



Woods Hole, Martha's Vineyard and Nantucket Steamship Authority

April 21, 2016

Dear Members of the Public:

At the regular monthly meeting of the Steamship Authority's governing Board on April 19, 2016, the SSA's staff provided the Board with the following Preliminary Report on the Feasibility of Providing Freight Service between New Bedford and Martha's Vineyard, dated April 12, 2016. We expect that both the Board and the SSA's Port Council will be discussing this report at their meetings over the next several months.

Also at their April 19, 2016 meeting, the Board asked the staff to provide copies of the report to the appropriate public officials of all the municipalities that could be affected by a freight ferry service between New Bedford and Martha's Vineyard, as well as all other interested persons who might be affected by the service, and to solicit their comments and suggestions.

If you would like to comment on the report, or make any suggestions about any potential freight ferry service between New Bedford and Martha's Vineyard, we encourage you to do so at your earliest convenience. Please feel free to send your comments and suggestions by email to me. My email address is wlamson@steamshipauthority.com. We will make certain to forward your comments and suggestions to the Port Council and the Board for their consideration.

Very truly yours,

Wayne C. Lamson
General Manager



Woods Hole, Martha's Vineyard and Nantucket Steamship Authority

PRELIMINARY REPORT ON THE FEASIBILITY OF PROVIDING FREIGHT SERVICE BETWEEN NEW BEDFORD AND MARTHA'S VINEYARD

April 12, 2016

The staff's goal in preparing this preliminary report is to identify various alternatives for providing a freight ferry service between New Bedford and Martha's Vineyard, to describe how each of those alternatives would address the concerns and needs of the traveling public and each of the SSA's interested constituent communities (Martha's Vineyard, New Bedford and Woods Hole), and to arrive at a proposed potential model for the service that has the greatest chance of success over the long term for further investigation and development.

I. BACKGROUND.

In 2000, the SSA implemented a one-year pilot program, with an option to renew that program for another year, pursuant to which Hvide Marine Incorporated (Hvide) provided freight service between New Bedford and Martha's Vineyard, unrestricted as to the type of commodities carried, two times a day, five days a week (except legal holidays), from May 1, 2000 through October 31, 2000. Hvide operated from the New Bedford State Pier, and the SSA allowed Hvide to use its Vineyard Haven terminal facilities at no charge. The SSA also assumed responsibility for making all reservations, selling all tickets, and collecting all ticket proceeds, and paid Hvide \$1,484,500 (including a fuel adjustment charge) to provide the service that year.

By October 31, 2000, Hvide had carried a total of 1,900 trucks on a one-way basis between New Bedford and Martha's Vineyard, or an average of 14.5 trucks carried on a one-way basis each day. Only around 100 of the 1,900 trucks were carried in both directions on the ferry the same day (leaving New Bedford at 5:00 a.m. and returning at 2:00 p.m.), an average of less than one truck per day. The truck rates charged on the New Bedford-Martha's Vineyard route were in parity with the rates charged from Woods Hole, and the total revenue derived from the trucks (and associated passengers) carried on the route during 2000 was approximately \$235,000, or some \$124 per truck. The total cost of running the pilot program during 2000 was \$1,526,000 (including advertising and insurance), leaving an operating loss of approximately \$1,291,000. To put it in a little different perspective, revenues covered only around 15% of the cost of the service, and the SSA lost almost \$680 per truck carried on the route.

The New Bedford freight service in 2000 was limited to trucks 20 feet or over in length in an effort to maximize the number of larger trucks that could be carried directly to and from New Bedford and therefore reduce, to the fullest extent possible, the number of larger trucks traveling through Woods Hole. The SSA subsequently exercised its option to have Hvide provide the same freight service during 2001, with the only change being that Hvide was required to begin the service earlier in the year, on April 2, 2001, and to continue it later, through November 30, 2001, for the same \$1,548,750 in compensation called for in the agreement (equal to its base compensation for the year 2000 plus five percent). In 2001, the SSA also accepted reservations for commercial vehicles under 20 feet in length in order to encourage better utilization of the service.

During 2001, a total of 3,030 trucks (including 322 trucks less than 20 feet in length) were carried on a one-way basis between New Bedford and Martha's Vineyard, for an average of 18 trucks per day on a one-way basis. Total revenues derived from the trucks (and associated passengers) were \$352,470, or around \$116 per truck. The total cost of providing the service was \$1,595,000, leaving an operating loss of approximately \$1,242,500. Thus, even during the second year of the service, revenues covered only around 22% of its cost, and the SSA lost around \$410 per truck carried on the route.

At the SSA's October 18, 2001 meeting, the Members voted to have the SSA provide freight service itself between New Bedford and Martha's Vineyard the following year from May 2, 2002 through September 25, 2002, contingent upon being able to enter into a satisfactory agreement with the City of New Bedford for the use of the New Bedford State Pier. However, for the following five months the City of New Bedford and the New Bedford Harbor Development Commission failed to respond to repeated requests from the SSA for permission to use the New Bedford State Pier. As a result, on March 14, 2002, the SSA had to cancel the New Bedford freight service that it had proposed to operate itself during the 2002 summer season.

In 2012, the staff again analyzed whether it would be financially feasible for the SSA to provide freight service between New Bedford and Martha's Vineyard and ultimately concluded that it would not, not even during the peak summer months. The analysis was based on a number of different variables, including the number of days the service would operate per week, the length of the vessel's operating day and the frequency of service.

The staff estimated that the total incremental operating cost of the alternative New Bedford schedules from late June through early September ranged from \$412,000 to \$958,000 per year (not including any potential fees associated with the use of the New Bedford State Pier or any share of fixed costs such as marine insurance, depreciation or certain vessel maintenance expenses). In order to pay for itself, the service would have had to generate the same amount of revenues in addition to the revenues the SSA was then receiving from its Woods Hole-Martha's Vineyard service, and the staff concluded that it would be unlikely that the estimated incremental cost of the service would be offset by whatever additional revenues might be generated by the service (such as through higher tariff rates for the service). The service also would have required the SSA to use the only spare vessel it then had available to substitute for one of its other vessels during the

summer in the event one of those other vessels had to be taken out of service due to mechanical or other problems.

At the SSA's October 20, 2015 meeting, Falmouth Member Elizabeth S. Gladfelter asked the staff to revisit the possibility of the SSA providing freight service itself between New Bedford and Martha's Vineyard, given that fuel is not as expensive now as it was in 2012. Ms. Gladfelter stated that her desire was for the staff to investigate all of the options that might be feasible for providing freight service between New Bedford and Martha's Vineyard, using all of the available resources. New Bedford Member Moira E. Tierney similarly stated that the staff should investigate whatever it takes to make it happen, which General Counsel Steven M. Sayers noted would include finding out under what free market conditions a private operator would be willing to provide the service, on the understanding that it would be financially viable without costing the SSA anything and thus become part of a stable transportation network.

At the SSA's December 15 2015 meeting, General Manager Wayne C. Lamson presented the Members with an outline of issues regarding potential freight service between New Bedford and Martha's Vineyard, observing that many policy questions will need to be answered by the SSA, such as whether the freight service should be year-round or seasonal, whether it should be self-supporting, whether certain shippers or commodities should be required to use the service, what types of vehicles should be allowed to use the service, and what sources of funding might be available for the service.

Mr. Lamson noted that additional policy matters would need to be decided if the SSA were to provide the freight service instead of licensing a private operator to do it, such as whether the SSA should decrease the number of truck spaces that are available on trips between Woods Hole and Martha's Vineyard and whether the SSA should use its "spare" vessel to provide the service. But Mr. Lamson observed that, even if the SSA were to have a private operator provide the service, a number of policy questions will still need to be decided, such as whether the SSA should work with only one operator or issue a request for proposals, whether the SSA should allow the private operator to use the SSA's facilities, whether the SSA should be responsible for the private operator's reservations and tickets, whether the SSA should determine what rates and fares the private operator can charge, and who should assume the financial risk of the service, the SSA or the private operator.

II. VESSEL AND SERVICE SCHEDULE ALTERNATIVES.

The SSA can choose among several basic service schedules for a freight ferry service between New Bedford and Martha's Vineyard, depending upon whether it provides the service itself with its own vessel, or whether it provides the service with a chartered vessel, or whether it allows a private carrier to provide the service under a license from the SSA.

A. The SSA providing the service with its own vessel.

1. If the SSA were to provide the service with its own vessel, it should use its spare freight boat.

The staff would not recommend that the SSA acquire another vessel in the near future in order to provide freight service between New Bedford and Martha's Vineyard. Given the SSA's pressing need to reconstruct the Woods Hole ferry terminal, relocate its General Offices and complete the mid-life refurbishment of the *M/V Martha's Vineyard*, the staff does not believe there is sufficient available bonding capacity to fund yet another vessel acquisition at this time while also ensuring that the SSA has sufficient funds for its current and anticipated capital projects, as well as the ongoing operation and maintenance of the boat line. Therefore, the staff believes that, if the SSA were to provide the freight service with one of its own vessels, the vessel used should be one the SSA already owns.

The staff also believes that the SSA should not reduce any of its current operating schedules between Woods Hole and Martha's Vineyard for the purpose of using one of the vessels on those schedules to provide freight service between New Bedford and Martha's Vineyard. The SSA's current operating schedules are well utilized by the traveling public, and eliminating trips on any of those schedules in order to provide what would necessarily be fewer trips between New Bedford and Martha's Vineyard would potentially result in an inadequate level of service for the island. In the event that there is a reduction in traffic levels between Woods Hole and Martha's Vineyard after the commencement of New Bedford freight service, the SSA can then adjust the level of service between Woods Hole and Martha's Vineyard to more closely match the then existing level of demand.

Similarly, the staff does not believe that the SSA should reduce the repair and overhaul periods for any of its vessels in order to make them available to provide freight service between New Bedford and Martha's Vineyard. After the arrival of the *M/V Woods Hole*, and assuming that the SSA continues to operate the *M/V Governor* during the summer season (allowing one of the SSA's other freight boats to be in repair during the summer), the average annual repair period will still be less than 2-½ months for each of the SSA's freight boats and around two months for each of the SSA's larger passenger/vehicle ferries. Any further reduction in the SSA's vessel repair season would jeopardize the SSA's ability to ensure that its entire fleet is adequately maintained on a regular basis.

Therefore, if the SSA were to provide New Bedford freight service with its own vessel, the staff would recommend that it use whatever “spare” freight boat it has available at that time, knowing that the “spare” freight boat may need to be used to replace another vessel that has to be taken out of scheduled service (or is delayed going back into scheduled service after its repair period) on a temporary (but possibly extended) basis. In the event there is such a need to use the “spare” freight boat to replace another vessel, the freight service between New Bedford and Martha’s Vineyard would be suspended during that time in order to maximize the number of trips that can be made to and from each island, and the SSA would need to develop a policy governing how vehicles with reservations on the cancelled trips to or from New Bedford will (or will not) be accommodated.

After the arrival of the *M/V Woods Hole* and the completion of the mid-life refurbishment of the *M/V Martha’s Vineyard*, and assuming the SSA continues to operate the *M/V Governor* during the summer season, the SSA will have a “spare” freight boat (either the *M/V Gay Head*, the *M/V Katama*, or the *M/V Sankaty*) at all times of year except from early April through late May. While the SSA thus can use that “spare” freight boat to provide New Bedford freight service for ten to eleven months a year, it also should be noted that the SSA already uses that “spare” freight boat to provide extra service during periods of peak traffic demand, including Thanksgiving weekend and August weekends when there is an increase in the number of people who are seeking to leave Martha’s Vineyard. Therefore, ideally the “spare” freight boat should remain available during those weekends of peak traffic demand so that the SSA will be able to continue to provide adequate service for the island.

2. Alternative Operating Schedules.

If the SSA were to provide the freight service with its “spare” freight boat, it could operate any one of several different schedules, depending upon whether it manned the boat with a single crew, or two single crews, or a double crew, or a triple crew. The amount of service provided by the SSA, as well as the cost of the service, would vary based upon the vessel’s manning. A one-way trip between New Bedford and Martha’s Vineyard can be scheduled to take 2-½ hours (via Quick’s Hole),¹ while a one-way trip between Woods Hole and Martha’s Vineyard can be scheduled to take 45 minutes. Generally, the vessel’s turnaround time at each destination (*i.e.*, the amount of time it takes to dock, unload, load and then cast off) is 30 minutes, although the SSA has been able to reduce the turnaround times of its freight boats to 15 minutes during those times of day when those boats carry mostly only trucks and their accompanying drivers. Based upon

¹ The staff believes that, if a freight vessel is scheduled to provide regular freight service between New Bedford and Martha’s Vineyard, it should be scheduled to sail through Quick’s Hole (as shown on the Google earth satellite photograph attached at the end of this report) rather through Woods Hole Passage. Woods Hole Passage is well known as a potentially perilous piece of water, riddled with rocks, shoals and strong tidal currents. Even though the controlling depth of its channel is ostensibly eleven to thirteen feet below mean low water, vessels drawing eight feet or more often choose to sail the passage only at slack tide, as the depth can be reduced by as much as two feet during certain sea and weather conditions.

these parameters, and assuming that the freight boat is able to tie up overnight in New Bedford at the same location where it commences and ends its service each day:

- (a) A single crew would allow the following schedule (one round trip between New Bedford and Martha's Vineyard) five days a week (Monday through Friday) within an 8-hour operating day:

New Bedford – Martha's Vineyard
Martha's Vineyard – New Bedford

This schedule would provide 10 one-way weekday trips between New Bedford and Martha's Vineyard per week.

- (b) A single crew would also allow the following schedule (a one-way trip from New Bedford to Martha's Vineyard, then a round trip between Martha's Vineyard and Woods Hole, and then a one-way trip back to New Bedford) five days a week (Monday through Friday) within a 10-hour operating day:

New Bedford – Martha's Vineyard
Martha's Vineyard – Woods Hole
Woods Hole – Martha's Vineyard
Martha's Vineyard – New Bedford

This schedule would provide 10 one-way weekday trips between New Bedford and Martha's Vineyard, as well as 10 one-way trips between Woods Hole and Martha's Vineyard, per week.

- (c) Two single crews would allow the following schedule (two round trips between New Bedford and Martha's Vineyard) five days a week (Monday through Friday) within a 16-hour (or less) operating day:

New Bedford – Martha's Vineyard
Martha's Vineyard – New Bedford
New Bedford – Martha's Vineyard
Martha's Vineyard – New Bedford

This schedule would provide 20 one-way weekday trips between New Bedford and Martha's Vineyard per week.

- (d) A double crew would allow the following schedule (a one-way trip from New Bedford to Martha’s Vineyard, then two round trips between Martha’s Vineyard and Woods Hole, and then a one-way trip back to New Bedford) seven days a week within a 12-hour operating day:

New Bedford	–	Martha’s Vineyard			
		Martha’s Vineyard	–	Woods Hole	
		Woods Hole	–	Martha’s Vineyard	
		Martha’s Vineyard	–	Woods Hole	
		Woods Hole	–	Martha’s Vineyard	
		Martha’s Vineyard	–	Martha’s Vineyard	–
					New Bedford

This schedule would provide 14 one-way trips (10 of which would be on weekdays) between New Bedford and Martha’s Vineyard, as well as 28 one-way trips (20 of which would be on weekdays) between Woods Hole and Martha’s Vineyard, per week.

- (e) A triple crew would allow the freight boat to make two round trips between New Bedford and Martha’s Vineyard interspersed with two round trips between Martha’s Vineyard and Woods Hole seven days a week within an 18-hour operating day:²

New Bedford	–	Martha’s Vineyard			
		Martha’s Vineyard	–	Woods Hole	
		Woods Hole	–	Martha’s Vineyard	
		Martha’s Vineyard	–	Martha’s Vineyard	–
					New Bedford
New Bedford	–	Martha’s Vineyard			
		Martha’s Vineyard	–	Woods Hole	
		Woods Hole	–	Martha’s Vineyard	
		Martha’s Vineyard	–	Martha’s Vineyard	–
					New Bedford

OR

² If the SSA were able to shorten the turnaround time of the freight boat from 30 minutes to 15 minutes each time the boat docks at Martha’s Vineyard and New Bedford, triple-crewing the vessel theoretically could allow the freight boat instead to make three round trips between New Bedford and Martha’s Vineyard seven days a week within an 18-hour operating day. But the staff does not believe that such a daily three-round-trip schedule could consistently be maintained. Indeed, even a slight delay (which could result from any combination of vehicle loading/unloading problems, sea conditions and other causes) could prevent the vessel’s watchstanding crew from being able to return to New Bedford within their maximum 12-hour watch that is mandated by the United States Coast Guard.

New Bedford – Martha's Vineyard
Martha's Vineyard – New Bedford

New Bedford – Martha's Vineyard
Martha's Vineyard – Woods Hole
Woods Hole – Martha's Vineyard
Martha's Vineyard – Woods Hole
Woods Hole – Martha's Vineyard
Martha's Vineyard – New Bedford

OR

New Bedford – Martha's Vineyard
Martha's Vineyard – Woods Hole
Woods Hole – Martha's Vineyard
Martha's Vineyard – Woods Hole
Woods Hole – Martha's Vineyard
Martha's Vineyard – New Bedford

New Bedford – Martha's Vineyard
Martha's Vineyard – New Bedford

Each of the above three schedules would provide 28 one-way trips (20 of which would be on weekdays) between New Bedford and Martha's Vineyard, as well as 28 one-way trips (20 of which would be on weekdays) between Woods Hole and Martha's Vineyard, per week.

3. Different Vessel Manning Costs of Alternative Operating Schedules.

The cost of manning the freight boat would obviously vary depending upon whichever operating schedule is provided. Based upon the SSA's 2015-2016 wage and benefit rates, the approximate weekly manning costs of each of the alternative operating schedules would be as follows:

- (a) Single Crew with an 8-hour operating day 5 days per week \$ 17,530
- (b) Single Crew with a 10-hour operating day 5 days per week \$ 21,390
- (c) 2 Single Crews with a 16-hour (or less) operating day 5 days per week \$ 35,060
- (d) Double Crew with a 12-hour operating day 7 days per week \$ 35,290
- (e) Triple Crew with an 18-hour operating day 7 days per week \$ 52,940

In order to estimate what the manning cost would be per trip, the weekly manning costs can be divided by the number of trips that each different operating schedule would provide per week. In addition, because a one-way trip between New Bedford and Martha’s Vineyard takes 2-½ hours, compared to the 45 minutes it takes to sail between Woods Hole and Martha’s Vineyard, the manning cost of each trip (including the 15 minutes it takes to load the vessel and the 15 minutes it takes to unload the vessel) between New Bedford and Martha’s Vineyard trip is 2.4 times higher (three hours compared to 1 hour and 15 minutes) than the manning cost of each trip between Woods Hole and Martha’s Vineyard.

<u>Manning</u>	<u>Manning Cost per Trip</u>			
	<u>Weekday Service Only</u>		<u>Seven Days per Week</u>	
	<u>NB-MV</u>	<u>WH-MV</u>	<u>NB-MV</u>	<u>WH-MV</u>
(a) Single Crew (8-hour)	\$ 1,750	N/A	N/A	N/A
(b) Single Crew (10-hour)	\$ 1,510	\$ 629	N/A	N/A
(c) 2 Single Crews	\$ 1,750	N/A	N/A	N/A
(d) Double Crew	N/A	N/A	\$ 1,375	\$ 573
(e) Triple Crew	N/A	N/A	\$ 1,335	\$ 556

4. The Freight Boat’s Fuel and Maintenance Costs.

Although each freight boat’s fuel consumption is different, on average the *M/V Katama* consumes approximately eight gallons of fuel per mile. Therefore, given that a one-way trip between New Bedford and Martha’s Vineyard (via Quick’s Hole) is 28 miles, on average it will consume around 224 gallons of fuel per trip. Further assuming that the cost of fuel will be around \$2.00 per gallon, the fuel cost of each one-way trip between New Bedford and Martha’s Vineyard will be around \$448.

It is more difficult to estimate what a freight boat’s incremental maintenance costs will be as a result of operating a significant additional number of days per year instead of being tied up cold. For example, the 2016 maintenance budget for the *M/V Katama* is \$727,000 and it is scheduled to provide service 170 days this year. While that translates to a \$4,277 maintenance cost per operating day this year for the vessel (which would theoretically add around \$713 to the cost of each one-way trip between New Bedford and Martha’s Vineyard, assuming that the vessel is triple-crewed and makes three round trips per day), it is unlikely that its annual maintenance costs will increase by \$4,277 this year for each additional day the vessel operates.

But it would be just as unlikely that providing the additional service would result in **no** additional vessel maintenance costs. Therefore, for the purposes of this report, the staff believes it would be appropriate to allocate the amount of an SSA’s freight boat’s maintenance costs to each trip it operates between New Bedford and Martha’s Vineyard based upon what the SSA’s average repair and dry-docking expenses have been for each of its freight boats (except for the

M/V Governor, which would not be considered for this route) over the last several years, divided by the number of miles each freight boat has operated. The results are as follows:

<u>Freight Boat</u>	<u>2006-2015 10 Year Average</u>	<u>2011-2015 5 Year Average</u>
M/V Gay Head	\$ 18 / mile	\$ 21 / mile
M/V Katama	\$ 22 / mile	\$ 32 / mile
M/V Sankaty	\$ 24 / mile	\$ 21 / mile

Based upon the above average per-mile maintenance expenses for each of the SSA’s freight boats (except the *M/V Governor*), the staff believes that it would be reasonable to allocate maintenance expenses to the “spare” freight boat that provides freight service between New Bedford and Martha’s Vineyard in the amount of at least \$20 per mile, or \$560 for each 28-mile one-way trip.

5. The Freight Service’s Average per-Trip Over-the-Water Cost.

By adding together the estimated per-trip manning costs, fuel costs and maintenance costs, the staff believes that it is reasonable to assume that, if the SSA were to use its own “spare” freight boat, the incremental “over-the-water” cost of each one-way trip between New Bedford and Martha’s Vineyard would be no less than the following:

<u>Number of Daily Round Trips</u>	<u>“Over-the-Water” Cost per One-Way Trip</u>	
	<u>Weekday Service Only</u>	<u>Seven Days per Week</u>
1 Daily Round Trip	\$ 2,518 ³ / \$ 2,758	\$ 2,383 ⁴
2 Daily Round Trips	\$ 2,758	\$ 2,343 ⁴

These incremental “over-the-water” costs do not include any additional New Bedford land-based expenses that would be incurred in connection with the service (such as staffing, operating and maintaining a terminal in New Bedford),⁵ or any allocation of the costs of staffing, operating and maintaining the SSA’s terminal on Martha’s Vineyard, or any allocation of the costs of the

³ This cost estimate assumes that the “spare” freight boat would also make one daily round trip between Martha’s Vineyard and Woods Hole five days a week, and that the cost of those trips would not be allocated to the freight service between New Bedford and Martha’s Vineyard.

⁴ These cost estimates assume that the “spare” freight boat would also make two daily round trips between Martha’s Vineyard and Woods Hole seven days a week, and that the cost of those trips would not be allocated to the freight service between New Bedford and Martha’s Vineyard.

⁵ The cost of staffing a terminal in New Bedford is discussed in Part VI (A), at p. 29.

SSA's ticketing and reservations system or any of the SSA's other administrative overhead expenses.

B. Chartering an existing freight vessel to provide the service.

The staff has been discussing with Craig Johnson of Flagship Management the possibility of the SSA providing freight service between New Bedford and Martha's Vineyard with a chartered vessel instead of with the SSA's "spare" freight boat.⁶ At this early stage in the discussions, however, Mr. Johnson has only been able to provide the staff with rough estimates of what it would cost the SSA to charter a freight vessel for this purpose on either a bare-boat or time charter basis.⁷

Essentially, if the freight service were to operate for six months a year, Mr. Johnson believes that the SSA should be able to bare-boat charter a vessel for around \$4,500 per day or time charter a vessel for around \$9,000 per day (plus fuel, maintenance and repair costs), although the daily time charter rate would be slightly lower on weekends if the freight service were operated only on Mondays through Fridays. If the freight service were to operate year round (except for January and February) instead of just six months, the charter costs would decrease to around \$3,000 to \$7,500 per day, respectively. Mr. Johnson believes that the vessels which are available (beginning in 2017) should be able to carry as many as 12 freight trucks, that they would be able to make two round trips per day between New Bedford and Martha's Vineyard within a 12-hour operating day (sailing through Quick's Hole rather than Woods Hole Passage), and that their fuel consumption would be lower than the *M/V Katama*.

As noted on page 8, it would cost the SSA around \$35,000 per week (or \$5,000 per day) to man a chartered freight vessel (with the same crew complement as on the SSA's freight boats) on either a double-crew or two-single-crew basis in order to be able to provide two daily round trips between New Bedford and Martha's Vineyard. Because the \$4,500 difference between the daily cost of a time charter and a bare-boat charter for one of these vessels is less than \$5,000, it would be less expensive for the SSA to time charter the vessel and allow the private carrier to operate it rather than having the SSA bare-boat charter the vessel and operate it with the SSA's own crews.

⁶ When Mr. Johnson was with Hvide, he was in charge of Hvide's operation of the freight service between New Bedford and Martha's Vineyard that the SSA provided and paid for as a pilot project in 2000 and 2001.

⁷ Mr. Johnson also has indicated that the SSA might be able to bare-boat charter a vessel with an option to buy it at the end of the charter. If the SSA does consider providing the New Bedford freight service with a chartered vessel, the staff would like to explore this possibility further with Mr. Johnson.

Therefore, assuming that the vessel’s combined fuel and maintenance costs are 25% lower than the *M/V Katama*’s combined fuel and incremental maintenance costs (due to the vessel’s lower fuel consumption), in the amount of approximately \$750 per trip, the SSA’s “over-the-water” costs to time charter one of these vessels would be around:

<u>Weeks of Service</u>	<u>“Over-the Water” Charter Costs</u>			
	<u>Weekday Service Only</u>		<u>Seven Days per Week</u>	
	<u>Weekly</u>	<u>Per Trip</u>	<u>Weekly</u>	<u>Per Trip</u>
22 weeks per year	\$78,000	\$ 3,900	\$84,000	\$ 3,000
44 weeks per year	\$67,500	\$ 3,375	\$73,500	\$ 2,625

Again, these incremental “over-the-water” costs do not include any additional New Bedford land-based expenses that would be incurred in connection with the service (such as staffing, operating and maintaining a terminal in New Bedford), or any allocation of the costs of staffing, operating and maintaining the SSA’s terminal on Martha’s Vineyard, or any allocation of the costs of the SSA’s ticketing and reservations system or any of the SSA’s other administrative overhead expenses.

C. The SSA’s charter of a new catamaran freight vessel.

During the course of this study, the staff also talked with James Barker of SeaStreak LLC about whether a SeaStreak-related company might be interested in providing freight service between New Bedford and Martha’s Vineyard.

1. The New Catamaran Freight Vessel.

Mr. Barker informed us that, around ten years ago, SeaStreak had prepared designs of four catamaran “roll-on/roll-off” freight vessels for potential “short sea” shipping along the East Coast. Mr. Barker also stated that the design could be modified so that the vessel would fit into the SSA’s slips, but that it would probably take at least fifteen months before the vessel would be available (assuming that it takes three months to finish the design and engineering and twelve months to construct the vessel itself). As modified:

- (a) The vessel should be able to travel at around 25 knots on relatively low horsepower (similar to the power on the *M/V Iyanough*) because of its catamaran design. Accordingly, it should be able to make a one-way trip between New Bedford and Martha’s Vineyard in 1-½ hours, which would result in three round trips in 10-½ hours and thus allow for a normal 12-hour work day for the crew.
- (b) The vessel would be able to carry as many as 14 trucks.

- (c) The vessel would qualify as a K-boat that would require six crewmembers to operate. (By comparison, the SSA operates its freight boats with seven crewmembers.)

2. Chartering the Vessel to the SSA.

Mr. Barker stated that SeaStreak has not analyzed the economics of the potential freight service between New Bedford and Martha’s Vineyard or researched how much potential revenue the service represents. Therefore, SeaStreak’s interest would be in building the new vessel and chartering it to the SSA. Because of the significant construction costs, the vessel would have to be chartered on a long-term basis (a minimum of ten years) and also on essentially a year-round basis (except for potentially one or two months a year when the vessel would undergo its annual repair and overhaul period), as SeaStreak has not yet identified any other use for the vessel during the non-summer months. Mr. Barker estimated that the cost to time charter the vessel would be as follows:

- (a) \$15,000 per day (although, as with the other time chartered vessel, the amount might be less for each day that the vessel is scheduled to be tied up at a dock); plus
- (b) \$7,000 fuel costs per day for each day the vessel is operated (assuming fuel is no higher than \$2.00 per gallon).⁸

Therefore, assuming that the SSA were to time charter the vessel, the SSA’s annual “over-the-water” costs would be as follows:

<u>Number of Weeks of Service</u>	<u>Weekday Service Only</u>	<u>Seven Days per Week</u>
22 weeks per year	\$ 4,796,000	\$ 5,236,000
44 weeks per year	\$ 5,896,000	\$ 6,776,000

Because the vessel would be able to provide three round trips between New Bedford and Martha’s Vineyard within its 12-hour operating day, the incremental “over-the-water” cost of each one-way trip between New Bedford and Martha’s Vineyard would be no less than the following:

<u>Number of Weeks of Service</u>	<u>“Over-the-Water” Cost per One-Way Trip</u>	
	<u>Weekday Service Only</u>	<u>Seven Days per Week</u>
22 weeks per year	\$ 7,267	\$ 5,667
44 weeks per year	\$ 4,467	\$ 3,667

⁸ SeaStreak’s fuel cost estimate of \$7,000 per operating day indicates that the vessel is expected to consume more than 20 gallons per mile (\$7,000 divided by \$2.00 divided by 28 miles divided by 6 one-way trips).

Again, these incremental “over-the-water” costs do not include any additional New Bedford land-based expenses that would be incurred in connection with the service (such as staffing, operating and maintaining a terminal in New Bedford), or any allocation of the costs of staffing, operating and maintaining the SSA’s terminal on Martha’s Vineyard, or any allocation of the costs of the SSA’s ticketing and reservations system or any of the SSA’s other administrative overhead expenses.

3. The Vessel’s Cost Makes It Too Risky to Charter for Ten Years.

As can be seen, chartering this catamaran freight vessel would be the SSA’s most costly option by far. While the SSA can provide two daily round trips between New Bedford and Martha’s Vineyard with its own “spare” freight boat during the summer season at an estimated cost of \$2,343 per one-way trip (seven days a week) or \$2,758 per one-way trip (weekdays only), it would cost the SSA around 2-½ times that amount to provide the freight service by chartering SeaStreak’s yet-to-be-built catamaran freight vessel. And even assuming that the additional per-trip cost could be divided among (and paid for by) the 14 trucks which can be carried on the vessel, it seems unlikely that freight shippers would want to pay an additional \$237 to \$322 per one-way trip in order to arrive at their destination one hour earlier than on a conventional freight boat.

Although the per-trip cost difference diminishes if the vessel is used 44 weeks instead of only 22 weeks per year, the \$3,667 per one-way trip cost (seven days a week) and \$4,467 per one-way trip (weekdays only) is still around 60% more than it would cost the SSA to provide the freight service with its “spare” freight boat. Therefore, even assuming that the vessel were loaded to capacity on each of those one-way trips during its 44-week annual operating season, it still seems unlikely that freight shippers would want to pay an additional \$95 to \$122 per one-way trip in order to save an hour of transit time.

But it is not just the additional cost of chartering the catamaran freight vessel that makes this alternative far less attractive than the others.

- SeaStreak also has stated that it would need the SSA to charter the vessel for at least ten years regardless of how much – or how little – the vessel is ultimately used. While it might make sense for the SSA to commit to a 10-year payment stream of around \$5,000,000 per year to be able to provide cost-effective service on an already established freight route, the staff believes that it is too risky for the SSA to make such a large long-term financial commitment at this time for a vessel to provide much more expensive service on a freight route that is yet to be developed.
- The fact that the vessel is expected to consume more than 20 gallons of fuel per mile (compared to the eight gallons of fuel per mile consumed by the *M/V Katama*) would increase the long-term financial risk to the SSA even further, as there is no guarantee that the price of fuel will remain at \$2.00 per gallon over the next ten years. For example, if the price of fuel were to increase to \$3.00 per gallon (where it was just two years ago), the cost of each one-way trip would increase by \$583, while it would only increase by \$224 if the trip were operated by the *M/V Katama*.

- SeaStreak has not even completed the design and engineering for the vessel, let alone its construction. It therefore seems likely that the cost estimates for the vessel's charter will change (and not necessarily for the better) as its arrival approaches. The vessel's design also has not yet been tested in operation, which creates more uncertainty about this alternative's prospects for success.

For all of these reasons, the staff does not believe it would be worthwhile, at least at this time, to continue exploring the possibility of chartering SeaStreak's catamaran freight vessel in order to provide freight service between New Bedford and Martha's Vineyard.

D. Licensing a private operator to provide the service at its own financial risk.

Mr. Johnson also has indicated that as many as three private operators might be interested in providing the New Bedford freight service at their own financial risk under a license agreement with the SSA, depending on their own analysis of the potential demand for ferry service between New Bedford and Martha's Vineyard, the arrangements that can be made with respect to their operations in New Bedford, the conditions under which the SSA would license a private operator to provide the service, and the ability to provide the service for a minimum of three years with options. If the SSA is interested in engaging his services, Mr. Johnson has offered to pursue this potential alternative on the SSA's behalf.

E. Barge Service between New Bedford and Martha's Vineyard.

Packer Marine (R.M. Packer Co., Inc. / Towing & Transportation Co., Inc.) has existing facilities in both New Bedford and Vineyard Haven. It also has provided a barge and tug service for decades, and its barges are capable of transporting containerized freight and vehicles between New Bedford and Martha's Vineyard on a "roll-on/roll-off" basis. The staff believes that if Packer Marine is willing to provide a barge freight transportation service between New Bedford and Martha's Vineyard that does not require the SSA to force any SSA customers to use the service, does not have any adverse impact on the SSA's operations, and does not require the SSA to subsidize the service, the SSA should entertain a proposal from Packer Marine to provide the service pursuant to a license agreement with the SSA, potentially without the payment of any license fees.⁹ Such a barge service would be independent of, and potentially in addition to, any freight ferry service that is the subject of this study.

⁹ The SSA already has executed a Declaration of Rights and Legal Relations with Tisbury Towing acknowledging that Tisbury Towing does not require a license or permission from the SSA to carry bulk freight and containerized cargo by barge (as well as cranes and other large construction equipment that cannot reasonably be carried on the SSA's vessels because of their size, and vehicles carried in connection with and incidental to their carriage and used for their continued transport once they are unloaded from the barge).

Over the past several months there also has been considerable discussion about barging solid waste from Martha's Vineyard to New Bedford, and the Towns of Oak Bluffs and Tisbury are exploring this possibility, including potentially "baling" the solid waste to reduce its volume and allow it to remain on the dock for a period of time without an offensive odor. Thus, baling the solid waste both would reduce the number of trips needed to barge it and would allow it to be barged at less frequent times, increasing the likelihood that the solid waste can become a "backhaul" on barges that have delivered bulk freight to the island.

However, the staff has come to realize that the Towns' potential barge operation for "baled" solid waste faces a number of challenges, including but not limited to:

- The cost of acquiring a "baler" that is capable of baling the Towns' solid waste, as well as the cost and logistics of creating a facility for it on the island.
- The handling costs associated with transferring baled solid waste to Packer Marine's Vineyard Haven facility, then loading the bales onto barges, then unloading them when the barges arrive at Packer Marine's New Bedford facility, and then transporting them to a landfill.
- The lack of landfills in Massachusetts (at least as far as the staff has been able to determine) that are designed to accept baled solid waste in an efficient and space-saving manner.
- The limited remaining life of Crapo Hill Landfill, where the Towns currently dispose of their solid waste, especially given that the Towns' current contract with the landfill will end in six years and the Towns already are disposing of more solid waste at the landfill than contemplated under their current contract.
- The limited daily and annual capacity of Crapo Hill Landfill to accept solid waste, which effectively precludes other towns on Martha's Vineyard from disposing of their solid waste there along with Oak Bluffs and Tisbury.

Therefore, while the SSA remains ready to assist the Towns in their efforts to barge "baled" solid waste from the island, the staff does not believe that such a barge operation can be implemented quickly or that, even after it is implemented, it will result in a freight service that adequately addresses the other concerns and needs of the interested constituent communities. Nevertheless, it appears to the staff that there are serious pressing issues regarding how all of the towns on the island should be disposing of their solid waste and, further, that those issues need to be promptly investigated, discussed and addressed to ensure that the towns are able to continue disposing their solid waste at a reasonable cost and in an efficient manner for the foreseeable future.

III. POTENTIAL TERMINAL FACILITIES.

A. Potential terminal facilities on Martha's Vineyard.

As best as the staff can determine, there are only two locations on Martha's Vineyard that could possibly be made available to accommodate the New Bedford freight service without huge investment, namely:

1. The SSA's Vineyard Haven terminal;¹⁰ and
2. Packer Marine's facility on Beach Road in Vineyard Haven.

Of course, the staff would prefer to use the SSA's own facilities to the extent possible, especially if it were to provide the service with its own freight boat and/or its own vessel crews. Although the SSA may need a separate staging area for vehicles traveling to New Bedford and will also have to make certain that the schedules of trips to and from New Bedford are compatible with the SSA's schedules to and from Woods Hole, given that the SSA already has allowed Hvide to use the SSA's Vineyard Haven terminal to provide New Bedford freight service during 2000 and 2001, the SSA presumably can make that terminal available again for either itself or a private operator to provide the service.

B. Potential terminal facilities in New Bedford.

It is questionable whether there are any suitable locations on the New Bedford waterfront that could be made available to accommodate the service without huge investment. At the moment, only three waterfront facilities have transfer bridges that conceivably could be used to load and unload vehicles onto a freight vessel on a "roll-on/roll-off" basis:

1. The New Bedford State Pier.

If the SSA were to provide the service, the staff would prefer that the SSA use the New Bedford State Pier, which is located on MacArthur Drive south of Route 6 and was previously used by Hvide to provide New Bedford freight service during 2000 and 2001. But the staff does not want to interfere with SeaStreak's use of the New Bedford State Pier for its passenger ferry service between New Bedford and both of the islands of Martha's Vineyard and Nantucket. In this regard, the staff understands that SeaStreak routinely berths its vessels overnight at the State

¹⁰ The SSA's Oak Bluffs terminal is not suitable for the New Bedford freight service because the terminal's wooden dock effectively limits the weight of vehicles that can be transported to and from there to 80,000 pounds. However, if the New Bedford freight service were scheduled to dock at the SSA's Vineyard Haven terminal, it might be possible to transfer some of the SSA's current trips in and out of Vineyard Haven to Oak Bluffs in order to reduce the amount of traffic and scheduling conflicts at the Vineyard Haven terminal.

Pier during the summer season. Therefore, in addition to ensuring that there are no scheduling conflicts between SeaStreak's trips and the New Bedford freight trips, some arrangement would need to be made so that the freight vessel can tie up at the State Pier (or at another suitable location nearby) overnight (potentially beginning in the late afternoon) and also be able to use the facilities and transfer bridge to make its first trip of the day in the early morning hours.

A bigger obstacle to the use of the State Pier as a freight ferry terminal is its current physical condition, as the pier needs substantial repairs. Specifically, different areas of the State Pier have been re-assessed based on the conditions found during an inspection that was conducted for the Massachusetts Department of Conservation and Recreation a few years ago. As a result of that inspection, the majority of the north portion of the State Pier (the area that provides access to the transfer bridge) now has a concentrated load capacity equivalent to a 10-ton truck (or a 5-ton fork lift), and in certain localized areas over critical piles no heavy vehicle loading is permitted (and sometimes no live loads at all). No repairs were performed on the north portion of the State Pier because they were considered not to be cost effective due to its very poor condition, the high cost of the repairs, and its relatively low use within the current pier operations.

Indeed, the cost of the necessary repairs to the State Pier to allow its use as a freight ferry terminal may be more than the cost of building a new slip with a transfer bridge and dolphins at the recently completed New Bedford Marine Commerce Terminal. The new terminal, which is located at the southernmost point of New Bedford harbor just north of the hurricane barrier, is a multi-purpose facility designed to support the construction, assembly and deployment of offshore wind projects, and to handle bulk, break-bulk, container and large specialty marine cargo. The terminal was placed into service and received its first international vessels in July 2015, offloading land-based wind turbine components for a project in the region.

The terminal has 1,200 linear feet of bulkhead, including 800 feet of deep-draft berthing and 400 feet of barge berthing space, 29-foot controlling depth in the New Bedford Harbor (MLLW), and 26 acres of terminal storage. Additionally, the majority of the terminal, including along the bulkhead, can support 4,100 pounds per square foot of uniform loading and crane loads of up to 20,485 pounds per square foot. Unfortunately, while the terminal has 1,200 feet of new bulkhead, it was not designed for a "roll-on/roll-off" vehicle ferry operation.

The construction of the terminal was managed by the Massachusetts Clean Energy Technology Center, doing business as the Massachusetts Clean Energy Center ("MassCEC"), which also manages its current operations. MassCEC is a public-funded agency created by the Legislature in 2008. Its mission is to accelerate job growth and economic development and to serve as a clearinghouse and support center for the Commonwealth's clean energy industry while creating a sustainable path for continued economic growth. According to its most recent financial statements for the twelve months ending June 30, 2015, MassCEC is in the midst of working with state and local officials to identify an operator and tenants for the terminal to ensure the long-term economic benefits to the Commonwealth.

2. AGM Marine Contractors' facility.

It would also take more investigation to determine whether AGM Marine Contractors' facility on Fish Island could be used as a freight ferry terminal. Trucks currently use the facility's transfer bridge on an occasional basis when, for example, gravel is loaded onto barges there, but those trucks are not as long as the freight trucks that would be using the ferry service and it will need to be confirmed that the transfer bridge is long enough for freight trucks to be able to use it under all tide conditions. A condition survey will also need to be undertaken to confirm that the transfer bridge is suitable for use by multiple freight trucks on a daily basis for the ferry service.

Another shortcoming of AGM Marine Contractors' facility is the lack of space there to stage freight trucks while they are waiting to board the ferry (or while they are waiting to be picked up after being unloaded from the ferry). Therefore, other property would have to be secured for this purpose. Finally, the staff does not know whether AGM Marine Contractors would even be willing to have its facility used as a freight ferry terminal or, if it were willing, on what terms and conditions it would agree to make its facility available for this purpose.

3. Packer Marine's facility.

Packer Marine's facility on Herman Melville Boulevard suffers from the additional drawback of being located north of Route 6, which prevents vessels from sailing to or from the facility except when the Route 6 swing bridge between Fish Island and Pope's Island is open. The bridge is scheduled to be open for marine traffic once per hour during the day (on the hour from 6:00 a.m. to 10:00 a.m. and then fifteen minutes after the hour from 11:15 a.m. to 6:15 p.m.) and on demand during the night, although the schedule and duration of openings vary depending upon weather conditions, harbor congestion and vessel size. Thus, operating from Packer Marine's facility would be even more complicated due to the need to coordinate the ferry schedule with the bridge opening schedule and to maintain the ferry schedule as much as possible under all weather and tide conditions.

IV. CONSIDERING WHICH ALTERNATIVE IS THE BEST SERVICE SCENARIO.

A. The freight service should start as a summer seasonal service.

The staff believes that, if freight service were to be provided between New Bedford and Martha's Vineyard, it would be better to provide it, at least initially, only during the SSA's summer operating schedule (approximately 22 weeks). Such a seasonal freight service would achieve one of the principal goals of Woods Hole residents of reducing the number of trucks traveling on Woods Hole Road during the busy summer season. Also, by operating when traffic demand between the mainland and Martha's Vineyard is highest, a summer-only service would likely experience a higher capacity utilization rate by freight shippers than a year-round service. The aggregate cost to operate such a summer seasonal service would also be lower than the cost to operate a year-round service, and trips during the summer would less likely be cancelled due to inclement weather compared to other times of the year, thereby increasing its reliability as an alternative means of transportation for freight shippers. By contrast, the staff does not believe that suspending the service during the non-summer season would cause freight shippers who otherwise would use the service during the summer to instead choose to travel to and from Martha's Vineyard year-round by way of Woods Hole.

B. The freight service initially should operate only on weekdays.

The principal purpose of this ferry service is to provide transportation for freight trucks between New Bedford and Martha's Vineyard. Given that most freight shippers travel primarily on weekdays, the staff believes that, if the service is provided, it would be better to provide it, at least initially, only during the weekdays that freight shippers are usually on the road. By operating only on Mondays through Fridays, the service would likely experience a higher capacity utilization rate by freight shippers than a seven-day-a-week service.

There is no need to operate the service on weekends and holidays for the purpose of carrying passengers who are traveling without their cars. There already is an established passenger ferry service between New Bedford and Martha's Vineyard during the summer season that has sufficient capacity to satisfy the demand for travel between those two communities by individuals without their cars. Further, the SSA generally would prefer to have its passengers travel on its larger passenger/vehicle ferries than on its freight boats.

Whether the service should be provided on weekends and holidays for the purpose of carrying people traveling with their cars is another question. The staff can envision the possibility of adding freight boat service on weekends and holidays when there is peak demand, as the SSA does now particularly during August weekends. But during those times it is more efficient to provide the additional service for the island from Woods Hole than from New Bedford. As previously noted, a one-way trip between New Bedford and Martha's Vineyard takes 2-½ hours, while a one-way trip between Woods Hole and Martha's Vineyard takes only 45 minutes. Therefore, during times of peak demand, the SSA can carry two to three times as many vehicles by way of Woods Hole. Further, the aggregate travel time for customers traveling to or from the

direction of the South Coast would still be greater if they sailed by ferry directly to or from New Bedford, as the driving time between Woods Hole and New Bedford is less than one hour.¹¹

Ultimately, the staff does not believe that, at this early stage in the fashioning of a freight ferry service scenario between New Bedford and Martha's Vineyard, it is necessary to decide whether to provide the service on weekends and holidays in order to carry people traveling with their cars. That decision can be made much later and, indeed, even as late as on a week-to-week basis when the service is operating. For the purposes of starting a freight ferry service between New Bedford and Martha's Vineyard, the staff believes it initially should be scheduled to operate only on Mondays through Fridays.

C. The daily operating schedule should have two round trips between New Bedford and Martha's Vineyard.

Just as freight shippers primarily want to travel on Mondays through Fridays, they want to finish their trips by the end of the business day and not travel during the evening hours. For this reason, the staff believes that, if freight service is to be provided between New Bedford and Martha's Vineyard, it would be better, at least initially, to provide no more than two round trips per day between the two communities. A third daily round trip between New Bedford and Martha's Vineyard would extend well into the evening hours, decreasing the likelihood that it would be utilized by freight shippers.

However, there are disadvantages to having only two round trips per day between the two communities. Trucks arriving on Martha's Vineyard during the morning cannot make their deliveries and return to the dock within the vessel's ½ hour turnaround time, and being on the island for 6-½ hours before the next boat leaves for New Bedford would be too long a wait. Indeed, a truck driver that travels from New Bedford on the first trip of the morning and then sails back to New Bedford on the second trip that day would have to remain with his or her vehicle to and from New Bedford for at least 11-½ hours, while if he or she drove from New Bedford and took the ferry from Woods Hole and returned the same way after being on the island for 2-½ hours to make his or her deliveries, the comparable work day would be only 6 hours.¹²

Thus, an argument can be made for starting a New Bedford freight ferry service with a one-way trip from New Bedford to the island, and then following it with a round trip between the island and Woods Hole in order to provide the freight shippers who traveled from New Bedford with

¹¹ Further, if the SSA were to decide to provide the service with its "spare" freight boat, scheduling trips between New Bedford and Martha's Vineyard on weekends would increase the risk of having to cancel trips on that route if there is a need to use the "spare" freight boat to replace another vessel that has to be taken out of scheduled service.

¹² The situation would be even worse for trucks leaving Martha's Vineyard in the morning. After arriving at New Bedford, they would not be able to sail back from there to the island the same day unless they can return to the vessel within its ½ hour turnaround time before it leaves on its second (and final) daily trip.

enough time to make their deliveries and return to the dock to get back on the vessel and return to New Bedford by ferry. But making the round trip between the island and Woods Hole would eliminate the vessel's ability to make a second daily New Bedford round trip within a 12-hour operating day, and questions would remain as to whether that level of service was adequate to test the market for the service and attract freight shippers to use it. In addition, it ironically would result in an increase in the level of service between Woods Hole and Martha's Vineyard, which seems inconsistent with the primary goal of a freight ferry service between New Bedford and Martha's Vineyard of providing traffic relief to Woods Hole.

Therefore, the staff ultimately has concluded that, on balance, the summer weekday freight service should consist of two round trips between New Bedford and Martha's Vineyard and, at least initially, the vessel should be dedicated to that route during the weekdays and not also be scheduled to make any round trips between Martha's Vineyard and Woods Hole. In order to make this two daily round trip schedule successful, the SSA will also need to allow freight shippers to travel in one direction by way of New Bedford and, if they so choose, to travel in the other direction by way of Woods Hole. Otherwise, freight shippers would be discouraged from using the New Bedford freight service because of either the exceedingly extended work day or their complete inability to return home the same day.

D. The SSA should time charter a freight vessel to provide the service instead of using its "spare" freight boat.

If the SSA were to provide a New Bedford freight service that consisted of two round trips between New Bedford and Martha's Vineyard on weekdays during the summer, it should be able to do so either by using its "spare" freight boat (subject to the limitations described earlier at page 5) at an estimated "over-the-water" cost of \$2,758 per one-way trip (totaling \$1,213,520 for the entire 22-week season), or by time chartering a freight vessel at an estimated "over-the-water" cost of \$3,900 per one-way trip (totaling \$1,716,000 for the entire 22-week season).¹³ Despite the higher cost of time chartering a freight vessel, the staff believes that it would be better for the SSA to enter into such a time charter to provide the service rather than to use its own "spare" freight boat for the following reasons:

- By chartering a vessel to provide the New Bedford freight service, the SSA will continue to have a "spare" freight boat available during the entire summer season as well as during all but two months of the off-season.
- If the SSA has a "spare" freight boat to use to replace another vessel that has to be taken out of scheduled service, trips on the chartered freight vessel between New Bedford and Martha's Vineyard will not be cancelled due to any need on the SSA's part to use the "spare" vessel to provide other service. Accordingly, freight shippers may be more willing to make reservations for the New Bedford freight service and, on those occasions when

¹³ By comparison, fifteen years ago the SSA paid Hvide \$1,548,750 to provide the same level of service between New Bedford and Martha's Vineyard from April 2001 through November 2001. But that amount also included payment for all of Hvide's land-based costs in New Bedford.

there is a need to use the SSA's "spare" freight boat, there will be less disruption to the SSA's operations and the traveling public.

- A chartered vessel will likely have a larger truck capacity than the *M/V Katama*.
- If the SSA time charters a vessel, it will not need to find and hire additional qualified vessel employees during the summer (when it has the greatest need for such employees), and the SSA will lay off fewer vessel employees during the fall.
- If the SSA subsequently concludes that freight service should continue to be provided between New Bedford and Martha's Vineyard by a private operator instead of the SSA, it would not have to first comply with the onerous requirements of the so-called "Pacheco" Law, Mass. G.L. c. 7, §§ 52-55.

On the other hand, the Town of Tisbury may take the position that, while the Vineyard Haven Harbor District of Critical Planning Concern (DCPC) Regulations do not apply to the SSA, they would apply to a vessel time chartered by the SSA to provide ferry service to and from Vineyard Haven Harbor. If the regulations were to apply to a freight vessel chartered by the SSA, they would prohibit the ferry from "[m]aneuvering ... in an arc of 180 degrees or more within [Vineyard Haven Harbor]." But General Counsel Steven M. Sayers is confident that the broad scope of the SSA's immunity from local regulations, as reaffirmed by the Massachusetts Supreme Judicial Court in Town of Bourne v. Plante, 429 Mass. 329 (1999), encompasses the operation of not only the SSA's own vessels, but also any vessel the SSA uses on either a bare-boat or a time charter basis to perform its essential governmental purposes.

E. The SSA should provide reservation and ticketing services for the New Bedford freight service.

As noted in Part IV (C) above, freight shippers who use the New Bedford freight service will need to be able to travel in one or the other direction by way of Woods Hole. Therefore, the staff believes that the SSA should provide reservation and ticketing services for the New Bedford freight service so that freight shippers can easily make reservations for both routes in the same transaction. By being able to do so, the shippers will have confidence that they can use the New Bedford freight service in one direction and be able to make their deliveries and return home on a reasonable schedule.

It will also be important to have integrated reservation and ticketing services for both routes to better accommodate customers on the wait list when freight shippers change or cancel their reservations, or when there are vessel cancellations on either route. In order to maximize the New Bedford freight route's potential for success, the staff believes that the SSA's reservation and ticketing system should treat that route as much as possible as an integrated part of the overall transportation network, allowing customers to choose the route whenever it provides them with the most efficient travel options. In addition, by having an integrated reservation system, customers will not be forced to choose between an entirely "SSA" or entirely "non-SSA" proposition that might discourage them from trying the New Bedford freight service out of fear of not being able to travel with the SSA on a subsequent occasion.

F. The SSA should explore whether freight trucks can be transported between New Bedford and Martha’s Vineyard without their drivers.

Given the longer time it takes a vessel to sail between New Bedford and Martha’s Vineyard than between Woods Hole and the island, the staff believes that the SSA should explore whether its freight shippers would find a freight service between New Bedford and Martha’s Vineyard to be more attractive if the SSA were to allow their trucks to be transported between New Bedford and Martha’s Vineyard without their drivers.¹⁴ If freight shippers were to request this change to the SSA’s operations on the route between New Bedford and Martha’s Vineyard (trucks are allowed to be transported on the SSA’s route between Hyannis and Nantucket without their drivers), the SSA would need to make certain that each and every “driverless” truck on the vessel is physically met at the ferry terminal by its driver when the vessel arrives there so that the truck can be immediately driven off the vessel.

Although the SSA could also explore whether it should offer drive-on/drive-off services to its freight shippers who use the New Bedford freight service, there are difficult challenges to the SSA’s ability to provide this service on Martha’s Vineyard. Not only would the SSA’s terminal employees on the island need to have commercial driver’s licenses (CDLs) in order to drive trucks on and off the vessel (which would also require negotiations with the employees’ union), but there is a shortage of space at the Vineyard Haven terminal to stage trucks before they are driven onto the vessel or after they are driven off, even assuming the SSA’s employees would have the time to drive trucks on and off the vessel while performing all of their other duties associated with the large number of ferry trips that arrive and depart from that terminal every day. Therefore, before tackling these many issues, the staff believes that the freight shippers should be asked whether they would even use drive-on/drive-off services if the SSA were to offer them and, if so, what suggestions they have for the staff to consider when deciding how the services might be provided.

G. All vehicles should be able to travel between New Bedford and Martha’s Vineyard, subject to a priority for trucks carrying hazardous cargo on the first daily trip from New Bedford to Martha’s Vineyard.

Ideally, the staff would like to believe that a free market would result in the New Bedford freight service quickly and willingly being used by freight shippers who stand to benefit the most from it and that, therefore, the SSA would not have to require that shipments of any particular commodity be carried to or from any particular port or prohibit any vehicles from using the service. In this situation, for example, the staff could envision hazardous cargo shippers benefiting from this service because many of them originate from, or drive through, the South Coast area. But the problem here is that, unless certain trips to or from New Bedford are designated as “hazardous cargo” trips, such shippers would not be able to travel on any of this route’s trips. The staff therefore believes that the first daily trip from New Bedford to Martha’s Vineyard should be

¹⁴ However, federal regulations will still require freight shippers carrying hazardous cargo to have their truck drivers accompany each hazardous cargo vehicle during the entire ferry trip. See 49 CFR § 176.89(6).

designated as a “hazardous cargo” trip so that hazardous cargo shippers from (or traveling through) the New Bedford area can take advantage of the new service.¹⁵

Otherwise, the staff feels that vehicles should be able to travel on freight trips between New Bedford and Martha’s Vineyard the same way they are able to travel on the SSA’s other freight trips. Thus, while hazardous cargo trucks will receive priority for the first daily trip from New Bedford to Martha’s Vineyard, to the extent there is available vehicle capacity on that trip after the initial bulk freight reservations are processed, that capacity should be able to be used by all other freight shippers. In addition, when members of the general public are then allowed to make automobile reservations for travel during the SSA’s summer operating schedule, the staff believes that they should be allowed to make automobile reservations on the freight trips between New Bedford and Martha’s Vineyard in the same manner as they are able to make reservations on the SSA’s other freight trips.¹⁶

Similarly, the staff believes that customers traveling with their automobiles should be allowed to travel standby on the freight trips between New Bedford and Martha’s Vineyard in the same manner that they are able to travel standby on the SSA’s other freight trips. While the logistics still need to be investigated, the staff expects that it may be necessary to have two standby lines at the Vineyard Haven terminal to accomplish this purpose – one line for people who want to travel only to Woods Hole and another line for people who want to travel on the first available boat. However, the staff also notes that this will present less of an operational problem on Mondays and Fridays during most of the summer when standby travel is not available at the Vineyard Haven terminal except for a limited number of island residents who are accepted for standby travel in the “Blue Line.”

H. The New Bedford freight service should be provided for at least several years.

As previously noted, when Craig Johnson was with Hvide, he was responsible for operating the SSA’s pilot freight service project between New Bedford and Martha’s Vineyard during 2000 and 2001. During our discussions with Mr. Johnson earlier this year, he stated that he felt the schedules the SSA established for the pilot project (two round trips a day) were appropriate and that other parameters established for the pilot project were suited to make it successful. However,

¹⁵ Even assuming that the first trip from New Bedford to Martha’s Vineyard were to be made available for trucks carrying hazardous cargo, the staff does not believe that the SSA should change the designation of any of its current “hazardous cargo” trips between Woods Hole and Martha’s Vineyard. This issue is discussed in Part V, at page 27 n. 17.

¹⁶ However, this does not mean that the SSA would accept automobile reservations for all of the freight trips between New Bedford and Martha’s Vineyard except for “hazardous cargo” trips. SSA customers are also not allowed to make automobile reservations for other freight boat trips that are anticipated to have a large number of heavily loaded trucks on them. This restriction is due to the fact that whenever a freight boat has enough weight on it to increase its draft beyond a certain depth, federal regulations limit the number of passengers on the trip to 16.

Mr. Johnson stated that he felt the biggest reason freight shippers were hesitant to use the New Bedford service was their concern that it would not be continued after the completion of the pilot project and they did not want to change their summer operations to accommodate a New Bedford-based ferry service only to find themselves later having to travel once again from Woods Hole.

For this reason, the staff believes that, in order to give the New Bedford freight service the best chance to succeed, a commitment should be made at the outset to provide the service for a minimum of several years to determine if it is feasible. However, this commitment would need to be made not only by the SSA, but by all of the other participants in this endeavor, including the source of the funds that will be needed to cover the costs of the service which are not paid for through its fares.

V. THE SSA SHOULD NOT SUBSIDIZE THE COST OF THE NEW BEDFORD FREIGHT SERVICE.

Although this report describes a potential scenario for freight ferry service between New Bedford and Martha's Vineyard, the staff does not believe that the SSA should bear the cost of constructing or maintaining the freight ferry terminal in New Bedford that would be necessary to provide the service or should otherwise subsidize the cost of the service. As previously noted in Part II(A)(1), at page 4, the SSA already has more than its fair share of financial burdens and it cannot afford to undertake yet another massive construction project for a ferry terminal in New Bedford that will cost multiple millions of dollars. Nor should the SSA ratepayers be responsible for the additional operational costs that will be necessary to provide freight service from New Bedford when freight service can continue to be provided from Woods Hole.

Even when the SSA's predecessor was created in 1948, the Legislative Commission that completed the study which formed the basis of the SSA's enabling act recognized "the principle that some obligation to maintain the Islands' transportation rests on the Commonwealth." (1948 Commission Report, at p. 10). As the first Legislative Commission observed:

A majority of the Commission believe that the Commonwealth has an interest in continuing the islands as income-producing parts of the state economy, which would justify a contribution of credit by the State. They also believe that the separation of the islands from the rest of the State lays upon the Commonwealth some obligation to furnish a road by water to the islands. The analogy of a highway is not destroyed by the accident that the intervening space is water, and a six-mile highway, even to the Vineyard, would cost the Commonwealth many times the moderate expense of rehabilitating the steamship line.

1948 Commission Report, at p. 10.

The Legislative Commission that was established in 1957 to make an investigation of the operations of the SSA's predecessor similarly recognized that "the responsibility of the Commonwealth for insuring adequate water transportation to the islands is apparent, since the boat

line is the only means of transporting freight and automobiles to the islands, and therefore exists as their ‘state highway’ to the mainland.” (1959 Commission Report, at pp. 5-6). The principle thus recognized by both Legislative Commissions – namely, that some obligation rests on the Commonwealth to furnish a road by water to the islands – has as much force today as it had in 1948 and 1959, especially since the “road” that is proposed to be furnished is one that is 28 miles long to New Bedford instead of 8 miles long to Woods Hole and is primarily being “built” not to provide adequate transportation of persons and necessities of life for the islands but rather to relieve traffic congestion in Woods Hole.

Accordingly, the staff believes that any New Bedford freight service must effectively pay for itself or be funded by one or more entities other than the SSA in order to be fair and equitable to the residents of Martha’s Vineyard. It should not be subsidized by the SSA in any way that would require any increase in the fares that are charged to travel through Woods Hole. The monies needed include the cost for constructing a suitable ferry terminal in New Bedford and the cost of operating the service on an ongoing basis. Ideally, the fares charged to customers traveling between New Bedford and Martha’s Vineyard should pay for the entire cost of that route (including an appropriate allocation of the costs of staffing, operating and maintaining the SSA’s terminal on Martha’s Vineyard, the costs of the SSA’s ticketing and reservations system, and the SSA’s other administrative overhead expenses), but if they are not sufficient, the SSA’s other ratepayers should not have to make up the difference.¹⁷

Indeed, if the SSA were to subsidize the New Bedford service by increasing the fares charged to travel through Woods Hole, it would risk resurrecting one of the most difficult and acrimonious times in the SSA’s and the islands’ history. In the late 1950s, when the SSA’s predecessor was providing service to the islands from Woods Hole and New Bedford, the second Legislative Commission observed:

It has been said that the transportation to the islands is the most expensive in this country. It has also been said that this line is the only monopoly in the world which loses money. Despite the high rates charged, the revenues do not meet the cost of the operation, and any increase in rates will, except in automobile transportation,

¹⁷ Similarly, the staff believes that the SSA should continue to allow hazardous cargo and trash trucks to travel to and from Martha’s Vineyard via Woods Hole to ensure that freight shippers who utilize the New Bedford freight service are doing so of their own volition. While the SSA theoretically could change the designation of its current daily “hazardous cargo” trips from Woods Hole to “general freight” trips, thereby reducing the number of hazardous cargo trucks on Woods Hole Road in the early morning hours, the staff believes that those customers should not be forced to use the New Bedford freight service. Such a requirement – which would both impose higher fares on those shippers and compel them to spend more time getting to their destinations on that longer route – would coercively accomplish the same result as requiring those shippers (or their customers) alone to pay for the additional cost of the service. While, again, the staff hopes that freight shippers will utilize the New Bedford freight service, its long-term feasibility will only be demonstrated when the shippers choose to use the service of their own volition and are not forced to use it unless another source subsidizes its additional cost.

price the Authority out of competition with the airlines and small private carriers. Since virtually everything used on the islands is carried by the Authority vessels, these freight charges add immensely to the cost of living on the islands, year round.

1959 Commission Report, at p. 8. The Commission continued:

It is not the mere fact of the additional tax rate increase, but the realization that this increase is something over which these communities have absolutely no control and are utterly powerless to prevent, which poses the greatest threat. The attempt by the Authority to reduce the deficit by means of an increase in rates and fares again falls heaviest on the islands, as they are consignees of most of the freight shipments. Either way the islands are in a precarious position. Not only are their costs of living materially increased, but their attractiveness as summer resorts is visibly impaired by the deficit operation of the Authority.

1959 Commission Report, at p. 9.

The second Legislative Commission ultimately recommended that the SSA's predecessor not be required to provide year-round daily ferry service from New Bedford or be required to construct any ferry facilities there. In making those recommendations, the Commission noted, among other things, that "New Bedford is the mainland port most distant from the islands," that "only one mainland port is necessary to serve the islands," and that "similar facilities are available in Woods Hole." These observations remain relevant today, as the SSA is physically able to handle all of the vehicular traffic demand to and from Martha's Vineyard through its Wood Hole terminal for the foreseeable future. While the staff expects that the SSA's traffic levels between Woods Hole and Martha's Vineyard will increase and decrease from year to year, as they have in the recent past, the SSA would be able to accommodate even a significant and unpredicted growth in ferry traffic entirely through Woods Hole. Even during the height of the summer, no ferries are docked in the Woods Hole terminal's existing two operating slips (Slips 1 & 2) for half of the operating day. Rather, except for the beginning and end of the operating day, there are repeated 45-minute windows throughout the day when each of those slips is unoccupied, theoretically providing the SSA with sufficient time to unload and load two more ferries than the four it currently operates out of Woods Hole during the summer.

This is not to say that the SSA should not consider providing New Bedford freight service in order to relieve traffic congestion in Woods Hole. Rather, the staff believes that, because the island residents already are paying almost the entire cost of their lifeline from Woods Hole, which is physically adequate for their transportation, no freight shipper should be required to travel on the New Bedford route instead of traveling to or from Woods Hole and, further, if fares charged for freight shippers to travel voluntarily on the New Bedford route are not sufficient to pay for that service's entire cost, the deficiency should be paid for by the federal government and the Commonwealth, which pay for all of the other state highways, and/or one or more additional sources of funding other than the SSA, or the service should be stopped because it will have been shown not to be financially self-sustaining. It would be completely unfair to require the SSA's ratepayers exclusively to subsidize the cost of the New Bedford freight service, especially when the service's benefits are regional in nature and, unlike other residents of the Commonwealth, the

SSA's ratepayers are already paying almost the entire cost of their transportation between the islands and the mainland ports of Woods Hole and Hyannis.¹⁸

VI. ESTIMATING THE FARES FOR THE NEW BEDFORD SERVICE.

At this point, the staff cannot estimate how much the fares for the New Bedford freight service will need to be in order to cover its cost because the staff does not know how much it will cost to construct a suitable ferry terminal in New Bedford and how much of that cost will be funded by other sources rather than being included in the New Bedford route's cost of service. Therefore, the following fare estimates are all based upon the assumption that the entire cost of constructing and maintaining the New Bedford ferry terminal that is used for the service will be independently funded by other sources and that the SSA will not be required to pay for any of those costs in any way.

A. The cost of staffing the New Bedford ferry terminal.

Relatively speaking, the cost of staffing the New Bedford ferry terminal to handle only three docking operations per day (when the vessel loads and leaves for Martha's Vineyard in the morning, when it returns, unloads and then loads again for Martha's Vineyard mid-day, and when it returns, unloads and ties up for the night) five days a week should be minimal. The staff assumes that the check-in, loading and unloading operations can be handled by one supervisor (the equivalent of an Assistant Agent) and two temporary dock workers, that no overtime would be paid, and that all ticketing functions can take place on the island instead of in New Bedford. Thus, the estimated labor cost to staff the New Bedford terminal is \$1,500 per week for the supervisor and \$550 per week for each temporary dock worker, for a total estimated labor cost of \$2,600 per week, or \$130 per one-way trip.

B. Establishing fares only to cover the service's incremental costs.

If the fares for the New Bedford service were established so that they cover only the service's incremental costs (assuming that the service would not result in any additional costs of staffing, operating or maintaining the SSA's terminal on Martha's Vineyard, or any additional costs of operating the SSA's ticketing and reservations system, or any additional administrative or other costs), the SSA would need to charge \$3,900 per trip to cover its "over-the water" costs (assuming it time charters a freight vessel to provide the service) and an additional \$130 per trip to cover the cost of staffing the New Bedford ferry terminal, for a total of \$4,030 per one-way trip. Further assuming that the freight vessel would carry an average of ten 64-foot trucks on each one-

¹⁸ The staff has not yet had the opportunity to investigate what sources of funding might be available to pay for the cost of constructing a suitable ferry terminal in New Bedford or to cover any deficiency that could result from the operation of the New Bedford freight service. Potential sources include not only federal and state funds, but also local funds (e.g., the Town of Falmouth's passenger embarkation fees).

way trip, the SSA would need to charge a one-way fare of \$403 for a 64-foot truck to travel between New Bedford and Martha's Vineyard.

C. Establishing fares to cover the service's direct and allocated costs.

But establishing the route's fares to recover only a portion of the expenses the SSA incurs to operate the service would not demonstrate whether the service is feasible for the long term. Rather, the staff believes that the New Bedford service will be considered truly feasible only if its fares pay for all of its direct costs and an appropriate allocation of all of the other expenses that the SSA incurs to provide the service. While the SSA could initially charge lower fares for the service to cover only its "over-the-water" and New Bedford terminal costs and then gradually increase the fares to cover both the service's direct and allocated expenses, freight shippers who are induced by relatively lower initial fares to begin using the service ultimately may have to abandon it when the fares subsequently become too expensive for their businesses.

One way to estimate what fare should be established to cover the New Bedford service's direct and appropriately allocated costs is to start with the SSA's "over-the-water" costs for a one-way trip between Woods Hole and Martha's Vineyard. As indicated at pages 8-11, those costs are less than \$1,000 (equal to a freight boat's manning costs of between \$556 and \$629, fuel costs of around \$128 (8 miles x 8 gallons/mile x \$2.00 per gallon), and maintenance costs of around \$160 (8 miles x \$20 per mile), around 25% of the New Bedford service's "over-the-water" costs for a one-way trip. Assuming that the SSA's freight boat will carry an average of eight 64-foot trucks, the SSA theoretically could charge a one-way fare of \$125 for a 64-foot truck to travel between Woods Hole and Martha's Vineyard to cover those "over-the-water" costs.

But the SSA's one-way fare for a 64-foot truck on the route between Woods Hole and Martha's Vineyard is \$260, not \$125, because the SSA needs to charge fares to cover not only its "over-the-water" costs, but all of the other costs it incurs to provide the service. Further, the \$260 one-way fare only pays for a portion of that route's direct and allocated expenses, which are covered not only by the SSA's vehicle fares on that route (which were around \$32,230,000 in 2015), but also by the SSA's passenger fares (\$17,047,000), net parking revenue (\$1,135,000) and other revenue (\$2,088,000). Thus, the vehicle fares on the Woods Hole route pay for only approximately 57% of the cost of that service. By contrast, the vehicle fares on the New Bedford route arguably should be set to pay for 100% of the cost of the New Bedford service, which would mean that a one-way fare for a 64-foot truck on that route should be at least \$579 in order to cover both its direct and allocated costs.¹⁹

¹⁹ This \$579 amount is arrived at by taking the difference between \$260 and \$125, which is \$135, multiplying it by 8/10 (because the chartered vessel is assumed to carry an average of ten trucks instead of eight), to arrive at \$108, and then dividing that number by 0.57 to arrive at \$189. The \$189 is then added to the \$390 needed to cover the New Bedford service's "over-the-water" costs of \$3,900 per trip, assuming that the chartered freight vessel carries an average of ten trucks per trip.

Trucks carrying hazardous cargo on the Woods Hole route are also required to pay a 50% surcharge on the standard fare, bringing the one-way fare for a 64-foot truck carrying hazardous cargo on that route to \$389. But because the reason for that surcharge is to make up for the loss of passenger revenues on “hazardous” trips, the staff does not believe that a similar surcharge should be imposed on hazardous freight shippers traveling on the New Bedford route, assuming that vehicle fares on that route already will be estimated to cover 100% of the cost of the service (instead of only around 57% of the cost of service that the vehicle fares on the Woods Hole route cover).

The staff notes, however, that even a \$579 one-way fare for a 64-foot truck will not be sufficient to also cover the entire cost of operating and maintaining the New Bedford ferry terminal. While the \$260 one-way fare between Woods Hole and Martha’s Vineyard has been set to cover an allocation of the cost of operating and maintaining the Woods Hole ferry terminal, the allocation of that cost is distributed among as many as 28 round trips per day. By contrast, the allocation of the cost of operating and maintaining the New Bedford ferry terminal would be distributed between only two round trips per day. But even though the \$579 one-way fare will not cover all of the costs of the New Bedford service, the staff believes that it represents a fair enough balance of the various interests that would be served by having a freight service between New Bedford and Martha’s Vineyard.²⁰

D. Fares for the New Bedford service should be partially subsidized by the Commonwealth and/or another source of funds other than the SSA.

Although the staff believes that the New Bedford freight service will not be truly feasible unless and until its fares pay for all of its direct and allocated costs, the staff still has some doubt about whether freight shippers will voluntarily choose to travel on the New Bedford route if, as estimated above, the one-way fare for that route is more than twice as high as the one-way fare for the Woods Hole route. As previously noted at pages 20-21, traveling by ferry between New Bedford and Martha’s Vineyard will take 2-½ hours, while driving between New Bedford and Woods Hole and taking the ferry between Woods Hole and Martha’s Vineyard takes a combined 1 hour and 45 minutes. Therefore, unless they are able to ship their trucks back and forth between New Bedford and Martha’s Vineyard without their drivers, freight shippers using the New Bedford service will probably incur higher labor costs that might not be offset by having to spend less on fuel and maintenance due to their not having to drive 50 miles between New Bedford and Woods Hole. Taking the ferry directly between New Bedford and Martha’s Vineyard also prevents the shippers from making deliveries in other mainland communities along the way (at least in one direction when they are taking the ferry to or from New Bedford).

²⁰ Assuming that the fares from the New Bedford freight service are sufficient to pay its direct and allocated costs, the staff does not believe the route should be charged with any potential lost revenues from customers using the freight service who instead would travel on the SSA’s vessels between Woods Hole and Martha’s Vineyard. Rather, the staff assumes that the SSA either will be able to “backfill” those empty spaces with other paying customers or will be able to reduce the amount of service offered via Woods Hole to sufficiently lower the cost of operating that route.

Accordingly, while the staff believes that enough freight shippers might voluntarily use the New Bedford freight service and pay the fares that are necessary to cover the service's direct and allocated costs, the service would obviously have a greater chance of success if the Commonwealth and/or another source of funds (other than the SSA) were to partially subsidize those fares. Such a subsidy would directly lower the freight shippers' cost of taking the ferry between New Bedford and Martha's Vineyard, and it would do so without imposing the burden exclusively on the SSA's other ratepayers (by means of requiring the SSA to increase their fares) to make up the difference. Rather, the subsidy would come from taxes, fees and/or other revenues paid by a larger body of citizens from the region or the Commonwealth or even the nation, as it should, since the benefits of the New Bedford service will be at least regional in nature.

It is also obvious that the greater the subsidy, the greater the New Bedford service's chance of success will be. Further, the subsidy must be institutionalized so that it is assured of being an ongoing subsidy. Otherwise, freight shippers might not use the service out of fear that the New Bedford route's fares will be precipitously increased in later years to pay for the entire cost of the service, effectively driving them to abandon the service and return to the Woods Hole route.

At one end of the spectrum, one could argue that freight shippers should be allowed to travel between New Bedford and Martha's Vineyard for free, as this would maximize the service's chance of success. The staff estimates that such an subsidy would amount to around \$2,547,600 annually (which is equal to \$579 one-way fare x 10 trucks x 20 weekly trips x 22 weeks), and it would have to increase in future years commensurate with the increases in costs incurred by the SSA to provide the service. On the other hand, in 2000 and 2001, the SSA charged freight shippers the same fare regardless of whether they traveled by way of New Bedford or Woods Hole. The staff agrees that there is a sense of fairness about establishing fares for the New Bedford route so that they are identical to the fares for the Woods Hole route, and establishing parity of fares for the two routes would require a subsidy of only \$1,403,600 annually (equal to (\$579-\$260) one-way fare x 10 trucks x 20 trips x 22 weeks), which similarly would have to be increased in future years commensurate with the increases in costs incurred by the SSA to provide the service.

VII. ANTICIPATED EFFECTS OF THE NEW BEDFORD FREIGHT SERVICE.

If the New Bedford freight service were to operate at sufficient capacity to meet most of the direct and allocated costs of the service – namely, carrying an average of ten 64-foot trucks on each one-way trip, with the SSA receiving a one-way fare for each truck of around \$579 – it would result in 40 fewer trucks traveling on Woods Hole Road each weekday during the summer season. In addition, because the vessel chartered by the SSA will probably be more fuel efficient than the *M/V Katama*, the New Bedford freight service would probably result in less fuel overall being consumed than if the trucks carried by the vessel were to travel via Woods Hole.

At this early stage of its analysis, the staff has not yet investigated what other measures might be able to be taken to mitigate the impact of vehicular traffic on Woods Hole Road, as well as what it would cost to implement those measures. Nor has the staff had the opportunity to explore what impacts the New Bedford freight service might have on customers currently traveling

between Woods Hole and Martha's Vineyard, although the staff notes that any adverse impacts should be minimal if no customers are required to use the service and if its direct and allocated costs are paid for entirely by those customers who do use it or by a source other than the SSA, so that the SSA's ratepayers do not have to subsidize the service.

But while the adverse impacts on the SSA and its customers currently traveling between Woods Hole and Martha's Vineyard should be minimal under these conditions, the benefits of this service to others appear to be minimal as well. Indeed, the principal benefit is potentially having up to 40 fewer trucks on Woods Hole Road (and, by extension, on Route 195 east of New Bedford, Route 25 and the Bourne Bridge, and Route 28 from the Bourne Bridge south to Falmouth Center) during the summer season. Otherwise:

- The vacant spaces created on freight trips to and from Woods Hole, particularly during the early morning, will probably be taken by other freight shippers who previously have not been able to secure reservations during that time of day. In turn, their vacant spaces later in the day will probably be taken by visitors to Martha's Vineyard who previously have not been able to secure reservations at all (or reservations when they would like to travel). These additional available spaces will thus result in as many as three or four additional automobiles traveling on Woods Hole for every truck that no longer travels to or from the island via Woods Hole. In addition, if there is a reduction in traffic on Woods Hole, it will probably result during the times of day when it is least popular to travel to or from the island (mid-day and evening), not during the times of day when Woods Hole residents would most like to see traffic levels reduced (early morning and late afternoon).
- The staff does not know how much of the additional automobile traffic on Woods Hole Road will be attributable to visitors who would have traveled to the island anyway, but would have parked their cars on the mainland or would have traveled to Woods Hole by bus. Thus, the staff cannot predict whether the additional automobiles traveling to and from the island via Woods Hole will represent an increase in the number of people visiting Martha's Vineyard or just a shift of people who will now travel with their cars to the island instead of riding the ferries as walk-on passengers.
- The biggest benefit to freight shippers who use the New Bedford freight service will be a reduction in their trucks' fuel and maintenance costs. But those savings will be at least partially offset by the shippers' additional labor costs due to the additional 45 minutes spent by their truck drivers traveling between New Bedford and Martha's Vineyard on each trip, although those additional labor costs might be mitigated if they are allowed to ship their trucks back and forth between New Bedford and Martha's Vineyard without their drivers.
- There potentially will be around three additional jobs in New Bedford due to the need to staff the New Bedford ferry terminal. But it is unclear whether the New Bedford freight service will present an opportunity for additional New Bedford businesses to transport their goods and services to Martha's Vineyard. Many businesses in the New Bedford area already are transporting their goods and service to Martha's Vineyard by traveling through Woods Hole, and the New Bedford freight service will not be materially more economical or efficient than the Woods Hole route, if at all.

Finally, even if the New Bedford freight service is successful and there is the equivalent of a 40-truck-per-day reduction in ferry-related traffic between Woods Hole and Martha’s Vineyard, the staff does not know whether the Woods Hole community or the rest of Falmouth will notice it. In this regard, MassDOT’s traffic data, which were generally taken during the summer season, indicate that the SSA’s Woods Hole ferry terminal operations generate approximately 2,700 average daily vehicle trips (the 7,100 ADT at MassDOT Location ID 257262 on Woods Hole Road, less the 4,400 ADT at MassDOT Location ID 256620 on Water Street as shown in the table below), although the number of trips to and from the Woods Hole terminal is slightly lower because the 2,700 ADT also include vehicles traveling to and from the United States Coast Guard station, Little Harbor Road and Juniper Point. This represents approximately 17% of the traffic on Locust Street (16,100 ADT) at the north end of Woods Hole Road and approximately 35% of the traffic that makes it all the way south on Woods Hole Road to Woods Hole Village (7,100 ADT).

According to MassDOT Traffic Data, the Average Daily Traffic (ADT) for pertinent roadways in Falmouth are:

<u>Street</u>	<u>Average Daily Trips (ADTs)</u>	<u>MassDOT Local ID</u>
Palmer Avenue north of Jones Road	24,154	RPA11-096-20216
Palmer Avenue north of Lakeview Avenue	13,800	RPA11-096-20217
Locus Street south of Route 28	16,100	253271
Woods Hole Road at Kettle Hole Road	8,900	257261
Woods Hole Road at Ransom Road	8,634	7326
Woods Hole Road south of Oyster Pond Road	8,532	RPA11-096-20237
Woods Hole Road south of Church Street	7,100	25762
Water Street west of Woods Hole Road	4,400	256620

* All of the above data, which was collected by MassDOT from 2003 through 2014, was accessed from MassDOT’s Transportation Data Management System on April 12, 2016. The website’s address is <http://mhd.ms2soft.com/tcds/tsearch.asp?loc=Mhd&mod=> .

As can be seen, a significant portion of the traffic on Palmer Avenue (Route 28) north of Jones Road (24,154 ADT) comes from or continues onto Ter Heun Drive (7,214 ADT) or Jones Road (11,798 ADT), resulting in less traffic on Palmer Avenue (Route 28) north of Lakeview Avenue (13,800 ADT). In addition, at least a portion of the reduction in traffic volume at that location is presumably attributable to SSA customers parking in its parking lot at the Palmer Avenue Site. Traffic volume increases again on Locust Street south of Route 28 (16,100 ADT), reflecting additional traffic that comes from or continues onto West Main Street east of Locust Street (4,848 ADT) and then it gradually decreases the farther south one travels on Woods Hole Road.

And, of course, the 2,700 average daily vehicle trips attributable to the SSA's Woods Hole terminal operations pale by comparison to the average daily vehicle trips on other state highways that join Falmouth with its other neighboring towns, including Routes 28 and 151 near the Mashpee Rotary (21,200 ADT in 2006 and 20,455 ADT in 2015, respectively), Route 28 south of the Otis Rotary (27,352 ADT in 2015), and the Bourne and Sagamore Bridges (45,173 ADT and 50,871 ADT, respectively, in 2015). In these circumstances, the staff suggests that it might be a better use of the large amount of public funds that will be required to provide New Bedford freight service to instead attempt to reduce traffic levels on the many other state highways in the area that are far more congested. Indeed, the stark contrast in traffic levels on Woods Hole Road and other state highways in the area indicates that the SSA's ferry service has had the salutary effect of constraining the amount of traffic on Woods Hole Road. Further, by implementing "reservation-only" days during the Memorial Day, Columbus Day, and summer weekends, the SSA effectively modulates the traffic generated by its Woods Hole terminal operations even further by ensuring that the traffic is spread throughout the day and minimizing the number of people who travel in the cars to the Woods Hole terminal without reservations.

VIII. RECOMMENDATION.

The staff recommends that this preliminary report be made publicly available and that the SSA then solicit comments, information and suggestions from everyone who may be interested in a possible New Bedford freight service, including but not limited to island residents, Falmouth residents (particularly Woods Hole residents), New Bedford residents, freight shippers, the SSA's other customers, the Cape Cod Commission, the Martha's Vineyard Commission, and public officials of all the potentially affected municipalities and appropriate agencies of the Commonwealth of Massachusetts. The staff recommends that the SSA then consider and discuss the comments, information and suggestions received, and prepare a second report, which also would be made publicly available. Unless the comments, information and suggestions received in response to this preliminary report persuade the SSA to act otherwise:

- A. The staff recommends that the SSA entertain a proposal from Packer Marine (R.M. Packer Co., Inc. / Towing & Transportation Co., Inc.) to provide a barge and tug service for transporting freight vehicles between New Bedford and Martha's

Vineyard on a “roll-on/roll-off” basis pursuant to a license agreement with the SSA, potentially without the payment of any license fees.

- B. The staff recommends that the SSA also engage the services of Craig Johnson of Flagship Management to find out, on the SSA’s behalf, whether any private operators might be interested in providing the New Bedford freight service at their own financial risk under a license agreement with the SSA and, if so, under what terms and conditions.
- C. The staff recommends that the SSA work with the Cape Cod Commission, the Martha’s Vineyard Commission, and public officials of all of the municipalities that could be affected by a New Bedford freight service for the purpose of submitting a joint request to the appropriate agency or agencies of the Commonwealth of Massachusetts and/or other local or regional governmental entities:
 - 1. to fund the construction, operation and maintenance of a suitable freight ferry terminal in New Bedford; and
 - 2. to provide annual funding to the SSA for the New Bedford freight service in a sufficient amount to cover the difference each year between (a) the amount of the SSA’s direct and allocated costs of the service, and (b) the amount of fares the SSA derives from the service.
- D. Once the funding described in (C) above is secured and a schedule is established for the New Bedford freight ferry terminal’s completion, unless by that time a private operator has entered into a license agreement with the SSA to provide the New Bedford freight service at its own financial risk, the staff recommends that the SSA negotiate and enter into a time charter for a freight vessel from a private operator to provide freight ferry service between New Bedford and the SSA’s Vineyard Haven terminal in accordance with the following parameters (as they might be revised based upon the comments, information and suggestions received in response to this preliminary report):
 - 1. The freight vessel would make two round trips a day on weekdays (excluding holidays) during approximately a 22-week summer season, with the potential to also operate the service, if the SSA chooses, on weekends and holidays.
 - 2. The SSA would provide reservation and ticketing services for the freight service, and will integrate reservations for travel on the New Bedford route into its existing reservations system so that customers traveling to and from Martha’s Vineyard can make reservations in one direction by way of New Bedford and in the other direction by way of Woods Hole.

3. The first daily one-way trip from New Bedford to Martha's Vineyard would be designated as a "hazardous cargo" trip and customers traveling between New Bedford and Martha's Vineyard with their vehicles (both trucks and automobiles) would be able to make reservations on that route the same way they are able to make reservations on the SSA's other freight trips.
4. Customers traveling with their automobiles would also be allowed to travel standby on the freight trips between New Bedford and Martha's Vineyard in the same manner that they are able to travel standby on the SSA's other freight trips.
5. Freight shippers would be allowed to ship their trucks between New Bedford and Martha's Vineyard without their drivers if the SSA is assured that each "driverless" truck on the vessel is physically met at the ferry terminal by its driver when the vessel arrives there so that the truck can be immediately driven off the vessel.
6. The New Bedford freight service would be provided on a summer-seasonal basis for an initial three-year period, with the potential to extend the operating season if the SSA so chooses.
7. The SSA would establish the same rates of fare for the New Bedford route as it establishes for the Woods Hole route.



Marion

Mattapoisett

New Bedford, MA

Dartmouth

Falmouth

Buzzards Bay

Gosnold

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Data: SIO, NOAA, U.S. Navy, NGA, GEBCO

Vineyard Sound

Imagery Date: 5/23/2015

lat - 41.544504° lon - 70.778

GO

Dukes