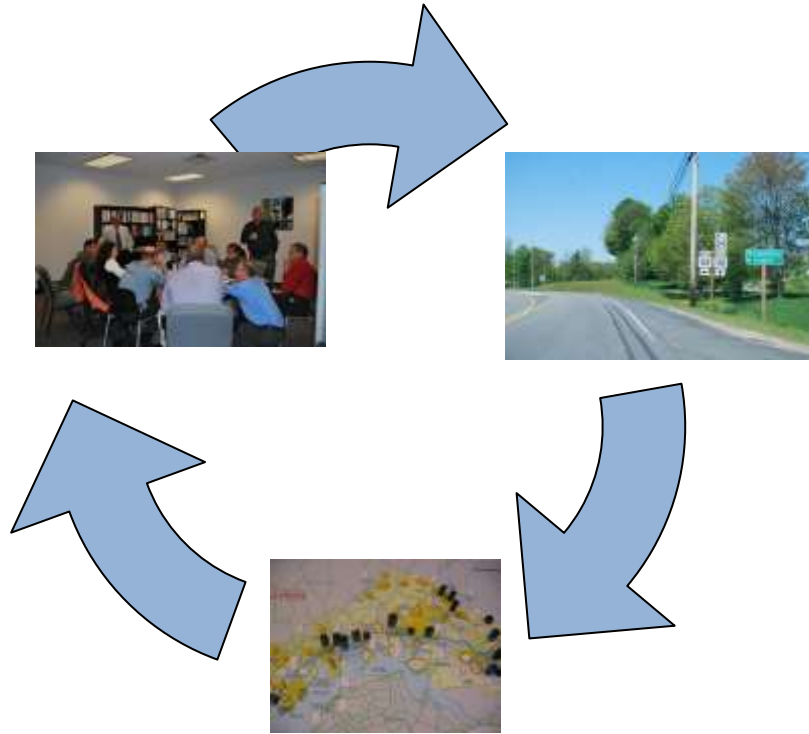


GORHAM EAST-WEST CORRIDOR FEASIBILITY STUDY



FINAL REPORT
September 2012

Prepared for

MAINE TURNPIKE
AUTHORITY



MAINE DEPARTMENT OF
TRANSPORTATION



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ACRONYMS/ABBREVIATIONS

AADT – Annual Average Daily Traffic
ADA – Americans with Disabilities Act
AICP – American Institute of Certified Planners
ATR – Automatic Traffic Recorder
BWH – Beginning with Habitat
CDS – Child Development Services
CMR – Code of Maine Rules
CRF – Critical Rate Factor
DEP – Department of Environmental Protection
DHHS – Department of Health and Human Services
DHV – Design Hour Volume
DU – Dwelling Unit
EA – Environmental Assessment
EB - Eastbound
EMS – Emergency Medical Service
EPA – Environmental Protection Agency
FAR – Floor Area Ratio
FTA – Federal Transit Administration
GPCOG – Greater Portland Council of Governments
HCL – High-Crash Location
HCM – Highway Capacity Manual
HUD – Housing and Urban Development
ID – Identification
lb - pound
LLC – Limited Liability Company
LOS – Level of Service
MaineDOT – Maine Department of Transportation
min. – minute
MOA – Memorandum of Agreement
MOE – Measure of Effectiveness
MOU – Memorandum of Understanding
MPO – Metropolitan Planning Organization

MRSA – Maine Revised Statutes Annotated
MTA – Maine Turnpike Authority
NB - Northbound
NECTA – New England City and Town Area
NEPA – National Environmental Policy Act
NNEPRA – Northern New England Passenger Rail Authority
OOB – Old Orchard Beach
PACTS – Portland Area Comprehensive Transportation System
PAR – Pan Am Railways
PROP - People’s Regional Opportunity Program
PWD – Portland Water District
RC&D - New England Association of Resource Conservation & Development
RIS – Roadway Improvement Scenario
Rte. - Route
RTP – Regional Transportation Program
Sat. – Saturday
SB - Southbound
SEDCO - Scarborough Economic Development Corporation
SMRPC – Southern Maine Regional Planning Commission
SOV – Single Occupancy Vehicle
Sun. - Sunday
SPBS – South Portland Bus Service
STPA – Sensible Transportation Policy Act
TAZ – Traffic Analysis Zone
TDM – Transportation Demand Management
TIF – Tax Increment Financing
TIGER - Transportation Investment Generating Economic Recovery
TIP – Transportation Improvement Program
TMC – Turning Movement Count
TOC – Transit-Oriented Corridor
TOD – Transit-Oriented Development
UPWP – Unified Planning Work Program
U.S. – United States
USEPA – United States Environmental Protection Agency

USGS – United States Geological Survey

USM – University of Southern Maine

VHT – Vehicle Hours Traveled

VMS – Variable Message Sign

VMT – Vehicle Miles Traveled

vph – vehicles per hour

WB – Westbound

EXECUTIVE SUMMARY

STUDY HISTORY

Transportation congestion between the City of Portland and communities to the west of the City has been evaluated in numerous studies dating back to the 1970s. More recently, a study undertaken by the Portland Area Comprehensive Transportation System (PACTS) in the 1990s followed by the Gorham Bypass Study and the Finding of No Significant Impact¹ led to the 2007 construction of a portion of a recommended bypass around the Gorham Village area connecting Route 25 west of Gorham Village with Route 114 south of Gorham Village. This portion of the Gorham Bypass was opened to traffic on December 5, 2008.

While this portion of the Gorham Bypass addressed sizable congestion in Gorham, a more regional solution to growing congestion and safety concerns was still required. The communities of Gorham, Westbrook, Scarborough, and South Portland signed a joint resolution in 2007 asking for a study to assess the feasibility of a new Turnpike Spur that would connect the new Gorham Bypass to the Maine Turnpike. This was followed by a resolution by the 123rd Legislature (LD 1720) directing the Maine Department of Transportation (MaineDOT) and the Maine Turnpike Authority (MTA) to conduct “a study of existing highway infrastructure and future capacity needs west of Route 1 in York and Cumberland counties, including the greater Gorham and Sanford Areas. The purpose of this study is to develop a series of recommendations to enhance, expand, and preserve highway connections between Route 1 and the Maine Turnpike and communities in western Cumberland County and York County.”

The Gorham East-West Corridor Feasibility Study (Study) only undertakes the Cumberland County and the greater Gorham analysis; a separate study will focus on the York County and the Sanford area. This Study is required to follow Maine’s Sensible Transportation Policy Act (STPA) which requires the analysis of alternative modes of transportation prior to increasing highway capacity. Satisfying the requirements of STPA also allows MaineDOT and MTA to develop incentives for communities that adopt land use plans that reduce reliance on the state highway system.

This Study was thus initiated. It focused on the effects that land use has on transportation and developed a coordinated land use-transit-highway improvement strategy to reduce future demand on the regional transportation network. This report summarizes the approach and process undertaken and identifies the land use, transit and highway improvement recommendations to be advanced for future consideration in subsequent study phases.

¹ Gorham Bypass Study Environmental Assessment report was completed in June 2003 and the Finding of No Significant Impact was signed on October 21, 2005.

STUDY AREA

The Study Area for the Gorham East-West Corridor Feasibility Study is illustrated in Figure ES-1. The communities of Gorham, Scarborough, South Portland and Westbrook comprise the core study area, with the Regional Study Area encompassing a subset of the PACTS Model Area.

There are two major east-west routes in the Study Area: State Route 22 and State Route 25. Route 25 connects Portland to Westbrook, Gorham, Standish, Cornish and central New Hampshire. Route 22 connects Portland, South Portland, South Gorham, and Buxton. Route 22 also feeds into State Route 4, U.S. Route 202, which then connects into Hollis, Waterboro, and Sanford as well as southern New Hampshire. Both routes are important to the Cumberland County economy and serve regional as well as local travel.

PUBLIC OUTREACH

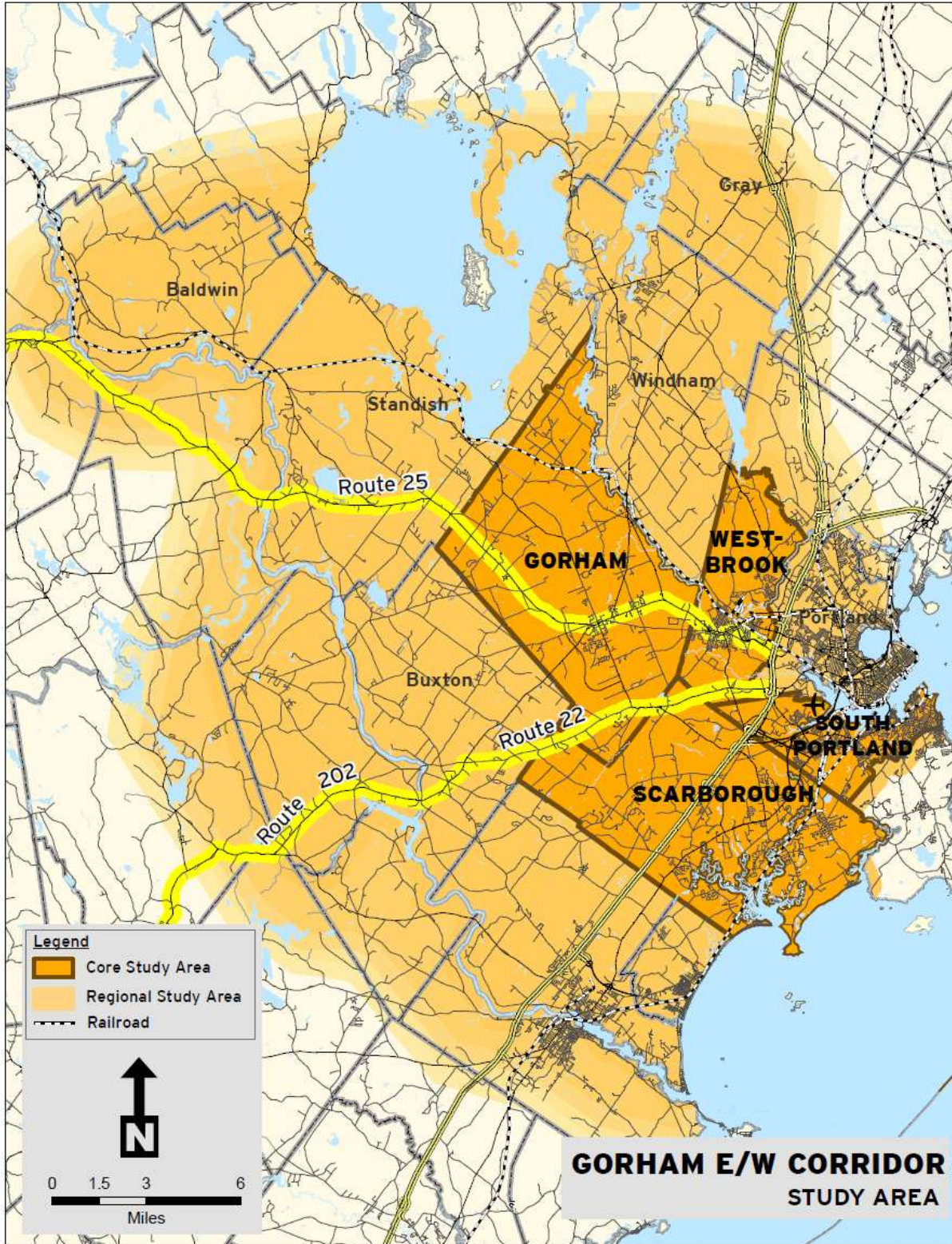
The Study's public outreach process communicated the purpose of the Study and provided details regarding the analysis of the land use, transit and roadway scenarios. The outreach process provided the public and stakeholders with the opportunity to provide opinions and input as the study progressed through the development of the various scenarios. A study website, ongoing media coverage and multiple meetings within the study communities allowed direct and easy input to study decisions and processes. Detailed minutes were reported from every meeting, noting committee and public comments.

Two committees, the Steering Committee and the Advisory Committee, provided input and feedback at regular intervals during the study process. The Steering Committee generally met on a monthly basis throughout the study. Working as a collaborative unit, the Steering Committee was integral to this study's groundbreaking work by its growing support of the need for land use change in order to affect long-term transportation benefits. The Advisory Committee, which met at key points throughout the study, was comprised of a group of representatives of various interest groups to reflect the diverse points of view of stakeholders throughout the Study Area. Their input and feedback provided the Study Team a clear picture of the range of viewpoints to be considered, and was a valuable counterpoint to the four core municipality-based viewpoints of the Steering Committee.

STUDY PURPOSE AND NEED

The first step in the study was to establish a study purpose and need statement. The purpose and need of a study is essential in establishing a basis for the development of the range of reasonable alternatives to be considered and assists with the identification of preferred alternatives. Working with the study Steering and Advisory Committees and the public, the study's purpose and need statement was developed to reflect the needs and desires of study area stakeholders.

Figure ES-1
Study Area



Study Purpose

The purpose of the Gorham East-West Corridor Feasibility Study is to identify and evaluate a range of potential solutions to area transportation and land use needs, resulting in the identification of prudent, reasonable, feasible and fiscally responsible transportation and land uses strategies in accordance with STPA, Maine's Growth Management Act, and the Federal National Environmental Policy Act (NEPA).

Study Need

The need for the Study is based on present and projected future transportation and land use deficiencies and opportunities. Key transportation corridors in the Study Area currently follow State Routes 4, 22, 25, 112, 114, Gorham Bypass, Route 112, U.S. Routes 1 and 202 and Interstate Routes 95 and 295. Needs for the Study are focused on transportation and land use deficiencies and opportunities, and economic sustainability and opportunities. The deficiencies and potential opportunities noted included:

Transportation Deficiencies

- Increasing congestion reduces mobility along certain key transportation corridors in the Study Area;
- Increasing congestion on certain key transportation corridors in the Study Area results in through-traffic detouring onto local and neighborhood roadways;
- There is a potential for increase in crash frequencies and High Crash Locations;
- Inadequate or deficient roadways do not meet current safety and design guidelines; and
- Inadequate facilities exist for pedestrian, bicycle and alternative transportation modes, resulting in limited transportation choices.

Land Use Deficiencies and Opportunities

- Congestion and other transportation deficiencies threaten neighborhoods and their quality of life;
- Ensure recommended policies and ordinances do not compromise transportation safety;
- Recommend policies or ordinances that plan and provide for compact, walkable, bikeable, transit-supportive communities;
- Recommend policies and ordinances that support all transportation modes and create hubs for modal connections;
- Discourage the unplanned loss of open space, including agricultural, rural and unfragmented wildlife habitat; and
- Encourage coordinated and complementary zoning.

Economic Sustainability and Opportunity - Support local and regional economic growth and stability, tourism and recreational opportunities.

EVALUATION CRITERIA

The Study Team, with input from the Steering and Advisory Committees, developed performance evaluation criteria that were identified as “Measures of Effectiveness” (MOE). The MOEs were based on the deficiencies and opportunities identified in the Purpose and Need Statement.

The following identifies the five major categories of performance measurement and the MOEs within each category.

Traffic and Safety - Roadway and Intersection Level of Service (LOS); Vehicle Miles Traveled (VMT); Vehicle Hours Traveled (VHT); Crash Summary; Traffic Volumes; Corridor Delays; Fuel Used; Vehicle Emissions; and Average Commuting Time and Distance.

Mode Choice - Number of Modal Trips during peak travel hour; Transit Potential; and How People Travel, i.e. modal split.

Accessibility and Livability - Percent of Households within Critical Emergency Medical Service (EMS) Response Time and Distance; Job Accessibility; Retail Accessibility; Number of Accessible Jobs; Number of Accessible Households; Jobs / Acre; Households / Acre; and Population / Acre.

Land Use - Acres of Land Consumed; Job / Housing Ratio; Viewsheds; Habitat Fragmentation; and Open Space / Rural Land Impacts.

Other - Order of Magnitude Cost for each Strategy; and Resource Impacts (natural, physical and historic).

GROWTH PROJECTIONS

All of the forecasted growth in population, jobs and new dwelling units for the year 2035 was developed by Professor Charles Colgan, PhD of the University of Southern Maine, Muskie School of Public Service.

The Study Area is within Maine’s largest metropolitan area. For the last century, the overall pattern of settlement in the United States, including Maine, has been described as a two-part “centralization-decentralization.” That is, there has been a continuous migration of population into metropolitan areas (*centralization*) as people leave job-depleted rural regions and move to metropolitan areas where there are more economic opportunities. Then, within metropolitan areas, there has been a migration outward from the core communities into the suburbs and exurbs, typically within 30-45 minutes travel time of the job centers (*decentralization*).

Both parts of the pattern are important to the Study. The *centralization* of Maine’s population into metropolitan areas would continue to help drive economic and population growth in southern Maine. The amount of ongoing *decentralization* to the suburban and rural territories

around the core communities would continue to shape transportation and other demands on the region and its communities.

Study Area communities were divided to better define future growth as follows:

- Urban Communities: Portland, South Portland, Westbrook.
- Inner Suburbs: Cape Elizabeth, Cumberland, Falmouth, Freeport, Gorham, Scarborough, Windham, Yarmouth.
- Outer Suburbs: Buxton, Gray, Hollis, New Gloucester, North Yarmouth, Pownal, Raymond, Standish, plus the rural southwestern portion of Brunswick.
- Rest of PACTS Model Area: Arundel, Biddeford, Dayton, Durham, Kennebunkport, Lyman, Old Orchard Beach (OOB), Saco.

For context, the total number of new jobs projected for the Urban Communities, Inner Suburbs and Outer Suburbs identified above from 2009 to 2035 is about 25,000; and of new dwelling units, just under 35,000. See Table ES-1.

Table ES-1
Study Area Growth

	Year 2009	Estimated Growth	Year 2035
Population	238,200	64,500	302,700
Housing (Dwelling Units)	113,000	34,900	147,900
Jobs	158,700	24,900	183,600

ALTERNATIVE LAND USE SCENARIO

Two land use workshops were held with a broad range of municipal and planning representatives from Study Area communities to brainstorm innovative concepts for managing the region’s future land use development. Besides the historic “Low Density” or “Trends Scenario” growth pattern, four other development forms were identified at the first workshop. They were:

- The Modified Low Density Form, essentially the Low Density pattern with limited compact development areas;
- The Urban Preservation Form, which would allow urban communities to retain 2008 shares of jobs, population and housing units;
- The Community Centered Corridor Form, which would direct most new commercial growth and a share of new residential units into planned centers interspersed along or near transportation corridors; and

- The Transit-Oriented Corridor Form, which would provide denser urban, neighborhood and town-scale development within planned growth centers.

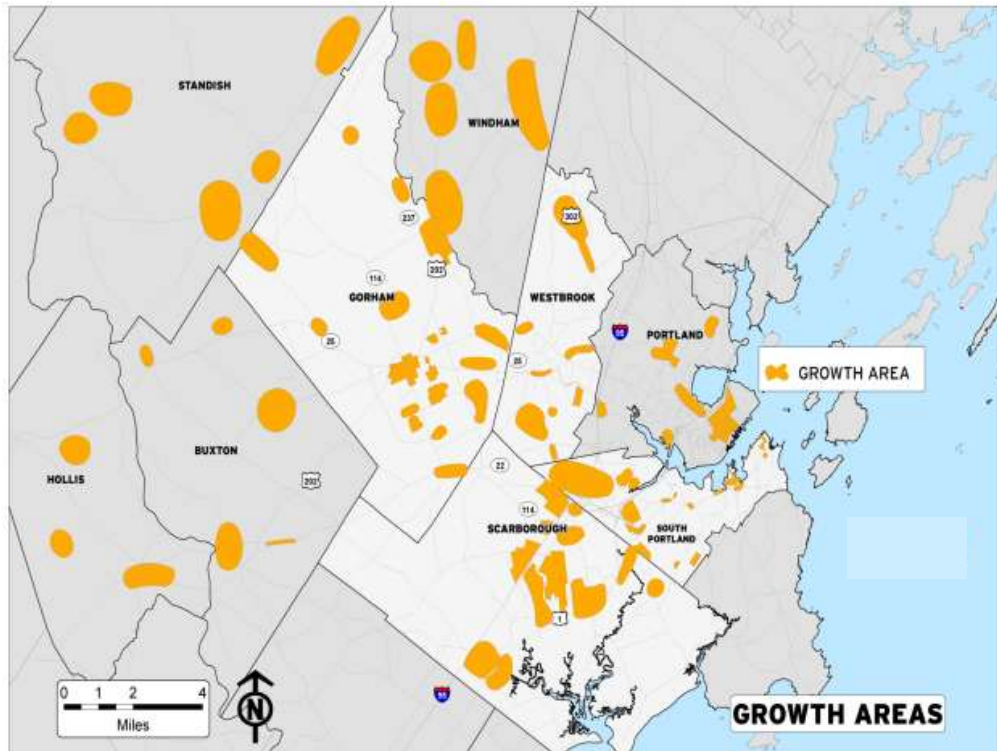
Out of the two land use workshops came a fifth form that is a hybrid of some of the original ones considered. This came to be known as the Urban and Rural Form. This hybrid form is described below and was tested as part of this Study.

Urban and Rural Form

The Urban and Rural Form combines characteristics from the Urban Preservation, Community-Centered Corridor and Transit-Oriented Corridor (TOC) forms described above. As in the Urban Preservation Form, the core urban communities of Portland, South Portland and Westbrook retain their high shares of regional employment and reverse a long-term trend toward loss shares of the region's

population and housing units. It would also take some of the housing pressure off the fast-growing inner suburbs. But as in the TOC form, the inner suburban communities also retain a significant proportion of jobs, population and housing units, much of which

Figure ES-2
Urban and Rural Form Proposed Growth Areas



would be organized into dense TOC-like nodes and/or town centers that include open space and public land use (Figure ES-2). These TOCs exist with the specific goal of enabling and taking advantage of transit opportunities over the long term.

Each municipality developed the growth areas shown in Figure ES-2 and these growth areas are subject to change by each community.

Table ES-2 depicts the projected shift in jobs, population and housing from the Low Density or Trends Scenario to the proposed Urban and Rural Growth Form.

Table ES-2
Distribution of Job, Population and Housing Growth

	Targeted Shares of Regional Job Growth		
	Urban Communities	Inner Suburbs	Outer Suburbs
2009 Share	65% (103,600)	29% (45,500)	6% (9,600)
2009-2035 Trends Growth	66%± (+16,500)	30%± (+7,400)	4%± (+1,000)
2009-2035 Urban and Rural Growth Form	65%± (+16,200)	30%± (+7,400)	5%± (+1,300)
	Targeted Shares of Regional Population Growth		
2009 Share	42% (99,800)	38% (91,700)	20% (46,700)
2009-2035 Trends Growth	5%± (+3,500)	61%± (+39,400)	34%± (+21,600)
2009-2035 Urban and Rural Growth Form	34%± (+21,900)	49%± (+31,800)	17%± (+10,800)
	Targeted Shares of Regional Housing Growth		
2009 Share	45% (51,200)	36% (40,700)	19% (21,100)
2009-2035 Trends Growth	9.5%± (+3,300)	52%± (+18,200)	38.5%± (+13,400)
2009-2035 Urban and Rural Growth Form	35%± (+12,200)	45%± (+15,700)	20%± (+7,000)

TRANSIT SCENARIO

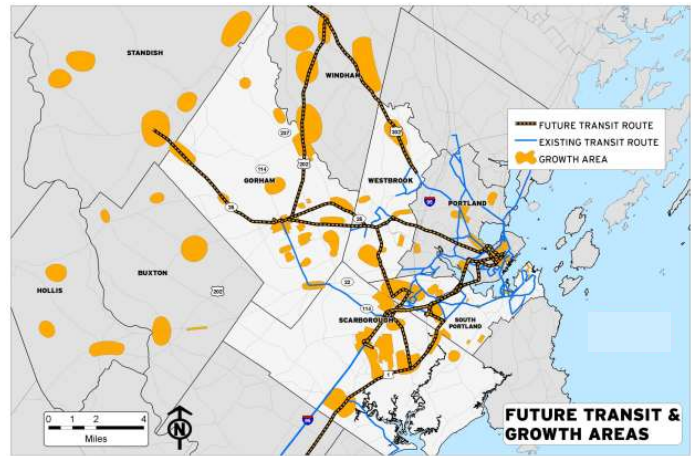
An optimized transit scenario (bus and passenger rail) was then developed to support the Urban and Rural land development pattern and to satisfy STPA requirements to encourage non-highway modes of transportation in order to preserve highway capacity (Figure ES-3). A transit workshop with transit professionals including operators, advocacy groups, regional and local planners was convened in April of 2010 to develop the assumptions to be included in the Urban and Rural optimized transit scenario model as well as to identify the routes and transit modes deemed to be most feasible.

Modeling runs of the 2035 Full Transit Scenario demonstrated improved transit shifts compared to the Urban and Rural Scenario, both within the four core communities and the Study Area as a

whole, and also significant improvements compared to the 2035 Low Density growth pattern (Trends) Scenario.

Figure ES-3
Future Transit Routes

On average the four core communities potentially realize a 31 percent increase in transit ridership (263 riders) from the Urban and Rural scenario and 90 percent increase (525 riders) over the Trends Scenario in the PM peak hour while the Study Area increases by 24 percent (512 riders) from the Urban and Rural Scenario and by 57 percent (960 riders) from the Trends Scenario in the PM peak hour.



ROADWAY SCENARIOS

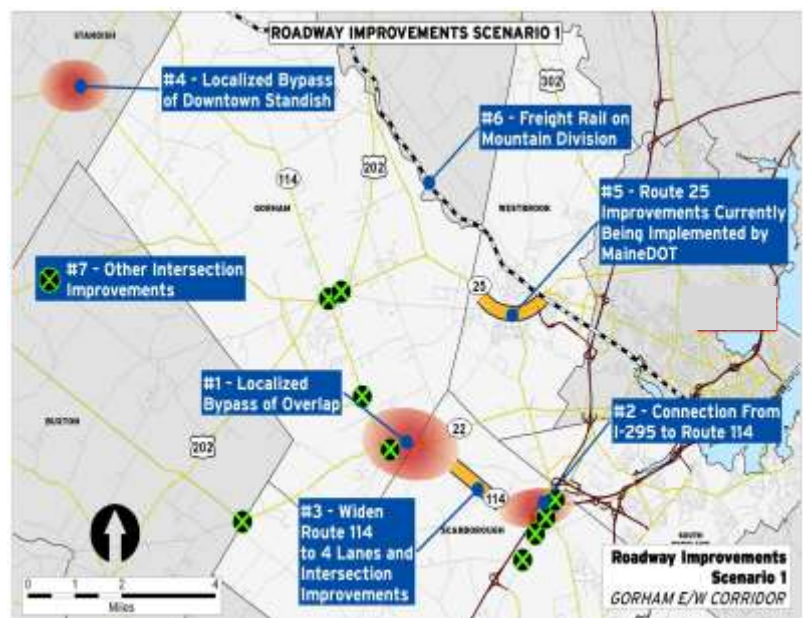
Roadway improvement scenarios were developed by the Study Team for addressing the documented congestion and safety problem locations remaining in the Study Area after implementation of the Urban and Rural land use form and the Full Transit Scenario.

The Study Team developed and tested two roadway improvement scenarios (Scenario 1 and Scenario 2) that looked at three levels of transportation upgrades: 1) traffic management by making localized improvements, 2) adding capacity to existing roadways by increasing the number of lanes and 3) adding new roadway capacity by building new roadways on new location.

Figure ES-4
Roadway Improvement Scenario 1

The focus of **Roadway Improvement Scenario 1** (Figure ES-4) was to address mobility, congestion and safety issues within the Study Area by *primarily adding capacity along existing roadways or through the use of localized bypasses or connections*. Assumed roadway improvements for Roadway Improvement Scenario #1 are:

1. Gorham/Scarborough:



Localized two-lane bypass of the Overlap (Routes 22/114).

2. Scarborough: Localized, non-tolled two-lane bypass of Payne Road.
3. Scarborough: Widening of Route 114 (Gorham Road) from two-lanes to four-lanes beginning at the eastern end of the bypass described in Number 1 above and extending to the western end of the localized bypass of Payne Road described in Number 2 above.
4. Standish: Localized two-lane bypass of downtown Standish.
5. Westbrook: Additional turning lanes at intersections along Route 25 (William Clarke Drive) as identified in the 2010 MaineDOT contract plans.
6. Freight Rail: Upgrade of the Mountain Division rail line to connect freight rail from Portland to Standish.
7. Local intersection improvements as required to achieve LOS E or better at Study Area intersections.

The focus of **Roadway Improvement Scenario 2** (Figure ES-5) was to address mobility, congestion and safety issues within the Study Area by *primarily adding new capacity along new roadways*. Assumed roadway improvements for Roadway Improvement Scenario 2 are:

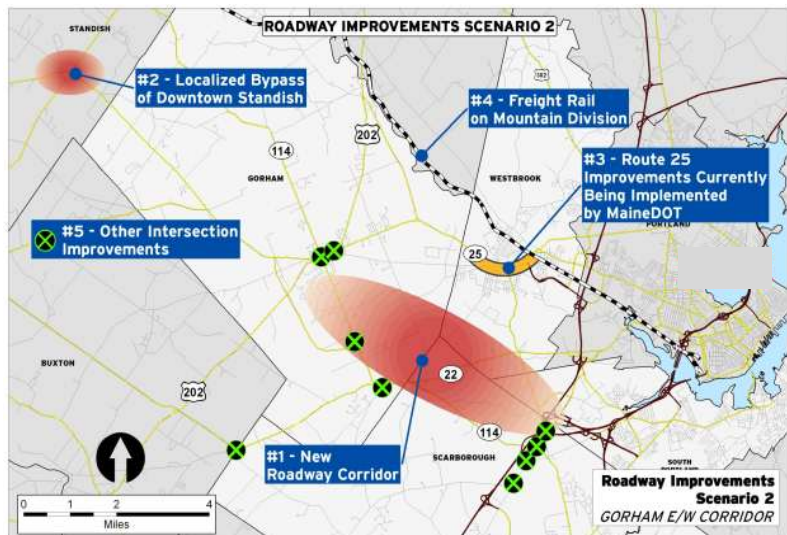
1. Gorham/Scarborough/Westbrook/South Portland: New roadway corridor beginning at a point near/at Exit 44/45 of the Maine Turnpike and extending west to a location near/at the southern end of the existing Gorham Bypass.

Figure ES-5
Roadway Improvement Scenario 2

2. Standish: Localized two-lane bypass of downtown Standish.

3. Westbrook: Additional turning lanes at intersections along Route 25 (William Clarke Drive) as identified in the 2010 MaineDOT contract plans.

4. Freight Rail: Upgrade of the Mountain Division rail line to accommodate freight rail from Portland to Standish.



5. Local intersection improvements as required to achieve LOS E or better at Study Area intersections.

The estimated cost of each Roadway Improvement Scenario in 2010 dollars including planning, design, and construction engineering costs are; Roadway Scenario 1 - \$85,850,000 and Roadway Scenario 2 - \$110,062,500. Right-of-way, environmental impacts, and wetland mitigation costs are not included in either cost estimate.

STUDY RECOMMENDATIONS

The following coordinated land use, transit and roadway improvement strategies are recommended for creating a regional approach to minimize the future need of adding highway capacity by providing more efficient land use choices, expanding public transit services and maximizing the efficiency and improving the safety of the existing roadway transportation system. It is important to note that all three categories of strategies – land use, transit and roadway improvement – work together to provide the desired results. Coordinated implementation of all three strategies is integral to the study recommendations.

Land Use Recommendations

This Study recommends that communities begin to take specific actions towards achieving the Urban and Rural land use pattern. A key outcome of the study's land use recommendations is to help relieve growing roadway demand over the next 25 years on major east-west commuting routes that serve the area west of Portland. These recommendations are an integral part of implementing companion study recommendations for transportation improvements. Transportation (road and transit) solutions alone would not be sufficient to manage the traffic congestion that would occur in this region. In order to support future regional growth and economic viability, municipalities must adopt future land use patterns that support a more efficient way for residents to travel to jobs and services. Only in this way can the public investment in existing and new transportation infrastructure be protected. These actions would build on land use measures already evolving in Gorham, Scarborough, South Portland, Westbrook, and other communities such as Standish and Portland.

This recommendation asks the Greater Portland Council of Governments (in cooperation with Southern Maine Regional Planning Commission) to facilitate a coordinated level of regional land use planning and implementation. Additionally, inter-regional opportunities, such as a regional transfer of development rights between participating municipalities to encourage implementation of the Urban and Rural Land Use model, are also recommended.

Transit Recommendations

The Optimized Full Transit Scenario identified in this study identifies expansions to existing service as well as new service and modal connection opportunities. There are a number of

policy, infrastructure and service improvements that can be implemented in the short term to facilitate growth in transit ridership. Additionally, new service opportunities would likely result if significant increases in employment and population densities occur at each end of existing transit lines and around intermediate stops along proposed transit routes. This Study recommends that the most promising transit elements from the Optimized Full Transit Scenario should be evaluated in greater detail to determine their viability, priority, and funding opportunities. The opportunities to expand and increase public transit service in the Study Area, based on the above assumptions, are significant. The recommendations for expansion and improvements fall into two distinct categories: 1st and 2nd tiers.

The intent of the 1st tier recommendations is to evaluate the potential for enhancing existing transit services through improved coordination among the various transit service providers, potentially decreasing headways by adding buses and potentially expanding service to meet needs of areas deemed ready for transit or on the outskirts of existing service. Additionally, reviews of certain transit policies, both at the local and state levels, should be conducted to identify potential funding partnerships and sources of funding, as well as consideration for an over-arching entity that could potentially attract new funding and/or coordinate services between providers.

The 2nd tier recommendations would commence after Urban and Rural land use areas have been identified and codified at the municipal level. Tier 2 actions would focus on the expansion of transit routes and services to meet the needs of these areas, and also on changes in public policy, funding and operations that would take more time to evolve, such as potential transit-oriented tax increment funding and other funding incentives.

The planning level cost estimate to implement the Optimized Full Transit Scenario in 2010 dollars is \$153,500,000.

Roadway Improvement Recommendations

The two Roadway Improvement Scenarios identified in the study should be elevated to the next level of evaluation with the intent of identifying a preferred alternative. One roadway improvement scenario would focus on enhancements to the existing roadway system for increasing capacity, such as widening existing roadways, while the second roadway improvement scenario would have greater emphasis on adding east-west capacity via the construction of a new roadway on new location.

Based on the findings of the analysis and evaluation of the two Roadway Improvement Scenarios, the following conclusions were reached:

- Both Scenarios would address mobility and congestion issues that were documented under the 2035 Trends Scenario;

- VHT would be sizably reduced as compared to the 2035 Trends Scenario for the four core communities and the full Study Area;
- VMT would nominally increase compared to the 2035 Trends Scenario for Roadway Improvement Scenario 2, and would be slightly reduced for Roadway Improvement Scenario 1;
- Fuel consumption would be sizably reduced as compared to the 2035 Trends Scenario; and
- Resource and property constraints would be similar for each of the two Roadway Improvement Scenarios.

As a result of the study analyses and evaluation of both Roadway Improvement Scenarios, it is recommended that both Scenarios be carried forward for further evaluation under Phase II for detailed evaluation under the NEPA process and the United States Army Corps of Engineers *Highway Methodology Process* for identifying a preferred roadway improvement scenario that incorporates the future land use and transit initiatives.

Other Recommendations

In order to ensure future highway capacity is protected, as mandated by STPA, the land use, transit and roadway recommendations described in this report must be conducted in a coordinated manner. Otherwise, a new highway or transit services could be built, but without land use management practices in place, new unmanaged land development could render those improvements futile. In addition to the specific land use, transit, and roadway recommendations identified above, this Study also recommends entering into a Memorandum of Understanding (MOU) with participating Study Area communities. This MOU would serve as the starting point for communities to work together with MaineDOT, MTA, PACTS and other regional stakeholders towards implementation of the entire Phase II Transportation and Land Use Action Plan. A draft MOU is included in the report for illustrative purposes and would be refined with all partners prior to signing. The invited municipalities are the four core communities – Gorham, Scarborough, South Portland and Westbrook – along with Portland, Standish, Buxton, Hollis and Windham. The four core communities and at least two other communities must agree to sign the MOU in order for Phase II of the study to begin.

Following signature of this MOU by MaineDOT, MTA and at least six communities, a comprehensive set of Phase II tasks would begin to move towards implementation of the identified land use, transit, and roadway recommendations.

NEXT STEPS

Prior to beginning Phase II, more work must be done to further develop the partnership between all potential parties. It is important to recognize participation in Phase II and subsequent work would be entirely voluntary. Participating municipalities within the study area, regional and metropolitan planning entities, MTA, MaineDOT and others must all agree to take on certain policy and funding-related responsibilities. As such, the MOU must be developed with all parties at the table and agreeable to the final MOU. It is therefore recommended that an Interim Phase be initiated for the purposes of developing the MOU to outline the specific tasks to be undertaken, their timelines and the roles and responsibilities of each participant, as well as to refine the tasks to be undertaken in Phase II. This work is expected to be completed by October 2011.

1.0 STUDY BACKGROUND

1.1 HISTORY

Transportation congestion for east-west travel between the City of Portland and communities to the west of the City has been evaluated in numerous studies dating back to the 1970's. In the early 1990's, the Portland Area Comprehensive Transportation System (PACTS) undertook a major investment study to identify congestion/problem areas between the communities of Portland and Gorham and that study identified several short term and long term transportation strategies for reducing congestion.

One of the major long term strategies was the recommendation of a bypass around the Gorham Village area that would connect Route 25 west of the Gorham Village with Route 114 south of the Gorham Village. At the request from the Town of Gorham, the Maine Department of Transportation (MaineDOT) began a Gorham Bypass Study in the spring of 1999 and completed an Environmental Assessment report in June 2003 and obtained a Finding of No Significant Impact from the Federal Highway Administration (FHWA) on October 21, 2005 identifying a bypass of the Gorham Village. The proposed Gorham Village bypass was comprised of two segments: one segment connected Route 25 west of the Gorham Village to Route 114 south of the Gorham Village as was recommended in the 1997 Gorham-Portland Corridor Alternatives Analysis and the second segment connected Route 25 west of Gorham Village to Route 25 east of the Gorham Village in the vicinity of Mosher Corner.

On January 15, 2002, Town of Gorham municipal officials held a special meeting and voted the Route 25/Route 114 bypass segment (Alternative 1e) should be constructed before the Route 25 west to Route 25 east bypass segment (northern route of Alternative 6c). Funding to construct the Route 25/Route 114 bypass was included in the August 2005 Federal Highway Administration congressional authorization bill. Construction on the bypass began in the spring of 2007 and the bypass was opened to traffic on December 5, 2008.

During construction of the Route 25/Route 114 bypass, the communities of Gorham, Westbrook, Scarborough and South Portland (four core communities) signed a joint resolution in 2007 asking for a study to assess the feasibility of a new Turnpike Spur that would connect the new Gorham Bypass to the Maine Turnpike. The resolution stated that existing ways to manage traffic congestion, such as widening roads and adding turning lanes, would have a negative effect on their downtowns, village centers and neighborhoods. This was followed by a resolution by the 123rd Legislature (LD 1720) directing the MaineDOT and the Maine Turnpike Authority (MTA) to conduct "a study of existing highway infrastructure and future capacity needs west of Route 1 in York and Cumberland counties, including the greater Gorham and Sanford Areas. The purpose of this study is to develop a series of recommendations to enhance, expand, and

preserve highway connections between Route 1 and the Maine Turnpike and communities in western Cumberland County and York County.”

The Gorham East-West Corridor Feasibility Study (Study) only undertakes the Cumberland County and the greater Gorham analysis; a separate study will focus on the York County and the Sanford area. This Study is required to follow Maine’s Sensible Transportation Policy Act (STPA) which requires the analysis of alternative modes of transportation prior to increasing highway capacity. Satisfying the requirements of STPA also allows MaineDOT and MTA to develop incentives for communities that adopt land use plans that reduce reliance on the state highway system.

This Study was thus initiated. It focused on the effects that land use has on transportation and developed a coordinated land use-transit-highway improvement strategy to reduce future demand on the regional transportation network. This report summarizes the approach and process undertaken and identifies the land use, transit and highway improvement recommendations to be advanced for future consideration in subsequent study phases.

1.2 STUDY AREA

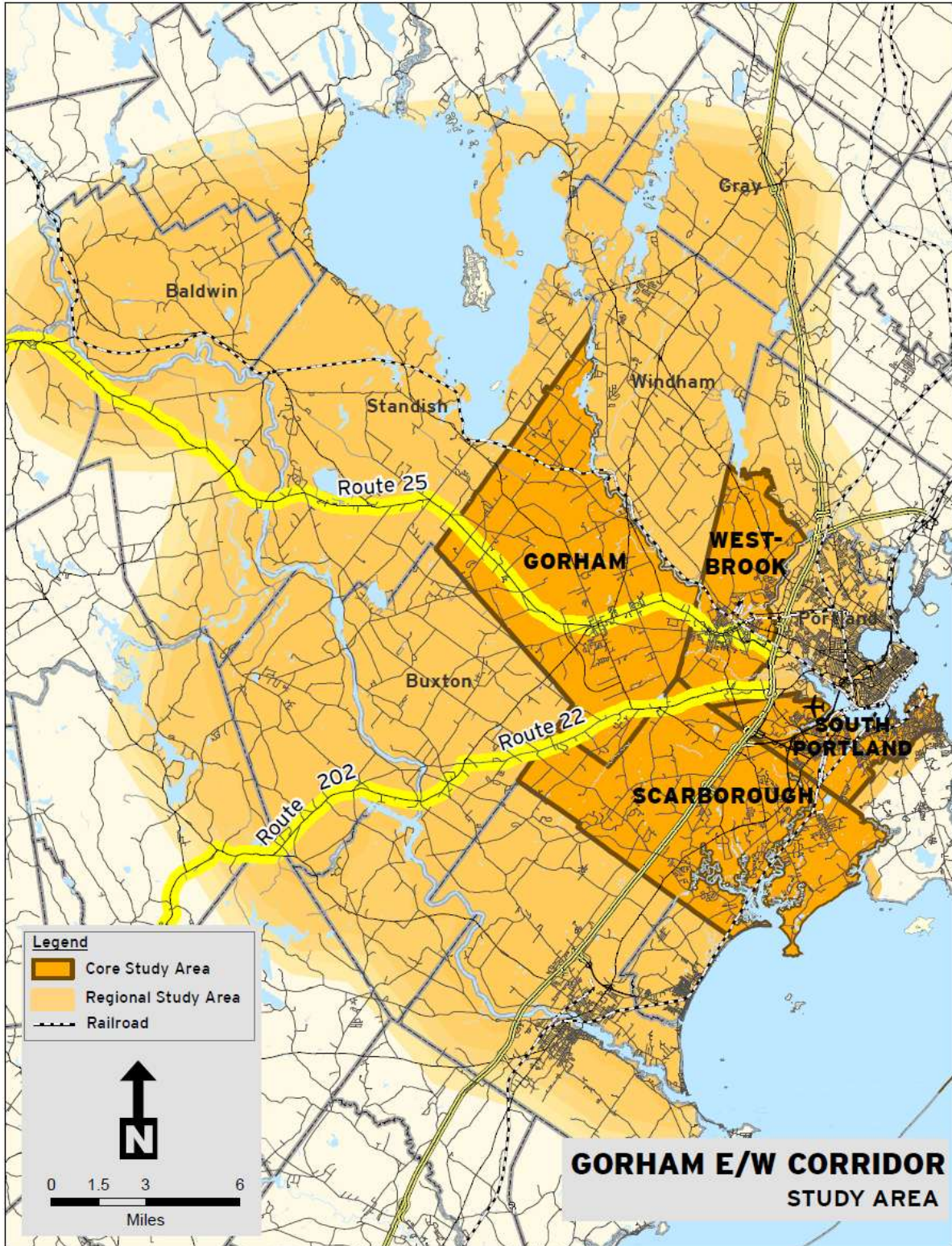
The Study Area for the Gorham East-West Corridor Feasibility Study is illustrated in Figure 1-1. For purposes of this Study, besides the four core communities identified above, the entire Study Area encompasses a subset of the PACTS Model Area.

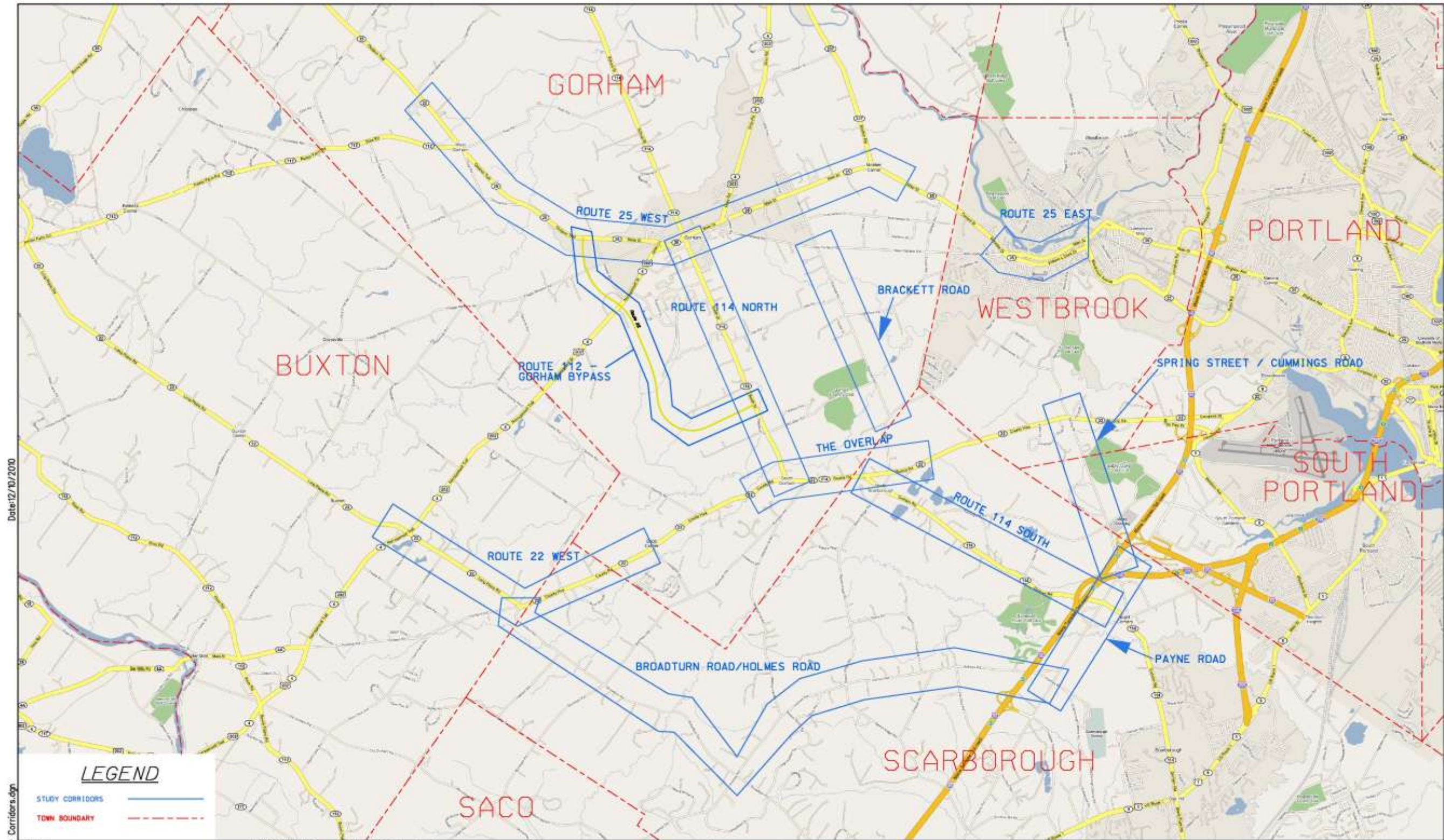
The Study Area is sizeable and was organized into major travel corridors. As shown on Figure 1-1, there are two major east-west routes in the Study Area: State Route 22 and State Route 25. Route 25 connects Portland to Westbrook, Gorham, Standish, Cornish and central New Hampshire. Route 22 connects Portland, South Portland, South Gorham, and Buxton. Route 22 also feeds into State Route 4, U.S. Route 202 (Route 202), which then connects into Hollis, Waterboro, and Sanford as well as southern New Hampshire. Both routes are important to the Cumberland County economy and serve regional as well as local travel. Each of these major travel corridors has been subdivided into two smaller specific corridors. In addition, seven other major travel corridors were identified. These corridors are presented in Figure 1-2.

Other corridors in the Study Area presented on Figure 1-2 are organized as follow:

- Broadturn Road-Holmes Road (From Route 22 to Payne Road)
- Route 114 North (from Route 25 to Route 22)
- Route 114 South (from Route 22 to Payne Road)
- Route 112 – Gorham Bypass (from Route 25 to Route 114)
- Brackett Road (New Portland Road to Saco Street)
- Cummings Road/Spring Street (Payne Road to Route 22)
- Payne Road (Cummings Road to Holmes Road)

Figure 1-1
Study Area



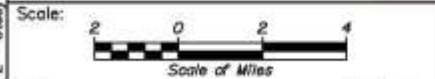


Date: 12/10/2010

Filename: TM_Fig 2 - Study Corridors.dgn

LEGEND

- STUDY CORRIDORS
- TOWN BOUNDARY



No.	Revision	By	Date

Designed by: **HNTB**
 340 County Road Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
 FAX (207) 228-0909

Designed	By	Date	Checked	By	Date
Drawn	CDH	8/09	In Charge of	RAL	8/09



THE GOLD STAR MEMORIAL HIGHWAY

**FIGURE 1-2
 GORHAM EAST-WEST CORRIDOR
 STUDY CORRIDORS**

1.3 STUDY PURPOSE AND NEED

The first step in the study process is to identify a study purpose and need statement. The purpose and need of a study is essential in establishing a basis for the development of the range of reasonable alternatives and assists with the identification of preferred alternatives. Working with the study steering and advisory committees, as a part of the public outreach process (see Chapter 8), the following were identified as this Study's purpose and need.

Study Purpose

The purpose of the Study is to identify and evaluate a range of potential solutions to area transportation and land use needs, resulting in the identification of prudent, reasonable, feasible and fiscally responsible transportation and land uses strategies in accordance with STPA, Growth Management Act, and the Federal National Environmental Policy Act (NEPA). The Study will consider the input of Study stakeholders, including the public. Specifically, the Study will:

- Identify existing and future transportation deficiencies;
- Identify existing and future land use deficiencies and opportunities;
- Identify and evaluate sustainable* transportation and land use strategies that will provide for the safe, cost-effective and energy-efficient movement of people and goods within, between, and through the Study communities, impacted communities, and Study Area, as well as to and from the Maine Turnpike/Interstate 95, I-295, U.S. Route 1, the Portland Jetport, the Port of Portland and the Portland Transportation Center;
 - The transportation strategies should complement local comprehensive planning documents to promote regional economic growth and land use management continuity between adjacent communities and along transportation networks;
 - The land use strategies should enhance and protect the transportation network;
- Identify reliable and economical transportation choices to decrease household transportation costs, promote reduction of single occupancy transportation frequency and distance to employment, reduce our nation's dependence on oil, improve air quality, reduce greenhouse gas emissions and promote public health;
- Consider and manage effects of the transportation and land use strategies on conserving the Study Area's rural, cultural and historical character, its natural resources and its wildlife habitat;
- Provide recommendations of strategies that are deemed to be prudent, reasonable, feasible, and fiscally responsible methods to address existing and future transportation deficiencies while promoting integrated state, regional, local and private land use and transportation planning as a basis for a subsequent phase (Phase 2) of evaluation in a manner which will allow results to be used during future state and federal permitting of any proposal that may proceed to construction; and

- Provide land use recommendations to be implemented by local or regional governments that complement the transportation strategies.

*NOTE: Below is a generally accepted planning definition for the word sustainable: “...development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Commission, 1987).

Study Need

The need for the Study is based on present and future transportation deficiencies and land use deficiencies and opportunities that have been identified in past studies. Key transportation corridors in the Study Area currently follow State Routes 4, 22, 25, 112, 114, Gorham Bypass – also Route 112, U.S. Routes 1 and 202 and Interstate Routes 95 and 295. Needs for the Study are focused on transportation and land use deficiencies and economic sustainability and opportunities. The deficiencies and potential opportunities noted included:

Transportation Deficiencies

- Increasing congestion that reduces mobility along certain key transportation corridors in the Study Area;
- Increasing congestion on certain key transportation corridors in the Study Area resulting in through-traffic detouring onto local and neighborhood roadways;
- There is a potential for increase in crash frequencies and High Crash Locations;
- Inadequate or deficient roadways not meeting current safety and design guidelines; and
- Inadequate facilities for pedestrian, bicycle and alternative transportation modes, resulting in limited transportation choices.

Land Use Deficiencies and Opportunities

- Congestion and other transportation deficiencies that threaten neighborhoods and their quality of life;
- Ensure recommend policies or ordinances that do not compromise transportation safety;
- Recommend policies or ordinances that plan and provide for compact, walkable, bikeable, transit-supportive communities;
- Recommend policies or ordinances that support all transportation modes and create hubs for modal connections;
- Discourage the unplanned loss of open space, including agricultural, rural and unfragmented wildlife habitat; and
- Encourage coordinated and complementary zoning.

Economic Sustainability and Opportunity - Support local and regional economic growth and stability, tourism and recreational opportunities.

Study Issues

Alternative transportation and land use strategies will be evaluated against the preceding Study Purpose and Need Statement, which is based on issues identified by the four core communities and Study stakeholders. These issues are summarized below:

Travel Times/Capacity:

- Inefficient travel limits economic development and tourism opportunities and threatens quality of life;
- Lack of modal choices in the region (also a system connectivity issue);
- Increasing travel time and distance between homes and jobs in the region; and
- Growing congestion on key transportation corridors in the region, including State Routes 4, 22, 25, 112, 114, Gorham Bypass – also Route 112, U.S. Routes 1 and 202, and Interstates 95 and 295, all having the undesirable effect of traffic moving onto local and neighborhood roadways.

System Connectivity:

- Limited connections to interstate highways, major arterials, trails, potential Mountain Division rail line and between community hubs -- all are necessary to move people, goods and services safely and efficiently; and
- Limited east-west connectivity to western Maine into New Hampshire.

Local and Regional Growth, Zoning and Planning:

- Steady residential and commercial growth in the four core communities and region;
- Steady loss of new and existing transportation capacity due to suburban growth trends;
- Loss and fragmentation of rural lands and habitat due to limited or no zoning and disconnect between transportation and land use planning;
- Limited and complex nature of regional inter-municipal cooperation resulting in lack of organized regional inter-community planning;
- Aging population of region that requires more modal choice and supportive land use patterns [social issue];
- Limited funds and allocation of funds for transportation and land use actions [overall government issue];
- Concerns with public safety/emergency response;
- Economic, energy, regional and community sustainability;
- Lack of infrastructure planning and funding; and
- Low density development with minimal mixed use resulting in limited transit opportunities.

Energy:

- Inefficient use of energy resources;
- Lack of low-cost, energy-efficient transportation choices for consumers; and
- Lack of job opportunities within an optimal commuting distance.

Chapter 2 of this report describes the existing conditions in the Study Area. Chapter 3 describes past Study Area growth and the expected future growth and its affect on the Study Area communities. Chapter 4 describes the measures of effectiveness for comparing the performance of the various alternatives. Chapter 5 describes the process of identifying an alternative land use scenario based on future growth conditions. Chapter 6 describes the process for developing a transit scenario based on the alternative land use scenario. Chapter 7 describes the transportation alternatives that were developed and analyzed. Chapter 8 provides an overview of the Study public participation process and other outreach initiatives. Chapter 9 presents the Study recommendations.

2.0 EXISTING CONDITIONS

This Chapter presents a summary of the various transportation and land use conditions in the Study Area. These are presented because they provide a baseline for analyzing the effects of future growth and land use effects on the existing Study Area transportation system.

2.1 TRANSPORTATION

Existing traffic data was gathered for the Study Area roadways to identify capacity issues on current roadway segment and intersections. A comprehensive traffic count program was undertaken in the fall of 2008 with additional selected counts taken in the spring of 2009 following the opening of the Phase I of the Gorham Bypass.

2.1.1 TRAFFIC DATA

Traffic counts for this analysis were collected during weekdays (Tuesday – Thursday) in the months of September, October and November 2008 and again in May and June of 2009. Turning movement counts were taken at several intersections within the Study Area from 7:00 AM to 9:00 AM and again from 4:00 PM to 6:00 PM. Automatic Traffic Recorder (ATR) Counts were taken for 48 hours at several locations in the Study Area.

DAILY TRAFFIC VOLUMES

Using the ATR counts, 2008 Annual Average Daily Traffic (AADT) for the major roadways in the Study Area were estimated. AADT flows were calculated by adjusting the count data with seasonal adjustment factors developed by MaineDOT. The 2008 AADT was summarized for each highway segment in the Study Area. This AADT data identifies the volume of traffic moving through each roadway segment on an ‘average’ day of the year; in doing so, it assists future planning by providing a baseline number to be analyzed.

No four-lane sections in the Study Area have high AADT’s, (defined as 35,000 AADT or more). Two-lane locations in the Study Area where high average daily volumes (close to or greater than 18,000 AADT) occurred are as follows:

- On Main Street (21,080 AADT) in downtown Westbrook;
- On Route 25 in Gorham east of Mosher corner (17,830 AADT); and
- On Route 22 within the ‘overlap’ (22,620 AADT).

The ‘overlap’ is a short roadway segment in Scarborough and Gorham where Route 22 is combined with Route 114.

Table 2-1 presents a summary of the locations, along with AADT estimates for the pre-Gorham Bypass and the post-Gorham Bypass conditions.

Table 2-1
Daily Traffic Flows

ATR Spring 2009 Follow-Up Counts				
Location ID	Description	AADT		
		Pre	Post	Percent Change
100	Route 22 (Long Plains Road) Northwest of Route 22 (County Road)	4,500	4,100	-8.9%
200	Portland Road West of Route 22 (Long Plains Road)	7,100	7,800	9.9%
300	Route 25 West of Route 112 (Gorham Bypass)	13,950	17,200	23.3%
400	Route 202 West of Route 112 (Gorham Bypass)	5,850	6,650	13.7%
500	Flaggy Meadow Road East of Route 112 (Gorham Bypass)	2,500	2,400	-4.0%
600	Route 114 (South Street) South of Route 25	12,250	9,750	-20.4%
700	Route 114 (South Street) North of Route 112 (Gorham Bypass)	11,950	8,200	-31.4%
800	Route 25 (Main Street) East of Gray Road	12,050	11,900	-1.2%
900	New Portland Road East of Route 25 (Main Street)	9,050	8,400	-7.2%
1000	Route 25 East of Route 237	17,850	15,950	-10.6%
1200	Cummings Road South of Running Hill Road	13,100	15,750	20.2%
1300	Route 22 (County Road) West of (Deering Road)	10,750	10,650	-0.9%
1400	Route 22 (County Road) West of Route 114 (South Street)	11,800	11,850	0.4%
1500	Route 22 (County Road) East of Burnham Road	22,600	22,550	-0.2%
1600	Route 112 (Gorham Bypass) North of Route 114 (South Street)		7,100	N/A
1700	Route 112 (Gorham Bypass) South of Route 25		6,750	N/A

It is important to keep in mind that the volume data presented in Table 2-1 represents a “snapshot” of traffic conditions. Traffic can and often does vary widely on a day-to-day basis. Consequently, the data presented herein would need to have additional “snapshots” over a longer period before the true impact of the Bypass can be measured.

INTERSECTION TURNING MOVEMENT COUNTS

While AADT is a general indicator of level of traffic and congestion, traffic flows are not consistent through all hours of the day or even during different days of the week. It is therefore

important to evaluate the traffic conditions of a typical peak hour or Design Hour Volume (DHV). In general, the PM peak hour is usually representative of the highest hour of traffic flow during a typical day. Typical peak conditions for this area are impacted by the University of Southern Maine (USM) campus in Gorham.

Turning movement counts were taken at times that are more representative of a typical peak condition. Traffic volumes on Fridays and Mondays tend to fluctuate more than during Tuesdays, Wednesdays, and Thursdays. Therefore, it is important to understand the dynamics of peak conditions and the frequency of events. Cost-effective transportation solutions are best made for the traveler-residents in the area that commute to work 260 days per year, especially while USM is in session.

Turning Movement Counts (TMCs) were collected for key intersections during both the AM and PM peak periods on Tuesday's through Thursday's. The turning movement counts are an integral part of the traffic operations assessment in the Study Area. The AM peak hour for the Study Area roadways, as a system, was found to occur between 7:15 and 8:15 AM. As a system, the PM peak hour for the Study Area was found to occur between 4:45 and 5:45 PM. Traffic volumes at the PM peak hour are generally higher than other times of the day. For analysis purposes, the PM peak hour is the time-period that was analyzed for this Study.

The directional peak hour volumes during the PM peak hour were calculated for each roadway link before the opening of the Gorham Bypass. Most peak hour traffic volumes in the Study Area are within the low to moderate range (less than 1,000 vehicles per hour (vph). The higher directional volumes (greater than 1,000 vph) occurred at the following locations:

- In Buxton - Westbound on Route 22 east of Route 112 (1,136 vph);
- In Gorham - Westbound on Route 22 east of Route 114/South Street (1,334 vph);
- In Gorham - Westbound on Route 22 east of Burnham Road (1,469 vph);
- In Gorham - Westbound on Route 25 east of Mosher Corner (1,061 vph);
- In Scarborough - Southwest on Payne Road northeast of Bridges Drive (1,239 vph);
- In Scarborough - Southwest on Payne Road northeast of Mussey Road (1,082 vph);
- In Scarborough - Northwest on Route 114 southeast of Beech Ridge Road (1,171 vph);
- In So. Portland - Southbound on Cummings Rd. north of Running Hill Rd. (1,050 vph);
- In Westbrook - Westbound on Wayside Drive west of Stroudwater St. (1,060 vph); and
- In Westbrook - Westbound on Wayside Drive west of Spring Street (1,116 vph).

From the PM peak hour counts, we can conclude that the dominant direction of travel during the evening is westbound within the Study Area. Conversely, it can be assumed that during the AM peak, the dominant direction of travel is eastbound. These assumptions fit well with known commuter patterns: travelers tend to commute from home to the Portland area during the AM peak and back home during the PM peak.

The following observations can be made from the post-Gorham Bypass traffic data:

- The Gorham Bypass carries approximately 650 vehicles during the evening peak hour.
- The Main Street at South Street intersection shows the most dramatic positive impact from the Gorham Bypass:
 - The northbound left turn from South Street (Route 114) to Route 25 westbound is reduced by over 400 vehicles.
 - The westbound traffic flow on Route 25 east of South Street (Route 114) remains the same while Route 25 west of South Street, the westbound traffic flow is reduced by 450 vehicles.
- Route 25 west of New Portland Road remains similar in traffic flow with 827 and 834 vehicles under the pre bypass and post bypass conditions, respectively, during the evening peak hour.
- Traffic flow on Route 22 west of South Street (Route 114) shows very little difference under either the pre bypass or post bypass condition.

TRAFFIC ANALYSIS METHODOLOGY

The signalized and unsignalized intersections were analyzed based on methodology from the Highway Capacity Manual (HCM)². The HCM sets forth a methodology to determine the level of service at which a traffic facility operates. Level of Service (LOS) is a qualitative measure describing operational conditions within a traffic stream. LOS is based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience. The transportation LOS system uses the letters A through F, with A being best and F being worst.

- LOS A is the best, described as conditions where traffic flows at or above the posted speed limit and all motorists have complete mobility between lanes. LOS A occurs late at night in urban areas, frequently in rural areas, and generally in car advertisements.
- LOS B is slightly more congested, with some impingement of maneuverability; two motorists might be forced to drive side by side, limiting lane changes. LOS B does not reduce speed from LOS A.
- LOS C has more congestion than LOS B, where ability to pass or change lanes is not always assured. LOS C is the target for urban highways in some places, and for rural highways in many places. At LOS C most experienced drivers are comfortable, roads remain safely below but efficiently close to capacity, and posted speed is maintained.
- LOS D is perhaps the level of service of a busy shopping corridor in the middle of a weekday, or a functional urban highway during commuting hours: speeds are somewhat reduced, motorists are hemmed in by other cars and trucks. LOS D is a common goal for urban streets during peak hours, as attaining LOS C would require a prohibitive cost and societal impact in bypass roads and lane additions.

² Transportation Research Board. *Highway Capacity Manual*, Washington, D.C.: 2000.

- LOS E is a marginal service state. Flow becomes irregular and speed varies rapidly, but rarely reaches the posted speed limit. On highways this is consistent with a road at or approaching its designed capacity. LOS E is a common standard in larger urban areas, where some roadway congestion is inevitable.
- LOS F is the lowest measurement of efficiency for a road's performance. Flow is forced; every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing required. Technically, a road in a constant traffic jam would be at LOS F. This is because LOS does not describe an instant state, but rather an average or typical service. For example, a highway might operate at LOS D for the AM peak hour, but have traffic consistent with LOS C some days, LOS E or F others, and come to a halt once every few weeks. However, LOS F describes a road for which the travel time cannot be predicted. Facilities operating at LOS F generally have more demand than capacity.

Tables 2-2 and 2-3 summarize the relationship between delay and LOS for unsignalized intersections and signalized intersections, respectively.

Delays and level of service for unsignalized intersections are based on the individual stop controlled approaches versus the performance of the overall performance of the intersection.

Table 2-2
LOS Criteria for Unsignalized Intersections

Level of Service	Delay per Vehicle (sec)
A	0.0 to 10.0
B	10.1 to 15.0
C	15.0 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

Table 2-3
LOS Criteria for Signalized Intersections

Level of Service	Delay per Vehicle (sec)
A	0.0 to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	Greater than 80.0

SUMMARY

Forty-one intersections were analyzed in the eleven travel corridors presented on Figure 1-2. Of those 41 intersections, seven intersections are currently operating at a LOS 'E' or 'F' and may require further evaluation to see if upgrades or improvements are necessary and economically feasible. The seven intersections are:

- Route 25 East Corridor
 - Route 25 & Saco Street
- The Overlap Corridor
 - Route 22 & Route 114 East
 - Route 22 & Saco Street
 - Route 22/114 & Burnham Road
- Route 114 South Corridor
 - Route 114 & Running Hill Road
- Payne Road Corridor
 - Payne Road & Bridges Road
 - Payne Road & Mussey Road

Traffic flow away from the heart of the Gorham Village reveals little change in traffic volumes or percentage of truck traffic following the opening of the Gorham Bypass. It is important to note that travel forecasts conducted for the Gorham Bypass are very close to the traffic counts taken in the spring of 2009 following the opening of the bypass.

2.1.2 SAFETY ANALYSIS

PURPOSE

The purpose of the safety analysis is to examine each High Crash Location (HCL) as identified by the MaineDOT, review the types of crashes, and determine if any remedial action is apparent. By reviewing the types and causes of the crashes, as well as the physical conditions and traffic control, the remedial action can be suggested. The remedial action for purposes of this Study is intended to be immediate, low cost actions that may help to prevent future crashes.

The identification of high crash locations would also provide opportunities under this Study to evaluate more long term and higher cost improvements. This process is integral to developing long-term corridor improvements in the Study Area (Figure 1-1).

METHODOLOGY

Crash summary data, provided by the MaineDOT: Traffic Engineering, Crash Records Section, was used to analyze the Study Area crashes. The three-year analysis period for crash analysis is from January 2006 to December 2008.

MaineDOT's Crash Records Section summarizes all reported crashes in which there is property damage in excess of \$1000, or in which there has been personal injury. In order to summarize this information, the MaineDOT has established a Node and Link System. This system assigns a five-digit node number to each intersection, major bridge, railroad crossing, and crossing of town, county or urban compact boundary. The segments of road that connect the nodes are referred to as links. As crash reports are received by MaineDOT, the information is assigned to the corresponding link or node.

If a particular link or node meets certain criteria, then the MaineDOT classifies it as a high-crash location (HCL). These criteria are:

- The link or node must have eight or more reported crashes over a three year period; and
- The link or node must have a "critical rate factor" (CRF) over 1.00. (A CRF greater than 1.00 indicates a location where the crash rate is significantly higher than the statewide average for similar type locations.)

It is important to note that the use of the Critical Rate Factor is used to relate the crash rate at a particular location as compared to the "expected crash rate" at similar locations throughout the State as determined by MaineDOT. In this regard, the analysis considers both the number of crashes and exposure over a three year period.

HIGH CRASH LOCATIONS IN THE STUDY AREA

Using the criteria set forth by the MaineDOT, there were a reported 64 HCLs in the Study Area for the most recent three-year period identified above. Figure 2-1 presents a graphic summary of these locations.

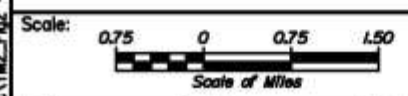
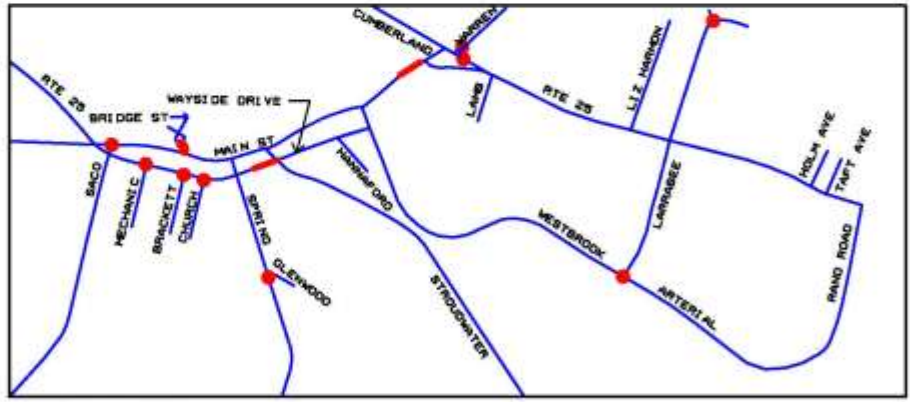
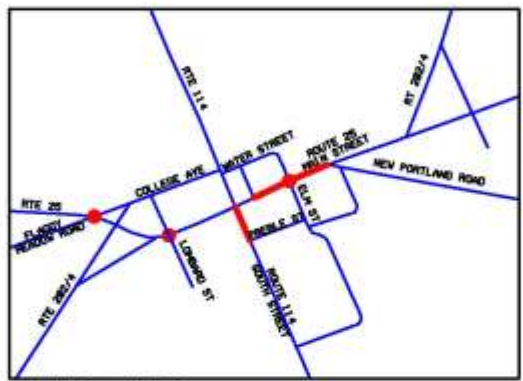
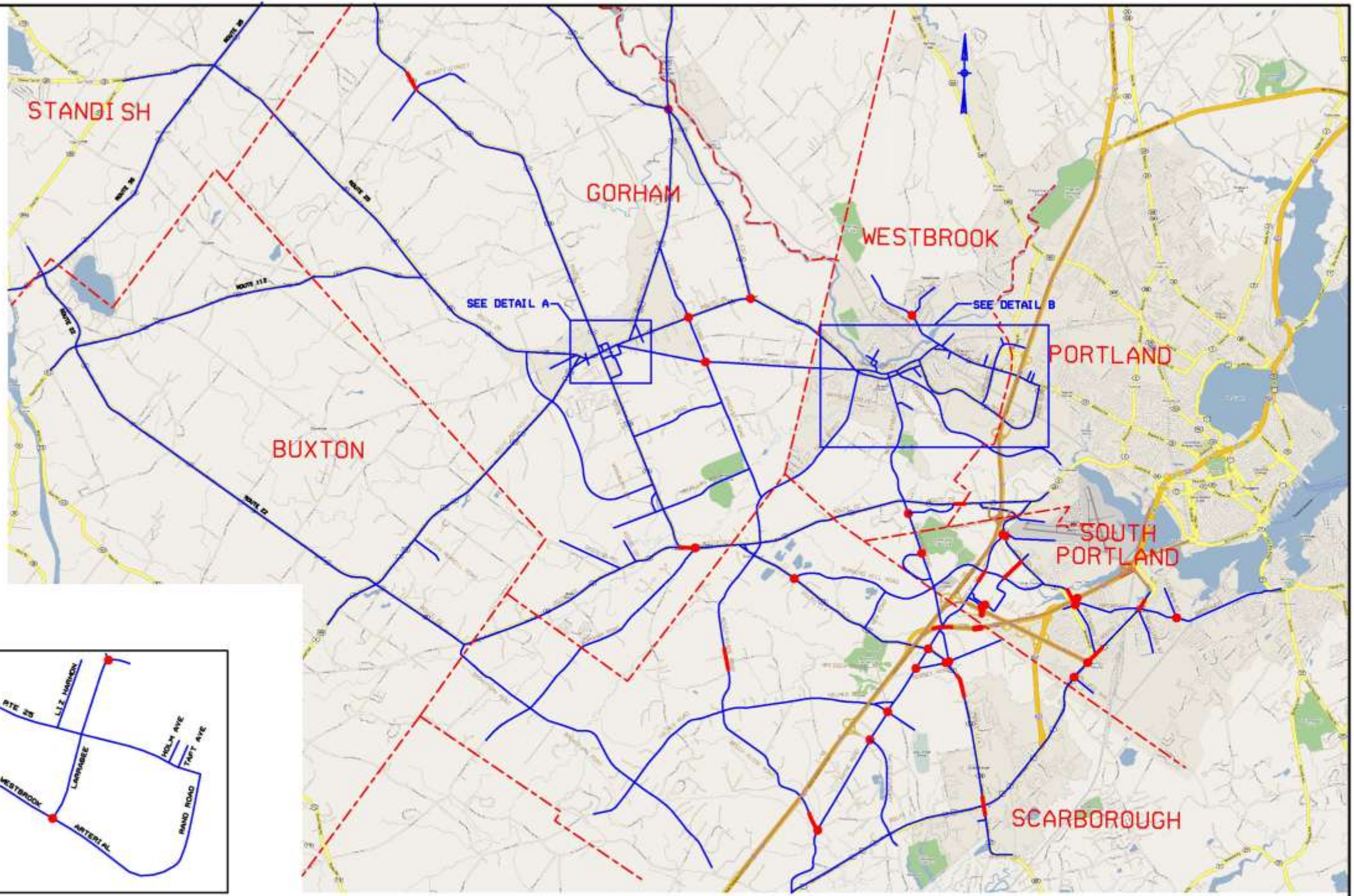
For organizational purposes, the HCLs have been divided into nine groupings. The groupings are based on similar locations and roadway characteristics. Those locations not in the groupings have been organized into isolated locations within each community.

Date: 3/10/2011

Filename: ...Resrc\TM2_Fig2 - HCL Map.dgn

LEGEND

- = HIGH RATE CRASH NODE
- = HIGH RATE CRASH LINK



No.	Revision	By	Date

Designed by: **HNTB**
 340 County Road Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
 FAX (207) 228-0909

Designed	By	Date	Checked	By	Date
Drawn	JRD	5/09	In Charge of	RAL	8/09



THE GOLD STAR MEMORIAL HIGHWAY

**FIGURE 2
 GORHAM EAST-WEST CORRIDOR
 HIGH CRASH LOCATIONS**

GORHAM VILLAGE

Within Gorham Village, there are six HCLs. Table 2-4 presents a summary.

As shown in Table 2-4, there are three roadway segments and three intersections that qualify as HCLs. For the most part, crashes within the Gorham Village are related to the urban setting of having numerous closely spaced entrances and PM peak hour traffic. The commercial nature of abutting land use and associated traffic entering and exiting contribute to the crashes. There were also two pedestrian crashes at the intersection of Route 25 (Main Street) at Water and Elm Streets.

Table 2-4
Gorham Village

Location		Number of Crashes	Critical Rate Factor
Main Street (Route 25) – Elm/Water Streets to New Portland Rd	Link	15	1.43
Main Street (Route 25) - Elm/Water Streets to Cross Street	Link	12	1.23
South Street (Route 114) - Preble Street to Main Street (Route 25)	Link	10	2.26
State Street (Route 25) at Flaggy Meadow Road and College Avenue	Node	11	1.54
State Street (Route 25) at Academy and Lombard Streets	Node	11	1.16
Main Street (Route 25) at Water and Elm Streets	Node	16	1.75

Highlights of the potential remedial actions as presented are summarized below:

- Along Route 25 in the Gorham Village, improvement of traffic flow may be achieved by coordination of traffic signals and access management improvements;
- Perpendicular parking on South Street (Route 114) from Preble to Main Streets should be reviewed and removed if possible;
- Improved signing and pavement markings on Route 25 at Academy and Lombard Streets;
- Signal improvements may enhance safety at the intersection of Route 25/Main Street at Water and Elm Streets; and
- Route 25 at Flaggy Meadow Road and College Avenue additional signing may help to reduce crashes.

As presented in the summary above, there are traffic safety issues remaining for the Gorham Village. Some of the safety challenges may have already been addressed by the completion of

the Gorham Bypass. With the diversion of regional traffic around the village, it may seem that overall the number of crashes would diminish with the anticipated reduction in traffic flows.

WESTBROOK DOWNTOWN AREA

In and around the downtown Westbrook area there are nine HCLs. Two are located on roadway segments and seven are at intersections. Three HCLs occur on Wayside Drive and one on Main Street. The remaining locations are on Bridge Street between the bridge and Main Street and the intersection of Spring Street and Glenwood Avenue and the Warren Avenue area. Table 2-5 presents a summary of these locations.

As shown in Table 2-5, a noteworthy location is Warren Avenue at Cumberland Street. With fifty crashes over a three-year period and a critical rate factor of 7.91, it has one of the highest CRFs in the State of Maine. Forty-seven of the fifty crashes at this location were classified as rear end. This crash type is typically related to vehicle speeds and quick stops in moving traffic.

Wayside Drive has three intersections that classify as HCLs. The crashes at all three intersections are related to the difficulty and inability of side street traffic to enter into the Wayside traffic stream at peak hours. Wayside Drive has four lanes of traffic with heavy traffic flow during peak periods.

Table 2-5
Westbrook Downtown

Location		Number of Crashes	Critical Rate Factor
Main Street – Stroudwater to Dunn Streets	Link	9	1.29
Bridge Street – Lincoln to Winslow Streets	Link	9	1.85
Wayside Drive at Mechanic Street	Node	25	3.20
Wayside Drive at Brackett Street	Node	15	1.87
Wayside Drive at Church Street	Node	12	1.47
Main Street at Saco Street	Node	9	1.53
Cumberland Street at right turn from Warren Avenue	Node	50	7.91
Cumberland Street at right turn to Warren Avenue	Node	16	2.18
Spring Street at Glenwood Avenue	Node	8	1.28

Highlights of the remedial action are presented below:

- For the Wayside Drive locations, consideration of installation of “Painted Box” pavement markings with supporting signs that state “Do Not Block Intersection”;

- At the Main Street at Saco Street intersection removal of on street parking may improve sight distance;
- Along Bridge Street from Lincoln Street to Winslow Street, evaluate perpendicular parking and snow removal operations;
- It is suggested that safety for Warren Avenue at Cumberland Avenue and the intersection of Route 25 at Warren Avenue be studied in detail due to the high number of crashes; and
- Review of parking at the Spring Street and Glenwood Avenue intersection.

The crash patterns in the Westbrook Downtown area seem mostly related to congestion occurring during peak hour traffic. This is especially prevalent along Wayside Drive. Because Wayside Drive is a four-lane roadway, as the traffic queue lengthens, the sight distance for side street traffic is obscured. There may also be a tendency for motorists on the through street to “let in” side street traffic that then is hit from traffic coming in the other direction. Sometimes these crashes are known as “courtesy” crashes.

PAYNE ROAD - SCARBOROUGH

Payne Road is an arterial roadway that is generally oriented in a north-south direction. The Maine Mall is located directly to the north and there is commercial development along the northern section. Toward the southern portion of the Study Area, Payne Road is more rural in nature, although there are recent commercial activities at Haigis Parkway (e.g. Cabela’s).

The Payne Road area has eight HCLs. One is located on a roadway segment and seven are at intersections. Two of the HCLs are not on Payne Road, but close by and were included in this corridor description. Table 2-6 presents a summary of the HCLs for this corridor.

Table 2-6
Payne Road

Location		Number of Crashes	Critical Rate Factor
Payne Road north of the Scottow Hill Road	Link	11	1.12
Payne Road at Beech Ridge Road & Scottow Hill Road	Node	8	2.37
Payne Road at Haigis Parkway & MTA Exit 42	Node	25	1.13
Payne Road at Holmes Road	Node	24	1.45
Payne Road at Mussey Road	Node	11	1.92
Payne Road at Gorham Road (Route 114)	Node	42	1.39
Gorham Road (Route 114) at Mussey Road	Node	19	1.08
Mussey Road at Spring Street	Node	13	3.32

As shown in Table 2-6, Payne Road at Gorham Road has a high number of crashes yet has a relatively low CRF and Payne Road at Beech Ridge Road has eight crashes over three years yet has a CRF over 2.0. Failure to yield is a common theme at several locations along this corridor.

Payne Road serves both regional and local traffic. The Maine Mall, directly to the north in South Portland, is a major traffic generator for the Payne Road. For the most part, the safety issues along this facility are confined to the intersections. A systematic review of signal operations such as clearance times and phasing may help.

Highlights of the remedial action follows:

- At the intersection of Payne Road at Beech Ridge Road review of snow maintenance activities may help reduce crashes; and
- Monitor the Payne Road, Haigis Parkway at Exit 42 intersection location which was recently reconstructed for determining if recent improvements would reduce the crash occurrence.

EAST GORHAM

Four intersections are classified as HCLs in Gorham east of the Village area. Table 2-7 presents a summary of safety characteristics of the four intersections.

Table 2-7
East Gorham

Location		Number of Crashes	Critical Rate Factor
Brackett Road at Libby Avenue & New Portland Road	Node	18	4.93
Main Street (Route 25) at Libby Avenue	Node	13	2.36
Gray Road (Route 202/4) at Mosher Road (Route 237)	Node	14	2.37
Main Street (Route 25) at Mosher Road (Route 237)	Node	8	1.28

Three of the four locations exhibit a CRF over 2.00. There have been two fatal crashes in this area from 2006 through 2008. One fatality occurred at the Main Street (Route 25) and Libby Avenue intersection and another fatality occurred at the intersection of Brackett Road at Libby Avenue and New Portland Road. MaineDOT has recently made improvements to Main Street (Route 25) at Libby Avenue. Flashing red beacons now reinforce the oversized STOP signs on the Libby Avenue approach.

The Gray Road (Route 202/4) at Mosher Road (Route 237) is a roundabout intersection, which was one of the first in this region. Part of the initial “getting used” to a new traffic control

situation may have contributed to the safety issues at this intersection. The MaineDOT has recently reconstructed the roundabout, which is expected to have a positive influence on roundabout safety.

Highlights of the remedial action follows:

- At the intersection of Brackett Road, Libby Avenue & New Portland Road, MaineDOT has an operational and safety project included in their 2010-2011 work plan;
- Upgrade current signing at the roundabout junction of Gray Road (Route 202/4) and Mosher Road (Route 237); and
- Examine possible access management improvements at the intersection of Main Street (Route 25) and Mosher Road (Route 237).

THE OVERLAP – ROUTES 22/114 IN GORHAM AND SCARBOROUGH

The Overlap is the section of County Road where Routes 22 and 114 overlap. It extends from South Street (Route 114) in Gorham on the west to Gorham Road (Route 114) in Scarborough on the east. There are two HCLs along this section; one is a roadway segment and the other is an intersection. Table 2-8 presents a summary.

Table 2-8
The Overlap

Location		Number of Crashes	Critical Rate Factor
County Road (Route 22/114) - Burnham Road to South Street (Route 114)	Link	17	1.05
County Road (Route 22/114) at Burnham Road	Node	16	1.61

There have been two fatalities along this roadway segment. For the most part crashes are related to two primary factors: high travel speeds and congestion during peak hours. Remedial action includes potential posted speed limit enforcement and an examination of access into and egress from a local greenhouse on the corner of Burnham Road.

Highlights of the remedial actions are presented below:

- Along County Road consideration should be given to widening the paved shoulders to allow vehicles to bypass left-turning traffic onto Burnham Road or by adding a left turn lane on County Road; and
- At the intersection of County Road at Burnham Road, MaineDOT has an operational and safety project included in their 2010-2011 work plan.

MAINE MALL AREA – SOUTH PORTLAND

The Maine Mall area has eight HCLs. Four are located on roadway segments and four are at intersections. The Maine Mall area is a very busy shopping/commercial area. In addition to the Maine Mall, there are many other commercial developments in the area. Many of the factors contributing to the numerous crashes are related to driver behavior. Many of the locations had failure to yield, vehicles following too closely and driver inattention as causes. Table 2-9 presents a summary of the locations.

The most notable location is the intersection of Philbrook Road with the Maine Turnpike Ramp E. An access drive to a commercial development from a controlled access ramp is not typical and may confuse those drivers not familiar with the conditions. For driver behavior factors, the typical remedial action is a combination of enforcement and education.

Table 2-9
Maine Mall Area

Location		Number of Crashes	Critical Rate Factor
Running Hill Road east of Maine Mall Road	Link	22	2.00
Maine Mall Road between I-95 On/Off Ramps	Link	13	1.12
Gorham Road –Philbrook Avenue to Mall Plaza Entrance	Link	9	1.12
Gorham Road – Mall Plaza Entrance to Maine Mall Road	Link	13	1.89
Maine Mall Road at MTA/Days Inn intersection	Node	30	1.18
Philbrook Avenue at Maine Turnpike Ramp E	Node	21	4.90
Maine Mall Road at Western Avenue & Jetport Plaza	Node	34	1.44
Western Avenue westbound right turn lane at Maine Mall Road	Node	10	1.32

A summary of highlights of remedial action follows:

- At Maine Mall Road at MTA/Days Inn, a warning sign on Maine Mall Road “Intersection Ahead” may help alert motorists of the intersection;
- A similar “Intersection Ahead” warning sign may be needed at Running Hill Road;
- At Maine Mall Road between the I-95 ramps, a warning sign on Maine Mall Road “Intersection Ahead” may help alert motorists of the intersection;
- The unusual conditions at Philbrook Road and the Maine Turnpike Ramp E may warrant installation of a flashing beacon; and
- At Maine Mall Road at Route 9 west cut through, install a “YIELD” sign if warranted.

WESTBROOK STREET - SOUTH PORTLAND

There are three locations classified as HCLs on Westbrook Street in South Portland. One is located on a roadway segment and two are at intersections. As shown in Table 2-10, each of these locations had a high number of crashes, yet Westbrook Street from Western Avenue to I-295 and the intersection of Westbrook Street at Broadway have lower CRFs. The intersection of Westbrook Street at I-295 northbound has been improved recently. There has been an expected reduction in overall crashes as a result. Table 2-10 presents a summary.

Table 2-10
Westbrook Street, South Portland

Location		Number of Crashes	Critical Rate Factor
Westbrook Street – Western Avenue to I-295 Southbound	Link	27	1.57
Westbrook Street at I-295 Northbound	Node	21	2.76
Westbrook Street at Broadway	Node	39	1.28

Highlights of the remedial actions follow:

- Westbrook Street – Western Avenue to I-295 Southbound exit ramp may benefit from restriping the pavement markings; and
- The remaining two locations have been recently improved and the crash experience should be monitored.

SOUTH PORTLAND – ISOLATED LOCATIONS

The remaining eleven HCLs in South Portland, although not geographically close, have been grouped and summarized in Table 2-11. The HCLs are a wide variety of location types from interstate roadway segments and ramps to arterial roadway segments. Further intersections range from major signal controlled to stop sign controls. Seven are located on roadway segments and four are at intersections.

As can be expected from this variety of location types, there are a wide array of potential causes and remedial actions.

As expected there are a number of crashes related to driver behavior including (a) following too closely, (b) driver inattention and (c) failure to yield.

Crashes on I-295 Southbound from the Fore River Bridge to the Exit 4 off ramp were primarily related to peak hour congestion. Twenty-five of the 32 crashes were noted as occurring between 4:00 PM and 6:00 PM.

Table 2-11
South Portland

Location		Number of Crashes	Critical Rate Factor
Foden Road – Darling Avenue to Gorham Road	Link	11	2.39
Main Street (U.S. Route 1) –Skillings Street to Cash Corner	Link	8	1.30
Main Street (U.S. Route 1) – Broadway to Haskell Avenue	Link	8	1.15
I-295 Southbound – Portland Line to Exit 4 Off Ramp	Link	32	1.53
Main Street (U.S. Route 1) - Turnpike Spur to Hayden Street	Link	11	1.87
Main Street (U.S. Route 1) – Thornton Avenue to Carignan Avenue	Link	8	2.15
I-295 Southbound between Exit 4 On/Off Ramps	Link	14	1.36
Broadway at Lincoln Street	Node	38	1.22
Main Street (U.S. Route 1) at Skillings Street	Node	20	2.85
Main Street (U.S. Route 1) at Turnpike Spur	Node	44	1.26
Main Street (U.S. Route 1) at Wallace Avenue	Node	14	1.53

A summary of the remedial action follows:

- At Foden Road – Darling Avenue to Gorham Road repairs to the pavement and trimming trees to improve sight distance may help reduce crashes;
- At Broadway and Lincoln Street, trimming of the trees may improve visibility and conduct review of signal timing;
- At Main Street and the Maine Turnpike Spur, “Intersection Ahead” warning signs may assist in reducing crashes at this location;
- Along Main Street between the Turnpike Spur and Hayden Street a general review of access management including the consideration of access changes to the gas station may improve the safety at this location;
- Main Street from Skillings Road may be improved by adding pavement markings, traffic signals and access management;
- Main Street – Thornton Avenue to Carignan Avenue may be improved with the addition of a left turn pocket lane to Dunkin Donuts; and
- Auxiliary lanes are currently being added on I-295 between Exits 3 and Exit 4 and are expected to improve traffic flow and safety along this section of I-295.

CUMMINGS ROAD/SPRING STREET – SOUTH PORTLAND/WESTBROOK

Two intersections on Cummings Road/Spring Street are classified as HCLs:

- Cummings Road at Gannett Drive; and
- Spring Street at Thomas Drive.

As shown below, both locations presented above have the minimum number of crashes that meet the threshold for classification as an HCL. Additionally the CRF is close to 1.00 for both locations. The crashes at the Spring Street at Thomas Drive intersection in Westbrook suggest they may be more related to the traffic signal at the County Road and Spring Street intersection. The latter location was completely upgraded recently. Therefore, for this location it may be prudent to monitor this location to see if the improvements already in place for County Road and Spring Street intersection may alleviate the crashes at Spring Street at Thomas Drive intersection.

A summary of the crash data is presented in Table 2-12.

Table 2-12
Cummings Road and Spring Street

Location		Number of Crashes	Critical Rate Factor
Cummings Road at Gannett Drive	Node	8	1.19
Spring Street at Thomas Drive	Node	8	1.21

The following are the highlights of the remedial action at these two locations:

- Cummings Road at Gannett Drive may benefit from some modest geometric improvements such as lengthening and slightly widening the left turn pocket on Cummings Road; and
- At Spring Street and Thomas Drive, continued monitoring of crash data is suggested as the construction from the adjacent intersection of County Road and Spring Street has just been completed.

WESTBROOK-ISOLATED LOCATIONS

The following section highlights the remainder of HCLs in the City of Westbrook. There are four locations contained in this grouping. One location is a roadway segment and three locations are at intersections. A summary of the crash data at all four locations is summarized in Table 2-13.

The potential causes of the crashes at these four locations seem to be related to commercial access-egress, driver inattention and following too closely. The Cumberland Street and Park

Road intersection appears to have limited sight distance. A railroad bridge southeast of Park Road obstructs sight distance for vehicle exiting from Park Road onto Cumberland Street. Trees and other vegetation may be a sight distance obstruction in the other direction.

Table 2-13
Westbrook – Isolated Locations

Location		Number of Crashes	Critical Rate Factor
Main Street – Larrabee Road to Liza Harmon Drive	Link	13	2.02
Larrabee Road at Westbrook Arterial (Route 25)	Node	11	1.63
Larrabee Road at Delta Drive	Node	10	1.82
Cumberland Street at Park Road	Node	15	2.53

Highlights of the remedial action for these locations follow:

- Along Main Street from Larrabee Road to Liza Harmon Drive some improvements to access management such as reduction of drives and improved sight distance may help to reduce crashes; and
- A suggested approach toward improving safety at Cumberland Street and Park Road is to improve sight distance.

SCARBOROUGH – ISOLATED LOCATIONS

There are five locations remaining in the Town of Scarborough. Four are located on roadway segments and one is at an intersection. The I-295 Toll Plaza for the Maine Turnpike is listed as two separate locations. One HCL is listed as southbound before the toll plaza and the other is listed as northbound after the toll plaza. Both locations have similar characteristics. A summary of the five locations is presented below in Table 2-14.

The Gorham Road at Running Hill Road intersection is currently under study by the Town of Scarborough. There has been one fatality at this location. In addition, there has been a pedestrian crash at this location. A majority of the crashes occurred during the peak hours.

Table 2-14
Scarborough – Isolated Locations

Location		Number of Crashes	Critical Rate Factor
I-295 Southbound before the Toll Plaza	Link	9	1.79
I-295 Northbound after the Toll Plaza	Link	8	1.88
Beech Ridge Road north of Berry Road	Link	10	1.05
Black Point Road (Route 207) – Thornton Road to U.S. Route 1	Link	16	1.92
Gorham Road (Route 114) at Running Hill Road	Node	14	1.83

Some of the highlights are as follows:

- Improvements to snow maintenance at Beech Ridge Road north of Berry Road as well as vegetation trimming to improve sight distance may assist in reducing crashes along this segment; and
- Access management at the commercial entrances may assist in reducing crashes at this location along Route 207 from Thornton Road to U.S. Route 1.

SUMMARY

In addition to the benefit of understanding current safety, the data and analysis would be used in developing and evaluating traffic safety as part of the development of alternative strategies for improving the transportation and land use for the Gorham East-West Corridor Feasibility Study.

2.1.3 PEDESTRIAN AND BICYCLE SYSTEM

This section presents a basic inventory and a limited safety overview and analysis of the pedestrian and bicycle facilities available within the major travel corridors in the Study Area. The Study analyzed current traffic and land use patterns as a means to suggest or determine possible bicycle/pedestrian improvements in the Study Area.

The Study included an overview of the importance of bicycle and pedestrian access to the transportation system, with recommendations on general improvements that can improve safety and ensure that bicyclists and pedestrians have appropriate connections across the Study Area and especially in the built up areas.

The primary Study Area includes the four town/city centers of Gorham, Westbrook, South Portland and Scarborough, as well as miles of rural and urban roadways. The secondary Study Area (labeled “Regional Study Area” on Figure 1-1) is a larger geographical area where additional traffic counts were gathered. Pedestrian and bicycle information was gathered from

the primary Study Area only at locations west of the Turnpike with the principal focus in the communities of Gorham and Westbrook.

DATA COLLECTION

A limited field reconnaissance of the major roadways was conducted within the Study Area in late spring 2009. Information gathered included:

- Width of paved shoulders;
- Locations of major sidewalks; and
- Locations of crosswalks.

Pedestrian and bicycle volumes were counted along with vehicular traffic at key intersections. These counts can help develop an understanding of non-vehicle travel use throughout the Study Area. It is important to note that bicycle and pedestrian counts differentiate between motor vehicle counts in that bicycle and pedestrians have differing commuting patterns and the numbers can be severely affected by weather. Also, lack of safe facilities in some locations can inhibit pedestrian and bicycle movement, so counts cannot be used to adequately forecast bicycle and pedestrian needs.

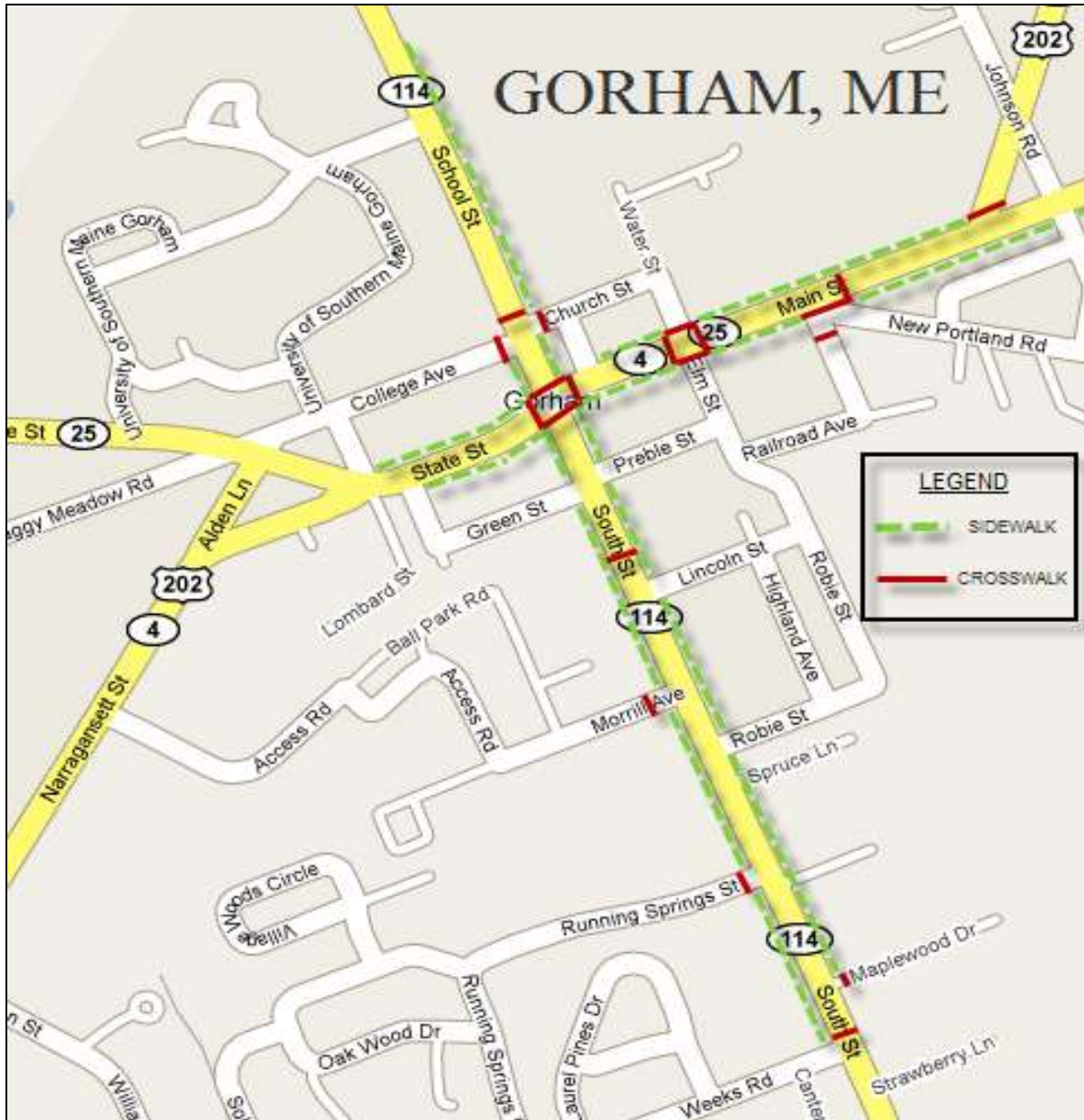
PEDESTRIAN TRAVEL

Pedestrian activity is generally concentrated in compact areas or village centers. Pedestrians can be found in rural areas, and they are generally accommodated on paved shoulders. Sidewalks and crosswalks are concentrated in compact village areas. The following shows where pedestrian facilities are located in Gorham and Westbrook and how many pedestrians were observed at those locations during the count period.

Sidewalks and Crosswalks

Figure 2-2 illustrates sidewalks and crosswalks within the major travel corridors in the Gorham Village area.

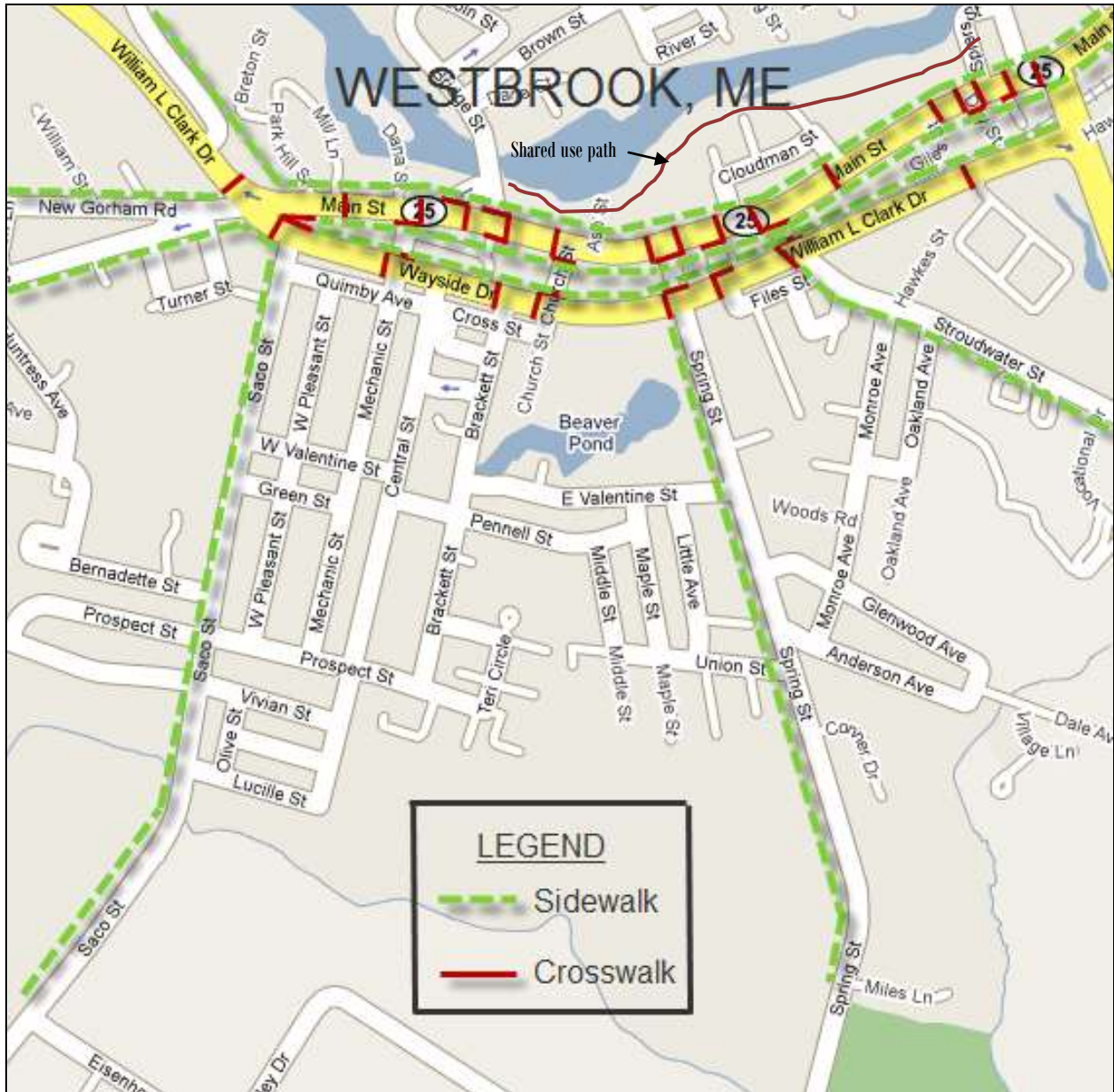
Figure 2-2
Gorham Village Area Sidewalks and Crosswalks



As shown on Figure 2-2, there are sidewalks along portions of both sides of Route 25 (Main and State Streets) in the Village and along South Street as well. Crosswalks are provided at all quadrants of Main/State Street at South Street and Main Street at Water/Elm Street. The intersection of Main Street at New Portland Road also has crosswalks. The Study did not evaluate the adequacy of the crosswalks, whether they were visible, or whether they were fully accessible with Pedestrian Countdown signals.

Figure 2-3 presents the pedestrian facilities within the major travel corridors in downtown Westbrook. As shown, Main Street has sidewalks on both sides and William Clarke/Wayside Drive has a sidewalk on the north side. Saco Street, New Gorham Road, Spring Street and Stroudwater Street provide sidewalks on one side of the road.

Figure 2-3
Westbrook Downtown Sidewalks and Crosswalks



Crosswalks are provided at all major intersections. At signalized intersections, exclusive pedestrian phases are also provided. Along William Clarke Drive in the downtown there are signs placed along key unsignalized intersections alerting motorists to yield for pedestrians in crosswalks.

Pedestrian Flows

Table 2-15 illustrates total pedestrian volumes that were counted at selected key locations during the weekday PM peak hour. There were a minimal number of pedestrians counted at the remaining intersections in the Study Area.

Table 2-15
Pedestrian Volumes

Intersection	Town	Pedestrians
County Road at Spring Street	Westbrook	6
County Road at Route 114	Scarborough	3
Day Road at Route 114	Gorham	1
Route 25 at Route 114	Gorham	31
Route 25 at Water/Elm Streets	Gorham	31
Route 25 at New Portland Road	Gorham	1
Route 25 at Route 237	Gorham	4
New Gorham Road and Route 25	Westbrook	9
Wayside Drive at Saco Street	Westbrook	1
Wayside Drive at Spring Street	Westbrook	9
Wayside Drive at Stroudwater Street	Westbrook	35
Main Street at Westbrook Arterial	Westbrook	63
William Clarke Drive at Westbrook Arterial	Westbrook	6

Notably and as expected, from Table 2-15, the greatest number of pedestrians can be found within compact areas or village centers. The highest numbers of pedestrians are seen in downtown Westbrook (Route 25 at Stroudwater Street and Main Street at Westbrook Arterial). These crossings are near a school and a public park, and surrounded by commercial businesses in downtown Westbrook. Greater numbers of pedestrian traffic can also be found in downtown Gorham (Route 25 at Route 114 and Route 25 at Water Street/Elm Street), where local businesses, banks, and a grocery store are also located.

BICYCLE TRAVEL

There are several types of bicycle facilities – bike lanes, shared use paths, and shared roadways. A bike lane is a part of a road marked off or separated for the use of bicyclists. A shared use path is a trail that permits more than one type of user, such as a trail designated for use by pedestrians, wheel chair users and bicyclists. A shared roadway is a roadway or city street with no special bicycle signage that would usually have paved shoulders. All of these bicycle facilities can be found in the Study Area. A shared use path is located in Westbrook along the Presumpscot River parallel to Main Street from Cumberland Street to Bridge Street. Another major bicycle and pedestrian shared use path in the vicinity of the Study Area is the Mountain

Division Rail with Trail, connecting Route 35 in Standish to Route 202 in Windham at the Windham/Gorham line. This path is envisioned as a future connection between Windham and Westbrook along the Mountain Division Rail Corridor. Main Street in Westbrook has a designated bike lane. Shared roadways are harder to identify. The remainder of this section would provide information on which roadways in the Study Area have safe access according to AASHTO standards for bicycle travel because of paved shoulders.

Rules governing bicycle travel in Maine are for the most part the same as motor vehicles. Bicycles must travel in the direction of traffic and obey all applicable traffic control signs and pavement markings. As such, all roadways in the Study Area are available for bicycle travel. On major roadways, especially during peak hours, the ability for bicycles and motor vehicles to safely and efficiently share the same roadway depends a great deal on physical room and prevailing speeds of the roadway. The bicyclist needs to have a certain comfort level in maneuvering on the roadway and the motor vehicle must have a similar degree of comfort and ability to pass bicyclists. Those roadways with higher speeds, narrow or no paved shoulders, poor pavement condition or limited sight distance make bicycle and motor vehicle interactions difficult.

In order to get a better understanding of other suitable travel ways for bicycle traffic, the paved shoulder widths of the major corridor roadways was measured. Figure 2-4 presents a summary of the measured paved shoulder widths for those roadways. The wider the paved shoulder, the more accommodating the roadway is for bicycle travel.

The shoulder widths can be grouped into three categories – less than four feet, between four and five feet, and five feet and more. Paved shoulders for roadways with no curb or gutter should be a minimum of four feet wide to accommodate bicycle travel³. Paved shoulders for roadways with a curb or guardrail should be a minimum of five feet wide to accommodate bicycle travel. However, shoulder widths of 5 feet or wider are desirable, especially where motor vehicle speeds exceed 50 mph or the percentage of trucks, buses and recreational vehicles is high.

As can be seen from Figure 2-4, the following Study Area roadways provide adequate paved shoulders for bicycle travel:

- Route 114 north of the overlap;
- Route 25;
- Saco Street from downtown Westbrook to the Scarborough Town Line;
- Route 22 from Route 202/4 to the Route 114 overlap;
- Brackett Road; and

³ American Association of State Highway and Transportation Officials. *Guide for the Development of Bicycle Facilities*, Washington D.C.: 1999.

- Spring Street from downtown Westbrook to Route 22.

However, by examining Figure 2-4, it becomes apparent that there are options for improving bicycle travel on many of the other regional roadways by adding paved shoulders where shoulders are narrow to nonexistent (less than two feet) or by widening existing paved shoulders to an appropriate width (four foot minimum or five foot minimum in curb and guardrail areas) for use by bicyclists. This would help facilitate safe travel for bicycle movement in the region.

Bicycle Volumes

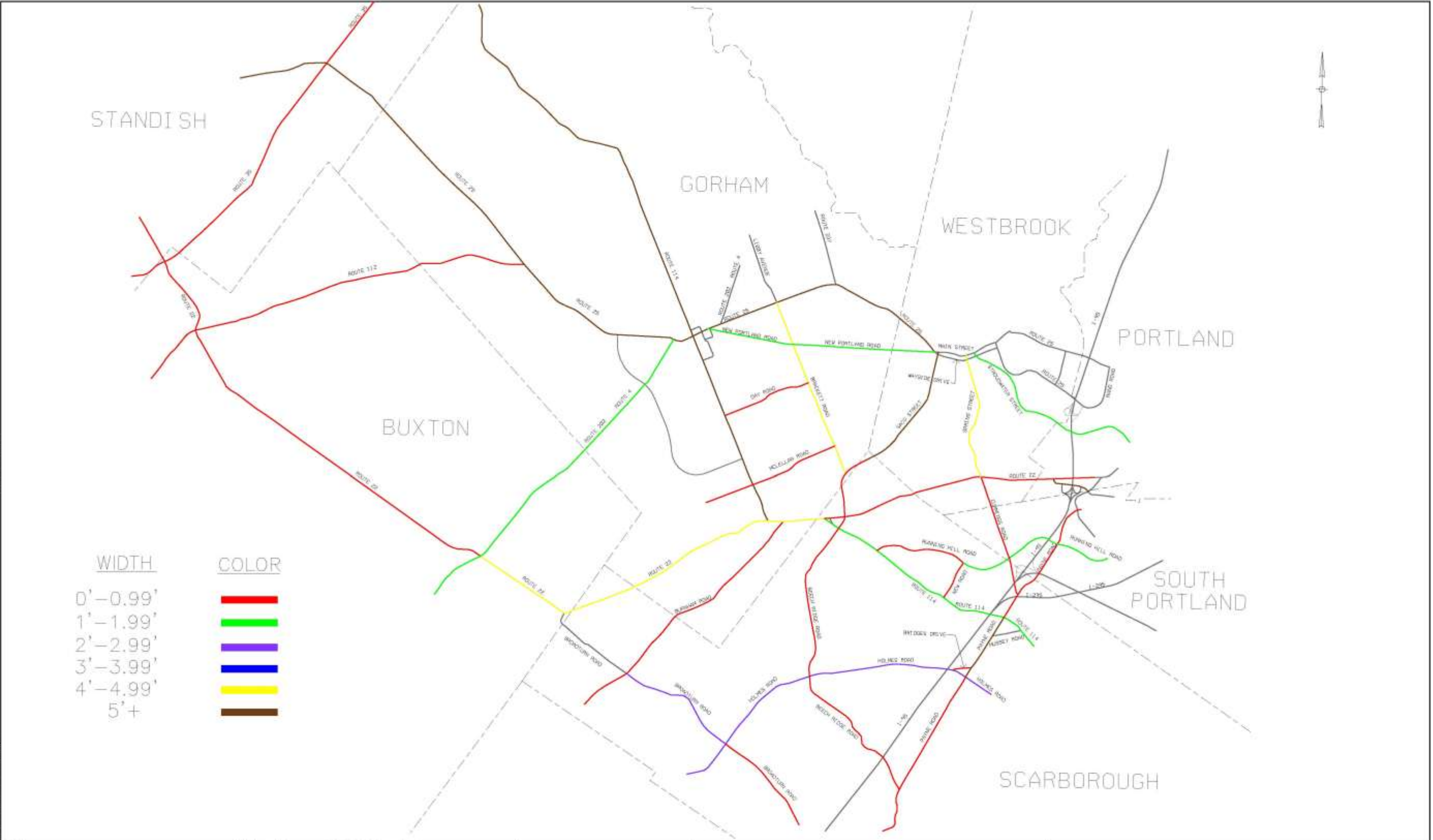
Table 2-16 illustrates total bicycle volumes that were counted at selected key locations during the weekday PM peak hour. As shown in Table 2-16 there was little bicycle activity observed during the count period. It is important to note that bicyclists do not necessarily travel during inclement or cold weather. Interesting to note is that all bicycle activity that was observed was on Route 25, a route that provides wide paved shoulders suitable for bicycle travel. The highest likelihood of bicycle travel in an east west direction is between the urban centers and South Portland and Portland.

Table 2-16
Bicycle Volumes

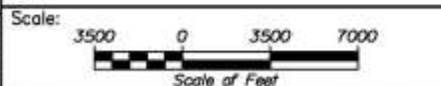
Intersection	Town	Bicyclists
Day Road at Route 114	Gorham	0
Route 25 at Route 114	Gorham	2
Route 25 at Water/Elm Streets	Gorham	4
Route 25 at New Portland Road	Gorham	0
Route 25 at Route 237	Gorham	0
County Road at Route 114	Scarborough	0
County Road at Spring Street	Westbrook	0
New Gorham Road and Route 25	Westbrook	0
Wayside Drive at Saco Street	Westbrook	0
Wayside Drive at Spring Street	Westbrook	0
Wayside Drive at Stroudwater Street	Westbrook	3
Main Street at Westbrook Arterial	Westbrook	0
William Clarke Drive at Westbrook Arterial	Westbrook	0

Date: 12/10/2010

Filename: Tech Memo 4_Figure 4 - Shoulder Width.dgn



WIDTH	COLOR
0' - 0.99'	Red
1' - 1.99'	Green
2' - 2.99'	Purple
3' - 3.99'	Blue
4' - 4.99'	Yellow
5' +	Brown



No.	Revision	By	Date

Designed by:

HNTB
340 County Road Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

By	Date	Checked	By	Date
Designed			LBF	5/09
Drawn	JRD 5/09	In Charge of	RAL	5/09



MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

FIGURE 2-4
GORHAM EAST-WEST CORRIDOR
SHOULDER WIDTHS

CONTRACT: 09009-XW-010 PAGE NUMBER: 2-26

PEDESTRIAN SAFETY

Table 2-17 illustrates the total number of collisions involving pedestrians and bicyclists at intersections within the Study Area over the three-year period (2006-2008) as reported by the Maine Department of Transportation: Traffic Engineering, Crash Records Section.

The Table 2-17 indicates that virtually every intersection had at least one pedestrian crash (with the exception of Main Street at Saco Street. Most of the locations are in high pedestrian traffic locations. All of the locations provided a pedestrian crosswalk at the intersection. The location of Route 114 at Running Hill Road is the only location that does not provide sidewalks along the major road.

Table 2-17
Collisions Involving Pedestrians and Bicyclists

Location	Town	Collisions	
		Ped	Bike
Route 25 at Water/Elm Streets	Gorham	2	1
Route 114 at Running Hill Road	Scarborough	1	0
Wayside Drive at Church Street	Westbrook	1	0
Wayside Drive at Brackett Street	Westbrook	1	1
Spring Street at Glenwood Avenue	Westbrook	1	0
Main Street at Saco Street	Westbrook	0	1
	Total	6	3

The crash reports that were obtained provided no information as to the type and cause factors of the collisions. For comparison, statewide data shows that more than 50 percent of crashes involving pedestrians are due to driver distraction.

SUMMARY

The pedestrian system in the compact areas and village centers of Gorham and Westbrook has areas with sidewalks and crosswalks. This analysis did not include a study of ways to improve pedestrian connections and the safety of the crossings in the Study Area. It is important that the Study Area village areas provide safe and desirable pedestrian facilities to improve pedestrian safety and to encourage walking as a mode of transportation. This helps the transportation system to work safely and efficiently.

Many of the roads in the Study Area provide shoulders for bicycle access. Route 25 provides wide shoulders for bicycle travel, and it was found that bicyclists are using that route. However, there are several places where improvements could be made to better accommodate bicycle travel in the Study Area.

2.1.4 TRANSIT AND FREIGHT SYSTEM

PURPOSE

This section describes the existing passenger transit and rail freight services that operate within the Study Area. Passenger transit services include local bus services as well as paratransit⁴ services that have service stops within the Study Area.

BACKGROUND

Local bus operations within the Study Area provide connections to inter-city bus and rail service in Portland. A small piece of the Pan Am Railways (PAR) owned section of the Mountain Division Rail Line is active for freight use from Mountain Junction in Portland to the Sappi plant in Westbrook at milepost 5.75, with the inactive remainder heading west and owned by the State of Maine. PAR also provides freight service along a section of rail line through South Portland over which the Amtrak-operated Downeaster service runs for the Northern New England Passenger Rail Authority (NNEPRA) between Portland, Maine and Boston, Massachusetts. However, since there are no Downeaster stations within our Study Area, this service will not be described.

PASSENGER TRANSIT – BUS SERVICES

The following summarizes the bus services in the Gorham East-West Corridor Feasibility Study including METRO, South Portland Bus Service, Shuttlebus Intercity Service, University of Southern Maine and paratransit. In the fall of 2009 the Greater Portland Council of Governments released a regional map of the bus service providers in the Portland area of Maine that can be best viewed by going to the following link <http://www.gpcog.org/reallybigfiles/PORTLAND-ME-Regional-Map-Timetable-081009.pdf>.

Local – fixed route bus services operate locally on a fixed daily schedule along prescribed bus routes, making stops at specific location. There are two public transit operators providing fixed route bus services in the Study Area (METRO and South Portland Bus Service) and one private service in operation that is limited to the University of Southern Maine school students and employees.

⁴ Paratransit services are special public transportation options for senior citizens and persons with disabilities. Most area city and county governments have implemented, and are continuing to enhance, paratransit services for their residents based on the [Americans with Disabilities Act \(ADA\)](#) of 1990.

METRO

The information documented in this section of the report was gathered via the METRO website during the summer of 2009 (<http://www.gpmetrobus.com/>) and/or through a meeting with David C. Redlefsen, General Manager of METRO held on June 9, 2009.

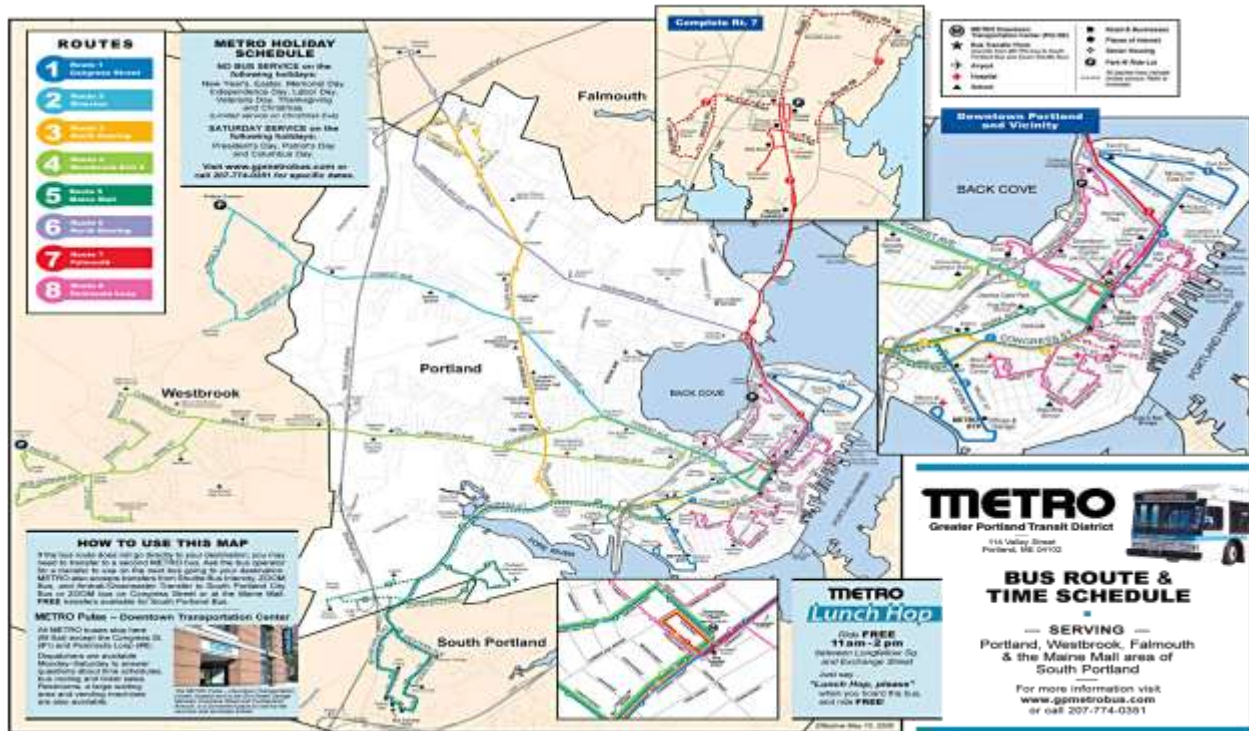
METRO is a public transit service bus provider serving the Greater Portland Transit District which is comprised of Portland, Westbrook, Falmouth and the Maine Mall areas of South Portland (Figure 2-5). METRO was incorporated in 1976 and averages 1.5 million riders annually making it the largest public transportation provider in Maine. METRO provides seven day a week service with connections to other regional transit agencies such as ZOOM, Concord Coach Lines, Greyhound, and the Amtrak Downeaster. Out of the eight fixed route bus routes they offer, both the Route 4 (Westbrook – Exit 48 Route) and Route 5 (The Maine Mall Route) bus routes are located within the Study Area.

Bus headways (time interval of buses, i.e. every 10 minutes) for the Route 4 Westbrook –Exit 48 bus route traveling westbound from Portland within the city average 15 minutes throughout most of the day (about 4 buses per hour), but bus travel to Westbrook operate every hour from 6:20 AM to 9:50 PM. Weekday bus service from Hannaford (Westbrook) toward Portland from 7:10 AM to 11:20 PM run on one hour headways. Saturday service operates at nearly the same level as weekday service, but Sunday service is much more limited, running from 10:00 AM to 5:00 PM on one to two hour headways.

Bus headways for the Route 5 Maine Mall bus route operate all week with limited service on Sunday. Monday through Saturday outbound service only operates within Portland from 6:00 AM to 10:00 PM. Inbound service between the Maine Mall/JC Penney in South Portland to the METRO PULSE station in Portland operates with headways of 25 to 35 minutes between the hours of 7:20 AM and 6:40 PM and with headways of 55 to 65 minutes at 6:25 AM and 7:20 AM and from 6:40 PM to 10:10 PM. On Sunday, a combined Route 1/5 service stops at the Maine Mall from 8:50 AM to 6:20 PM with headways between 25 minutes and one hour thirty-five minutes. The inbound trip from the Maine Mall to the Portland Transportation Center takes 15 minutes.

On April 1, 2010, fares for all fixed route METRO buses were increased to \$1.50 for a one-way adult trip, \$13.50 for a ten ride ticket, and \$40.00 for a monthly pass. Senior citizens and persons with disabilities are offered reduced fare price at approximately half the cost of the regular one way ticket and the ten ride tickets. Students are offered the ability to ride the buses for \$1.25 with the proper identification (ID).

Figure 2-5
METRO Bus Route Map



SOUTH PORTLAND BUS SERVICE (SPBS)

The following information was obtained from the SPBS website during the summer of 2009. The SPBS is owned and operated by the City of South Portland and provides public fixed-route transit service in South Portland, the Maine Mall area, and downtown Portland (Figure 2-6). This service operates Monday through Saturday with no service on Sunday. Two of the three bus routes (Routes 3 & 4) operate within the Study Area and are described in more detail below.

The Route 3 “Crosstown” bus service operates from Monday through Friday westbound from Portland to the Maine Mall between the hours of 8:50 AM and 1:20 PM. Headways vary from one hour and twenty-five minutes to one hour and forty minutes. From Wal-Mart in South Portland to Willard Square in Portland, buses run on one hour and twenty-five minute headways to one hour and forty minute headways. Service is provided to the Maine Mall eastbound to Willard Square in Portland between the hours of 9:10 AM and 1:40 PM. No Route 3 service is available on weekends.

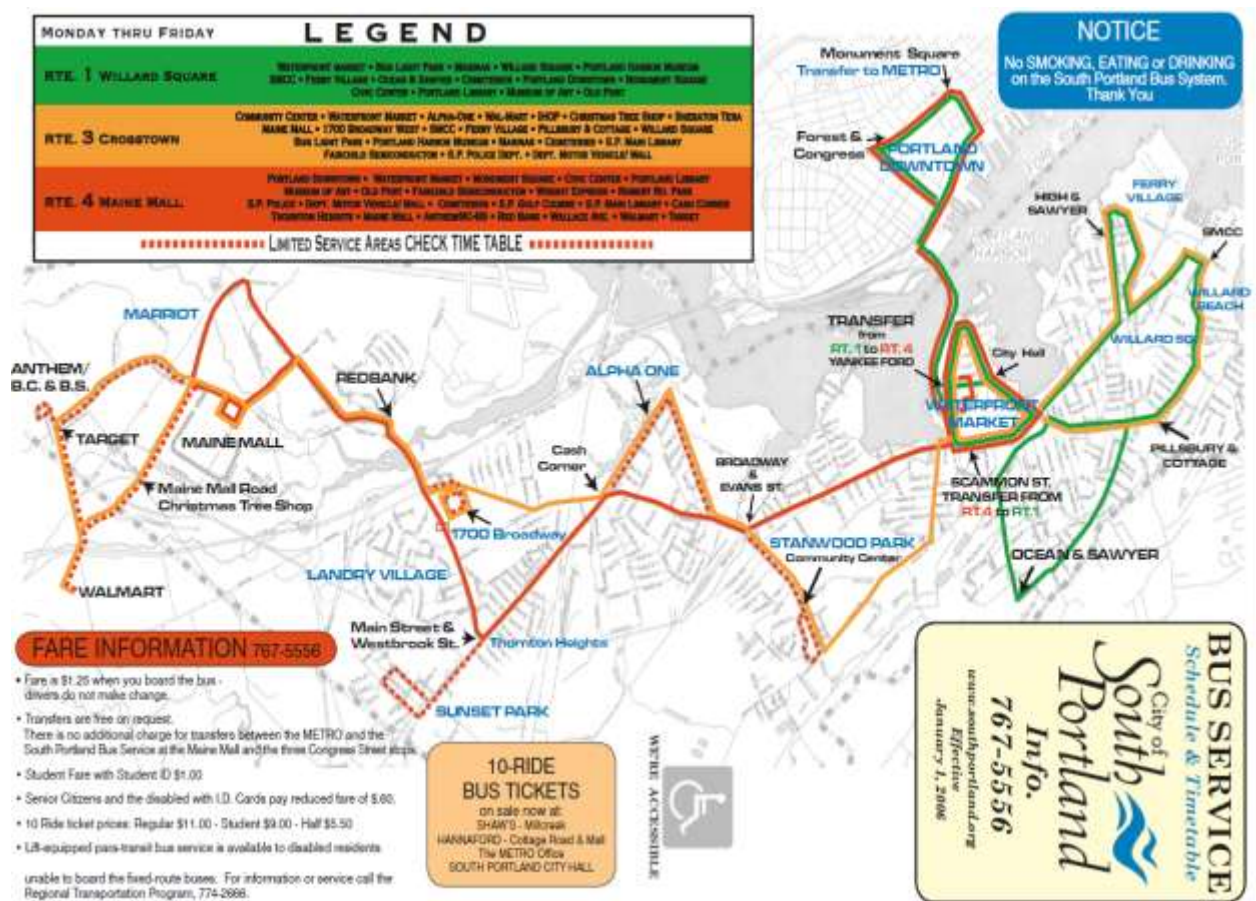
The Route 4 “Maine Mall” bus service operates from Monday through Saturday. From Monday through Friday, headways outbound from Portland to the Maine Mall are between 40 and 50 minutes, with service from 6:00 AM to 9:15 PM. When headed in the opposite direction, service operates every 40 to 50 minutes from 6:35 AM to 9:45 PM. On Saturday, the buses generally

run once every hour or hour and fifteen minutes, roughly from 7:15 AM to between 5:50 PM and 6:45 PM.

The fares for the SPBS are very similar to METRO's. A one way trip costs \$1.25. Student fare with proper ID is \$1.00 per ride. Senior Citizens and the disabled pay a reduced fare of \$.60 per ride with the proper ID. Ten ride ticket prices are \$11.00, with \$9.00 for students and \$5.50 for senior citizens and disabled.

Transfers are available free upon request and there is no additional charge for transfer connections with METRO bus service at the Maine Mall and three Congress Street stops. Lift-equipped paratransit bus service is also available to disabled residents.

Figure 2-6
South Portland Bus Service Route Map



UNIVERSITY OF SOUTHERN MAINE (USM)

The USM has a contract with a private bus company, VIP Tour & Charter Bus Company, to provide shuttle bus service between their Gorham and Portland campuses. The information obtained for this section of the report was gathered via the USM website during the summer of 2009 (www.usm.maine.edu/police/bus.htm#Bus_Schedules_PortlandGorham) and/or a meeting with Ray Penfold of VIP on June 9, 2009.

The USM bus service is provided for use only to university students and employees with stops in Gorham in front of Bailey Hall, in Portland in front of the Woodbury Campus Center and at the Maine Mall near the Sears Automotive entrance facing the South of the Border restaurant. Fares for the service are included in semester fees charged to students.

The service is provided Monday thru Saturday in the fall and spring semesters when classes are in session. There are no buses operated during school breaks or summer sessions. Bus schedules are reviewed by the Office of Student & University Life and the Registrar's Office.

Within the Study Area, the USM bus has the flexibility to traverse various local routes depending on the flow of traffic and any bottlenecks due to rush hour traffic, construction, accident or inclement weather. The bus schedule operates from roughly 7:00 AM to 10:00 PM with forty-five minute headways. Travel time between the two campuses varies between thirty and forty-five minutes depending on traffic volume.

INTER-STATE BUS SERVICE

There is no direct inter-state bus service that stops within the Study Area, but METRO and South Portland Bus Service provides connections to such services in Portland including the following: Greyhound Lines, Inc., Concord Coach Lines and shuttle buses servicing Biddeford, Saco, Old Orchard Beach, Scarborough, South Portland and Portland, and the Amtrak Downeaster intercity rail service.

SCHEDULE SUMMARY

Table 2-18 provides a summary of the fixed schedule publicly available bus service provided within the Study Area. Since the USM bus service is provided for private use it is not included in Table 2-18.

Table 2-18
Bus Service Headways within Study Area¹

Bus Route	Weekday	Weekend
METRO		
Route 4 – Westbrook – Exit 48	60 minute (min.)	60 min. (Saturday) up to 120 min (Sunday.)
Route 5 – Maine Mall	25 – 65 min.	Up to 65 min. (Saturday), 25 to 95 min. (Sunday)
South Portland Bus Service		
Route 3 – Crosstown	85 – 100 min.	None
Route 4 – Maine Mall	40 – 50 min.	60 – 75 min. (Saturday only)
ShuttleBus – Intercity	90 – 170 min.	135 - 200 min.

1. Most current schedule for each bus route is obtained from respective websites (Summer/2009).

PARA-TRANSIT SERVICES

REGIONAL TRANSPORTATION PROGRAM (RTP)

The RTP was established in 1976 through a merger of transportation services provided by the Portland Chapter of the American Red Cross, York-Cumberland Senior Services and the Social Services of the Greater Portland Transit District. RTP is operated under the United Way agency to provide low-cost bus transportation service in Cumberland County to the elderly, social service clients, the economically disadvantaged and persons with disabilities.

RTP is located at 127 St. John Street in Portland and operates 34 different routes across Cumberland County each day, doing door-to-door rider pickups and drop-offs. They have a fleet of 34+ lift-equipped buses and vans, 45 agency certified drivers and a volunteer program that involves more than 50 drivers.

According to the website of RTP, the following are ways in which riders can qualify for the RTP.⁵

Age - For those riders who are 60 or older and low income, RTP contracts with the Department of Health and Human Services (DHHS) to provide transportation to medical

⁵ RTP website, <http://www.rtprides.org/qualify.html>. Accessed July 24, 2009.

and other appointments. A yearly application with income verification is required. For those riders who are 60 or older and over income guidelines provided by DHHS, can still qualify for the services. With the exception of life-saving dialysis or cancer treatment transportation, a \$2.50 fare is required for each one-way trip. An application must be on file.

Income - Any rider who is 59 or younger would qualify for this service if they are below the DHHS income guidelines. A yearly application with income verification is required.

MaineCare - Any rider who is active MaineCare eligible is qualified for this service.

Americans with Disabilities Act (ADA) - A rider who is ADA eligible would qualify for this service. The ADA program is for those riders, who because of a disability cannot use the METRO/SPBS to get to their appointments. An application is required, including diagnosis from a healthcare provider.

DHHS Child Protective - RTP contracts with DHHS to provide transportation for Child Protective clients. An active referral from DHHS is required to qualify for transportation. A DHHS Child Protective worker must call to set up this transportation.

Child Development Services (CDS) - RTP contracts with CDS to provide transportation to special needs children. The child's CDS worker must send a referral in order to qualify under this contract.

Other - In addition to the ways to qualify above, RTP also has contracts with the Division of the Blind, Disability Determination, DHHS Department of Mental Health, and some local nursing homes.

SHUTTLE & TAXI SERVICES

There are many companies offering shuttle and taxi services within the Study Area and to major destinations such as Logan, Manchester and Portland Airports.

FREIGHT RAIL SERVICES

Following is a summary of the freight rail line in the Study Area.

MOUNTAIN DIVISION FREIGHT LINE

The Mountain Division Freight Line is an abandoned rail right-of-way between Fryeburg and Westbrook beginning at milepost 6.0. MaineDOT currently owns the section between Fryeburg at the New Hampshire border (milepost 51.5) and Westbrook (milepost 6.0). MaineDOT operates a recreational bicycle/pedestrian/cross country skiing trail adjacent to the Mountain Division Freight Line in Windham, Gorham and Standish from Gambo Road in Windham to Route 35 in Standish. As noted in the Mountain Division Rail Study, the 40 miles from the

Maine state line at Fryeburg to South Windham is cleared and the tracks in place with minimal but important maintenance performed by MaineDOT. The grade crossings on the MaineDOT owned track are mostly paved over. The Mountain Division Freight Line is currently being assessed as part of the *Maine Statewide Rail Plan*, currently under development, as a critical rail corridor to possibly include freight, tourist, and/or commuter rail operations.

The last six miles of the Mountain Division Freight Line right-of-way from Westbrook to Portland are owned by PAR. About 4.5 miles of the track has been removed into Westbrook. PAR owns, operates, and maintains the section of the Mountain Division rail line from the Sappi paper mill in Westbrook to Portland and provides the frequency of one to two trains a week to/from the mill. The Amtrak Downeaster intercity passenger rail service also shares the first half mile of the Mountain Division Freight Line track in Portland to reach the Portland Transportation Center.

Regarding the condition of the rail track within the Study Area, most of the first four miles in Portland and Westbrook have had minimal maintenance for a number of years. Rail on the Mountain Division Freight Line is generally 85 pound (lb) per yard or 115 lb per yard if newer. There is a short segment of 112 lb per yard rail between milepost 15.13 and 15.25 in Gorham. Most sidings remaining in place are 80 lb per yard rail and all appear to be inactive in the Study Area. Rail on the PAR owned section is 115RE and is in fair condition. The track structure has been removed for about 4.7 miles from just before Pierce Street in Westbrook at milepost 6.43 to milepost 11.14. From milepost 11.14 in South Windham to milepost 59.10 in New Hampshire, the rail is 85 lb per yard dating from about 1903 to 1921 with most having been rolled in 1917 or 1918. This rail is generally in fair condition with little or no surface bending and minimal rail end batter. A few joints with excessive gap were noted and some minor chipping of the rail head on the gauge side and top of rail at joints was noted.

2.1.5 TRANSPORTATION DEMAND MANAGEMENT (TDM)

PURPOSE

The purpose of this section is to describe the current programs and policies which support opportunities to increase both participation in the current programs and the shift from single occupancy vehicles in the four Study Area communities.

BACKGROUND

This section describes the current programs and policies that are part of Maine’s comprehensive Transportation Demand Management Programs. Maine’s statewide rideshare and vanpool program - “*Go Maine*” – is administered by the Greater Portland Council of Governments (GPCOG) and sponsored by the MaineDOT and the MTA. *Go Maine* employs 2.5 staff to manage all services.

This section would provide an assessment of the current program through an:

- Inventory of the current *Go Maine* program as it relates to the Study Area data⁶;
- Inventory of Park and Ride lots in the Study Area; and
- Historical State-Wide Trends since 2002.

The baseline data would provide information and trends that would be the basis of estimating potential for TDM as part of developing options for the future transportation and land use elements of this Study.

METHODOLOGY

Go Maine currently provides the following statewide carpool ride matching services and vanpool, transit, bicycle and walking information to commuters and travelers in Maine. Although data was collected and analyzed on the state-wide program, the summary of findings relate only to the Study Area. A general overview of the program would provide context for analyzing opportunities for TDM in the Study Area in the future.

⁶ Currently, based on information from the municipal planners, none of the 4 communities currently have transportation demand management regulations or ordinances.

INVENTORY OF CURRENT PROGRAMS⁷

Go Maine's programs include:

- Of the 31 Vanpools operating state-wide, there is currently *no vanpool service* in the Study Area;
- Carpool information and ride-matching services are provided via internet and outreach programs (fairs, conferences, and business partnerships) for all modes of travel;
- Emergency Ride Home Guarantee Program available for registered commuters via taxi and Enterprise Rental Service providers;
- Information and service links to over 40 local and regional bus, ferry and rail services including commercial shuttles;
- Information on Five Park and Ride lots in the Study Area located in Westbrook, South Portland, and Scarborough. The Metro bus provides the only transit service to the Westbrook lot via Route 302 (see Table 2-20); and
- Information is provided via email to registered commuters on relevant media releases and commuter e-news. The only travel alerts are for major construction disruptions.

NEW PROGRAMS

Go Maine is currently implementing and planning the following new programs:

- New Ride-Matching System: upgrading technology to access Google Earth, enable travel alerts and allow for automatic matching services;
- Non-Commute Travel: implementing Trip Planner software – targeting seasonal recreational centers (ski), sports venues, etc.;
- Bike commute education/outreach program: \$100,000 grant to install bike racks with an 80/20 funding match; and
- Investigating new private partners to improve Park and Ride services as well as to identify new locations for the *Go Maine* program.

OUTREACH & MARKETING

The primary methods of outreach for services and information are through the internet, radio, signage, email, conferences, and public events with a transportation, health or environmental focus. Recently, *Go Maine* launched a new outreach campaign for a new ridesharing matching program using social marketing tools such as: Facebook, YouTube, etc.

Go Maine has identified the following tools as the most effective for increasing ridership participation: internet web links, signage on the highways, vanpools functioning as rolling advertisements, and by word of mouth.

⁷ *Go Maine* website - <http://gomaine.org/commuter-services/vanpool/>

ANALYSIS OF BASE-LINE CONDITIONS

The current data from *Go Maine* on participation in carpooling in the Study Area are as follows⁸:

- The number of employers registered in Maine is 2,088. The number of employers registered in the Portland Region is 820 of which *26 percent (218) are in the Study Area*. This program also offers the Emergency Ride Home benefit. The current registrants as of 2009 are:
 - South Portland has 104 registered employers;
 - Scarborough has 46 registered employers;
 - Westbrook has 56 registered employers; and
 - Gorham has 12 registered employers.

- Of the 1,780 businesses participating in the program, *188 are located in Study Area*. Some of the major businesses (Table 2-19) with the largest number of employees participating in *Go Maine* programs in the Study Area include:

Table 2-19
Major Employers/Businesses

Town	Major Employers/Businesses	# of Participants
Gorham	University of Southern Maine	27
Scarborough	Hannaford Brothers Corporation	38
	Maine Medical Center	14
	Nordex	10
South Portland	Aetna	9
	Anthem	25
	Fairchild Semiconductor	21
	Maine Mall	11
	National Semiconductor	17
	Sappi Fine Paper	8
	Southern Maine Community College	20
	Wright Express	26
Westbrook	IDEXX Laboratories	43
	Sappi Fine Paper	8

- Carpool – 7,452 commuters are registered in Maine for carpools. In the Portland region, 1,928 commuters are registered, of which *23 percent (434) are in the Study Area*. The current registrants in the four core communities as of 2009 are:

⁸ *Maine Commuter Connections*, GPCOG, Southern Maine Economic Development District 2009, registered employers and commuters

- South Portland has 178 registered commuters;
 - Scarborough has 92 registered commuters;
 - Westbrook has 94 registered commuters; and
 - Gorham has 70 registered commuters.
- There are *no businesses in the Study Area operating their own shuttle* program with the exception of USM. Only Maine Medical Center in Portland operates a shuttle program due to the new TDM ordinance⁹ recently passed in the City of Portland. A review of the TDM ordinance and its effectiveness may prove worthwhile for application in the Study Area.
 - USM shuttle operates between the Portland and Gorham campuses.
 - There are five park and ride lots located in the Study Area. According to a recent spot survey during a weekday in May of 2009, the capacity and occupancy for each park and ride lot is as summarized in Table 2-20¹⁰: The only lot with over 50 percent utilization is the Westbrook lot (lot #38) which is also the only park and ride lot served by METRO BUS. The other five park and ride lots record less than 20 percent utilization.

Table 2-20
Study Area Park and Ride Lots

Lot #	Park and Ride Agency	Town	Ownership	Capacity	Utilization (2009)
33	MaineDOT	South Portland, Exit 45	MaineDOT	111	22 / 20%
37	MaineDOT	Westbrook U.S. Route 302	Pride's Corner, LLC	25	4 / 16%
38	MaineDOT	Westbrook, Exit 47	MaineDOT	91	55 / 60%
51	MTA	Scarborough, Exit 42	MTA	65	7 / 11%
16154 ¹¹	MaineDOT	Gorham, Route 114 @ new bypass	Gorham	78	

⁹ City of Portland Amendment to Portland City Code, Article V Sections 14-526, Site Plan Standards Attachment A "Maine Medical Center Parking Management Plan, 2008".

¹⁰ HNTB Survey data, 2009 and the Go Maine web site for Park and Ride lots at: www.gomaine.org

¹¹ Lot#16154 recently opened and was not included in the survey.

HISTORICAL TRENDS

Since *Go Maine*'s founding in 2002¹² participation in the program has experienced a net growth in the program from approximately 1,500 registrants in 2002 to 7,960 in 2009, in other words the program has more than quadrupled its size in 7 years¹³.

Since 2008, Study Area businesses in the four core communities increased the number of employees registered in the program by 16 percent, and in South Portland, Westbrook and Scarborough there was a 15 percent increase in the number of commuters registered in the program.

SUMMARY OF FINDINGS

There are a number of programs, services and facilities in place to enhance participation and utilization of the *Go Maine* program. Park and Ride facilities are provided although underutilized, vans for vanpool are available and services can be expanded, carpool ride-matching program would be expanded, but additional methods of outreach and marketing need to be utilized to maintain and increase participation in the future. Based on conversations with *Go Maine* and the data provided, the following is a brief summary of the findings on existing conditions.

Effectiveness of Outreach: There are a wide range of existing and new programs and *Go Maine* is expanding capabilities, tools and techniques to increase marketing efforts and outreach programs. Constant marketing to, and contact with, employers would be critical to future success in order to educate participants (current and future) on the program benefits and provide services to meet new and changing business demands.

Participation of Businesses & Commuters Utilizing the Program: The Portland PACTS region presents the greatest opportunity to expand the program due to it being the largest metropolitan center for population and employment in the State of Maine. *Go Maine* expects that the program could increase to 10,000 participants with new programs and marketing techniques¹⁴. The key challenge is to maintain contacts with employers and partners and expand the program with limited staff and resources.

- The Study Area is home to significant employers such as university, medical, major corporate and business centers, as well as the Maine Mall. The City of South

¹² The rideshare program began as a pilot in 1994 for York and Cumberland counties. In 2001, MaineDOT and the MTA expanded the program statewide and the Greater Portland Council of Governments (GPCOG) won the contract for *Go Maine*.

¹³ The largest increase in participation occurred over the last two years coinciding with the highest fuel prices and economic recession. Commuter registrations doubled in size from approximately 3,500 to 7,000 between 2006 -2008.

¹⁴ Interview with Carey Kish, Executive Director of *Go Maine* on August 24, 2009.

Portland has limited participation to date. More outreach and constant contact with new and emerging businesses would improve participation.

- Growth in commuters using the program has been significant, largely due to external forces such as the rising cost of fuel and recessionary economy. According to *Go Maine*, maintaining participation requires constant outreach and use of multiple mediums for communication.

Additional Facilities Needed: Some methods to increase participation in TDM include:

- Improving utilization of park and ride lots can be achieved by enhancing bike, transit, and shuttle connections.
- Improving access to potential participants with signage, both fixed and variable, and other advertisements using multiple media needs to be constant and targeted.
- Increasing the use of bike facilities at park and ride lots and on shuttles, vans and transit would improve utilization of TDM programs and facilities.

Expansion Opportunities:

- The Portland PACTS area holds the greatest potential for growth and expansion of *Go Maine*. *Go Maine* anticipates increasing participation to 10,000 statewide with new programs and marketing tools – targeting the 25 to 44 age group and changing methods of communication with a focus on the PACTS area.
- The Portland TDM Ordinance¹⁵ would allow for increased participation and could serve as a model for communities in the Study Area.
- Need a better signage program (fixed and variable) connected to both highways (I-95 & I-295) via variable message signs (VMS), access to commuters via E-ZPass, and park and ride lots.
- Identify opportunities for transit, shuttle and bike connections to existing and new park and ride lots close to major employers.
- Improve business outreach and maintain and update business databases.

The *Go Maine* operated an effective statewide service over the last few years with 2.5 staff. *Go Maine* offers a variety of programs and services with a focus on Portland, Bangor, Augusta and Lewiston-Auburn – all major urban growth areas. There is excellent opportunity to increase participation and build upon existing and expanding programs in the Study Area.

¹⁵ City of Portland Amendment to Portland City Code, Article V Sections 14-526, Site Plan Standards Attachment A “Maine Medical Center Parking Management Plan, 2008”.

2.2 LAND USE BASELINE CONDITIONS

Purpose

The purpose of this section is to provide a detailed summary of all land use data collected for the Study as well as findings, conclusions and recommendations, in the Study Area.

Background

This section describes the current land use conditions, zoning, environmental and activity center profiles in the communities of Gorham, South Portland, Westbrook and Scarborough. All of the data collected in this section is included on GIS maps with different layers outlining such items as environmentally sensitive areas, current land use, zoning, etc.

Methodology

The methodology and sources used to develop the baseline conditions are as follows:

- Historical Maps: United States Geological Survey (USGS) maps for Portland and Gorham for 1891, 1916, and 1957; and Age of Housing from Census Data that illustrates housing pre-1900 to post 1990 and 2009;
- Land Use Data: Base mapping from the Assessors' Offices and validated from municipal planners as well as the Comprehensive Plans;
- Zoning Data: Base mapping from the Assessors' Office;
- Development Trends: Comprehensive Plans for future land use plans and policies, and Activity Center maps created and validated by municipal planners; and
- Environmental Resource Maps: Environmentally sensitive areas were taken from Beginning with Habitat.

Historical Trends

USGS Historical Maps of Portland Area

USGS Maps were obtained for the four core communities for three periods: 1891, 1916, and 1957. The pattern of land use development is strongly linked to the transportation networks of rail, roadways and water.

In 1891, rail dominated the transportation network and defined the settlement pattern. Gorham and Scarborough had limited settlements, Gorham with a few in the downtown area, and along the roadway corridors connecting to Westbrook and Portland (Buxton Road), while Scarborough had a settlement at Prout's Neck. Westbrook had a dense downtown area developed around the Presumpscot River and the intersection of two rail corridors. South Portland did not exist in 1891 and was part of Cape Elizabeth with a large settlement in the Ligonias and Knightville areas.

In 1916, roadways were more evident and the rail corridors were still very active. South Portland's settlement was oriented toward Portland and the Fore River area in Brown Hill, Knightville, Pleasantdale, Ferry Village, Meetinghouse Hill and Cushing Point with the coastal area of Casco Bay down toward Willard's Beach. Development was limited to Cash Corner and

Stroudwater Place. Westbrook was densely settled around the Presumpscot River which forms the downtown business district with sparse settlement along the roadways connecting to Portland and Windham. Scarborough was the least settled of all four communities with small nodes around Higgins Beach and Dunstan along the Nonesuch River following the rail corridor. Gorham was also sparsely settled, yet it had a small downtown area with a smaller settlement in the South Gorham area along Buxton Road.

By 1957, the roadway network was more extensive along with the establishment of larger, denser settlements and both the Portland Airport and the Maine Turnpike are in operation. South Portland and Westbrook had significant settlements strongly oriented toward the City of Portland. Westbrook's downtown area was the center of growth in that community with strong roadway connections and settlement patterns along Cumberland Street. South Portland had many dense community centers in the: South Portland Gardens, Sunset Park, Thornton Heights, the entire waterfront area on the Fore River, with the beginning of settlements at Blueberry Hill and Stroudwater areas. In contrast, Scarborough had a linear settlement pattern all along U.S. Route 1, Route 114 and down Route 207 to Prout's Neck as well as along the Atlantic seaboard from Scarborough Beach to the Higgins Beach areas. Gorham had a more dense settlement at its town center, strongly oriented toward Westbrook via the "New Portland Road" and to Windham along Route 202.

History of Housing Development

The pattern of historical development documents development of housing stock by parcel for five periods: pre 1900; 1900 to 1949; 1950 to 1969; 1970 to 1989; and 1990 to 2009. These are depicted for the four communities in Figures 2-8 through 2-11.

In Gorham, the pattern of development is historically widely dispersed with smaller parcels (less than one acre) dominating the downtown core and the Little Falls areas while the larger parcels (greater than 50 acres) are spread throughout the Town. New development, 1990 to 2009, was also widely dispersed with a high concentration of larger parcels in the northwest portion of Gorham.

In Westbrook, the downtown area has a predominance of small and older housing stock with the vast majority built before 1949. The majority of the new development, on larger parcels, is spread throughout the Town, north and south of the historic district.

Pre-1900, Scarborough had limited housing on large parcels located west of I-95 and west of U.S. Route 1. A significant portion of the development occurred on large tracks of land between 1990 and 2009, and was heavily concentrated west of I-95 and east of U.S. Route 1 along the seacoast.

South Portland's historical pattern was significantly different, in that there are very few large parcels of land with housing pre 1900's. There were a considerable amount of small parcels with housing built pre-1949 and a few large ones along the Broadway corridor. In fact this era (1900-

1949) dominated the City's development pattern. As would be expected, the large parcels of land development post 1990 are located in the Maine Mall and Portland Jetport areas as well as in the southern section of the city on the border of Scarborough and Cape Elizabeth.

Land Use Conditions

The general pattern of land use in the Study Area is characterized by more urban, commercial/retail east of I-95 from Scarborough to South Portland, including the southern section of Westbrook and the Westbrook Downtown District (located along the Presumpscot River), with predominately rural, residential and agricultural land use west of I-95 in Scarborough, most of Gorham (with the exception of the downtown area) and the northern section of Westbrook. Municipal or tax-exempt land also coincides with the urban pattern noted above including a significant portion of Gorham's downtown land use.

Figure 2-12 provides an overview of the land use patterns in the four Study Area communities.

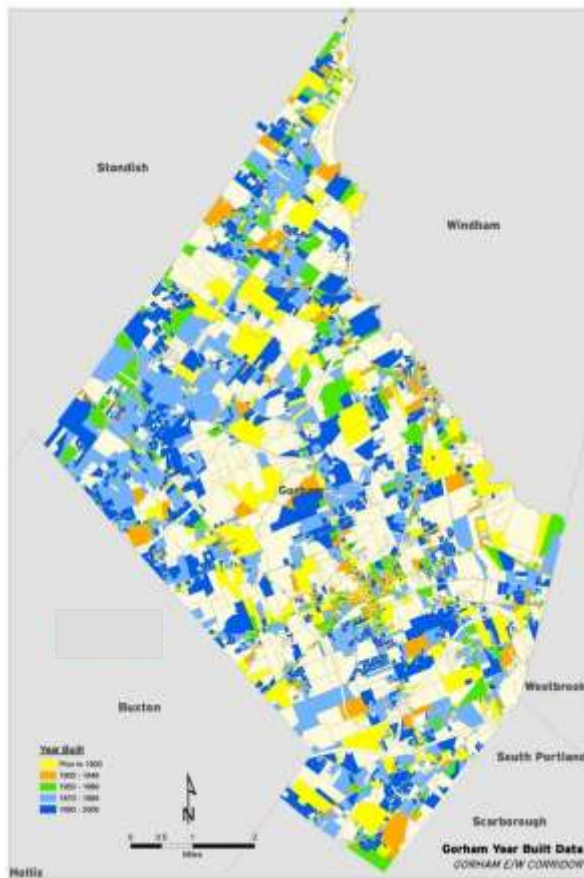


Figure 2-8
Gorham Housing Development

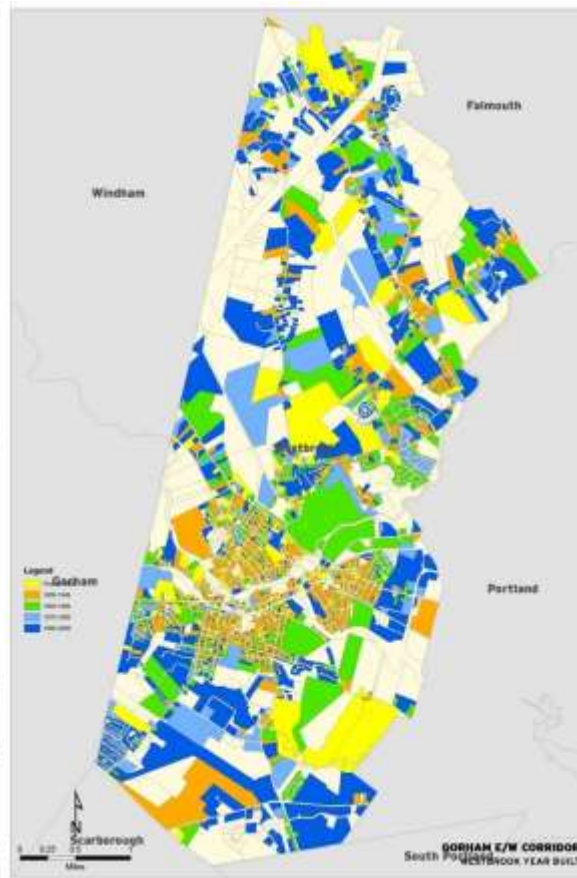


Figure 2-9
Westbrook Housing Development

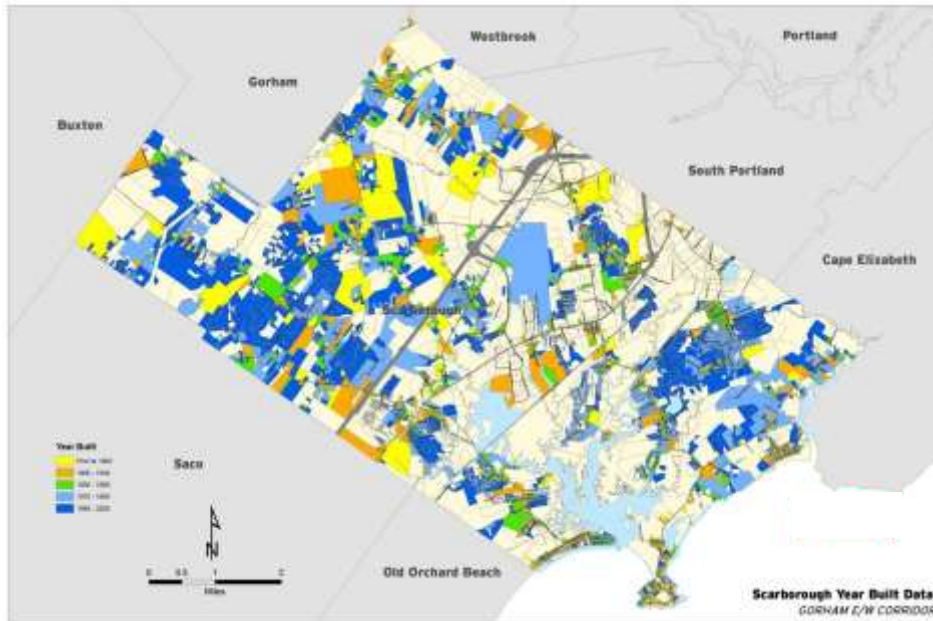


Figure 2-10
Scarborough Housing Development

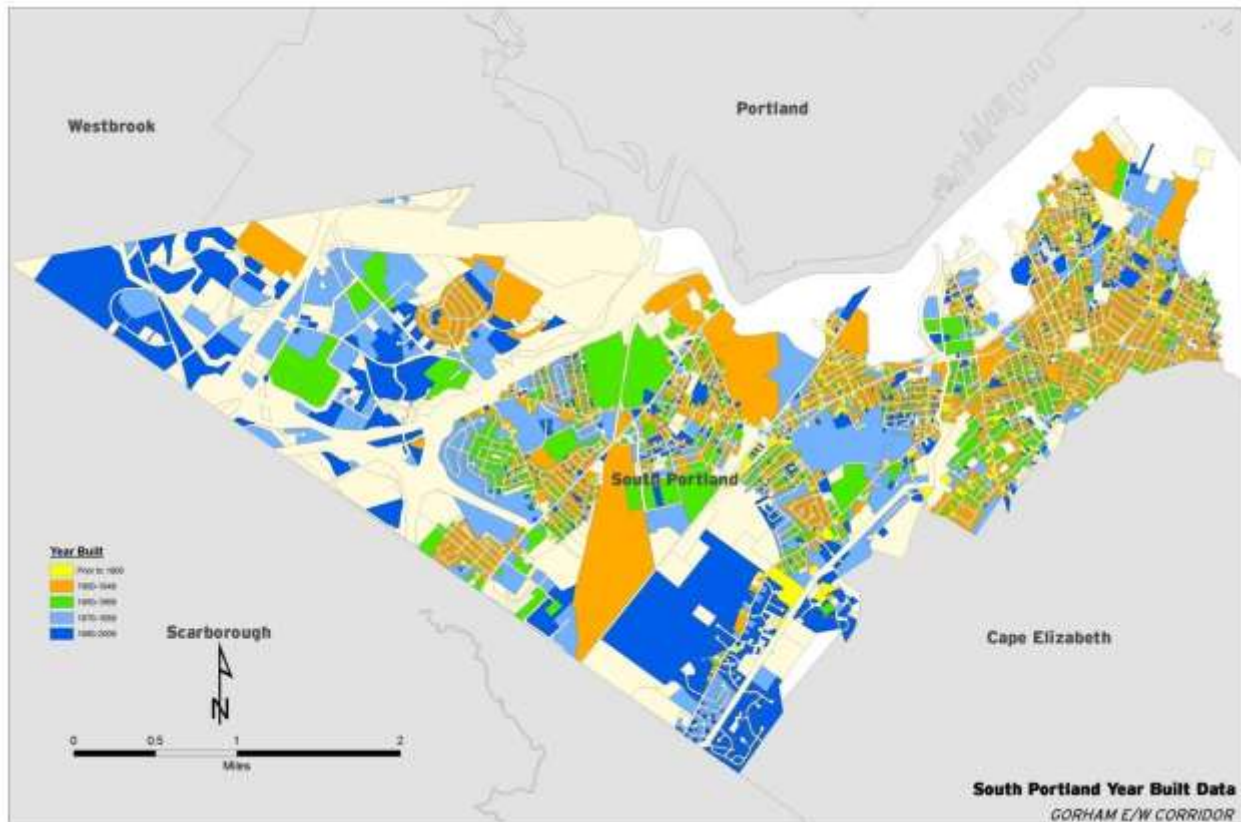


Figure 2-11
South Portland Housing Development

Patterns for Each Community

Westbrook

The land use is predominately residential with mixed use, commercial/industrial widely dispersed throughout the Town of Westbrook. The lot sizes are large except around the Downtown District. There are four locations primarily south of the Downtown District that remains agricultural. Commercial, industrial and utility uses dominate the southern and southeastern parts of the Town. Finally, there are a significant number of parcels that are classified as “Exempt”¹⁶ throughout the Town of Westbrook and minimal parcels are listed as “Vacant.”

Gorham

Smaller lot size and residential pattern characterize the Town of Gorham. There are a significant number of agricultural lots throughout the Town of Gorham with a large number of parcels located northwest of the Village center. Gorham’s Village has a limited mixed use at its core and is predominately residential with a number of “Exempt” parcels under municipal use or

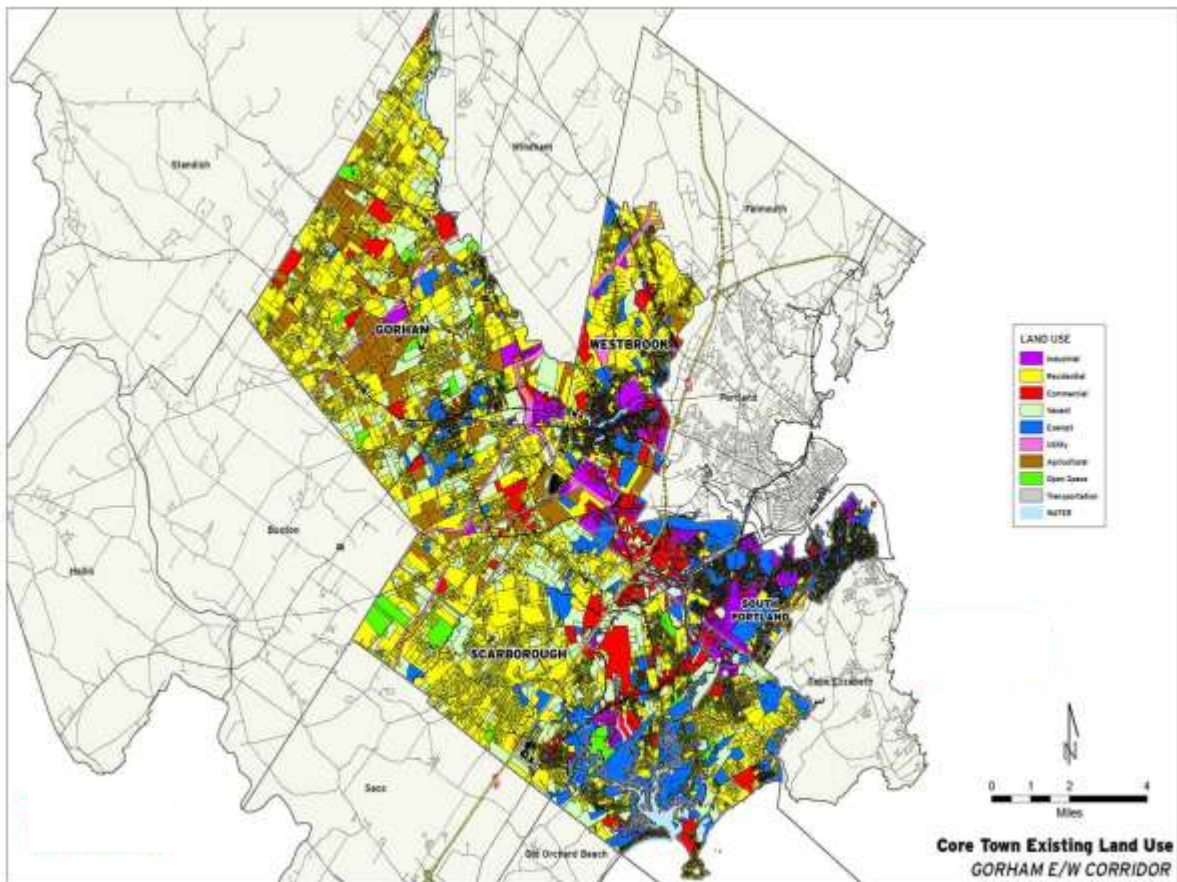


Figure 2-12, Study Area Land Use

¹⁶ “Exempt” is from the Assessor’s classification of tax exempt land that includes land uses such as religious, schools, and government.

ownership. Commercial uses are spread out throughout Gorham with a concentration of industrial use located west of the Village and adjacent to the Westbrook and Windham borders. There are also a substantial number of vacant parcels as well as a large number of gravel pits located throughout the Town of Gorham.

Scarborough

Residential land use dominates the area west and east of the arterials of I-95 and U.S. Route 1 with large clusters along the border of Saco to the south and between the two arterials toward the South Portland border. Commercial and industrial activity is concentrated between I-95 and U.S. Route 1 corridors and a few areas near the ocean have a limited number of small commercial/retail uses. There is only one agricultural parcel noted in the north at the border of Westbrook and Gorham. There are many parcels identified as “Vacant” throughout the Town of Scarborough, predominantly west of I-95 and a large number of “Exempt” parcels located west of U.S. Route 1 and between the two arterials south near the Saco border. The Town of Scarborough has begun to acquire parcels to establish a Greenway which begins in the northern section of Saco, runs along the border of Gorham and crosses the northern section of Scarborough south of the Westbrook border (see Figure 2-17).

South Portland

The dominant pattern of land use is residential located along the eastern third of the City with a large cluster located in the center of the City (small section of the Cash Corner and Ligonía neighborhoods, and most of the Meadowbrook neighborhood), and toward the Scarborough border (Thornton Heights, Country Gardens and Sunset Park neighborhoods) and along Liberty Commons and Brick Hill. Commercial areas dominate the uses west at the Maine Mall and Portland Jetport area, along with smaller nodes in the center along Main Street (U.S. Route 1), Broadway and Knightville. Industrial land uses are concentrated in the Breakwater, sections of Ligonía, Cash Corner, and Redbank, and dominate the Highland area to the south. There are large tracts of “Exempt” land east of U.S. Route 1, northwest by the Portland border and in the Highland neighborhood. Many smaller parcels are dispersed throughout the City of South Portland. The vacant land uses are concentrated due west in the Maine Mall and Portland Jetport area.

Policies in the Comprehensive Plans

All four communities are serviced by the Portland Water District (PWD) which draws its water resources from Sebago Lake. Development is largely restricted to an area adequately serviced by water and sanitary sewer. Key Findings in the Comprehensive Plans are noted as follows:

Westbrook - 2000 Comprehensive Plan

The Transportation Elements of the Comprehensive Plan include:

- Development of a Traffic Impact Fee;
- Reduction in curb cuts;
- Encouraging private road development;

- Formulate bikeway system and pedestrian trail system;
- Support of Rideshare and METRO systems; and
- Promote rail for cargo and a container cargo port off Commercial Street.

Growth Centers identified in the plan include:

- Residential areas around the urban core; expansion of the East Bridge Street area, suburban density growth for all lands east of Bridgton Road;
- Business growth areas – notes that commercial, industrial and office development is Westbrook’s trademark in the economy of Greater Portland – looks to expand on existing locations; and,
- Downtown District – despite density of development, many land uses are underused and underdeveloped; therefore investment continues to be focused in that area.

Gorham – 1993 Comprehensive Plan

Over 50 percent of Gorham’s workforce commutes to surrounding communities for employment and the University contributes significantly to the high average young adult population in the demographic mix.

In Transportation, the Town of Gorham Comprehensive Plan is looking to:

- Adopt a more comprehensive roadway classification system;
- Support construction for bikes and pedestrian facilities along roadways; and,
- Increase bus service in cooperation with the USM and PACTS.

For the Growth Areas, the Town of Gorham is looking to expand the capacity of sanitary sewer (Westbrook Treatment Plant) for the Gorham Village.

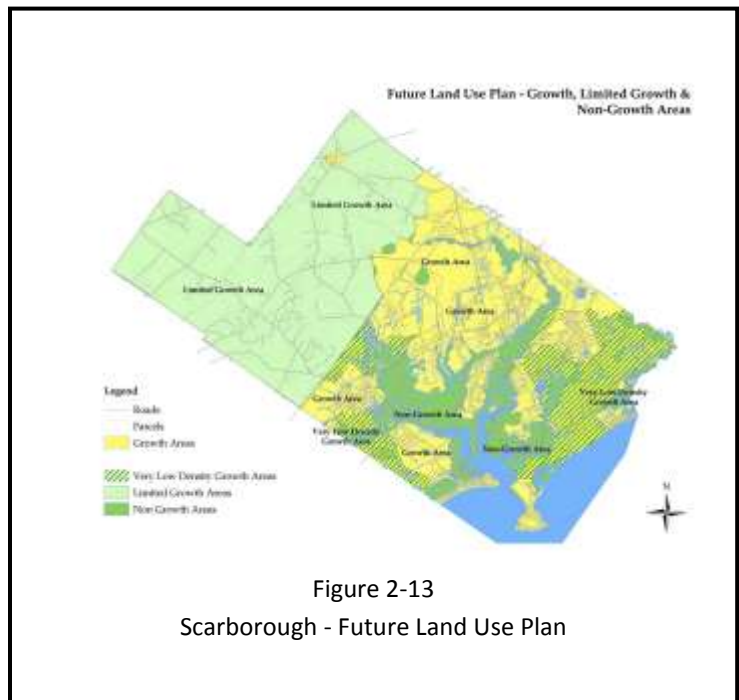


Figure 2-13
Scarborough - Future Land Use Plan

Scarborough - 2006 Comprehensive Plan

In Transportation, the Town of Scarborough Comprehensive Plan identifies the need to:

- Establish an east-west connector between Haigis Parkway and Gorham Road (Route 114); and
- Work with Metro and South Portland Bus Systems to expand bus service in the Payne Road, Running Hill and Gorham Road development areas.

For the Growth Areas, the need is to:

- Work with the PWD and the Scarborough Sanitary District to seek funding through grants, Tax Incremental Finance (TIF) and impact fees to expand needed water, sanitary sewer and roadway infrastructure;
- Expand the sanitary sewer system to Running Hill, Gorham Road and the Holmes Road Light Industrial Districts to meet development plans; and
- Identify designated residential and non-residential growth areas (See Figure 2-13 - Future Land Use Plan, taken from the 2006 Adopted Scarborough Comprehensive Plan, Chapter 6 page 6).

South Portland – 1992 Comprehensive Plan

The City of South Portland has the largest population of the four core communities, with over 23,000 people. The principle source of water is Sebago Lake with 95 percent of all residential units within South Portland serviced by the PWD. The South Portland Pollution Abatement Department manages the sanitary sewer collection and treatment system.

For Transportation, the City of South Portland Comprehensive Plan calls for:

- Managing growth and reducing sprawl;
- Encouraging inter-municipal and regional transportation planning to address regional traffic problems; and
- Studying, with PACTS, the feasibility of a regional impact fee system.

Zoning

Similar and reflective of the land use pattern, zoning is generally compatible among the communities with a focus on commercial, industrial uses along and east of I-95 (the Maine Mall area) in Scarborough, South Portland and Westbrook, residential located in the northwestern sections of Westbrook, Gorham and Scarborough as well as due east of U.S. Route 1 in Scarborough. Figure 2-14 provides zoning information for the Study Area communities.

Along the borders of each community:

- Westbrook and Gorham have compatible zoning which is predominantly a mix of residential and industrial uses clearly delineated; and,
- Scarborough and South Portland have compatible zoning which is commercial and mixed use.

The areas of zoning contrast are:

- Between Scarborough and Gorham, where Scarborough has designated the vast majority of its land use west of I-95 for resource protection and rural residential, and Gorham has designated its border areas largely for residential with the exception of some industrial uses located off of Route 114; and
- Between Scarborough and Westbrook where Westbrook is designated industrial at its border next to Scarborough's resource protection/rural district.

Patterns for Each Community

Westbrook

The Town of Westbrook designated two areas for industrial use, south of its Downtown District adjacent to the Scarborough border and along the Presumpscot River north of the Downtown District. Pride's Corner is the one area in north central Westbrook designated for development zoning, with residential zoning to the east and rural district zoning to the west.

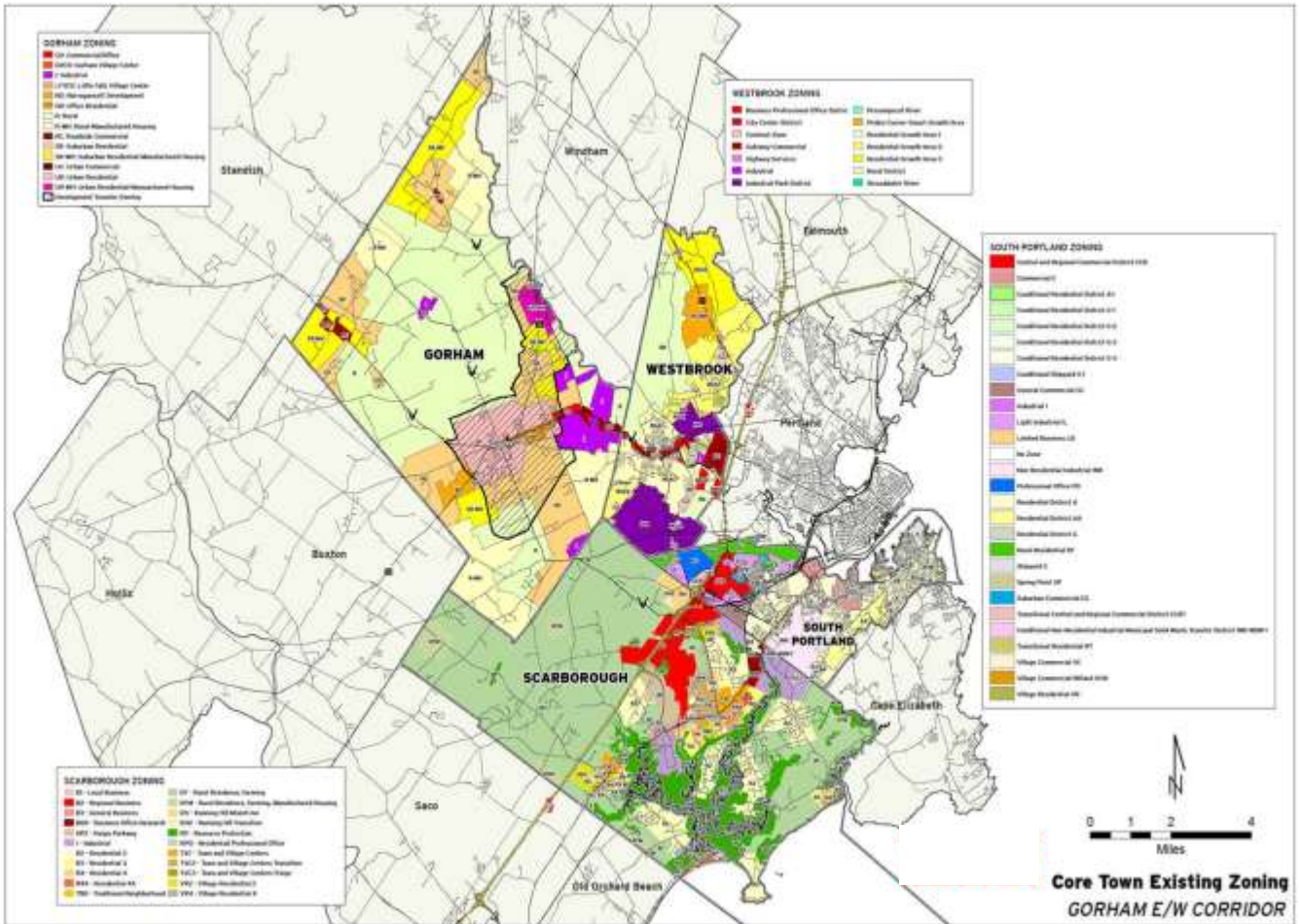


Figure 2-14
Study Area Zoning Map

Gorham

The Town of Gorham's zoning has a focus of urban and mixed use zoning development around the Gorham Village area with industrial zoning located to the east next to Westbrook and southeast at the Scarborough border. Urban-manufactured housing zoning is concentrated at the Windham border northeast of the Gorham Village. The Town of Gorham has designated a significant portion of land use west of the Gorham Village as rural with suburban residential zoning located along the Standish border.

Scarborough

The Town of Scarborough has zoned its town area for commercial development along I-95 with residential and mixed use zoning primarily located east of I-95. The majority of land uses west of I-95 and east of U.S. Route 1 are designated as resource protection and rural residential/farming zones.

South Portland

The City of South Portland designated a significant portion of its land east of U.S. Route 1 and along Broadway as residential with commercial zoning located along the major nodes on Broadway. The western section of South Portland, near Westbrook is largely zoned commercial and industrial with the Portland Jetport and Maine Mall.

Zoning Policies

All four communities have Shoreland Protection zoning and special ordinances targeted for residential development. The Towns of Gorham and Scarborough have initiated Impact Fees and different types of Transfer Development Rights zones. The City of South Portland is looking to create and encourage Transit-Oriented Corridors and Development areas.

Westbrook

The Town of Westbrook has adopted a Village Review Overlay Zone and Downtown Housing Overlay District reflected in their Comprehensive Plan to bring attention to the National Historic District properties¹⁷ in the Downtown District area. A residential Growth Area and Business Overlay District also applies in this area.

Gorham

The Town of Gorham implemented policies to support development in the Downtown District and residential development, such as: Downtown

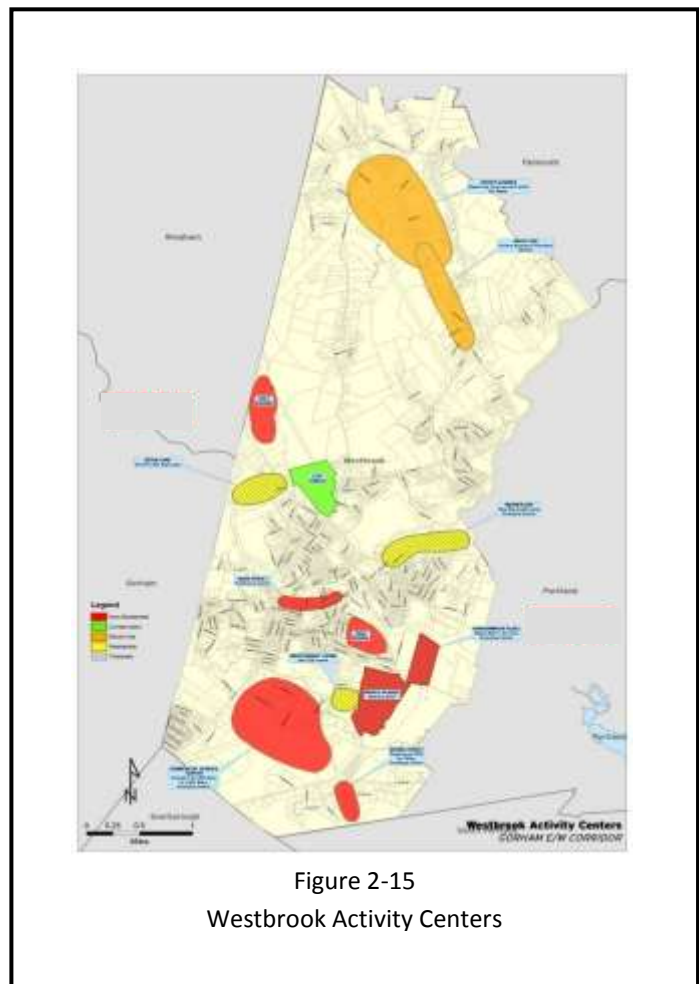


Figure 2-15
Westbrook Activity Centers

¹⁷ Cumberland Mills Historic District is an historic district in Westbrook, Maine. It was added to the National Register of Historic Places in 1974. S. D. Warren Paper Mill is located in the district.

Gorham

The focal point for residential and mixed use development is in and around the Gorham Village (Figure 2-16). There are three distinct commercial activity centers identified, including:

- East of the Gorham Village at the border of Westbrook and Windham designated for industrial and commercial development with the opportunity to develop a new connector linking it to South Gorham and possibly Scarborough;
- Northeast of Gorham Village on the Windham border in and around the Fort Hill community. Gorham is relocating public uses (school and fire) from the White Rock community in the north to both Fort Hill and Little Falls Village and expanding sanitary sewer facilities to support new growth; and,
- Northwest of Gorham Village is a small commercial center at Ossipee Trail designated for mixed use development.

Similar to Scarborough, the Town of Gorham is concentrating development in locations currently served by water and sanitary sewer infrastructure.

Scarborough

The focus for development in the Town of Scarborough is

targeted to where population is currently concentrated in the areas east and west of I-95 which has adequate water and sanitary sewer infrastructure to enable further development (Figure 2-17).

New zoning has been adopted in the Town of Scarborough to focus development in three distinct neighborhood and village center districts: Running Hill (Northeast adjacent to the South Portland border); town center including Scarborough Downs, Bessey Square, Haigis Parkway and the

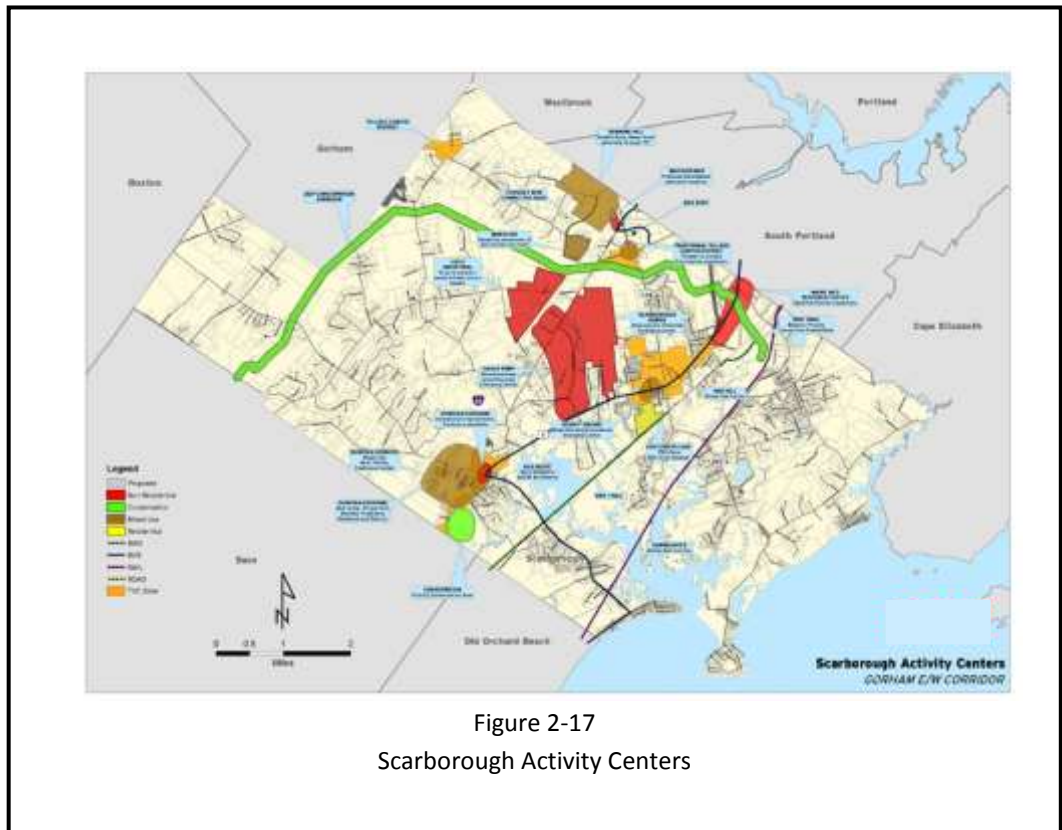


Figure 2-17
Scarborough Activity Centers

Eastern Village; and, at Dunstan Corners (Southwest adjacent to the Saco border). New water and sanitary sewer infrastructure is planned in each of these areas to support present and future development opportunities. Residential development is focused at Eastern Village and at Dunstan Corner. Commercial development is located primarily at Scarborough Downs and in the Maine Medical Research Center at the South Portland border with mixed use in Bessey Square, Dunstan Corner and near the Maine Mall.

A new road identified on Figure 2-17, is being explored that would provide an additional connection between the Running Hill Road and the Gorham Road (Route 114). There is also a designated “Greenway” identified from the Saco border along the Gorham border, crossing both I-95 and U.S. Route 1, south of the South Portland border.

South Portland

The City of South Portland has the highest density of land use among the four core communities (Figure 2-18) and is focusing their activity centers as follows:

- Mixed Use along the Broadway corridor and extending to the Maine Mall area with a series of Transit Oriented

development nodes along the corridor;

- Commercial /Industrial located at: the Maine Mall/Portland Jetport area to continue to support those uses and growth in that area; southwest at the Scarborough border at the industrial area on Bud Avenue, and the new Biomass plant in the Highland Avenue neighborhood; and, to the north along the Fore River area to support existing tank farm related uses; and,
- Residential activity centers are identified at Liberty Commons and Brick Hill.

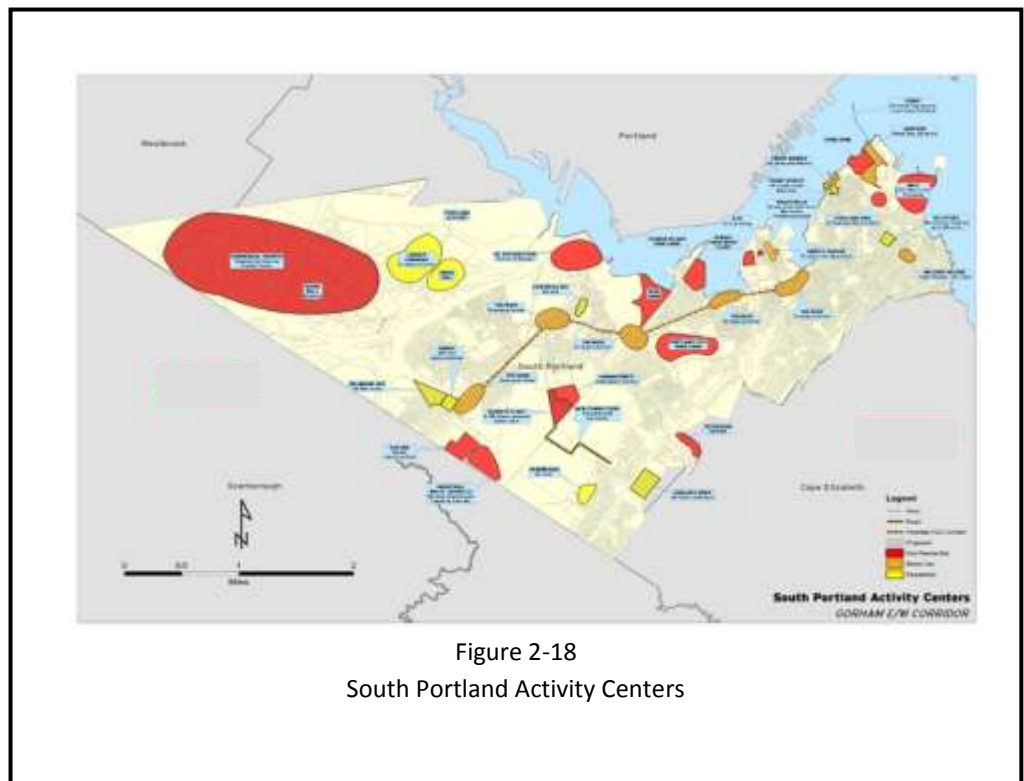


Figure 2-18
South Portland Activity Centers

Environmental

According to “Beginning with Habitat” maps, each of the four core communities has designated environmentally sensitive natural resource areas. The City of South Portland’s shore land area is noted for its seabird and shorebird habitats as well as a wetland and undeveloped areas in the southern corner. The other three communities have designated: all areas outside of roadways as undeveloped habitat blocks; small sections of wetlands; and, denoted areas of rare animals (according to Maine Department of Inland Fisheries and Wildlife). Scarborough has a significant portion west of I-95 and most of the area east of U.S. Route 1 designated as wetland, rare animal, inland and tidal wading bird/waterfowl areas.

Summary of Findings

- The City of South Portland and the Town of Westbrook are strongly oriented in terms of transportation and land use toward the City of Portland. The City of South Portland is the most densely settled and developed and has the most compact and diverse land uses. The Town of Westbrook’s pattern of development (infrastructure and settlement) is dense in the downtown and southeastern sections of that community.
- The Town of Gorham has dispersed growth with a historic center and emerging growth along the Scarborough and Westbrook borders. The resources of the Town of Gorham are rural with an agricultural and industrial orientation. The Town of Gorham is a major connector between the western towns such as Buxton, Standish and Windham to the City of Portland.
- The Town of Scarborough land use and transportation has been constrained by its geography and topography: oriented toward the seaboard and on "hills" with developable soils in the area between U.S. Route 1 and the I-95 arterials. Historically and currently there has not been a defined town/city center as in Gorham and Westbrook; and many of its residential neighborhoods have been built out more recently than in South Portland, generally on more spacious lots without the same concentration of development and population within relatively small (1/2-mile diameter) neighborhoods that characterize South Portland's older neighborhoods.

3.0 GROWTH PROJECTIONS

This Chapter presents past and future forecasted growth (to the year 2035) in population, jobs and new dwelling units in the region. These are presented to provide a baseline for analyzing the effects of this future forecasted growth on land use and on the existing Study Area transportation system.

All of the forecasted growth in population, jobs and new dwelling units for the year 2035 was developed by Professor Charles Colgan, PhD of the University Of Southern Maine, Muskie School of Public Service.

The Study Area is within Maine’s largest metropolitan area. By definition, a metropolitan area is anchored by one or more communities with 50,000 or more population and includes the surrounding communities that are economically and socially tied to the core communities, as measured by community patterns.

For the last century, the overall pattern of settlement in the U.S., including Maine, has been described as a two-part “centralization-decentralization.” That is, there has been a continuous migration of population into metropolitan areas (*centralization*) as people leave job-depleted rural regions and move to metro areas where there are more economic opportunities. And then, within metropolitan areas, there has been a migration outward from the core communities into the suburbs and exurbs, typically within 30 to 45 minutes of the job centers (*decentralization*).

Both parts of the pattern are important to the Study. The *centralization* of Maine’s population into metropolitan areas would continue to help drive economic and population growth in southern Maine. The amount of ongoing *decentralization* to the suburban and rural territories around the core communities would continue to shape transportation and other demands on the region and its communities.

The rapid geographical expansion of the Portland metropolitan area (now known as the municipally-based Portland-South Portland-Biddeford NECTA¹⁸) illustrates the decentralization of growth that has dominated the region for the last several decades. In 1970, the Portland metropolitan area consisted of 9 communities (Portland, South Portland, Westbrook, Falmouth, Cape Elizabeth, Cumberland, Yarmouth, Gorham, and Scarborough). By 1990, the boundaries

¹⁸ Until the 2000 decennial census, the building blocks of metropolitan areas in New England were municipalities. In 2000 the Federal government switched New England’s definition to the one that has long been used in the rest of the country, based on counties. Thus, the Portland-South Portland-Biddeford Metropolitan Area now formally consists of all of York, Cumberland, and Sagadahoc Counties. But in recognition of the historically important role of towns and cities in New England, the Federal government also continues to recognize so-called “New England City and Town Areas” (NECTAs), which are surrogates for the old municipally-based metropolitan areas. This allows us to continue to track metropolitan patterns of development at the municipal level. For ease of reference, the Portland Metropolitan Area or the Portland-South Portland-Biddeford Metropolitan Area (which from 2000 forward are used interchangeably), mean the Portland-South Portland-Biddeford NECTA – not the 3 county metro area.

encompassed 18 communities in Cumberland County and four in York County. And the 2000 Census showed Cumberland County and northern York County to be economically fused, and the metro area was expanded to 41 municipalities, including 23 in Cumberland County, 16 in York County, and two in Oxford County.

This vast outward expansion of metropolitan boundaries is the hallmark of the pattern that between 1970 and 2000 came to be known as “sprawl”. During this period, within the Cumberland County portion of the metro area, 29 percent of all new housing units were built in the cities of Portland, South Portland, and Westbrook; 45 percent in the suburbs of Cape Elizabeth, Cumberland, Falmouth, Freeport, Gorham, Scarborough, Windham, and Yarmouth; and 26 percent in the next tier of suburban and exurban towns in the metro area (Baldwin, Casco, Gray, Naples, North Yarmouth, Pownal, Raymond, and Standish).

Within the metropolitan area, the portion that is “urbanized” also has spread. “Urbanized” means an area that is settled at 1000 of more people per square mile plus an adjacent area settled at 500 of more people per square mile¹⁹. As of the 2000 Census, the Portland urbanized area consisted of portions of 15 cities and towns (Portland, South Portland, Westbrook, Cape Elizabeth, Biddeford, Cumberland, Falmouth, Freeport, Gorham, North Yarmouth, Old Orchard Beach, Saco, Scarborough, Windham, and Yarmouth).²⁰ This urbanized area had a population of 188,088, or 56 percent of the Portland-South Portland-Biddeford metro area’s total population of 333,624. Conversely, 44 percent of the metro population – more than 145,000 – lived outside of the urbanized area.

Through the first half of the 20th Century, the metropolitan region was anchored by the central city of Portland, with smaller downtowns or village centers in many surrounding communities. Fairly compact neighborhoods – typically about 0.5-mile in diameter – were clustered near transportation facilities (ports, trolley lines, intersections of major roads) or near factories, such as textile and paper mills. A majority of the population lived close to a range of everyday goods and services within the community they lived. Rural lands were largely intact. Downtown Portland served as the regional retail and distribution hub, while smaller downtowns or neighborhood centers in most communities served everyday needs. Workers were split between those who worked in manufacturing, agricultural, and other jobs in the same community where

¹⁹ 500 people or even a 1000 people per square mile is not truly “urban”. 1000 people per square mile is only about 1.5 people per acre and 500 people per square mile is just 0.78 people per acre – or about one home per two acres. The U.S. Census uses this as a catch-all term for truly urban communities, such as Biddeford, Saco, Old Orchard Beach, and Gorham; and all or parts of other suburban towns, such as Scarborough and Falmouth, where residential settlement has advanced to these density thresholds. Any area within a metropolitan area or NECTA that is not urbanized is considered by the Census to be “rural” – although, again, some of the “rural” areas would be more accurately described as suburbs. Development in these areas is just more spread out, without an identifiable “place,” than the suburban areas that are included in the definition of “urbanized.”

²⁰ This urbanized area is used, for example, to define the jurisdiction of PACTS and the area within which certain EPA/DEP storm water management rules apply.

they lived and those who commuted into the central business district of Portland by trolley, bus or auto.

For a variety of reasons, this pattern faded in the second half of the century. Traditional industries closed their doors; the economy shifted toward service production and national and global markets; incomes rose; and the rising value of urban real estate, improved roads, auto-oriented shopping centers, and two-car families worked to push and pull development to a widening circle of rural lands. Automobile travel, already prevalent by the 1950s, became dominant. Bus service and ridership dropped precipitously.

The result is a spread-out pattern of settlement that depends less on either the core communities or traditional village centers for goods and services. Downtown Portland and other centers remain as identifiable places but had to adapt to the rising retail dominance of suburban and highway-oriented shopping centers. Beginning in the 1970's, zoning ordinances codified and helped perpetuate this spread-out pattern, often doubling and tripling minimum lot size requirements for residential development. More recently, some communities have amended their ordinances to allow higher densities of residential development in specific districts, but it is unlikely that these changes – without a companion requirement to discourage development in rural districts – would alter patterns of settlement within communities.

Commercial development outside of major downtowns has been of similar low intensity, usually at floor area ratios (FAR) of under 0.2 – meaning that for a typical suburban commercial development, the lot on which the development occurs has five times more land area than total building floor area (typically used for parking). The regional Maine Mall area has an FAR of 0.23. In contrast, the pattern in small town downtowns tends to be in the 0.6 to 0.8 range, which is three to four times more intense than typical strip shopping centers; in downtown Portland, the overall average is about 2.3 – ten times more intense than the Maine Mall area. The low-intensity of suburban commercial centers has helped spread out development and increase auto dependency.

The process of spreading out has created, in many large metropolitan areas, a new type of low-density job and mixed-use center. This has been dubbed “Edge City,”²¹ because it has many of the land uses found in a downtown – retailers, offices, recreational facilities, homes, civic buildings – but downtowns and edge cities otherwise bear little resemblance to each other. Downtown activities are tied together by sidewalks and short blocks, while in the Edge City they are tied together by freeways; and downtowns tend to be a half-mile to a mile in diameter with recognizable boundaries, while the Edge City is several miles end to end – and the “end” may not be a recognizable boundary. Generally, Edge Cities are auto-dependent and not pedestrian-

²¹ The popular book on this topic is *Edge City* by Joel Garreau (1991)

friendly. In the Greater Portland region, the Maine Mall – Payne Road area is approaching “Edge City” proportions.

Nationally and in Maine there is a broad discussion about the most efficient and sustainable metropolitan form of growth and development. As briefly summarized above, the Portland metropolitan area has evolved from a form characterized by a large regional center (focused on the Portland peninsula) with multiple smaller, compact centers serving neighborhoods and individual communities, to a spread-out form characterized by the out-migration of population, low density suburban residential development, and highway-oriented commercial development at low floor area ratios.

Because the regional form of growth and development has direct impact on transportation demands, traffic safety and quality of life measures, the Study tested and compared the differences between the now “Low Density Form” or “sprawl” pattern extrapolated to 2035 and an alternative pattern of growth and development identified as the “Urban and Rural Form” (described in Chapter 4). The Study identified three regional patterns of development and divided the Study Area communities as follows (**bold** face communities represent the four core communities in the Study Area):

- Urban Communities: Portland, **South Portland, Westbrook.**
- Inner Suburbs: Cape Elizabeth, Cumberland, Falmouth, Freeport, **Gorham, Scarborough,** Windham, Yarmouth.
- Outer Suburbs: Buxton, Gray, Hollis, New Gloucester, North Yarmouth, Pownal, Raymond, Standish, plus the rural southwestern portion of Brunswick.
- Rest of PACTS Model Area: Arundel, Biddeford, Dayton, Durham, Kennebunkport, Lyman, Old Orchard Beach (OOB), Saco.

For context, the total number of new jobs projected for the Urban Communities, Inner Suburbs and Outer Suburbs identified above from 2009 to 2035 is about 25,000; and of new dwelling units, just under 35,000. Tables 3-1 through 3-3 provide job, population, and housing (also identified as dwelling units (DU)) growth numbers that were used to evaluate both scenarios.

Table 3-1
Distribution of Job Growth

	Targeted shares of regional Job Growth		
	Urban Communities	Inner Suburbs	Outer Suburbs
Share and (total) as of 2009	65%± (103,600)	29%± (45,500)	6%± (9,600)
2009-2035 projected share of growth, Low Density Form (Sprawl)	66%± (+16,500)	30%± (+7,400)	4%± (+1,000)
2009-2035 projected share of growth, Urban and Rural Form	65%± (+16,200)	30%± (+7,400)	5%± (+1,300)

Table 3-1 indicates that the urban communities would continue to be the regional employment center with 2/3 of all new jobs occurring in the three urban communities.

Table 3-2
Distribution of Population Growth

	Targeted shares of regional Population Growth		
	Urban Communities	Inner Suburbs	Outer Suburbs
Share and (total) as of 2009	42%± (99,800)	38%± (91,700)	20%± (46,700)
2009-2035 projected share of growth, Low Density Form (Sprawl)	5%± (+3,500)	61%± (+39,400)	34%± (+21,600)
2009-2035 projected share of growth, Urban and Rural Form	34%± (+21,900)	49%± (+31,800)	17%± (+10,800)

Table 3-2 indicates that under the low density form, outmigration from the urban communities would continue increasing the numbers of commuters from the inner and outer suburbs to the job centers in the urban communities.

Table 3-3
Distribution of Dwelling Unit Growth

	Targeted shares of regional DU Growth		
	Urban Communities	Inner Suburbs	Outer Suburbs
1970-2000 share of DU growth ¹	29%	45%	26%
2000-2009 est. share of DU growth ²	21%	50%	29%
2009 estimated total DUs	45%± (51,200)	36%± (40,700)	19%± (21,100)
2009-2035 projected share of growth, Low Density Form (Sprawl)	9.5%± (+3,300)	52%± (+18,200)	38.5%± (+13,400)
2009-2035 projected share of growth, Urban and Rural Form	35%± (+12,200)	45%± (+15,700)	20%± (+7,000)

1. This row indicates that from 1970 to 2000, 45% of all new dwelling units in the Study Area were built in the inner suburbs.

2. This row indicates that from 2000 to 2009, 50% of all new dwelling units in the Study Area were built in the inner suburbs.

Table 3-3 predicts a continued considerable decline in the overall number of new residential dwelling units that would be constructed in the urban communities in the next 25 years (only 9.5 percent) if development continues to occur in an unconstrained manner.

4.0 MEASURES OF EFFECTIVENESS

This Chapter presents the evaluation criteria for comparing the performance of the scenarios that were developed in Chapter 5, Alternative Land Use Scenario, Chapter 6, Transit Scenario and Chapter 7, Roadway Scenarios. The Study Team, with input from the Steering and Advisory Committees, developed performance evaluation criteria that were identified as “Measures of Effectiveness” (MOE). The MOEs were based on the deficiencies, opportunities and goals identified in the Purpose and Need Statement.

Twenty-seven MOE’s were developed and were divided into five groups. The five groups are:

- Traffic and Safety;
- Mode Choice;
- Accessibility and Livability;
- Land Use; and
- Other.

The following identifies the five groups and a description of the MOE’s in each group. The four core communities referenced in the following MOE’s are the communities of Gorham, Scarborough, South Portland, and Westbrook.

4.1 Traffic and Safety

1. **Roadway and Intersection Level of Service (LOS)** – Provides a summary of selected intersection and roadway LOS within the four core communities as well as State Routes where feasible in Buxton, Hollis, Portland, Standish and Windham.
2. **Vehicle Miles Traveled (VMT)** – Reports all miles traveled by all vehicles by Town for the entire Study Area for all roads including residential roads in the peak hour.
3. **Vehicle Hours Traveled (VHT)** - Reports all hours traveled by all vehicles by Town for the entire Study Area for all roads including residential roads in the peak hour.
4. **Crash Summary** – Reports the total number of crashes in the four core communities from January 2006 through December 2008, including the number of High Crash Locations, involving cars, trucks, animals, bicycles, and pedestrians. Also calculates the change in crash rate (percent and absolute number) based on volume change through a node or link per hundred million vehicle miles.
5. **Traffic Volumes** – Identifies change in roadway volumes for all roads in the nine communities listed in Number 1 above in the peak hour.
6. **Corridor Delays** – Measures of travel time and distances between selected Origins and Destinations within entire Study Area along each Study Area corridor in the peak hour.

7. **Fuel Used** – Provides a summary of fuel used (gallons) within the four core community intersection network as estimated through traffic analysis using fuel consumption tables in the peak hour.
8. **Vehicle Emissions** – Provides a summary of vehicle emissions within the four core community intersection network as estimated through traffic analysis software using standard emission rates for the peak hour.
9. **Average Commuting Time and Distance** – Estimates of average commuting times and distances (by mode) to specific job centers or downtowns within entire Study Area in the peak hour.

4.2 Mode Choice

10. **Modal Trips** – Summary of transit and walk/bike trips for entire Study Area from the Mode Choice Model²² in the peak travel hour.
11. **Transit Potential** – Measure of number of people who reside and/or work within ¼ mile of existing or future transit routes. Measure would be by traffic analysis zone (TAZ²³) data within the four core communities.
12. **How People Travel** – A summary table with the number of people traveling by mode (single occupancy vehicle, carpool, bus, walk/bike) for work trips by Town for the entire Study Area.

4.3 Accessibility and Livability

13. **Percent of Households within Critical Emergency Medical Service (EMS) Response Time** – Measure of number of homes within EMS response time (4 minutes) by Town in the entire Study Area.
14. **Job Accessibility** – Measure of number of jobs divided by distance to jobs from TAZ within the four core communities.
15. **Retail Accessibility** – Measure of number of retail jobs divided by distance to retail jobs by TAZ within the four core communities.
16. **Number of Accessible Jobs** – Measure of number of jobs within 30 minutes (drive, walk, bike or transit) of selected residential areas (specific growth cores, outer suburbs, etc.) within the four core communities plus Windham and Portland.

²² Mode Choice Model estimates how many people will use public transit and how many will use private automobiles.

²³ A traffic analysis zone (TAZ) is a special area delineated by state and/or local transportation officials for tabulating traffic-related data- especially journey-to-work and place-of-work statistics.

17. **Number of Accessible Households** – Measure of number of households within 30 minutes (drive, walk, bike or transit) of selected urban cores, core areas, or downtowns within the four core communities plus Windham and Portland.
18. **Jobs / Acre** – Density measure using defined industry standards for jobs within growth cores within the four core communities.
19. **Households / Acre** - Density measure using defined industry standards for households within growth cores within the four core communities.
20. **Population / Acre** - Density measure using defined industry standards for population within growth cores within the four core communities.

4.4 Land Use

21. **Acres of Land Consumed** – Measure of how much land would be consumed by both jobs and housing within the four core communities.
22. **Job / Housing Ratio** – Calculate jobs/housing ratio by TAZ by Town and entire Study Area.
23. **Viewsheds** – Estimate number of identified comprehensive plan viewsheds within the four core communities that would be impacted with proposed strategy.
24. **Habitat Fragmentation** – Measure to be determined on Beginning with Habitat (BWH) causeway connectivity maps.
25. **Open Space / Rural Land Impacts** – Measure of how many additional acres would be developed in TAZs identified as truly rural (approximately 100 TAZs) within the four core communities.

4.5 Other

26. **Cost** – Order of magnitude cost for each strategy.
27. **Resource Impacts** – Map overlay of strategies on resources (natural, physical, historic) within the four core communities.

5.0 ALTERNATIVE LAND USE SCENARIO

This Chapter presents methodology for identifying an alternative land use scenario and the measures that were developed for comparing the “Low Density Form” of development versus the recommended alternative land use scenario identified as the “Urban and Rural Form” of development.

To identify an acceptable alternative land use scenario, two land use workshops with representatives from the Study Area communities were held to brainstorm innovative development concepts for managing the region’s future land use development. Besides the traditional growth model, identified as the “Low Density Form”, four other development forms were described at the first workshop. They were:

- The Modified Low Density Form;
- The Urban Preservation Form;
- The Community Centered Corridor Form; and
- The Transit-Oriented Corridor Form

The following provides the characteristics of each of the five forms that were considered by the workshop attendees at the first workshop. It then describes the Urban and Rural Form, a hybrid that emerged from the workshops.

5.1 Low Density Form

The “Low Density Form” describes the existing pattern of development that is a pattern of decentralization of population and jobs from the core of the metropolitan area to suburbs and exurbs, causing metropolitan boundaries to expand. The decentralization occurs at low residential densities of development and low commercial intensities, relying on the automobile as a virtually exclusive means to reach needed destinations, whether for work, shopping, services, or recreation, and as a supplement to school busing.

“Low Density” is defined as residential development at less than two units per acre, and frequently at less than one or even 0.5 unit per acre; employment related-development at less than 10 jobs per acre; and commercial development at less than a floor area ratio of 0.3.

Within this pattern, central cities continue to lose population but retain their roles as fairly intense financial, educational, cultural, and business service centers. Communities that arose independently of the central cities, based on their own industrial bases – Westbrook, Yarmouth, and Freeport, for example – continue to have their own smaller centers, even as they have been absorbed into the larger metropolitan region. But retail and office development continues to migrate outward to highway-oriented locations. The populations of suburban and exurban towns within the metropolitan area grow at significant rates while the populations of core communities

are flat to declining. Within the respective municipal boundaries of the growing suburbs, rural and other low density residential zones receive 60 percent+ of new residential development, while residential development within locally designated “growth” areas account for less than 40 percent of growth.

In this Low Density form, as of 2008 only about 20 percent of jobs within the Study Area were located in districts (as defined by transportation analysis zones, or TAZs) with 25 or more jobs per acre – the minimum frequently cited as necessary to support a moderate level of bus service - - and virtually all of these districts are located in the central city of Portland. The distribution of jobs²⁴ in the Low Density pattern as of 2008 is:

- fourteen percent at 50+ jobs/acres, all in Portland and most on Portland’s peninsula;
- five percent at 25 to 49 jobs/acre, nearly all in Portland, plus one TAZ in downtown Biddeford;
- fifteen percent at 10 to 24.9 jobs/acre, including several TAZs in the Maine Mall area;
- fourteen percent at five to 9.9 jobs/acre; and
- fifty-two percent at under five jobs/acre.

In this Low Density form, three-quarters of residences are settled at densities of under two DU per acre. Only about 14 percent of DU are in TAZs with residential densities of seven or more DU per acre, the minimum frequently cited as necessary to support bus service on a 30-minute schedule. The distribution of DU²⁵ (per gross acre) is:

- six percent at 15+ DU/acre, virtually all in Portland plus a few TAZs in Biddeford and Saco;
- eight percent at seven to 14.9 DU/acre, in Portland, Biddeford, Saco, South Portland, and OOB;
- eleven percent at four to 6.9 DU/acre, in the above communities plus Westbrook;
- thirteen percent at two to 3.9 DU/acre, including some TAZs in Cape Elizabeth, Scarborough, and Gorham; and
- sixty-two percent at fewer than two DU/acre.

A number of competing forces would continue to push growth outward, but others on the horizon may slow the trend. For example, an aging population, energy costs, and the needs of a knowledge-based economy (in which “knowledge” workers tend to favor energetic urban settings and combined live/work environments) may nudge the pattern of growth toward the

²⁴ The calculations of jobs/acre are based on TAZs. TAZs are not of uniform size: in in-town areas they contain relatively few acres, while in outlying areas they tend to be large. This approach may understate the densities in some of the outlying areas.

²⁵ The calculations of dwelling units/acre are based on TAZs. TAZs are not of uniform size: in in-town areas they contain relatively few acres, while in outlying areas they tend to be large. This approach may understate the densities in some of the outlying areas. TAZs drawn differently in some communities might show higher densities over small areas. Densities are based on gross acres; net residential densities would be higher.

urban centers. On the other hand, technology, the lower costs of “Greenfield” development²⁶, and the search for affordable land would continue to push growth to the exurbs.

5.2 Modified Low Density Form

The Modified Low Density Form refers to a form that includes pockets of compact nodes that develop as a result of zoning that allows innovative, more compact development within local growth areas. These nodes can be primarily single use (residential or commercial) or mixed use and can be new or existing nodes in which infill opportunities are encouraged and exploited, but the amount of growth in them represents a small share of total growth in a community or the region. While zoning is innovative in these nodes, allowing residential densities of at least four to six DU per residential acre where public utilities are available and at least one to two DU per acre otherwise, zoning in other portions of locally designated growth areas remains distinctly suburban in form (moderate to low densities of residential development, primarily single-purpose zoning districts, modest or no interconnections between new development and the rest of the circulation system); and zoning in rural districts continues to encourage low-density rural residential development. Representative of the Modified Low Density Form are recent zoning reforms in Scarborough (town and village center and traditional neighborhood development zoning districts) and Gorham (density transfer overlay district).

Regionally, the growth trend is the same as the Low Density Form – *i.e.*, continued out-migration of retail and office development and residential development. Within communities, development in compact nodes along with demographic trends that may favor such development has some effect on shares of development within locally designated growth areas, but a majority of both residential and commercial growth follows the Low Density Form in location and design. The Modified Low Density Form could include expanded performance standards to relieve certain effects of the low density pattern, especially to manage access onto and off arterials and major collectors and to reduce the visual impacts of linear, highway-oriented development.

5.3 Urban Preservation Form

The Urban Preservation Form enables the urban communities, such as Portland, South Portland, and Westbrook to retain their current (2008) shares of jobs, population, and housing units in the metro area. By retaining their shares, their numbers of jobs, households, and population would grow in the same proportion as county or metropolitan-wide growth, reversing a decades-old trend. In this form, the core urban communities would claim a higher percentage of growth than in previous decades. Other communities in the region also would retain their shares, but this would represent a slowing of their growth compared with recent decades when they have been gaining shares.

²⁶ Greenfield development is the creation of planned communities on previously undeveloped land.

Within the core urban communities, growth of both jobs and housing would be focused in areas that have the best chance of achieving the density, diversity, and design of development that are friendly to multiple modes of travel. These thresholds include 50 jobs per acre, six to 12 DU per residential acre, or a combination of jobs and DU per acre determined to be supportive of multiple modes; a jobs per housing ratio in the range of 1.3 to 1.5 either within specified neighborhoods or in neighborhood and employment centers that are closely linked in transportation corridors; sufficient mixes of compatible land uses to allow a reasonable internal capture of trips; and land use that facilitates multiple modes of travel within and between neighborhoods.

Within communities outside of the core urban cities, the pattern of new development follows the Modified Low Density Form described above.

5.4 Community-Centered Corridor Form

The Community-Centered Corridor Form consciously directs most new commercial growth and a share of new residential growth into planned centers or nodes (existing and new) that are interspersed along or near transportation corridors. The planned centers include existing centers, with careful thought to increasing infill opportunities; some represent a continued evolution of places like the Maine Mall area; many grow out of emerging centers, with careful thought to how to design these centers; or they are entirely new centers. A given center may be primarily commercial, primarily residential, or a mix, but together, these centers would achieve a jobs per housing ratio in the range of 1.3 to 1.5. A high percentage of new jobs projected for the region – 80 percent or more – and a significant share of new housing units – a third to 40 percent -- locate in these centers.

The centers would be located in each of the Study Area communities, and each community is likely to have multiple nodes. In this form, growth of suburban communities likely continues to outpace the core cities, but the cities do grow, and the growth in all communities is organized differently than under the Low Density or Modified Low Density Forms. Compactness, densities and intensities of development in the urban centers increase as the corridor moves from outlying communities toward the center of the region, and from areas with limited public sewer and water lines to areas where these facilities are readily available.

But all communities grow in closer alignment with transportation-land use best practices (with respect to land use, jobs-housing balance, density, and accessibility). The result is a continuum of hamlets, small downtowns and nearby neighborhoods, larger and more urban centers, and the most intense urban center on Portland’s peninsula. The overall pattern of urban centers is similar to that envisioned by the PACTS Land Use Planning Guidelines published in 2005 (*PACTS Transportation Project Land Use Policy: Implementation Guidelines*). These guidelines refer to “compact planning areas”. Rural residential development still would be considerable but would

not make up more than 25 to 30 percent of new housing units regionally. Blocks of unfragmented rural lands would separate many of the community-oriented centers.

5.5 Transit-Oriented Corridor Form

The Transit-Oriented Corridor form combines a more intense version of the Urban Preservation Form and a more intense version of the Community Centered Corridor Form. It envisions a smaller number of larger centers than in the Community Centered Corridor Form. The centers build around the concept of Transit-Oriented Development (TOD) and include both urban (denser) TODs and neighborhood or town-scale TODs. These centers are located where public sewer and water are available and include a combination of existing centers that already function like a TOD or have infill opportunities, the conversion or continued evolution of suburban centers like the Maine Mall area and the Route 22-Spring Street area into TODs, emerging centers that can be shaped into TODs, and new, planned TODs.

Urban TODs strive for 50+ employees per acre, and job-generating land uses occupy a majority of the development. However, residential, public, and open space uses also are prominent, with residential uses at a density of 10 to 25 DU per acre. Neighborhood TODs are primarily residential, which account for upward of 70 to 80 percent of the development, including open space amenities, but they also include some non-residential and public land uses. Depending on location, residential uses are at a density of five to 15 DU per acre, and compatible job-generating land uses are upwards of 25 employees per acre.

The TODs account for a large share of both employment and housing growth in the region, with no more than 25 percent of either occurring outside of areas designated for transit-oriented development. The TODs are specifically designed to enable and to take advantage of transit opportunities.

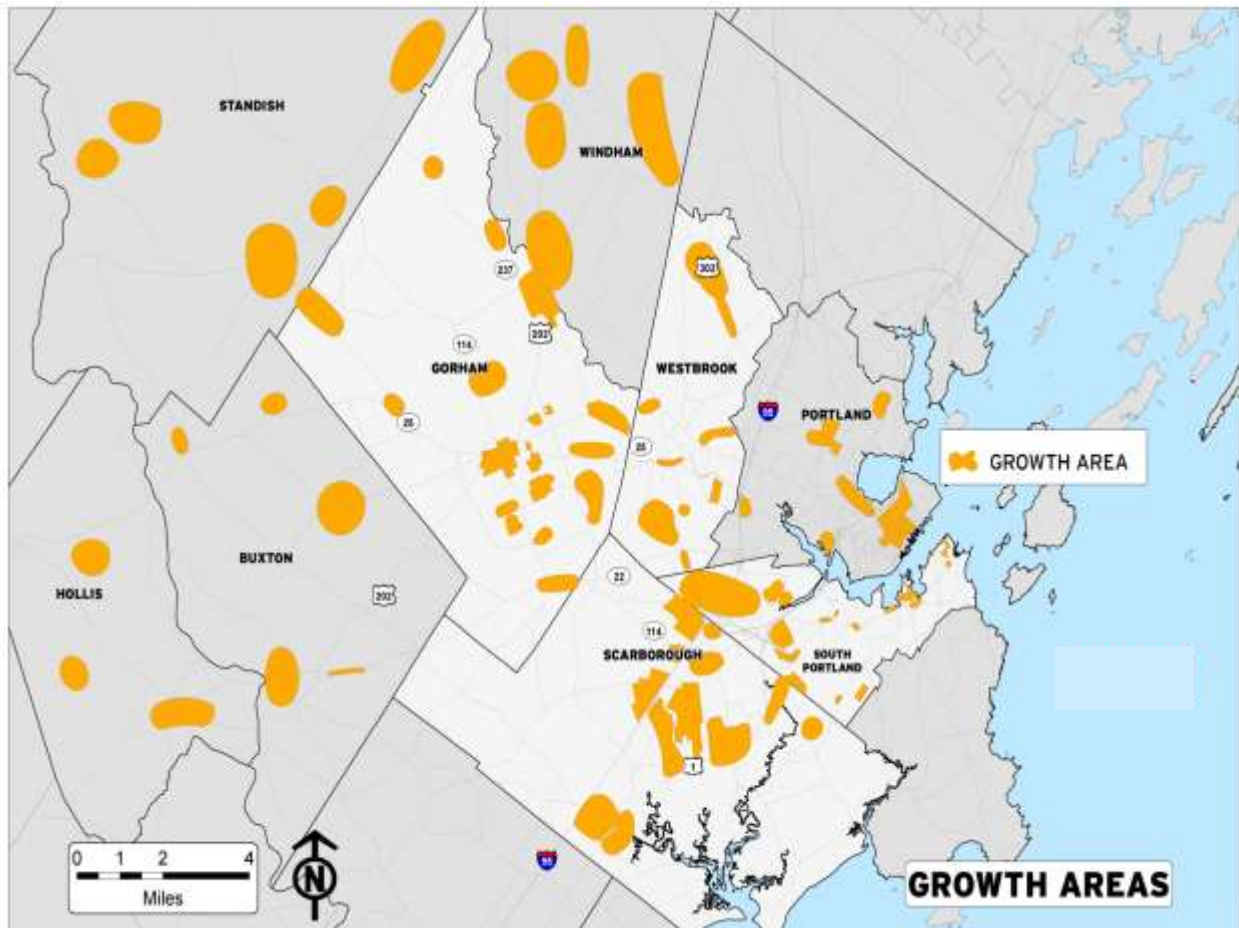
Second Land-Use Workshop: Taking input provided at the first land-use workshop, the Study Team developed a hybrid land-use form that was presented and refined at the second land-use workshop. This hybrid form described below is the recommended land use form used for testing transit (Chapter 6) and roadway (Chapter 7) opportunities for addressing the region's future growth.

5.6 Urban and Rural Form

The Urban and Rural Form (Figure 5-1) combines characteristics from the Urban Preservation, Community-Centered Corridor and Transit-Oriented Corridor (TOC) forms described above. As in the Urban Preservation Form, the core urban communities of Portland, South Portland and Westbrook retain their high shares of regional employment and reverse a long-term trend toward loss shares of the region's population and housing units. This reversal of declining shares of growth in urban communities would be supported by older and younger segments of the

population who are interested in moving into more walkable, urban environments with low transportation costs, reliable transportation service and job proximity. It would also take some of the housing pressure off the fast-growing inner suburbs. But as in the TOC form, the inner suburban communities also retain a significant proportion of jobs, population and housing units, much of which would be organized into dense TOC-like nodes and/or town centers that include open space and public land use. These TOCs exist with the specific goal of enabling and taking

Figure 5-1
Urban and Rural Form Proposed Growth Areas



advantage of transit opportunities over the long term.

Finally, in the more rural outer suburbs, population, housing unit and job growth slows down modestly compared with recent history, but significantly compared with the trend/low density pattern with an emphasis on placing the new residential and commercial development in proximity to each other to reduce the need for long-distance travel. The Urban and Rural land use form identified proposed growth areas that were used as the basis for developing the transit and roadway scenarios for addressing the region's future growth. Each municipality developed

the growth areas shown in Figure 5-1 and these growth areas are subject to change by each community.

Tables 3-1 through 3-3 in the previous chapter provides a comparison of the proposed job, population and dwelling unit distribution for the three regions between the low density form (current growth pattern scenario) and the urban and rural form (alternative land use scenario).

6.0 TRANSIT SCENARIO

This Chapter presents the methodology undertaken for developing a transit scenario that used the proposed distribution of the population and job growth in the Study Area developed in the Urban and Rural land use form.

Purpose

The purpose of the transit analysis was to develop an “optimum transit scenario” based on a 2035 enhanced transit system (bus and passenger rail) that complements and connects the Urban and Rural land use form described in Chapter 5. The goal was to test and evaluate the effects of the potential expanded transit system (known hereinafter as the Full Transit Scenario) using the MOEs established for the Study and to confirm the benefits of this new scenario in the four core communities and the Study Area. The Full Transit Scenario was compared to other United States (U.S.) metropolitan areas and with Western European and Canadian metropolitan areas to identify successful incentives to implementing and managing a viable transit system in this region²⁷.

Background

The Study Team developed and tested a transit scenario that would advance the Urban and Rural land use form with a defined transit system fixed in the overall transportation network. The model input information was based on direct involvement of the Steering Committee, Advisory Committee and a cross section of transit professionals.

A transit workshop with transit professionals including operators, advocacy groups, regional and local planners was convened on April 15, 2010 to further refine the assumptions to be included in the Urban and Rural enhanced transit scenario model as well as to identify the transit routes and modes deemed to be most feasible. The input received from the workshop was incorporated in the Transit Scenario model and tested against select MOEs.

The current passenger transit service network and ridership²⁸ was used as a starting point to create the Full Transit Scenario (Figure 6-3).

The existing network includes²⁹:

- ***Rail Service:***
 - Amtrak Downeaster: Currently no stops in the Study Area (Figure 6-1); and

²⁷ This information can be found in Technical Memo #5 - Transit and Freight Analysis – Existing Conditions of the Gorham East-West Corridor Study.

²⁸ See detailed description in Chapter 2 – Transit and Freight System.

²⁹ A detailed summary of the existing transit network can be found in Technical Memo #5 - Transit and Freight Analysis – Existing Conditions of the Gorham East-West Corridor Study.

- Mountain Division Rail Line – only active for freight and has abandoned right of way in Study Area.
- ***Bus Service for the four Local Service Providers:***
Description of routes (Figure 6-1):
 - Portland METRO;
 - South Portland Bus Service;
 - Shuttlebus Intercity Service (including ZOOM); and
 - USM shuttle.

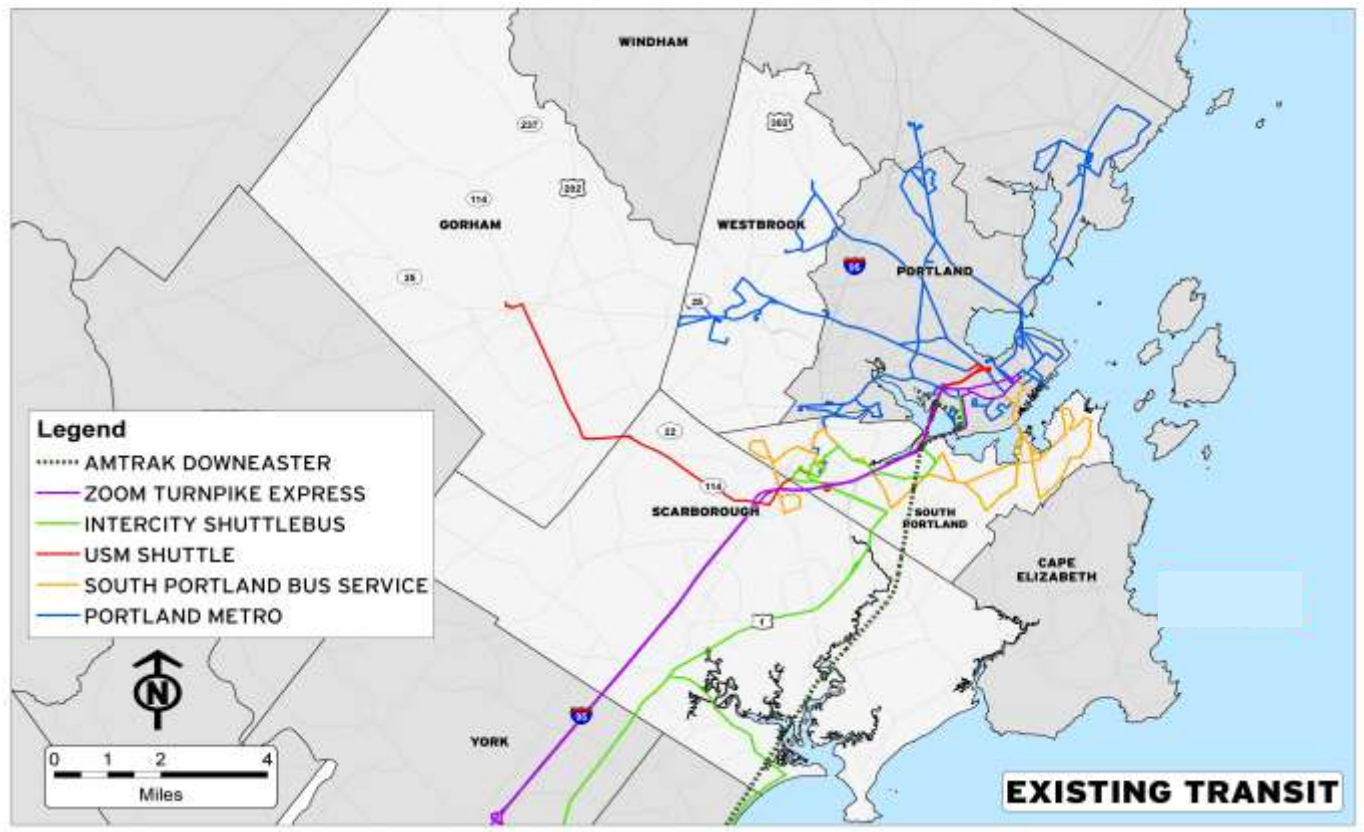


Figure 6-1
Existing Bus and Passenger Rail Transit Network

Methodology

The Full Transit Scenario was layered over the Urban and Rural model’s land use allocations and included current transit fares and routes to develop a transit mode choice model (Figure 6-2). A new map of future transit routes was developed based on local and regional plans and conversations with PACTS, GPCOG, state and local planners.

At the April 15, 2010 workshop, the Study Team convened a cross-section of transit professionals, including: operators, advocacy groups, regional and local planners to review the

Urban and Rural land use form with full transit service and refine the approach and methodology. The objectives of the workshop were as follows:

- To review the proposed transportation network in the context of congestion problem areas;
- To review the existing transit service in the Urban and Rural land use form and identify new changes;
- To identify new transit service; and
- To define the mode (bus or rail) and the transit service (headways and stops).

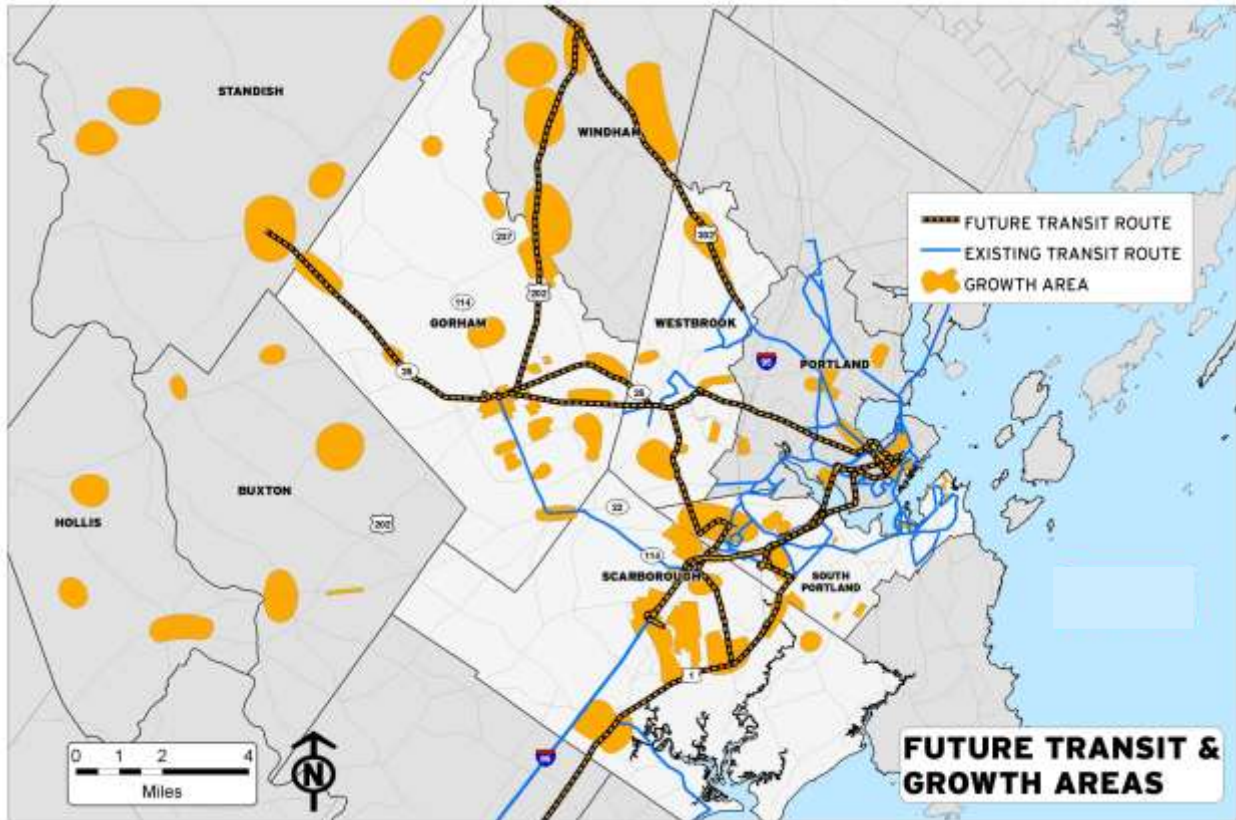


Figure 6-2
Future Transit Routes

The transit ridership and service projections for 2035 were based upon aggressive assumptions that require strong commitment and coordination at all levels of government and include:

- **Land use changes** (design guidelines, zoning policy and land use ordinances, etc);
- **Transit connections** (new service in place with operational enhancement to encourage and promote ridership);
- **Partnerships** (with local businesses and transit providers/operators to support/subsidize transit and freight needs to reduce congestion); and,
- **Infrastructure investments** (roadway and parking to support assumptions for headways, access and service needs).

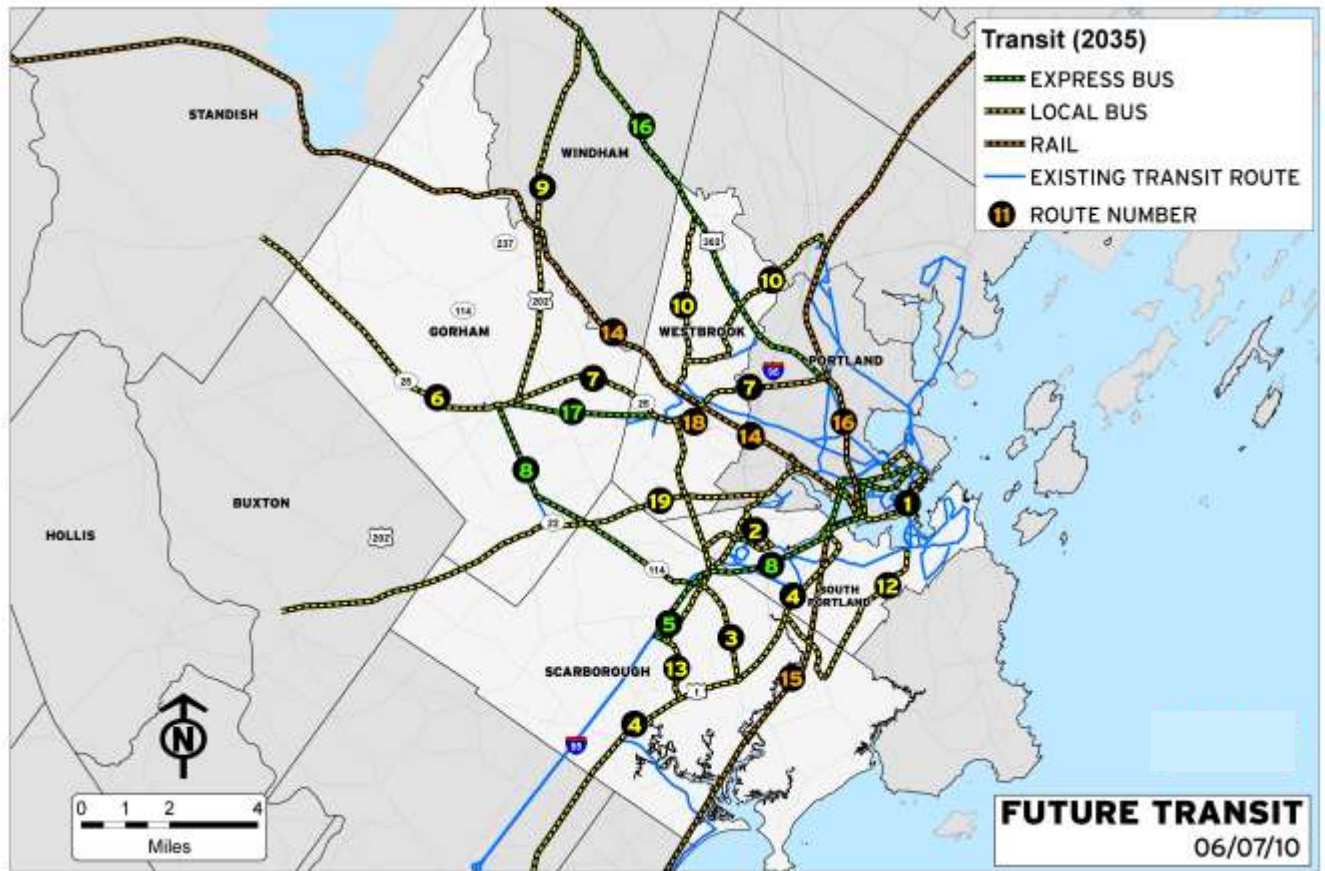


Figure 6-3
Full Transit Scenario Network Map with Transit Route Numbers

Figure 6-3 identifies the existing transit system routes and the limits of the 2035 Full Transit Scenario within the Study Area.

Full Transit Scenario Assumptions

Based on the collective input and dialogue at the workshop, the following assumptions were made to refine the model for the Full Transit Scenario in the year 2035:

- Headways and stops, as noted in Table 6-1;
- Use of current transit fares and zones;
- Same fare used for local bus, express bus and rail;
- Maine Turnpike Tolls set at 2010 rates;
- Future transit routes will include with new bus connections and passenger rail;
- Bus transit headways to be modeled at 10, 20, and 30 minute intervals (see Table 6-1);
- Headway on all existing Portland METRO and South Portland Bus Service routes on arterial streets and major collectors to be at 10 minute intervals; and
- Adjust all other existing bus service routes including Shuttle Bus (Tri-town and Intercity) and ZOOM with 20 minute headways.

Recommended Expanded Transit Network (Table 6-1) summarizes the 2035 Full Transit Scenario which assumes new transit service on existing roadways (or with a small portion on new proposed roadways), and new commuter rail, light rail or express bus on existing roadways or rail lines.

Table 6-1
2035 Full Transit Scenario

Transit Route #	Connection	Mode	Route	Headway
New	Bus Transit Service			
1	Downtown Portland Circulator	Local Bus	Connecting the Portland Transportation Center, Bayside, Pulse, Old Port, and Commercial Street, making use of the abandoned rail rights-of-way as well as public streets.	10 minutes
2	Maine Mall Area Circulator	Local Bus	Connecting the Maine Mall, UNUM, Portland Jetport, Fairchild (Western Ave corridor), Brick Hill, Clarks Pond, Scarborough Gallery, and Target.	10 minutes
3	Scarborough to Maine Mall to Westbrook	Local Bus	Connecting the Oak Hill intersection, the Maine Mall Circulator, Gannett Drive, Five Star Industrial Park, and downtown Westbrook.	10 minutes
4	Saco to Scarborough to Portland	Local Bus	Connecting Saco, Dunstan Corner, Oak Hill, at Maine Medical Center (Scarborough), intersection of MTA Exit 45 Turnpike Spur and U.S. Route 1, Cash Corner, and the Portland Transportation Center.	20 minutes
5	Saco to Scarborough to Portland – ZOOM	Express Bus	Add a ZOOM stop at the MTA Exit 42 park and ride lot.	20 minutes

6	Standish to Gorham	Local Bus	Between Standish (intersection of Routes 25 and 35) and Gorham Village.	20 minutes
7	Gorham to Westbrook to Morrills Corner	Local Bus	Between Gorham Village (center of downtown) and downtown Westbrook along Route 25, and between downtown Westbrook and Morrills Corner in Portland along Warren Avenue.	10 minutes
8	Gorham to Maine Mall to Portland	Express Bus	Connecting downtown Gorham, the Maine Mall area (at a circulator stop), and the Portland Transportation Center. This service includes a bus-only bypass of the Route 22/114 Overlap and the addition of a bus-only lane on I-295 between Exits 1 and 5.	20 minutes
9	Gorham to North Windham	Local Bus	Connecting the Gorham Village, Little Falls, the Route 202/302 rotary, and the North Windham commercial district.	20 minutes
10	Westbrook Downtown to Route 302	Local Bus	Between downtown Westbrook and the Duck Pond area and between downtown Westbrook and the Prides Corner growth center	20 minutes
11	Raymond to Windham	Local Bus	Between Raymond and North Windham. (This Route, not shown on Figure 6-3, would connect at the end point of Route #16 below.)	20 minutes
12	Scarborough to South Portland	Local Bus	Between East Scarborough and South Portland along Highland Avenue and between East Scarborough and the U.S. Route 1/Pleasant Hill Road intersection.	20 minute
13	Maine Mall to Haigis Parkway to Dunstan Corner	Local Bus	Between the Maine Mall Circulator, the MTA Exit 42 area, Haigis Parkway, and Dunstan Corner.	20 minutes

18	Downtown Westbrook Circulator	Local Bus	Connecting the key destinations in downtown Westbrook, including a potential transit service hub and a transit station at the Mountain Division Rail Line.	10 minutes
19	Buxton to Maine Mall Area Circulator via Route 22	Local Bus	Along the Route 22 corridor connecting the Buxton Municipal Center with South Gorham, UNUM, and the Maine Mall Area Circulator.	10 minutes
New	Commuter Rail, Light Rail or Express Bus	Mode	Route	Headway
14	Mountain Division rail line along the existing rail line right-of-way	Commuter Rail, Light Rail	Connecting the Portland Transportation Center and South Windham/Little Falls with intermediate stops at Rand Road and downtown Westbrook. Continue the rail service to Fryeburg with stops in Sebago Lake Village and Steep Falls.	20 minutes 40 minutes
15	Amtrak along the Amtrak Corridor	Commuter Rail	Connecting Saco and the Portland Transportation Center with stops in Old Orchard Beach, Scarborough, and South Portland.	30 minutes
16	Portland to Westbrook to North Windham	Commuter Rail and Express Bus	Commuter rail between the Portland Transportation Center and Morrills Corner (with a stop at Woodfords Corner) and continue as express bus service along Route 302 with stops at the Riverside Street growth center, Prides Corner, and North Windham.	20 minutes
17	Westbrook to Gorham	Commuter Rail or Express Bus	Between downtown Westbrook (at the Mountain Division rail line hub) and Gorham Village via an exclusive right-of-way.	20 minutes

20	Portland North	Commuter Rail or Passenger Rail Service	Connecting the Portland Transportation Center and Brunswick with stops in Yarmouth, and Freeport.	
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Major Transit Findings from Full Transit Scenario Analysis

The Full Transit Scenario was analyzed using the mode choice model incorporated into the PACTS regional travel demand model. The following MOEs were evaluated: PM Peak Hour Transit ridership by route, town and region and Travel Modes to Home from Work by town and region. The results were compared to the 2035 Trends Scenario and the Urban and Rural Scenario as well as the impacts on vehicle miles and hours traveled.

The 2035 Full Transit Scenario demonstrated improved transit shifts compared to the Urban and Rural Scenario in the four core communities and the Study Area as a whole, and significant improvements compared to the 2035 Trends Scenario. The first MOE tested was PM Peak Hour Transit Ridership for the four core communities and for the Study Area. Table 6-2 summarizes the increase in PM Peak Hour Transit Ridership.

Table 6-2
PM Peak Hour Transit Ridership, 2009-2035

Destination Jurisdiction	2009 Existing Ridership	2035 Trends Ridership	2035 Urban and Rural Ridership	2035 Full Transit Scenario Ridership	% Change from Urban and Rural to Full Transit	% Change from Trends to Full Transit
Gorham	6	11	99	149	51%	1250%
Scarborough	59	118	201	317	58%	170%
South Portland	249	309	332	376	13%	22%
Westbrook	115	145	214	267	25%	84%
Portland	619	706	776	785	1%	11%
Four Core Communities	429	584	846	1109	31%	90%
Study Area	1322	1671	2119	2631	24%	57%

Table 6-2 illustrates an increase in transit ridership of over 50 percent for both Gorham and Scarborough from the Urban and Rural Land Use Scenario. Transit ridership increases substantially over the Trends Scenario for the four core communities, with huge increases for Gorham and Scarborough.

On average the four core communities potentially realize a 31 percent increase in transit ridership (263 riders) from the Urban and Rural Scenario and 90 percent increase (525 riders) over the Trends Scenario in the PM peak hour while the Study Area increases by 24 percent (512

riders) from the Urban and Rural Scenario and by 57 percent (960 riders) from the Trends Scenario in the PM peak hour.

Correspondingly, as transit ridership increases, VMT and VHT decline in the four core communities and in the Study Area. As Tables 6-3 and 6-4 illustrate, VMT declines by 2.5 percent in the four core communities for the Full Transit Scenario as compared to the Trends Scenario and by 2.7 percent in the Study Area, while VHT decreases by 9.6 percent in the four core communities for the Full Transit Scenario as compared to the Trends Scenario and by 7.3 percent in the Study Area.

Table 6-3
2035 Vehicle Miles Traveled (VMT)

Jurisdiction	2035 Trends Scenario VMT	2035 Urban and Rural Scenario VMT	2035 Full Transit Scenario VMT	2035 Urban and Rural Scenario Compared to Trends Scenario	2035 Full Transit Scenario Compared to Urban and Rural	2035 Full Transit Scenario compared to Trends
Four Core Communities	319,629	315,269	311,583	-1.4%	-1.2%	-2.5%
Study Area	1,274,527	1,243,278	1,239,725	-2.5%	-0.3%	-2.7%

Table 6-4
2035 Vehicle Hours Traveled (VHT)

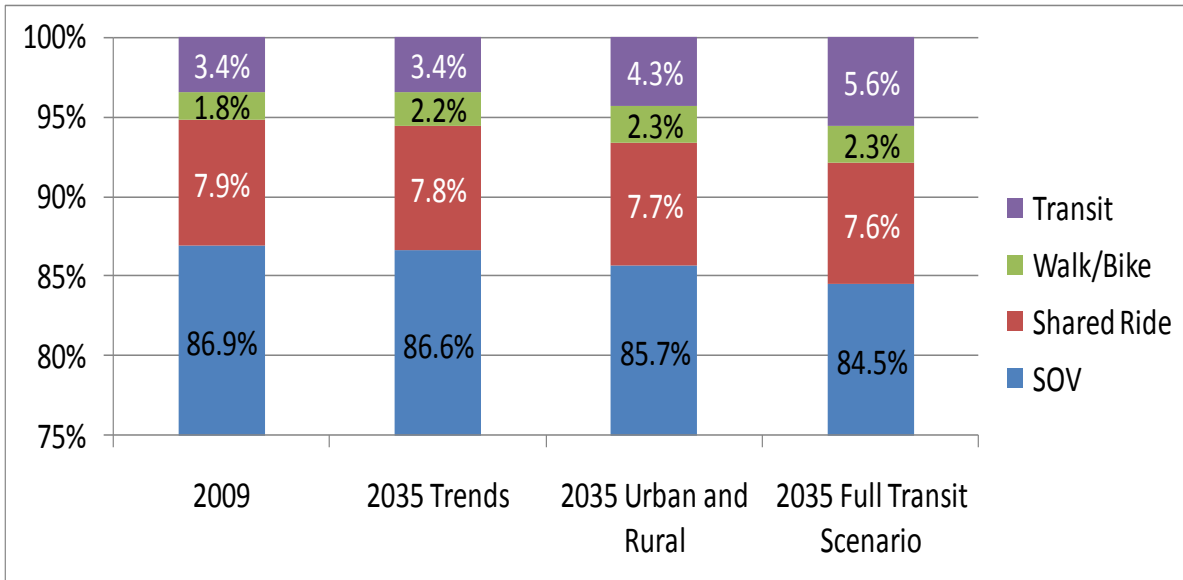
Jurisdiction	2035 Trends Scenario VHT	2035 Urban and Rural Scenario VHT	2035 Full Transit Scenario VHT	2035 Urban and Rural Scenario Compared to Trends	2035 Full Transit Scenario Compared to Urban and Rural	2035 Full Transit Scenario compared to Trends
Four Core Communities	12,253	11,429	11,081	-6.7%	-3.0%	-9.6%
Study Area	46,356	43,396	42,957	-6.4%	-1.0%	-7.3%

The next MOE tested pertained to travel mode to home from work in the four core communities (Table 6-5) and Study Area (Figure 6-4). The most notable results of the model was the decline in single occupancy vehicle (SOV) mode use for each of the communities in all scenarios with the highest decline in the 2035 Full Transit Scenario of 7.1 percent for Gorham followed by a 5.1 percent decline for Scarborough, a 2.7 percent decline for Westbrook and a 1.8 percent decline for South Portland.

Table 6-5
Transit Mode Share to Home from Work for the Four Core Communities

Community	Scenario	Transit	Walk/bike	Shared Ride	Single Occupancy Vehicle
Gorham					
	2009	0.3%	0.4%	8.2%	91.1%
	2035 Trends	0.5%	0.5%	8.1%	90.9%
	2035 Urban & Rural	5.4%	0.4%	7.6%	86.6%
	2035 Full Transit Scenario	8.2%	0.6%	7.3%	84.0%
Scarborough					
	2009	2.4%	0.7%	7.5%	89.4%
	2035 Trends	2.9%	0.9%	7.4%	88.8%
	2035 Urban & Rural	4.9%	0.8%	7.2%	87.1%
	2035 Full Transit Scenario	8.1%	0.7%	6.9%	84.3%
South Portland					
	2009	7.3%	1.3%	7.5%	83.9%
	2035 Trends	8.1%	1.5%	7.3%	83.0%
	2035 Urban & Rural	7.8%	1.7%	7.3%	83.2%
	2035 Full Transit Scenario	9.2%	1.6%	7.1%	82.1%
Westbrook					
	2009	6.1%	0.8%	7.6%	85.4%
	2035 Trends	7.3%	0.9%	7.4%	84.4%
	2035 Urban & Rural	7.3%	0.9%	7.3%	84.5%
	2035 Full Transit Scenario	9.1%	0.9%	7.2%	82.7%
Four Core Community Totals					
	2009	4.4%	0.9%	7.7%	87.0%
	2035 Trends	4.6%	1.0%	7.5%	86.9%
	2035 Urban & Rural	6.3%	1.0%	7.3%	85.3%
	2035 Full Transit Scenario	8.6%	1.0%	7.1%	83.3%

Figure 6-4
Transit Mode Share to Home from Work for Study Area



Similarly transit mode share increased for all towns in the Study Area and improved from the Urban and Rural Scenario with over eight percent for Gorham and Scarborough and nine percent for South Portland and Westbrook.

In terms of PM Peak Hour Transit Mode Share by Route there was an increase to approximately six percent in mode share along U.S. Route 1 in Scarborough (north of Oak Hill) and along Route 25 in Gorham (west of Route 237) and to approximately eight percent along Route 302 in Windham at the Westbrook town line.

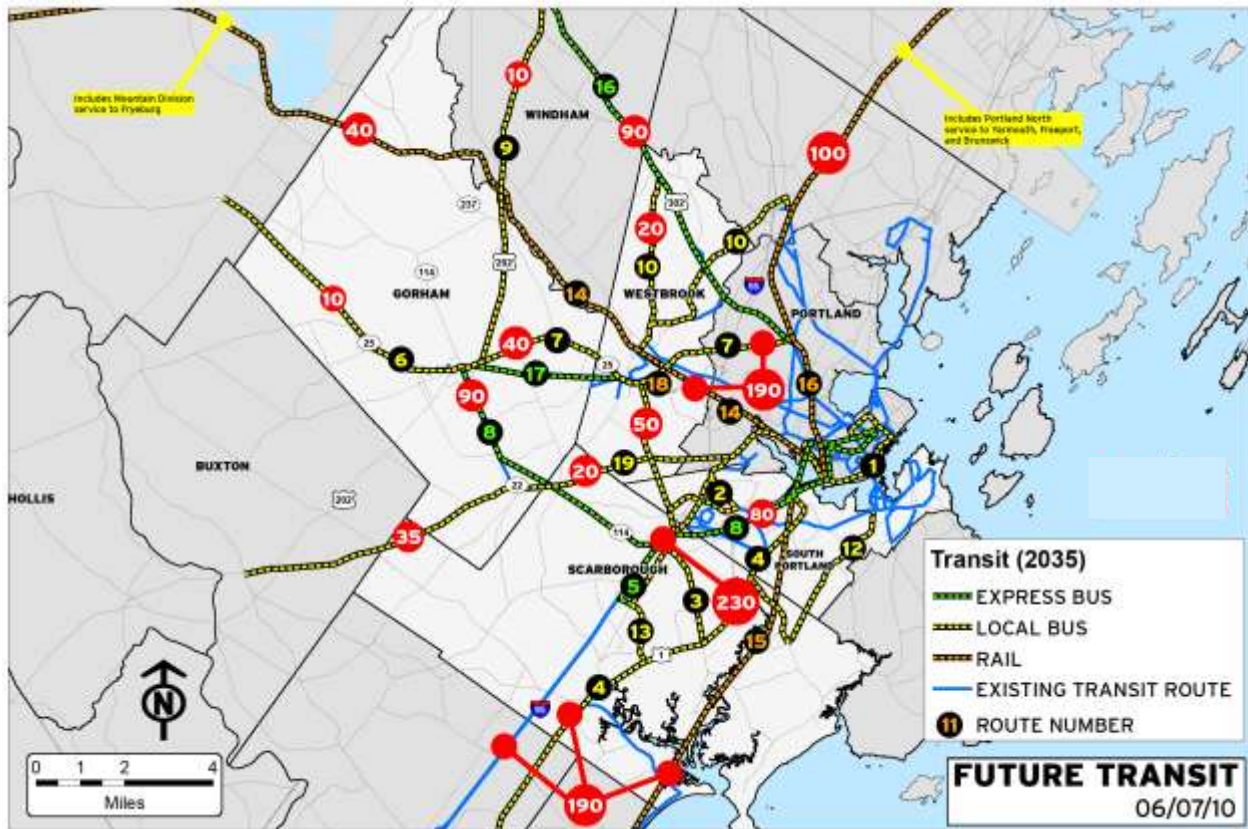
The shift in transit mode share also improved for the entire Study Area as a whole with a slight decline in SOV to 84.5 percent and an overall increase to 5.6 percent for transit.

Summary and Recommendations

For the Study Area to reach the 5.6 percent mode share shown in Figure 6-4 would require a significant shift in current thinking on transit, parking, highways and funding as well as a strongly coordinated, regional approach to land use and transportation policy and funding. If the assumptions used to calibrate the Enhanced Transit Scenario model are attainable, the 2035 public transit mode share of almost 6 percent represents a significant change in the current approach to designing, operating and managing an integrated transportation system than exists today. For the six percent in transit share to be realized, it would require a coordinated and integrated approach and the political will and commitment at all levels of government to work together to:

- Coordinate land use planning, zoning regulations and policy;
- Adopt transit-first standards to roadway design, prioritizing transit modes and operations;

Figure 6-5
2035 PM Peak Hour Transit Scenario Transit Trips



- Channel development into high density areas with guidelines for transit oriented site design and standards for safe, convenient and comfortable transit operations and service; and,
- Coordinate land use and transportation public policies and funding mechanisms among the local, regional and state governments to create an intermodal regional network for mobility.

Figure 6-5 illustrates the estimated number of PM peak hour work to home transit trips for the 2035 Transit Scenario. Figure 6-5 shows several proposed routes with approximately 100 or more transit riders in the PM peak hour that may make these routes candidates for early expansion of the transit system. Routes with 50 or less riders in the PM peak hour may be more long term considerations for expansion of the area transit system.

7.0 ROADWAY SCENARIOS

This Chapter presents the methodology undertaken for developing the roadway improvement scenarios for addressing the documented congestion and safety problem locations remaining in the Study Area after implementation of the Urban and Rural land use form and the enhanced Transit Scenario.

Purpose

The purpose of developing roadway scenarios for analysis was to identify reasonable improvements to address the remaining future mobility, congestion, and safety issues after implementing the Urban and Rural Land Use form described in Chapter 5 and the Full Transit Scenario described in Chapter 6. The goal was to test and evaluate the effects of potential roadway scenarios using the MOEs established for the Study and to identify the benefits of the roadway improvement scenarios in the four core communities and the entire Study Area to determine which scenario might best address and balance the Study's Purpose and Need.

Background

The Study Team developed and tested two roadway improvement scenarios that looked at three levels of transportation upgrades: 1) traffic management by making localized improvements, 2) adding capacity to existing roadways by increasing the number of lanes and 3) adding new roadway capacity by building new roadways on new location.

A roadway improvement workshop was convened on July 21, 2010 to further identify and define the assumptions for each roadway improvement scenario identified. The input received from the workshop was incorporated in the Study model and tested against select MOEs. Each roadway improvement scenario identified included the Urban and Rural Land Use form and Full Transit Scenario.

It was determined, through traffic analysis conducted as part of this Study and during the roadway improvement workshop that localized intersection improvements alone were not substantial enough to address the mobility, congestion, and safety needs remaining after implementation of Urban and Rural Land Use with the Full Transit Scenario. Additional east-west roadway capacity was required, focused along the Route 22 and 114 corridors. However, localized intersection improvements were incorporated into each roadway improvement scenario identified.

7.1 Roadway Improvement Scenario

Two roadway improvement scenarios were developed that addressed the majority of the mobility, congestion and safety issues identified within the Study Area.

Roadway Improvement Scenario 1 – Adding Capacity to Existing Roadway Network

The focus of Roadway Improvement Scenario 1 was to address mobility, congestion and safety issues within the Study Area by primarily adding capacity along existing roadways or through the use of localized bypasses or connections. Assumed roadway improvements for Roadway Improvement Scenario #1 are listed below:

1. Gorham/Scarborough: Localized two-lane bypass of the Overlap (Route 22/114) beginning at a location near/at the southern end of the Gorham Bypass and extending to a location near/at the easterly intersection of Route 22 (County Road) and Route 114 (Gorham Road).
2. Scarborough: Localized, non-tolled two-lane bypass of Payne Road connecting from I-295 near Exit 44 of the Maine Turnpike directly to Route 114 (Gorham Road) at a location immediately west of the Maine Turnpike.
3. Scarborough: Widening of Route 114 (Gorham Road) from two-lanes to four-lanes beginning at the eastern end of the localized Overlap bypass described in Number 1 above and extending southeast, past Running Hill Road, then intersecting with the western end of the localized bypass of Payne Road described in Number 2 above.
4. Standish: Localized two-lane bypass of downtown Standish (intersection of Route 25 and Route 35) as identified in the Town of Standish's master plan.
5. Westbrook: Additional turning lanes at intersections along Route 25 (William Clarke Drive) from Mechanic Street to Westbrook Arterial as identified in the 2010 MaineDOT contract plans.
6. Freight Rail: Upgrade of the Mountain Division rail line to connect freight rail from Portland to Standish. This assumed a reduction of 150 truck trips per day (from MaineDOT Transportation Investment Generating Economic Recovery (TIGER) Grant Application) along the Route 22, 25, and 114 corridors within the Study Area between the Maine Turnpike west to Standish.
7. Local intersection improvements as required to achieve LOS E or better at Study Area intersections. These intersections, along with the proposed level of improvement, are summarized in Table 7-1.

Table 7-1
Roadway Improvement Scenario 1 Intersection Improvements

Intersection	Proposed Improvement
New Gorham Road & Route 25 ¹ (Westbrook)	Add an additional northbound (NB) through lane and left turn lane. Extend southbound (SB) left turn lane to 125 feet.
Route 25 & Route 114 ¹ (Gorham)	Add 75 foot eastbound (EB) left turn lane.
Bridge Road & Payne Road ² (Scarborough)	Add 100 foot SB right turn lane.
Route 25 & New Portland Road ¹ (Gorham)	Add channelized right turn lane from Mechanic Street. Add 75 foot westbound (WB) left turn lane.
Route 22 & Broadturn Road ² (Buxton)	Change to two-way stop control from the current three-way stop control.
Route 22/114 & Burnham Road ² (Gorham)	Add 150 foot WB left turn lane.
Route 114 & Running Hill Road ² (Scarborough)	Add two – 275 foot WB right turn lanes on Running Hill Road.
Route 114 & I-295 Ramps (Scarborough)	Provide on ramp and off ramp from Route 114 to I-295.
Main Street & Westbrook Arterial ¹ (Westbrook)	Extend WB left turn lane by 50 feet.
Mussey Road & Payne Road ² (Scarborough)	Install traffic signal.
Route 114 & Payne Rd ¹ (Scarborough)	Extend WB right turn lane to 250 feet and WB left turn lane to 200 feet. Add another NB left turn lane (two total). Add another SB left turn lane (two total) and lengthen to 250 feet. Add another receiving lane on the north leg of Payne Road.
Running Hill Road & Cummings Road ¹ (South Portland)	Add another WB through lane and another WB receiving lane on the west leg of Running Hill Road. Extend EB left turning to 150 feet. Extend the NB left turn lane to 200 feet.
Gorham Bypass & Route 202/4 ³	Install signal.
Wayside Drive & Saco Street ¹ (Westbrook)	Add 150 feet WB left turn pocket, extend NB turn pocket to 150 feet.
Gorham Bypass & Route 114 ³	Install signal. Add another receiving lane on the west leg of the Bypass.
Payne Road & Cummings Road ¹ (Scarborough)	Network signal upgrades.

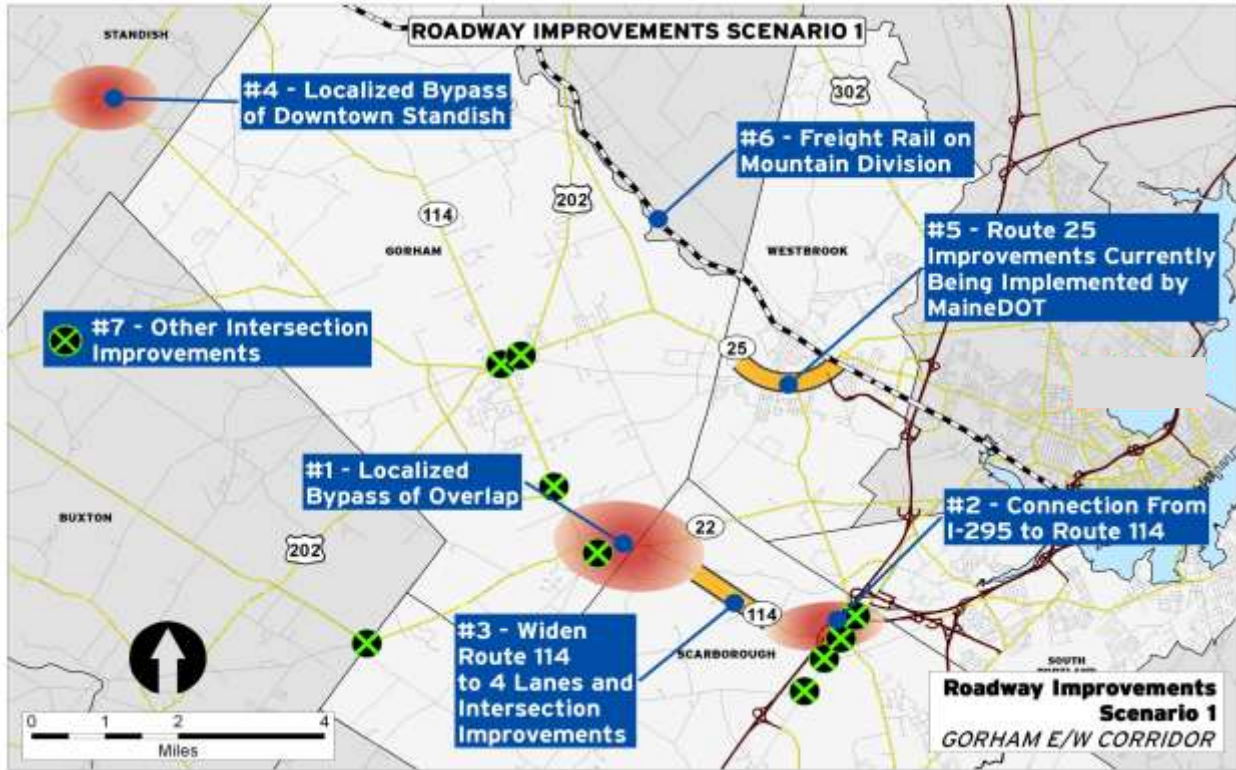
1 – Existing intersection is signal controlled

2 – Existing intersection is stop controlled

3 – Existing intersection is a roundabout

Figure 7-1 provides a graphical summary of Roadway Improvement Scenario 1.

Figure 7-1
Roadway Improvement Scenario 1



Roadway Improvement Scenario 2 – New East-West Capacity

The focus of Roadway Improvement Scenario 2 was to address mobility, congestion and safety issues within the Study Area by primarily adding new capacity along new roadways. Assumed roadway improvements for Roadway Improvement Scenario 2 are listed below:

1. Gorham/Scarborough/Westbrook/South Portland: New roadway corridor beginning at a point near/at Exit 44/45 of the Maine Turnpike and extending west to a location near/at the southern end of the Gorham Bypass. The proposed four-lane roadway corridor is assumed to provide a direct connection at each of the following locations:
 - Maine Turnpike
 - Running Hill Road
 - Route 22 (County Road)
 - Route 114 (South Street)
2. Standish: Localized two-lane bypass of downtown Standish (intersection of Route 25 and Route 35) as identified in the Town of Standish’s master plan.

3. Westbrook: Additional turning lanes at intersections along Route 25 (William Clarke Drive) from Mechanic Street to Westbrook Arterial as identified in the 2010 MaineDOT contract plans.
4. Freight Rail: Upgrade of the Mountain Division rail line to accommodate freight rail from Portland to Standish. This assumed a reduction of 150 truck trips per day (from MaineDOT TIGER Grant Application) along the Route 22, 25, and 114 corridors within Study Area between the Maine Turnpike west to Standish.
5. Local intersection improvements as required to achieve LOS E or better at Study Area intersections. These intersections, along with the proposed level of improvement, are summarized in Table 7-2.

Table 7-2
Roadway Improvement Scenario 2 Intersection Improvements

Intersection	Proposed Improvement
Route 22 & Saco Street ¹ (Scarborough)	Add 150 foot SB left turn lane.
Route 25 & Route 114 ¹ (Gorham)	Add 75 foot EB left turn lane.
Bridge Road & Payne Road ² (Scarborough)	Add a 100 foot SB right turn lane.
Route 25 & New Portland Rd ¹ (Gorham)	Add channelized right turn lane from Mechanic Street. Add 75 foot WB left turn.
Route 22 & Broadturn Road ² (Buxton)	Change to two-way stop control from three-way stop controlled.
Route 22/114 & Burnham Road ² (Gorham)	Add WB 150 foot left turn lane.
Mussey Road & Payne Road ² (Scarborough)	Install traffic signal and 75 foot SB left turn lane.
Route 114 & Payne Road ¹ (Scarborough)	Extend SB left turn lane to 150 feet.
Running Hill Road & Cummings Road ¹ (South Portland)	Add another WB through lane. Add 150 foot WB right turn lane. Extend EB right turn lane to 150 feet. Add 75 foot EB left turn lane.
Bypass & Route 202/4 ³	Install traffic signal. Add 150 foot NB left turn lane. Add 150 foot SB left turn lane.
Route 25 & Saco Street ¹ (Westbrook)	Add 150 foot WB left turn lane, extend NB turn lane to 150 feet.
Route 25 & Spring Street ¹ (Westbrook)	Add 50 foot SB right turn lane.
Bypass & Route 114 ³	Install traffic signal. Widen to two receiving lanes on north leg of Route 114. Add another receiving lane on the west leg of the Bypass.
Payne Road & Cummings Road ¹ (Scarborough)	Network signal upgrades.

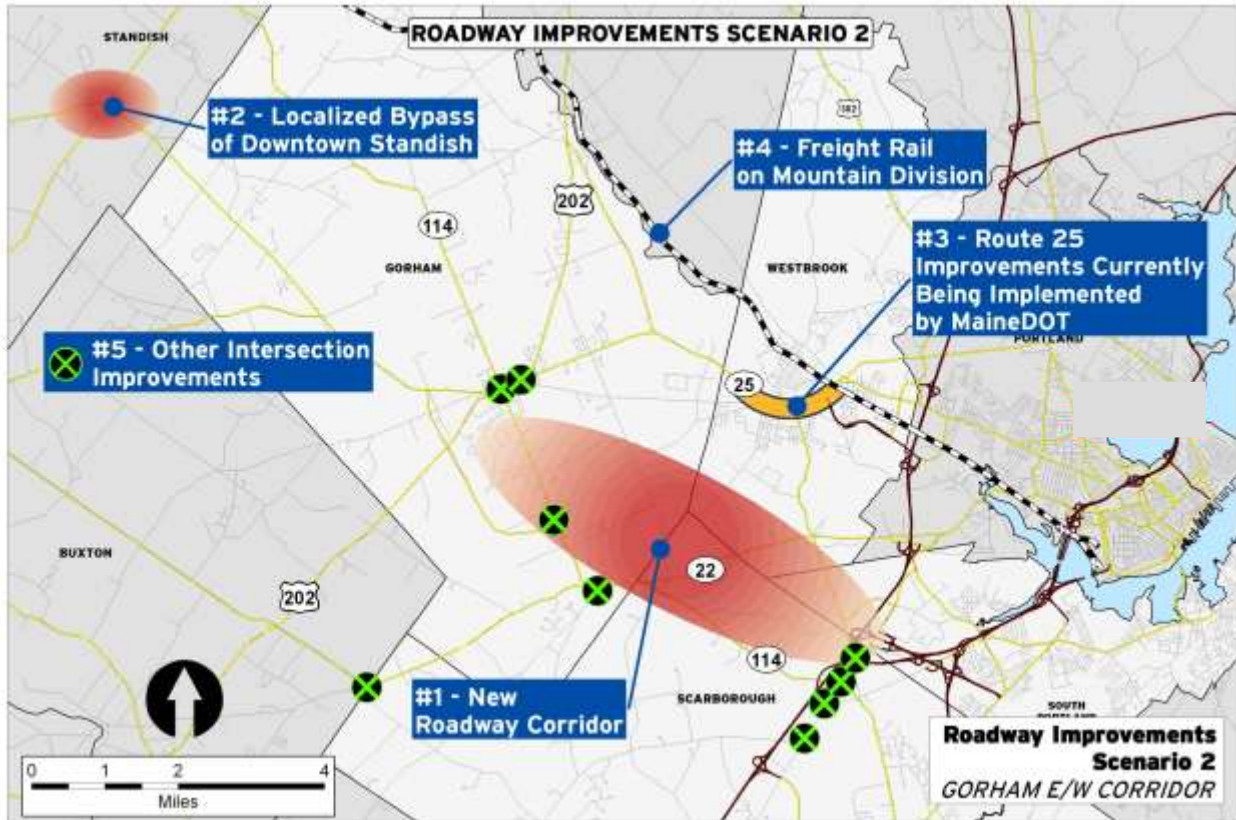
1 – Existing intersection is signal controlled

2 – Existing intersection is stop controlled

3 – Existing intersection is a roundabout

Figure 7-2 provides a graphical summary of Roadway Improvement Scenario 2.

Figure 7-2
Roadway Improvement Scenario 2



Results of Roadway Improvement Scenario Analysis

Both Roadway Improvement Scenarios were analyzed and compared to the Trends and Full Transit Scenarios using data from the PACTS regional travel demand model, Synchro/SimTraffic intersection and roadway network results, GIS resource mapping, and preliminary level costs estimates from estimated quantities and available MaineDOT unit cost prices. The following MOEs were evaluated: PM Peak Hour intersection and roadway level of service (LOS), vehicle miles traveled (VMT), vehicle hours traveled (VHT), fuel consumption, vehicle emissions, and a summary of resource and property constraints within the identified improvement areas.

Intersection and Roadway Level of Service

Table 7-3 summarizes the number of intersections and roadways with an undesirable level of service (LOS E or F) for each Scenario identified during the PM Peak Hour, including Trends and Full Transit Scenarios.

Table 7-3
PM Peak Hour Intersection and Roadway LOS

LOS Category	2009 Existing	2035 Trends	2035 Full Transit	2035 Roadway Scenario 1	2035 Roadway Scenario 2
Number of Intersections with LOS E/F	7	23	17	3	3
Miles of Roadway at LOS E/F	3	14	13	11	11

From Table 7-3, see that both Roadway Improvement Scenarios significantly address the number of intersections that are at an undesirable LOS. The remaining intersections were determined to not be able to be corrected without sizeable impacts to adjacent properties and thus are not addressed in this Study.

Miles of roadway at undesirable LOS are reduced under both Roadway Improvement Scenarios compared to the 2035 Trends Scenario.

Vehicle Miles and Hours Traveled

Vehicle Miles and Hours Traveled is a key mobility MOE that helps transportation professionals understand how and where traffic flows under various improvement scenarios. Tables 7-4 and 7-5 respectively summarize the vehicle miles and vehicle hours traveled during the PM Peak Hour for each Scenario identified for the four core communities and full Study Area.

Table 7-4
PM Peak Hour Vehicle Miles Traveled

Area	2009 Existing	2035 Trends	2035 Full Transit	2035 Roadway Scenario 1	2035 Roadway Scenario 2
Four Core Communities	264,488	319,629	311,583	317,407	320,426
Full Study Area	1,017,484	1,274,527	1,239,725	1,239,249	1,241,788

Table 7-5
PM Peak Hour Vehicle Hours Traveled

Area	2009 Existing	2035 Trends	2035 Full Transit	2035 Roadway Scenario 1	2035 Roadway Scenario 2
Four Core Communities	7,940	12,253	11,081	10,769	10,684
Full Study Area	30,964	46,356	42,957	42,277	42,115

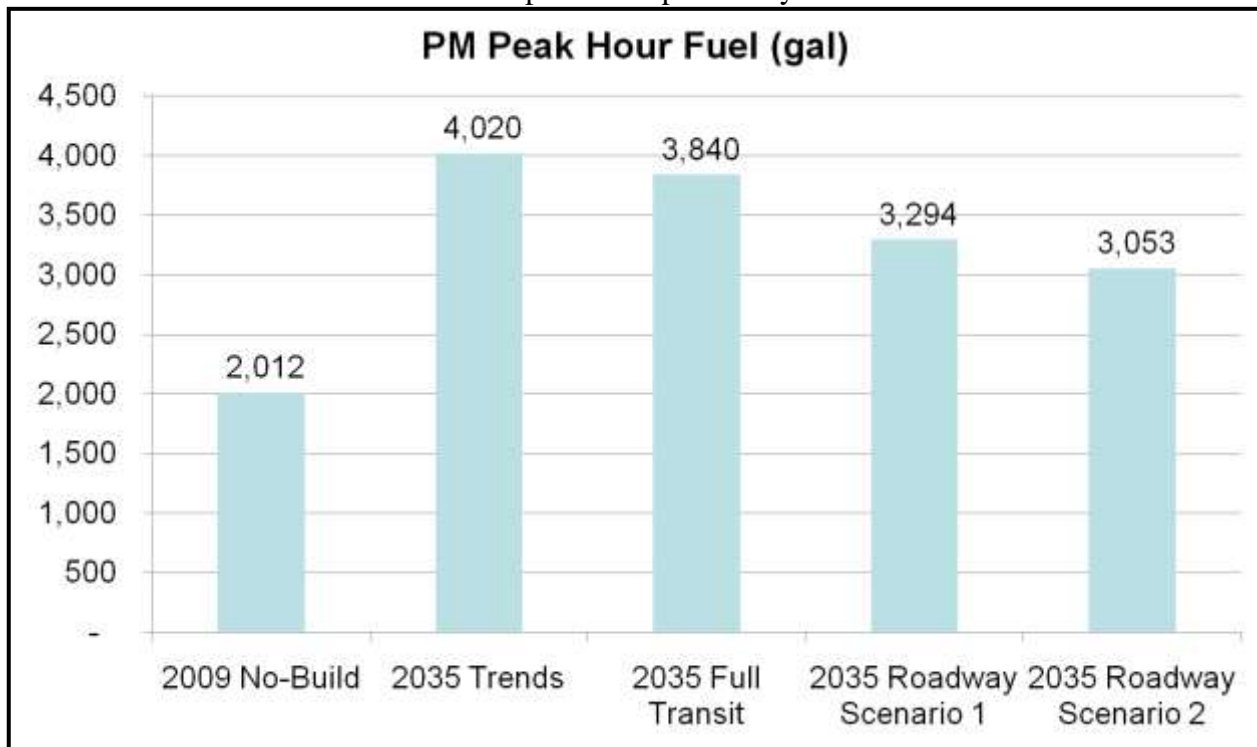
As seen from Table 7-4, the number of vehicle miles traveled for the four core communities actually increases for Roadway Improvement Scenario 2 over Roadway Scenario 1. This is due to the fact that additional miles of new roadway have been added under this Roadway Improvement Scenario.

Table 7-5 indicates that vehicle hours travelled for both Roadway Scenario 1 and 2 is reduced sizably (around 10 percent) from the Trends Scenario for both the four core communities and full Study Area. This is a clear indication that congestion has been addressed and that delays have been significantly reduced.

Fuel Consumption

Another key measure of effectiveness is fuel consumption. This MOE measures the amount of fuel consumed in the traffic analysis area during the PM peak hour. Figure 7-3 provides a graphical summary of fuel consumption for each scenario.

Figure 7-3
Fuel Consumption Comparison by Scenario



As seen from Figure 7-3, fuel consumption doubles from 2009 to 2035 under the Trends Scenario to approximately 4,000 gallons consumed during the PM peak hour. This amount is reduced by 20 to 25 percent under each of the Roadway Improvement Scenarios.

Resource and Property Constraints

A preliminary evaluation of the resource and property constraints was quantified for each Roadway Improvement Scenario. Constraints measure not what is potentially impacted, but the amount of natural and physical resources, and properties that exist within the defined areas for each Roadway Improvement element. A measure of the actual resource and property impacts would be undertaken in the next phase of evaluation.

Table 7-6 summarizes the resource and property constraints identified for each Roadway Improvement Scenario (RIS).

Table 7-6
Summary of Resource and Property Constraints

RESOURCE	CONSTRAINT (in acres)		DIFFERENCE	LESS CONSTRAINED
	RIS 1	RIS 2		
NATURAL RESOURCES				
Wetlands	53	86	33	RIS 1
FIRM (within 100 year flood zone)	28	26	2	RIS 2
Vernal Pools	0	0	N/A	N/A
SURFACE WATER				
Ponds/Lakes/Rivers	17	1	16	RIS 2
Streams (linear - miles)	1	2	1	RIS 2
Undeveloped habitat Blocks	164	387	223	RIS 1
WILDLIFE HABITAT				
New England Cottontail	0	22	22	RIS 1
Inland Waterfowl and Wading Bird Habitat	0	2	2	RIS 1
LAND USE				
Residential	322	310	12	RIS 2
Commercial	94	112	18	RIS 1
Exempt	21	97	76	RIS 1
Vacant	163	159	4	RIS 2
Agricultural	37	70	33	RIS 1
Resource Protection	4	44	40	RIS 1
Transportation	63	36	27	RIS 2
Utility	9	3	6	RIS 2
Water	2	1	1	RIS 2
TOTAL AREA (LAND USE)	715	832	117	RIS 1
STRUCTURES	(number of structures)			
Residential	146	55	91	RIS 2
Commercial	14	18	4	RIS 1
Exempt	5	2	3	RIS 2

As seen from Table 7-6, there is a fairly equal distribution between the two Roadway Improvement Scenarios from a constraint perspective.

A full and detailed evaluation of all resource and property impacts is recommended for any Phase II efforts for these Roadway Improvement Scenarios.

Roadway Improvement Scenario Cost Summary

The following tables summarize the planning level capital costs for each Roadway Improvement Scenario. Costs are in 2010 dollars and include planning, design, and construction engineering costs. Right-of-way, environmental impacts, and wetland mitigation costs are not included. Tables 7-7 and 7-8 provide the costs for the items identified in the two roadway improvement scenarios

Table 7-7
Roadway Improvement Scenario 1 Costs

Component	Highway Costs	Traffic Signal Costs	Engineering Costs	Total Costs
#1 - Gorham - Localized Bypass of Overlap Area	\$13,550,000	\$110,000	\$3,415,000	\$17,075,000
#2 – Rte. 114 Interchange to I-295	\$10,900,000	\$220,000	\$2,780,000	\$13,900,000
#3 - Widen Route 114	\$10,850,000	\$220,000	\$2,767,500	\$13,837,500
#4 - Standish - Local Bypass	\$5,900,000	\$220,000	\$1,530,000	\$7,650,000
#5 – Route 25 – Westbrook (Currently being implemented)	\$0	\$0	\$0	\$0
#6 – Mountain Division Rail ¹	\$26,000,000	\$0	\$6,500,000	\$32,500,000
#7 - Intersection Improvement	\$600,000	\$110,000	\$177,500	\$887,500
Total Costs	\$67,800,000	\$880,000	\$17,170,000	\$85,850,000

1 – Rail line improvement cost only.

Table 7-8
Roadway Improvement Scenario 2 Costs

Component	Highway Costs	Traffic Signal Costs	Engineering Costs	Total Costs
#1 - New Roadway Corridor	\$55,000,000	\$220,000	\$13,805,000	\$69,025,000
#2 - Standish - Local Bypass	\$5,900,000	\$220,000	\$1,530,000	\$7,650,000
#3 – Route 25 – Westbrook (Currently being implemented)	\$0	\$0	\$0	\$0
#4 – Mountain Division Rail ¹	\$26,000,000	\$0	\$6,500,000	\$32,500,000
#5 - Intersection Improvement	\$600,000	\$110,000	\$177,500	\$887,500
Total Costs	\$87,500,000	\$550,000	\$22,012,500	\$110,062,500

1 – Rail line improvement cost only.

Conclusions

Based on the findings of the analysis and evaluation of the two Roadway Improvement Scenarios, the following conclusions were reached:

- Both Scenarios significantly address mobility and congestion issues that were documented under the 2035 Trends Scenario;
- VHT is sizably reduced as compared to the 2035 Trends Scenario for both the four core communities and full Study Area;
- VMT increases as compared to the 2035 Trends Scenario for Roadway Improvement Scenario 2, and only slightly reduced for Roadway Improvement Scenario 1;
- Fuel consumption is sizably reduced as compared to the 2035 Trends Scenario; and
- Resource and Property Constraint quantification determined that there is a fairly equal distribution of constraints between the two Roadway Improvement Scenarios.

As a result of the detailed analysis and evaluation of both Roadway Improvement Scenarios, it is recommended that both Scenarios be carried forward for further evaluation under Phase II.

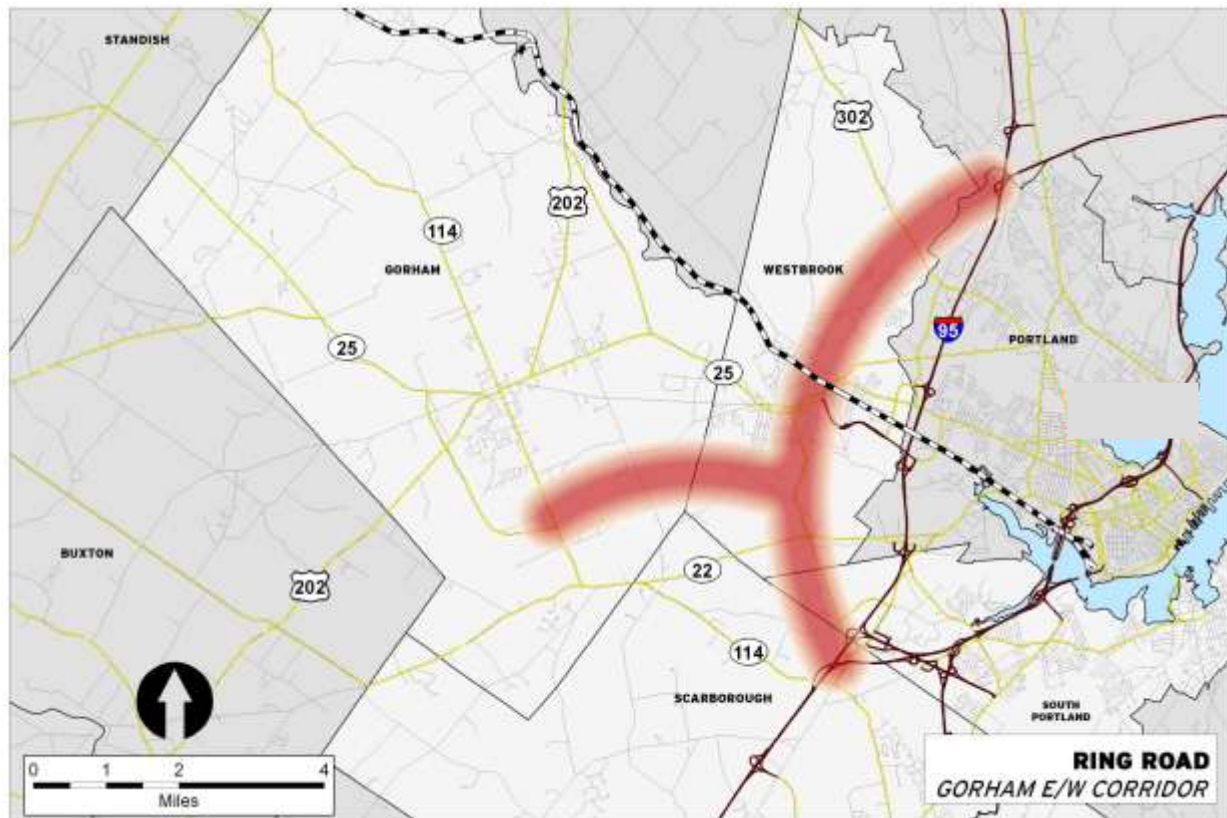
7.2 Scenarios Considered But Not Evaluated

The following lists the roadway improvement scenarios considered but not evaluated as part of this Study. Details of these scenarios, including basis for not including in the roadway improvement analysis are noted.

Ring Road Scenario

The Ring Road Scenario, shown in Figure 7-4, was a roadway scenario initially identified by the Steering Committee during a monthly meeting. This scenario extends Roadway Improvement Scenario 2 by adding new roadway capacity on a new road corridor north through Gorham and Westbrook, connecting to the Maine Turnpike in close proximity to Exit 52 (Falmouth).

Figure 7-4
Ring Road Scenario



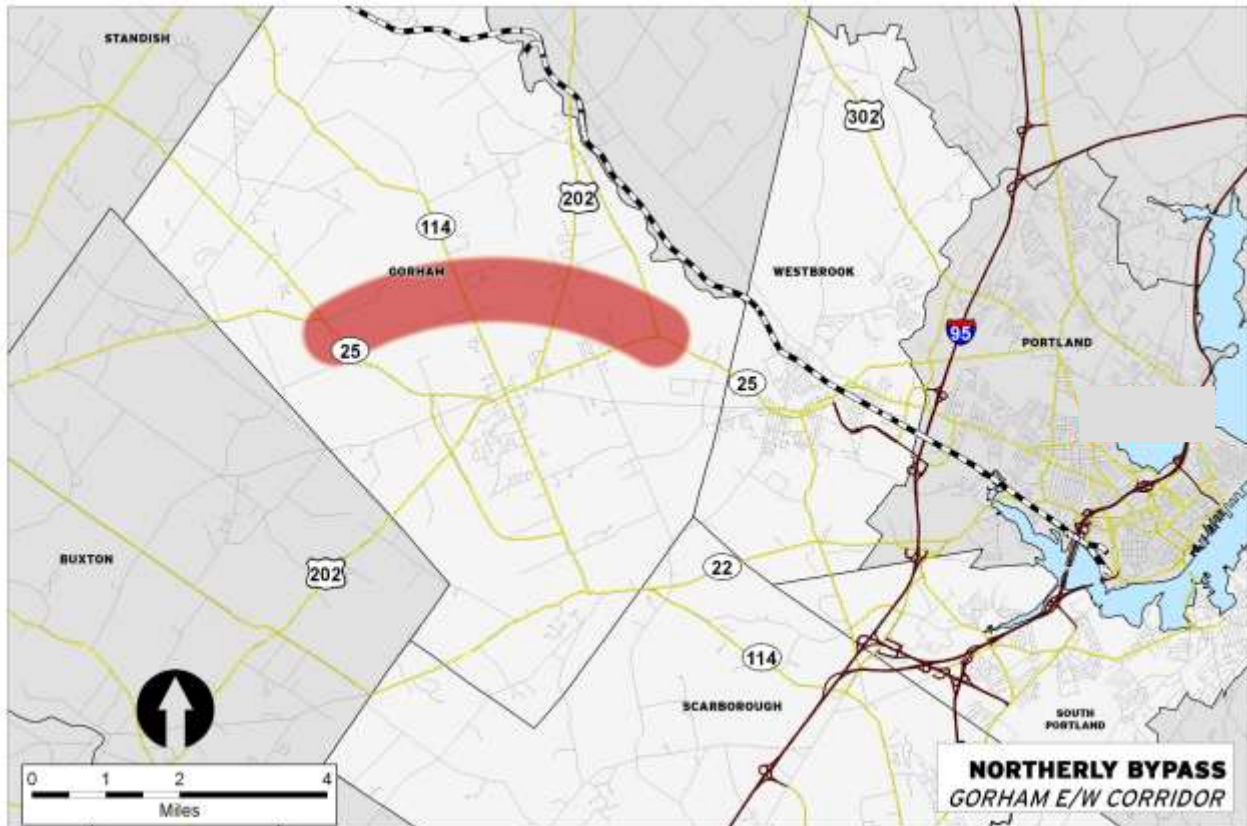
This scenario was not evaluated for three reasons: 1) the scenario would likely not improve east-west mobility or reduce congestion above Roadway Improvement Scenario I or 2, 2) the scenario would likely have a greater impact to natural and physical resources than Roadway Improvement Scenario 1 or 2, and 3) north-south congestion issues documented in the Study Area are being addressed by the proposed Maine Turnpike widening between Exits 44 and 52 in the future. These improvements would likely eliminate the need for this scenario.

Roadway Improvement Scenario 1 or 2 does not preclude evaluation of a ring road scenario in the future.

Northerly Bypass of Gorham Village

This roadway scenario, shown in Figure 7-5, was included and approved in the Final Environmental Assessment for the Gorham Bypass Study, completed in October 2005. This scenario provided a northerly bypass around the Gorham Village, beginning at the bottom of Brandywine Hill on Route 25 and extending across to the intersection of Route 25 and 237 (Mosher Corner) in Gorham.

Figure 7-5
Northerly Bypass of Gorham Village



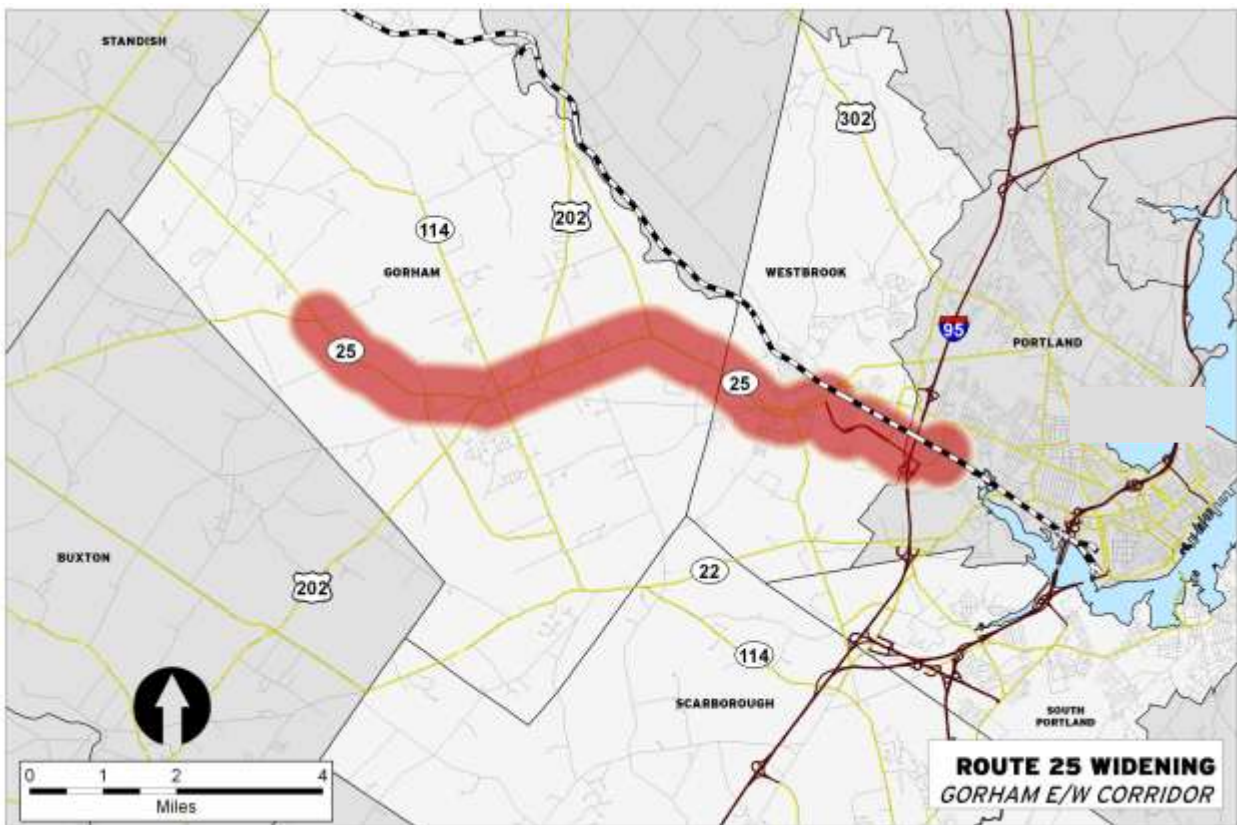
This scenario was not evaluated for two reasons: 1) the previously approved northerly bypass was intended to address the need for additional east-west roadway capacity around Gorham Village and in South Gorham which is provided in both roadway improvement scenarios, and 2) the majority of the traffic now traveling through downtown Gorham in each roadway improvement scenario is locally originating or destined based on travel demand model data and allocations from the Urban and Rural land use scenario.

Widening of Route 25

This roadway scenario, shown in Figure 7-6, was an alternate scenario to the proposed roadway improvement scenarios that added additional roadway capacity along the Route 22 and 114 corridors. This scenario would have added additional capacity, either through widening of existing Route 25 or through addition of new capacity on new alignment of a localized bypass of key congested areas along this corridor.

This scenario was not evaluated for two reasons: 1) ongoing improvements along Route 25 (Wayside Drive and William L. Clarke Drive) in Westbrook addressed many of the mobility, congestion and safety needs along the Route 25 corridor, and 2) this scenario would not likely have adequately addressed the severe congestion along the section of Route 22 and 114 in South Gorham that is addressed in the other two roadway improvement scenarios.

Figure 7-6
Widening of Route 25



Either proposed roadway improvement scenario does not preclude evaluation or implementation of additional Route 25 capacity improvements (if required) in the future.

8.0 PUBLIC PARTICIPATION AND OUTREACH INITIATIVES

This Chapter summarizes the public outreach process that was based on regular input from two standing committees, the public, and a series of workshops and outreach meetings with regional and local experts in planning, transit and real estate development.

The Study's public outreach process communicated the purpose of the Study and provided details regarding the analysis of the land use, transit and roadway scenarios. The outreach process provided the public and stakeholders with the opportunity to provide opinions and input as the Study progressed through the development of the various scenarios. A Study website, ongoing media coverage and multiple meetings within the Study communities allowed direct and easy input to Study decisions and processes. As a high-level feasibility study focused on identifying and testing a range of possible future solutions rather than a single specific outcome, the Study Team made a concerted effort to bring the unique aspects of this land use and transportation-oriented study to the attention of the public-at-large and the media. This provided a broader awareness of the Study and its recommendations to the general public than would occur if public meetings had been the sole method of reaching out. This outreach was successful in earning two positive editorials and three major news articles in the Portland Press Herald, as well as ongoing positive coverage of public meetings from the Gorham Times, South Portland/Cape Elizabeth Sentry, American Journal, Scarborough Currents, Portland Forecaster, WCSH and WMTW television stations.

Further, the series of specialized land use and transit workshops successfully brought together municipal and regional planners, as well as local, regional, and statewide transit experts in a way that made the benefits of regional planning clear to all, setting the scene for future regional planning efforts that would be critical to the ongoing livability of the Study Area and beyond.

8.1 Study Committees

Two committees, the Steering Committee and the Advisory Committee, provided ongoing feedback and direction for the Study. The Steering Committee generally met on a monthly basis throughout the Study, getting a first look at Study findings and recommendations. Working as a collaborative unit, the steering committee was integral to this Study's groundbreaking work by its growing support of the need for land use change in order to affect long-term transportation benefits. The Advisory Committee, which met at key points throughout the Study, was developed to reflect the diverse agendas of stakeholders throughout the Study Area. Their feedback provided the Study Team with a clear picture of the range of viewpoints to be taken into account in order to move Study recommendations forward, and was a valuable counterpoint to the four core municipality-based viewpoints of the Steering Committee. Both committees had

a significant effect on Study process and recommendations. Detailed minutes were reported from every meeting noting committee and public comments.

Steering Committee Members:

Town Manager David Cole and Councilor Burleigh Loveitt, Gorham; Town Manager Tom Hall and Town Planner Dan Bacon, Scarborough; City Planner Tex Haeuser, South Portland; Director of Public Works Eric Dudley, Westbrook; Executive Director John Duncan and Transportation Planner Carl Eppich, PACTS; Government Relations Manager Conrad Welzel and Assistant Government Relations Manager Sara Devlin, MTA, and Study Manager Gerry Audibert, MaineDOT.

Advisory Committee Members:

Phil Savignano, Maine Department of Tourism; Keith Luke, Westbrook Economic Development; Tom Ellsworth, Gorham Economic Development; Barbara Charry, Maine Audubon; Paul Weiss, Sierra Club; Ben Severance, Town of Hollis; Jim Libby, Town of Buxton; Wayne Newbegin, Town of Standish; Mike Bolduc, City of Saco; Alex Jaegerman, and Judy Harris, City of Portland; Elizabeth Hertz, Maine State Planning Office; Rick Shinay, MEREDA/Drummond Woodsum & MacMahon; Bruce Hyman, GrowSmart Maine, Portland Trails, Maine Bicycle Coalition; Julie Bassett, Scarborough Economic Development; Steve Linnell, GPCOG; Warren Knight, Smiling Hill Farms; Ed Clifford, PACTS Transit Committee; Ray Penfold, VIP Tour & Charter Bus Company; Brian Parke, Maine Motor Transport Association; Wayne Davis, TrainRiders/Northeast; Mark Hasselmann, FHWA; Rob Sanford, USM; David Knapp/Lou Stack, Route 113 Corridor Committee; Chief Robert Lefebvre, Greater Portland Area Fire Chiefs; Sue Moreau, Maine Department of Transportation Multi-modal; Richard Rudolph, Rippling Waters Farm; Ann Peoples, and Phillip Bartlett, State Legislators; Paul Niehoff, PACTS; Chris Hall, Greater Portland Chamber of Commerce; Sara Devlin, MTA, Gerry Audibert, MaineDOT, John Duncan, PACTS, committee chairman.

8.2 Summary of Steering and Advisory Committee Meetings

The following is a summary of all Steering and Advisory Committee Meetings which took place as part of the Gorham East-West Corridor Feasibility Study. This summary includes meeting date, agenda and key input items.

8.2.1 Summary of Steering Committee Meetings

03/31/09 | Steering Committee Meeting

Meeting Agenda

- Review Contact Information
- Advisory Committee Update

- Study Team Efforts to Date
- Public Involvement Update
- Next Meeting Date and Time

Summary of Committee Input: The committee provided commentary on categories and individuals for the Advisory Committee, heard an overview of first tasks in terms of Study data collection and received and provided approval for draft copy and design for the website home page.

05/26/09 | Steering Committee Meeting

Meeting Agenda

- Study Progress
- Advisory Committee Meeting
- Land Use Scenarios
- Purpose and Need Statement

Summary of Committee Input: The committee agreed to a suggestion from the Advisory Committee to find a representative from Metro Chiefs (International Association of Fire Chiefs) and South Portland economic development, and after discussion, decided to leave the Steering Committee constituents in order to keep the committee size smaller and more focused. They accepted the two propose land use scenarios: Existing Trends Scenario and the Urban and Rural Land Use Scenario. They also provided a range of comments on the first draft Purpose and Need Statement that had been developed from Advisory Committee input and agreed that several iterations between the Steering and Advisory Committee would be needed - that it is very important to get the Purpose and Need Statement right.

06/23/09 | Steering Committee Meeting

Meeting Agenda:

- Draft Purpose and Need Statement
- Study Progress
- Meeting Schedule

Summary of Committee Input: The committee reviewed the second draft of the Purpose and Need Statement, which had previously received input from the Advisory Committee. The Steering Committee emphasized that it was important for final Study recommendations to be feasible and transportation-focused. In general, they agreed with Advisory Committee input, asked for a background statement to be prepared to provide

context for the Purpose and Need Statement, and agreed that a revised draft should go to the Advisory Committee.

07/28/09 | Steering Committee Meeting

Meeting Agenda

- Draft Purpose and Need Statement
- Land Use Scenarios: Evan Richert
- Study Progress
- Next Steps

Summary of Committee Input: The committee agreed to a more streamlined format for the Purpose and Need Statement and made various minor comments to be reviewed one more time by the Advisory Committee and then on to the public. They participated in an in-depth discussion of the two land use scenarios and STPA with Evan Richert, and recommended that the term “urbanization” not be used to describe the second scenario.

08/25/09 | Steering Committee Meeting

Meeting Agenda

- Economic Development Opportunities: Charlie Colgan
- Purpose and Need Statement
- Land Use Mapping

Summary of Committee Input: The committee asked pertinent questions regarding the economic development forecast in regards to their own communities and the Study Area as a whole, asking if Transit Oriented Development would be feasible and what effect changes in energy prices could potentially have. They accepted the revised draft of the Purpose and Need Statement and took land use maps back to their towns for comment.

09/29/09 | Steering Committee Meeting

Meeting Agenda

- Advisory Committee Update
- Upcoming Meeting Report: Public Meeting/Land Use Planning
- Baseline Conditions Report

Summary of Committee Input: The committee discussed the need for the Purpose and Need Statement to include the term “affordable” or “fiscally responsible” as the committee wants a solution to be able to be implemented. There was also discussion of energy prices and should it be part of the Study purpose. In the end, the Purpose and

Need Statement was accepted and voted as final as it was presented at the meeting. In discussion of the first Land Use meeting, it was agreed to invite municipal planners and interested Advisory Committee members. Steering Committee members would also attend. The committee also asked that the baseline conditions data be available to the towns.

11/24/09 | Steering Committee Meeting

Meeting Agenda

- Population Projections by Municipality
- Proposed Range of Land Use Scenarios
- Transportation Strategies

Summary of Committee Input: The committee increased their understanding of the population projections as they relate to jobs in each community and agreed to help refine TAZs. They evaluated the four potential land use scenarios that came out of the land use workshop meeting and overall felt that the hybrid, Urban and Rural, was most doable. They commented on the particular problem locations for transportation, and discussed how a ring road might make more sense than a linear connection.

01/06/10 | Steering Committee Meeting

Meeting Agenda

- Overview of 2nd Land Use Workshop
- Results of 2035 Low Density/Trends Analysis
- Transportation Strategies Brainstorming
- 2010 Steering Committee Meeting Schedule

Summary of Committee Input: The committee expressed interest and surprise at the level of worsening conditions in the Study Area in the Low Density/Trends Analysis. They made adjustments to MOEs in terms of how they were communicated in terms of new jobs and new homes, adjusting how this was communicated to be more neutral, as many communities do not want more residential growth. They asked to add an open space MOE and discussed how final recommendations could include more than one solution and that smart growth solutions should be included. Under Transportation Strategies, they agreed on the importance of including transit, and indicated an interest in a limited access ring road. Finally, they recommended that the committee hold off on defining transportation strategies until the land use recommendations are final, as long as it does not hold up the Study in terms of completion.

03/11/10 | Steering Committee Meeting

Meeting Agenda

- Updated MOEs
- Urban and Rural Findings
- Updates/Study Schedule

Summary of Committee Input: The committee again discussed the relative benefits of including fuel price change in the MOEs, as well as the need to make sure the relationship between the MOEs and the Purpose and Need Statement is clear. The committee provided positive feedback on the Urban and Rural findings, saying that they are heading in the right direction and outcomes look good. They also provided direction on how to make the Urban and Rural Land Use Scenario clearer for the presentation to the Advisory Committee and other audiences.

04/22/10 | Steering Committee Meeting

Meeting Agenda

- Transit Workshop
- Energy Prices
- Meeting Updates

Summary of Committee Input: The committee discussed the results of the transit workshop and recommended that the two proposals developed by workshop participants be combined and sent out for review via email; they did not think another meeting was needed if the proposal were combined as discussed by this committee (most of whom attended the workshop). In the discussion on including some analysis of change in energy prices, the committee was split as to whether this would be a benefit; many people ask about it but there are no firm numbers for future prices on which to base a meaningful projection. The decision was made to ask the Study Team to look at a sensitivity analysis and come back to the committee with a recommendation. Finally, a discussion on the outer communities' level of participation determined that follow up meetings with at least some of the communities would be a good idea.

05/27/10 | Steering Committee Meeting

Meeting Agenda

- Preliminary Transit Modeling results
- Fuel price scenario discussion
- Standish meeting report/Committee membership discussion
- Road improvements: Process discussion

Summary of Committee Input: The committee discussed the transit results, including how the final recommendations might play out, whether a cost benefit analysis would be done, and the potential effectiveness of the network. They heard the decision that MTA and MaineDOT did not want to do a fuel sensitivity analysis as there are no firm numbers available on which to base an analysis, and that the recommendations would help reduce transportation prices in a rising fuel scenario. The committee accepted the decision but noted that this is a perception issue and it would continue to come up from the public.

06/08/10 | Steering Committee Meeting

Meeting Agenda

- Full Transit Modeling Results: Kevin Hooper
- Next Steps

Summary of Committee Input: The committee heard Kevin Hooper give a complete and detailed presentation on the enhanced Transit Model results. Discussion regarding the details of the results ensued, with much commentary on how land use and transit would perform separately and how the two components work together. There was discussion about the potential desirability of evaluating road improvements without land use and transit, the outcome being that this is not a scenario in which MTA and MaineDOT can invest per STPA.

06/24/10 | Steering Committee Meeting

Meeting Agenda

- Developer/Other Meeting Update
- Road Improvement Discussion

Summary of Committee Input: The committee discussed the various locations that still require some level of road improvement after land use and transit are implemented and the various types of improvements that are possible. The recommendation was to look at expanding existing capacity in these locations and also to look at a potential east-west new capacity road and a north-south ring road that would also alleviate east-west travel congestion.

09/08/10 | Steering Committee Meeting

Meeting Agenda

- Roadway Scenario Findings
- Land Use Recommendations
- Upcoming Municipal Official Meeting

Summary of Committee Input: The committee heard a detailed presentation regarding the two road improvement scenarios and provided comments on how to clarify the presentation. Since both of the scenarios provided similar traffic benefits, there was discussion as to the pros and cons of each. There was commentary that the lack of a previously approved Northern Bypass of Gorham could be an issue with the public. There was commentary about the cost factor being critical, and that the public would want to know all the details about both scenarios. The committee also talked about the best way to present Study recommendations to municipal officials.

09/30/10 | Steering Committee Meeting

Meeting Agenda

- Advisory Committee Meeting Update
- Upcoming Municipal Meeting
- Land Use Recommendations/Next Steps

Summary of Committee Input: The committee discussed the proposed process for implementing Study recommendations, including land use, transit and road improvement, and the challenges that would be faced by tying all these together. As part of this, the committee provided detailed comments and suggestions on the prepared presentation for the upcoming four core town municipal presentation with an eye towards increasing clarity and brevity.

10/28/10 | Steering Committee Meeting

Meeting Agenda

- Meeting Overview: Municipal and First Public Meeting
- Discussion of Proposed Next Steps/Timing:
 - Interim Public Outreach/Memorandum of Understanding (MOU) Development
 - Phase II Study and Participants
 - Draft Sample MOU Discussion
- Roadway Improvement/Transit Costs and Impacts

Summary of Committee Input: The committee heard an update on the first public meeting and deliberated at length on the draft MOU. They suggested language changes that would both make the document clearer and more acceptable to municipalities, as well as provided their thoughts on the timing and process of moving into Phase 2. Their thought was that the interim public outreach idea was good, but that they wanted to move into Phase 2 as quickly as possible.

12/16/10 & 12/21/10 | Steering Committee Meetings

Meeting Agenda

- Review revised version of MOU

Summary of Committee Input: Besides the four core communities, Portland would need to be an integral part on the next phase because they are the major origin and destination of most of the east west trips in this corridor. Portland would be an equal partner in the agreement rather than being construed as the major player in the next phase because they are the largest community. Portland understands that this has to be a collaborative process. Suggest moving up MOU signature implementation date from 10/1/2011 to 6/1/2011. Workshops and council meetings would need to be scheduled with each community for obtaining MOU signature approvals. MOU implementation would be dependent more on funding availability rather than local approvals. Suggest replacing “monitoring” with “assistance” in the MOU. Westbrook suggested the deletion of task 10 – Upgrading the Mountain Division Rail Line for freight rail from the Phase II tasks. There were concerns regarding the length of time to undertake and complete the NEPA process for identifying a preferred roadway alternative in the next Study phase. Land use agreements are a Phase II outcome. Agreement the MOU should be more clearly worded. The MOU should clearly articulate everyone’s roles and responsibilities. The MOU would also need to be reviewed by each party’s legal staff.

01/27/11 | Steering Committee Meeting

Meeting Agenda

- Update on new MaineDOT Commissioner and January Meeting with Bruce Van Note
- Discussion of timing change of Draft Report/MOU release from Municipalities’ perspective
- Proposed Interim Outreach Activities
- Review of Revised Phase II Tasks
- Upcoming Meetings
- Other

Summary of Committee Input: The committee heard from Gerry Audibert on the meeting with now Commissioner Dave Burnhart and Deputy Commissioner Bruce Van Note in January to review and findings and recommendations of the Gorham Study. MaineDOT, while in support of the recommendations, asked the MTA to hold off on issuing the Draft Report until the new Commissioner is confirmed and they can formally agree to the recommendations. MTA indicated that they would provide funding for the Interim Outreach if needed to keep process moving. It was determined that the Draft Final

Report would likely be issued by March 1st and that the final Public Meeting for Gorham Phase I would be mid-March. Westbrook and Gorham indicated a desire to get the executive summary of the Report prior to March 1st so as to share with their respective communities. Everyone thought that even with the delay in issuing the Report, that a target of June 1st to have the core communities sign the MOU was still achievable.

Next, the committee discussed interim outreach activities. There were potential for presentations to South Portland and Westbrook to assist in delivering the Study recommendations and findings. MTA and MaineDOT staff is also working with GPCOG on the HUD study to maintain consistency between the two processes. Other meetings would be scheduled with Portland, Standish, Hollis, and Buxton once the Draft Report is issued. Finally, the committee reviewed the revised Phase II tasks and schedule. All changes were found to be acceptable.

8.2.2 Summary of Advisory Committee Meetings

04/30/09 | Advisory Committee Meeting

Meeting Agenda

- Committee Member Introductions
- Introduction of Study Background, Purpose and Goals
- Introduction of PACTS' Destination Tomorrow Land Use Policy
- Break Out Session: Identify Largest Concerns Along the Study Corridor
- Overview of Study Process
- Next Steps

Summary of Committee Input: In breakout groups, the committee members provided their concerns for the corridor. Input included concerns about the lack of efficient transportation west of Portland, lack of transit including rail service, over reliance on roads for freight movement, traffic congestion on Routes 22, 25, 114 and sprawl due to inexpensive land to the west. There was concern as to why Portland and the communities west of Gorham were not represented on the Steering Committee, with the response that this concern would be brought to the Steering Committee for consideration. There was a request to consider qualitative data as well as quantitative data in analyzing strategies.

06/18/09 | Advisory Committee Meeting

Meeting Agenda

- Introduction of New Members of Committee
- Introduction of Primary and Secondary Study Area
- Break Out Session: Review Draft Purpose and Need Statement

- Update on Traffic Analysis
- Update on Land Use Analysis
- Next Steps

Summary of Committee Input: The committee members provided input on the Purpose and Need Statement. Input included adding “identifying economic opportunities”, adding energy and carbon emission reduction-related strategies, adding “conserve natural wildlife”, specifying the need for multi-modal connections, adding “compact, walkable, transit-supportive” communities and the need for more hubs, adding the stipulation that lack of efficient travel times affects quality of life, and adding “lack of truck routes”. There was a question as to how land use analysis would coincide with smart growth concepts.

09/22/09 | Advisory Committee Meeting

Meeting Agenda

- Welcome and Introductions
- Economic Outlook
- Land Use Approach
- Baseline Conditions and Analysis
- Purpose and Need Statement Update
- Public Informational Meeting Update
- Upcoming Meetings

Summary of Committee Input: The committee voiced the importance of including the growth of the senior citizen demographic in the projected growth analysis. There was concern about the void in mapping of Portland and that this is a major hub and destination for employment and residences. There was concern over the perceived exclusion of Portland in the land use and transportation modeling. There was concern over the issue of home and land pricing being a large variable in where people live and determining land use. There was concern that the Study is too strongly focused on the future and not on current road problems. There was mention of the importance of not measuring analysis by existing road subsidies and the need to think outside of the box when the time comes to consider strategies.

01/14/10 | Advisory Committee Meeting

Meeting Agenda:

- Study Overview: What we’ve accomplished since September
- Measures of Effectiveness
- Results of 2035 Low Density Analysis

- Recommended *Alternative* Pattern of Development
- Next Steps

Summary of Committee Input: There was a request to look into including how to measure the use of all forms of energy as an MOE for the Study and to include an MOE that measures successful use of transit, such as number of people within a half mile of transit. There was concern over how the term “walkabilty” as it seems to be generally misunderstood. There was concern over the lack of pedestrian infrastructure and funding sources. There was a request to map activity centers. There was concern as to whether the growth numbers allocated to towns would be disconcerting to the municipalities. It was mentioned that Portland would welcome residential growth.

03/16/10 | Advisory Committee Meeting

Agenda:

- Welcome and Introductions
- Urban and Rural Results
- Review of Updated MOE’s
- Study Schedule
- March 25 Public Meeting Agenda
- Next Steps

Summary of Committee Input: There was concern that Urban and Rural Land Use scenario is unrealistic for some western towns. It was mentioned that these numbers are what Portland would like to see and that capturing growth is vital to supporting development projects. There was agreement from core towns that this was realistic and skepticism from the western municipalities. There was agreement that increased gas prices would only serve to support the Urban and Rural Scenario. There was concern over how difficult it is to get people to live in multi-family homes. There was concern over the Study’s perceived lack of focus on trains as the primary transportation within the region. This point was countered by mention of the fact that most Americans prefer independent transportation and that rail takes a lot of time and effort, though there was extensive support for transit. There was agreement that the Urban and Rural plan is balanced: incremental but progressive. A comment was made about the prospect of developing North Westbrook and that sewer and water are hugely important, as is transit service to that area. There was a comment voicing the desire to make sure transit service extends to the peninsula in Portland.

05/06/10 | Advisory Committee Meeting

Agenda:

- Introduction
- Overview of Development of the Revised Transit Scenario
- Presentation of Revised Transit Scenario
- Committee Input on Revised Transit Scenario
- Next Steps

Summary of Committee Input: There was concern that the Study was not following the legislative resolution to connect the western communities of York and Cumberland Counties to U.S. Route 1. The suggestion was made to consider a robust transit system during all times of the day and to make sure that the Study includes freight rail. Discussion continued to highlight the western communities desire to have transit that serves communities west of the Study Area. Concepts such as bus rapid transit and bus rights of way were discussed. The group agreed that for modeling purposes, the Mountain Division rail line and the existing rail line from Westbrook to Gorham should be modeled in order to judge potential ridership. Additionally the group agreed that the model should test for ridership as far out as Fryeburg.

06/09/10 | Advisory Committee Meeting

Agenda:

- Purpose of Transit Scenario Evaluation
- Quick Summary
- What We Tested
- Base Assumptions and Methodology
- Key Results
- Summary and Next Steps
- Comments and Questions from Public

Summary of Committee Input: There was concern over rail headways assumed in the travel demand model and that based on current capacity, the assumptions were not realistic. There was also concern that the Study had not adequately looked at incentivizing transit service over single occupant vehicle use. A comment was made that there is a great opportunity to capture USM students traveling from Gorham to Portland campuses by transit. There was a request to see the percentage of drivers taken off of the road so there can be a greater understanding of the cost-effectiveness of transit recommendations. An emphasis on a regional cooperation and regional planning was mentioned as necessary in order to achieve some of the transit and land use goals of the Study. Some members shared a concern that improving the roadways would only de-incentivize people from using transit.

09/23/10 | Advisory Committee Meeting

Agenda:

- Welcome
- Overview of How Roadway Improvement Scenarios Were Developed
- Presentation of Roadway Scenario 1 and 2 and Results
- Overview of Land Use Recommendations
- Next Steps

Summary of Committee Input: Looking at the cost-effectiveness of each alternative was mentioned as being very important information needed to evaluate scenarios. The need to develop Freight Rail connections in order to ease the demand and maintenance costs on local roads was suggested. The group shared concern that major roadway capacity improvements would induce more sprawl. The comment that Road Improvement Scenario 2 may last longer in the long-term picture was mentioned, and an analysis to look at the scenarios beyond 25 years was suggested. It was suggested to look into whether either of the two scenarios would be more conducive to compact land use patterns than the other scenario. The suggestion to include disincentives for developing outside of growth cores was mentioned. There was a request to work more closely with the communities west of Gorham on land use recommendations, as regional planning is a major goal of the Study. There was great concern about making sure there was an entity to oversee land use regulations in the future in order to make sure that all municipalities continue to develop in a sustainable manner. There was also concern as to what entity would be legally allowed to take on this responsibility.

12/08/10 | Advisory Committee Meeting

Agenda:

- Study Update
- GPCOG HUD Sustainability Grant
- Study Recommendations
 - Balanced Approach
 - Memorandum of Understanding (MOU)
 - Interim Public Outreach
 - Phase II Tasks
- Study Schedule
- Next Steps

Summary of Committee Input: Timing on several of the Phase II Tasks needs to be reevaluated or adjusted. Comp plan adjustments for incorporating recommended land use initiatives should not be perceived as difficult. The term “growth area” could be confusing. The HUD Grant is using the term “communities of opportunity”. The public

outreach has to be strategically planned. Suggest not using the term “monitoring” in the Phase II tasks. May want to provide greater emphasis to the assistance part of the MOU. There was a concern that some of the rural communities may resist proposed changes being enacted by abutting communities. Concern that roadway work may go in advance of land use and that they need to remain connected. There is a need to get the land use piece done first. The report would include a draft land use piece that would be subject to negotiation and revision.

8.3 Summary of Public Meetings

The following is a summary of all Public Meetings which took place as part of the Gorham East-West Corridor Feasibility Study. This summary includes meeting date, agenda and key input items.

10/08/09 | Public Meeting at the Gorham Municipal Center

Meeting Agenda

- Study Purpose and Need
- Economic Outlook for Study Area
- Land Use in Transportation Planning/Potential Scenarios
- Study Data

Summary of Public Input: Public input was mixed, but in general there were comments about the traffic issues, the success of the Gorham Bypass, and the need for better transportation access. There were some comments on the loss of rural land and farms, and on the difficulties of getting towns to work together and on enforcing land use change. Most people were interested in a new road and were not expecting to hear about land use.

03/25/10 | Public Meeting at the Maine Turnpike Authority Office in Portland

Meeting Agenda

- The Problem
- What are our choices?
- Possible Solutions
- Next Steps

Summary of Public Input: Comments included the observation that current zoning in most towns encourages sprawl; that adding greenbelts would be good; that this is a great first step and is aggressive but realistic and politically plausible; that hopefully we could do more; the observation that this could help the region economically; small change is good; smaller lots and smaller houses create more affordable options; that there is need for less

expensive housing where the jobs are (Portland) so people don't have to commute from Auburn.

10/26/10 | Public Meeting at the Wyndham Hotel in South Portland

Meeting Agenda

- The Problem
- Transportation Sustainability
- Study Findings
 - Land Use
 - Transit
 - Roadway Improvements
- Study Recommendations
- Next Steps

Summary of Public Input: Westbrook Main St. needs help, can't cross William Clark Drive; can't cross in downtown Gorham; need bike paths; need more rail and less roads, no rail expertise on committee, very automobile focused, rail is more cost effective and less polluting; rail is not viable in Maine, as not enough mass, should start with bikes and buses; lower cost houses would draw people and traffic would be worse; jobs are key, more important than open space; need bus shelters if you are going to have more buses; Gorham citizens and town council want a turnpike spur, can the turnpike tolls help support transit; light rail would be better than buses; we do not need a turnpike extension, we need to go back to rail and dense downtowns; six percent transit is not impressive, how can we have more; your growth projections do not match state planning office projections; need to know more about the two roadway improvement scenarios, when would that happen and how would decision be made?; why can't the region have one comprehensive plan; we need a short term plan for road fixes; we have been talking about the bottleneck at Route 22/114 for 30 years and it needs to be fixed; we need to get private enterprise to be part of this; I moved to Gorham for the rural experience and do not want more development there.

11/03/10 | Public Meeting at the Gorham Municipal Center

Meeting Agenda

- The Problem
- Transportation Sustainability
- Study Findings
 - Land Use
 - Transit
 - Roadway Improvements

- Study Recommendations
- Next Steps

Summary of Public Input: This makes sense but I do not want to live in a dense community – but I want to preserve rural character – what to do?; this kind of denser development is already occurring in Gorham so this is good; Land Trusts are in favor of this concept; I do not understand where funding for transit would come from; I love the idea of transit but think it would be a tough sell for most unless gas prices go way up; I am from England and would use transit if it was available; you should talk to large employer about the transit concept; how would people in Portland get from the train to their work; I see empty buses all the time, how could this work; what are the costs of these proposals?; we don't want to subsidize a transit system that no one is using; have you factored access management by towns into this; you should incorporate telecommuting into this equation and provide business incentives; several questions specific to the location and outcomes of the two road improvements; won't higher density create more traffic; who decides where growth areas would be; you only notice transportation if it's failing; how do you get these ideas to happen at the same time, we need a region-wide MOA; if transportation is improved, jobs would come to Gorham and we won't need to drive to Portland to work; if there is transit we won't need so much parking space – a big cost for businesses.

8.4 Summary of Other Meetings and Workshops

The following is a summary of all Other Meetings and Workshops which took place as part of the Gorham East-West Corridor Feasibility Study. This summary includes meeting date, participants, agenda and key input items.

10/29/09 | Land Use Workshop 1 at HNTB Office in Westbrook

Participants: Scarborough: Tom Hall, Sylvia Most, Jay Chace, Mike Wood, Dan Bacon; Westbrook: Eric Dudley, Molly Just; South Portland: Tex Haeuser, Maxie Beecher; Gorham: David Cole, Burleigh Loveitt, Mike Phinney, Deb Fossett, Sandra Mowery; Advisory Committee/Communities: Alex Jaegerman, Portland; Jim Libby, Buxton; Ben Severance, Hollis; Wayne Newbegin, Standish; Alton Benson, Standish; Advisory Committee/Misc.: Bruce Hyman, GrowSmart, David Knapp, Route 113 Corridor Committee; Rob Sanford, USM; Brooks Moore, Windham; Paul Neihoff, Steve Linnell, Rebeccah Shaftner-Touissignant, GPCOG/PACTS; Study Team - Evan Richert, Charlie Colgan, Paul Godfrey, Carol Morris, Ray Faucher, Conrad Welzel, Sara Devlin, Andrea D'Amato, Essek Petrie.

Workshop Agenda:

- Introduction: Purpose and Objectives of Today's Workshop

- Orientation and Background
- Possible Alternative Patterns ("Forms") of Growth
- Introduction to Measures of Effectiveness

Summary of Workshop Comments: The group was presented with four possible alternate land use scenarios: Modified Low Density, Urban Preservation, Community-Centered Corridor and Transit Oriented Development. After much discussion, these were refined to Urban-to-Rural, Suburban Community-Centered Corridor, Sub-Regional Balance and Greenbelt Development. Modified Low Density was felt to not be sufficient change, Urban-to Rural is a minor variation of Urban Preservation, Community Centered Corridor is the same, Sub-Regional Balance made sure that housing and jobs are allocated regionally in a balanced manner to create a strong jobs-housing balance overall, and Greenbelt Development suggests placement of new development based on maximizing identified green and open space.

01/07/10 | Land Use Workshop 2 at the USM Portland Campus

Participants: Liz Hertz, State Planning Office; Sandra Mowery, Mike Phinney, David Cole, and Burleigh Loveitt, Gorham; Tom Coward, and Tex Haeuser, South Portland; Wayne Newbegin, Standish; James Libby, Buxton; Dan Bacon, Scarborough; Rob Sanford, USM; Alex Jaegerman, Portland; Molly Just, Westbrook; John Duncan, PACTS; Rebeccah Schaffner-Tousignant, and Steve Linnell, GPCOG; Bruce Hyman, GrowSmart, Bicycle Coalition, Portland Trails; Gerry Audibert, MaineDOT; Sara Devlin, and Conrad Welzel, Maine Turnpike Authority; Kevin Hooper, Hooper Associates; Charlie Colgan, Muskie School; Paul Godfrey, Essek Petrie, Andrea D'Amato, and Ray Faucher, HNTB; Evan Richert, AICP; Carol Morris, Morris Communications.

Workshop Agenda

- Travel Demand Model: 2035 Low Density
- Review/Discuss Measures of Effectiveness
- Review revised Patterns of Development
- Discussion: Testing an Alternative Pattern

Summary of Workshop Comments: The group's charge was to decide on a single alternative pattern to test against the Low Density Pattern. Discussions centered on the needs of each community, whether the decision should be based on idealism or what works politically and general support for bike/pedestrian access. Essentially, all participants agreed that the denser communities – Portland, Westbrook, and South Portland - wanted more residential growth and the suburban and outer communities want less. There was also strong support for regional planning and the possibilities it opens up. With this, the consensus was to test Urban and Rural Land Use Scenario.

1/21/2010 | Planners Meeting at HNTB in Westbrook

Participants: Tex Haeuser, South Portland; Dan Bacon, Scarborough; Alex Jaegerman, Portland; Molly Just, Westbrook; Sandra Mowery, Gorham; Brooks Moore, Windham ; Study Team: Evan Richert, Paul Godfrey, Carol Morris, Essek Petrie, Uri Avin, Andrea D'Amato, Sara Devlin

Workshop Agenda

- *Review and discussion of Estimated Population, housing and job growth by Study Area Community*
- *Identification of desired Growth Area parameters (size, density, mix)*
- *Discussion and Goal of Lego Exercise*
- *Working session by Study Area Communities to identify, locate, and determine contents of proposed Growth Areas to be evaluated under Urban and Rural Land Use Scenario*

Workshop Outcome: Municipal planners identified and located proposed growth areas within Study Area using legos and community parcel maps. Study Team validated growth area details and then allocated remaining population, housing, and job growth within Study Area communities. These allocations were then tested and evaluated to determine the impacts and benefits of this alternative land use scenario known as Urban and Rural.

04/08/10 | PACTS Lunch and Learn

Attendees: Neal Allen, Sandy Amborn, Gerry Audibert, Bill Bray, Molly Casto, Beth Della Valle, Sara Devlin, Joan Faxe, Deirdre Fulton, Tex Haeuser, LaRay Hamilton, Art Handman, Gary Higginbottom, Robert Hough, Jack Kartez, Brian Keezer, Steve Landry, Steve Linnell, Jen Logan, Matt Mackenzie, Tom Meyers, Greg Mitchell, Pat Moody, Carol Morris, Paul Niehoff, Caroline Paras, Steve Sawyer, Rebecca Schaffner-Tousignant, Lynne Seeley, Jack Sutton, Elizabeth Trice, Caroline Tukey, and James Wendel.

Meeting Agenda

- Study Overview
- The Problem
- What are our choices?
- Possible Solutions
- Next Steps

Meeting Purpose: This meeting was a repeat of the March Public Meeting presentation for the benefit of an invited “Friends of PACTS” group. Comments were generally very positive about the concepts presented, with some concern and skepticism about the general public’s willingness to accept change.

04/15/10 | Transit Workshop at HNTB Office in Westbrook

Participants: Myranda McGowen, Southern Maine Regional Planning Commission; Craig Hutchinson, University of Southern Maine; Steve Linnell, and Caroline Parras, GPCOG; Ed Clifford, Shuttlebus-ZOOM; Tom Meyers, South Portland Metro; John Duncan, Study Advisory Committee Chair, PACTS; Barbara Donovan, MaineDOT; Alton Benson, Standish; Study Steering Committee: Dan Bacon, Scarborough; Tex Haeuser, South Portland, Bruce Hyman, GrowSmart Maine, Bicycle Coalition, Portland Trails; Carl Eppich, PACTS; Study Advisory Committee: Alex Jaegerman, Portland; Rebecca Schaffner-Tousignant, GPCOG; Paul Weiss, Sierra Club; Liz Hertz, State Planning Office; Dennis Coffey, Ray Faucher and Paul Godfrey, HNTB; Kevin Hooper, Hooper Associates; Sara Devlin, MTA; Carol Morris, Morris Communications.
Observers: Hilary Frenkel, League of Young Voters; Gary Higginbottom.

Meeting Agenda

- Objectives of Workshop
- Introductions
- Land Use in 2035
- Base Transit System for 2035
- Travel Demand Forecast Results
- Break Out Groups
- Report Back
- Identification of Transit Strategies

Summary of Workshop Comments: The group’s charge was to develop an optimum transit package for the year 2035 that would support the Urban and Rural development pattern. They were asked not to consider capital funding, and provided with a “basic” transit package that had been developed and tested as part of the Urban and Rural land use model. Each of two breakout groups created an additional network. One was more rail-oriented and included new rail ROWs and the other was more bus and bike oriented. The Study Team then took both networks and combined them, eliminating redundancy.

06/29/10 | Developer Meeting 1

Participants: Joe Malone, Malone Commercial Builders; Peter Bass, Developers Collaborative; Frank O’Connor, The Dunham Group; Kevin Bunker, Developers Collaborative; Elliot Chamberlain, Chamberlain Homes; Paul Ureneck, Boulos

Company; Tom Dunham, The Dunham Group; Vin Veroneau, JB Brown & Sons; Roxanne Cole, Roxanne Cole Commercial Real Estate; Paul Porada, Woodward & Curran; Ted Chapin, Woodward & Curran; Gerry Audibert, MaineDOT; Paul Godfrey and Ray Faucher, HNTB; Paul E. Violette and Sara Devlin, MTA; Carol Morris and Benjamin Ettelman, Morris Communications.

Meeting Agenda

- Study Introduction
- Projected Growth
- Proposed Land Use Allocations
- Discussion: Is Density Marketable? What should change?

Summary of Meeting Comments: The discussion centered on the challenge of developing higher than “normal” density in Maine based on existing regulations and perceptions. The consensus was that there is a clear market for denser development and mixed-use development; however because it is different than the norm, developers have to go through extra hurdles for approvals. They highly recommend that there be a more standardized process – clear and predictable rules - for any new growth zones, as that would make these areas magnets for developers. They recommended that the projects within the zones be bigger to make the numbers work. They also expressed belief that a better transit system in Portland would be very well received. Also supported would be a more regional approach to planning and regulations and better coordination between transportation agencies and planning boards.

07/21/10 | Roadway Improvement Workshop/Joint Steering and Advisory Committee at the USM Gorham Campus

Participants: John Duncan, PACTS; Tex Hauser, South Portland; Chris Hall, Portland Regional Chamber; David Cole and Burleigh Loveitt, Gorham; Ben Severance, Hollis; Jim Gailey, South Portland; Julie Bassett, Scarborough – Scarborough Economic Development Corporation (SEDCO); Liz Hertz, State Planning Office; Lou Stack, Standish; Barbara Charry, Maine Audubon Society; Alex Jaegerman, Portland; Rob Sanford, USM; Rebecca Schaffner-Tousignant, GPCOG; Gerry Audibert, MaineDOT; Conrad Welzel and Sara Devlin, MTA; Paul Godfrey and Ray Faucher, HNTB; Kevin Hooper, Kevin Hooper Associates; Carol Morris and Benjamin Ettelman, Morris Communications.

Meeting Agenda

- Welcome
- Overview of Different Types of Roadway Improvements
- Breakout Session: Roadway Improvement Workshop

- Next Steps

Summary of Committee Input: There was a suggestion to make sure that every roadway option has a cost-benefit analysis, and long term cost analysis available for it so people can get a feeling of what is most cost effective. Discussion topics included: The concern with heavy levels of congestion at the overlap of Routes 22 and 114; Payne Road in Scarborough; Route 25 into Gorham through Westbrook and Route 22 in Buxton; where higher levels of congestion could or should be considered acceptable; what local roads are being used excessively as cut-through roads and what roads municipalities would like to have through-traffic traveling on; the viability of frontage roads within the Study Area; the effect of any increased capacity on wildlife habitat. The outcome of the workshop was to further examine new capacity on new alignment *and* new capacity on existing alignment, with both options including a number of additional local road improvements, TSM and TDM considerations.

10/21/10 | Municipal Meeting with the Four Core Communities at Scarborough Municipal Building

Participants: Jay Chase, Michael Wood, Dan Bacon, Jessica Holbrook Sylvia Most, Carol Rancourt, Judy Roy and Tom Hall, Scarborough; John Duncan, PACTS; Matt Mattingly, Burleigh Loveitt, Michael Phinney and David Cole, Gorham; Joshua Meyer, Caroline Hendry and Tex Haeuser, South Portland; Conrad Welzel and Sara Devlin, MTA; Gerry Audibert, MaineDOT; Paul Godfrey and Ray Faucher, HNTB, Carol Morris and Ben Ettelman, Morris Communications.

Meeting Agenda

- Study History and Overview
- A Changing World
- Study Findings
- Draft Recommendations
- Next Steps

Summary of Meeting Comments: Overall, the group was supportive of the concepts and felt the marketability was in tune with the aging of the population, but concern was expressed about convincing the larger public: homeowners. They also asked about “carrots,” indicating that a turnpike spur might be a useful incentive but asking and wanting more. Scarborough indicated this could be very important to their town. Questions were asked about how rail would play into the scenario, seeing it as a positive but somewhat unknown regarding the ability to fund needed infrastructure improvements. The link to the HUD Sustainability Grant was noted. But there was concern about the strain that this kind of growth would have on all infrastructure. They felt it was time to

roll this out to the general public.

11/17/10 | GPCOG Presentation

Attendees: Gordy Billington, Standish Town Manager; Cathy Breen, Falmouth Town Councilor; Roger Bondeson, People's Regional Opportunity Program (PROP); Peter Crichton, Cumberland County Manager; Barbara York, Casco Selectperson; Derik Goodine, Naples Town Manager; Dick Wood, New England Association of Resource Conservation & Development (RC&D); Colleen Hilton, Westbrook Mayor; Pat Finnigan, Portland Assistant City Manager; Mike Reynolds, Raymond Selectman; Staff: Neal Allen, John Duncan, Eben Marsh, Rebeccah Schaffner-Tousignant, Ann Thompson, Maddy Adams; Guests: Sara Devlin, MTA; Paul Godfrey, HNTB, Carol Morris, Morris Communications.

Meeting Agenda

- Study History and Overview
- A Changing World
- Study Findings
- Draft Recommendations
- Next Steps

Summary of Meeting Comments: Generally positive comments about the concept, and while some concern was noted about rolling out to the public, there were more questions about how this could be expanded to this larger GPCOG region.

12/13/10 | PACTS Presentation

This meeting was held at the new Ocean Gateway Terminal on the Portland waterfront provided a briefing and discussion on the regional transportation opportunities and challenges facing the PACTS region – including the draft recommendations from this regional transportation Study.

Attendees: Sara Devlin and Conrad Welzel, MTA; Ray Faucher and Paul Godfrey, HNTB, Gerry Audibert, MaineDOT; Carol Morris, Morris Communications.

Meeting Agenda

- Continental breakfast
- Welcome
- Presentation on Transportation Policies and Challenges in the PACTS Region
- Discussion led by Representative Ann Peoples
- The Gorham East West Corridor Study's Draft Recommendations
- Discussion led by Turnpike Staff

- Adjourn.

Summary of Meeting Comments: There were no comments regarding the Gorham Study presentation.

12/09/10 | MEREDA Presentation

Attendees: Evan Richert; Sara Devlin, MTA; Paul Godfrey, HNTB; Carol Morris, Morris Communications.

Meeting Agenda

- Study History and Overview
- A Changing World
- Study Findings
- Draft Recommendations
- Potential Developer Hurdles

Summary of Meeting Comments: (The following were written comments submitted by meeting participants.) Lack of Sewer and Water is major hurdle to denser development. An anchor store (Hannaford, for example) typically moves a project along, may want to modify this model. Consider a Regional Development Authority to cut the permitting process and reduce the level of effort. This would maximize potential for development. (Currently it is taking up to three years to get a permit in some towns.) Need a slow growth model/regional mechanism. Create a supply-driven model or build and development will come. Municipal or regionally based financing to build infrastructure is needed. Need education/incentive/disclosures: entities do not pay the cost of their decisions in terms of development. Make development easy, permitting should take no more than 6 months. Remove inherent vagaries and discretionary decisions of planning boards via a regional entity.

9.0 STUDY RECOMMENDATIONS

This Chapter presents the coordinated land use, transit and roadway improvement strategies recommended for creating a regional approach to preserving the current transportation investment by minimizing the future need of adding highway capacity. Implementation of the recommendations will provide more efficient land use choices, expanded public transit services and maximize the efficiency of and improve the safety of the existing roadway transportation system. It is important to note that all three categories of strategies – land use, transit and roadway improvement – work together to provide the desired results. Coordinated implementation of all three strategies is integral to the Study recommendations.

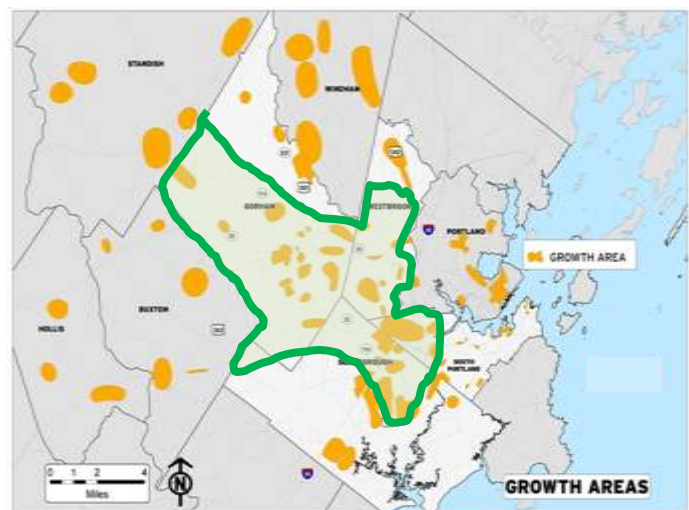
9.1 Land Use Recommendations

This Study recommends that communities begin to take specific actions towards achieving the Urban and Rural Form land use pattern. A key outcome of the Study’s land use recommendations is to relieve growing roadway demand over the next 25 years on major east-west commuting routes that serve the area west of Portland caused by current municipal development trends. The land use recommendations are an integral part of implementing companion study recommendations for transportation improvements. By this we mean that transportation (both road and transit) solutions alone would not be sufficient to manage the traffic congestion that would occur in this region. Roadway solutions alone would probably address short term Study Area traffic congestion problems but would require land use reforms for addressing long term east-west traffic congestion issues. In order to support future growth and economic viability, municipalities must adapt land use development to a pattern that offers a larger number of affordable choices and ultimately a more efficient combination of ways for residents to travel to jobs and services. Only in this way can the public investment in new transportation infrastructure be protected. The proposed actions would build on land use measures already evolving in Gorham, Scarborough, South Portland, Westbrook, and other communities such as Standish and Portland.

The recommendations are divided into two parts.

Part 1 concerns a proposed Land Use Focal Area centered on the four core municipalities that have hosted the Study: Gorham, Scarborough, South Portland, and Westbrook. The Land Use Focal Area

Figure 9-1 - Land Use Focal Area



(Figure 9-1) encompasses the east-west Routes of 22, 25, and 114, and the intersecting north-south Routes of 1 and 202.

Part 2 of the recommendations recognize that land use decisions outside of the Land Use Focal Area would have far-reaching effects on east-west mobility. The Part 2 recommendations ask GPCOG [in cooperation with Southern Maine Regional Planning Commission (SMRPC)] to facilitate a coordinated level of regional land use planning and implementation.

The **Part 1 A** recommendations for the four core communities fall into two categories:

1. Designate future growth areas where the majority of future residential and commercial growth can be directed. With streamlined permitting and necessary improvements, these areas would be highly attractive to developers and give each municipality a competitive edge. Increasing density in these areas would also make these areas affordable and attractive to new residents, and from a transportation perspective, placing jobs and housing in closer proximity would reduce travel distance. This action would conversely deflect growth from other, more rural areas, and maintain communities' rural character into the future.
2. Zone and design these growth areas to include transportation choice by including a denser combination of cohesive residential and commercial development. Design means determination of uses and densities within growth areas. The higher density would increase opportunities for transit service between major growth areas. It would also remove some level of vehicles from existing commuter arterials and town connector roads, as residents avail themselves of jobs and services closer to home.

The **Part 1 B** recommendations for the four core communities fall into three categories:

1. Manage access between the major commuting arterials and the adjacent properties to reduce the number of vehicles entering and exiting, which presently cause congestion and safety problems. Continuation of unlimited vehicle access compromises the arterials' long-term mobility by allowing increasing numbers of vehicles to have access to already busy routes.
2. Consider using fiscal tools, such as Transit-Oriented Development TIFs, to generate municipal revenue that would help pay for transit, including operating expenses and make development in the growth areas more.
3. PACTS should reaffirm its Transportation Project Land Use Policy. The policy says that any project that creates significant new transportation capacity within a corridor must be accompanied by an integrated transportation and land use plan that protects the public transportation investment by preserving corridor capacity and mobility and combating sprawl. This is supported by STPA, which provides major new transportation infrastructure and cost incentives to communities that bring their land use policies and regulations into alignment with the goals of the STPA. The recommendation is for PACTS to affirm their land use policy on other regional studies.

Summary - Recommendation Part 1A above must be implemented in four core communities prior to construction of any new infrastructure; Recommendation 1B above must be implemented prior to completion of such new infrastructure.

Part 2 of the Land Use recommendations recognizes that land use decisions outside of the Land Use Focal Area, including in the remainder of the host municipalities, Portland, and the outer suburbs of Standish, Buxton, and Hollis, would have far-reaching effects on east-west mobility – and on whether the “Urban and Rural Form” regional land use pattern that serves as a reference point for this Study can be realized over the next 25 years. These recommendations ask GPCOG (in cooperation with SMRPC with respect to bordering York County towns) to facilitate a new level of regional land use planning and implementation.

The land use recommendations were determined based upon input from Study Area community planners during the land use workshops conducted as part of the Study. Part 2 recommendations were identified as necessary elements in order to assist with the current challenge of shifting development to growth areas while still allowing all landowners the opportunity to sell their land for development. Both the TOD rights program and model ordinance provisions are key to achieving the Urban and Rural Form land use pattern.

Part 2 Recommendations include:

1. A two-phase residential Transfer of Development Rights program would be developed in conjunction with the communities. The program allows landowners in areas with lower-density zoning to sell a portion or all of their land’s development rights to developers who are building projects in high-density growth areas. Phase 1 is patterned on existing programs (2010) in Gorham and Scarborough; Phase 2 would be regional and allow landowners more latitude by providing a broader opportunity to transfer rights.
2. GPCOG would create model ordinance provisions to aid communities in leveling the development playing field. This means that no municipality can provide community-specific incentives to attract development that are destructive to the goals of the regional transportation system and subsequently put neighboring communities at a disadvantage.

Section 9.5, *Next Steps* identifies the tasks that would guide communities towards implementation of the Land Use recommendations.

9.2 Transit Recommendations

Opportunities

This Study recommends that the most promising transit elements from the Full Transit Scenario should be evaluated in greater detail to determine viability, priority, and funding opportunity. The opportunities to expand and increase public transit service in the Study Area, based on the above assumptions, are significant. The recommendations for expansion and improvements fall into two distinct categories: 1st and 2nd tiers. The intent of the 1st tier recommendations is to identify specific routes, corridors and services that should be advanced for a more detailed

analysis in Phase II of the Gorham East-West Corridor Feasibility Study. Whereas, the 2nd tier recommendations would identify not only routes, corridors, and services, but also changes in public policy, funding and operations that would take more time to evolve.

The Full Transit Scenario identified expansions to existing service as well as proposed new service and modal connection opportunities. All new service opportunities are predicated on previously identified increases in employment and population densities at each end of the proposed transit routes and around intermediate stops along the proposed transit routes. In addition, there are a number of policy, infrastructure and service improvements that can be implemented to facilitate the growth in transit ridership.

Prioritization Criteria

The recommendations identify specific actions and Study directions for the next phases of work as well as specific areas for land use and roadway improvements. The criteria for selecting 1st tier priority transit corridors and services were developed based on an assessment of the most viable corridors and services.

Specifically, the criteria for selecting transit routes and services for Phase II analysis were:

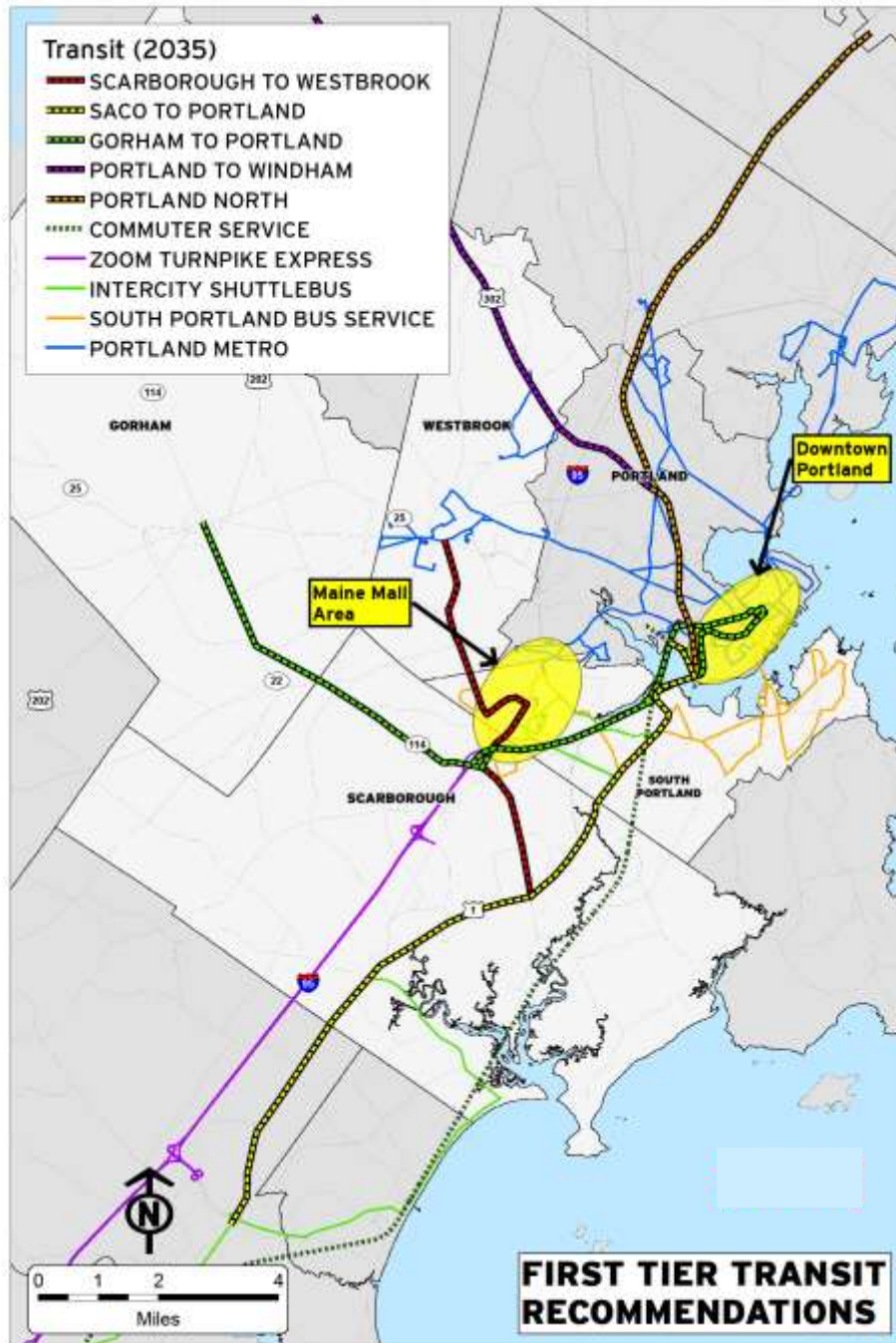
1. Those routes or enhancements that would address growing demand and increase ridership, such as expansion on existing routes and transit circulators needed in the region's principal activity centers in order to gather and disperse transit patrons.
2. Those corridors where congestion is already high (levels of service at E or F) and are projected to continue to degrade over the next few years and where expansion of service or decrease in headways would increase ridership and decrease congestion.
3. The routes would be representative by geography (servicing each of the Study Area communities) and mode (priority bus, express bus and commuter/light rail option).

The 2nd tier priority was given to those routes and enhancements important to expanding the network, addressing ridership needs now or later, and managing congestion for the proposed growth by 2035 that can be evaluated over time, by the state, municipalities and improved regional transit service planning.

The key corridors of concern were identified throughout the Study Area based on current travel patterns and demand/employment centers such as the City Portland, the Maine Mall, the University of Southern Maine, Medical areas as well as potential future employment/growth centers identified by the local and regional planners in each of the four core communities, such as downtown Gorham, downtown Westbrook, Stroudwater Place, etc.

Within the Study Area, public transit routes would also be extended along the four major highway corridors, U.S. Route 1, U.S. Route 302 and State Routes 22 and 25.

Figure 9-2
Full Transit Scenario 1st Tier Recommendations



1st Tier Priority Recommendations

There are three categories of recommendations selected as 1st tier priority based on their potential to reduce traffic congestion and increase public transit ridership:

- Decreasing headways on existing fixed-route and express bus services;
- Providing traffic circulators in two key activity centers; and

- Adding new bus service and connections to ease congestion along the four major highway corridors identified above.

In addition, the Phase II study would need to closely examine the following:

- Specific routing and scheduling parameters;
- Locations of public transit stops;
- Locations of parking facilities and public transit shelters;
- Roadway and intersections improvements required to support transit service assumptions; and
- The need for additional roadway widening for dedicated public transit lanes.

Finally, these corridors need to be examined carefully at the municipal level as priority locations for policy and land use changes necessary to support public transit.

Figure 9-2 illustrates the 1st tier recommendations described in detail in Table 9-1. The areas in yellow indicate routes for which the proposed alignment has not yet been determined and would need to be fully explored in Phase II.

Table 9-1
1st Tier Public Transit Recommendations

New Bus Transit Service				
Transit Route #	Connection	Mode	Route	Headway
1	Downtown Portland Circulator	Local Bus	Connecting the Portland Transportation Center, Bayside, Pulse, Old Port, and Commercial Street, making use of the abandoned rail rights-of-way as well as public streets. Would enhance coverage offered by existing and future radial bus and rail transit service to Downtown Portland.	10 minutes
2	Maine Mall Area Circulator	Local Bus	Connecting the Maine Mall, UNUM, Portland Jetport, Fairchild (Western Ave corridor), Brick Hill, Clarks Pond, Scarborough Gallery, and Target. Would significantly expand the coverage offered by existing and future transit services in this part of the region.	10 minutes
3	Scarborough to Maine Mall to Westbrook	Local Bus	Connecting the Oak Hill intersection, the Maine Mall Circulator, Gannett Drive, Five Star Industrial Park, and downtown Westbrook. This service could transport on the order of 50 passengers in each bus during the peak hour.	10 minutes

4	Saco to Scarborough to Portland	Local Bus	Connecting Saco, Dunstan Corner, Oak Hill, Maine Medical Center (Scarborough), intersection Maine Turnpike Authority (MTA) Exit 45 Turnpike Spur and U.S. Route 1, Cash Corner, and the Portland Transportation Center.	20 minutes
5	Saco to Scarborough to Portland – ZOOM	Express Bus	Add a ZOOM stop at the MTA Exit 42 park and ride lot.	20 minutes
8	Gorham to Maine Mall to Portland	Express Bus	Connecting downtown Gorham, the Maine Mall area (at a circulator stop), and the Portland Transportation Center. This service would transport on the order of 90 passengers in the peak hour. This service includes a bus-only bypass of the Route 22/114 Overlap where it is expected to become increasingly congested in the future and the addition of a bus-only lane on I-295 between Exits 1 and 5.	20 minutes

New Commuter Rail, Light Rail or Express Bus¹				
Transit Route #	Connection	Mode	Route	Headway
15	Saco to Portland along the Amtrak Corridor	Commuter Rail or Express Bus	Connecting Saco and the Portland Transportation Center with stops in Old Orchard Beach, Scarborough, and South Portland.	30 minutes
16	Portland to Westbrook to North Windham	Commuter Rail or Express Bus	Between the Portland Transportation Center and Morrills Corner (with a stop at Woodfords Corner) and continue as express bus service along Route 302 with stops at the Riverside Street growth center, Prides Corner, and North Windham. This service would transport on the order of 80 passengers in the peak hour.	20 minutes
20	Portland North	Express Bus or Commuter / Passenger Rail Service	Connecting the Portland Transportation Center and Brunswick with stops in Yarmouth, and Freeport. This service would transport on the order of 100 passengers in the peak hour ² .	Less than once per hour.

1 – The Express Bus would be the more logical early transit mode option along these three proposed transit routes.

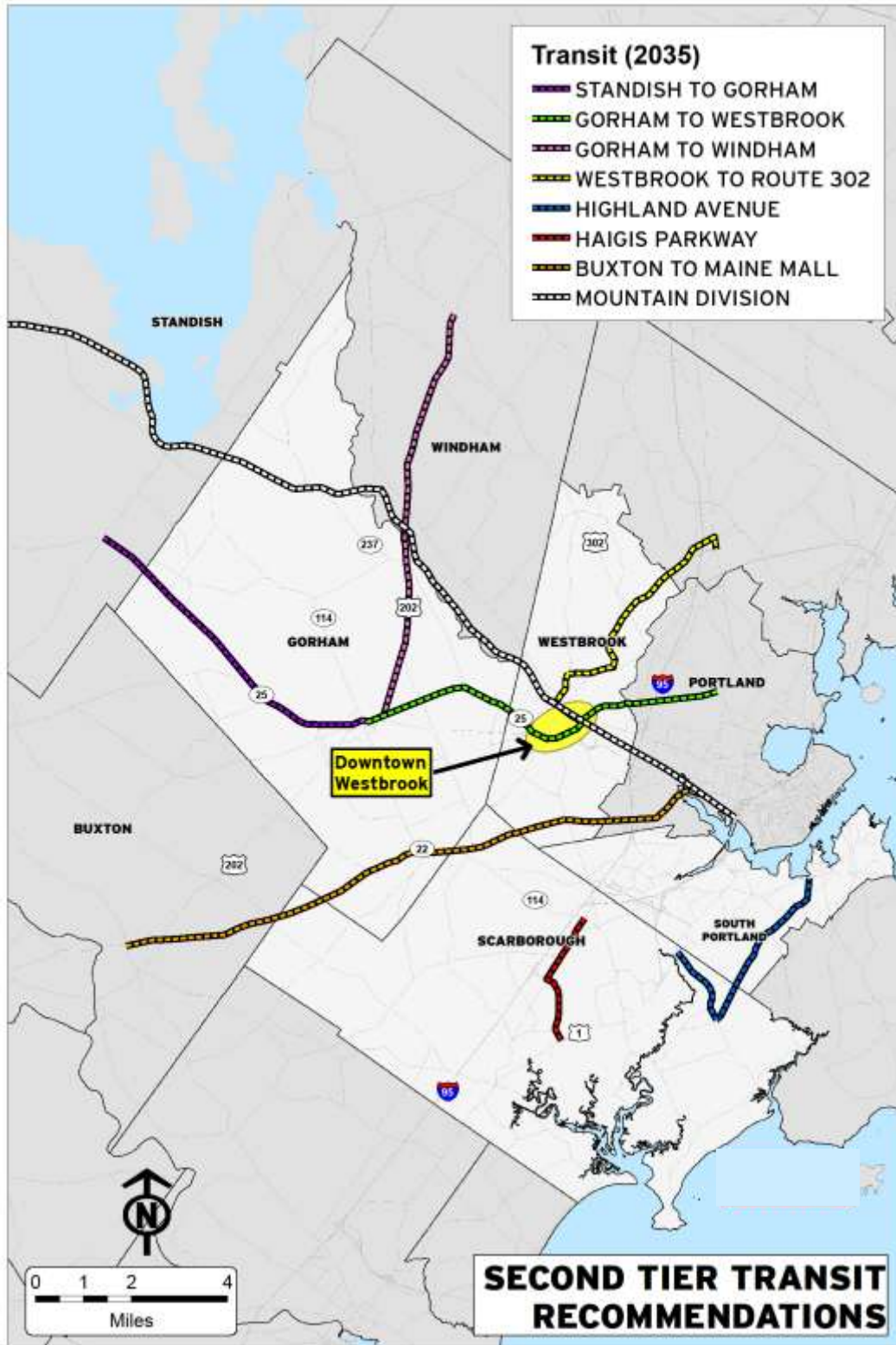
2 – The 100 passengers in the peak hour was used in the development of the transit model and may not necessarily agree with the ridership numbers from the recent MaineDOT “Portland North Alternatives Modes Transportation Study”.

1st Tier Recommendation: Existing Fixed-Route and Express Bus Transit Service

For existing bus transit services in the region, significant reductions in headways during peak hours were found to improve ridership. For this Study, the following headways were tested:

- METRO – 10 minute headways on arterial streets and major collectors;

Figure 9-3
Full Transit Scenario 2nd Tier Recommendations



- South Portland Bus Service – 10 minute headways on arterial streets and major collectors;
- ShuttleBus (Tri-Town and InterCity) – 20 minute headways; and
- ZOOM – 20 minute headways.

The 1st Tier Public Transit Recommendations are forecasted to carry 1,200 peak hour passengers and provide benefits to roadway segments and intersections along the four major highway corridors that are or would experience LOS E and F.

2nd Tier Priority Recommendations

The following transit routes and corridors provide connections between new and existing transit routes as well as alternative transit options such as commuter rail or light rail. The corridors hold good potential for increasing ridership and connecting key activity centers in the four core communities. The transit routes identified in Table 9-2 would also require an analysis of stops, parking facilities and other amenities to realize their full potential for transit ridership. Figure 9-3 illustrates the 2nd tier recommendations described in Table 9-2.

Table 9-2
2nd Tier Public Transit Recommendations

New Bus Transit Service				
Transit Route #	Connection	Mode	Route	Headway
6	Standish to Gorham	Local Bus	Between Standish (intersection of Routes 25 and 35) and Gorham Village. This service would transport on the order of 10 passengers in the peak hour along a corridor that does not have projected LOS E or F.	20 minutes
7	Gorham to Westbrook to Morrills Corner	Local Bus	Between Gorham Village (center of downtown) and downtown Westbrook along Route 25, and between downtown Westbrook and Morrills Corner in Portland along Warren Avenue. This service would transport on the order of 20-30 passengers in the peak hour. This corridor connects activity centers and has intersection and roadway segments at LOS E and F.	10 minutes
9	Gorham to North Windham	Local Bus	Connecting Gorham Village, Little Falls, the Route 202/302 rotary, and the North Windham commercial district. This service would transport on the order of 10 passengers in the peak hour. The Route 202 corridor connects activity centers and has intersection and roadway segments projected at LOS E and F.	20 minutes

10	Westbrook Downtown to Route 302	Local Bus	Between downtown Westbrook and the Duck Pond area and between downtown Westbrook and the Prides Corner growth center. This service would transport on the order of 20-30 passengers in the peak hour. This corridor connects activity centers and has intersection and roadway segments at LOS E and F.	20 minutes
11	Raymond to Windham	Local Bus	Between Raymond and North Windham. (This Transit Route would connect at the end point of Transit Route 16 in Table 9-1.)	20 minutes
12	Scarborough to South Portland	Local Bus	Between East Scarborough and South Portland along Highland Avenue and between East Scarborough and the U.S. Route 1/Pleasant Hill Road intersection. This service would transport on the order of 20 passengers in the peak hour. This corridor connects activity centers and has intersection and roadway segments at LOS E and F.	20 minutes
13	Maine Mall to Haigis Parkway to Dunstan Corner	Local Bus	Between the Maine Mall Circulator, the MTA Exit 42 area, Haigis Parkway, and Dunstan Corner. This service would transport on the order of 30 passengers in the peak hour. This corridor connects activity centers and may have intersection and roadway segments at LOS E and F.	20 minutes
18	Downtown Westbrook Circulator	Local Bus	Connecting the key destinations in downtown Westbrook, including a potential transit service hub and a transit station at the Mountain Division Rail Line.	10 minutes
19	Buxton to Maine Mall Area Circulator via Route 22	Local Bus	Along the Route 22 corridor connecting the Buxton Municipal Center with South Gorham, UNUM, and the Maine Mall Area Circulator. This service would transport on the order of 35 passengers in the peak hour. This corridor connects activity centers and has intersection and roadway segments at LOS E and F.	10 minutes

New Commuter Rail, Light Rail or Express Bus				
Transit Route #	Connection	Mode	Route	Headway
14	Mountain Division rail line along the existing rail line right-of-way.	Express Bus or Commuter Rail or Light Rail	Connecting the Portland Transportation Center and South Windham/Little Falls with intermediate stops at Rand Road and downtown Westbrook. Continue the rail service to Fryeburg with stops in Sebago Lake Village and Steep Falls. This service would transport on the order of 40 passengers in the peak hour.	20 minutes 40 minutes

17	Westbrook to Gorham	Express Bus or Commuter Rail	Between downtown Westbrook (at the Mountain Division rail line hub) and Gorham Village via an exclusive right-of-way. This service would transport on the order of 40 passengers in the peak hour. This corridor connects activity centers and may have intersection and roadway segments at LOS E and F.	20 minutes
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The 2nd Tier Public Transit Recommendations are forecast to carry 1,300 peak hour passengers and would provide additional benefits to segments of the major transportation corridors in the Study Area that experience LOS E and F.

Full Transit Scenario: Service Enhancements

To realize the potential of the Full Transit Scenario’s expanded transit network in 2035 would require changes in the operations and services currently available and provided in the Study Area. Specifically, in the long-term, other considerations for service enhancements should be identified, evaluated and if feasible accommodated during the planning stage, not only for public transit but also for the benefit of roadways and local development projects in the target corridors including:

- Location of parking facilities to support commuter rail.
- Location of parking facilities to support park and ride for bus service.
- Roadway and intersection improvements to allow for 10 to 30 minute headways on critical corridors (including, but not limited to bus priority lanes and signalization, and dedicated lanes for buses).
- Provision of amenities to support transfers from express bus or light rail to bus service or vice versa.

Full Transit Scenario: Service Needs by Corridor

Institute operational service improvements necessary to expand public transit ridership and the transit network. There are a number of operational services that should be considered and in some instances implemented when feasible to attract and retain ridership. Phase II of the Gorham East-West Corridor Feasibility Study would need to carefully examine the following service needs prior to the selection of new or expanded transit routes for investment.

1. Prioritize those locations and transit routes for operational enhancements (amenities, etc) where ridership potential is the highest.
2. All locations selected must be closely coordinated with municipalities for local incentives for land use controls, parking facilities, transit stops, etc.
3. These locations should also be defined and coordinated with local and regional entities for prioritizing roadway and intersection improvements.
4. Carefully evaluate and locate transit stops to improve access and to decrease travel times. Work with local municipalities to coordinate planning and development review of projects along the corridors to identify strategic locations for public transit stops.

5. Identify and remediate any gaps in existing transit network coverage. Identify those expansion areas or new linkages that would address the gaps and increase ridership.
6. Adjust the schedules according to peak hour opportunities for high priority routes, and time the services based on demand. Publish schedules and allow for phone/web links to schedules, where possible.
7. Evaluate the investment required in roadway and intersection improvements to eliminate potential delays during peak hour travel times. Allow for dedicated roadway lane use during peak hours along high priority routes.
8. Along key corridors, identify locations for transfers and align service schedules for connecting modes to be reliable and reduce wait times. Provide free transfers, and provide adequate amenities at transfer locations (bus shelters, commercial services, etc) where possible.

Once a transit study advisory group has been established to review the findings of Phase II of the Gorham East-West Corridor Feasibility Study, a key action item would be to identify target populations and venues to promote ridership, specifically: students, seniors, the disabled, special events and sports venues as well as commuters. The action would be to identify the populations and develop a set of discounts and marketing strategies to encourage ridership.

Full Transit Scenario: Capital and Operations Cost

The planning level cost estimate in 2010 dollars to implement the Full Transit Scenario³⁰ is summarized below.

Total Capital Cost:	\$84,000,000
Tier 1:	\$61,000,000
Tier 2:	\$23,000,000
Total Annual Operations Cost:	\$41,000,000
Tier 1:	\$27,000,000
Tier 2:	\$14,000,000
Total Estimated System/Network-Wide Facility Cost:	\$28,500,000
Total Estimated Costs	\$153,500,000
Tier 1:	\$88,000,000
Tier 2:	\$37,000,000
Network:	\$28,500,000

³⁰ It is important to note that these estimates do not include costs for rail stations, modifications, etc and are focused only on a transit/bus network.

Summary

The Full Transit Scenario analysis identified a number of improvements to existing public transit routes and service as well as new service and connectors worthy of detailed examination in Phase II of the Gorham East-West Corridor Feasibility Study. It would be important to review these routes with more attention to location of stops, parking facilities and amenities. Obtaining the necessary headways of 10 to 30 minutes during peak hour may require dedicating lanes, widening roads and redesigning intersections for signal priority operations. Off the road stops and shelters and cut outs for stops should also be considered. Coordination with municipal planners will also be needed to identify locations and services necessary to support a transit-first corridor design.

To be effective, all transit improvement must be made in coordination with the Urban and Rural Form land use pattern and roadway improvements identified. They must occur in a coordinated and comprehensive manner.

TRANSIT POLICY OPPORTUNITIES

The 2035 potential PM peak hour public transit mode share of almost six percent represents a significant change in the current approach to designing, operating and managing an integrated transportation system than exists today. It would require a coordinated and integrated approach and the political will and commitment at all levels of government to work together to:

- Coordinate regional land use planning, zoning regulations and policy;
- Consider transit-first standards to roadway design, prioritizing transit modes and operations;
- Channel developments into high density areas with guidelines for transit oriented site design and standards for safe, convenient and comfortable public transit operations and service; and
- Coordinate land use and transportation public policies and funding mechanisms among the local, regional and state governments to create an intermodal regional network for mobility.

Policy Recommendations

To achieve a six to eight percent transit mode share, policy recommendations may include:

Locally

- Concentrated efforts to manage urban development and preserve the form and function of rural areas, with parking limits and restrictions in growth centers, strong transit-oriented urban design and land use zoning for transit priority (access, loading and operations) built into development review and negotiations.
- Condition the approval of new development based on transit access with transit stops on site as opposed to on the roadway corridor –where shelter and amenities are available. This would require new policies for zoning and land use ordinances requiring that site design include such accommodations.

- Channel new development into areas that are already well served by transit, and create new marketing and fare policies to continue to attract new riders.

Regionally/Locally

- Compatible urban land use policies through: regional coordination of land use and transportation planning.
- Dedication and commitment to ensuring that public transit is convenient, comfortable and reliable in a seamless and integrated manner across all jurisdictions.
- A transit-first approach to traffic management whereby public transit is given priority in streetscape designs, intersections, signalization, etc.
- Make public transit competitive with private automobiles by increasing the cost of parking, adding parking restrictions, and setting competitive transit fares (free shuttles and discounted rates for target groups and for special events).

State/Regional/Local

- Initiate public/private financial partnerships with developers to fund transit recommendations.
- Political and financial support for high quality public transit both in the provision of capital and operating assistance.
- Constant effort to improve marketing and outreach to new riders by developing better programs for coordinated travel and discounted fares.

State/Regional/Local Partnerships with Local/Regional Providers

- Reliability and frequency of public transit service: transit operation and quality of service enhancement, transit priority in traffic, transit oriented site design.
- Comfort, safety, and convenience of service: seamless transfers, extended hours of operation, amenities in service stations and stops.
- Invest in technology enhancements to improve communications to riders, facilitate transfers – smart buses (that provide real time information to riders), etc.

TRANSIT PARTNERSHIPS & FUNDING OPPORTUNITIES

As this region is projected to experience sizeable growth in population and employment over the next 25 years, it is critical that the region’s transportation system be in place to manage that growth safely and efficiently. As important to creating the system is engaging the right stakeholders with the same mission and expectations for developing, implementing and managing that network.

As support for transit increases, the opportunities for new and creative partnerships also emerge. The opportunity to engage the private sector formally in the process is critical for transit as it provides a cost effective mechanism for transporting employees. Today, many companies support transit either directly by providing company vans or by using Transportation Management Associations (such as *Go Maine*) to provide incentives for commuting. The private sector can be active participants in other ways, including as:

- An accessory to development (developer builds a commercial or mixed use building and provides space for transit station within or other amenities);
- A direct investment in transit facilities and equipment (vans, stations, etc);
- Financial support of operating costs with advertising (stations, buses, etc);
- A subsidy for employers (paying for the cost of transit or vanpools); and
- A “TIF” – tax increment financing is defined as taking the increased real estate value created by the new or improved transit service and stations, and setting aside the increase in local property taxes to support the transit system.

Phase II of the Gorham East-West Corridor Feasibility Study would present an opportunity to evaluate and establish a collaborative framework to further define the proposed transportation network. To date, this Study has included a broad group of stakeholders, participants and agencies. Going forward, this group would need to involve new stakeholders (such as employers, developers, medical facilities, colleges, industry and property owners) to work together in order to meet the transit, roadway and land use objectives.

As public transit plays a major part in managing future growth in the region, it would require new partnerships to be formed and new participants to be engaged in order to obtain the necessary funding, and develop an integrated regional service and operational network. Consideration should be given to improving regional transit planning coordination and to exploring a regional transit authority that would have the capacity and authority to work with the MaineDOT, the Federal Transit Administration (FTA) and other transit providers. It may be important to have one entity to receive funds and coordinate services. If consideration is given to creating a new type of authority, then it is highly recommended that the entity could be multi-modal and have operating agreements with both public and private operators, including the intercity bus and rail entities. When developing transit opportunities it should consider land use regulations that have a direct impact on density and planning, zoning and development policy as well as integrate pedestrian and bicycle mobility needs and opportunities.

Other partnerships need to stay engaged and can be included on a board or commission. On a broad level, the critical parties to be involved include the following and include potential roles and responsibilities:

- ***Municipalities*** – work in partnership to develop consistent and harmonious transit-first land use policies, ordinances and zoning to promote public transit; work with local developers to prioritize transit design and services into require mitigation and approvals; also implement local roadway, intersection and parking management guidance to support a regional public transit network.
- ***Regional Public/Private Partnerships*** – explore opportunities to improve regional public transit coordination between local transit providers and developers to assist in seeking private, state or federal funds and grants to support the system; establish a regional fare structure and automated collection system; improve coordination and integration between

various service providers; receive funds from a variety of sources; develop partnerships with local providers and federal/state/local agencies.

- **Regional Transportation** – engage the Metropolitan Planning Organization (MPO), and support their potential leadership in this effort, as they prepare their 20 year, long range transportation plan, the annual Unified Planning Work Program[UPWP], and the shorter term (four year) Transportation Improvement Program [TIP]. The MPO TIP is then rolled up into the State’s TIP.
- **State** – work with the local and regional groups to prioritize investments on state roadways and intersections; seek funding to incentivize the promotion of transit-first communities for investments; advocate to the U.S. Department of Transportation for additional resources to fund the planning, development and operation of an integrated public transit network, from technology and marketing to physical improvements.
- **Federal Transit** –engage the FTA early on in the process through alternative analyses studies and required NEPA reviews as it is critical to engage the FTA Region I staff.
- **Other Public Entities** – Engage the United States Environmental Protection Agency (USEPA) in efforts early given their focus and support to reduce fuel consumption, idling, etc. and utilize their grant programs to support planning and capital investments. The U.S. Housing and Urban Development (HUD) may also be a resource to support sustainable development such as land use and transportation initiatives that support new and expanded transit services and operations.

The tasks that would begin to move towards validation, prioritization and identification for funding of these transit recommendations is described in Section 9.5, Next Steps.

9.3 Roadway Improvement Recommendations

This Study recommends that the Roadway Improvement Scenarios identified be elevated to the next level of evaluation with the intent of identifying a preferred strategy. Two roadway improvement scenarios were developed for addressing the majority of the remaining roadway congestion and safety problems in coordination with the 2035 Urban and Rural Form Land Use Scenario with the 2035 Full Transit Scenario for improving east-west travel in the Study Area. One roadway improvement scenario focused on enhancements to the existing roadway system for increasing capacity, such as widening existing roadways that would be less damaging to the regions natural environment. The second roadway improvement scenario had a greater emphasis on adding east-west capacity via the construction of a new roadway on new location similar to the recently completed Gorham Bypass.

Based on the Phase I findings of the analysis and evaluation of the two Roadway Improvement Scenarios, the following conclusions were reached:

- Both Scenarios significantly address mobility and congestion issues that were documented under the 2035 Trends Scenario;
- VHT is sizably reduced when compared to the 2035 Trends Scenario for both the four core communities and full Study Area;
- VMT increases when compared to the 2035 Trends Scenario for Roadway Improvement Scenario 2, and is only slightly reduced for Roadway Improvement Scenario 1;
- Fuel consumption is sizably reduced for both Roadway Improvement Scenarios when compared to the 2035 Trends Scenario; and
- Preliminary resource and property constraint quantification determined there is a fairly equal distribution of constraints between the two Roadway Improvement Scenarios.

As a result of the Phase I analysis and evaluation of both Roadway Improvement Scenarios, it is recommended that both Scenarios be carried forward for further evaluation under Phase II for detailed evaluation under the NEPA process and the United States Army Corps of Engineers *New England Highway Methodology Process* for identifying a preferred roadway improvement scenario that incorporates the future land use and transit initiatives.

The Phase II tasks that would initiate identification of the preferred alternative and implementation of other identified roadway improvements are described in the following steps: (1) Finalization and approval this Report; (2) signing and implementing the Memorandum of Understanding in Section 9.4; and (3) undertaking the Phase II tasks in Section 9.5, Next Steps.

9.4 Draft Memorandum of Understanding

As part of this Study's recommendations, a draft Memorandum of Understanding (MOU) has been developed. This draft MOU would serve as the starting point for communities to work together with MaineDOT, MTA, PACTS and other regional stakeholders towards implementation of the Phase II Transportation and Land Use Action Plan as described below.

MEMORANDUM OF UNDERSTANDING

TO PREPARE A PHASE II TRANSPORTATION-AND-LAND USE ACTION PLAN FOR THE GORHAM EAST-WEST CORRIDOR

This agreement is entered into this _____ day of _____, 2011, by and between such of the Invited Parties listed in Article II as are signatory hereto (the "Participating Parties"), and it shall be or become effective as provided hereinafter in Article III (A).

Whereas the principal East-West routes between the urban core of the Greater Portland region and the western suburbs in the Gorham area, including Routes 22, 25, and 114, and the intersecting North-South Routes 1, 202, the Maine Turnpike (I-95) and I-295, are vital to the economy of the region; and

Whereas at the request of the Towns of Gorham and Scarborough and the Cities of South Portland and Westbrook, the 123rd Maine State Legislature adopted a resolution that directed the Maine Turnpike Authority (MTA) and the Maine Department of Transportation (MaineDOT) to fund a Study, the purpose of which was to develop a series of recommendations to enhance, expand, and preserve highway connections between U.S. Route 1 and the Maine Turnpike with the communities in western Cumberland County; and

Whereas the Gorham East-West Corridor Feasibility Study (Phase I Feasibility Study), led by a Steering Committee consisting of officials from participating municipalities of Gorham, Westbrook, South Portland, and Scarborough, MTA, MaineDOT, and Portland Area Comprehensive Transportation System (PACTS), has been completed as directed by the Legislature; and

Whereas the Phase I Feasibility Study documented existing congestion and safety problems along the main East-West routes and, further, projected that over the next 25 years this area of Maine would receive a significant share of statewide growth, leading to steadily worsening traffic conditions, including a tripling of congested intersections, a shift of traffic to residential roads, and an increase in safety "hotspots"; and

Whereas, current projections indicate that population growth if left unchecked will occur in rural areas rather than existing suburban and urban centers, which will place increased demands on the existing transportation system; and

Whereas the Sensible Transportation Policy Act (STPA) requires coordination between transportation and land use planning in order to enhance economic growth, increase the return from transportation investments, reduce the cost of infrastructure, increase choice in transportation, and reduce environmental impacts; and

Whereas the Phase I Feasibility Study identified a combination of strategies, including channeling population growth into urban and suburban areas in an “Urban and Rural” land use pattern, enhanced transit services and roadway improvements that, if implemented together, would significantly improve mobility and safety in the corridor while supporting economic opportunity, accommodating job and population growth, enhancing quality of life for area residents; and

Whereas the municipalities and agencies that participated in the Phase I Feasibility Study wish to advance the Phase I Feasibility Study to a Phase II action stage.

NOW, THEREFORE, the undersigned Municipalities and Regional, State, and Federal agencies do agree as follows:

I. Purposes

The purposes of this Memorandum of Understanding (MOU) are to (1) endorse, in principle, the findings and recommendations of the Phase I Feasibility Study by June 1, 2011; (2) participate in the refinement and preparation of detailed scopes of work for the recommended Phase II tasks by Fall 2011, and (3) implement the Phase II tasks including such legal agreements as may be necessary by Fall 2013 or a date that shall be amended by the Phase II Study Committee.

Anticipated outcomes of Phase II Tasks would include:

- Identification of growth areas (communities of opportunity) for future land use development by participating municipalities and development of a detailed action plan for designing these areas;
- Development of approaches, policies, and technical materials by the Greater Portland Council of Governments (GPCOG) with participating municipalities to assist the municipalities in implementing the Urban and Rural land use pattern;
- Creation of policy-related incentives to better coordinate transportation and land use decisions by MaineDOT, MTA, and PACTS;
- Continued implementation of PACTS land use policy;
- Identification and prioritization of a first tier of future transit improvements by regional and state agencies, including local municipal actions to support these transit improvements;
- Identification of a recommended and permissible roadway improvement alternative to address east-west mobility and safety including freight rail;

- Prioritization of identified intersection improvements;
- Identification of an alternative to address congestion issues in downtown Standish;
- Development of a schedule to determine the appropriate sequence of implementing land use, transit, and roadway recommendations; and
- Creation of implementation agreements to implement land use, transit and roadway recommendations.

II. Invited Parties

The Parties (the “Invited Parties”) invited to enter into this MOU are:

- A. The following municipalities in a study corridor defined by Routes 22, 25, 114, and 302, including the intersecting Routes 1, 202, the Maine Turnpike (I-95) and I-295: Buxton, Gorham, Hollis, Portland, Scarborough, South Portland, Standish, Westbrook, and Windham;
- B. The following regional organizations: GPCOG and PACTS; and
- C. The following State and Federal agencies: MaineDOT, MTA, the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA).

III. Effective Date, Timeframe, and Voluntary Nature of MOU

A. **Effective Date:** This MOU will be effective as soon as a sufficient number of municipalities and agencies sign the MOU to satisfy the MTA and MaineDOT of its effectiveness. This decision will be made in consultation with the Phase I Steering Committee.

The endorsement and MOU shall be authorized, respectively, by the municipal officers of the municipalities, the Commissioner of the MaineDOT, the Executive Director of the MTA, the Chair of the Executive Committee of GPCOG, and the Chair of the Policy Committee of PACTS.

If an appropriate number of municipalities and agencies have not signed this MOU by June 1, 2011 (as defined in Section III A above), the MOU shall be null and void, unless all signed municipalities and agencies through their authorized officials agree in writing to extend the deadline.

B. **Funding Contingency:** The effective date of this MOU is contingent on the availability of funds from the MTA and/or the MaineDOT as of that date.

C. **Timeframe:** The term of this MOU shall be until it has been superseded by a new agreement or agreements to implement the Phase II Recommendations or until it has been terminated as described in paragraph III D.

D. Voluntary Participation: Participation in the MOU is voluntary and municipalities can withdraw with 30 days notice in writing. The MOU would be terminated by the withdrawal of (a) such parties that, in the judgment of the State transportation agencies that are funding the preparation of the Phase II Action Plan, in consultation with the Phase II Study Committee (as defined in Section VI), will render this MOU ineffective, or (b) either the MaineDOT or the MTA, with 30 days written notice to the other parties.

IV. Endorsement of Phase I Feasibility Study

The Parties, by signing this MOU, endorse the findings and recommendations of the Phase I Feasibility Study in principle. By so doing, no Party commits itself to any legal obligation or any final course of action; but each Party agrees to work towards identification of Phase II recommendations based on the results of the Phase I Feasibility Study and, upon its completion, to formally consider its adoption and any related agreements.

V. Roles and Responsibilities

The following roles and responsibilities are hereby established under this MOU:

Maine Turnpike Authority:

- Participate in Phase II Study Committee (as defined in Section VI);
- Work with MaineDOT and PACTS to establish incentives and other policy-related initiatives to better coordinate land use and transportation as allowed by STPA;
- Work with GPCOG to evaluate progress on land use policies and actions with municipalities;
- Be lead funding agency for Phase II roadway study; and
- Participate in all other Phase II Tasks led by MaineDOT, PACTS, or GPCOG.

MaineDOT:

- Participate in Phase II Study Committee (as defined in Section VI);
- Work with MTA and PACTS to establish incentives and other policy-related initiatives to better coordinate land use and transportation as allowed by STPA;
- Provide technical assistance funding for Phase II land use tasks to GPCOG and municipalities;
- Work with GPCOG to evaluate progress on land use implementation with municipalities;
- Be lead funding agency for Phase II Transit study;

- Be lead funding agency for Phase I Standish Congestion study; and
- Participate in all other Phase II Tasks led by MTA, PACTS, or GPCOG.

PACTS:

- Participate in Phase II Study Committee (as defined in Section VI);
- Work with MTA and MaineDOT to establish incentives and other policy-related initiatives to better coordinate land use and transportation as allowed by STPA;
- Continue implementation of PACTS Land Use Policy;
- Implement identified intersection improvements within PACTS region; and
- Participate in all other Phase II Tasks led by MaineDOT, MTA, or GPCOG.

GPCOG:

- Participate in Phase II Study Committee (as defined in Section VI);
- Provide technical assistance to municipalities to assist with implementing the Urban and Rural land use pattern identified in the Phase I Feasibility Study;
- Develop and implement land use progress policies and actions reporting system with MaineDOT and MTA;
- Participate in all other Phase II Tasks led by MaineDOT, MTA, or PACTS; and
- Coordinate the GPCOG HUD Sustainability grant efforts with Phase II Study Committee.

FHWA and FTA:

- Participate in Phase II Study Committee (as defined in Section VI); and
- Provide federal insight on funding options and opportunities for Phase II land use, transit, and roadway recommendations.

Participating Municipalities:

- Participate in Phase II Study Committee (as defined in Section VI);
- Identify and recommend growth areas for future land use development within municipal boundaries through traditional comprehensive plan process, with assistance from GPCOG; and

- Create a detailed action plan for implementing growth areas that meets needs of municipality but is consistent regionally with the “Urban-and-Rural” land use development pattern, with assistance from GPCOG.

VI. Phase II Study Committee

The Parties agree to form a Phase II Study Committee (“Committee”), composed of a Committee member and an alternate appointed by and representing each Party. The Committee shall use a consensus-based process for providing guidance to the funding agencies.

VII. Charge to Phase II Study Committee

The Committee, in cooperation with consultants and agencies charged with preparing the technical studies and documents for its consideration and inclusion in the Phase II Action Plan, shall:

A. Establish a **public process to prepare the Phase II Action Plan** that would be carried out by the Parties. The Parties agree to obtain advice from their constituencies as to the actions that should be included in the Phase II Action Plan; and to review with their constituencies and obtain agreement in principle on the major actions to be included, as well as the timeframe and sequence in which the actions are to be implemented. Participating State and Federal agencies agree to communicate with their staffs and responsible divisions and, to the best of their abilities, achieve an understanding within and between the agencies as to the actions, timeframe, and sequence of actions to be included the Phase II Action Plan.

B. Detail and refine a **balanced set of land use, roadway, and transit implementation tasks** as recommended in the Phase I Feasibility Study, consistent with the Urban and Rural land use pattern of development that the Phase I Feasibility Study determined is most compatible with – and necessary to – a comprehensive transportation solution in the Study Area. Specifically, the Committee will:

1. Land Use

- Finalize the geographic definition of the corridor(s) encompassed by Routes 22, 25, and 114 and associated cross routes; and the geographic definition of a Land Use Focal Area that includes appropriate growth areas within each participating municipality, as guided by the participating municipalities in a manner consistent with the recommendations of the Phase I Feasibility Study, local comprehensive plans, and state law;
- Within the defined Land Use Focal Area, develop a detailed action plan for implementing land use actions, as recommended in the Phase I Feasibility Study, including how these actions should be customized to the character and needs of individual municipalities;

- Work with GPCOG to develop needed technical materials to assist with implementing the Urban and Rural land use pattern of development, including preparation of model ordinances and guidelines;
- Cooperate with PACTS in the ongoing implementation of its land use policy, and with MaineDOT and MTA in establishing incentives and other policy-related initiatives to coordinate land use and transportation decisions and in ongoing outreach and education; and
- Develop approaches to implement the Urban and Rural land use pattern of development regionally, as defined and recommended in the Phase I Feasibility Study. Among these approaches, include (a) ways in which communities can cooperate in identifying areas suitable for growth and for conserving rural districts; and (b) local and regional transfer of development rights programs or variations of such programs, which are intended to protect rural landowners' investments while providing incentives for development in defined growth areas (communities of opportunity). Include the types of standards, agreements, fiscal considerations, and actions that would be needed to put such an approach into place.

2. Transit

- Evaluate and refine a detailed plan of “first tier” recommendations for transit expansion, as presented in the Phase I Feasibility Study, in order to validate, prioritize, and schedule the implementation of these transit improvements;
- Identify areas within participating municipalities suitable for Transit-Oriented Development Tax Increment Finance Districts, as enabled by state law (30-A M.R.S. Ch. 206) and that, if established as TIF Districts, could support transit improvements and operations; and
- Research potential transit structures and funding opportunities to better coordinate services between transit providers and/or to secure needed funding for transit services.

3. Road

- Evaluate Roadway Scenario 1 and Roadway Scenario 2 or a combination of the two for roadway improvements, as presented in the Phase I Feasibility Study, to provide additional capacity between Maine Turnpike, I-295 and western communities in the vicinity of Routes 22, 25 and 114;
- Work with PACTS to implement identified intersection improvements on key east-west highway corridors, as identified in the Phase I Feasibility Study; and

- Conduct a Phase I study of alternatives to relieve congestion in Standish Village, including intersection and roadway improvements, other transportation modes, and localized and limited access roadway networks.

C. Identify the **sequence of land use, transit, and roadway improvement actions** to be taken by each Party before additional commitments by the respective Parties are made. The sequencing will consider at least the following categories of actions:

- Actions to be taken upon signing of an Implementation Agreement or Agreements that will come out of Phase II, as outlined below in paragraph D;
- Actions to be taken before (a) the MTA and/or MaineDOT proceed to funding the design phase for Scenario 1 or Scenario 2 roadway improvements and implementation of prioritized Tier 1 transit recommendations and (b) the relevant agencies further evaluate and design “second tier” transit recommendations, as identified in the Phase I Feasibility Study;
- Actions to be taken before “second tier” transit recommendations, as identified in the Phase I Feasibility Study, are implemented;
- Actions to be taken before specific roadway improvements proceed to construction; and
- Transportation investment incentives that may be available from PACTS, MaineDOT and/or the MTA to qualifying municipalities upon their implementation of land use policies and actions under statutory incentive programs such as Maine’s STPA (23 MRSA § 73), Rules adopted pursuant thereto (17-229 CMR Chapter 103), the Transportation Planning Incentive Funding Program (23 MRSA § 73-A), Rules adopted pursuant thereto (17-229 CMR Chapter 106, and other statutes and/or rules providing for such incentives.

This task will include identifying the means by which progress on actions by the Parties will be evaluated and identifying the entity or entities with responsibility for evaluating and reporting progress.

D. Prepare **Implementation Agreement(s)** between or among the parties, as appropriate, to implement the Phase II Recommendations, including a specified sequence of actions by the parties to the agreement(s), for consideration by the legislative body of each municipality and the governing body or authorized official of participating agencies.

VII. Additional provisions

The Parties hereto understand, agree and acknowledge that:

A. Anything herein to the contrary notwithstanding, the parties hereto understand and agree that nothing in this MOU shall obligate MaineDOT to obligate or transfer any funds, and that although the execution of this MOU by MaineDOT manifests its intent to honor its terms and to seek funding to fulfill any obligations arising hereunder, by law any such obligations are subject to available budgetary appropriations by the Maine Legislature and, therefore, this agreement does not create any obligation on behalf of MaineDOT in excess of such appropriations.

B. This MOU is not intended to, and does not, create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the State of Maine, its agencies, its officers, or any person.

C. The parties hereto understand and agree that nothing herein is intended, or shall be construed, to constitute a waiver of any defense, immunity or limitation of liability that may be available to MaineDOT, or any of its officers, agents or employees, pursuant to the Eleventh Amendment to the Constitution of the United States of America, the Maine Constitution, the Maine Tort Claims Act (14 MRSA Section 8101 *et seq.*), any State or Federal statute, the common law or any other privileges or immunities as may be provided by law.

Signed: _____

Title _____

For: _____

Date: _____

9.5 Next Steps

NEXT STEPS

Prior to initiating Phase II, more work must be done to further develop the partnership between all potential parties. It is important to recognize participation in Phase II and subsequent work would be entirely voluntary. Participating municipalities within the Study Area, MPO's, MTA, MaineDOT and others must all agree to take on certain policy and funding-related responsibilities. As such, the MOU must be developed with all parties at the table and agreeable to the final MOU. It is therefore recommended that an Interim Phase be initiated for the purposes of finalizing the MOU to outline the specific tasks to be undertaken, their timelines and the roles and responsibilities of each participant, as well as to refine the tasks to be undertaken in Phase II. This work is expected to be completed by October 2011.