddeford, Saco, PACTS, ETA

Recommendation: Saco could extend the sidewalks along Route 1 from downtown Saco to the future Route 1 overpass of the Eastern Trail, and potentially as far as the Funtown area (this recommendation was previously identified in the PACTS Bike/Ped Plan).

Priority: Medium

Implementation Schedule: Short to Medium Term

Cost: Medium

Responsibility: Saco, MaineDOT

Recommendation: Old Orchard Beach should examine the potential for connections to the Eastern Trail; this could be accomplished via a wider sidewalk/path along Patoine Place to Ross Road to Wild Dunes Way to Dirigo Drive to E. E. Cummings Boulevard, or along Cascade Road.

Priority: Medium to High

Implementation Schedule: Medium to Long Term

Cost: High

Responsibility: OOB

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Other Local Bicycle-Pedestrian Recommendations

Recommendation: Provide secure bicycle storage facilities area businesses, government buildings, downtowns, and at the following locations:

Bicycle Storage Facilities

Provide facilities at:

Transportation Center in Saco

Chamber of Commerce in Old Orchard Beach

Biddeford Crossing

Hannaford in Saco

Adjacent to transit stops

- Transportation Center in Saco (including bike lockers)
- Chamber of Commerce in Old Orchard Beach
- Biddeford Crossing in Biddeford
- Hannaford in Saco
- Adjacent to transit stops (all communities)

Priority: High

Implementation Schedule: Short to Medium Term

Cost: Low

Responsibility: Various

Recommendation: Analyze pedestrian deficiencies, including areas needing sidewalks and improved crossings in each of the village, downtown, and business areas in Biddeford, Saco and Old Orchard Beach. Each community can prioritize pedestrian needs and implement strategies and projects to improve pedestrian connectivity, including to transit stops.

MaineDOT TM Permit

Recommendation: Work with MaineDOT to plan for improvements to be funded in part by applicants to permitting process

Priority: Medium

Implementation Schedule: Ongoing

Cost: Low to Medium

Responsibility: Tri-Communities

Funding Strategies and Recommendations

Funding for transportation projects often comes from a combination of state and federal sources as well as local funding from property taxes. As the need for a broader array of strategies comes into play, a variety of funding strategies will be required. These can include the following:

MaineDOT Traffic Movement Permit Application

The traffic movement process (which could potentially be administered by the members of the Tri-Community area; discussed at greater length later in this report) allows for applicants to fund various infrastructure improvements in order to obtain a state traffic movement permit, ranging from signal modifications to

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transportation demand management funding. The potential for the permitting process may change, which may allow for more flexibility to fund other types of transportation improvements; however, this process is ongoing and not yet determined.

Recommendation: The three communities should work with MaineDOT to assess the potential of funding for a broad array of transportation improvements as part of the permitting application process, which could include improvements to bicycle and pedestrian facilities, as well as transit in areas where roadway improvements are deemed unfeasible or inappropriate. An agreement should be reached between the Department and the Tri-Community area on transportation priorities in the Alternative Development Districts and how to approach applicant-funded transportation projects.

Priority: Medium

Implementation Schedule: Short Term

Cost: Low

Responsibility: Tri-Community, MaineDOT

Impact Fees

Recommendation: Create impact fee zones, especially at Alternative Development Districts

Impact Fees

Impact fees are a per trip fee assessed to a land use generating traffic, often compiled as part of a local approvals process. Typically, a community has determined the types of improvements it desires in an area, anticipated a cost, and has broken the fee down by cost. This can be done for many types of improvements, but often done for transportation improvements, including for transit.

Old Orchard Beach: Old Orchard Beach has a series of impact fee zones in and around the Smithwheel Road/Ross Road area, as this is a growth area for the community.

Saco: Saco currently has impact fees for open space and recreational facilities, but none for transportation improvements. It should be noted that the Planning Board can, at its discretion, elect to assess fees for various transportation improvements, including transportation demand management measures.

Biddeford: Other than a sewer impact fee, Biddeford does not assess impact fees.

Recommendation: Saco and Biddeford should create impact fee zones, primarily in forecast growth areas and in the alternative

Tri-Community Transportation Study

development districts to specifically fund transportation improvements ranging from intersection improvements to improved transit funding.

Priority: High

Implementation Schedule: Short Term

Cost: Low

Responsibility: Tri-Community

Tax Increment Financing (TIF) Districts

TIF districts allow for communities to shift property tax revenue out of a general fund and into infrastructure-based improvement districts; a portion of the proceeds can also be returned to the developer, provided that the project applicant completes the infrastructure improvements themselves. Saco has utilized TIF districts for a quarter century in locations from Industrial Park Road to Saco Island.

Tax Increment Financing (TIF) Districts

Recommendation: Provide TIF Zones in Alternative Development Districts

As the Alternative Development Districts are explored and a development plan created in detail, TIF districts can be created in these areas to help offset the costs of improvements.

Recommendation: Saco, Biddeford and Old Orchard Beach should create impact fee zones in the alternative development districts to specifically fund transportation improvements ranging from intersection improvements to improved transit funding.

Other recommendations that are cost-related, but more to encourage use of the Turnpike and/or reduce peak hour traffic volumes, are discussed later in this Plan.

Priority: Medium to High

Implementation Schedule: Short Term

Cost: Low

Responsibility: Tri-Community

Federal Funding Initiatives

In addition to localized funding strategies, as well as the standard state and federal funds for transportation-related projects, if the Tri-Community were to launch a coordinated system of the land use and transportation strategies discussed in this Plan, they could potentially apply for funding via the following programs:

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Transportation, Community and System Preservation Program (TCSP): A part of the SAFETEA-LU funding program, this program has historically provided up to \$61,250,000 in communities that link together land use and transportation strategies in a coordinated and sustainable manner, particularly those that link jobs, residences, and commercial/retail centers.

TIGER II/HUD Challenge Grants: On June 21, 2010, the U.S. Department of Transportation (USDOT) and the U.S. Department of Housing and Urban Development (HUD) jointly announced an investment program allowing for up to \$75,000,000 in funding for “localized planning activities that ultimately lead to projects that integrate transportation, housing and economic development.” This blend of funding sources would allow for funding for anything from capital acquisition of transit vehicles to affordable housing in downtown areas.

Tri-Community Statistics

Consumer sales: \$442,622,000
(Maine Revenue Service)

Jobs: 18,043
(Department of Labor)

Federal Funding

TCSP Program: \$61.25 million

DOT/HUD Program: \$75.00 million

Recommendation: Draft grant proposal linking land, transportation, and employment plans

This Plan discusses the potential for numerous transportation improvements, as well as the development of specific growth areas. Utilizing some sort of funding from these two programs could be combined with the excise tax incentives discussed earlier in the Plan, which could provide incentives to employers, moving jobs into the Tri-Community area and simultaneously reducing commuter miles traveled for area residents while improving the local tax base.

Recommendation: Saco, Biddeford and Old Orchard Beach should pursue a coordinated series of specific land use and transportation improvements as discussed in this plan and apply for grants via the Transportation, Community and System Preservation Program and the TIGER II/HUD Challenge Grants program.

Priority: High

Implementation Schedule: Short to Medium Term

Cost: Low (Results in payback if grant applications successful)

Responsibility: Tri-Community