

Secondary and Cumulative Impacts

4.1 Secondary Impacts

This section examines the secondary impacts of the Route 2/2A/32 project. Secondary impacts are defined as reasonably foreseeable consequences to the environment that are caused by a proposed action, but that would occur either in the future (later in time) or in the vicinity of (not at the same location as) the direct impacts. The baseline for evaluating potential secondary impacts is the existing and reasonably foreseeable expected environment, which is described in Alternative A (the No-Action alternative). The following sections identify the likely induced development associated with each of the alternatives, which will be used as a basis for assessing secondary and cumulative impacts to human and natural resources.

4.1.1 Alternatives B and C

Alternatives B and C are likely to have secondary impacts as a result of the circulation of construction spending within the region, improved access to employment opportunities, and changes in property values and land uses in the vicinity of stations.

As shown in Section 3.16.3, these alternatives would have the highest construction spending, which would result in broad, short-term economic benefits throughout the region.

The rail and transitway elements would improve access to employment opportunities in Norwich, New London, and Westerly. However, employment growth in these cities is small, with each drawing from a labor pool extending over a larger area.

Property values and business activity would likely increase in the vicinity of the Norwich West and I-395 Transportation Centers, due to increased vehicular traffic along the access routes to these stations. To the extent allowed by zoning, land uses may change in the vicinity of the I-95 Transportation Center. Increased traffic on Route 49 would favor new

service-related uses such as gas stations, convenience stores, and restaurants. The location and impacts of new businesses would be controlled by local zoning and wetlands regulations.

4.1.2 Alternative D

Alternative D is likely to have secondary impacts as a result of the circulation of construction spending within the region, improved access to employment opportunities, and changes in property values and land uses in the vicinity of stations.

The Busway would improve access to employment opportunities in Norwich, and Westerly. However, employment growth in these cities is small, with each drawing from a labor pool extending over a larger area.

To the extent allowed by zoning, land uses may change in the vicinity of the I-95 Transportation Center. Increased traffic on Route 49 would favor new service-related uses such as gas stations, convenience stores, and restaurants. The location and impacts of new businesses would be controlled by local zoning and wetlands regulations.

4.1.3 Alternative E

Alternative E is likely to have secondary impacts as a result of the circulation of construction spending within the region, changes in property values and land use along Route 2, and improved access to I-95 and I-395. The Route 2A Bypass would not result in secondary impacts to land use, as it would not have any new intersections with local roads.

The widening of Route 2 would enhance the value of commercial property along the corridor, while decreasing residential property values. Commercial development (particularly service-related) would be likely to increase at signalized intersections, to the extent allowed by local zoning. Potential growth sites include the intersection with the new Route 2A Bypass, Route 201, Main's Crossing, and Route 184. Turning lanes at unsignalized intersections or driveways would also benefit business access.

Improved access to major highways (I-95 and I-395) would result in slightly shorter commuting times within and outside of the region, and may result in an increase in the rate of housing growth in North Stonington, Ledyard, and Preston.

4.1.4 Alternative F

Alternative F is likely to have secondary impacts as a result of the circulation of construction spending within the region, changes in property values and land use along Route 2, and improved access to I-95 and I-395. The Route 2A and Route 2 Bypasses would not result in secondary impacts to land use, as these would not have any new intersections with local roads.

The widening of Route 2 in Preston would enhance the value of commercial property along the corridor, while decreasing residential property values. Commercial development (particularly service-related) would be likely to increase at signalized intersections, to the extent allowed by local zoning. Potential growth sites include the intersection with the new Route 2A Bypass. Turning lanes at unsignalized intersections or driveways would also benefit business access.

The reduction in traffic volumes along Route 2 in North Stonington could enhance residential property values, but would decrease commercial property values. New commercial development related to service businesses would not be anticipated.

Improved access to major highways (I-95 and I-395) would result in slightly shorter commuting times within and outside of the region, and may result in an increase in the rate of housing growth in North Stonington, Ledyard, and Preston.

4.2 Cumulative Impacts

This section examines the cumulative impacts of the Route 2/2A/32 project. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency or person undertakes such actions”. Cumulative impacts need to be analyzed in terms of the specific resource or ecosystem being impacted. The list of environmental effects must focus on those impacts and affected resources that are truly meaningful. For this Draft EIS, the parameters of the cumulative impact study are:

- Impacts are assessed on a regional level, for the area including the New London, Norwich, Stonington and Westerly area, north of I-95
- The time frame extends from the recent past (approximately 1970) to the foreseeable future (approximately 2020)
- Actions included in analysis include recent developments:
 - Foxwoods Resort

- Mohegan Sun Casino
 - Retail/commercial developments on Routes 32 and 2
 - Route 2A/Mohegan interchange construction
 - Route 78 construction
 - Route 2 upgrades, Preston, North Stonington
 - Cinema complex, Route 2/49
- Actions also include planned or likely future developments or actions:
- Route 2 widening south of I-95
 - Route 2 Widening, Route 164 to 214
 - New Hotel/retail development, North Stonington and Montville
 - Mohegan Sun expansion
 - Development in the vicinity of I-95's Exit 92
 - Norwich State Hospital redevelopment
 - Foxwoods expansion
 - Development of commercially zoned lands, Preston/Ledyard/North Stonington
- Resources of concern include:
- Wetlands
 - Wildlife (birds, mammals, reptiles and amphibians, fisheries)
 - Rare species
 - Air quality
 - Surface water quality
 - Groundwater quality and quantity
 - Agriculture
 - Land use
 - Economic impacts
 - Social impacts
 - Traffic impacts are dealt with in Chapter 3, and are not repeated here

Other actions being undertaken or contemplated within the study area include revitalization and redevelopment of the urban centers of Norwich, New London, and Westerly. These actions involve previously-developed areas and will have positive economic and social benefits. The purpose of the analysis of cumulative impacts is to determine whether the proposed action, considered with other foreseeable impacts, will result in significant degradation of a resource, loss of biological diversity, or significant social or economic effects that would not result from the proposed action considered separately. As the analysis summarized in Table 4.2-1 shows, none of the alternatives being considered in the Route 2/2A/32 Draft EIS are likely to result in cumulative impacts that would differ substantially from the effects of past actions or other likely future actions, and would not result in substantial damage to or loss of an environmental resource. The alternatives

vary in their potential effects. A more detailed analysis will be undertaken for the Proposed Action and presented in the Final EIS.

**Table 4.2-1
Cumulative Impacts**

Resource	Effects of Past Actions	Potential Effects of Future Actions	Effects of Route 2/2A/32 Project
Land Use	Loss of undeveloped land; Beneficial re-use of developed properties; relocations of residences and businesses for roadway improvements	Loss of undeveloped land; beneficial re-use of developed properties; some relocations necessary for roadway improvements	Minor losses of developed and undeveloped land; some relocations of residences and commercial businesses
Social	Some previous actions (construction of Route 78, upgrade of Route 2) affected neighborhood cohesion; realignment of Route 2 around North Stonington village center improved neighborhood; some concerns about adverse social effects of gambling	Unknown	Some alternatives likely to affect neighborhood cohesion
Economic	Positive economic effects due to increases in employment, tax revenues; minor adverse effects due to loss of land from tax rolls (placed in trust for Tribes)	Positive economic effects due to increases in employment, tax revenues, for development that occurs on land under jurisdiction of municipalities	Minor economic effects due to reductions in tax revenues
Agriculture	Loss of agricultural land	Loss of agricultural land	Minor losses of land in active agricultural use, with minor losses of designated agricultural soils
Air quality	Increased regional traffic likely resulted in air quality impacts	Increased regional traffic likely to result in air quality impacts	

Table 4.2-1 (continued)
Cumulative Impacts

Resource	Effects of Past Actions	Potential Effects of Future Actions	Effects of Route 2/2A/32 Project
Groundwater	Increased demand on groundwater resources	Increased demand on groundwater resources, particularly within the Pawcatuck Sole Source Aquifer	No effect on groundwater resources. Roadway construction will incorporate appropriate mitigation measures to protect groundwater quality.
Wildlife	Losses of wildlife habitat	Losses of wildlife habitat	Minor losses of wildlife habitat
Rare species	Unknown. One development may have adversely affected a rare plant population	Unlikely to affect rare species	No effects on rare species
Wetlands	Losses of wetland resources, generally not mitigated by the construction of compensatory wetlands	Minor losses of wetland resources, likely to be mitigated with resulting “no net loss” of wetland functions	Minor losses of wetland resources. All losses will be mitigated, with no anticipated loss of wetland functions within any of the study area watersheds

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