

## **Definitions**

**Web server database** – A database used exclusively by the web servers to manage user connection data.

**Persistent connection vs. nonpersistent connection** – A persistent connection is a network communication channel that remains open for further requests and responses rather than closing after a single exchange.

**Imarc & Steamship Authority Agreement** – Imarc has a support retainer to provide ongoing updates and edits to the public-facing website. Imarc does not currently have access to the Authority’s internal Reservation System, nor does it host the public-facing website. The Agreement states, that Imarc provides forty-eight (48) hours per quarter of support and will acknowledge receipt of any critical issues within six (6) hours during normal business hours between Monday-Friday 8 a.m.-6 p.m. Any critical issues that arise during non-business hours are addressed in a timely manner as Imarc has provided in the past to support the organization. **See Appendix A – Imarc service agreement.**

## **Measures taken prior to opening**

Prior to the Headstart, Nantucket, and Martha’s Vineyard online openings for the 2020 Summer Season, the following activities were conducted. **See Appendix B – Timeline.**

On November 20, 2019, the Authority conducted load tests in anticipation of demand and ensures the environment is capable of loads during openings. **See Appendix C – Load Test Summary.**

The Authority anticipated similar numbers of transactions to 2019 and worked with Imarc reviewing last year’s openings, specifically any associated issues of which there were none. On December 23, 2019, Imarc prepared a document that outlined the procedures and dates necessary for the three (3) openings. **See Appendix D – Steamship Opening Dates.**

On January 6, 2020, January 10, 2020, and January 17, 2020, the Authority requested and received availability for conference calls coinciding with the opening times on each of the three (3) openings for timely support. Calls were initiated at 7:20 a.m. prior to the January 7, 2020 Headstart opening and at 4:50 a.m. prior to both the January 14, 2020 Nantucket general opening and January 21, 2020 Martha’s Vineyard general opening. Additionally, in the absence of Kevin Hamer, Imarc’s primary developer for the Authority’s websites, Imarc’s Chief Technology Officer Dave Tufts and Project Manager Jenny Burke attended the Headstart and Nantucket General Opening calls. Mr. Hamer was not on the Vineyard call initially but joined it at approximately 5:45 a.m. and participated in troubleshooting and code updates. **See Appendix E – Conference Call Invitations.**

On January 6, 2020, January 13, 2020 and January 17, 2020, the Authority conducted additional date- and island-related testing prior to each opening to ensure readiness. This testing consisted of David Cox, the reservation system programmer, simulating the opening dates to ensure that the reservation calendars opened for customers as expected. **See Appendix F – Copies of emails for testing prior to openings.**

## **Measures taken upon opening**

### **See Appendix B – Timeline**

Per the Authority’s request, Imarc support, consisting of Dave Tufts and Jenny Burke, was on a conference call starting at 4:50 a.m. and waited while the Martha’s Vineyard 2020 Summer Reservations online opening began.

At 5:00 a.m. and during the initial first minutes, the Authority was not seeing the expected volume of transactions in the reservations system. **See Appendix G – Numbers of reservations between 5:00 a.m. and 5:30 a.m. 2019 vs 2020.** Authority staff noted [www.steamshipauthority.com](http://www.steamshipauthority.com) was not processing transactions as expected.

Immediately, MIS engaged all resources and vendors – including Mr. Cox; Tom Wesling, a consultant specializing in IBM server equipment; and six (6) members of the Authority’s Management Information System department – to check all systems and settings. Initially, no apparent causes were found and no setting changes were made.

Initial support attempts were not successful in resolving the issues. Imarc noticed that the web database servers were not available to service the website. Imarc was unsuccessful in getting the web database services to start. The unavailability of the web database servers caused customers to not be able to connect to the website.

Imarc contacted Kevin Hamer for assistance. He joined the call at 5:45 a.m. and immediately began reviewing the unavailability of the web database servers.

At approximately 6:00 a.m., after meeting with General Manager Robert B. Davis and Communications Director Sean F. Driscoll, the following measures were taken:

- Turned off the ability to book Martha’s Vineyard transactions after May 14;
- Activated the Authority’s emergency website; and
- Mr. Driscoll issued Travel Advisory #1 on the emergency website and on the Authority’s social media channels at approximately 6:30 a.m., which read: “The Steamship Authority’s website is currently unavailable. ALL RESERVATION ACTIVITY IS ON HOLD UNTIL 9 A.M. EASTERN STANDARD TIME. We are working to resolve the issue as quickly as possible. We apologize for the inconvenience and will provide an update prior to 9 a.m.”

Imarc advised during the conference call that Mr. Hamer would be unavailable from approximately 8:40 a.m. until after 10:00 a.m. the Authority immediately requested Mr. Hamer to be available and Imarc restated that he was unavailable.

After advising Mr. Davis of this information, Travel Advisory #2 was issued by Mr. Driscoll at approximately 8:30 a.m., which stated the opening was further delayed until noon.

Around 9:50 a.m., Curt Van Riper worked with David Cox as Mr. Cox reviewed logs recorded earlier in the morning and noticed a significant volume of mobile connection requests to the Reservation System. Although reservations cannot be booked directly from the mobile website, the servers that host the mobile website communicate with the Reservation System for the list of trips and their status. A

## System Issues Report – January 21, 2020 – Martha’s Vineyard Online Opening

customer who accesses the main website by first visiting the mobile website remains on the mobile servers even while using the main website to book reservations.

Around 10:30 a.m., Mr. Van Riper provided recommendations to Imarc to change the connection type request from the mobile site to the reservation system to be a “persistent connection,” which is a more efficient method of connection. **See Appendix H – Number of data requests via a nonpersistent connection.** Imarc advised that it wished to have Mr. Hamer review the suggested change.

At approximately 11:26 a.m., Mr. Hamer published the change to the mobile connection type pursuant to Mr. Van Riper’s suggestion and rebooted the mobile servers.

The Authority deactivated the emergency website and opened reservations again at noon and the website, although improved, did not perform as expected. Mr. Hamer continued troubleshooting to try to improve functionality and rebooted the web servers to provide improvements. Mr. Driscoll issued another statement via the Authority’s web page and social media channels advising customers that, while the website was working, transactions were coming through at a slower pace than normal.

At 12:30 p.m., under the Authority’s direction, Imarc changed the main site to use a persistent connection to the Web server database service, but it didn’t improve performance.

At 1:10 p.m., through further research and investigation into the Authority’s web database servers, Imarc identified a way to raise the system limit preventing the Web server database from running with more connections. With the Authority’s approval, Imarc changed both this system’s limit for Steamship as well as the number of connections to the Web server database service from 1,000 back to 16,000.

At 1:30 p.m., the web servers stopped responding and the website went down again. The Authority’s IT staff physically restarted them. Imarc believed the servers stopped responding due to the work on the Web server database service. The site appeared to be working normally.

At 2:10 p.m., the web servers stopped responding. The website went down as the servers seemed to be under a heavy load again. At Imarc’s request, Steamship physically cycled them and Imarc went in to debug and determined the web servers were running out of memory.

Changing the main website to use a persistent connection to the web database servers did not solve the functionality issue, but lowering the allowed connections to the web services from 2,800 per server to 500 per server, along with a final reboot of the web servers at approximately 2:30 p.m., restored performance and customer bookings. The Authority saw transaction activity improve, which continued for the remainder of the day.

By 3:30 p.m., after reducing the allowed connections to each web server, the website was running without issues. The Authority agreed to inform customers the site was operating as expected via the last statement issued by Mr. Driscoll for the day.

By the close of the day, the Vineyard general opening resulted in 14,853 transactions totaling \$3,338,057 in revenue. The 2019 Vineyard general opening resulted in 14,244 transactions totaling \$2,761,927 in revenue. **See Appendix I – Reservation Activity 2019 vs. 2020.**

## **Identification of Causal Factors**

### **(i.e. structural, equipment, outfitting, human, external)**

1. The mobile site was not switched to a persistent connection following the 2018 reservation system issues despite the change being made to the web servers at that time.
2. The load testing conducted in November 2019 did not include the mobile site or measure the stress on the Authority’s web systems through the entirety of a reservation transaction.

Therefore, the increased usage of mobile devices to access the website in combination with the use of an inefficient connection request (a nonpersistent connection) from the mobile site to the reservation system for data, strained the web server databases beyond their capacity. This issue was resolved at 11:26 a.m. **See Appendix G – Number of data requests via a nonpersistent connection from the mobile site to the reservation system.**

3. The server configuration settings were not verified prior to the internet general opening to determine that production servers were properly configured.

The settings resulted in the subsequent unavailability of the web database services and the failure of multiple attempts to restart the services because of server configuration settings. This issue was resolved at 1:10 p.m.

4. The exhaustion of memory resources on the website due to the volume of users. This issue was resolved at 2:30 p.m.

## **Immediate remedies taken to resolve the situation**

Changes to the Authority’s immediate web environment included:

1. Imarc changed the connection type to a more efficient connection type for data requests from the mobile site to the reservation system.
2. Reduced the number of allowed connections per web server to 500 from 2,800. This change resulted in the restoration of the web environment to normal parameters.

## **Recommendations**

1. The Authority will require the inclusion of the mobile site in future load testing and redesign the load testing process to perform a complete end-to-end testing across all platforms (website, mobile site, reservation system, credit card processing, etc.).
2. The Authority will require load testing involvement from Imarc’s technical team, other vendors including Carter Browne, who manages the Authority’s credit card processing, and David Cox, the vendor for the Authority’s reservation system.
3. The Authority will review changing the current tool used for load testing and/or the use of an outside vendor for enhanced analysis and review.
4. The Authority will oversee a study of a website upgrade/redesign, which will incorporate the conclusions of this report, in preparation for the solicitation of proposals and award of a contract for a mobile app and/or redesign of the website.
5. The Authority will utilize a “virtual waiting room” to improve the customer experience and to manage activity on the Authority’s servers.

# **Appendix A**

## **Imarc Service Agreement**

**Today's Date:** April 12, 2017

**Client Name:** The Steamship Authority

**Project Name:** Website Support and Maintenance Agreement

*This Statement of Work is valid for 30 days from the date above.*

## Description of Services

Based on a discussions with [redacted] of The Steamship Authority and [redacted], this Statement of Work (SOW) outlines the plan for Imarc to provide priority maintenance and support for The Steamship Authority Website [www.steamshipauthority.com](http://www.steamshipauthority.com) and mobile site, [m.steamshipauthority.com](http://m.steamshipauthority.com).

## Executive Summary

The Steamship Authority has asked for this SOW to provide continued support on the current sites. Some of the key benefits of this agreement are to provide The Steamship Authority with on-going updates and enhancements, fast turnaround for various maintenance items and on-going review and recommendations of current website's analytics.

## Objectives

The Steamship Authority Websites Support Agreement will:

- Apply Imarc's exceptional UX, design, technical skills and knowledge of The Steamship Authority to support updates to the website grounded in best practices;
- Deliver monthly review of website analytics and high-level recommendations;
- Expedite response times to acknowledge and address critical and non-critical issues requested;
- Deliver high quality customer service, quick turnarounds and support;
- Provide The Steamship Authority with access to a dedicated team to efficiently make site updates designed to support its objectives;
- Discounted hourly rate to support on-going edits and enhancements, the discounted rate of [redacted] per hr., is only applicable for the quarterly hours;

Imarc will partner with The Steamship Authority to refine and enhance these objectives as needed.

## How to Proceed

To accept this SOW, sign and date the "Authorization to Proceed" page, then fax to Imarc at 978-462-8807, or email to [sales@imarc.net](mailto:sales@imarc.net). This proposal is valid for 30 days from the date on the cover.

## Maintenance Recommendation

Imarc has structured this recommendation based upon its experience working with The Steamship Authority, other support agreements with its clients and best practices. The maintenance recommendation is set to begin on April 1, 2017.

### Proposed Workflow

The Steamship Authority website [www.steamshipauthority.com](http://www.steamshipauthority.com) and Mobile Website, [m.steamshipauthority.com](http://m.steamshipauthority.com), were launched to serve as a lifeline to the islands and delivering prompt, fast and low cost ferry services to island residents, visitors, vendors and tourists travelling to and from Cape Cod, Martha's Vineyard and Nantucket. While the full site is somewhat maintained by an Imarc proprietary CMS SiteManager that allows non-technical staff to make edits and update content, The Steamship Authority has asked for an on-going agreement to provide additional maintenance of the sites. **Imarc will provide a number of functions relevant to the site, which include support for transaction and reservation sales, graphical support, UX enhancements, code updates and reporting.** In order to maximize the support agreement for The Steamship Authority, Imarc will designate a dedicated team that has a comprehensive understanding of the organization, its objectives and the website to help expedite changes and updates. By utilizing a dedicated, experienced team on the project, Imarc will be able to leverage its knowledge to quickly and efficiently edit and maintain the site.

In order to track the maintenance and updates required on the site, Imarc and the Steamship Authority will continue to use the project workshop, which was initiated during the initial website project build and has been used since. Maintaining the site and tracking all changes through a centralized location will also maximize administrative efficiency and provide transparency into assignments, current ticket status, priorities and deadlines.

### Notification

While low priority updates and changes can be submitted through the project workshop and discussed during weekly meetings, when critical issues or concerns arise in regards to the site, Imarc recommends that The Steamship Authority emails Kevin Hamer at [kevin@imarc.com](mailto:kevin@imarc.com), Jeff Turcotte at [jeff@imarc.com](mailto:jeff@imarc.com) and Support at [support@imarc.com](mailto:support@imarc.com). Imarc will acknowledge receipt of any critical issues within 6 hours during normal business hours between Monday-Friday 8am-6pm. Any critical issues that arise during non-business hours will be addressed in a timely manner as Imarc has proved over the past few years to support the organization.

### Weekly meetings

Imarc will schedule weekly meetings with Kevin Hamer and [redacted] to review requests, updates and edits each week to the site. This will provide clear insight, status and prioritization of edits to the site. Imarc will accommodate the request to have weekly meetings on Monday afternoons.

## Monthly Time Reports

Imarc will also provide monthly time reports to The Steamship Authority to help manage on-going support hours over the course of the quarter.

## Data Analysis and Recommendations

In addition to the on-going site support, Imarc will also allocate time on a monthly basis to review the website's current stats and provide recommendations to the site based upon this analysis. Imarc will schedule a monthly meeting with The Steamship Authority to present its findings and share high-level recommendations.

## Discounted Blended Rate

In addition to providing fast and efficient service, another benefit of working with Imarc is the blended rate that it applies for all of its services including UX, design, development and project management. This blended rate will enable Imarc more flexibility to respond to The Steamship Authority's needs on a quarterly basis regardless of who on the Imarc team is required to complete the work. Imarc will apply these work hours to edits from The Steamship Authority team. Imarc will also discount Imarc's rate from \_\_\_\_\_ to \_\_\_\_\_. Please note that any hours above and beyond the initial scope will be billed at \_\_\_\_\_.

Imarc estimates that based upon its knowledge of The Steamship Authority and its business, its experience designing the site and its usability, examples of current site changes and its overall web expertise; it can support the site on a continual basis with 48 hours of support per quarter for a total of \_\_\_\_\_ per quarter or \_\_\_\_\_ per year.

## Cost Estimates

This estimate is based on Imarc’s understanding of the requirements to date.

Description	Cost/Time
<p><b>Quarterly Creative, UX and Technical Support Agreement</b></p> <p>Provide on-going support to maintain The Steamship Authority website. Site maintenance includes:</p> <ul style="list-style-type: none"> <li>• Graphic, UX and Technical support</li> <li>• Website Analysis and Recommendations</li> <li>• Project Management</li> </ul> <p><i>Additional work past the first 48 hours will be billed at Imarc’s standard rate of \$150 per hour.</i></p>	<p style="text-align: center;"><b>per Quarter</b></p>

### Support Agreement Terms include:

- Support hours may not be carried over quarter to quarter;
- Support hours may be adjusted based on actual service levels required after the first quarter;
- Site Maintenance, programming work or unique projects relative to The Steamship Authority website or hours beyond retained hours will be billable at our standard rate of \$150 per hr., as directed.
- Contract is available to automatically renew on an on-going basis. Imarc requires a 30 day cancellation notice from The Steamship Authority to cancel the agreement.
- **Payment terms are as follows:** Quarterly billing, terms net 30 days;
- Travel and per-diem expenses, if incurred, will be billed at cost and/or use GSA Per Diem Rates (FTR Chapter 301).

**Authorization to Proceed**

This plan accepted and agreed to as described in this document and related materials mentioned herein.

\_\_\_ The Steamship Authority Support Agreement

**Please initial authorized components:**

**For The Steamship Authority**

_____	_____	_____	_____
<b>Name</b>	<b>Title</b>	<b>Signed</b>	<b>Date</b>

**For Imarc LLC**

_____	_____	_____	_____
<b>Name</b>	<b>Title</b>	<b>Signed</b>	<b>Date</b>

## **Appendix B**

### **Timeline**

## Timeline

### Prior to Vineyard opening

November 20, 2019	Load testing performed
December 23, 2019	Imarc prepares document outlining procedures for summer openings.
January 6, 2020	Authority conducted additional date- and island-related testing prior to the Headstart opening to ensure readiness. SSA requests conference calls with Imarc for Headstart, Nantucket opening and Martha’s Vineyard openings. In Kevin Hamer’s absence, Chief Technology Officer Dave Tufts and Project Manager Jenny Burke attended the Headstart and Nantucket General Opening calls as Imarc’s representatives.
January 13, 2020	Authority conducted additional date- and island-related testing prior to the Nantucket opening to ensure readiness.
January 14, 2020	Nantucket general opening
January 17, 2020	Authority conducted additional date- and island-related testing prior to the Vineyard opening to ensure readiness.

### Vineyard opening day (January 21, 2020)

4:50 a.m.	Conference call initiated with Imarc support team
5:00 a.m.	Website opens for summer reservations on Vineyard route
~5:00 a.m.	The Authority fails to see the expected volume of traffic to its reservation system. It engages all vendors and resources to address the problem.
5:01 a.m.	The reservation system starts to send connection errors to the web servers.
5:05 a.m.	The web servers send errors about connections to the web database servers.
~5:45 a.m.	SSA unsuccessfully attempts to restart the web server databases
~6:00 a.m.	SSA activates emergency website and turns off ability to book summer reservations.
~6:00 a.m.	Imarc configures web server databases with reduced settings in an attempt to keep up with visitor traffic.
6:30 a.m.	SSA advises customers that reservation activity is on hold until 9:00 a.m.
8:30 a.m.	Due to Mr. Hamer’s unavailability, resumption of reservation activity is pushed back to noon.
9:50 a.m.	Curt Van Riper and David Cox notice a significant volume of mobile connection requests to the reservation system.
10:30 a.m.	Mr. Van Riper recommends to Imarc to change the connection type request from the mobile site to the reservation system to be a “persistent connection.” Imarc advises it wishes to wait until Mr. Hamer is available before making the change.
11:26 a.m.	Mr. Hamer published the change to the mobile connection type and rebooted the mobile servers. The change reduced the number of connections to the reservation system immediately.
Noon	SSA deactivates emergency website and reopens summer reservations.
~Noon	Although improved, the website’s performance remains unsatisfactory. The web server database servers are failing to keep up with the web servers and the website crashes. SSA advises customers that, while the website is operating, transactions are moving at a slower pace than normal.

System Issues Report – January 21, 2020 – Martha’s Vineyard Online Opening

12:30 p.m.	Imarc changes the main site to use a persistent connection to the web server database, but performance does not improve.
1:10 p.m.	Imarc raises the system limit that, until now, has been preventing the web server database from running with more connections.
1:30 p.m.	Web servers stop responding; SSA physically restarts the servers.
2:10 p.m.	Web servers stop responding. SSA physically restarts the servers. Imarc determines servers are running out of memory.
2:30 p.m.	Imarc reduces the allowed connection on each web server from 2,800 to 500 to prevent them from running out of memory. The servers are restarted.
3:30 p.m.	After the web environment continues to run smoothly, the Authority issues another advisory that the system is operating as expected.

*Sources: Steamship Authority and Imarc reports*

# **Appendix C**

## **Load Test Summary**

## Steamship Authority Web Reservations Load Test

The network infrastructure was reviewed on Nov 20, 2019 and load tested using the Web Application Testing (WAPT) tool. The infrastructure was tested in 2000-user, 4000-user, and 8000-user, simultaneous connections scenarios. We used a ramp up approach based on adding load in real-world situations.

- For the 2000-user test, we did a ramp of 22 users every 10 seconds to a max of 1000 users for duration of 10 minutes.
- For the 4000-user test, we did a ramp of 54 users every 10 seconds to a max of 2000 users for a duration of 10 minutes
- MAX To Attempt Failure 8000-user test, we did a ramp of 168 users every 10 seconds to a max of 8000 users for a duration of 15 minutes. This is the current failure threshold.

Based on the gathered results, the reviewed network infrastructure currently in place would be able to handle anticipated traffic loads on opening days for 2020.

## **Appendix D**

# **Steamship Opening Dates**

## Steamship Opening Dates

This is an overview of how the website determines the dates for head start and both islands.

### Summary

- **Action required** - anytime between now and the general openings, MSSQL imarctest.Control.NTLastSchDate and imarc.Control.MVLastSchDate should be set to the date to allow reservations through after an island opens; probably something like Oct 20 2020.
- **Action required** - Verify the date & times on the web servers are correct prior to NT/MV openings.
- Headstart looks properly setup to run from Jan 7 to Jan 13 2020, allowing reservations to be placed from May 15 through Oct 20 2020. No specific time on Jan 7 is coded in.
- Once that's done, the General Opening dates are configured so that
  - At 5:00 AM on Jan 14 2020, reservations for Nantucket will be allowed through imarctest.Control.LastSchDate.
  - At 5:00 AM on Jan 21 2020, reservations for Martha's Vineyard will be allowed through imarc.Control.LastSchDate.

### Technical Details

For engineering reference.

#### Headstart Dates

- This opens for applicable accounts from AS/400 BEMDATA.HEADSTRT.HZHBDT until AS/400 BEMDATA.HEADSTRT.HZHEDT.
- Currently, they're set to Jan 7 2020 and Jan 13 2020.

#### Headstart Last Date

- This is pulled from AS/400 BEMDATA.HEADSTRT.HZEDAT.
- Currently it's set to Oct 20 2020.

#### Vineyard Last Date

- If it's after 5:00 AM on the Vineyard General Opening Date, (AS/400 BEMDATA.HEADSTRT.HZMVGA)
  - Then use the vineyard last date (MSSQL imarctest.Control.MVLastSchDate)
  - Else use the shared last vehicle date (MSSQL imarctest.Control.LastSchDate)
- Currently, both are set to May 14 2020.

### Nantucket Last Date

- If it's after 5:00 AM on the Nantucket General Opening Date (AS/400 BEMDATA.HEADSTRT.HZNTGA)
  - Then use the nantucket last date (MSSQL imarctest.Control.NTLastDate)
  - Else use the shared last vehicle date (MSSQL imarctest.Control.LastSchDate)
- Currently, both are set to May 14 2020.

### High Speed Last Date

- If it's after 5:00 AM on the Nantucket General Opening Date (AS/400 BEMDATA.HEADSTRT.HZNTGA)
  - Then use the high speed last date (MSSQL imarctest.Control.FFEndSchDate)
  - Else use the shared last vehicle date (MSSQL imarctest.Control.LastSchDate)
- Currently, the high speed last date is set to Jan 3 2020 and the shared last vehicle date is May 14 2020.

# **Appendix E**

## **Conference Call Invitations**

## Curt Van Riper

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**Subject:** Invitation: SSA Headstart Openings @ Tue Jan 7, 2020 7:20am - 7:50am (EST)  
(mclaffey@steamshipauthority.com)

**Start:** Tue 1/7/2020 7:20 AM  
**End:** Tue 1/7/2020 7:50 AM  
**Show Time As:** Tentative

**Recurrence:** (none)

**Organizer:** jenny@imarc.com

**You have been invited to the following event.**

### SSA Headstart Openings

**When** Tue Jan 7, 2020 7:20am – 7:50am Eastern Time - New York

**Joining info** [meet.google.com/vec-temx-bhz](https://meet.google.com/vec-temx-bhz)

Or dial: [+1 413-597-8050](tel:+14135978050) PIN: 425748032# [More phone numbers](#)

**Calendar** mclaffey@steamshipauthority.com

**Who**

- jenny@imarc.com - organizer
- mclaffey@steamshipauthority.com
- Kevin Hamer
- davec@idcnet.com

#### [more details »](#)

Going (mclaffey@steamshipauthority.com)? [Yes](#) - [Maybe](#) - [No more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account mclaffey@steamshipauthority.com because you are subscribed for invitations on calendar mclaffey@steamshipauthority.com.

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to send a response to the organizer and be added to the guest list, or invite others regardless of their own invitation status, or to modify your RSVP. [Learn More](#).

## Curt Van Riper

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**Subject:** Invitation: SSA Headstart Opening @ Tue Jan 14, 2020 4:50am - 5:10am (EST)  
(mclaffey@steamshipauthority.com)

**Start:** Tue 1/14/2020 4:50 AM  
**End:** Tue 1/14/2020 5:10 AM  
**Show Time As:** Tentative

**Recurrence:** (none)

**Organizer:** jenny@imarc.com

**You have been invited to the following event.**

### SSA Headstart Opening

When Tue Jan 14, 2020 4:50am – 5:10am Eastern Time - New York

Joining info [meet.google.com/qcv-mmmg-amq](https://meet.google.com/qcv-mmmg-amq)

Or dial: [+1 252-699-0135](tel:+12526990135) PIN: 275401007# [More phone numbers](#)

Calendar [mclaffey@steamshipauthority.com](mailto:mclaffey@steamshipauthority.com)

Who

- [jenny@imarc.com](mailto:jenny@imarc.com) - organizer
- Dave Tufts
- [mclaffey@steamshipauthority.com](mailto:mclaffey@steamshipauthority.com)
- [davec@idcnet.com](mailto:davec@idcnet.com)

[more details »](#)

Going ([mclaffey@steamshipauthority.com](mailto:mclaffey@steamshipauthority.com))? [Yes](#) - [Maybe](#) - [No more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [mclaffey@steamshipauthority.com](mailto:mclaffey@steamshipauthority.com) because you are subscribed for invitations on calendar [mclaffey@steamshipauthority.com](mailto:mclaffey@steamshipauthority.com).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to send a response to the organizer and be added to the guest list, or invite others regardless of their own invitation status, or to modify your RSVP. [Learn More](#).

## Curt Van Riper

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**Subject:** Invitation: SSA MV Opening @ Tue Jan 21, 2020 4:50am - 5:10am (EST)  
(mclaffey@steamshipauthority.com)

**Start:** Tue 1/21/2020 4:50 AM  
**End:** Tue 1/21/2020 5:10 AM  
**Show Time As:** Tentative

**Recurrence:** (none)

**Organizer:** jenny@imarc.com

**You have been invited to the following event.**

### SSA MV Opening

**When** Tue Jan 21, 2020 4:50am – 5:10am Eastern Time - New York

**Joining info** [meet.google.com/nvu-xamt-yvv](https://meet.google.com/nvu-xamt-yvv)

Or dial: [+1 218-301-2769](tel:+12183012769) PIN: 996597181# [More phone numbers](#)

**Calendar** mclaffey@steamshipauthority.com

**Who**

- jenny@imarc.com - organizer
- mclaffey@steamshipauthority.com
- davec@idcnet.com
- Dave Tufts

[more details »](#)

Going (mclaffey@steamshipauthority.com)? [Yes](#) - [Maybe](#) - [No more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account mclaffey@steamshipauthority.com because you are subscribed for invitations on calendar mclaffey@steamshipauthority.com.

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to send a response to the organizer and be added to the guest list, or invite others regardless of their own invitation status, or to modify your RSVP. [Learn More](#)

**Appendix F**  
**Copies of emails for testing prior to openings.**

## Curt Van Riper

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**From:** davec@idcnet.com  
**Sent:** Monday, January 6, 2020 3:35 PM  
**To:** Mary Claffey  
**Cc:** Curt Van Riper  
**Subject:** Headstart Pre-testing

Hi Mary,

In anticipation of Tuesday's Headstart Opening, Curt and I changed the begin date to today for a quick test to make sure the proper options were available and that qualified customers were able to book the summer season. We also tested with an account that wasn't qualified to make sure they could not book those dates.

Everything worked as required. The only issue we encountered is when you were signed on prior to the date/time Headstart begins (7:30am) you would have to sign on again to see the options. That is no different than previous years.

Thanks,  
David

## Curt Van Riper

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**From:** davec@idcnet.com  
**Sent:** Monday, January 13, 2020 2:17 PM  
**To:** Mary Claffey  
**Cc:** Curt Van Riper; Gina Barboza  
**Subject:** NT Opening Pre-testing

Hi Mary,

In preparation for Tuesday's Nantucket web opening, Curt and I tested that everything was set to go by temporarily setting the date to today and verifying that changed the Nantucket schedule only to be available to book for the summer season. Everything appeared to work as desired. The one thing we were unable to test was that the time to allow booking to begin was 5am, although Kevin's document specifically says that time.

Thanks,  
David

## Curt Van Riper

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**From:** davec@idcnet.com  
**Sent:** Monday, January 27, 2020 1:43 PM  
**To:** Curt Van Riper  
**Subject:** FW: 2020 MV Web Opening

-----Original Message-----

**From:** davec@idcnet.com <davec@idcnet.com>  
**Sent:** Friday, January 17, 2020 8:25 AM  
**To:** 'Mary Claffey' <mclaffey@steamshipauthority.com>  
**Cc:** 'Kevin Hamer' <kevin@imarc.com>; 'Jenny Hess' <jenny@imarc.com>  
**Subject:** 2020 MV Web Opening

Hi Mary,

Curt and I tested to make sure MV trips would be available on Tuesday.  
Everything worked as expected when we changed the date to today and verified the full schedule was available.

Thanks,

David

**Appendix G**  
**Numbers of reservations between**  
**5:00 a.m. and 5:30 a.m.**  
**2019 vs 2020**

System Issues Report – January 21, 2020 – Martha’s Vineyard Online Opening

	<b>2019</b>	<b>2020</b>
<b>Between 5:00 a.m. and 5:30 a.m.</b>	<b>4466</b>	<b>12</b>

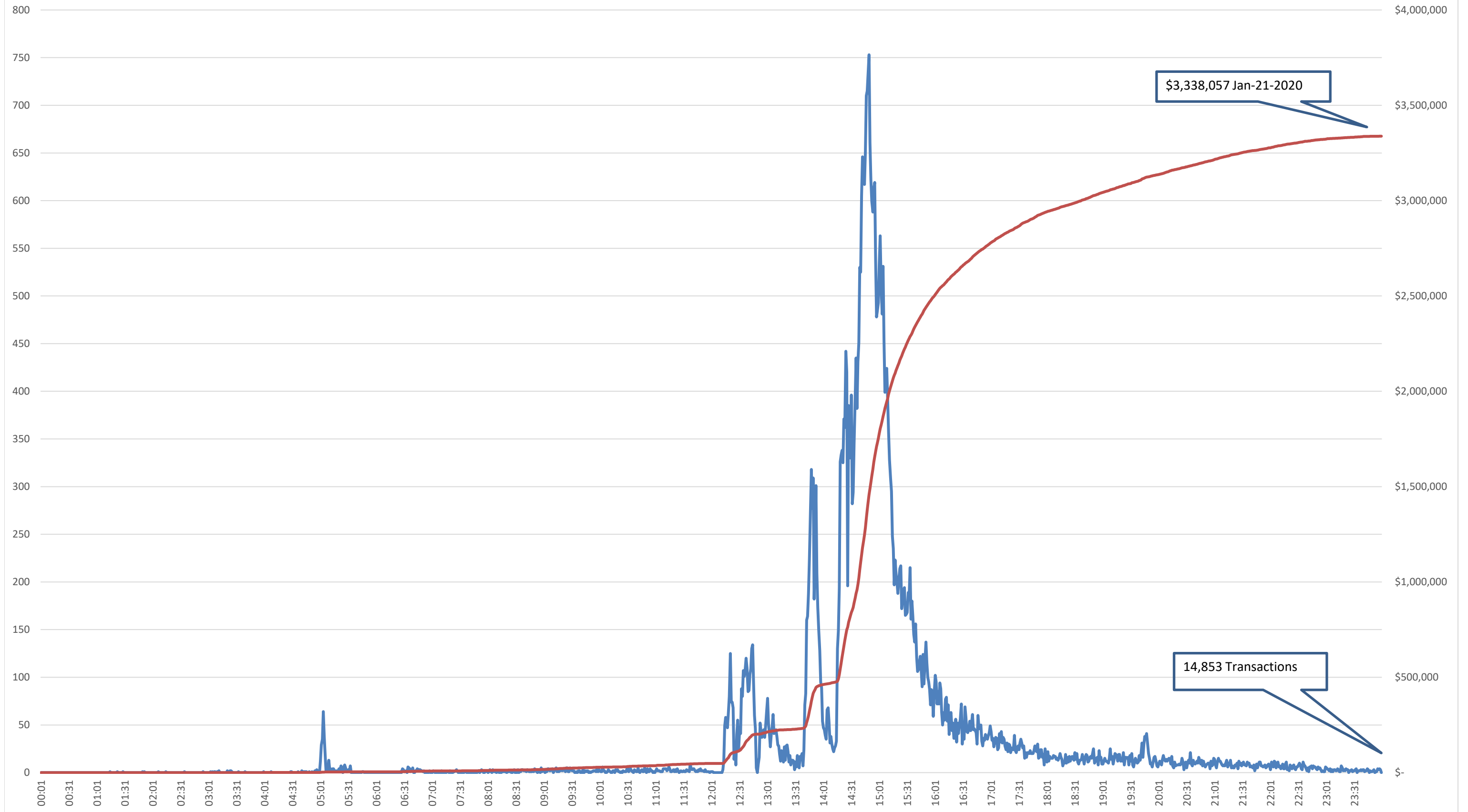
**Appendix H**  
**Number of data requests via a nonpersistent  
connection from the mobile site to the  
reservation system**

System Issues Report – January 21, 2020 – Martha’s Vineyard Online Opening

Date	Time Period	Number of Requests to Reservation System
1/22/2019	5:00 a.m. – 5:30 a.m.	17,122
1/21/2020	5:00 a.m. – 5:30 a.m.	139,164

**Appendix I**  
**Reservation Activity**  
**2019 vs. 2020**

# 2020 General Opening MV - Add Resn Count



# 2019 General Opening MV - Add Resn Count

