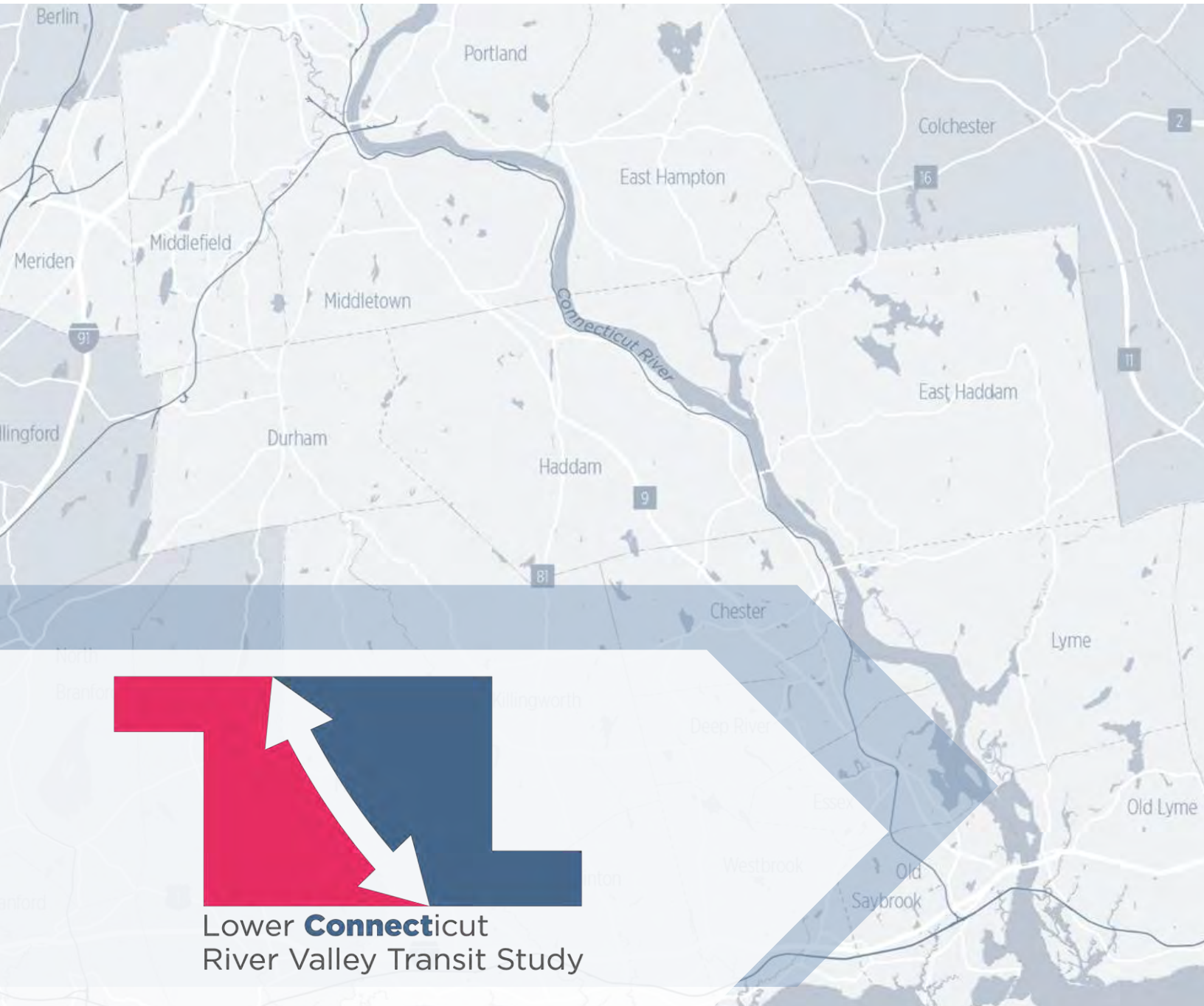


# Appendix A

## Evaluation of Facility and Governance Scenarios

June 12, 2020



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# 1 Introduction

The Lower Connecticut River Valley (LCRV) Transit Study is assessing the performance and delivery of transit service in a 17-community region in south central Connecticut. Today, the region is primarily served by two local public transit districts: Middletown Transit District (MTD) operating in the northern part of the region around Middletown; and, Estuary Transit District (ETD) serving a broader area to the south and making connections along the CT shoreline between Madison, Old Saybrook and New London.<sup>1</sup>

The Study is considering approaches to enhance and more efficiently deliver transit services within the region and was guided by a Steering Committee made up of representatives from RiverCOG, CTDOT and the two transit districts. The following goals were established to guide the study:

- 1. Improve Regional Transportation:** Evaluate opportunities in administration, operations, and policymaking to ensure improved regional transportation for Estuary Transit District and Middletown Transit District.
- 2. Achieve Efficiencies in Service Delivery:** Consider a shared structure and locations of assets and facilities to provide future transit services in the Lower CT River Valley region.
- 3. Implement Recommended Actions:** Develop recommendations for subsequent planning and integration steps.

Project objectives were also developed to capture the desired service delivery and service performance results and to guide the evaluation process described in this document (see Figure 1).

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<sup>1</sup> Although MTD and ETD are the legal names of these transit districts, MTD operates as Middletown Area Transit (or MAT) and ETD operates as 9 Town Transit. This nomenclature is used interchangeably throughout this report, with “MTD” and “ETD” used when discussing governance and “MAT” and “9 Town” used when discussing service- related issues.

**Figure 1 | Project Objectives**

GOAL 1: ACHIEVE EFFICIENCIES IN SERVICE DELIVERY
Consider the overall cost of service delivery
Use existing and planned assets efficiently
Provide opportunity and capacity for growth
GOAL 2: IMPLEMENT RECOMMENDATIONS
Identify a practical and implementable plan
Identify changes that have a high level of public and political support
GOAL 3: IMPROVE REGIONAL TRANSIT SERVICE
Better meet existing passenger needs
Attract new riders
Help people live independently
Offer equitable service

The remainder of this document is organized as follows:

- **Chapter 2** summarizes existing conditions and operating expenses for comparison with future investment scenarios.
- **Chapter 3** presents four Facility Alternatives to assess the potential costs, impacts and benefits of different approaches to meeting current maintenance and operational needs.
- **Chapter 4** combines three different district Governance options with the four Facility Alternatives to create five different Regional Service Delivery Scenarios.
- **Chapter 5** evaluates the five service delivery scenarios against Goals 1 and 2 above.

A separate document, *Evaluation and Recommendation of LCRV Transit Service Improvements*, evaluates potential service improvements against Goal 3 above and prioritizes improvements for implementation.

## 2 Existing Conditions

Future investment scenarios will be compared to FY2020 conditions. These existing conditions are summarized below and in the *State of the Systems Report: Existing Transit Conditions in the Lower Connecticut River Valley* (October 2019).

Although 9 Town services cover a larger and less densely populated area than MAT, the two districts are similar in size and the scope of their operations. They both have operating budgets in the range of \$2.5 million, have similar sized fleets, and each deliver about 50,000 annual hours of transit service (see Figure 2 | Snapshot Comparison of the MTD and ETD Districts).

**Figure 2 | Snapshot Comparison of the MTD and ETD Districts**

	MTD	ETD	Combined
Approved FY2020 Operating Budget	\$2.5 M	\$2.5 M	\$5.0 M
Employees (FTEs)	28	25	53
Annual Hours of Revenue Service	48,000	54,000	102,000
Revenue Vehicle Fleet Size	20	18	38

FY2020 budgets include 27 FT and 2 PT positions at MTD, and 18 FT and 10 PT positions at ETD. These figures include contracted management.

## Estimated FY2020 Operating Expenses

FY2020 operating expenses and other statistics are detailed in Figure 3 | Estimated FY2020 Operating Expenses. The expenses shown in this table are based on FY2020 budgets, with an adjustment factor to reflect estimated overtime wages and the averaging of fringe benefits by position (done to fairly predict and compare future wages across the various governance scenarios in Chapter 4).

Driver wages are about \$1 million annually for both MTD and ETD, representing about 40% of annual expenses. MTD employs 19 full-time drivers; ETD has 12 full-time and 8 part-time drivers. ETD offers a higher base wage and more generous fringe benefits.

MTD has higher costs for transportation-related materials, supervision, and dispatch. ETD's budget includes \$30,000 under purchased transportation, which represents their taxi voucher program.

MTD has higher wages related to maintenance, as this function is performed in-house. ETD employs only one service worker to fuel and clean vehicles, but has higher maintenance expenses due to the fact that this work is contracted out.

In terms of administrative expenses, ETD has higher salary costs, but has lower expenses related to facilities, utilities, and other expenses.

**Figure 3 | Estimated FY2020 Operating Expenses**

	MTD	ETD	Combined
<b>Transportation Expenses</b>			
Driver Wages + Fringe	\$990,000	\$990,000	\$1,980,000
Tires/Fuels/Materials	\$460,000	\$290,000	\$750,000
Purchased Transportation	--	\$30,000	\$30,000
Supervision/Dispatch Wages + Fringe	\$245,000	\$150,000	\$395,000
<b>Maintenance Expenses</b>			
Mechanic/Fueler Wages + Fringe	\$125,000	\$25,000	\$150,000
Contracted Fleet Maintenance	\$50,000	\$230,000	\$280,000
<i>Adjustment (for OT &amp; Fringe Rate)</i>	<i>\$20,000</i>	<i>\$130,000</i>	<i>\$150,000</i>
<b>Subtotal Fixed Expenses</b>	<b>\$1.9 M</b>	<b>\$1.8 M</b>	<b>\$3.7 M</b>
<b>Administrative Expenses/Overhead</b>			
Management/Other Wages + Fringe	\$240,000	\$400,000	\$640,000
Professional Services	\$65,000	\$50,000	\$115,000
Facilities	\$85,000	\$15,000	\$100,000
Utilities	\$100,000	\$35,000	\$135,000
Other Expenses <sup>2</sup>	\$170,000	\$100,000	\$270,000
<b>Subtotal Overhead Expenses</b>	<b>\$0.65 M</b>	<b>\$0.65 M</b>	<b>\$1.3 M</b>
<b>Total FY2020 Expenses</b>	<b>\$2.5 M</b>	<b>\$2.5 M</b>	<b>\$5.0 M</b>

Source: Based on approved FY2020 budgets and discussions with MTD and ETD Executive Directors.

1. FY2020 employee counts include contracted management.
2. Labor costs vary slightly from approved FY2020 budgets. In order to forecast and compare future labor costs under various governance scenarios, a model was developed based on average costs by position. Because individual employees within each position may have slightly different rates of pay, take advantage of various benefits, and accrue overtime at different rates, an adjustment line of \$150,000 was incorporated to ensure correspondence with adopted FY2020 budgets.

Estimated FY2020 operating expenses by budget category are summarized in Figure 4 | Summary of Estimated FY2020 Operating Statistics, along with a calculation of the percent of expenses required for overhead and the average total cost per revenue hour (RVH). These estimates show both districts have similar overhead of about 25%, but MTD having a higher estimated cost per RVH of \$53 when compared to ETD at \$46. When considered together, the average estimated cost per RVH is \$49.

Independent audits performed after the close of FY2019 show that ETD had unrestricted assets over \$500,000. MTD had cash reserves of over \$200,000 and a positive annual cash flow, but also carries an outstanding \$900,000 liability to the State. Despite near term financial stability, both districts are relatively small agencies that have experienced past financial challenges.



**Figure 4 | Summary of Estimated FY2020 Operating Statistics**

	MTD	ETD	Combined
Transportation Expenses	\$1.69 M	\$1.46 M	\$3.15 M
Maintenance Expenses	\$0.16 M	\$0.25 M	\$0.41 M
<i>Adjustment for averaged Fringe/OT rates<sup>1</sup></i>	\$0.02 M	\$0.13 M	\$0.15 M
<b>Subtotal Fixed Expenses</b>	<b>\$1.9 M</b>	<b>\$1.8 M</b>	<b>\$3.7 M</b>
Administrative/Overhead	\$0.65 M	\$0.65 M	\$1.3 M
<b>Estimated FY2020 Expenses</b>	<b>\$2.5 M</b>	<b>\$2.5 M</b>	<b>\$5.0 M</b>
<b>% Overhead Costs</b>	<b>26%</b>	<b>25%</b>	<b>25%</b>
Est. Annual Revenue Vehicle Hours (RVH) <sup>2</sup>	48,195	54,193	102,388
<b>Average Cost per RVH<sup>3</sup></b>	<b>\$53</b>	<b>\$45</b>	<b>\$49</b>

1. Labor costs vary slightly from approved FY2020 budgets. In order to forecast and compare future labor costs under various governance scenarios, a model was developed based on average costs by position. Because individual employees within each position may have slightly different rates of pay, take advantage of various benefits, and accrue overtime at different rates, an adjustment line of \$150,000 was incorporated to ensure correspondence with adopted FY2020 budgets.
2. Annual RVH estimates are based on a service model developed for the purposes of this analysis. Actual RVH may vary.
3. For the purposes of this analysis, Average cost per RVH = Estimated FY2020 Total Expenses / Estimated Annual RVH.

## Staffing/Labor

Both transit districts contract for outside management services with First Transit, which provides day-to-day support in the following functional areas: administration and operations, equipment maintenance, scheduling, labor relations, and employee selection and training. MTD contracts for an Executive Director; ETD contracts for both an Executive Director and Operations Manager.

Including contracted management, MTD's FY2020 budget funds 27 full-time and two part-time positions; ETD's budget currently funds 18 full-time and 10 part-time positions. Specific positions by agency are detailed in Figure 19 | Projected Staffing by Scenario in the following chapter.

MTD's employee roster includes 19 full-time bus drivers who are represented by the Teamsters Local 671. The contract defines work rules and progression; seniority is used to select job assignments, vacation time, special work, etc. Job assignments are "picked" at least twice annually. Grievances that are not settled between the union and supervisors may go to the CT State Board of Mediation and Arbitration. All other employees of both districts are unaffiliated.

ETD's Employee Handbook defines work rules, benefits, and certain compensation for drivers (e.g. minimum four hours pay, extra \$1.00/hour on Saturdays). The handbook also details work conduct and a progressive discipline policy. Grievances are handled by supervisors and, if necessary, elevated to Executive Director.

The employee benefits package at ETD is more generous than at MTD. Based on conversations with the Executive Directors of each district, an average fringe benefit rate of 28% is assumed for MTD employees and a rate of 44% is assumed for ETD employees.

Interviews and conversations with the currently shared Executive Director for both districts as well as the former Executive Director of MTD highlighted the challenges staffing a small agency.



Not all salaries are market competitive, often making it difficult to attract new employees. Once on board, there is little room for employee promotion and advancement, making it difficult to retain employees over the long term.

## Maintenance and Support Facilities

The *State of the Systems Report: Existing Transit Conditions in the Lower Connecticut River Valley* and the *Existing Facilities Report* (both finalized in October 2019) document the existing conditions and outstanding programmatic needs related to maintenance and operational support facilities at both districts.

MTD owns a two-building Operations & Maintenance facility on North Main Street in Middletown. The facility is functional but in need of certain upgrades and retrofits to better support operational needs. In addition, Connecticut state law requires that 30% of all buses purchased by the state be zero-emission by 2030. Retrofits to the facility are needed to accommodate both diesel and battery-electric bus technologies, including charging infrastructure. Finally, the North Main Street site is constrained and does not offer the opportunity to provide the additional vehicle maintenance bays and vehicle storage capacity that are needed today and to provide the potential for future growth.

ETD operates out of leased space in the Centerbrook Industrial Park, which does not provide any capacity for indoor vehicle storage, vehicle inspections, or light maintenance. To address current constraints and accommodate future growth, the Board of Directors believes the system would be better served by operating out of a permanent, adequately sized facility and by performing its own fleet maintenance.

## Other Capital Assets

Federal capital funds directed to Connecticut each year are pooled by the State and distributed by CTDOT based on individual district needs and statewide priorities. Districts request funding from CTDOT on an annual basis to replace vehicles, procure or upgrade equipment, and make other capital improvements. The State (CTDOT) provides the local 20% match and may also issue bonds to support capital needs.

## Fleet

MTD and ETD both operate a mix of larger capacity Gillig transit buses as well as body-on-chassis cutaway buses. The Gillig vehicles are 29 to 35 feet in length, while the cutaways are less than 25 feet in length. A growth factor of 20% is assumed for the purposes of facility sizing (see Figure 5).

Each district also has non-revenue vehicles to support operations. MTD has a parts trucks (a pick-up with a lift gate and compressor) and a van to support operations. ETD has three non-revenue vehicles for management activities and to shuttle drivers for shift changes.

**Figure 5 | Existing Revenue Vehicle Fleet (FY2020) and Growth Assumptions**

Current Fleet	MTD	ETD	Combined
Gillig Transit Buses	10	4	14
Cutaways	10	13	23
Trolleys	0	1	1
<b>Subtotal</b>	<b>20</b>	<b>18</b>	<b>38</b>
20% Growth	4	4	8
<b>Potential Future Revenue</b>	<b>24</b>	<b>22</b>	<b>46</b>

## Technology

ETD has recently adopted and implemented a host of new technologies including:

- A new Automatic Vehicle Location (AVL) system that will allow customers to access real-time bus information via online applications and share data with other bus systems such as *CTtransit*.
- New scheduling software and mobile applications for Dial-A-Ride and ADA services that allow for online booking and credit card payments, and provide trip arrival time updates.
- An Interactive Voice Response (IVR) system that can take reservations by phone.
- A new radio system that will be fully compatible with the statewide radio network (the Connecticut Land Mobile Radio Network, or CLMRN). Installation will be complete in mid-2020.
- XtraMile, an on-demand transit service that is scheduled using Transloc software and being piloted in the Old Saybrook area.

MTD has implemented AVL technology, but it is a basic system without features that could help collect ridership data or be used to share bus location with passengers and other transit systems. The district has expressed interest in upgrading this AVL system and their paratransit scheduling software to platforms used by (or compatible with) ETD. The on-demand scheduling and payment system (Ecolane) used by ETD is also of interest. MTD district remains on an independent two-way radio network for now.

*CTtransit* is implementing an account-based fare payment system (Go CT) on all its bus systems and is planning to expand this system to bus operators across the State. This will facilitate transfers and fare integration across districts (e.g. between MAT and 9 Town services, and with *CTtransit* and SEAT). Funding to procure an upgraded fare system compatible with Go CT has been awarded to ETD, but it is not clear whether this initial allocation is sufficient to cover full costs. There was been no funding awarded to MTD for a fare system upgrade.

## 3 Facility Alternatives

Investments in transit maintenance facilities are needed for both MTD and 9 Town Transit. MTD's existing Operations, Maintenance & Storage Facility on North Main Street in Middletown is under-sized and in need of programmatic and equipment upgrades. ETD currently contracts with an outside vendor for vehicle maintenance but has a growing fleet and inadequate vehicle storage; in 2017, the district began investigating sites to construct their own Operations & Maintenance Facility.

Given that both districts have outstanding facility needs, they are working with CTDOT and RiverCOG to explore the practicality and effectiveness of various investment options. Potential strategies include:

1. Independently expanding MTD's facility and constructing a new ETD Operations & Maintenance facility.
2. Constructing a shared Vehicle Maintenance Facility.
3. Constructing a shared Administration & Maintenance Facility, which would entail a merger of the two districts. Local operations and storage facilities would be maintained in both service areas.
4. Constructing a shared Operations, Maintenance & Storage Facility, serving the entire LCRV region.

It should be noted that this report focuses on facility needs for vehicle maintenance and operational support. MTD has been granted funding to renovate and upgrade their downtown passenger terminal and these retrofits and upgrades are not included in this assessment.

## Potential Facility Sites

Each of the facility strategies above involve new and/or expanded maintenance facilities. A site review was conducted to identify potential locations using the following criteria:

- **Parcel Size:** Adequate to meet programmatic requirements as detailed below.
- **Utility Connections:** Availability of natural gas and municipal water/sanitary sewer would be ideal.
- **Land Ownership:** To simplify land acquisition, publicly owned parcels were preferred.
- **Zoning/Adjacent Uses:** Non-residential or industrial areas were preferred.
- **Access:** Sites within two miles of regional highways were preferred.

Based on these criteria, the potential sites described below were identified (see Figure 6).

## **Potential Site for an Expanded MTD Maintenance Facility**

### **Site 1: Middletown – North Main Street**

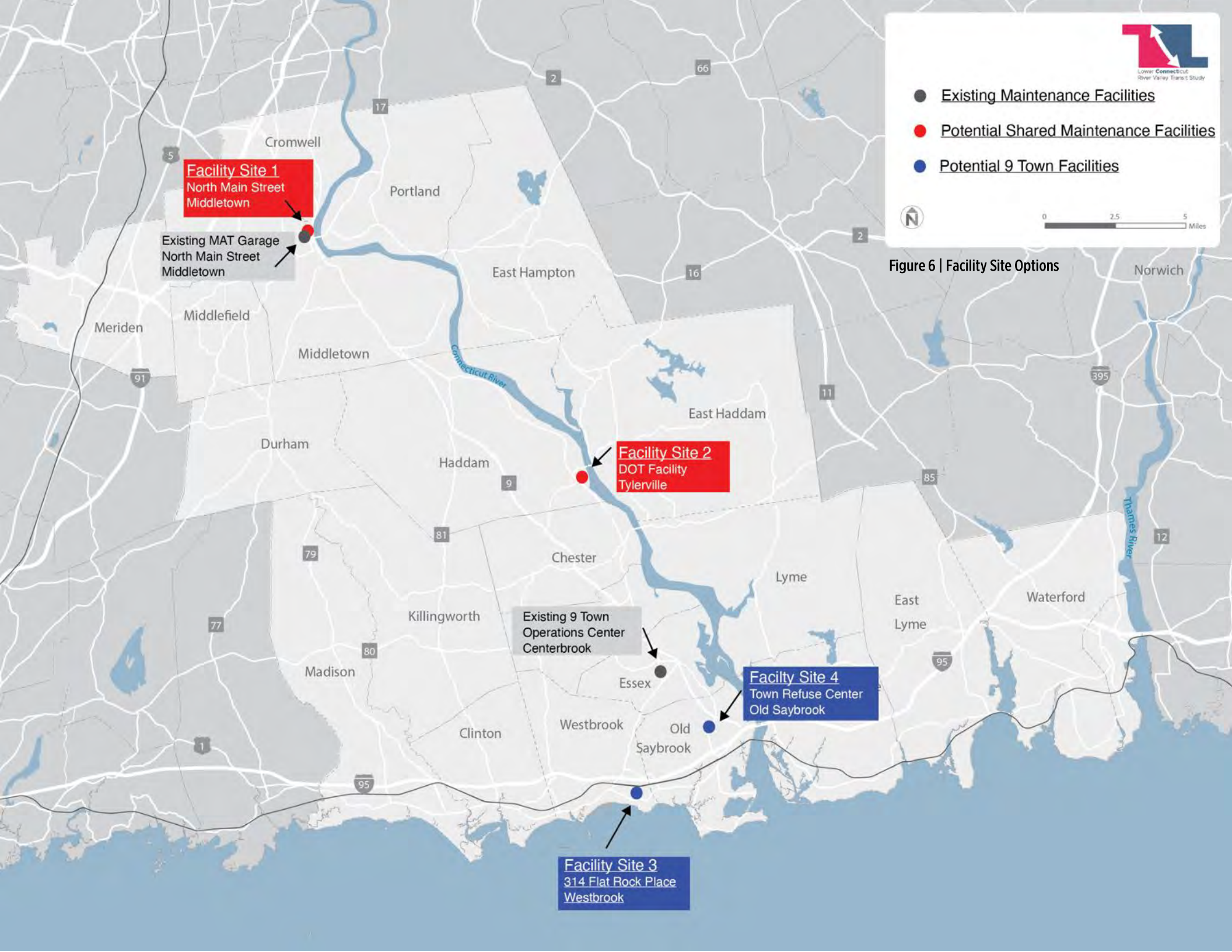
MTD's existing Operations, Maintenance & Storage facility is functional, but in need of retrofits and upgrades. Furthermore, the physical site is constrained, offering limited potential for expansion: a minimum site size of one to 1.5 acres is needed to fully meet needs, depending on the configuration of the site.

- Existing Maintenance Facilities
- Potential Shared Maintenance Facilities
- Potential 9 Town Facilities



0 2.5 5 Miles

Figure 6 | Facility Site Options





The City of Middletown has shared that a site on the east side of North Main Street across from MTD's existing maintenance facility is for sale (the "O&G site"). This would provide needed expansion capacity on an adjacent parcel, allowing MTD to take advantage of existing assets and efficiently meet outstanding needs. The district has also been contacted by a second property owner adjacent to the O&G site, indicating a willingness to sell. In some combination, these properties would be sufficient to meet MTD's expansion needs. They are directly across North Main Street from MTD's existing facility, of adequate size and close to downtown Middletown, the center of MTD operations.

- Size: Estimated 2.5 acres (on four adjacent parcels)
- Ownership: Private, but actively being marketed for sale
- Utilities: Municipal Water, Sanitary Sewer, Gas
- Characteristics: The O&G site is composed of one large (1.74 acre) and two smaller (0.3 acre) parcels and occupied by an active building products business. It is fully paved and has a number of structures. The site is located in a flood plain, so design accommodations would need to be made. The surrounding area is characterized by industrial uses. A fourth adjacent parcel owned by a different private entity has also indicated a willingness to sell.

## Recommendation

These North Main Street properties, in some combination, are recommended for MTD facility expansion. They are proximate to the existing facility, adequately sized, and available for sale. No other sites with these characteristics were identified.

## Potential Sites for a Shared Maintenance Facility

Two options were considered for shared vehicle maintenance: an expanded facility in Middletown or a new facility in a more central location between the two districts. A minimum site size of about 1.5 to 2.1 acres is desired depending on the purpose and scope of the facility.

### Site 1: Middletown – North Main Street

MTD's existing Operations, Maintenance & Storage facility was considered as a potential location as it would take advantage of existing assets already in place. However, as explained above, physical site constraints limit expansion.

The four parcels across North Main Street were also investigated for their potential to serve as a shared Vehicle Maintenance Facility for both MTD and ETD. Construction of a shared regional vehicle maintenance facility on some combination of these neighboring parcels would allow for retrofit and use of MTD's existing facility for storage and other support functions. Two ETD routes (644 and 645) and certain Dial-A-Ride trips come into Middletown, providing the potential to send vehicles to the garage as part of regularly scheduled service. Site properties are the same as summarized above.

## Site 2: Haddam – CT DOT Maintenance Facility and Adjoining Sites

Haddam is centrally located between the MAT and 9 Town service areas. However, a search of publicly owned parcels within range of Route 9 turned up few options of adequate size that are not parkland, conservation land, or in use by educational or other institutions.

One site that did meet the relevant qualifications is a CTDOT maintenance and salt storage facility in Tylerville along Routes 154/82, an area of low-density commercial and industrial uses. The site is large enough to handle a new transit facility and it could be situated to avoid conflicts with CTDOT operations. It is also assumed that the State would make this land available to MTD or ETD, avoiding land acquisition costs.

The site is 2.5 miles from Route 9 and proximate to ETD's existing Route 644 alignment. It is approximately 15 miles from both MTD's Middletown Passenger Terminal and the Old Saybrook train station. Flood mapping indicates a portion of the site is located in the flood plain, so a more in-depth and detailed survey will need to be conducted to delineate the boundaries so the new facilities can avoid these areas. The site has the following properties:

- Size: 34.25 acres
- Ownership: State of CT
- Utilities: Municipal Water (subject to verification), no Sanitary Sewer (septic required), no Gas (subject to verification)
- Characteristics: The CTDOT highway maintenance operation includes administrative buildings, vehicle maintenance buildings, storage sheds, a salt storage facility and a large paved area. The remainder of the site has cleared hard-packed dirt areas used as laydown spots for material storage or is covered in vegetation. These laydown areas are relatively flat, generally underutilized, and at lower elevations than the CTDOT Maintenance Facility.

## Other Potential Sites

A third site at 444 Main Street in Deep River (Site #11 in the 2017 Wendel report) was considered, but not advanced. While encompassing over seven acres and fully serviced by municipal water, sanitary sewer, and gas, only about half of the site appears to be available and/or usable. Although the 3.5 developable acres would accommodate a shared facility, site elevation would make development challenging, the property is privately owned, and it is about 20 miles from MTD facilities.

## Recommendation

The North Main Street parcels across North Main Street from MTD's existing facility in Middletown are the preferred location for MTD facility expansion or for construction of a shared facility.

Combined with MTD's existing Operations & Maintenance Facility, these four neighboring parcels have the capacity to accommodate: 1) an expanded and upgraded MT maintenance facility; 2) a shared Vehicle Maintenance Facility; or, 3) an integrated Operations & Maintenance Facility (with some operational functions located in the current underutilized administrative space of MAT's existing buildings). This approach would also take advantage of



MTD's existing investment in maintenance and support buildings, providing for a more cost-effective overall solution.

The CTDOT site in Tylerville has sufficient capacity to function as a full Operations & Maintenance Facility for both districts. However, it would not take advantage of the existing investment in the MTD maintenance facility. The federal government provided funds to construct this facility and maintains an outstanding financial interest. If MTD were to abandon this facility and move to Tylerville, the federal government would require several million dollars of reimbursement (depending on the year of abandonment) and would increase the overall cost of construction. The Tylerville site would also require both districts to operate buses about 15 miles prior to the start (and after the end) of revenue service each day. This has the potential to incur over \$100,000 in additional annual expenses.

## **Potential Sites for an ETD Operations (and/or Maintenance) Facility**

The review of sites for a separate ETD maintenance facility included those identified in the 2017 Wendel report, as well as other adequately sized, publicly owned parcels proximate to I-95 or Route 1 along the Shoreline, as well as along Route 9 in Old Saybrook or Essex. Minimum site size of about 5 acres is desired for a full Operations & Maintenance Facility; 3.0 to 3.5 acres is desired for a smaller facility if vehicle maintenance is performed elsewhere. Two sites were identified as having the best potential, as described below.

### **Site 3: Westbrook – 314 Flat Rock Place**

This parcel was identified in the Wendel report as the preferred site for a new ETD Operations and Maintenance facility. It has since changed ownership and an informal discussion between an ETD Board member and the new owner (April 2020) indicated the owner's willingness to consider a potential sale. The site is served by 9 Town's Route 641 and is less than one mile from both I-95 and Route 1. The site has the following properties:

- Size: 5.43 acres
- Ownership: Private; previous owner was amenable to sale, but the new owner has not been contacted.
- Utilities: Municipal Water (subject to verification), no Sanitary Sewer (septic required), no Gas (subject to verification)
- Characteristics: The site is a greenfield, covered with trees and other vegetation. It is located in a commercial area, with adjacent uses including Middlesex Hospital and the Westbrook Outlets.

### **Site 4: Old Saybrook – Town-owned Parcel North of Transfer Station**

This site is located adjacent to the Old Saybrook Transfer Station on Route 154 - Middlesex Turnpike. It is 0.5 miles south of Route 9 and two miles north of the Old Saybrook Train Station, a proposed pulse point for the 9 Town system; it is served by 9 Town's Route 642. A review of wetlands mapping indicated the site has wetland areas. A detailed survey would be needed to determine wetland extents and whether a contiguous three-acre developable parcel could be identified. The site has the following properties:

- Size: 7.85 acres
- Ownership: Town of Old Saybrook
- Utilities: Municipal Water (subject to verification), no Sanitary Sewer (septic required), no Gas (subject to verification)
- Characteristics: The site is owned by the Town of Saybrook, is undeveloped and covered with trees and other vegetation. It has direct frontage on Middlesex Turnpike. The area appears to be reasonably level and research indicates it is not in a flood plain, but the presence of wetlands may significantly limit the extent of developable land. Potential site consolidation with adjacent town-owned parcels might offer more acreage for development.

## Other Potential Sites

Another site, a state-owned park-and-ride lot on Middlesex Turnpike in Old Saybrook, was assessed for its potential to accommodate an ETD facility. However, it is only 2.82 acres in size and elongated in shape. Other sites in Old Saybrook and Westbrook that were considered in the Wendel report were reviewed. Two were adequately sized but were dismissed due to various challenges.

## Recommendation

For an independent ETD or Shoreline area facility, the privately owned Westbrook parcel identified in the 2017 Wendel report continues to present a viable option, and is well situated off I-95 and Route 1 near the center of 9 Town's service area. The parcel owned by the Town of Old Saybrook on Middlesex Turnpike is publicly owned and also well-situated. However, the presence of wetlands on both sites presents challenges to development.

It is recommended that the Westbrook site continue to be considered the preferred location for a Shoreline area transit facility. RiverCOG, ETD and CTDOT are currently working to further investigation overall developability. If wetlands or other issues pose insurmountable challenges, additional real estate review would be required to identify other 3+ acre parcels with municipal water (and other utilities).

## Facility Alternatives

Four potential facility alternatives have been identified, covering a range of strategies from independent to shared facilities and using the recommended sites identified above. These facility alternatives are shown in Figure 7 and described in more detail below.

**Figure 7 | Facility Alternatives**

Facility Alternatives	
1	<u>Separate Facilities</u> <ul style="list-style-type: none"> <li>Expanded MTD Operations &amp; Maintenance Facility in Middletown</li> <li>New ETD Operations &amp; Maintenance Facility in Shoreline Area</li> </ul>
2	<u>Shared Vehicle Maintenance/Separate Operations &amp; Storage</u> <ul style="list-style-type: none"> <li>Expanded MTD Operations &amp; Storage Facility in Middletown</li> <li>Shared Vehicle Maintenance Facility in Middletown</li> <li>New ETD Operations Facility in Shoreline Area</li> </ul>
3	<u>Shared Administration &amp; Maintenance Facility/Separate Operations &amp; Storage</u> <ul style="list-style-type: none"> <li>Shared Administration &amp; Maintenance Facility in Middletown</li> <li>New ETD Operations Facility in Shoreline Area</li> </ul>
4	<u>Shared Operations, Maintenance &amp; Storage</u> <ul style="list-style-type: none"> <li>One centralized Operations, Maintenance &amp; Storage Facility in Middletown</li> </ul>

Concepts for each facility alternative were based on the size of the current fleet with a potential 20% increase in fleet size in the future. These assumptions are shown in Figure 8.

**Figure 8 | Existing Revenue Vehicle Fleet (FY2020) and Growth Assumptions**

Current Fleet	MTD	ETD	Total
Gillig Transit Buses	10	4	14
Cutaways	10	13	23
Trolleys	0	1	1
<b>Subtotal</b>	<b>20</b>	<b>18</b>	<b>38</b>
<b>20% Growth</b>	<b>4</b>	<b>4</b>	<b>8</b>
<b>Potential Future Fleet</b>	<b>24</b>	<b>22</b>	<b>46</b>

### Facility Alternative 1: Separate Facilities

Under this alternative, MTD would renovate their existing garages on North Main Street in Middletown for Storage. Due to physical limitations on this site, a new Vehicle Maintenance Facility would be constructed across the street on a portion of the O&G site and/or adjacent parcels. Adding maintenance bays to the existing building would reduce storage below required capacity and would not allow for future growth.

ETD would construct its own Operations, Maintenance & Storage Facility in Westbrook. A review of the Wendel report has largely confirmed the programmatic and capacity assumptions for this facility. Minor revisions include:

- The correction of apparent “double-counting” of the area programmed for maintenance. This resulted in an approximate 32,000sf reduction in space required, and an overall reduction in estimated facility cost.
- A reduction in maintenance toilet/shower/locker space. Considering staff size, unisex shower/changing rooms with single person toilets are now proposed.
- Conference and training spaces were consolidated.

## Alternative 1 – Site/Space Requirements

### *MTD Vehicle Storage*

- Approximately 25,000sf (includes approx. 13,000 sf for indoor storage for all vehicles)

**MTD Vehicle Maintenance** (see Figure 9 | Facility Alternative 1: Expanded MTD Vehicle Maintenance on O&G Site)

- Building Size: 21,000sf
- Minimum Site Size: 1.5 Acres / Requires land acquisition

**Figure 9 | Facility Alternative 1: Expanded MTD Vehicle Maintenance on O&G Site**



### *ETD Operations & Maintenance Facility (see Figure 10)*

- Building Size: 43,500 sf (includes approximate 15,000 sf to accommodate indoor storage for all vehicles)

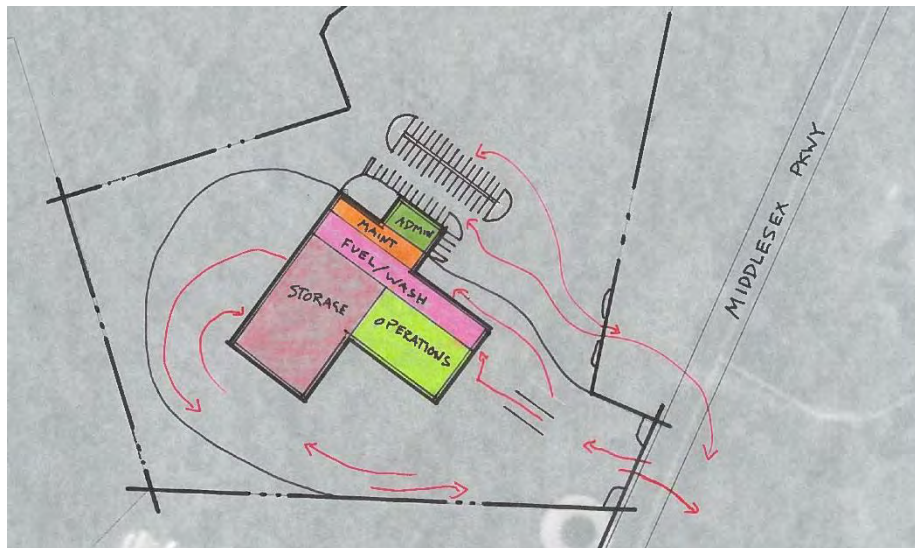
- Minimum Size: 5.0 Acres / Requires land acquisition

## Alternative 1 - Programmatic Requirements

### General

- All facilities would be designed to accommodate both diesel and battery-electric bus technologies in order to comply with the CT State Statute requiring 30% of all buses to be zero-emission by 2030.
- All facilities would be designed to achieve a minimum Silver certification under the Leadership in Energy and Environmental Design (LEED) program.

**Figure 10 | Facility Alternative 1: ETD Operations & Maintenance Facility**



### MTD Vehicle Storage

- Existing facilities would be refurbished to allow for indoor storage of MTD's existing fleet and to provide the capability to accommodate future growth. The Pease Avenue building would also have sufficient room to store Middletown's historic fire truck.
- Bus wash equipment, fuel tanks, and fueling equipment would be removed from the Cheeseman Building.
- Bay doors would be added to the front of the Pease Avenue building to allow for back-in/pull-out vehicle maneuvers and to increase storage capacity.

### MTD Vehicle Maintenance Facility

- MTD would purchase a minimum of 1.5 acres of the available parcels across North Main Street to construct a new Maintenance Facility.
- Four (4) Vehicle Bays
  - 2 Repair Bays

- 1 Inspection Bay
- 1 Tire Bay to provide future flexibility for in-house tire shop. (Tires are currently leased due to advantageous prices.)
- Support Shops and Spaces
  - Tire Shop and Parts Room (allowing this function to be handled in-house)
  - Lube and Compressor Rooms
  - Lockers/showers
- One (1) Fare/Fuel/Wash Bay
- Generator: The existing generator would be relocated to the new building.
- Operational Space: Offices and break room

### ***ETD Operations & Maintenance Facility***

- ETD would purchase a minimum 5.0-acre parcel in the Shoreline area
- Four (4) Vehicle Bays
  - 2 Repair Bays
  - 1 Inspection Bay
  - 1 Tire Bay
- Support Shops and Spaces
  - Tire Shop and Parts Room
  - Lube and Compressor Rooms
  - Lockers/Showers
- One (1) Fare/Fuel/Wash Bay
- Operational Space
  - Offices, Break Room, Training/Conference Rooms
  - Operators Break Room
- Dispatch Offices and Dispatch counter
- Indoor Vehicle Storage Capacity: indoor storage to accommodate ETD's existing fleet, including additional space to house future vehicle expansion. Preliminary calculations include liberal space for circulation; additional growth could likely be accommodated.



## Facility Alternative 2: Shared Maintenance/ Separate Operations

A new shared Vehicle Maintenance Facility would be constructed to support both transit districts. This shared facility would be constructed in Middletown on available parcels across North Main Street from MTD's existing garage. ETD would construct a separate Operations & Storage Facility in Westbrook that would also house district operations.

### Alternative 2 – Site/Space Requirements

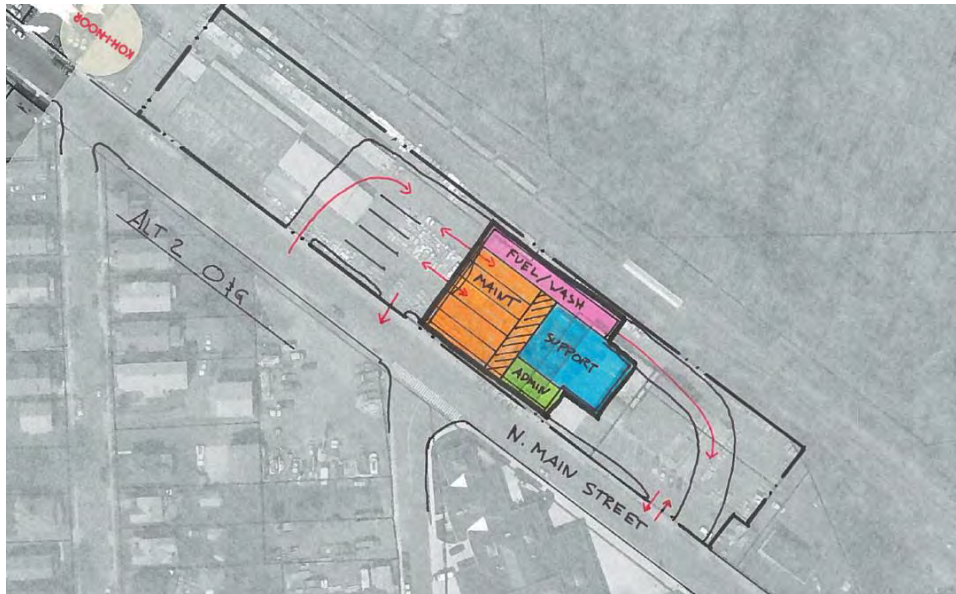
#### *MTD Vehicle Storage*

- Same as Alternative 1

#### *Shared Vehicle Maintenance Facility* (see Figure 11)

- Building Size: 26,000sf
- Minimum Size of Site: 1.5 Acres / Requires land acquisition

**Figure 11 | Facility Alternative 2: Shared Vehicle Maintenance Facility in Middletown**



#### *ETD Operations & Storage Facility* (see Figure 12)

- Building Size: 32,000 sf
- Minimum size of Site: 4.5 Acres / Requires land acquisition



**Figure 12 | Facility Alternative 2: ETD Operations & Storage Facility**



## Alternative 2 – Programmatic Requirements

### MTD Vehicle Storage Facility

- Same as Alternative 1

### *ETD Operations & Storage Facility*

- ETD would purchase a minimum 4.5-acre parcel in Westbrook
- One (1) Vehicle bay
  - 1 Running Repair Bay
- Support Shops and Spaces
  - Small Parts Cabinets
  - Lube and Compressor Rooms
  - Restroom
- One (1) Fare/Fuel/Wash bay
- Operational Spaces
  - Offices, break room, and training/conference room
  - Operators Break Room
- Dispatch Offices and Dispatch counter
- Indoor Vehicle Storage (same as Alternative 1)

### ***Shared Vehicle Maintenance Facility***

- Six (6) Vehicle Bays
  - 3 Repair Bays
  - 2 Inspection Bay
  - 1 Tire Bay
- Support Shops and Spaces
  - Tire Shop and Parts Room
  - Lube and Compressor Rooms
  - Lockers/showers
- Generator: MTD generator would be relocated to O&G parcel (Alternative 2A)
- Fare/Fuel/Wash Bay
  - A full Fare/Fuel/Wash bay would be constructed for MTD vehicles. ETD vehicles would be serviced at their storage facility.
- Operational Space
  - Offices, General Break Room, and Operators Break Room

## **Facility Alternative 3: Shared Administration & Maintenance with Separate Operations & Storage**

Under this option, the two transit districts would be merged to serve as one integrated district.

- A new shared Operations & Maintenance facility would be constructed on available parcels across from MTD's existing facility in Middletown.
- A local operations and storage facility with the capability for running repairs would be built in the Westbrook area.
- MTD's existing garage in Middletown would be retrofitted for Storage.
  - Integrated Operations programming can be accommodated in underutilized administrative space at MTD's existing Maintenance Facility and Terminal; therefore, the new shared Maintenance & Operations Facility would be similar in size to Alternative 2.

## **Alternative 3 – Site/Space Requirements**

### ***Middletown Vehicle Storage Facility***

- Approximately 8,600 sf within the existing 25,000 sf facility

### ***Shared Operations & Maintenance Facility*** (see Figure 5)

- Building Size: The Maintenance Facility would be the same as Alternative 2. Operation spaces will be housed in existing renovated admin spaces in both the existing Maintenance Facility and the Terminal.

- Minimum size of Site: Same as Alternative 2. Land acquisition required.

### **Shoreline Operations & Storage Facility** (See Figure 13)

- Building Size: 28,300 sf
- Minimum size of Site: 1.6 Acres / Land acquisition required.

**Figure 13 | Shoreline Operations & Storage Facility**



### **Alternative 3 – Programmatic Requirements:**

#### ***MTD Storage Facility***

- Same as Alternative 1

### ***Shared Maintenance Facility***

- Vehicle bays (same as Alternative 2)
- Support Shops and Spaces (same as Alternative 2)
- Fare/Fuel/Wash Bay (same as Alternative 2)
- Operational Spaces (utilizing existing spaces in the current Maintenance Facility and Terminal)
  - Offices, break room and training/conference rooms
  - Operators Break Room

### ***ETD Storage Facility***

- Dispatch Offices and Dispatch Counter
- Fueling/Washing/Fare Collection
- Driver break/training room
- Indoor Vehicle Storage (same as Alternative 1)

## **Facility Alternative 4: Shared Operations, Maintenance & Storage**

This facility alternative assumes that MTD and ETD would merge and operate as one transit district (see Governance Alternatives in Chapter 4). A shared Operations, Maintenance & Storage facility would be constructed in Middletown on available parcels across North Main Street. In addition to vehicle maintenance, this new facility would house administrative support space for the merged district and an operator parking lot.

The existing MTD maintenance facility (the Cheeseman and Pease Avenue buildings) would be renovated and enlarged to accommodate indoor storage for all vehicles in the combined fleet. The Cheeseman building would hold the larger transit buses (Gilligs) and the Pease Avenue facility would be demolished to provide space for a new building to store the remainder of the fleet. The existing bus wash and maintenance bay would be renovated to provide additional vehicle storage. The existing administrative support area in the Cheeseman building would be renovated to provide more functional support space and offices for bus operators, transportation supervisors and bus dispatch.

## **Alternative 4 – Site/Space Requirements**

***Shared Vehicle Storage Approximately 13,000 sf within the existing 25,000 sf facility, to store larger transit buses.***

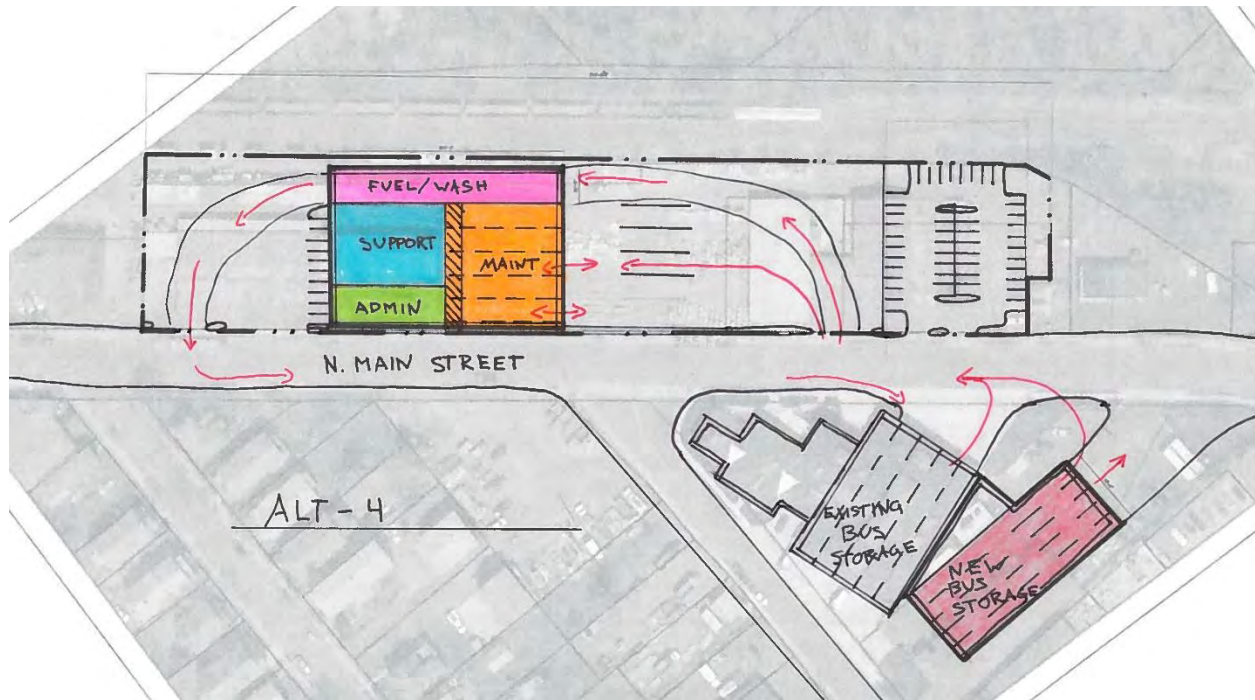
- A new approximately 14,000 sf building for additional vehicle storage, to store smaller cutaway vehicles

### ***Shared Vehicle Operations and Maintenance Facility*** (see )

- Building Size: approx. 30,000sf
- Minimum size of Site: 1.8 Acres / Land acquisition required



**Figure 14 | Facility Alternative 4: Shared Operations & Maintenance Facility in Middletown**



## Alternative 4 – Programmatic Requirements:

### *Vehicle Storage Facility*

- Existing facilities would be refurbished to allow for indoor storage of fixed route fleet and to provide the capability to accommodate future growth. The current maintenance bay would be renovated to store Middletown’s historic fire truck.
- Bus wash equipment would be removed from the Cheeseman Building and the space renovated for vehicles.
- A new, approximately 14,000sf Vehicle Storage facility would be constructed adjacent to the existing facility to house the cutaway fleet. This would require the demolition of the Pease Avenue building and existing fuel facility, and relocation of the generator (if deemed necessary for continuous operations).
- Existing operational space would be reconfigured to house dispatch and other operational functions and support space for drivers.
  - Offices, dispatch counter, conference room,
  - Operators Break Room

### *Shared Operations and Maintenance Facility*

- Vehicle bays (same as Alternative 2)
- Support Shops and Spaces (same as Alternative 2)
- Fare/Fuel/Wash Bay (same as Alternative 2)

- Operational Spaces
  - Offices (including Executive director, finance, ops manager etc.), training/conference rooms,
  - Break Room

## Estimated Capital Costs for Facilities

Using the programmatic and physical space requirements identified above, capital cost estimates were developed for each facility alternative. Figure 15 provides an estimate of probable order-of-magnitude costs based on overall facility square footage, required equipment, and the opinion of engineering consultants participating in this study.

The costs shown under Facility Alternative 1 essentially reflect upgrades needed today to meet MTD and ETD programmatic and state-of-good-repair needs. This baseline cost is estimated to be \$33.1 million and is the highest of all alternatives. Alternative 2 requires \$30.6 million, or \$2.5 million less than Alternative 1, reflecting the fact that a shared maintenance facility would be constructed in Middletown.

Alternative 3 has the second lowest cost, requiring a \$29.0 million investment, which is \$4.1 million less than Alternative 1. This reflects the fact that ETD operations would be merged with MTD and operated out of renovated administrative space within MTD's current facilities. This reduces the scope of new construction in Westbrook to primarily accommodate vehicle storage and driver support space.

Alternative 4 has the lowest overall cost, estimated to be \$27.2 million as it does not involve a facility in the Shoreline area nor land acquisition for such a facility. This is \$5.9 million less than Alternative 1.

All facility alternatives would involve additional costs for land acquisition:

- Alternative 1 would involve purchase of 1.75 acres in Middletown, plus 5.0 acres in the Shoreline area.
- Alternative 2 would involve purchase of 1.75 acres in Middletown, plus 4.5 acres in the Shoreline area.
- Alternative 3 would involve purchase of 2.3 acres in Middletown, plus 4.5 acres in the Shoreline area.
- Alternative 4 would involve the purchase of 2.3 acres in Middletown

**Figure 15 | Probable Capital Costs for Maintenance Facilities (Order of Magnitude)**

Facility	Facility Alternative 1	Facility Alternative 2	Facility Alternative 3	Facility Alternative 4
MTD Facilities				
Vehicle Storage	\$2.5 M	\$2.5 M	\$2.75M	See Shared
Vehicle Maintenance	\$8.1 M	See Shared Facilities costs below		
ETD Facilities				

Facility	Facility Alternative 1	Facility Alternative 2	Facility Alternative 3	Facility Alternative 4
O&M Facility <sup>1</sup>	\$17.0 M	<i>See Shared Facilities costs below</i>		
Storage & Ops Facility	n/a	\$12.6 M	n/a	n/a
Shoreline Storage	n/a	n/a	\$11.0M	n/a
<b>Shared Facilities</b>				
Vehicle Maintenance	n/a	\$10.0 M	\$10.0 M	n/a
O&M Facility	n/a	n/a	n/a	\$22.8M
Soft Costs <sup>3</sup> (15%)	\$4.1 M	\$3.8 M	\$3.6 M	\$3.4 M
<b>Land Acquisition</b>				
Middletown	\$0.4 M	\$0.75 M	\$1.0 M	\$1.0 M
Westbrook/Shoreline	\$1.0 M	\$0.9 M	\$0.6 M	n/a
<b>Total<sup>4</sup></b>	<b>\$33.1 M</b>	<b>\$30.6 M</b>	<b>\$29.0 M</b>	<b>\$27.2 M</b>

1. Cost for ETD's full Operations & Maintenance Facility in Scenario 1 is based on revised square footage numbers from the Wendel report.
2. Estimates for maintenance equipment (e.g. lifts, bus wash, etc.) are included in the facility estimates above.
3. Soft costs based on total facility costs (not land acquisition) and include: Architectural and Engineering/Construction Services (8%), Owner's Contingency (5%) and FFE (2%) for furniture, fixtures and smaller equipment such as phone and data systems, furniture, etc. Owners contingency is used to help defray change orders and owner-directed changes.
4. A 25% contingency is included in the facility construction costs.

In 2018, the City of Middletown appraised the largest O&G parcel at a value of \$403,000 and two adjacent smaller parcels at \$348,000 and \$251,000, respectively (\$1.0 million for the entire site). Only one parcel would be required for the expanded MTD facility under Alternative 1; two parcels would be required for Alternatives 2, 3, and 4. Although other adjacent parcels are available, these costs were used in the estimates above.

In 2019, the Town of Westbrook appraised land on Flat Rock Place for about \$200,000 an acre. Based on this cost, purchase of a 5.0-acre parcel (Scenario 1) would be \$1.0 million, a 4.5-acre parcel (Scenario 2) would be \$0.9 million and a 3-acre parcel (Scenario 3) would be \$600,000.

## Estimated Operational Costs for Maintenance Facilities

It is recognized that there will be an increased cost to operate and maintain new and expanded facilities. These expenses were estimated using existing MTD utility and facility costs per square foot. Today, MTD facilities total approximately 28,000sf with annual utility costs equating to \$4.93 per square foot and annual facility maintenance costs equating to \$3.55 per square foot. These factors were used to estimate the relative and order-of-magnitude scale of these expenses under each of the potential future facility alternatives (see Figure 16).



**Figure 16 | Estimated Annual Operating Costs for Utilities and Facility Maintenance**

	Existing FY2020	Facility Alternative 1	Facility Alternative 2	Facility Alternative 3	Facility Alternative 4
Total Facility SF	28,000	92,100	85,211	81,859	76,906
Estimated Utility Costs	\$138,000	\$454,000	\$420,000	\$404,000	\$379,000
Estimated Facility Maintenance Costs	\$101,000	\$327,000	\$303,000	\$336,000	\$273,000
<b>Total Costs</b>	<b>\$239,000</b>	<b>\$781,000</b>	<b>\$723,000</b>	<b>\$740,000</b>	<b>\$652,000</b>

## Other Operating Impacts Related to Facility Relocation

While MTD storage and maintenance locations would remain unchanged from today, new facility locations for ETD would have an impact on the amount of non-revenue vehicle miles operated (or “deadheading”).

Deadhead miles for maintenance trips were calculated based on the distance to maintenance and established service intervals (every 6,000-mile for fixed-route vehicles and every 5,000 miles for smaller “cutaway” vehicles). To account for unscheduled repairs, a total of six unscheduled trips were assumed for each vehicle per year. Fuel, vehicle wear and tear and driver labor were considered in the estimates.

One contracted tow truck trip per month (two hours at \$125/hour) were assumed to get disabled vehicles from the Shoreline area to the Middletown garage under Alternatives 2, 3 and 4.

Under Alternative 4, deadhead miles for daily pull-out between a Middletown facility and route starting points along the Shoreline were also calculated.

The cost impacts from increased deadheading and towing miles are described below and shown in Figure 17.

### Scenario 1

- MTD storage and maintenance locations would remain the same as today and there would be no increase in the cost of getting vehicles to and from the garage.
- ETD’s operations center would move from Centerbrook to Westbrook which are about the same distance from Old Saybrook Station and ETD’s general center of operations, meaning there would be no additional cost for daily pullout. There would be some minor savings (e.g. \$1,900 annually) since buses would not need to be driven to the contractor’s garage for inspections or repairs.

### Scenarios 2 and 3

- MTD’s operations would be similar to the existing condition.

- ETD vehicles would be stored in Westbrook and inspected/repared in Middletown. The cost of making the 53-mile roundtrip to maintenance would add an estimated \$14,000 to annual operating costs (for wear and tear, labor and fuel). This represents a “worst case” as ETD could potentially send vehicles to Middletown for inspections while in regular service on either Route 644 or 645. There is also the potential to switch out Dial-a-Ride vehicles from the facility when drivers make a run to drop off for medical appointments in Middletown.
- Emergency towing costs would increase for ETD. Assuming one two-hour tows to Middletown each month at the currently contracted rate of \$125/hour, annual costs would increase by \$3,000.

## Scenario 4

- Middletown area operations would be similar to the existing condition.
- Shoreline area routes would also be garaged nightly in Middletown, eliminating the need for deadheading vehicles for regularly scheduled inspections and repairs. Due to the further distance between Shoreline operations and the garage, the cost to handle unscheduled breakdowns is estimated to cost about \$4,000 annually, plus additional emergency towing expenses.
- There would be increased costs to get vehicles and drivers back and forth between Middletown and start/end points in Old Saybrook and Madison. The cost for fuel, labor and general wear and tear, plus a shuttle to switch drivers mid-shift each day, would cost an estimated \$147,000 annually.

**Figure 17 | Cost Increases Related to Non-Revenue Service Trips**

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<b>Increased Cost to get to Maintenance</b>	-\$1,900	\$14,000	\$14,000	\$4,000
<b>Increased Cost of Emergency Towing</b>	n/a	\$3,000	\$3,000	\$3,000
<b>Increased Cost for Deadhead at Pullout</b>	n/a	n/a	n/a	\$147,500
<b>Net Impact</b>	<b>-\$1,900</b>	<b>\$17,000</b>	<b>\$17,000</b>	<b>\$154,000</b>

# 4 Governance & Service Delivery Scenarios

## Governance & Service Delivery Scenarios

Three potential governance strategies have been developed to assess different administrative and staffing structures for the two transit districts in the LCRV region. Each of these alternative governance strategies is then paired with a different facility alternative (as described in Chapter 3 above), creating four potential scenarios that were evaluated for their ability to meet project goals and objectives. The four scenarios are summarized in Figure 18. All scenarios would position the districts for future growth.

**Figure 18 | LCRV Service Delivery Scenarios**

Scenario	Governance Strategy	Facility Alternative
1	<b>Independent Districts</b>	<b>Facility Alternative 1</b> <ul style="list-style-type: none"> <li>Expanded MTD Operations &amp; Maintenance Facility</li> <li>New ETD Operations &amp; Maintenance Facility</li> </ul>
2	<b>Independent Districts with Shared Functions</b>	<b>Facility Alternative 2</b> <ul style="list-style-type: none"> <li>Expanded MTD Operations &amp; Maintenance Facility</li> <li>Shared Vehicle Maintenance at MTD</li> <li>New ETD Operations Facility</li> </ul>
3	<b>Regional Service Delivery</b>	<b>Facility Alternative 3</b> <ul style="list-style-type: none"> <li>Operations &amp; Maintenance Facility in Middletown</li> <li>New ETD Operations Facility</li> </ul>
4		<b>Facility Alternative 4</b> <ul style="list-style-type: none"> <li>Operations &amp; Maintenance Facility in Middletown</li> </ul>

These scenarios are described in more detail below, including a list of specific assumptions related to:

- Operational Impacts and Expenses
- Capital Needs (only those that are required to support governance and facility changes)
- Structural/Administrative Changes
- Revenue Impacts

Staffing assumptions and the overall impact on annual operating expenses are summarized in Figure 19 | Projected Staffing by Scenario and Figure 20 | Combined Operating Expenses by Scenario.

## Scenario 1: Independent Districts

Scenario 1 most closely represents existing conditions. MTD and ETD would continue to operate as independent transit districts. Planned and needed facility investments would be made to upgrade and expand MTD's North Main Street garage and to construct a new ETD Operations & Maintenance Facility in Westbrook.

There would be no job losses or reductions in staffing. Scenario 1 assumes the districts would create a number of new positions to enhance management and maintenance capacity.

### Operational Impacts & Expenses

- Transportation
  - MTD currently employs two Transportation Supervisors; ETD has none. Under Scenario 1, both districts would hire a Lead Transportation Supervisor; ETD would also bring on two additional supervisors to appropriately cover all shifts.
  - Each district currently employs two FT and one PT Dispatcher. Under Scenario 1, MTD would have a Lead Dispatcher, plus two additional dispatchers and a PT dispatcher to cover all shifts and the customer service window. ETD would have a Lead Dispatcher plus one FT and one PT dispatcher to cover all shifts.
  - ETD would no longer need to send vehicles back and forth between their Centerbrook offices and the contracted maintenance facility in Old Saybrook, but annual savings would be minimal (<\$2,000).
- Maintenance
  - MTD would expand its maintenance facility; ETD would end their third-party maintenance contract and maintain their own vehicles at a new facility in Westbrook.
  - There would still be a need for some contracted maintenance for body work and other highly specialized needs.
  - Both districts would have three full-time mechanics for vehicle maintenance. One would serve as Maintenance Manager and also be responsible for facility maintenance. Each district would also one full-time and one-part-time Fueller/Service Worker to cover six days of operation.
- Administration/Overhead
  - Both districts would continue to contract separately for management. For the purposes of consistency, it is assumed that MTD's Operations Manager would be part of the contracted management team, as is the case at ETD.
  - MTD's part-time bookkeeper would be replaced by a full-time Finance Director (as ETD has today)

- Both districts would employ an Administrative Assistant who would take on ADA certification and other roles (today, ETD employs a part-time assistant).
- Insurance, facility upkeep (plowing, building maintenance, etc.), and utility costs would increase for both districts. Costs are based on today's MTD facility expenses and future square footage (Figure 20).

Each district would employ a Janitor who would replace the need for contracted cleaning and also conduct light facility maintenance duties.

## Capital Needs

- See assumptions for Facility Alternative 1 in Chapter 3. MTD would retrofit and expand their North Main Street facilities, which would entail the purchase of parcels across the street. ETD would build a new Operations & Maintenance facility in Westbrook.
- Today, MTD has two non-revenue vehicles and ETD has three. MTD has a pick-up truck to support maintenance, and a support vehicle to support shift changes. ETD has a vehicle for the Operations Manager and two vehicles to support shift changes and administrative staff. Under Scenario 1, an additional vehicle for the MTD Operations Manager or Transportation Supervisor would be needed.

## Governance/Other

- Board Structure
  - Both districts would retain independent boards, structured largely as they are today. Portland and Haddam have expressed interest in joining MTD and ETD, respectively.
- Labor
  - There would be no job losses or reduction in staffing.
  - MTD drivers would continue to be represented by Teamsters Local 671 and ETD drivers would continue to be unaffiliated.

## Revenues

- Revenues would be unaffected by these changes. It is assumed that the Towns of Portland and Haddam joins MTD and ETD, but that their local contribution level would remain the same as today.

## Scenario 2: Independent Districts; Shared Maintenance at MTD

Under Scenario 2, the two transit districts would continue to be independent, as described under Scenario 1, but would share additional operational functions, including vehicle maintenance. MTD's North Main Street facility would be expanded to perform vehicle maintenance for both districts; this would require acquisition of an adjacent parcel. ETD would purchase or lease land to construct a smaller Storage & Operations center in Westbrook, rather than a full Operations & Maintenance facility.

Differences from Scenario 1 include the following:

## Operational Impacts & Expenses

- Overall, there would be fewer staff positions than in Scenario 1, but more than budgeted for and employed in FY2020.
- Maintenance
  - ETD would send vehicles to the shared Vehicle Maintenance Facility in Middletown for regular inspections and scheduled/unscheduled repairs. MTD would take the lead on maintenance and employ three mechanics. The lead MTD mechanic would serve as Maintenance Manager and Facility manager for MTD properties.
  - ETD would employ one mechanic/facility manager in Westbrook who could handle light or emergency repairs on ETD vehicles.
  - The MTD maintenance facility would be about 26.5 miles from ETD's Storage & Operations Facility in Westbrook. The longer distance to the garage would increase non-revenue vehicle miles (NRVM) driven and related costs for driver labor, fuel and vehicle wear and tear; emergency towing costs would also increase.
- Administration/Overhead
  - Management: To ensure fair implementation and balanced cost allocation related to shared resources, a shared management contract would be pursued. The two existing management contracts would be renegotiated or rebid as one contract. One Executive Director would oversee both districts, with individual Operations Managers assigned to each district.
  - MTD and ETD would share vehicle maintenance costs, allocated according to an agreed upon formula. Both districts would employ a part-time bookkeeper to handle increased accounting related to this cost allocation.
  - Overall insurance, facility maintenance and utility costs for both districts would be slightly less than in Scenario 1, with ETD responsible for some share of the shared vehicle maintenance facility.

## Capital Needs

- See assumptions for Facility Alternative 2 in Chapter 2: MTD would upgrade and expand their North Main Street garage by purchasing parcels across the street and constructing a shared Vehicle Maintenance Facility. The existing MTD garage would be retrofitted and retained for storage and operational support space. ETD would construct a smaller Operations center in Westbrook for all needed functions with the exception of vehicle maintenance.
- Both MTD and ETD already utilize the same maintenance software package (RTA), facilitating this transition.
- MTD would upgrade their radios to be compatible with the statewide system and to enable communications with ETD regarding vehicle breakdowns and other maintenance related issues.
- MTD would upgrade software in three areas to be compatible with ETD and allow for regional vehicle location, Dial-A-Ride and ADA scheduling, and Interactive Voice Response (IVR). Upgrading to the Automatic Vehicle Location (AVL) system to Passio

and to Ecolane scheduling software would require a \$140,000 investment. MTD would be able to share use of ETD's Interactive Voice Response (IVR) system at no additional cost. Together, these upgrades would allow for a shared call center and more efficient, regional scheduling of on-demand services. Shared AVL would allow maintenance to track vehicles across the region and allow for the display of real-time passenger information on signs or via mobile apps. ETD would be responsible for the management of these systems

- MTD would upgrade their fare collection equipment to be compatible with ETD's funded upgrade and Go CT. Fareboxes would be probed and emptied at the respective Storage facilities, however farebox maintenance would be performed at the shared Vehicle Maintenance Facility.
- A large service truck with a bus lift would be purchased to support regional maintenance needs and respond to road calls (MTD's current maintenance vehicle is a pick-up truck that cannot push or lift a bus).

## Governance/Other

- Board Structure: Same as Scenario 1.
- Shared Functions: In addition to management and finance staff, other functions would be shared:
  - Vehicle and farebox maintenance.
  - Scheduling for Dial-A-Ride, ADA, and any Microtransit services: existing ETD scheduling licenses, Interactive Voice Response (IVR) and software would be utilized to schedule on-demand trips for both districts.
  - AVL Licensing & Equipment Maintenance: MTD would upgrade its AVL system to be compatible with ETD; programming and equipment maintenance would be a shared function, led by ETD.
- Labor
  - There would be no job losses or reductions in staffing.
  - Although the two independent districts currently “interface” at MTD's Passenger Terminal in Middletown, there is the potential for affiliated MTD drivers to grieve the fact that ETD drivers would be bringing vehicles onto MTD property for maintenance.
  - The Teamsters would likely try to organize ETD drivers (who may resist the deduction of union dues) There could be significant changes to work rules and current salary scales at both agencies.
  - It would be possible to have two different operating units or unions under one management structure. This is common for large, legacy transit operators who have absorbed operating units over the years, often with very different labor contracts and seniority structures. However, this would add a level of administrative complexity that could encumber the efficiency of the relatively small operation in the LCRV region.



- To avoid these situations, implementation would require strict accounting and work practices to keep functions separate. For example, maintenance would be performed by MTD employees on MTD owned property. Coordinated Dial-A-Ride/ADA scheduling would be performed by ETD employees, with run assignments still based on each agency's original geographical service areas.

## Revenues

- Same as Scenario 1; revenues would be unaffected by these changes.

## Scenario 3: Regional Service Delivery; District Based in Middletown

Scenario 3 contemplates a more significant change in regional transit service delivery. It is assumed that member municipalities from one district would vote to merge into the second, becoming one regional transit district. The unified district would be managed under one Executive Director and possibly rebranded.

A single Operations & Maintenance Facility would be constructed in Middletown, expanding MTD's existing North Main Street facility onto an adjacent parcel. A local Shoreline Operations Facility with vehicle storage, light maintenance and fueling would be constructed in Westbrook, supporting Shoreline area service and handling only line running repairs. Some supervision would be based in this Shoreline facility to oversee driver reports and other site functions.

## Operational Impacts & Expenses

- Overall, there would be fewer staff positions than in Scenarios 1 and 2, but more than budgeted for and employed in FY2020.
- Transportation
  - The number of driver positions would be modified, as the transition to a larger district would negate some of the benefits of employing part-time drivers. Employers with 50+ workers must pay full benefits to those that work more than 30 hours, and most of ETD's part-time employees work such hours. In other words, it would become less effective to keep part-time employees on the payroll. It is assumed that an additional 5 full-time driver positions would be created, with a total of 36 full-time driver positions at the combined district, with only two part-time drivers remaining.
  - Transportation Supervision positions would be the same as Scenario 2, with employees covering both service areas and garages. The Lead Supervisor at the Middletown facility would also be responsible for Training and Safety.
  - The 5 FT and 2 PT Dispatch positions in Scenario 2 would be reduced to 4 FT and one PT with regional dispatch based out of Middletown and one position always covering the customer service window at the Middletown Passenger Terminal.
- Maintenance
  - There would be 3 full time mechanics in Middletown, of whom serves as Maintenance/Facility Manager. There would be no need for the mechanic/facility

- maintenance position at ETD. Middletown based mechanics would travel to Westbrook as needed to perform light maintenance, and the Maintenance Manager would handle facility maintenance at all locations.
- There would be two full-time Fueller/Service Worker (one at each garage), plus a part-time position to cover paid time off and extra weekend shifts.
  - Administration/Overhead
    - Management would include one Executive Director and only one Deputy Operations Manager.
    - There would be only one shared Finance Director and, with all cost shared by one agency, no need for a bookkeeper.
    - There would be two Janitors, one in Middletown and one in Westbrook, same as Scenario 2.
    - The two individual Administrative Assistant positions would be combined into one.
    - Two new positions would be created. A Human Resources specialist would be hired to reflect the larger size of the agency and the triggering of additional employment rules; this person would relieve the Finance Director of weekly payroll duties. A Grants and Procurement Manager would be hired to pursue competitive grants and to handle federal compliance.
  - Insurance, facilities (plowing, building maintenance, etc.), and utility costs be somewhat less than in Scenario 2, due to reduced overall square footage of the facilities.
  - There would be a small reduction in the combined budget for professional services (e.g. audit, legal services, etc.) due to integration.

## Capital Needs

- Facility Alternative 3 (see Chapter 2): a shared Operations & Maintenance facility would be constructed in Middletown. The existing MTD garage would be retrofitted and retained for storage and operational support space. A local operations facility would be constructed in Westbrook to support Shoreline area services.
- An additional administrative vehicle would be required to allow support staff (mechanics, finance, fuelers, etc.) to go back and forth between facilities as needed.
- Vehicles, schedules, websites, and driver uniforms would be rebranded and replaced. New bus stop signage would be placed at existing or planned bus stops.
- All capital assets, from facilities to bus stops, would be jointly managed and maintained.

## Governance/Other

- Board Structure
  - Member municipalities from one district would vote to join the other, moving forward as one district under one Board of Directors.

- Any merger would involve a detailed agreement regarding existing assets and liabilities. FTA would need to be consulted on the transfer of any and all assets with a federal interest.
- A merger would also require a renegotiation of municipal contribution levels based on metrics that all members agree are equitable, such as population and/or service levels. New bylaws would need to be created to govern the new district (e.g. what constitutes a quorum).
- Labor: One of two situations would be likely:
  2. One Union: All fixed route drivers would become affiliated with one union (either the Teamsters Local 671 or an alternative).
    - Either: 1) the MTD driver's union would need to vote to disband (assuming their contract is separate from other Middletown employees) and join a new union; or, 2) ETD drivers would need to vote to join the Teamsters.
    - Although the latter is more likely, in either event, the contract would need to be renegotiated. The Teamsters would likely welcome new members and look to renegotiate at the higher ETD wage scale. ETD drivers would likely ask for an increase to cover union dues and the impact on take home pay.
    - Some ETD drivers may object to joining a union, and may be discouraged if part-time drivers no longer fit into the employment model.
    - Contract negotiations would re-consider pension benefits, work rules and wage rules (i.e. rates, special pay, and benefits). Pensions would have to be "grandparented".
    - Overall driver salaries would be significantly higher than today.
  3. Two Divisions: Teamsters would accept one management team overseeing two separate divisions.
    - This would present a more complex arrangement in terms of management and administration. Extra administrative support (e.g. a Human Resources Specialist) would help manage these issues.
    - Work bidding under seniority pick rules would present some challenges, as senior members of the affiliated division would want priority in selecting work assignments. To address this, a logical way to structure the divisions would be to have the Teamsters operate the fixed-route division and unaffiliated drivers to operate Dial-A-Ride, ADA, and on-demand services.

## Revenues

- Fare Policy Adjustments
  - Fare policy changes would be made to introduce consistency across the district. This fare integration would be facilitated by the fact that the unified district would be operating with a Go CT compatible fare collection system. The new account-based fare system would offer fare capping, regional integration, and other benefits to help offset impacts due to higher fares.

- Base fares would remain as today (\$1.75) in both districts, with minor changes made to bring consistency to monthly pass and youth rates.
  - The most significant change would involve senior fares. MTD offers a lower cost monthly pass and 10-ride book, but seniors living in ETD member communities can pre-register and ride on a “donations accepted” basis (essentially for free). A discounted regional senior fare could be considered, but this change would need to be negotiated by member municipalities as many currently direct senior service funding towards transportation in exchange for senior rides. Further study of the impact of potential changes would be needed.
- Some service contracts may need to be renegotiated, restructured, and/or rebid.

## **Scenario 4: Regional Service Delivery; One Central Facility in Middletown**

Scenario 4 would be similar to Scenario 3, but there would be no local Shoreline area facility. All operations, including Shoreline area transit services, would be conducted out of an expanded Operations & Maintenance Facility in Middletown.

Differences from Scenario 3 include:

### **Operational Impacts & Expenses**

- Overall, there would be fewer staff positions than in Scenarios 1, 2 and 3, but more than budgeted for and employed in FY2020.
- Transportation
  - Without a Westbrook facility, only one Lead Supervisor would be required.
  - There would be a significant increase in non-revenue miles associated with getting vehicles from Middletown to daily start points in Old Saybrook or Madison. It is estimated that this would add up to \$150,000 to the annual cost of operations due to the cost of vehicle and driver time.
- Maintenance
  - Without a Westbrook facility, only one full-time and one part-time Fueler/Service Worker would be required.
  - There would be still be a small increase in the cost of emergency towing and handling unscheduled repairs in the Shoreline area.
- Administration/Overhead
  - Only one Janitor would be required. Otherwise, administrative and support staff would be the same as in Scenario 3.

## Capital Needs

- Facility Alternative 4 (see Chapter 2): a shared Operations & Maintenance facility would be constructed in Middletown. This would involve retrofits to the existing facility and site, plus expansion onto an adjacent parcel.
- Only one additional supervisor vehicles would be required as assumed in Scenarios 1 and 2. The service truck would still be required.

## Governance/Other

- Board Structure: Same as Scenario 3
- Labor: Same as Scenario 3, but less likely that there would be opportunity for drivers to operate as two separate divisions (affiliated and unaffiliated).

## Revenues

- Same as Scenario 3

## Proposed Staffing by District and Position

Figure 19 | Projected Staffing by Scenario summarizes projected staffing under each scenario to FY2020 levels, by position. All scenarios assume that there would be an increase in the total number of employees; no job losses or layoffs are anticipated.

The total employee count under Scenario 1 would be about 27% higher than FY2020 to expand management and technical capacity. Scenario 2 assumes maintenance would be shared and requires 3% less growth in staffing than Scenario 1. With district integration, Scenario 3 requires 15% less growth in staff compared to Scenario 1, and Scenario 4 assumes 19% less growth.

## Estimated Impact on Annual Operating Expenses

Based on the assumptions detailed above, the impact of each scenario on transit district operating expenses was assessed.

Figure 19 | Combined Operating Expenses by Scenario summarizes estimated future operating expenses relative to FY2020 expenses. Operating expenses in Scenario 1 are anticipated to increase by \$1.9 million reflecting enhanced staffing and management capabilities at both districts, and the expanded MTD facility and new ETD facility which will require increased insurance, utilities, and other upkeep. Scenarios 2, 3 and 4 each progressively reduce this projected increase by 4.1%, 7.7% or 10.3%, respectively.



**Figure 19 | Projected Staffing by Scenario**

Position	FY2020		Scenario 1		Scenario 2		Scenario 3	Scenario 4
	MTD	ETD	MTD	ETD	MTD	ETD	Combined	Combined
Executive Director	1	1	1	1	1 shared		1	1
Operations Manager	1	1	1	1	1	1	2	1
Drivers (FT) <sup>1</sup>	19	12	19	12	19	12	36	36
Drivers (PT) <sup>1</sup>		8 PT		8 PT		8 PT	2 PT	2 PT
Supervisors	2	0	3	3	3	3	6	5
Dispatchers	2.2	2.2	3.2	3.2	3.2	3.2	4.5	4.5
Mechanics <sup>2</sup>	1	0	3	3	3	1	3	3
Fuelers	1	0.8	1.5	1.5	1.5	1.5	2.5	1.5
Janitor	0	0	1	1	1	1	2	1
Finance Director	0	1	1	1	1	1	1	1
Bookkeeper	0.5	0	0	0	0.5	0.5	0	0
Grants/ Procurement	0	0	0	0	0	0	1	1
HR/Payroll	0	0	0	0	0	0	1	1
Admin. Asst.	0	0.5	1	1	1	1	1	1
Total Positions	27.7	26.6	34.2	34.2	34.2	31.2	61.5	58.5
Combined	44 FT / 13 PT		61 FT / 12 PT		58 FT / 14 PT		60 FT / 4 PT	56 FT / 4 PT
Reduction in Positions Compared to Scenario 1					4.4%		10.5%	14.5%

Source: Existing staffing based on interviews with MTD and ETD Executive Directors. Future staffing proposed by the LCRV Transit Study Steering Committee.

1. FY2020 driver positions based on adopted budgets. Service increases over this year have increased ETD driver counts.
2. Mechanics include a Maintenance Manager that would oversee both Vehicle and Facility Maintenance.

Although potential future service increases are not incorporated into this analysis, assumed wage parity and, in Scenarios 3 and 4, a transition to more full-time drivers both have an impact on wages. Transportation Supervision and Dispatch wages are lowest in Scenarios 3 and 4, as redundancies in management are reduced. Maintenance wages and contracted fleet maintenance are highest in Scenario 1, but reduced by about 24%-38% when vehicle maintenance is shared in Scenarios 2 and 3, and by about 43% in Scenario 4. Scenario 4 savings would be offset somewhat by the cost to get vehicles from the Shoreline area to and from a Middletown garage.

Management and other administrative salaries are highest under Scenarios 1 and 2, but reduced in Scenarios 3 and 4 where integration provides opportunities to share functions and reduce redundancies. Today, about 25% of regional transit expenses are directed towards

overhead. Overhead percentages are greatest in Scenarios 1 and 2 (32%-34%) reflecting larger facilities that require upkeep and additional support staff. Overhead is reduced to 30% and 28%, respectively in Scenarios 3 and 4.

Finally, it should be noted that any plan for integration in Scenarios 3 and 4 would involve additional one-time operational costs to conduct additional studies, engage legal support and pursue other efforts to advance a merger of the districts.

**Figure 20 | Combined Operating Expenses by Scenario**

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Driver Wages + Fringe	\$1.98 M	\$2.16 M	\$2.16 M	\$2.29 M	\$2.29 M
Tires/Fuels/Materials	\$0.75 M	\$0.75 M	\$0.75 M	\$0.75 M	\$0.75 M
Increased Miles/Labor to Pullout	--	--	--	--	\$0.15 M
Purchased Transportation	\$0.03 M	\$0.03 M	\$0.03 M	\$0.03 M	\$0.03 M
Supervision/Dispatch Wages + Fringe	\$0.40 M	\$0.82 M	\$0.82 M	\$0.74 M	\$0.66 M
Mechanic/Fueler Wages + Fringe	\$0.14 M	\$0.65 M	\$0.46 M	\$0.35 M	\$0.32 M
Increased Towing	--	--	\$0.02 M	\$0.02 M	\$0.02 M
Fleet Maintenance <sup>1</sup>	\$0.28 M	\$0.09 M	\$0.09 M	\$0.09 M	\$0.09 M
Adjustment <sup>2</sup>	\$0.15 M	\$0.15 M	\$0.15 M	\$0.15 M	\$0.15 M
<b>Subtotal Fixed Expenses</b>	<b>\$3.7 M</b>	<b>\$4.7 M</b>	<b>\$4.5 M</b>	<b>\$4.4 M</b>	<b>\$4.5 M</b>
Management/Other Salaries <sup>3</sup>	\$0.64 M	\$0.94 M	\$0.89 M	\$0.70 M	\$0.66 M
Professional Services	\$0.12 M	\$0.11 M	\$0.11 M	\$0.09 M	\$0.09 M
Facilities <sup>4</sup>	\$0.10 M	\$0.33 M	\$0.30 M	\$0.34 M	\$0.27 M
Utilities <sup>4</sup>	\$0.14 M	\$0.45 M	\$0.42 M	\$0.40 M	\$0.38 M
Other/Contingency	\$0.27 M	\$0.39 M	\$0.37 M	\$0.37 M	\$0.30
<b>Subtotal Overhead Expenses</b>	<b>\$1.3 M</b>	<b>\$2.2 M</b>	<b>\$2.1 M</b>	<b>\$1.9 M</b>	<b>\$1.7 M</b>
<b>Total Expenses</b>	<b>\$5.0 M</b>	<b>\$6.9 M</b>	<b>\$6.6 M</b>	<b>\$6.3 M</b>	<b>\$6.2 M</b>
Compared to Scenario 1			-4.1%	-7.7%	-10.3%
% Overhead	25%	32%	34%	30%	28%
Cost per RVH <sup>5</sup>	\$49	\$67	\$64	\$62	\$60

1. Fleet Maintenance cost keeps MTD's current contracted cost of \$46,000 across all scenarios and assigns similar cost to ETD reflecting transition to in-house maintenance on a similar sized fleet.
2. Wages above are averaged by position and do not incorporate overtime. This adjustment corrects for averaging of wages and fringe rates across the board and to achieve consistency with FY20 budgets.
3. Management/Other Salaries under Scenario 1 assumes MTD's Deputy Operations Manager would become part of the contracted management team (at higher salary).
4. Utility and Facility maintenance expenses were estimated based on current MTD costs per square foot. Estimates assume septic service at any Shoreline facility but do not account for on-site well for water supply.
5. Cost per Revenue Vehicle Hour based on estimated FY2020 annual fixed route and on-demand service hours (102,388) from model developed to evaluate service alternatives.

## Other Capital Needs Related to Scenarios

Figure 21 summarizes capital needs, beyond new and upgraded facilities, that would be needed to support each of the potential scenarios.

### Scenario 1

#### Non-Revenue Vehicles

Today, MTD has two non-revenue vehicles and ETD has two. MTD has a pick-up to support maintenance; other vehicles are used to support shift changes or other management/administrative purposes. There should be three vehicles at each agency: one for the Transportation Supervisor on shift, one for a shuttle to support shift changes, and another for other management/administrative purposes). Under Scenario 1, an additional vehicle for a new MTD Transportation Supervisor would be needed.

### Scenario 2

#### Coordinated and Shared AVL, Scheduling, and IVR Technology

Both MTD and ETD have Automated Vehicle Location (AVL) technology in place today, but use different systems. Use of the same platform (Passio) is recommended under Scenario 2.

A compatible system would allow maintenance managers to better track vehicle location and would also ultimately benefit riders by allowing regional real-time bus tracking on one common application. It is recommended that MTD upgrade to use the Passio system utilized by ETD today.

MTD would also use ETD's Dial-A-Ride/ADA scheduling software (Ecolane) and Interactive Voice Response (IVR) platform. Upgrading the AVL system to Passio and installing Ecolane scheduling software would require a \$190,000 investment. Ecolane licenses its software on a per-vehicle basis, so there would be costs to incorporate the MTD fleet, but ETD has also invested about \$200,000 for add-on features that could be utilized across the combined fleet. There would be no cost to expand use of ETD's IVR system for use in booking trips on MTD vehicles.

Together, these upgrades would allow for a shared call center and more efficient, regional scheduling of on-demand services. ETD would be responsible for the management of these systems.

#### Radio System Upgrade

ETD is in the process of upgrading to a new radio system that will be compatible with the statewide network. In order to better coordinate the movement of vehicles in and out of the shared maintenance facilities, it is recommended that MTD upgrade to a similar system.

## Fare System Upgrades

MTD and ETD fare collection systems currently use magnetic swipe technology. Starting with CT*transit*, the State is transitioning to Go CT, an account-based fare collection system. ETD has been granted funding to upgrade to a compatible system. Moving MTD towards the same system would allow for all fare equipment maintenance to be performed at the shared maintenance facility, a more efficient approach than performing this task at the two respective storage facilities. This investment would also allow for regional fare integration under Scenarios 3 and 4.

## Non-Revenue Vehicles

In addition to the additional vehicle for the MTD Transportation Supervisor on shift, there would be a need for a large service truck with a lift to handle road calls across the region.

## Scenario 3

### Fixed Route Planning/Scheduling

A larger district would benefit from more advanced, in-house fixed-route planning and scheduling capabilities. “Off-the shelf” these programs (e.g. Remix, Trapeze, Hastus, etc.) typically involve upfront costs as well as annual support contracts and staff training. They would enable in-house scheduling, run-cutting and more accurate Title VI analyses in compliance with federal law. Scheduling would become the responsibility of one of the dispatchers.

## Non-Revenue Vehicles

In addition to the additional vehicle for the MTD Transportation Supervisor on shift, and the large service truck assumed in Scenario 2, there would be the need for another administrative vehicle due to the anticipated movement of support staff (mechanics, fuelers, managers, etc.) between facilities.

## Rebranding

Under this alternative, the two transit districts would be integrated as one regional district. Although the timing and scope of any rebranding would be up to the new Board, some rebranding of assets and materials is likely needed to communicate changes related to unified operations. The new district could take on the name of one of the original districts (e.g. Estuary Transit District) or board may opt for complete rebranding. The assumed scope of the rebranding is as follows:

- Rebranding Study to identify a new regional “brand,” color scheme, etc.
- Rebranding of vehicles, assumed to cost \$15,000 per vehicle. This cost could potentially be reduced by rebranding one district with the second’s color scheme or by waiting until each bus reaches the end of its useful life and is replaced. The costs shown in the figure below assume rewrapping of the entire fleet.
- New signage at bus stops and other facilities, new schedules, and new driver uniforms.
- New website

A regional marketing campaign will also be required to carefully roll out the changes so the public understands the reasons behind integration (i.e. there was no failure or mismanagement). This would be an operational cost incurred prior to merger and is addressed in the main body of this report.

## Scenario 4

Same as Scenario 3, with the exception of Non-Revenue Vehicles. Only the large service truck and one additional support vehicle would be needed (same as Scenario 2).

**Figure 21 | Other Capital Investments Needed to Support Scenario Implementation**

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<b>MTD Automatic Vehicle Location (AVL) Upgrades<sup>1</sup></b>	n/a	\$150,000	\$150,000	\$150,000
<b>MTD On-Demand Scheduling<sup>2</sup></b>	n/a	\$40,000	\$40,000	\$40,000
<b>MTD Radio System<sup>3</sup></b>	n/a	\$175,000	\$175,000	\$175,000
<b>MTD Interactive Voice Response (IVR)</b>	<i>ETD technology can be shared at no additional cost.</i>			
<b>Fixed Route Planning/Scheduling<sup>4</sup></b>			\$40,000	\$40,000
<b>Fare Collection Upgrades<sup>5</sup></b>	n/a	\$350,000	\$350,000	\$350,000
<b>Rebranding<sup>6</sup></b>	n/a	n/a	\$705,000	\$705,000
<b>Non-Revenue Vehicles<sup>7</sup></b>	\$25,000	\$150,000	\$175,000	\$150,000
<b>Total</b>	<b>\$0.03 M</b>	<b>\$0.9 M</b>	<b>\$1.6 M</b>	<b>\$1.6 M</b>

1. AVL: Based on ETD implementation costs, requires an additional \$150,000 to upgrade to a Passio AVL software.
2. On Demand/IVR: Based on ETD implementation costs, it would cost \$175,000 to upgrade MTD's system to be compatible with the state network.
3. ETD's Fare Collection System Upgrade is funded @ \$350,000. Similar costs are assumed to upgrade MTD for compatibility with Go CT.
4. Planning/Scheduling Software: Costs reflect initial start-up costs only for licensing and training (\$5,000 for Remix, \$30,000 for Hastus, \$5,000 for training). Annual software support costs not included. For Remix, annual costs would be about \$25,000 for a 40-vehicle agency.
5. Rebranding: Study @ \$100,000; rebrand 38 vehicles @ \$15,000 each; two \$100 uniforms for 39 drivers; Website @ \$15,000; Schedule redesign @ \$3,000. Replace all bus stop and other signage systemwide @ \$8,000 (\$150 per sign installed at 40 bus stops, plus \$500 per sign at 4 locations.)
6. One supervisor/admin car @ \$25,000 (e.g. SUV) for all Scenarios; 2 under Scenario 3. Service vehicle @ \$125,000 under Scenarios 2, 3 and 4.



## 5 Scenario Evaluation

A set of quantitative and qualitative measures have been developed to help assess the ability of each service delivery strategy to meet overall project goals. These include quantitative metrics to assess service performance and potential costs, as well as qualitative measures to assess other factors related to alternative service delivery and governance structures. The sections below compare the relative effectiveness of each scenario in terms of meeting established project goals.

### Goal 1: Achieve Efficiencies in Service Delivery

Figure 22 | Criteria for Goal 1: Achieve Efficiencies in Service Delivery

Criteria	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<b>Annual Operating Cost</b>	\$6.9 M	\$6.6 M	\$6.3 M	\$6.2 M
<i>Relative Diff. in Annual Cost</i>		-4.1%	-7.7%	-10.3%
<i>Relative Diff. in % Overhead</i>		--	-3.6%	-6.2%
<b>Facility Costs</b>	\$33.1 M	\$30.6 M	\$29.0 M	\$27.2 M
<i>Relative Diff. in Facility Costs</i>		-7.5%	-12.4%	-17.8%
<b>Other Capital Costs<sup>1</sup></b>	\$0.03 M	\$0.9 M	\$1.6 M	\$1.6 M
<b>Potential to Share Assets and Capital Costs</b>	Low	Moderate	High	High

1. Other Capital Costs includes non-revenue fleet, technology investments, rebranding, etc.

### Consider Overall Cost of Service Delivery

#### *Change in Operating Costs*

**Scenarios 3 and 4** are the most efficient in terms of lower overall operating costs, both involving full agency integration, reducing the need to create new staff positions, and reducing costs about 8-10% compared to Scenario 1. Scenario 2 has a more moderate impact on efficiency, with shared vehicle maintenance but not full integration of staff and other functions.

The operational savings under Scenarios 3 and 4 would involve additional one-time operational costs to conduct additional studies, engage legal support and pursue other efforts to advance a merger of the districts. These costs, estimated to be in the range of \$500,000 would be spread across several fiscal years and would have a minimal impact on the long-term operational savings anticipated.

#### *Percent of Budget Dedicated to Overhead*

There is less of a differential in the amount of the budget directed toward overhead and support functions, as efficiencies in **Scenarios 3 and 4** are redirected toward

increased staff capacity. However, **Scenario 4** would achieve the greatest reduction in overhead, as all functions would be conducted out of one Middletown facility, saving on utilities and facility upkeep.

### *Use Existing and Planned Assets Efficiently*

**All scenarios** would utilize and take advantage of the current investment in MTD's Middletown facilities. All would meet MTD state of good repair needs, prepare MTD facilities to handle zero-emission bus technology, and achieve Leadership in Energy and Environmental Design (LEED) Silver Certification (a national program to encourage energy efficient buildings).

### *Capital Cost for Facilities*

The cost to provide improved maintenance facilities is highest for Scenario 1, at \$33.1 million, which involves an upgrade and expansion of MTD facilities plus construction of a full Operations & Maintenance Facility for ETD. Scenario 2 would reduce this amount by 7.5% and Scenario 3 would reduce this cost by 12.4%. **Scenario 4** has the lowest facility cost, at \$27.2 million, requiring facility investment only in one location and reducing facility investment needs by 17.8%.

### *Maintenance Reliability*

Maintenance reliability means that vehicle repairs can be made in a timely fashion and vehicles are ready for service when needed. Reliability would improve under all scenarios as each provides improved facility capacity and appropriate levels of staffing. **Scenarios 2, 3, and 4** assume a shared maintenance facility tasked with maintaining a larger fleet and provide more opportunity for diverse technical capacity and retention of staff.

### *Sharing of Capital Costs, Technology and Other Assets*

**Scenarios 3 and 4** presents the greatest opportunity to share existing assets and technologies; all maintenance equipment, fleet and technology would be shared. Sharing major equipment such as bus washes would reduce the need for redundant capital investments within the region. The shared fleet would provide a more effective means of meeting daily vehicle pull-out requirements and managing spare vehicles. Sharing technologies such as Automatic Vehicle Location (AVL), Interactive Voice Response (IVR), on-demand scheduling and fare payment would allow one person (rather than two) to manage these applications across the region and would provide a more consistent regional and technologically advanced interface for riders.

## **Provide Opportunity and Capacity for Growth**

### *Maintenance Facility Capacity & Ability to Handle Electric Vehicles*

**All scenarios** assume that new and upgraded facilities would be designed to address current needs and to provide the opportunity and capacity for growth and a future expansion in fleet. All facilities would also be designed to provide the capacity to store and maintain gasoline, diesel, and battery-electric vehicles.

### ***Management Capacity***

**All scenarios** introduce additional mid-level management positions (i.e. Lead Supervisor(s) and Maintenance Manager(s)) to provide enhanced management oversight of transportation and maintenance functions.

**Scenarios 3 and 4** create new positions for Human Resources and Grant Management and would alleviate the current Executive Director, Operations Manager and Finance Manager of secondary duties such as federal compliance, payroll, etc. Higher level managers would then be able to appropriately focus more time on broader district-level responsibilities.

**Scenario 3** would provide two Lead Supervisors overseeing transportation, one at each garage. This would allow one of these positions to be tasked with training and safety, functions that are currently the responsibility of upper-level management. **Scenario 4** would be the most practical to manage from a broader standpoint, with all staff and functions operated out of one facility.

### ***Potential for New Members/New Revenues***

Portland and Haddam have expressed an interest in becoming members and their addition is assumed for all scenarios. It is possible that additional members (Madison, East Hampton, East Haddam, Cromwell) might be more interested in joining a larger regional district with better potential for long-term financial sustainability. **Scenarios 3 and 4** better meet these criteria. In addition to potentially attracting more member municipalities, a larger district provides greater opportunity to expand both public services and private partnership agreements across the region.

### **Goal 1 Summary**

Each of the scenarios provide for future growth in transit in the LCRV region, particularly through new and upgraded facilities.

**Scenario 4** would result in the lowest overall annual operating costs, lowest overhead, and lowest capital cost. **Scenario 3** scores slightly less well across these measures, but would still provide significant capacity to reduce costs and improve efficiency. Both would deliver transit service on a regional basis, support a more resilient and specialized staff, and provide opportunity to improve financial stability over the longer term, potentially attracting new member municipalities and new revenues through expanded public and private partner service agreements.

**All scenarios** offer improved maintenance reliability and accommodate the introduction of new technologies such as zero emission buses.

## Goal 2: Plan and Implement Recommendations

### Plan is Practical and Implementable

**Scenarios 1 and 2** largely replicate today's governance and labor structure (with the exception of a common management contract under Scenario 2) and would not be challenging to implement. Steps to move towards a common management team under Scenario 2 are already being tested. Due to the late 2019 resignation of MTD's Executive Director, the two districts are both currently being overseen by ETD's Executive Director and there has been further integration of staff (e.g. financial staff), with plans to introduce greater collaboration going forward.

Although implementable because they closely resemble business as usual, Scenarios 1 and 2 may not be practical. They require the greatest levels of operating support and capital funding and there are limited resources available to support statewide demand for these funds.

Integration under Scenarios 3 and 4 would involve challenges related to the merging of districts and required public, municipal, and board approvals. A merger would require the two boards to negotiate new bylaws, potential changes in municipal contribution levels, responsibility for outstanding liabilities, and a fair and equitable merger of assets. However, these scenarios would be more practical in terms of reducing costs and levels of needed state investment.

**Scenario 1** represents the most implementable solution, while **Scenario 3** represents the most practical solution. Scenario 3 would allow the two boards to begin negotiations towards an eventual merger while new facilities are being designed in each district. Shared maintenance could begin as soon as the Middletown facility is able to accept ETD vehicles, with final district integration proceeding at an independent pace.

### Implement Changes that Have a High Level of Public & Political Support

#### *Impacts on Employee Satisfaction*

MTD employees would likely see the benefits that a new and improved facility in Middletown would provide under any scenario. ETD employees would likely be happiest with Scenarios 1, 2 or 3 which maintain a presence in the Shoreline area.

Employee satisfaction under Scenarios 2, 3 and 4 could vary depending on how wages and work rules are renegotiated. MTD drivers may grieve the fact that a common management team is overseeing ETD operations and unaffiliated drivers. ETD drivers may be encouraged to affiliate; it is unknown how that would be received.

In summary, MTD employees may be most satisfied under **Scenario 4** in which all operations are under one agency with all operations run out of Middletown. ETD employees would probably be most satisfied with **Scenario 1** in which a new facility is provided in the Shoreline area, with employee rules and relations similar to today.

### ***Consistency with Board Priorities***

Both boards have a vested interest in offering high quality transit service for their current riders, member municipalities, and other partners. Both boards also have a vested interest in improving the efficiency of operations. Presentations on preliminary findings from the LCRV Transit Study were given to each board in February 2020.

The MTD Board of Directors recognizes their need to improve maintenance facilities and saw the benefits of doing so on a regional scale (Scenarios 2, 3, and 4). They also expressed a willingness to further explore the concept of integration, as long as the delivery of transit on a regional scale would avoid any negative impact on service or riders.

The ETD Board of Directors indicated they continue to feel strongly that their district would benefit from a permanent operations facility and in-house maintenance. While some recognized the benefits of pursuing vehicle maintenance on a regional level, others continued to advocate for a local operations center to best meet Shoreline area transit needs. Although Scenario 1 or 2 are preferred by most ETD members, the board did recognize that Scenario 3 could be a solution that balances state and regional needs.

Additional discussion regarding the outcomes of Scenario 3 are desired to ensure respective board priorities are met and to come to agreement regarding future bylaws and potential municipal contribution levels. Members will need to come to agreement regarding responsibilities and potential indemnification related to existing liabilities. These concerns would need to be addressed as part of an any future agreement to merge districts and current assets.

### ***Public Support***

The public may be concerned about any potential negative impacts on service. None of the scenarios presented would have an impact on service levels or design. However, Scenarios 3 and 4 do offer the potential to realize operational efficiencies that could potentially be redirected toward service improvements at the discretion of a newly merged regional board of directors.

### **Goal 2 Summary**

Scenarios 1 and 2 involve the least change for each district and its employees and would be the easiest to implement. However, they require higher levels of capital investment and ongoing operational support, making it less practical than Scenarios 3 and 4.

Scenarios 3 and 4 would be more challenging to implement, but more practical over the long term due to lower overall operating costs.

Scenarios 1 and 3 appear to be more appealing to ETD employees and its board.