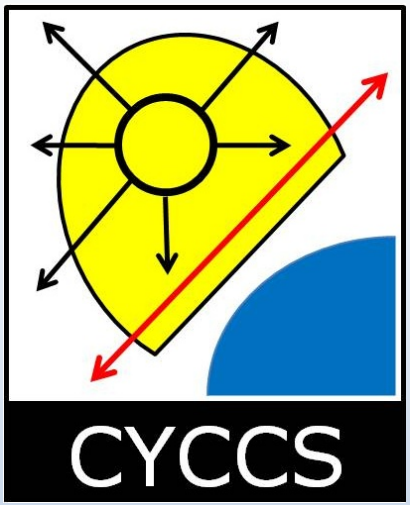


Central York County Connections Study

September 27, 2011

Committee Meetings

Agenda

- Welcome and Study Update
- Agenda Overview/Timeline
- Phase II MOE Results
- Additional Discussion
- Other Factors
- Phase III Tasks
- Next Steps

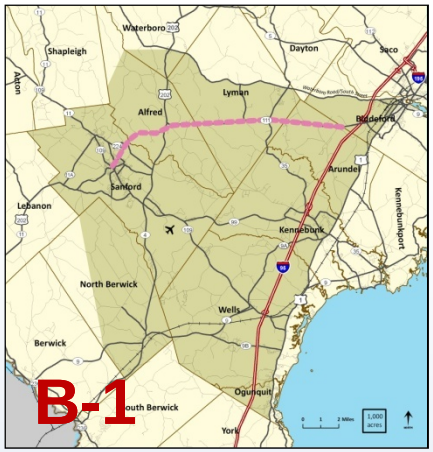
Study Work Flow and Timeline

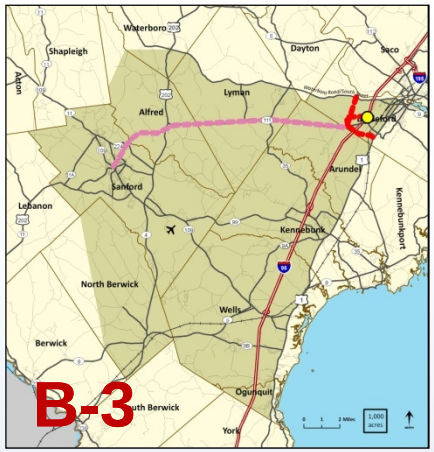
- I: Study Initiation
  Sept. 2010 – Dec. 2010
- II: Initial Development and Evaluation of Conceptual Strategies
  Nov. 2010 – Oct. 2011
- III: Detailed Screening and Evaluation of Strategies
  Nov. 2011 – April 2012
- IV: Study Finalization
  April 2012 – July 2012

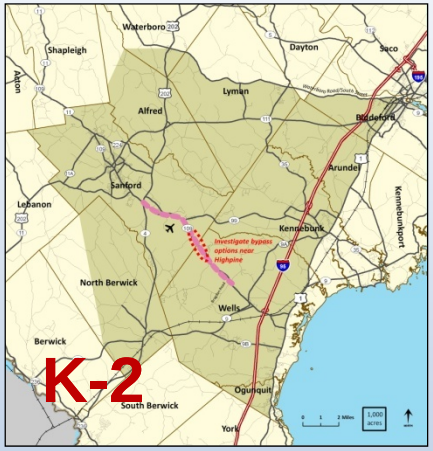
Today's Goals

- Committees' full understanding of benefits and impacts of the Phase II highway strategies
- Discussion of other factors contributing to which strategies move forward
- Clear understanding by the Study Team of each committee member's opinion
- Understanding of Phase III Tasks

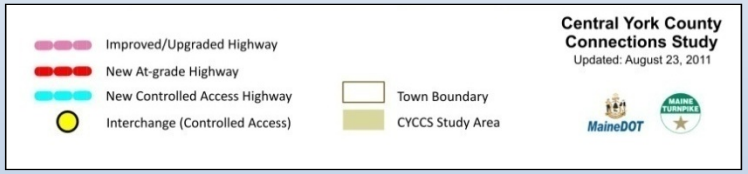
No decisions will be made today

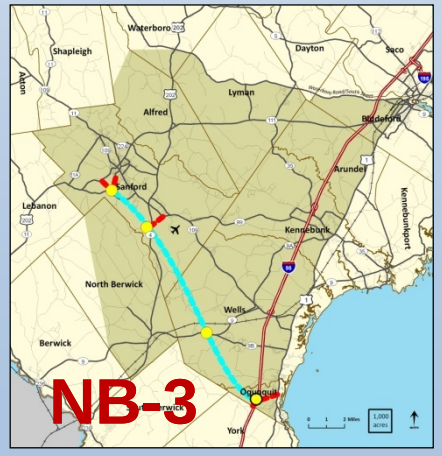




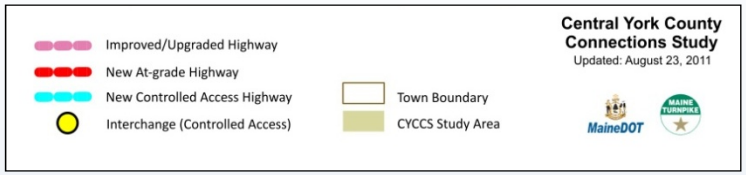


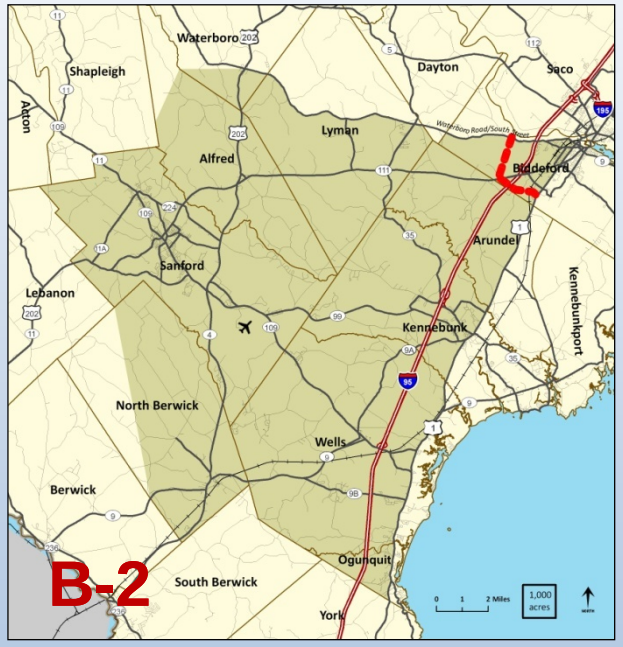
Regional Strategies

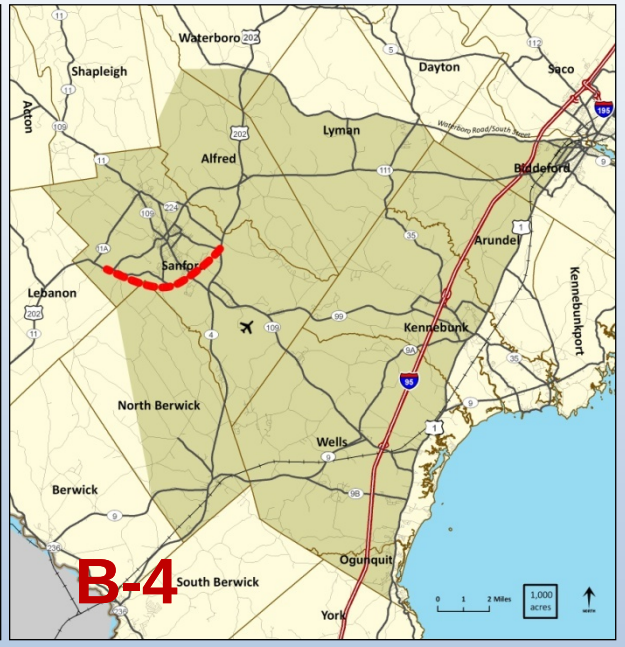




Local Strategies







Refresher on the MOEs

MOE Name	Measure
Economic Benefit	• Potential job creation • Change in regional economic activity (dollars)
Cost	• Approximate (planning-level) cost of concept
Benefit/Cost	• Ratio of projected benefits to costs
Daily Traffic Volumes	• Change in corridor/screenline volumes • VMT (vehicle miles traveled) • Effect on traffic at congested locations
Travel Times and Delay	• Projected travel times between key origins and destinations • VHT (vehicle hours of travel)
Traffic Safety	• High Crash Locations addressed by strategy • Potential change in crash frequency
Transit Operations and Access	• Potential effect on existing transit services
Rural and Urban Character	• Rural lands in the corridor • Town centers and historic sites in the corridor
Environmental Constraints	• Wetlands and regulated features in the corridor that would need to be avoided

Summary MOEs

		Cost	Benefit/ Cost	Economic Benefit	Daily Traffic Volumes	Travel Times and Delay	Traffic Safety	Transit Ops. & Access	Rural and Urban Character	Environ-mental
Regional Strategies										
B-1	Upgrade Rte 111/202	◔	●	◑	◔	◑	◑	◔	◔	●
B-3	Upgrade Route 111/202 with add'l Turnpike access and connections	○	●	●	◑	◑	◑	◕	○	◕
B-5	Biddeford Expressway (South)	○	◔	●	●	◕	◕	◕	◔	○
B-6	Biddeford Expressway (North)	○	◔	●	●	●	●	◕	○	○
K-2	Upgrade Rte 109	◕	◔	○	◔	◔	◔	◕	◕	●
K-3	Kennebunk Expressway	○	◕	●	●	◕	●	◕	◑	◑
NB-1	Upgrade Rte 4 and New North Berwick Bypass	◕	○	○	◔	○	○	◑	◑	◕
NB-2	Upgrade Rte 4 and New North Berwick – Maine Tpk/Ogunquit Hwy	○	○	○	◑	◔	◔	◕	◔	◑
NB-3	Ogunquit Expressway	○	○	◑	◕	◔	◑	◕	◔	◔
Local Strategies										
B-2	New Biddeford Highway Connections	●	●	○	◔	◔	◔	◕	●	◕
B-4	Southern Sanford Bypass	◕	●	○	◔	◔	◔	◕	●	◕
K-1	Rte 99 – Rte 35 Connection	●	●	○	◔	◔	◔	◑	●	◕

MOE: Capital Costs

- Based on Planning-level estimates that reflect broad conceptual level of development
- Construction Costs
  - Generic right-of-way (ROW) costs
    - Percent of construction cost
    - Adjusted to reflect approximate share of new ROW needed.
  - Unit construction costs
    - Based on quantities (miles, square feet, etc)
    - Components include roadway, structures, intersection improvements.
- Lifecycle costs estimated separately: Investment in rehabilitation and replacement (R&R) over 100-year project lifetime.

Costs		Add'l ROW Required (acres)	ROW Costs	Construction Costs	Total Construction Cost
Regional Corridors					
B-1	Upgrade Rte 111/202	65	$7M	$71M	$78M
B-3	Upgrade Route 111/202 with Additional Maine Turnpike Access and Biddeford New Highway Connections	141	$12M	$115M	$127M
B-5	Biddeford Expressway (South)	513	$40M	$198M	$238M
B-6	Biddeford Expressway (North)	796	$57M	$282M	$339M
K-2	Upgrade Rte 109	32-76	$3M - $5M	$26M - $31M	$29M-36M
K-3	Kennebunk Expressway	407	$31M	$154M	$185M
NB-1	Upgrade Rte 4 and New North Berwick Bypass	64	$3M	$29M	$32M
NB-2	Upgrade Rte 4 and New North Berwick – Maine Turnpike/Ogunquit Highway	153	$13M	$76M	$89M
NB-3	Ogunquit Expressway	621	$45M	$228M	$273M
Local Strategies					
B-2	New Biddeford Highway Connections	65	$3M	$17M	$20M
B-4	Southern Sanford Bypass	67	$5M	$25M	$28M
K-1	Rte 99 – Rte 35 Connection	20	$2M	$9M	$10M

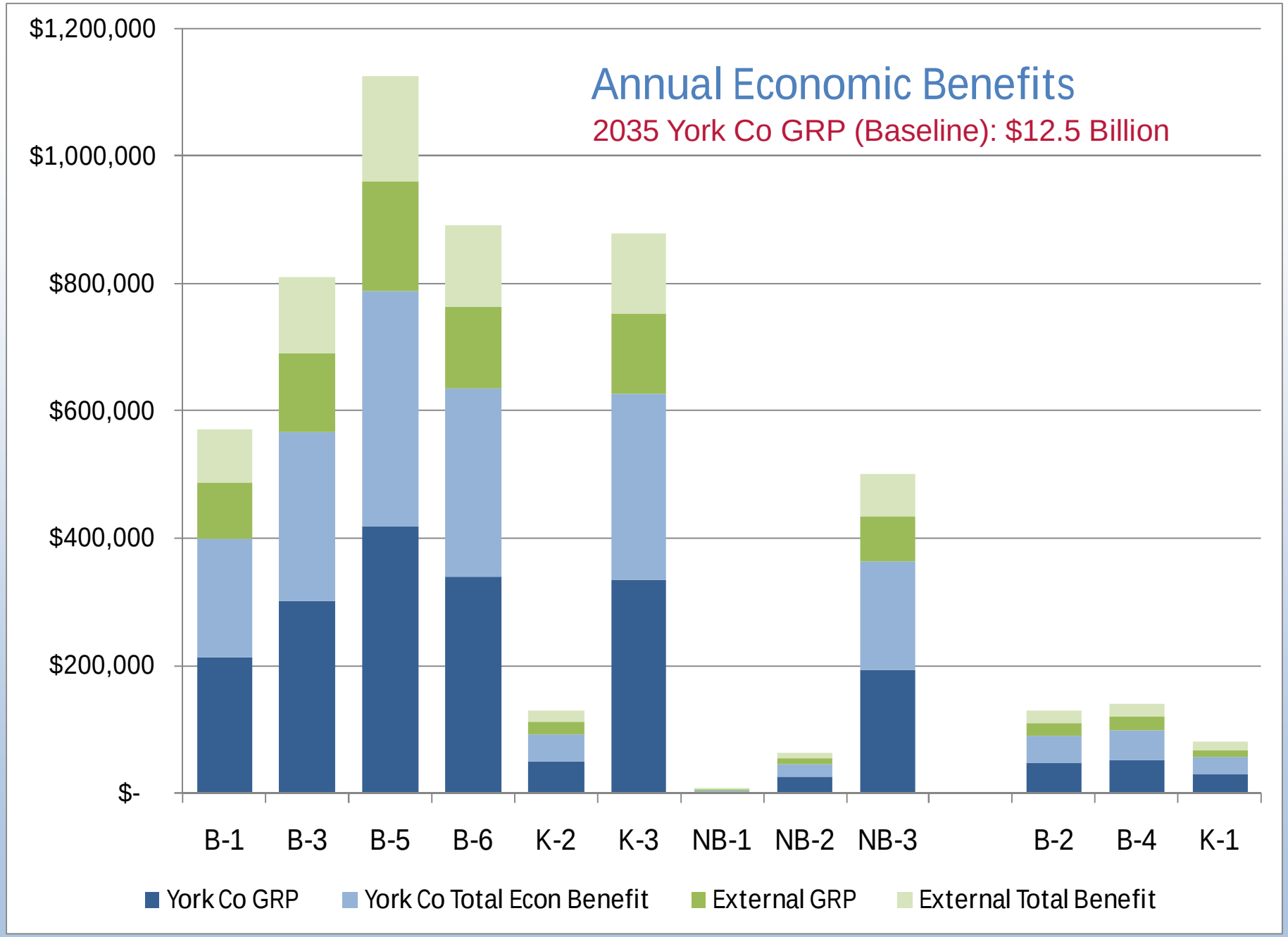
MOE: Benefit/Cost Analysis

- **Benefits Considered**
  - **State of Good Repair** (Reduced pavement damage)
  - **Economic Competitiveness** (Travel time savings, reduced users' costs [fuel, operating & maintenance] and oil imports)
  - **Livability** (Reduced noise)
  - **Sustainability** (Reduced emissions)
  - **Safety** (Crash reduction)

Benefit/Cost Analysis		Total Net Benefits	Total Net Costs (Construction + R&R)	Benefit/Cost Ratio
Regional Corridors				
B-1	Upgrade Rte 111/202	$ 114 M	$83 M	1.4
B-3	Upgrade Route 111/202 with Add'l Connections	$ 171 M	$135 M	1.3
B-5	Biddeford Expressway (South)	$ 152 M	$256 M	0.6
B-6	Biddeford Expressway (North)	$ 233 M	$365 M	0.6
K-2	Upgrade Rte 109	$ 15 M	$32 M	0.5
K-3	Kennebunk Expressway	$ 206 M	$199 M	1.0
NB-1	Upgrade Rte 4 and New North Berwick Bypass	Negative Net Benefits	$33 M	N/A
NB-2	Upgrade Rte 4 and New North Berwick – Maine Turnpike/Ogunquit Highway	Negative Net Benefits	$97 M	N/A
NB-3	Ogunquit Expressway	Negative Net Benefits	$293 M	N/A
Local Strategies				
B-2	New Biddeford Highway Connections	$ 40 M	$21 M	1.8
B-4	Southern Sanford Bypass	$ 31 M	$26 M	1.3
K-1	Rte 99 – Rte 35 Connection	$ 30 M	$11 M	2.7

MOE: Economic Impacts

- PRISM
  - Estimates “Regional Economic Impacts”
    - Gross Regional Product – value of all goods and services generated in a region.
    - Effects of monies recirculating through the regional economy
    - Jobs created
  - Not an estimate of jobs or economic production shifted within a region, but new jobs/economic production drawn to the region.

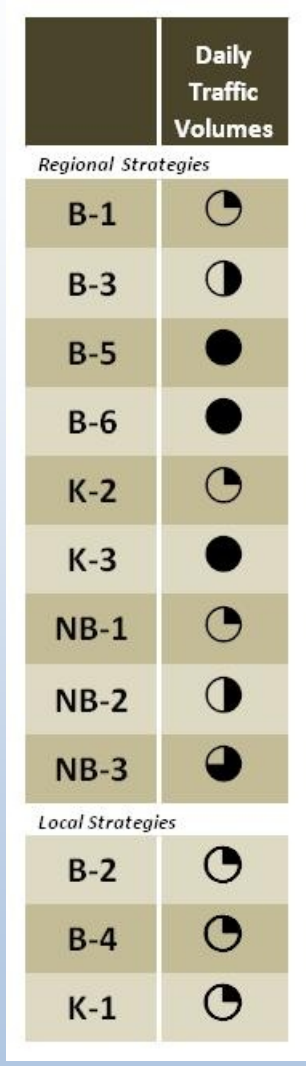

Annual Economic Benefits
2035 York Co GRP (Baseline): $12.5 Billion
$1,200,000
$1,000,000
$800,000
$600,000
$400,000
$200,000
$-
B-1
B-3
B-5
B-6
K-2
K-3
NB-1
NB-2
NB-3
B-2
B-4
K-1
York Co GRP
York Co Total Econ Benefit
External GRP
External Total Benefit

Reviewing Other MOEs

- Daily Traffic Volumes
- Travel Times and Delay
- Traffic Safety
- Transit Operations and Access
- Rural and Urban Character
- Environmental Constraints

Daily Traffic Volumes

- New Expressways (B-5, B-6, K-3, NB-3) would:
  - Reduce traffic on existing highways
  - Attract modest traffic volumes relative to capacity
  - Increase overall traffic volumes
  - Would generally improve congested locations, except for NB-2 and NB-3 in Ogunquit.
- Upgraded corridors (B-1,B-3, K-2, NB-1) would:
  - Attract more traffic to the upgraded highway.
  - Increase overall traffic volumes, but less so than new corridors.
  - Could adversely effect congested locations in Sanford and Biddeford without additional improvements (such as proposed in B3)
- Local Strategies (B-2, B-4, K-1) improve circulation in specific locations, but effects are limited to local conditions.



Travel Times and Delay

- New Biddeford and Kennebunk Expressways (B-5, B-6, K-3) would result in the greatest improvement in specific point-to-point travel times and VHT reduction.
- Upgraded corridors in the Biddeford Corridor (B-1,B-3) also improve travel times and reduce VHT.
- Improvements in the North Berwick/Ogunquit Corridor (NB-1, NB-2, NB-3) were least effective in reducing regional VHT and point-to-point travel times.
- Local Strategies (B-2, B-4, K-1) have some effect on regional VHT, but do not improve point-to-point travel times for the regional trips studied.

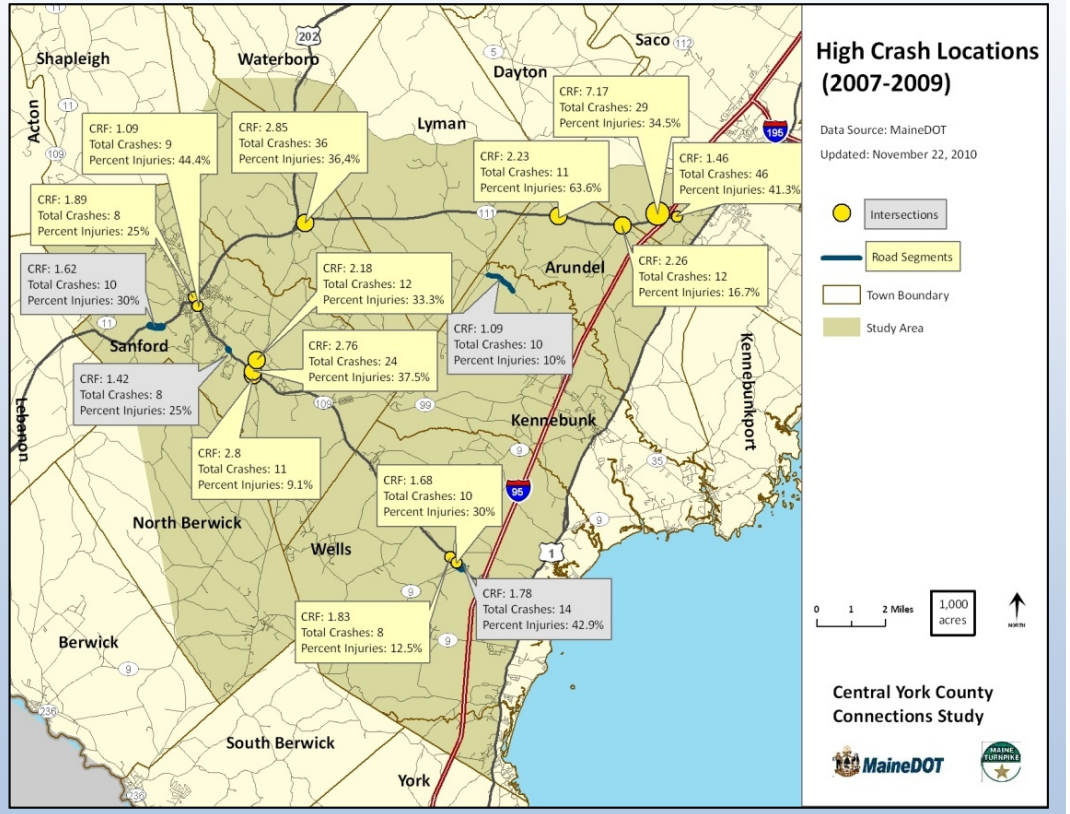
	Travel Times and Delay
Regional Strategies	
B-1	◑
B-3	◑
B-5	◕
B-6	●
K-2	◔
K-3	◕
NB-1	○
NB-2	◔
NB-3	◔
Local Strategies	
B-2	◔
B-4	◔
K-1	◔

MOE: Traffic Safety

Measures:

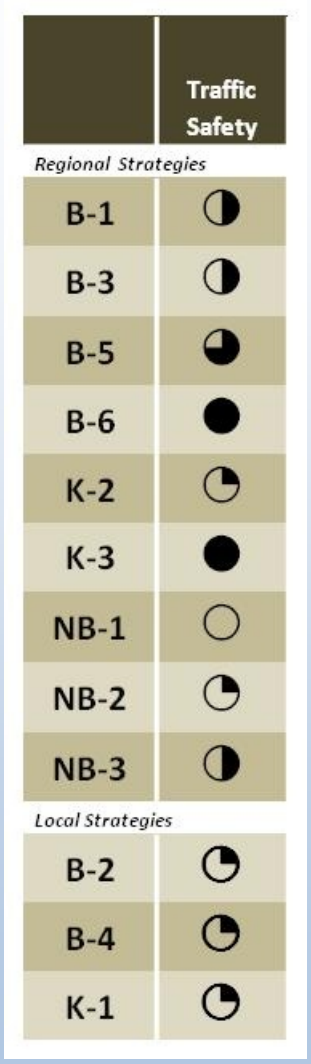
- Potential to physically improve current HCLs
  - Rated Low, Moderate or High
- Potential change in crash frequency

  This is a regional-scale analysis
  - Changes in the amount of travel
  - Changes in roads on which travel occurs



MOE: Traffic Safety

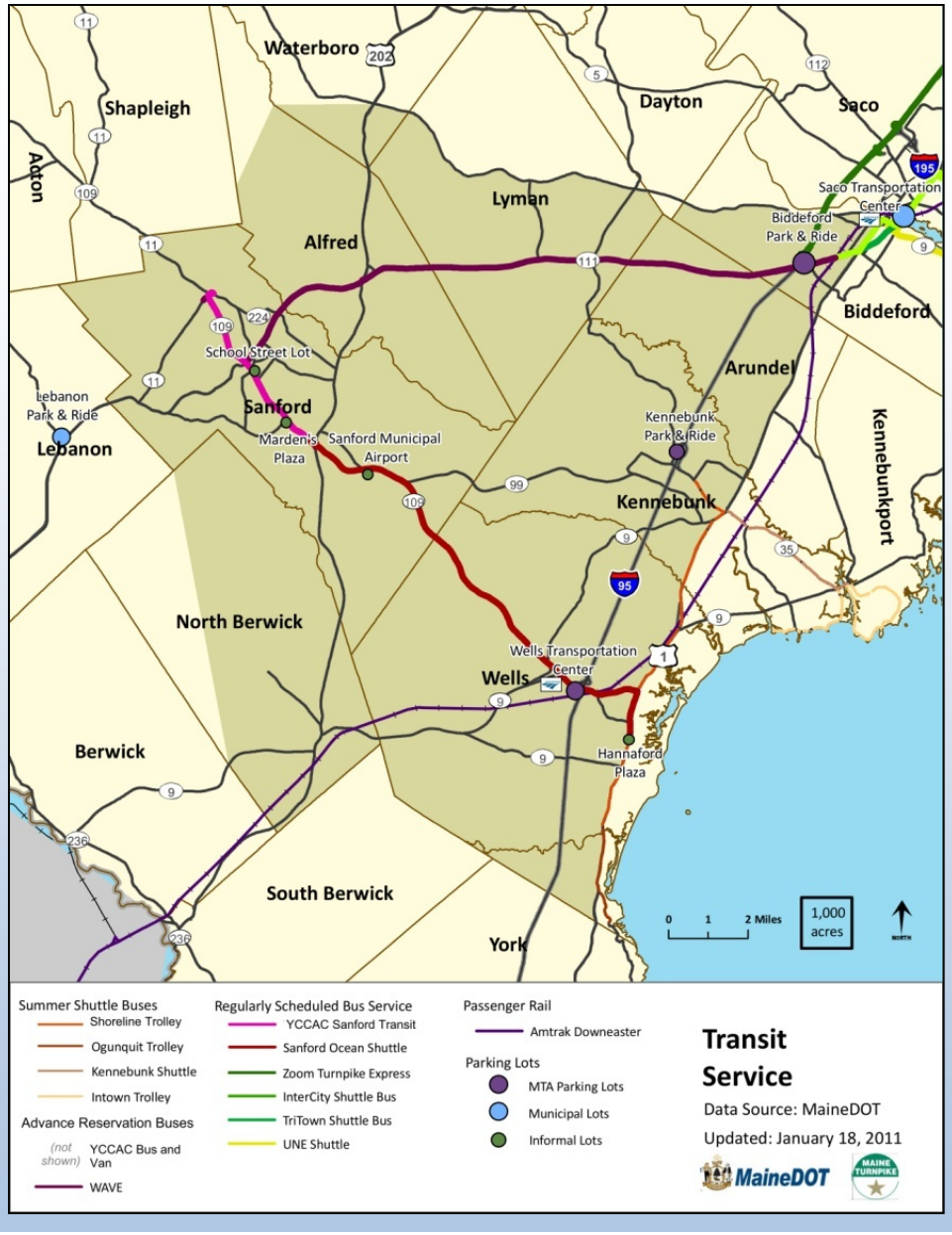
- Improvements in Biddeford Corridor (B-1,B-3) are an opportunity to address current HCLs on Route 111
- New corridors (B-5,B-6, K-3, NB-3) shift traffic from existing corridors with higher crash rates to new corridors with theoretically lower crash rates
  - Increases in VMT partially offset this benefit, especially on NB-3.
- All strategies except NB-1 show some potential for reducing crashes
  - All strategies, including NB-1, may have local crash benefits that cannot be identified in the regional context.



MOE: Transit Operations and Access

Measure:

- General assessment of how Phase II Highway Strategies might affect existing transit services.
  - Is the ability to access transit compromised or improved?
  - Could changes in traffic operations harm or benefit bus services on those corridors?



MOE: Transit Operations and Access

- Measure:
  - Phase II Highway Concepts are likely to only minimally affect access to transit
    - Wells Transportation Center may benefit from options that reduce congestion on Rte. 109
    - Biddeford Park and Ride may benefit from strategies that reduce congestion on Rte. 111 near exit 32
  - Options that reduce congestion on corridors used by bus transit may help bus reliability during peak periods

	Transit
Regional Strategies	
B-1	
B-3	
B-5	
B-6	
K-2	
K-3	
NB-1	
NB-2	
NB-3	
Local Strategies	
B-2	
B-4	
K-1	

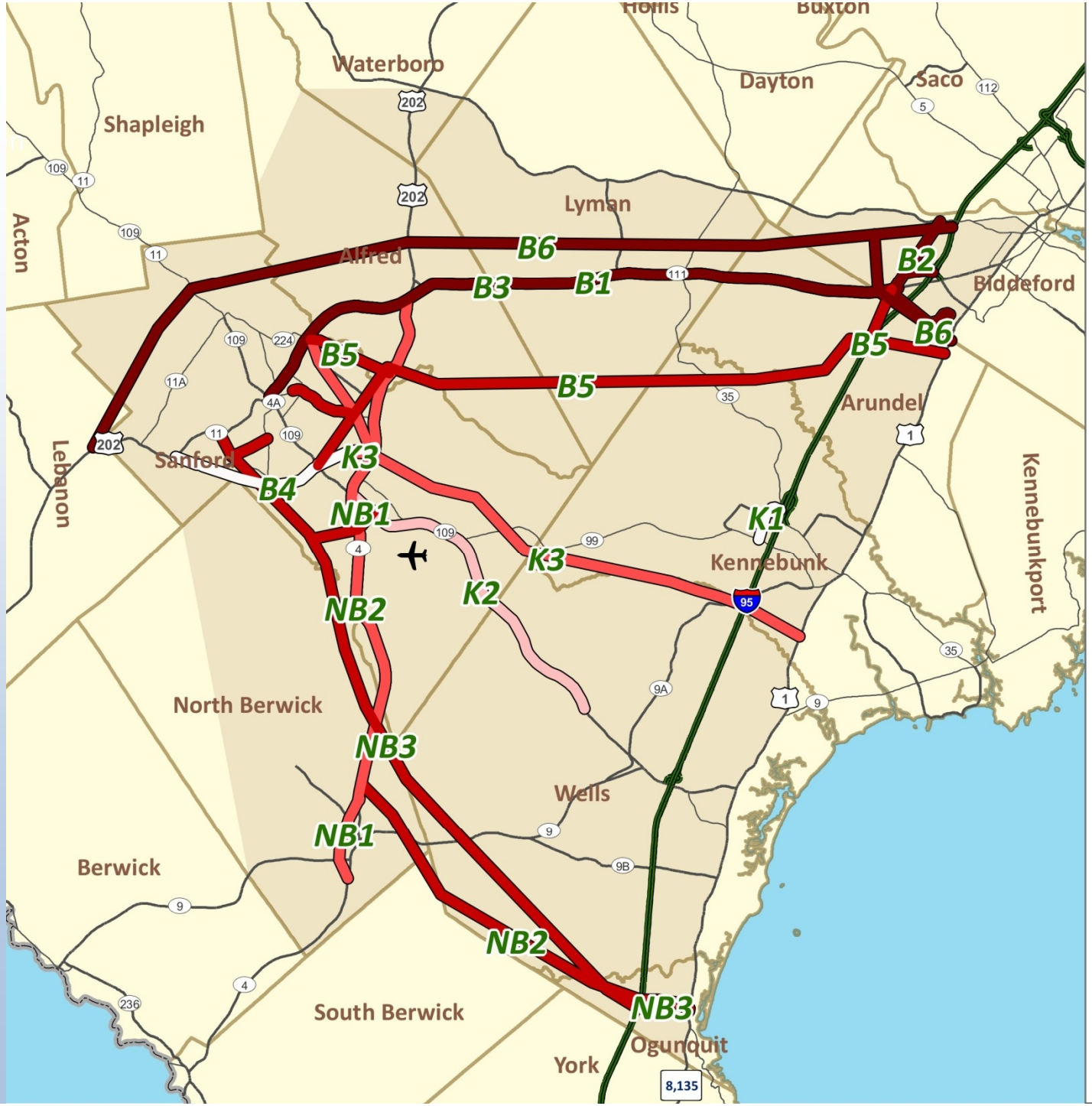
MOE: Impact to Rural and Urban Character

- Purpose: Assess potential to adversely affect rural and urban character
- Components:
  - ROW length in miles that traverse open fields and woodlands zoned for low density
  - Historic town centers, sites and districts

MOE: Impact to Rural and Urban Character

- New corridors largely affect rural lands
- Upgrades potentially affect parcels fronting on existing corridors, including historic sites and town centers
- Biddeford Corridor has the greatest amount of affected land (rural *and* urban)
- Route 109 Upgrade's (K-2) score reflects bypass completely around High Pine

	Rural and Urban Character
Regional Strategies	
B-1	◔
B-3	○
B-5	◔
B-6	○
K-2	◕
K-3	◑
NB-1	◑
NB-2	◔
NB-3	◔
Local Strategies	
B-2	●
B-4	●
K-1	●



Rural and Urban Character

Updated: September 2011

Potential Conflicts

- 1- More Conflicts
- 2
- 3
- 4
- 5 - Fewer Conflicts

- State Boundary
- Town Boundary
- Study Area

Data Source: CYCCS Travel Model

0 0.5 1 2 3 Miles

NORTH

CYCCS

Central York County Connections Study

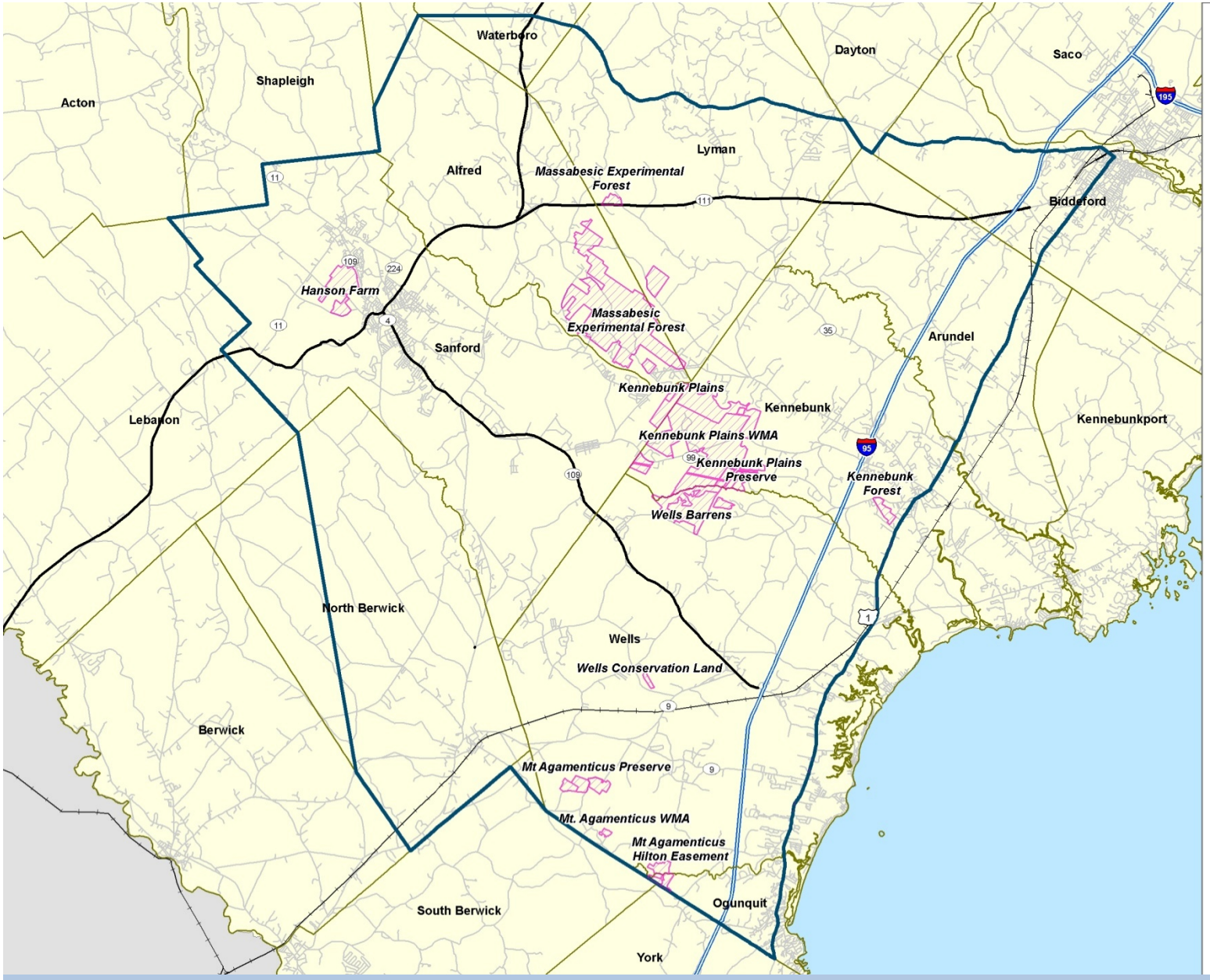
MOE: Environmental Constraints

- Purpose: Assess potential to affect environmental resources
- Components:
  - Wetlands
  - Other regulated natural resources
  - Miles of alignment

MOE: Environmental Constraints

- Upgrades have fewer constraints because the ROWs have previously been developed
- New Expressways in the Biddeford Corridor (B-5, B-6) traverse the most land with regulated resources

	Environ-mental
Regional Strategies	
B-1	●
B-3	◕
B-5	○
B-6	○
K-2	●
K-3	◑
NB-1	◕
NB-2	◑
NB-3	◔
Local Strategies	
B-2	◕
B-4	◕
K-1	◕



Conservation Areas

Data Source: Please refer to Table 1.

Updated: September 22, 2011

- Conservation Lands
- Study Area
- Town Boundary
- Interstate
- Major Roads
- Railroad
- Road Centerline

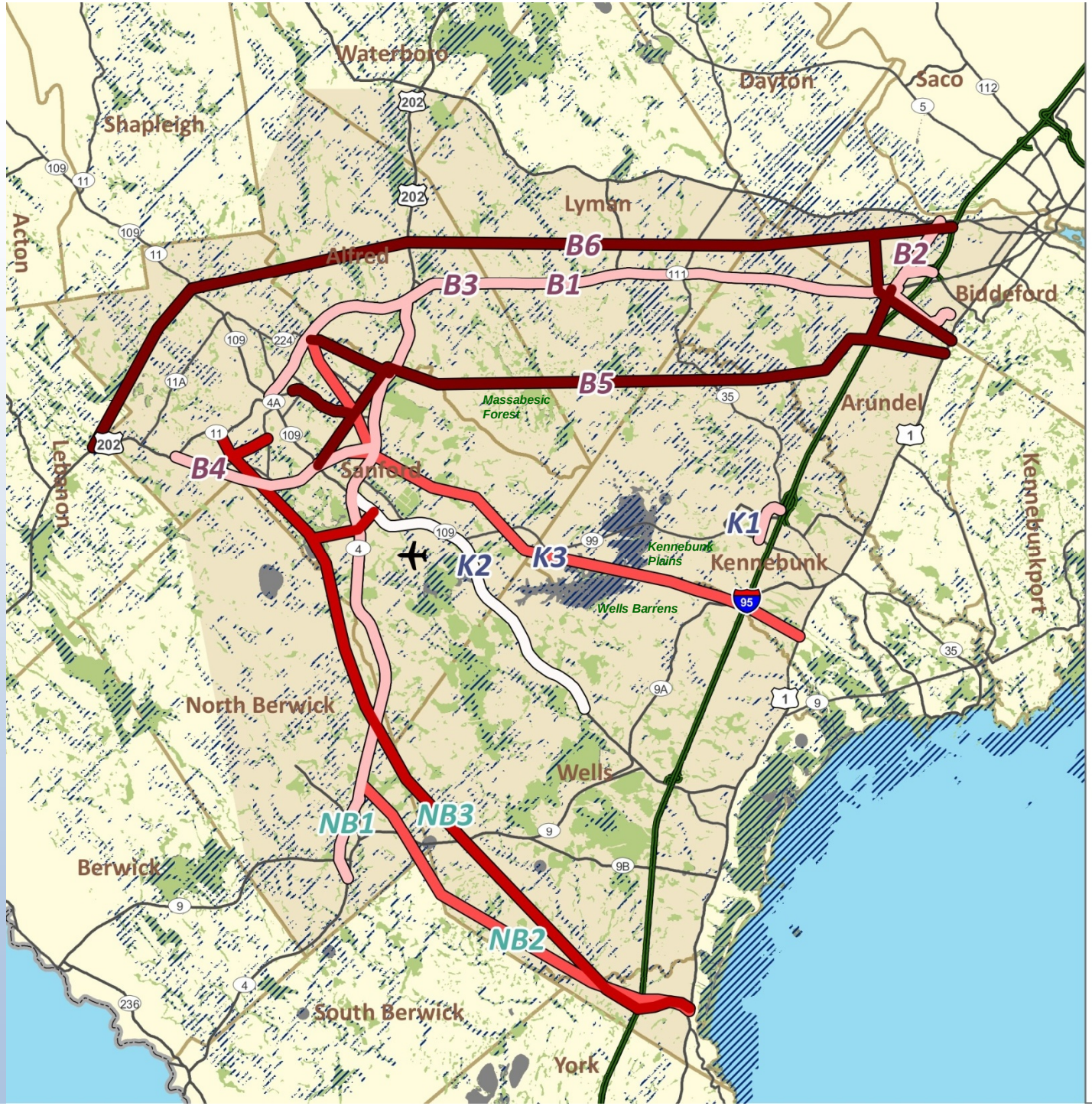
0 1 2 4 Miles

NORTH

Central York County Connections Study

MaineDOT

MAINE TURNPIKE



Environmental Constraints

Updated: June 10, 2011

Strategy Rating

- 1- More Conflicts
- 2
- 3
- 4
- 5 - Fewer Conflicts

Corridors

- *B* Biddeford
- *K* Kennebunk/Wells
- *NB* North Berwick/Ogunquit

- State Boundary
- Habitat Areas
- Wetlands
- Rare Plant Areas
- Town Boundary
- Study Area

Data Source: Beginning with Habitat

0 0.5 1 2 3 Miles

NORTH

CYCCS

Central York County Connections Study

CYCCS: Phase III

- Phase III strategies may include:
  - Specific highway improvement elements
  - Land use and access management approaches
  - Improvements to transit services
  - Transportation Systems Management (TSM) approaches
  - Travel Demand Management (TDM) approaches

Summary MOEs

		Cost	Benefit/ Cost	Economic Benefit	Daily Traffic Volumes	Travel Times and Delay	Traffic Safety	Transit Ops. & Access	Rural and Urban Character	Environ-mental
Regional Strategies										
B-1	Upgrade Rte 111/202									
B-3	Upgrade Route 111/202 with add'l Turnpike access and connections									
B-5	Biddeford Expressway (South)									
B-6	Biddeford Expressway (North)									
K-2	Upgrade Rte 109									
K-3	Kennebunk Expressway									
NB-1	Upgrade Rte 4 and New North Berwick Bypass									
NB-2	Upgrade Rte 4 and New North Berwick – Maine Tpk/Ogunquit Hwy									
NB-3	Ogunquit Expressway									
Local Strategies										
B-2	New Biddeford Highway Connections									
B-4	Southern Sanford Bypass									
K-1	Rte 99 – Rte 35 Connection									

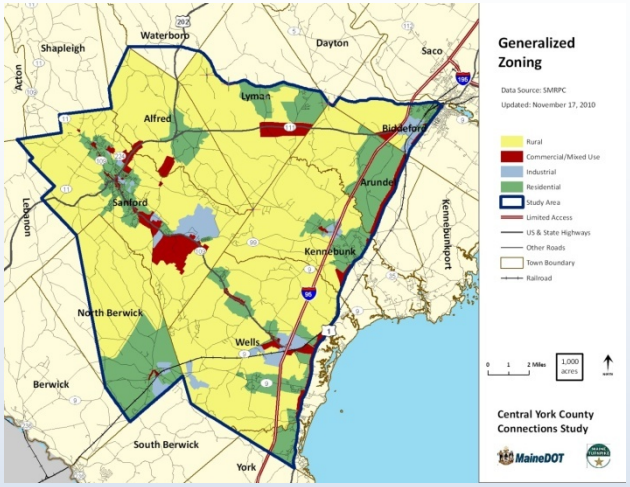
Other Factors Affecting Decision-Making

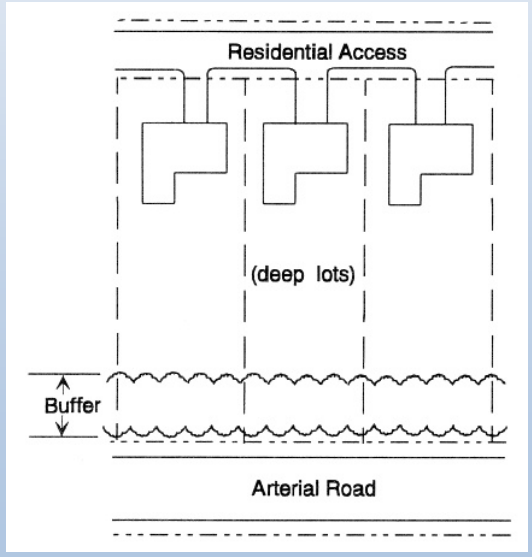
- Environmental, Historic, Archeological and Other Impacts
- Ability to Secure Environmental Permits
- Ability to Secure Funding
- Degree of Public Support
- Constructability
- Potential for Refinement in Phase III

Role of Land Use and Access Management

Four general approaches:

1. Through zoning regulations, reduce the number of new trips generated
2. Provide direct access to streets other than the primary highway
3. Improve parcel interconnectivity and local circulation
4. Manage the number and operation of commercial and residential driveways





Role of TDM, TSM, Transit Improvements

Transportation Systems Management (TSM)

- TSM strategies focus on increasing efficiency, safety and capacity of roadways through better management of existing transportation system infrastructure. Examples are:
  - Updated traffic signal systems
  - Real time driver and transit information

Transportation Demand Management (TDM):

- TDM improves accessibility and addresses traffic congestion by increasing individuals' travel options and so reducing travel demand, rather than increasing highway capacity. Examples are:
  - Facilitating carpooling and vanpooling
  - Flexible work schedules

Role of TDM, TSM, Transit Improvements

- Identify the range of potential TDM, TSM and Transit options
- Of these, are there strategies that should be considered in all Phase III packages?
- How can specific strategies be paired with highway corridor improvements to realize efficient, equitable and sustainable solutions?

Next Steps

- Resolution of recommendations for Phase III strategies
  - Public input – Public meeting
  - Follow-up Committee meetings
  - Recommendations for inclusion in Phase III