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## *Intermodal Connections Study Southeast*

# Final Report

## *Section 4: Service Concept*

*February 2005*

## **4. SERVICE CONCEPT**

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## 4. SERVICE CONCEPT

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### 4.1 SERVICE DESIGN PROCESS

This section presents the process used to identify and recommend a service concept for the proposed transit service designed to serve the southeastern Connecticut tourism industry.

A new tourist transportation system for the region was suggested in 2000 by SCCOG in a white paper prepared for SEAT entitled: “Congestion Mitigation: Southeastern Connecticut Intermodal Uni-ticket Program.” That study proposed a regional tourist transportation system to be operated by SEAT, that would connect New London, Mystic, and the two casino resorts. The proposed system would have required \$9.3 million in capital financing and \$5.5 million in annual operating funds. This concept resulted in the Transportation Strategy Board funding this Intermodal Connections Study Southeast, for the purpose of further developing the service concept and investigating governance, management, financing and service strategies.

At the time the study began in 2003, there were a number of separate non-automobile transportation services entering the region and providing service within it. These services were documented in Chapter 2 of this report. Coach bus services to the casino resorts carry the largest number of passengers into the region, while ferries into New London, with coach connections to the casino resorts, also carry many passengers. Amtrak and other intercity coach carriers serving New London carry relatively few arriving passengers and connecting SEAT service has not been effective at attracting visitors. Within the region, SEAT provides public transit services but these are generally not used by visitors. The only internal transportation services for tourists are the hotel-operated shuttle services to the casinos and the local shuttle within Mystic. The internal visitor transportation services do not connect the three major tourist destinations (the two casino resorts and Mystic) to each other.

This study identified two markets for visitor transportation – 1) connections to rail and ferry services entering the region, and 2) circulation of visitors within the region. Both markets could benefit from improved services, and service improvements in one market are likely to bring increased use of non-automobile services in both markets. The market analysis and stakeholder involvement process carried out for this study resulted in the identification of desirable characteristics for a new tourist transportation system in the region and identified the characteristics of several successful models of tourist transportation services which could be applied in southeastern Connecticut.

The development of the service concept began with identification of all the key attractions and tourist venues in the region as well as the major hotels and intermodal connection points. The basic functions of services to be included in the recommended service concept were defined – intermodal connections to services entering the region,

and services providing circulation within the region. A third function, feeder service, was added to allow for supplemental services to connect smaller attractions and hotel clusters to the principal services. Two basic service types were also defined – non-stop express service for the most critical connections, and local service for other connections.

Several conceptual service designs were developed and evaluated. Alternative designs considered combining two or three of the service functions into a single route, using non-stop express services in different combinations, and connecting varying numbers or combinations of attractions on each route.

After evaluating and discussing several concepts with SCCOG staff and stakeholders, a preferred service design evolved. The service design is described in detail in the following section. It consists of four primary routes. The four routes would provide non-stop, express service connecting the two casino resorts to New London and to each other, and local service connecting Mystic to the two casino resorts and to New London. The casino to/from New London services would be supplemented by additional express coach service to meet the service demand. Circulation within Mystic would be provided by an enhanced Mystic Shuttle incorporated into the system and connected to the other routes at a new “superstop” shelter facility near I-95 at Exit 90. All services would operate year round. The governing entity for the new system would be a new special purpose company and the service would be operated by a contract operator.

In order to bring this system into being and to generate the private sector support necessary to continue operation of the system, a pilot demonstration system would be operated for two years using State funding. Under the pilot system, the casino resorts would continue to provide and fund the connections to the ferry at New London, while public funding would be used to operate the services between the casino resorts and Mystic, and the service between the two casino resorts.

## **4.2 SERVICE DESIGN**

This section describes desired service characteristics of the system, a summary of common features of successful tourism-focused systems in operation in other parts of the country, and an overview of the proposed route structure, system amenities, operations features and management of the proposed system.

### **4.2.1 Desired Service Characteristics**

Early in the study process, the study team defined a set of qualitative service characteristics that reflected the study goals and transit service objectives. Like the study goals and objectives, consultation with key stakeholders helped to identify the following critical attributes of a new tourist transit system for the study area:

- **Seamless transfers** – a system without barriers between major access modes, including auto, ferry, rail, and air travel.

- **Frequent, direct and reliable** – a dependable transit system is critical to capturing the potential rider market.
- **High amenity (comfortable)** – comfort is as critical as dependability in attracting and retaining the potential rider market.
- **User-friendly information** – a system that provides up-to-date and easy-to-understand information about system routes, schedules, and fares.
- **Well-marketed** – a system that is marketed as an integral part of the visitor experience and that provides high quality transit access for venue employees.
- **Unique image/identified with partners** – a distinctive look and image will be featured that is immediately recognizable by the traveling public.
- **Distinctive vehicle** – transit vehicles will reflect the system image with amenities important to the targeted travel market.
- **Easy-to-use / hassle-free** – the transit service has to be understandable to users and take them to and from destinations that they want to go to.
- **Fun and entertaining** – the primary market for the transit system are people on vacation traveling to recreational destinations. It is important to provide a sense of fun and relaxation in keeping with the market theme.
- **Inexpensive to user** – a substantial user cost could be a barrier to attracting riders to use a transit system.
- **Financially viable/cost-effective** – the system must be affordable and cost-effective for the financing entities.
- **Environmentally-friendly** – a system with the least possible negative impact on the region's environment is desired.

#### 4.2.2 Successful Models

The study team looked at a wide range of transit systems in place throughout the country serving tourists, residents and employees for potential models to emulate in the southeastern Connecticut region. These include examples in gaming destinations such as Las Vegas, Lake Tahoe and others. Direct links between casino resorts are not unusual and past experience suggests that mutual benefits would accrue.

The most successful systems reflect the following characteristics:

- The cooperation of resorts, hotels, and attractions in marketing the transit system.
- Financial support and active role of attractions in the management of the transit system.
- Service and fare characteristics – Transit systems that provide a high degree of comfort, convenience, reliability, at a low user cost tend to be the most successful as evidenced by the following characteristics: low or free fares (\$1 or less); frequent,

reliable service; convenient access to attractions; direct links provided between attractions; service hours matching hours of attractions; and service perceived as a tourist amenity (with drivers acting as regional ambassadors).

- Disincentives to auto use – Transit systems attract the most patronage when there are disincentives to driving, including such factors as constrained parking; traffic congestion; and lodging located at a distance from key attractions.

These characteristics were important considerations in the identification and evaluation of transit alternatives for the region.

### 4.2.3 Routes

Routes were designed to provide circulation among the major attraction and hotel sites as well as provide access to the region via connections with the ferry and rail terminals. Recognizing the most critical connections that must be made by the transit system, the recommended route network provides non-stop, express service for the following connections:

- New London Multimodal Transportation Center to Foxwoods
- New London Multimodal Transportation Center to Mohegan Sun
- Foxwoods to Mohegan Sun

Service between other destinations may involve one or more intermediate stops. This would include travel between Mystic and the casino resorts and between Mystic and New London.

The proposed design results from a recognition that the key service elements of a successful system will include maintaining and improving express service between New London and each of the two casino resorts, establishing frequent express service between the two casino resorts, and establishing connections between the two casino resorts and Mystic. The service design is shown conceptually in Figure 4.2-1 and includes four separate regional services:

- **Route A - Mohegan Sun-New London-Mystic** – This route would provide express non-stop service between Mohegan Sun and New London to serve the ferry/rail connection. It would then continue on to end in Mystic near Exit 90, possibly making one or more stops at major hotels between New London and Mystic. The segment between New London and Mystic will serve the circulator market between Mohegan Sun and Mystic and between New London and Mystic, as well as serve as the ferry/rail shuttle connection to the Mystic area and nearby hotels.
- **Route B - Foxwoods-New London** – This route would provide express non-stop service between Foxwoods and New London to serve the ferry/rail connection.

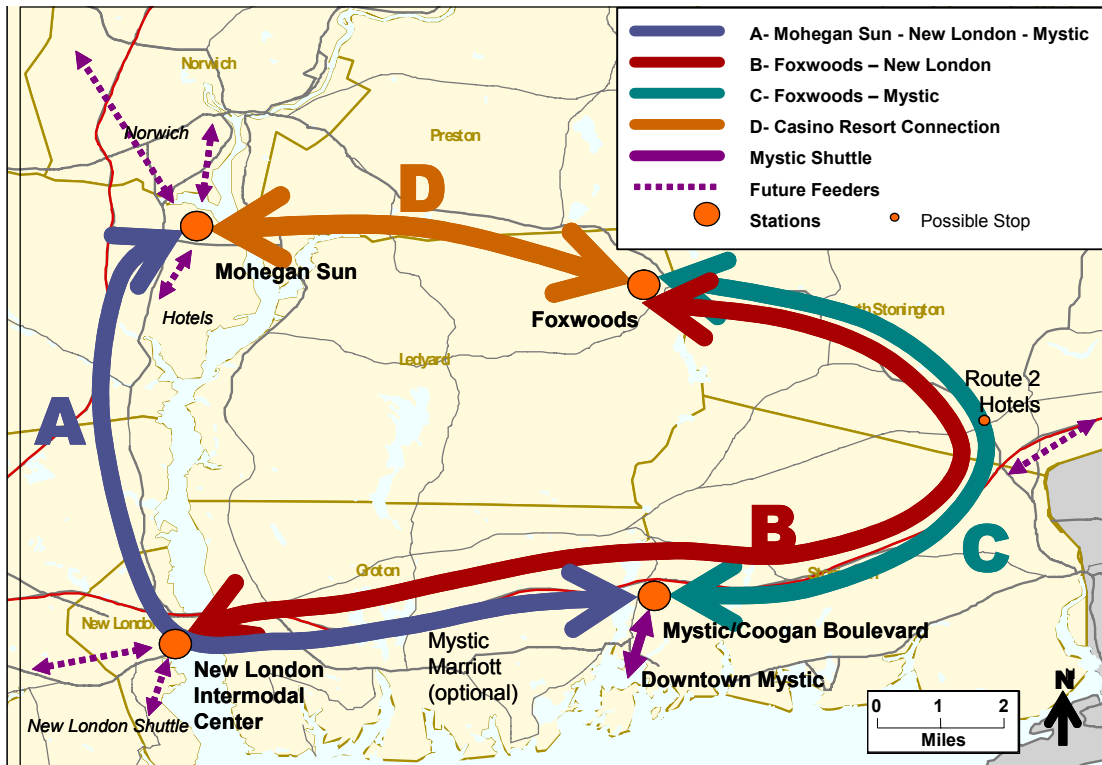
- **Route C - Foxwoods-Mystic** – This route would provide a local service connection between Foxwoods and Mystic near Exit 90, making one or more stops at major hotels on the way. This will serve the circulator market between Foxwoods and Mystic.
- **Route D - Mohegan Sun-Foxwoods** – This route would provide express non-stop service between the two casino resorts.

The above routes and stops would provide the required express non-stop connections between the casino resorts and New London (including its rail and ferry terminals), as well as the non-stop casino connection. Local connections would be provided between those locations and Mystic. Connections to Mystic would involve few stops to ensure competitive travel times.

In addition to the four regional routes, a number of key potential feeder routes have been identified to enhance coverage of hotels, attractions and other relevant locations while keeping the number of intermediate stops on the regional routes at a minimum. Only one, the Mystic Shuttle, is proposed to be incorporated into the recommended Full System of tourist transit services at this time. The Mystic Shuttle service would provide for travel to other locations in Mystic, including most of the hotels near Exit 90 and attractions in Mystic away from I-95. Other feeder service is proposed as future routes to make connections to additional hotels and attractions – in Norwich, downtown New London and from hotels along Route 32. Most hotels would require feeder services to deliver guests to/from one of the four major locations. Potential destinations for these future feeders may also include East Lyme, the Westerly (RI) area, the airports and other locations in the area that represents destinations for the target market.

A key element of the system is construction of a “superstop” shelter facility on Coogan Boulevard in Mystic, near Olde Mistick Village and the Mystic Aquarium, to serve boarding and transferring passengers.

Figure 4.2-1: Proposed Full System Routes Including Future Feeder Service



#### 4.2.4 Service Levels

The span of service on the all routes would be approximately 15 hours per day, roughly from 9:00 a.m. to midnight. On Fridays and Saturdays, service would operate for an additional two hours until approximately 2:00 a.m. The service would operate 365 days a year.

The operating plan specifies frequencies that would vary by season (peak season, mid-season, and off season) and by time of day (peak period, late night peak period, and off-peak period). The definitions used for these are shown in Table 4.2-1 below.

**Table 4.2-1: Definition of Time Periods and Seasons Used in Operating Plan**

Peak Period	3 hrs. (approx. 4-7 pm)
Late Night Period	3 hrs. (approx. 10 pm-1 am on weekends)
Off-Peak Periods	12 hrs. on weekdays (approx. 9 am - 4 pm; 7pm - midnight) 11 hrs. on weekends (approx. 9 am - 4 pm; 7-10 pm; 1-2 am)
Peak Season	101 days All of June, July, and August – 92 days Memorial Day weekend (3 days) Labor Day weekend (3 days) Columbus Day weekend (3 days)
Mid-Season	82 days May, September, October – 91 days Less three holiday weekends (-9 days)
Off Season	182 days – November through April
Weekend	111 days all Fridays and Saturdays plus 7 days on holiday weekends
Weekdays	254 days Sunday through Thursday except 7 days on holiday weekends

Service frequencies for the system have been established that respond to different demand scenarios. Under a lower demand scenario, service frequencies for Routes A and C, the casino resort to Mystic routes, would be 15 minutes during late afternoon peak periods on summer weekends. Route D, the casino resort connection, would require a service frequency of every 12-15 minutes during late afternoon peak and late night periods on weekends in summer and in mid-season. The Mystic Shuttle would operate at least every 15 minutes every day during the summer and on mid-season weekends.

Under the higher demand scenario, Routes A and C would require an increased frequency on weekends year round, and on summer weekdays. On peak summer weekends, service between Mohegan Sun and Mystic could be needed as often as every 10 minutes while service between Foxwoods and Mystic could be needed as often as every 6 minutes. Route D, the casino resort connection, would require increased frequency at most times under the higher demand scenario -- a frequency of every 12-15 minutes could be needed during weekday peak and weekend off-peak times, and every 6-7 minutes during weekend peak times. On the Mystic Shuttle, very frequent service would be required on summer weekends, with service at least every 15 minutes at many other times.

#### **4.2.5 Operating Costs**

There are several components of the operating cost for the proposed tourist transit system. These include transportation costs, maintenance costs, management costs, ITS operating and maintenance costs, and facilities operating and maintenance costs.

The system is assumed to be operated by a private contractor who will provide transportation, maintenance and management. It is possible that SEAT might be selected to operate or maintain the system, but it is assumed that if this is the case, the costs would be competitive with that of a private operator. The operating cost per vehicle hour, including maintenance and management, was assumed to be \$60, based on a review of 2002 operating costs of public transit operators in Connecticut who employ contractors

rather than directly operating service, as well as a review of some other contract operations in East Coast states. Table 4.2-5 below summarizes operating costs for the Full System.

**Table 4.2-5: Operating Costs Associated with the Full System (Under Two Demand Scenarios)**

<b>Costs*</b>	<b>Low Demand</b>	<b>High Demand</b>
O&M Contract including management	\$5,762,880	\$7,707,072
ITS	\$238,728	\$255,283
Communications	\$41,480	\$55,880
Station Maintenance	\$18,000	\$18,000
No fare collection O&M included	0	0
Ongoing Marketing	\$342,444	\$421,449
Transit Coordinator	\$100,000	\$100,000
<b>Total Cost</b>	<b>\$6,503,532</b>	<b>\$8,557,684</b>

\* Assumes no fare advertising revenue

#### 4.2.6 Fleet Size and Vehicle Types

It is estimated that the proposed system will require between 39 and 60 vehicles, including spares, depending on the ridership demand. This is based on providing service at least every 30 minutes at all times, meeting all the high speed ferries, and providing sufficient capacity for the projected ridership (see Section 6.4).

With respect to the size and type of vehicle, the use of mid-size (30-foot) low floor transit buses for the service to and from Mystic and the Mystic Shuttle is envisioned. These buses with wide doors and low floor entry would facilitate rapid boarding and alighting by the general population as well as by senior citizens and families with children. They also offer large windows to facilitate sightseeing. There is relatively little need for significant luggage capacity, since the buses will serve hotel accommodations. However, it could be provided by customizing the interior.

For the express service to and from the New London ferry and rail terminal, larger buses would be appropriate, to supplement the regularly scheduled service and accommodate seasonal demand on the passenger ferries. This would be accomplished by using a fleet of 40-foot large transit buses or alternatively, over-the-road coaches.

The fleet cost is estimated at \$11.2 million in the lower ridership scenario and \$17.1 million in the higher ridership scenario, assuming diesel vehicles; CNG or hybrid diesel-electric vehicles would increase the vehicle costs by \$5-\$12 million, respectively, in the higher ridership scenario.

#### 4.2.7 Stations and Amenities

Stations would vary in size and amenities. Stations have been classified in three categories: superstop, major stop and minor stop. Superstops, stations that serve both

boarding and transfer passengers, would be located at: Coogan Boulevard, Foxwoods Casino, Mohegan Sun, New London Intermodal Terminal, and the New London Ferry Terminal, as well as at the Norwich Intermodal Transportation Center (for future feeder service), and the Norwich Hospital Site (if the future development is a tourist venue). Even though the above include the largest passenger activity, some may not require elaborate shelters since they already provide such facilities.

Major transit stops, those located to serve primary destinations, would be located in Downtown Mystic (2 stops), Mystic Seaport (2 stops), and the Mystic hotel cluster at Route 27 north of I-95). Minor transit stops, located to serve less prominent destinations, would be located at Grand Pequot Hotel, Great Cedar Hotel, Mohegan Sun Hotel, Two Trees Hotel, Mashantucket Pequot Museum, Route 2 hotels (1 stop) and other Mystic locations (2 stops).

A high level of amenities and a custom, signature design is envisioned to provide a comfortable and attractive station setting and to use the stations as marketing devices. Shelters and signage for these stations is expected to require at least \$0.4 million. Roadway and site improvements would cost another \$0.2 million. A wide range of technology was analyzed for providing real-time information at stations, pre-trip itinerary planning, automated announcements in the buses, and to aid in system communications and operations. It is estimated that technology investments would require an expenditure of \$1.5 to 3.4 million.

#### **4.2.8 Maintenance and Storage Facility**

A maintenance and storage facility would be required unless an operating contractor could provide the facility. Construction of a new facility would likely cost about \$9.0 to \$12.5 million depending on whether CNG or diesel vehicles are used. CNG buses would require protective measures and a rapid fueling station, which are reflected in higher costs. The current SEAT facility would not be able to accommodate these needs although SEAT has the land needed for expansion if it were selected to provide the maintenance/storage for the new service, whether or not SEAT operates the new service.

#### **4.2.9 Governance, Management, Operation and Maintenance**

It is envisioned that a new, representative entity composed of public and private representatives, known as a Special Purpose Company (SPC), would be formed to serve as the governing board and represent the interests of sponsors of the new service. The SPC would offer a single entity with one purpose and mission for an integrated approach. It could include representatives from both the private and public sector and could be composed in a manner so that representation reflects the degree of sponsorship. The SPC could be provided with a service delivery franchise, which it could exercise through a contractor. The SPC's expenses would be deductible business expenses for SPC partners, which may be of value to those that are taxable businesses. The SPC would employ a

transit coordinator to oversee the tourist transit system and might directly employ a marketing coordinator.

The Southeastern Connecticut Council of Governments may be able to facilitate the formation of the SPC building on the development of this business plan and the coordination of the study stakeholder steering committee. SCCOG might also provide assistance with any grant applications for public funds.

Transit system operation and management would be provided under a contract arrangement. It is envisioned that this operator would be a private transportation company with prior experience in transporting tourists. However, the Special Purpose Company could also entertain bids from the public transit operator, SEAT. A contractor offers a track record of transportation experience and would be in the best position to offer a highly qualified manager and could offer some economies of scale. It would be important for the contract to contain service standards and for the SPC to monitor performance with respect to these standards.

There are two primary options for maintenance of the fleet. One option is to have the operations contractor maintain the vehicles. The other is to have a separate contract for maintenance with SEAT (assuming SEAT was not the selected operating contractor), the regional transit provider which has a facility located between the two casino resorts. For costing purposes, we have assumed that the maintenance facility would be built on SEAT property as an additional structure for either diesel or alternative fuel buses. The cost therefore excludes land costs. The higher end of the range of costs for this facility (\$9.9 million) incorporates the costs associated with CNG maintenance, which requires special safety measures and tools.

### **4.3 THE PILOT PROJECT**

The private sector is envisioned to play a substantial role in the proposed public-private partnership for governing, management and operation of the transit system, as described in the section above. The thinking behind the partnership was that the private sector would play a larger role than the public sector in the oversight and execution of the transit system, commensurate with the anticipated benefits the private sector is expected to gain as a result of the system. However, to date, the private sector has not committed to this role.

Recognizing the reluctance of the private sector to commit resources until such benefits are demonstrated, the business plan incorporates a Pilot System phase with new services largely supported by public funds. This pilot phase is expected to last about two years and would include some, but not all, of the recommended services and facilities outlined in the sections above. It is anticipated that the successful operation of the system will generate the support being sought by private sector partners, primarily owners and operators of the casinos and other tourist venues, to help finance the system operations.

The pilot project would consist of Routes A, C, D and the Mystic Shuttle largely supported by public funds. These services would focus on connecting the casino resorts with Mystic and with each other. The casino resorts would continue to provide the coach connections with the New London ferry terminal during this pilot project. It should be noted that Route D, linking the two casino resorts owned by different tribal nations, is still controversial. As a result, it may not be possible to include this in the Pilot System. Clearly, substantial negotiations among the potential partners need to occur before the Pilot System plan can be finalized and implemented. Nevertheless, competing casinos in other regions have found that providing this type of link can be mutually beneficial. Furthermore, such a link directly supports the Mystic Places concept and may be key to reaping the projected induced visitation benefits. As a result, Route D has been included as part of the recommended Pilot System.

The recommended operator for the proposed pilot would be a contractor selected through a competitive procurement. This operator would provide the vehicles, all transportation and maintenance functions, including a facility to store and maintain vehicles, as well as day-to-day management.

Figure 4.3-1: Proposed Pilot System Routes

