Central York County Connections Study

Meetings of November 30<sup>th</sup>, 2010
Agenda

- Welcome and Introductions
- Where we are in the Study
- Purpose and Need Statement review
- Highlights of Baseline Conditions
- Potential Measures of Effectiveness (MOEs)
- Next Steps/Next Meetings
Study Work Flow

- Study Initiation  

- Initial Development and Evaluation of Concepts  
  Nov. 2010 – April 2011

- Detailed Screening and Evaluation of Strategies  
  March 2011 – Aug. 2011

- Study Finalization  
Study Work Flow

- Study Initiation
  - Mobilize team and administer the study
  - Collect and assess data and information
  - Build models and tools
  - Develop Purpose and Need statement
  - Initiate public outreach
Study Work Flow

- Initial Development and Evaluation of Concepts
  - Develop evaluation criteria and MOEs
  - Define range of concepts for consideration
    - Work with committees to develop and refine
  - Evaluate concepts (key MOEs)
  - Recommend and select concepts for further refinement and evaluation
Purpose and Need Statement
Purpose and Need Statement: Round 1

- Plan for regional needs/support visual/cultural character
- Fix what we have
- Promote economic growth
- Address traffic safety issues
- Development of state/local networks - address local concerns
- Move goods/services/people efficiently
- Provide relief for Rte. 1 through-traffic
- Destination-ease
- Promote increased development & trucking on Rte. 202
- Include discussion of funding feasibility
Purpose and Need Statement: Round 2

- Review multi-modal options to reduce traffic
- No negative impact on municipal budgets
- Fix intersections
- Do not sacrifice visual/cultural characteristics
- Address vehicle/bicycle/pedestrian safety issues
- Correlate buildout potential with access management
- Respect environmental systems/water supply/land use
- Coordinate with other planning processes
- Assure connectivity of Rtes. 109, 111, 95 with Rtes. 16 and 125 corridor
- Increase proportion of transit funding in region
Purpose and Need Statement

- Emphasize need for multi-modal service
- Need to talk about “interacting” with local Comp Plans
- Add connection to land use in Purpose Statement
- Improve safety for all modes
- Air transportation: connections to airport important?
- Add Rail as part of multi-modal
- Identify tourism promotion as separate from economic development
- Enhance connections between modes
- Question regarding long-term effect on municipal budgets
Purpose and Need Statement: Discussion
Baseline Conditions: Where Are We Today?

• Economic context
• Development trends
• Planning, zoning and access management
• Environmental and cultural resources
• Transportation
Economic Context
Commute Patterns

Where do York Co Workers Live?

<table>
<thead>
<tr>
<th>Residential Location</th>
<th>Share of Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>York County</td>
<td>70.4%</td>
</tr>
<tr>
<td>Biddeford</td>
<td>9.0%</td>
</tr>
<tr>
<td>Saco</td>
<td>7.0%</td>
</tr>
<tr>
<td>Sanford/S Sanford/Springvale</td>
<td>9.6%</td>
</tr>
<tr>
<td>Cumberland County</td>
<td>13.1%</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>6.4%</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>10.1%</td>
</tr>
</tbody>
</table>
Patterns of Growth

Source: An Economic Development Strategy for the SMRPC Region, Planning Decisions Inc., 2004

Rural Areas
P.C. Income, 2003 = $28,800
Income Growth, 1992-2003 = 54%
Natural Increase, 2000-2004 = -11,400
Net Migration, 2000-2004 = 8,800

Suburban Borderline
P.C. Income, 2003 = $31,600
Income Growth, 1992-2003 = 72%
Natural Increase, 2000-2004 = 19,400
Net Migration, 2000-2004 = 57,900

Satellite Centers
P.C. Income, 2003 = $35,100
Income Growth, 1992-2003 = 85%
Natural Increase, 2000-2004 = 35,200
Net Migration, 2000-2004 = 41,400

Regional Center (Greater Boston)
P.C. Income, 2003 = $43,800
Income Growth, 1992-2003 = 73%
Natural Increase, 2000-2004 = 25,400
Net Migration, 2000-2004 = -72,500
# Maine’s Low Share

## Share of Private Non-Farm Earnings by Region, 2003

<table>
<thead>
<tr>
<th>Sources of Earnings</th>
<th>Regional Center</th>
<th>NH Satellite</th>
<th>ME Satellite</th>
<th>Vermont Satellite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabricated Metal Products</td>
<td>1.13%</td>
<td>1.90%</td>
<td>1.14%</td>
<td>2.49%</td>
</tr>
<tr>
<td>Machinery</td>
<td>0.95%</td>
<td>1.50%</td>
<td>0.67%</td>
<td>1.58%</td>
</tr>
<tr>
<td>Computer &amp; Electronic Products</td>
<td>5.53%</td>
<td>9.20%</td>
<td>2.57%</td>
<td>13.50%</td>
</tr>
<tr>
<td>Electrical Equipment</td>
<td>0.38%</td>
<td>1.36%</td>
<td>0.28%</td>
<td>0.44%</td>
</tr>
<tr>
<td>Chemicals &amp; Medicine</td>
<td>1.13%</td>
<td>0.56%</td>
<td>0.89%</td>
<td>0.59%</td>
</tr>
<tr>
<td>Plastics and Rubber Products</td>
<td>0.23%</td>
<td>1.25%</td>
<td>0.65%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>
# Metals & Medicine

## Relative Size of Manufacturing by Region, Selected Sectors, 2002

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>Establishments</th>
<th>Sales ($1,000)</th>
<th>Payroll ($1,000)</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Portland Satellite</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>332</td>
<td>Fabricated Metal Products</td>
<td>113</td>
<td>$380,045</td>
<td>$87,118</td>
<td>2,321</td>
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<tr>
<td>333</td>
<td>Machinery</td>
<td>44</td>
<td>$243,229</td>
<td>$60,260</td>
<td>1,591</td>
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<tr>
<td>334</td>
<td>Computer &amp; Electronic Products</td>
<td>32</td>
<td>$504,020</td>
<td>$141,897</td>
<td>3,195</td>
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<tr>
<td>335</td>
<td>Electrical Equipment</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td><strong>Pharmaceuticals &amp; Medicine</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3254</td>
<td>Medicine</td>
<td>14</td>
<td>$130,396</td>
<td>$47,803</td>
<td>971</td>
</tr>
<tr>
<td>3391</td>
<td>Medical Equipment &amp; Supplies</td>
<td>21</td>
<td>$37,403</td>
<td>$11,888</td>
<td>316</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>224</td>
<td>$1,295,093</td>
<td>$348,966</td>
<td>8,394</td>
</tr>
<tr>
<td></td>
<td><strong>Cambridge-Framingham Metropolitan Division</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>332</td>
<td>Fabricated Metal Products</td>
<td>356</td>
<td>$1,323,094</td>
<td>$304,631</td>
<td>7,024</td>
</tr>
<tr>
<td>333</td>
<td>Machinery</td>
<td>169</td>
<td>$1,455,041</td>
<td>$406,568</td>
<td>7,753</td>
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<tr>
<td>334</td>
<td>Computer &amp; Electronic Products</td>
<td>398</td>
<td>$11,800,758</td>
<td>$2,164,508</td>
<td>36,053</td>
</tr>
<tr>
<td>335</td>
<td>Electrical Equipment</td>
<td>62</td>
<td>$393,511</td>
<td>$119,843</td>
<td>2,908</td>
</tr>
<tr>
<td></td>
<td><strong>Pharmaceuticals &amp; Medicine</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3254</td>
<td>Medicine</td>
<td>29</td>
<td>$988,188</td>
<td>$184,424</td>
<td>2,924</td>
</tr>
<tr>
<td>3391</td>
<td>Medical Equipment &amp; Supplies</td>
<td>111</td>
<td>$1,007,128</td>
<td>$238,489</td>
<td>4,896</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>1,125</td>
<td>$16,967,720</td>
<td>$3,418,463</td>
<td>61,558</td>
</tr>
</tbody>
</table>
Development Trends
Factors Used to Cluster Communities

- Commuting patterns
- Population growth trends
- Metro area proximity
How does the region cluster?

- Proposed subareas for allocating future growth projections
Discussion:
Effect of Growth Caps in projecting the future

Need assumptions – e.g. keep all caps for 25 years; or come off at some time to see their effect e.g. after 10 years; or assume when they come up for renewal and need school subsidies for revenue and want growth….timing important; how should we treat it?

* Alfred’s cap expired in 2007
** Unsure if Wells still has a cap
Planning, Zoning and Access Management
How Do Current Plans and Codes Support the Study’s Purpose and Need?

• Reviewing current Plans and codes shows potential impacts of land use on road network capacity and efficiency

• Understanding where there is consistency or conflict with the P&N will help shape Phase II recommendations for improving land use and access management

• Review therefore focused on how Plans addressed a set of very specific questions…
What We Found: **Key Best Practices In Place or Required** (Not Just “Encouraged”)

- **Orderly Zoning** ---minimal scattering of commercial and light industrial
  - Biddeford, Sanford, North Berwick, Ogunquit, Kennebunk, Wells, Arundel
- **Future Land Use Map and Current Zoning Highly Consistent**
  - Biddeford, Kennebunk, Ogunquit, Sanford
- **Limited Access to at least Some Specified Roads**
  - Alfred, Lyman, Biddeford, Kennebunk, North Berwick, Ogunquit, Sanford
- **Open Space Zoning** (in at least some districts)
  - Alfred, Sanford, Wells, Kennebunk, Ogunquit
Best Practices Sometimes in Place

- Access location requirements for different uses
- Phasing of development to better manage traffic issues
- Connectivity required between adjacent uses or for access needs of major subdivisions
- Visual character of highway frontages
- Environmental and Cultural Resource Protection Guidelines
  - Environmental generally more specific than cultural
- Thoroughness of development plan review coverage
- Several towns require comparison of conventional and cluster plans as part of approval process
- Sunset provisions for dormant subdivisions
Main Issues Needing More Attention

• Stripping of Commercial Uses
  – Policies and zoning to shift traditional pattern to more nodal one for new and redeveloped uses

• Consistent linking of access management requirements to functional classification map
  – Apply to both commercial and residential uses
  – More consistent standards and applicability across the study area

Both these issues have direct impacts on managing traffic volumes and flows
Environmental and Cultural Resources
Wetland and Floodplain

Data Source: SMRPC
Updated: November 15, 2010

Central York County Connections Study

MaineDOT

PARSONS BRINCKERHOFF
Environmental resources – regulated
Environmental resources – Other
Transportation
Transportation Infrastructure

Street Classification and Speed Limit

Data Source: MaineDOT
Updated: November 22, 2010

Street Classification
- Principal Arterial - Interstate
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local

Posted Speed Limit
- 25 mph and below
- 30 - 35 mph
- 40 - 50 mph
- 55 mph and above

Central York County Connections Study

MaineDOT
Current (2009) Traffic Volumes

Data Source: MaineDOT
Updated: November 22, 2010

Average Annual Daily Traffic

Interstate (Shown at 1/2 AADT)

Town Boundary

Railroad

Study Area

Central York County Connections Study
Planning Stage Level of Service (LOS)

Daily AADT/Hourly Capacity
Data Source: MaineDOT
Updated: November 22, 2010

Daily AADT/Hourly Capacity
- A or B (0.00-2.50)
- C (2.51-4.00)
- D (4.01-6.00)
- E, At Capacity (6.01-10.00)
- F, Over Capacity (10.01+)

Central York County Connections Study

Maine DOT
Traffic Safety

- Crash Locations

• Insert Map of all crashes

CYCCS Crash History 2007-2009

Data Source: MaineDOT
Updated: November 19, 2010

- Fatality
- Incapacitating
- Non-incapacitation
- Possible Injury
- Property Damage Only

Study Area
Town Boundary
Railroad

Central York County Connections Study
High Crash Locations (2007-2009)

Data Source: MaineDOT
Updated: November 22, 2010

Central York County Connections Study

- MainDOT
- Transportation Solutions

Map of High Crash Locations:
- SHapleigh
- Waterboro
- Dayton
- Saco
- Acton
- Lyman
- Arundel
- Kennbunk
- Kennebunkport
- North Berwick
- Wells
- Berwick
- South Berwick
- York

Map Details:
- CRF: 1.09
  - Total Crashes: 9
  - Percent Injuries: 44.4%
- CRF: 2.85
  - Total Crashes: 36
  - Percent Injuries: 36.4%
- CRF: 2.23
  - Total Crashes: 11
  - Percent Injuries: 73.6%
- CRF: 2.26
  - Total Crashes: 12
  - Percent Injuries: 63.6%
- CRF: 1.46
  - Total Crashes: 46
  - Percent Injuries: 41.3%
- CRF: 1.09
  - Total Crashes: 10
  - Percent Injuries: 10%
- CRF: 1.09
  - Total Crashes: 8
  - Percent Injuries: 12.5%
- CRF: 2.76
  - Total Crashes: 10
  - Percent Injuries: 9.1%
- CRF: 1.68
  - Total Crashes: 10
  - Percent Injuries: 9.1%
- CRF: 1.78
  - Total Crashes: 14
  - Percent Injuries: 42.9%
- CRF: 1.83
  - Total Crashes: 8
  - Percent Injuries: 30%
- CRF: 1.89
  - Total Crashes: 12
  - Percent Injuries: 33.3%
- CRF: 2.18
  - Total Crashes: 12
  - Percent Injuries: 33.3%
- CRF: 2.76
  - Total Crashes: 24
  - Percent Injuries: 37.5%
- CRF: 2.8
  - Total Crashes: 11
  - Percent Injuries: 9.1%
- CRF: 1.62
  - Total Crashes: 10
  - Percent Injuries: 30%
- CRF: 2.8
  - Total Crashes: 11
  - Percent Injuries: 9.1%
Corridor Crash Rates
Share of Crashes with Injuries

### Share of Crashes with Injuries

<table>
<thead>
<tr>
<th>Route</th>
<th>Possible Injury</th>
<th>Non-incapacitating</th>
<th>Incapacitating</th>
<th>Fatality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rte 109</td>
<td>20.1%</td>
<td>10.9%</td>
<td>1.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Rte 111</td>
<td>23.6%</td>
<td>12.4%</td>
<td>1.8%</td>
<td>1.2%</td>
</tr>
<tr>
<td>US 4</td>
<td>19.6%</td>
<td>16.1%</td>
<td>4.2%</td>
<td>1.2%</td>
</tr>
<tr>
<td>US 202</td>
<td>18.2%</td>
<td>11.2%</td>
<td>2.1%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>
Composite Crash Rate – Injury Crashes

![Composite Crash Rate Chart]

- **Rte 109**: Crash Rate: 100, Crash Rate (Injury Crashes): 300
- **Rte 111**: Crash Rate: 70, Crash Rate (Injury Crashes): 200
- **US 4**: Crash Rate: 50, Crash Rate (Injury Crashes): 150
- **US 202**: Crash Rate: 50, Crash Rate (Injury Crashes): 200
# Crash Types

<table>
<thead>
<tr>
<th></th>
<th>Rte 109</th>
<th>Rte 111</th>
<th>US 4</th>
<th>US 202</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read End/Sideswipe</td>
<td>56.0%</td>
<td>52.3%</td>
<td>56.0%</td>
<td>29.9%</td>
</tr>
<tr>
<td>Head-on/Sideswipe</td>
<td>3.4%</td>
<td>3.6%</td>
<td>3.4%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Intersection/Turning</td>
<td>22.2%</td>
<td>20.8%</td>
<td>22.2%</td>
<td>28.5%</td>
</tr>
<tr>
<td>Ran off Road</td>
<td>10.1%</td>
<td>13.6%</td>
<td>10.1%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Animal</td>
<td>2.0%</td>
<td>4.2%</td>
<td>3.9%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Bike/Ped</td>
<td>3.6%</td>
<td>0.0%</td>
<td>0.2%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Other</td>
<td>2.7%</td>
<td>5.4%</td>
<td>4.1%</td>
<td>3.5%</td>
</tr>
</tbody>
</table>
# Crash Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Rte 109</th>
<th>Rte 111</th>
<th>US 4</th>
<th>US 202</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight-away</td>
<td>31.1%</td>
<td>34.4%</td>
<td>37.5%</td>
<td>26.4%</td>
</tr>
<tr>
<td>Curve</td>
<td>3.2%</td>
<td>1.2%</td>
<td>6.5%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Intersection</td>
<td>49.1%</td>
<td>55.0%</td>
<td>47.6%</td>
<td>53.5%</td>
</tr>
<tr>
<td>Driveway</td>
<td>16.0%</td>
<td>8.8%</td>
<td>8.3%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Other</td>
<td>0.5%</td>
<td>0.6%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
## Bus Services

<table>
<thead>
<tr>
<th>Bus Service/Route</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIDDEFORD AREA</strong></td>
<td></td>
</tr>
<tr>
<td>ZOOM Turnpike Express</td>
<td>Links Biddeford and Saco P&amp;R locations to Portland</td>
</tr>
<tr>
<td>ShuttleBus Intercity</td>
<td>Biddeford to Portland with intermediate stops</td>
</tr>
<tr>
<td>ShuttleBus Local</td>
<td>Local service within Biddeford, Saco and Old Orchard Beach</td>
</tr>
<tr>
<td><strong>SANFORD AREA</strong></td>
<td></td>
</tr>
<tr>
<td>Sanford Ocean Shuttle</td>
<td>Daily scheduled service between Sanford and Wells</td>
</tr>
<tr>
<td>Sanford Transit “My Bus”</td>
<td>Local daily scheduled service within Sanford and Springvale</td>
</tr>
<tr>
<td>The WAVE</td>
<td>York Co Community Action Corp. reservation service.</td>
</tr>
<tr>
<td></td>
<td>• Service to Biddeford for jobs, medical, school and shopping trips.</td>
</tr>
<tr>
<td></td>
<td>• Service to Wells for jobs, medical, and school trips.</td>
</tr>
<tr>
<td><strong>WELLS/K’BUNK/OGUN.</strong></td>
<td></td>
</tr>
<tr>
<td>Summer Season Shuttles</td>
<td>Shoreline Trolley and Kennebunk Shuttle</td>
</tr>
</tbody>
</table>
Summary Highlights – Our take:

• **Economic Context**: SW vs. NE orientation an open, valid question

• **Development Trends**: the study area divides well into 5 spheres of influence

• **Plans and Codes**: a mixed bag in terms of support for P&N

• **Environmental and Cultural Resources**: these are widely spread throughout the study area

• **Transportation**: most all congestion and half the crashes are limited to key intersections; corridor safety ranking - Rtes.109, 111, 202, 4.
Measures of Effectiveness – An Example

(Also called Indicators, Criteria, Performance Measures....)
How do the Various Development Patterns Stack up?
(Comparative Rank of the MOEs in the Gateway 1 Plan)

<table>
<thead>
<tr>
<th>Mobility</th>
<th>Accessibility</th>
<th>Town Core</th>
<th>Environment/Scenic</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMT</td>
<td>Jobs</td>
<td>Housing</td>
<td>Pedestrian</td>
</tr>
<tr>
<td>Local</td>
<td>Retail</td>
<td>Bike</td>
<td>Pedestrian</td>
</tr>
<tr>
<td>Roads</td>
<td>EMS</td>
<td>Bike</td>
<td>Habitats developed</td>
</tr>
<tr>
<td>LOS</td>
<td>EMS</td>
<td>Bike</td>
<td>Views protected</td>
</tr>
<tr>
<td>Transit</td>
<td>EMS</td>
<td>Bike</td>
<td>Strip Commercial</td>
</tr>
</tbody>
</table>

1. Local roads which exceed 2000 VPD

1. Local roads which exceed 2000 VPD

Better ➔ Worse
Percent of Developable Land within a Wildlife Habitat

- 0 - 5%
- 6% - 35%
- 36% - 70%
- 71% - 100%

Acres of Development within TAZ that have Wildlife Habitat

- Low Density: 4,729
- Micropolitan: 4,550
- TOC: 2,228
Applying MOEs to this Study

An Example
### Example of How P&N Ripples through the Study

<table>
<thead>
<tr>
<th>Purpose &amp; Need Element</th>
<th>Goals related</th>
<th>Objectives</th>
<th>MOEs</th>
<th>Source</th>
</tr>
</thead>
</table>
| Economic Development   | Increase job base in Central York Co. | Target the most likely kinds of job growth to Towns seeking such growth | • # jobs by type/location  
• $ impacts of jobs by type/location  
• # and $ of spinoff secondary jobs by type/location | • PRISM  
• PRISM  
• PRISM |
|                        |               | Manage associated pop. growth | • # pop and dus generated by new jobs | • PRISM |

*Example of How P&N Ripples through the Study*
Candidate MOEs for Stage One

- **Travel times and delay** – changes in accessibility estimated from travel forecasting model outputs summarized for key origin-destination pairs.

- **Travel patterns and capacity** – Changes in traffic volumes on other routes. Segment volume-to-capacity comparisons.

- **Improved transit access** – Corridor improvements which support enhanced transit potential.

- **Costs** – gross approximation of capital costs including ROW sufficient to identify major cost differences among the concepts evaluated.

- **Economic Impact** – changes in economic output and activity ($), estimated from the PRISM model.
Candidate MOEs for Stage One (Cont.)

- **Structures impacted** – residential and non-residential structures affected; generalized assessment (High/Medium/Low).

- **Environmental impacts** – Composite assessment of proximity to floodplains, wetlands, steep slopes, rare/threatened/endangered species (RTE).

- **Rural and urban character impacts** – composite of cultural resources, rural areas opened up and current centers reinforced, consistent with the policies & future land use maps of local comp. plans and with the goals of the Growth Management Act.

- **Safety** – Do improvements address known High Crash Locations and crash types?

- **Consistency with STPA** - *(i.e. capacity expansion as last resort)*

- **Implementability** – Likelihood of community acceptance and support (consistency with plans, zoning and public response).
Next Steps

• Make economic forecasts
• Develop initial range of corridor concepts
• Review these with AC and SC and refine concepts
• Set up travel and economic impact models
• Determine impacts (Stage One MOEs)
• Next SC and AC Meeting: Wednesday, January 19th
• First Public Meeting: Thursday January 20th