

EXECUTIVE SUMMARY

Introduction

The Central York County Connections Study (CYCCS) is a long-range (through year 2035), multi-disciplinary planning study that provides the MaineDOT, Maine Turnpike Authority (MTA) and study area municipalities with strategic direction for preserving and enhancing transportation connections between central York County and the major transportation corridors along the coast; the Maine Turnpike and US Route 1. The study is guided by a Purpose and Need Statement, which articulates that the study is to identify transportation and related land use strategies that enhance economic development opportunities and preserve and improve the regional transportation system.

The CYCCS Study Area (Figure ES-1-1) includes all or some of the following ten communities:

- The entire Town of Sanford;
- Those areas of Ogunquit, Wells, Kennebunk and Arundel northwest of Route 1;
- Much of North Berwick, Alfred, and Lyman; and
- Portions of western Biddeford along Route 111 and southern Waterboro along US 202.

This report serves as final documentation of the CYCCS and presents the findings and recommendations of the study.

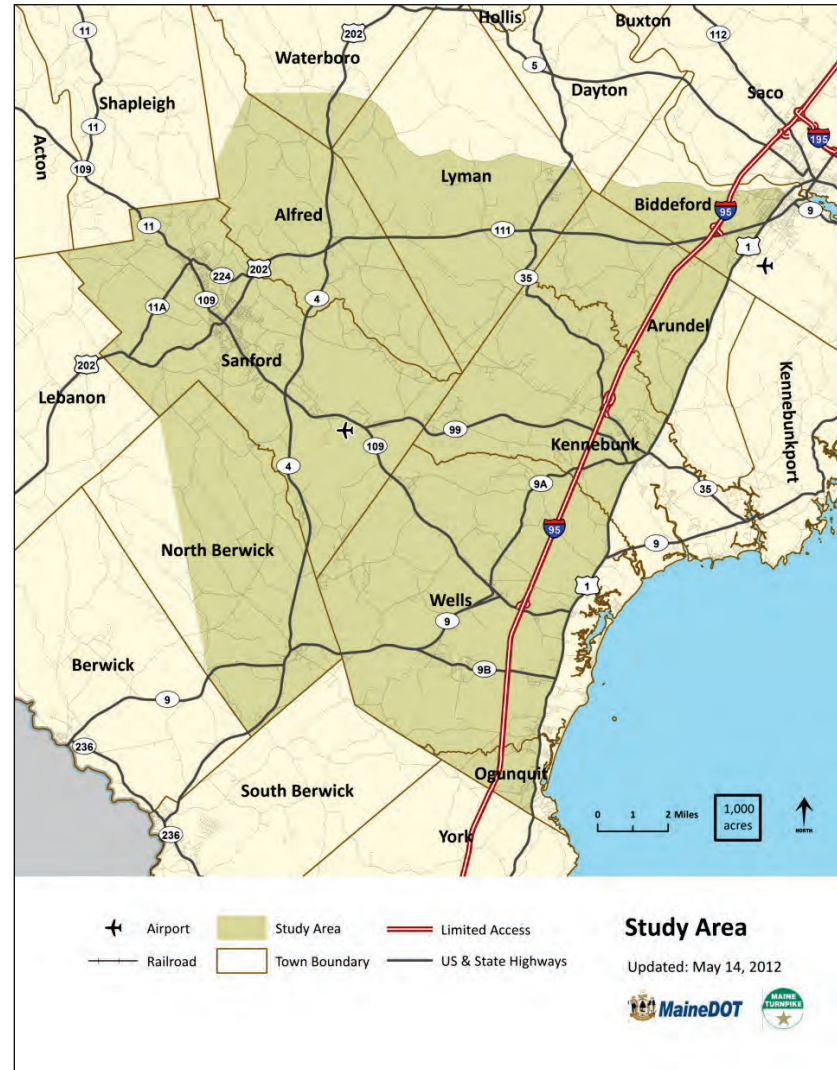


Figure ES-1-1: CYCCS Study Area



Overview of Work Conducted

The CYCCS is organized into four primary study phases:

- I. Organization and Background Information
- II. Initial Investigations and Analyses
- III. Detailed Strategy Development and Assessment
- IV. Study Documentation

Phase I focused on collecting and organizing information on the existing conditions in the study area, including transportation, land use, environmental and other relevant data.

In Phase II, the team began initial investigations and analyses and developed information about the range of strategies that could be considered for implementation in the study area. The development and assessment of candidate large-scale highway strategies was one of the primary efforts of Phase II. This effort tested the extent to which major expansions of the region's highway network could influence regional economic conditions, and investigated the costs, potential impacts, and benefit-to-cost ratios associated with these strategies. This initial round of testing allowed the team to both develop more specific, detailed strategies for evaluation in Phase III and eliminate from consideration concepts (or concept variations) that did not fare well in the Phase II evaluation.

Subsequent refinement and more detailed investigation of specific strategies occurred in Phase III. Other approaches to address transportation needs in the region, such as improvements to public transit and other modes of transportation, Transportation System Management (TSM), Travel Demand Management (TDM), land use

approaches and access management strategies were also investigated and evaluated in Phase III.

Phase IV consisted of documentation of the CYCCS, including preparation of this final study report. This final report is organized into five chapters, plus this Executive Summary:

- **Chapter 1: Study Overview**, which provides a brief introduction to the study and summarizes the study process.
- **Chapter 2: Study Context**, which summarizes existing and projected future conditions in the study area.
- **Chapter 3: Highways**, which details investigations into study area highways and evaluation of potential strategies for improving highways.
- **Chapter 4: Land Use and Access Management**, which considers how these types of strategies could play a role in preserving mobility and addressing highway safety.
- **Chapter 5: Public Transportation and Travel Demand Management**, which investigates the potential to strengthen transit and transportation management programs.

The report also includes appendices with detailed technical information and supporting documentation.



Recommendations

The recommendations of the CYCCS, as they relate to highways, land use and access management, and public transportation and Travel Demand Management (TDM), are summarized below.

Highways

Evaluations conducted during Phase II of the study demonstrated that large-scale capacity expansion – either in the form of new highway corridors or corridor-wide expansion of existing highways – is not warranted given current or projected conditions through the year 2035. Phase III therefore focused on identifying improvements to the current highway network in response to specific issues identified by the study team with input from the project committees and public. Recommendations were selected based on potential effectiveness, alignment with the study's goals, benefits versus costs, and implementation feasibility. Highway improvements that would result in a benefit-to-cost ratio of 1.0 or less were considered to be not economically feasible and therefore are not recommended.

Recommendations, organized by corridor, are discussed in detail in Chapter 3 and summarized in the Table ES 1-1 on Page ES-5.

Recommendations for the Route 111/202 Corridor focus on addressing identified safety and mobility issues, as well as improving the pedestrian environment in-town in Sanford, where the corridor travels through established residential and commercial areas. Recommended actions on Route 111 and Route 202 (Alfred to Sanford segment) are:

- Traffic Signal Upgrades – Biddeford Area
- Lane Choice Sign Improvements (Biddeford approaching Maine Turnpike entrance at Exit 32)
- Passing Lanes (Lyman – Arundel Segment)
- Passing Lanes (Alfred – Lyman Segment)
- Longitudinal Rumble Strips
- Improve Lyman Route 111 U-Turn
- Improve Route 111 & Kennebunk Pond Rd/Day Rd Intersection (Lyman)
- Improve Route 111/202 intersection at Route 4/202 (Alfred)
- Rehabilitate and Improve Route 202 between June St and River St (Sanford)
- Improve Route 202 & River St intersection (Sanford)
- Improve Route 202 & Route 109 intersection (Sanford)
- Corridor-wide Signage Improvements

Recommendations for the Route 109 corridor in Sanford and Wells are:

- Expand the Route 109 & Exit 19 Intersection (Wells)
- Traffic Signal Upgrade – Route 109 & Exit 19 Intersection (Wells)
- Improve Route 109 & Route 9 Intersection (Wells)
- Traffic Signal Upgrades –Route 109 in Sanford (Sanford)

The only highway recommendation specific to the Route 4 corridor, other than access management approaches discussed in Chapter 4, is to continue to monitor crash occurrences at the Route 4 intersection at School Street/Gavel Road and implement further improvements if necessary.

Other highway recommendations in the study area are as follows:

- Detailed Study of a New Route 99 to Route 35 Connection (Kennebunk)
- Pave Shoulders on Route 224 (Sanford)
- Pave Shoulders on Route 35 (Kennebunk and Lyman)
- Pave Shoulders on Route 99 (Kennebunk and Sanford)
- Eliminate “Y” Intersections
- Pedestrian and Streetscape Improvements in Villages/Towns

Some potential actions that would help address long-term corridor needs would be the responsibility of local jurisdictions, rather than MaineDOT or the Maine Turnpike Authority. Recommendations that local jurisdictions would be responsible for advancing are:

- Develop Local Street Grid in Biddeford and Arundel
- Develop Local Street Grid in Sanford
- Pave Shoulders on Old Mill Road in Sanford
- Plan for Build-out of Route 109 in Sanford

In addition to the highway recommendations noted above, some strategies considered demonstrated merit, but are not fully or clearly justified based on existing or projected conditions, or require further deliberation, are therefore identified as *Other Potential Long-term Actions*. They are:

- Biddeford Route 111 to Exit 32 Interchange Connector
- Reconstruct Route 202 near Goodall Hospital (Sanford)
- Monitor and Improve Route 111/Limerick Road Intersection (Arundel)
- Construct passing lanes on Route 109 (Sanford and Wells)
- Longitudinal Rumble Strips (Route 109 and Route 4)
- Construct passing lanes on Route 4 (Sanford and Alfred)
- Paved Shoulder Improvements on Route 11A (Sanford)



Table ES 1-1: Summary of Highway Recommendations

Recommendation	Jurisdiction(s)	Estimated Cost			Benefit/Cost Ratio (BCR) Assessment	Implementation Timeframe		
		Low (<\$50K)	Medium (\$50K - \$250K)	High (>250K)		Near-Term (1-2 Years)	Med-Term (2-5 years)	Long-term
H-1: Route 111 Traffic Signal Upgrades	Biddeford		✓		Not assessed	✓	✓	
H-2: Route 111 Lane Choice Sign Improvements	Biddeford	✓			Not assessed	✓		
H-3: Route 111 Passing Lanes (Lyman-Arundel)	Lyman, Arundel			✓	Medium (EB); High (WB)	✓	✓	
H-4: Route 111 Passing Lanes (Alfred-Lyman)	Alfred, Lyman			✓	Medium	✓	✓	
H-5: Route 111 Longitudinal Rumble Strips (40 mph or greater)	Various	✓			Not assessed	✓		
H-6: Improve Lyman Route 111 U-Turn	Lyman		✓		Not assessed	✓		
H-7: Improve Route 111 & Kennebunk Pond Road	Lyman	✓	✓		High	✓		
H-8: Improve Route 111.202 Intersection at Route 4/202	Sanford		✓	✓	Not assessed		✓	✓
H-9: Rehabilitate Route 202 (June St and River St)	Sanford			✓	Not assessed		✓	
H-10: Improve Route 202 & River Street Intersection	Sanford			✓	Medium		✓	✓
H-11: Improve Route 202 & Route 109 Intersection	Sanford			✓	High		✓	✓
H-12: Corridor-wide Signage Improvements	Various	✓			Not assessed	✓		
H-13: Expand the Route 109 & Exit 19 Intersection	Wells			✓	High		✓	
H-14: Traffic Signal Upgrade –Route 109 & Exit 19	Wells	✓			Not assessed		✓	
H-15: Improve Route 109 & Route 9 Intersection	Wells			✓	High		✓	
H-16: Traffic Signal Upgrades –Route 109 in Sanford	Sanford			✓	Not assessed	✓	✓	
H-17: Monitor and Improve School St/Gavel Rd Intersection	Sanford		✓	✓	Not assessed	✓		
H-18: Detailed Study of New Rte 99 to Rte 35 Connection	Kennebunk			✓	High			✓
H-19: Pave Shoulders on Route 224	Sanford			✓	Medium/High	✓		
H-20: Pave Shoulders on Route 35	Kennebunk, Lyman			✓	Medium		✓	✓
H-21: Pave Shoulders on Route 99	Sanford, Kennebunk			✓	Low/Medium		✓	
H-22: Eliminate “Y” Intersections	Various			✓	Not assessed		✓	✓
H-23: Pedestrian and Streetscape Improvements in Villages/Towns	Various		✓	✓	Not assessed	✓	✓	



Land Use and Access Management

The CYCCS identified a number of land use and access management techniques that towns in the CYCCS study area can consider as a means to direct future growth in ways that will reduce demand on the transportation system, support its efficient operation, and improve the viability of all travel choices. These are among the techniques that are often described as “Smart growth” approaches to land use planning.

Some strategies have widespread potential for applicability, and therefore are recommended for consideration by all of the study area towns. These strategies include:

- Require access plans for large developments.
- Extend subdivision streets to abutting parcels for future connection.
- Incorporate site features that support ridesharing and transit use.
- Encourage shared access for abutting lots.
- Require the interconnection of parking lots on adjacent parcels.

Developing an Official Map or Major Thoroughfare Plan is another strategy that is applied community-wide and is considered to be an overarching policy decision that needs to be tied to long range local planning, and could be considered for implementation by any of the towns.

The suitability of other specific access management strategies is dependent upon existing development patterns, zoning, each town’s current access management provisions and level of regulatory

sophistication, and the likelihood that the town will adopt and be able to administer the strategy.

The applicability of these location-specific strategies was described in the CYCCS on a segment-by-segment basis for three corridors:

- Route 111/202 in Biddeford, Lyman, Alfred and Sanford;
- Route 109 in Sanford and Wells; and
- Route 4/202 in Alfred and Sanford.

These corridors were selected because they are the primary travel corridors connecting central York County to the Maine Turnpike and Route 1 along the coast, and as such are the primary focus of the study. For each corridor segment, the location-specific strategies were designated as either; current (strategy already in effect); standard (the strategy would provide a basic or moderate level of access management in a particular location); enhanced (the strategy would provide greater levels of access management but are typically more complicated or difficult to implement in a particular location); or Not Applicable in the corridor segment.

These other recommended strategies include:

- Reduce the number of vehicle trips generated along highways.
 - Limit intensity of development abutting highways.
 - Transfer development rights.
 - Limit the use of land fronting highways to those that generate low levels of peak-hour traffic volumes.
 - Incorporate site features that support ridesharing and transit use.



- Encourage access from roads other than the highway.
 - Encourage access from streets other than the abutting highway.
 - Encourage wider frontages on highways than on other roadways.
- Improve street interconnectivity and local traffic circulation.
 - Include future connections on Official Map or Major Thoroughfare Plan.
 - Use rear lot access drives and/or backage roads.
 - Encourage interconnected parking lots on adjacent parcels.
 - Require off-highway frontage roads for new subdivision lots.
 - Extend subdivision streets to abutting parcels.
- Manage the frequency and operation of access points.
 - Encourage shared access for abutting lots.
 - Minimize the number of driveways per parcel on highway frontage.
 - Promote right turn only driveways.

Public Transportation and Travel Demand Management

Public transportation and TDM recommendations resulting from the CYCCS fall under four categories: facilities and access to transit, route-specific transit service improvements, public information/TDM, and fare policy. A summary of the CYCCS recommendations is outlined below.

Facilities and Access to Transit

- Create the Sanford Transportation Center in downtown Sanford, creating a centralized location for transit services that travel to, from, and within Sanford.
- Building on the service recommendations detailed below, create a new transit hub at the Biddeford park-and-ride, where the enhanced WAVE/Route 111 service, the ZOOM Turnpike Express, and the extended ShuttleBus Intercity/Portland service can interface.
- Along with creating a Transportation Center in downtown Sanford, there is a need for park-and-ride facilities to serve those traveling from surrounding communities who want to access transit in Sanford, particularly if there is an improved connection to Portland (as discussed in the next section of recommendations).
- There is a need for park-and-ride facilities along Route 111 west of Biddeford to help reduce congestion along that road during peak commute times.
- In addition to creating a central park-and-ride lot in Sanford, smaller park-and-ride facilities could be developed in the immediate vicinity, through leasing of parking facilities or shared parking arrangements with local shopping centers.

Potential locations for these types of facilities include Springvale, South Sanford (for access to the Sanford Transit/Sanford Ocean Shuttle), Alfred (potentially using the County Courthouse parking lot), and/or Lyman (both for access to the WAVE and any future services along Route 111).

- In many locations, there is a need for improved amenities at stops, including basic items such as a paved waiting area and sidewalks to safely access the stops, along with additional amenities such as shelters, benches, and trash cans.
- Provide bike racks and bike lockers at transportation centers and major park and ride lots.
- Provide additional bicycle racks on buses, so that customers can use their bikes on both ends of their transit trip.
- Preserve park-and-ride lots for commuter travel. Current enforcement activities have not been sufficient to discourage certain tour and airport shuttle operators from taking advantage of lots intended for short-term (less than 24 hours) parking use by commuters. Potential solutions include increased enforcement of parking duration rules (potentially using technological solutions that track license plates), improved signs and education, direct discussions with the operators of the bus services, or the installation of a gate/barrier at the eastern entrance of the Exit 32 Park and Ride in Biddeford that could only be actuated by ShuttleBus/ZOOM vehicles.

Route-Specific Service Improvements

- Improved Route 111 Service, either through expansion of the existing WAVE service or through extension of the ZOOM Turnpike Express along Route 111 to Sanford.
 - Under the first option, the WAVE would be expanded to better serve the Route 111 corridor and connect to ShuttleBus:
 - Increase service frequency on the WAVE to every hour and coordinate with the schedule for the ZOOM Turnpike Express at Biddeford.
 - Transition WAVE service from a demand response service to either a fixed route/demand response hybrid or a standard fixed route service running along the Route 111 corridor from Sanford to Biddeford and Saco. Under the fixed route/demand response hybrid, the WAVE would continue to provide some demand responsive and route deviation service, but would use real-time information to let passengers know when each run is expected to arrive at a limited number of fixed stops along the route. Alternatively, the WAVE could transition to a more traditional fixed-route service, stopping only at designated locations and running on a fixed schedule.
 - Create timed transfer to ZOOM Turnpike Express and ShuttleBus Intercity/Portland service so that WAVE riders can more easily access service to Portland.
 - Under the second option, select ShuttleBus ZOOM Turnpike Express peak period runs would be extended from the current terminal at Biddeford west to Sanford. This is likely the only option that could provide a time- and



convenience-competitive alternative to auto commuting for Sanford area to Portland trips. However, extending ZOOM service to Sanford would not likely be funded by MTA or be an express service, given ZOOM's purpose of serving Turnpike travelers.

- Travel times from Sanford to Portland would be around an hour, and no transfers would be required. This would be a peak period only service, perhaps with two morning and two evening trips beginning and ending in Sanford.
- Travel times for riders between Biddeford and Portland would not be adversely affected, but additional equipment would be needed to maintain or improve existing service frequencies.
- Commuters between Sanford and Biddeford/Saco could also use this service, though they would need to transfer at the Biddeford (Exit 32) park-and-ride to Tri-City Local service (on the Biddeford end) or Sanford Transit/Sanford Ocean Shuttle (on the Sanford end).
- WAVE would continue to provide all day service and could continue to focus on local connections.
- New service on I-95 South of Biddeford
 - Provide connecting service from the ZOOM Turnpike Express service to the Wells Transportation Center (Exit 19) and York County Community College in Wells, with an intermediate stop at the Kennebunk park-and-ride at Exit 25. Service could operate either as an extension of the existing ZOOM service, or as a timed-transfer shuttle connection.

- Sanford Transit
 - Coordinate with other services at the newly created Sanford Transit Center.
 - Consider targeted increases in service frequency, along with extending service to run later in the afternoon and early evening.
- Sanford Ocean Shuttle
 - Provide increased service frequency.
- ShuttleBus
 - Extend the hours of service of the ZOOM service, particularly to provide at least one additional run in the evening, for customers who need to stay in Portland past 5:00 PM.
 - Extend ShuttleBus Intercity/Portland service a short distance from the current terminal at Southern Maine Medical Center to the Biddeford park-and-ride at Exit 32 on the Maine Turnpike/I-95.
 - Ensure coordination of the Tri-City/Local service with other services within the CYCCS study area, particularly in the area of the Exit 32 park-and-ride lot in Biddeford.

Public Information/TDM

- Make greater use of real-time information throughout the Central York County transit network. Providing enhanced real-time information could also allow for the creation of a hybrid demand response/fixed-route version of the WAVE, as described earlier.
- Improve transit information for Central York County, to create a single clearing house for transit service information. With

multiple operators providing differing types of service (demand response, route deviation, fixed-route local, fixed-route express), the transit service options within York County can be somewhat difficult to understand.

- Encourage a continued regional approach and intercommunity cooperation to further optimize economic development, land use and transportation opportunities while maintaining and enhancing the region's environmental, historic and cultural values.

Fare Policy

- Consider implementing an integrated fare policy to make it easier and less costly for riders to transfer between YCCAC and ShuttleBus transit services. An integrated fare policy can encourage additional ridership and create more seamless transfers between the various transit services in the CYCCS study area.

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