



# MAJOR EVENT RESPONSE

Report for the Ontario Energy Board

## ABSTRACT

THIS REPORT CONTAINS INFORMATION FOR A MAJOR EVENT THAT IMPACTED RELIABILITY ON SATURDAY, MAY 21, 2022, IN GRANDBRIDGE ENERGY INC.'S DISTRIBUTION SERVICE AREA. THE CONTENTS OF THE REPORT ARE CONSISTENT WITH REPORTING AND RECORD KEEPING REQUIREMENTS FOR SYSTEM RELIABILITY.

## OEB FILING 2.1.4.2.10

Prepared By: GrandBridge Energy Inc.

Date: Monday, July 18, 2022



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## Introduction

GrandBridge Energy Inc. formed on May 2, 2022 through the merger of the former Brantford Power Inc. and Energy+ Inc. and is the seventh largest municipally-owned electricity distributor in Ontario. GrandBridge Energy delivers safe and reliable electricity to more than 109,000 customers in the City of Brantford, the City of Cambridge, the County of Brant and the Township of North Dumfries. The team provides safe and reliable energy solutions that are strengthened by an unwavering commitment to service excellence.

On Saturday, May 21, 2022, GrandBridge Energy Inc. experienced its first Major Event as the result of severe thunderstorm and high winds caused by the May 2022 Canadian derecho storm.

## Prior to the Event

### 1. Did the distributor have any prior warning that the Major Event would occur?

Yes.

On Saturday, May 21, 2022, a GrandBridge Energy (GBE) Control Room Operator and Operations Supervisor On-Call were monitoring the inclement weather tracking east from Sarnia and Windsor toward GBE's service territory. GBE received a severe thunderstorm alert from Environment Canada at approximately 12:00 EDT.

#### Environment Canada Weather Forecast on Saturday, May 21, 2022:

At 09:43 EDT, Environment Canada issued weather statements for Sarnia and Windsor, which was upgraded for Sarnia to a severe thunderstorm warning at 10:25 EDT. Severe thunderstorm watches for the London area followed at 10:41 EDT, upgraded to a severe thunderstorm warning at 11:08 EDT. The alert mentioned possible strong wind gusts up to 100 km/h, along with nickel-sized hail.

Severe thunderstorm watches were issued for points eastward of London at 11:19 EDT. These were later upgraded to severe thunderstorm warnings. Additionally, after the derecho impacted London, Environment Canada issued an emergency alert for regions in Ontario and Quebec along the path of the storm, with alerts going out over cellphones, television, and radio.

### 2. If the distributor did have prior warning, did the distributor arrange to have extra employees on duty or on standby prior to the Major Event beginning?

No.

The Environment Canada forecast did not provide sufficient time for the distributor to place additional employees on duty or on standby prior to the Major Event beginning. However, as part the GBE's normal practice, the resourcing for the long weekend included an extra Operations crew on-call for the Cambridge and North Dumfries areas with an extra Operations crew on-call for the Brant County area.

### 3. If the distributor did have prior warning, did the distributor issue any media announcements to the public warning of possible outages resulting from the pending Major Event?

No.

GBE did not issue media announcements to the public through its social media platforms (Facebook and Twitter) to the public warning of possible outages resulting from the pending Major

Event. May 2022 Canadian derecho entered the GBE service territory at a high speed and did not leave sufficient time for GBE to issue advanced alerts. GBE immediately updated its social media platforms and website, as soon as the first outages were reported.

**4. Did the distributor train its staff on the response plans to prepare for this type of Major Event?**

Yes.

GBE has a documented Emergency Plan that specifies duties and responsibilities of GBE's employees during an emergency to ensure effective response for this type of Major Event. The emergency personnel who are involved in the power restoration are trained to perform their responsibilities. Additionally, GBE Operations employees are regularly placed on-call or on-standby as part of their regular duties, and therefore are proficient to respond in the event of power outages including Major Event days. GBE Communication employees are proficient in updating website, social media platforms, liaising with local media and directing customers as necessary, during major event situations.

On Saturday, May 21, 2022, GBE activated the plan as the severity and magnitude of the outages met the parameters defined in the plan to be quantified as an emergency.

## During the Major Event

**1. Please identify the main contributing Cause of the Major Event as per the table in section 2.1.4.2.5 of the Electricity Reporting and Record Keeping Requirements. Please provide a brief description of the event (i.e. what happened?).**

The main contributing cause of the Major Event was Tree Contacts (Cause Code 3). GBE experienced 20 major outages of which 12 of them were tree contacts. Of the 12 tree contact outages, 1 of them resulted in lines down only and 2 of them resulted in lines down with broken poles.

**2. Was the IEEE Standard 1366 used to derive the threshold for the Major Event?**

Yes, the IEEE Standard 1366 (2012) was used to derive the threshold that would establish if May 21, 2022, would be a Major Event Day. GBE also performed a qualitative analysis based on the OEB's questions to determine if the event can be considered a major event.

The IEEE 1366-2012 Standard provides a statistical method of studying reliability events. A Major Event Day is a day which the daily system SAIDI (System Average Interruption Duration Index) exceeds a threshold value, designated as T-med. The SAIDI index is used as the basis of this definition since it leads to consistent results regardless of the utility size, because SAIDI is a good indicator of operational and design stress. Data used for SAIDI is based on five (5) sequential years and includes days that had an interruption, so a SAIDI/Day value can be used to calculate T-med.

GBE T-med value as calculated in accordance with the IEEE 1366-2012 standard is shown below in Table 1.0:

**Table 1.0 GBE T-med Calculations**

Parameter	Value
$\alpha$ = Average [ln(Daily SAIDI)] 2017-2021	-3.49
$\beta$ = Standard Deviation ( $\alpha$ )	2.00
<b>T-med = <math>e^{(\alpha+2.5\beta)}</math></b>	<b>4.50</b>

The T-med value of 4.50 customer-minutes indicates that any outage event with reliability statistics exceeding this figure would be deemed to be a Major Event. The table below shows the Daily SAIDI value calculated for May 21, 2022. The T-med value is calculated in customer-minutes.

**Table 2.0 Calculation of Daily SAIDI Value**

Day	Customer Outage (Minutes)	*Total Customers	Daily SAIDI (customer-minutes)	Daily SAIDI (customer-hours)
Saturday, May 21, 2022	10,523,860	110,085	95.60	1.59

\*Total number of customers used for calculation as of May 21, 2022

The calculated value for May 21, 2022, is 95.60 customer-minutes and is greater than the T-med threshold value of 4.50 customer-minutes. Therefore, this specific day was deemed to be a Major Event.

**3. When did the Major Event begin (date and time)?**

**Date:** Saturday, May 21, 2022

**Time:** 12:09 EDT

**4. Did the distributor issue any information about this Major Event, such as estimated times of restoration, to the public during the Major Event? If yes, please provide a brief description of the information. If no, please explain.**

Yes.

When known, the estimated times of restoration (ETRs) were issued throughout the Major Event through GBE's public-facing Outage Map for the Cambridge, North Dumfries, and Brant County areas. The Outage Map on the GBE website remained accessible throughout the Major Event. The updates were posted on the GBE (former Energy+) home page via a highly visible Alert Banner.

The updates on Brantford areas were regularly communicated via the legacy Brantford Power website and legacy Twitter account. The Brantford service area has not been incorporated in the GBE's public-facing Outage Map post-merger on May 2, 2022.

GBE also sent notifications and status updates through its social media channels, specifically

Facebook (19) and Twitter (27). The metrics on social media and website results for May 21-23, 2022, are attached in Appendix A.

The first ETR was issued immediately during the start of the first outage on May 21, 2022, at 12:09 EDT through the public facing Outage Map. There were a total of 20 outages during the Major Event Day. For each outage in the Cambridge, North Dumfries, and Brant County areas, GBE updated the Outage Map system when the outage was first identified and provided updates depending on the scale of the outage. For each outage in the Brantford area the legacy website was updated with outage notification, location and updates on the restoration were shared.

In total, GBE released 47 updates to the public-facing Outage Map, shown in Appendix B and 10 updates made to the legacy Brantford Power Inc. website as the result of the Major Event on May 21, 2022.

**5. How many customers were interrupted during the Major Event? What percentage of the distributor's total customer base did the interrupted customers represent?**

There were a total of 51,816 unique customers that were impacted during the Major Event. This represents 47% of GBE total customer base of 109,000.

**6. How many hours did it take to restore 90% of the customers who were interrupted?**

It took 7 hours and 5 minutes to restore power to 90% of customers impacted by the Major Event.

**7. Were there any outages associated with Loss of Supply during the Major Event? If so, please report on the duration and frequency of Loss of Supply outages.**

Yes.

There was one outage during the Major Event associated with Loss of Supply lasting 7 hours and 54 minutes. The outage was restored by isolating the normal feed from Hydro One and back feeding with another feed.

**8. In responding to the Major Event, did the distributor utilize assistance through a third-party mutual assistance agreement with other utilities? If yes, please provide the name of the utilities who provided the assistance.**

No.

GBE contacted neighbouring distributors with the request for assistance during the Major Event. The mutual assistance partners were not in a position to lend assistance as they were dealing with outages from the same weather event. GBE utilized assistance of the third-party civil contractors to support the restoration efforts.

**9. Did the distributor run out of any needed equipment or materials during the Major Event? If so, please describe the shortages.**

No.

GBE had all the necessary materials and equipment to perform the repairs on the distribution system during the Major Event.

## After the Major Event

### 1. What actions, if any, will be taken to be prepared for, or mitigate, such Major Events in the future?

Historically, GBE has been proactive in mitigating the risk of emergency situations by applying the appropriate distribution system designs, equipment specifications, deploying grid modernization technology, planned system maintenance, staff training and utility operating practices. The documented Emergency Plan enables GBE staff to effectively assess and respond to any given emergency situation.

#### **The immediate action taken following the Major Event:**

GBE held a debrief meeting with the internal stakeholders involved in the response during the Major Event. The focus of the debrief session was on lessons-learned and areas of improvement. In the post-event analysis, GBE determined that the response to the Major Event was conducted in a safe, effective and controlled manner in accordance with the established operating practices and procedures.

#### **Future actions arising from the Major Event:**

- Incorporate Brantford's distribution area into GBE's public-facing Outage Map to provide Brantford customers with instant access to outage status information.
- Continue deploying grid modernization technology (i.e. automated reclosers) to increase GBE's operational effectiveness during the Major Events.

## Appendix A - GBE Social Media Analytics

Terminology		Total
<b><i>Impressions</i></b>	Number of times users saw the Tweets, Posts	109,000 impressions
<b><i>Engagements</i></b>	Total times users interacted with Tweets (clicks, retweet, replies, follows, likes).	2,460 engagements
<b><i>Engagement Rate</i></b>	Number of engagements divided by the total impressions.	2.51%

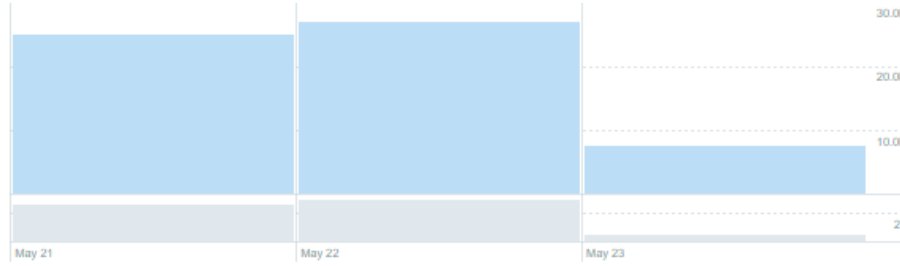


# GBE Twitter Analytics – May 21-23, 2022

## Tweet activity

May 21 – May 23, 2022 Export data

Your Tweets earned **59.5K impressions** over this 3 day period

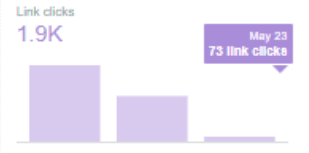
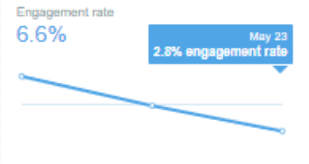


**YOUR TWEETS**  
During this 3 day period, you earned **19.8K impressions** per day.

Tweets	Top Tweets	Tweets and replies	Promoted	Impressions	Engagements	Engagement rate
	<b>Grandbridge Energy</b> @GrandbridgeNRG · May 22 We are aware of the outage impacting #Ayr, and our crews are investigating. Please check the Outage Map for updates and the est. restoration time. <a href="https://outages.energyplus.ca">outages.energyplus.ca</a> <a href="#">View Tweet activity</a>			7,403	277	3.7%
	<b>Grandbridge Energy</b> @GrandbridgeNRG · May 22 We'd like to send a special thank you to all our first responders, line crews, System Control operators who are ensuring public safety while working throughout the night to get power back. Remember, if you see them out #Cbridge, please keep a safe distance. <a href="#">View Tweet activity</a>			4,235	86	2.0%
	<b>Grandbridge Energy</b> @GrandbridgeNRG · May 21 We are aware of multiple weather related power outages in #Brantford. Our crews have been dispatched to investigate. Thanks for your patience. <a href="#">View Tweet activity</a>			3,596	100	2.8%
	<b>Grandbridge Energy</b> @GrandbridgeNRG · May 21 Crews are on site and working to safely restore power as quickly as possible. West Brant remains without power in #Brantford due to high winds. Thanks for your patience. Remember, if you spot a downed wire stay back at least 10 metres (the length of a school bus). <a href="#">View Tweet activity</a>			3,277	65	2.0%
	<b>Grandbridge Energy</b> @GrandbridgeNRG · May 21 Crews, system control operations continue work throughout #Cbridge #NorthDumfries #Ayr to restore power to all our customers. Extensive damage to major powerlines, hydro poles that must be replaced. Work will continue overnight into Sunday May 22 #ON Storm #safety <a href="https://pic.twitter.com/dK97rNchuy">pic.twitter.com/dK97rNchuy</a> <a href="#">View Tweet activity</a>			2,932	356	12.1%
	<b>Grandbridge Energy</b> @GrandbridgeNRG · May 22 Thank you for spreading the word about our continuous outage restoration efforts. Your safety messages are right on point! #respectthepower #ON Storm <a href="https://twitter.com/northdumfries/">twitter.com/northdumfries/...</a>			2,769	41	1.5%

### Engagements

Showing 3 days with daily frequency



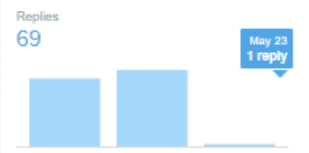
On average, you earned **649 link clicks** per day



On average, you earned **12 Retweets without comments** per day



On average, you earned **43 likes** per day



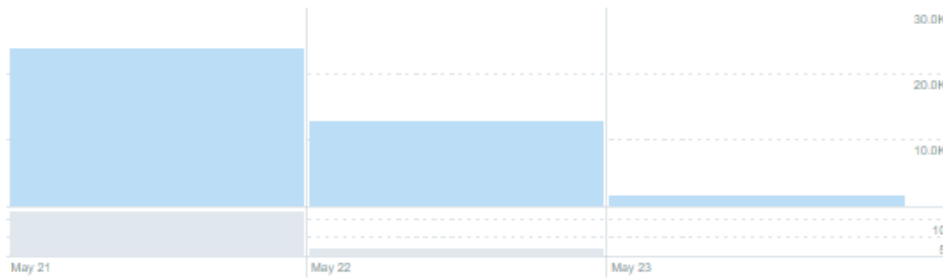
# Former BPI Twitter Analytics – May 21-23, 2022

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[Home](#)
[Tweets](#)
[More](#)
Brantford Power [Sign up for Twitter Ads](#)

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Tweet activity 
[May 21 – May 23, 2022](#)
[Export data](#)

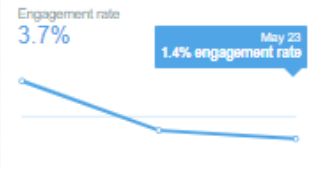
Your Tweets earned 38.5K impressions over this 3 day period



**YOUR TWEETS**  
During this 3 day period, you earned 12.8K impressions per day.

Tweets	Top Tweets	Tweets and replies	Promoted	Impressions	Engagements	Engagement rate
	<b>Brantford Power</b> @BrantfordPower · May 21	Helpful information from the Electrical Safety Authority on finding a licensed electrical contractor. <a href="#">twitter.com/homeandsafety/...</a>		1,735	14	0.8%
	<b>Brantford Power</b> @BrantfordPower · May 21	Very important safety message from the Electrical Safety Authority. <a href="#">twitter.com/homeandsafety/...</a>		1,241	43	3.5%
	<b>Brantford Power</b> @BrantfordPower · May 21	Our crews have made steady and safe progress restoring power in #Brantford. Thanks to everyone for the messages regarding downed powerlines and other safety concerns. If you are still without power please call us at 519-751-3522. #staysafe		3,185	95	3.0%
	<b>Brantford Power</b> @BrantfordPower · May 21	Our crews continue to safely remove branches down on powerlines. As a result, power is currently out on Cecil Ave., Normand St., Wayne Dr., Janet St. and Albert Ave. Thanks for your patience as we safely make repairs following the storm.		1,694	34	2.0%
	<b>Brantford Power</b> @BrantfordPower · May 21	Power has been restored to the major areas in #Brantford. Our crews continue to remove branches and safely respond to downed lines affecting power to individual dwellings in Brantford. If you are still without power in Brantford, please call us at 519-751-3522. Thank you		2,755	102	3.7%
	<b>Brantford Power</b> @BrantfordPower · May 21	Power has been restored to the majority of customers in #Brantford. Our crews continue to work on small pockets of outages throughout the city. During the outage our website was not fully available due to high activity. Thank you for your patience.		3,939	158	4.0%

**Engagements**  
Showing 3 days with daily frequency



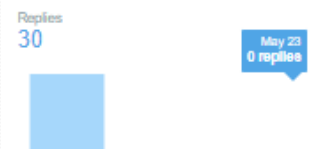
On average, you earned 0 link clicks per day



On average, you earned 10 Retweets without comments per day



On average, you earned 49 likes per day



# GBE Facebook Analytics – May 21-23, 2022

Number of Posts: 31

Post Reach: 11,000 impressions

**GrandBridge Energy Inc.**  
Published by Hootsuite · May 21 at 7:00 PM · 🌐

Crews, system control operations continue work throughout #Cbridge #NorthDumfries #Ayr to restore power to all our customers. Extensive damage to major powerlines, hydro poles that must be replaced. Work will continue overnight into Sunday May 22 #ONStorm #safety



1,630 People reached      145 Engagements      ↑ +1.3x average Distribution score      [Boost post](#)

👍❤️👍 19      5 Comments 4 Shares

[Like](#)      [Comment](#)      [Share](#)

Comment as GrandBridge Energy Inc.      😊📷📺🗨️

**Marie Mclellan Muir**  
Stay safe linemen! 👍 3  
[Like](#) [Reply](#) [Hide](#) 1w

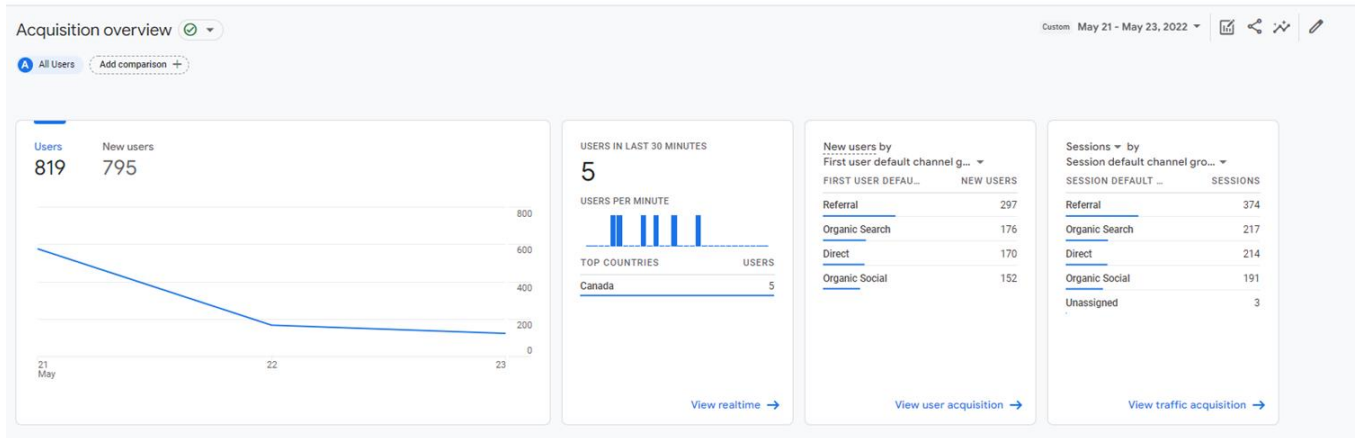
**Kim Coldham**  
Be safe out there. 👍 3  
[Like](#) [Reply](#) [Hide](#) 1w

**Ginny Fawcett**  
Be safe 👍  
[Like](#) [Reply](#) [Hide](#) 1w

**George Quance**  
West River and footbridge, power please  
[Like](#) [Reply](#) [Hide](#) [See Response](#) 1w

# Website Analytics – May 21-23, 2022

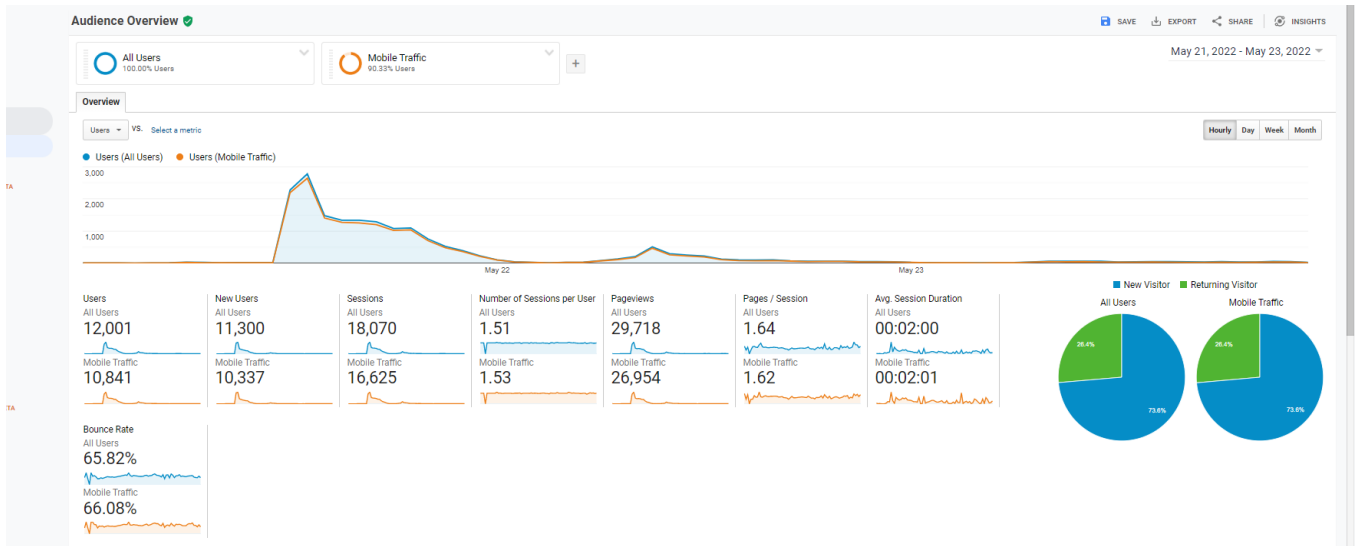
## GBE Landing Page Traffic Statistics



**Traffic Peak:** 819 users @ 1:00PM EDT on May 21, 2022

**New Users:** 795

## Legacy Energy+ Web Traffic Statistics

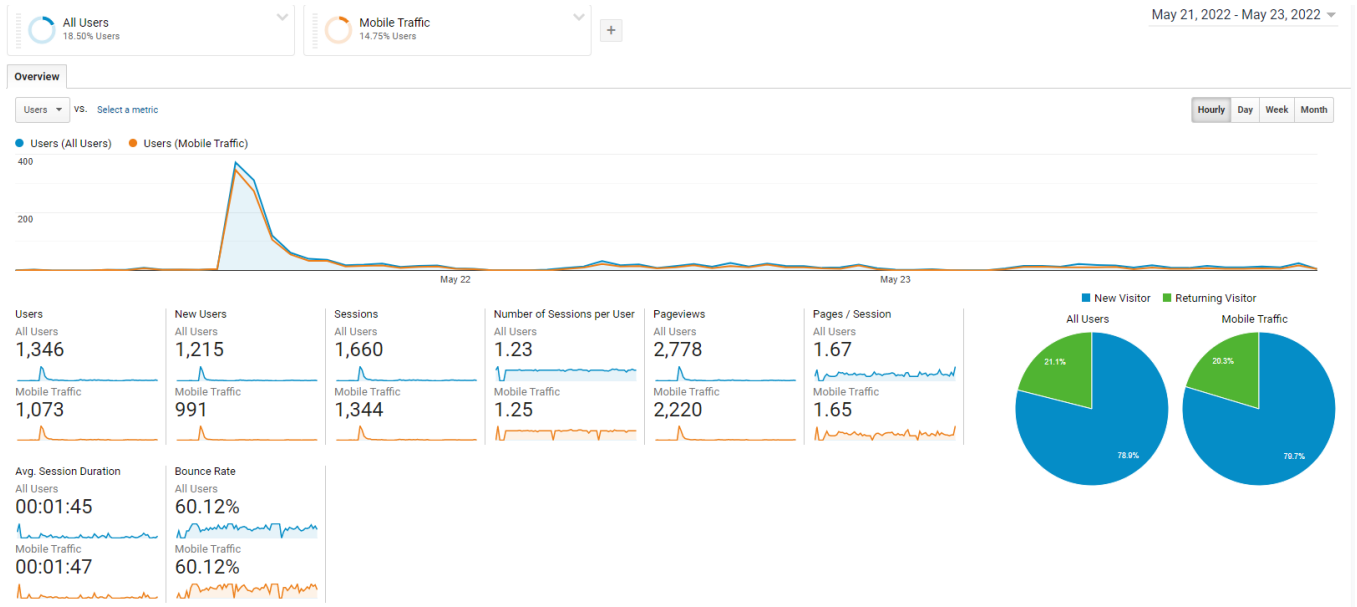


**Total Sessions/visits:** 18,000

**Total Page Views:** 29,700

**Traffic Peak:** 2,700 users @ 1:00PM EDT on May 21, 2022

# Legacy BPI Web Traffic - Statistics



**Total Sessions/visits: 1,600**

**Total Page Views: 2,700**

**Traffic Peak: 1,000 users @ 1:00PM EDT on May 21, 2022**

## Appendix B - GBE Outage Map Updates Statistics

Outage #	Update Date & Time (EDT)
E6111	Saturday, May 21, 2022 @ 12:09
E6126	Saturday, May 21, 2022 @ 12:14
E6123	Saturday, May 21, 2022 @ 12:15
E6112 & E6113	Saturday, May 21, 2022 @ 12:17
E6124, E6115, E6130, E6132, & E6131	Saturday, May 21, 2022 @ 12:19
E6114 & E6130	Saturday, May 21, 2022 @ 12:21
E6110	Saturday, May 21, 2022 @ 12:43
E6130	Saturday, May 21, 2022 @ 12:58
E6126	Saturday, May 21, 2022 @ 13:32
E6115	Saturday, May 21, 2022 @ 13:39
E6112	Saturday, May 21, 2022 @ 13:49
E6123	Saturday, May 21, 2022 @ 13:52
E6130	Saturday, May 21, 2022 @ 14:13
E6130	Saturday, May 21, 2022 @ 14:14
E6130	Saturday, May 21, 2022 @ 14:38
E6130	Saturday, May 21, 2022 @ 14:48
E6130	Saturday, May 21, 2022 @ 15:32
E6124	Saturday, May 21, 2022 @ 15:39
E6123	Saturday, May 21, 2022 @ 15:50
E6115	Saturday, May 21, 2022 @ 16:10
E6130	Saturday, May 21, 2022 @ 16:15
E6114	Saturday, May 21, 2022 @ 16:54
E6114	Saturday, May 21, 2022 @ 17:01
E6124	Saturday, May 21, 2022 @ 17:23
E6113	Saturday, May 21, 2022 @ 17:48
E6111	Saturday, May 21, 2022 @ 18:13
E6125	Saturday, May 21, 2022 @ 19:13
E6125	Saturday, May 21, 2022 @ 19:14
E6126	Saturday, May 21, 2022 @ 19:17
E6130	Saturday, May 21, 2022 @ 19:20
E6112	Saturday, May 21, 2022 @ 19:40
E6125	Saturday, May 21, 2022 @ 19:50
E6111	Saturday, May 21, 2022 @ 20:03
E6113	Saturday, May 21, 2022 @ 20:06
E6115	Saturday, May 21, 2022 @ 20:59
E6115	Saturday, May 21, 2022 @ 21:32
E6119	Saturday, May 21, 2022 @ 21:36

<b>E6130</b>	Saturday, May 21, 2022 @ 22:55
<b>E6110</b>	Sunday, May 22, 2022 @ 00:32
<b>E6113</b>	Sunday, May 22, 2022 @ 00:51
<b>E6124</b>	Sunday, May 22, 2022 @ 2:57
<b>E6124</b>	Sunday, May 22, 2022 @ 3:25
<b>E6130</b>	Sunday, May 22, 2022 @ 11:52
<b>E6132</b>	Sunday, May 22, 2022 @ 13:46
<b>E6132</b>	Sunday, May 22, 2022 @ 15:14
<b>E6131</b>	Sunday, May 22, 2022 @ 18:51
<b>E6119</b>	Monday, May 23, 2022 @ 12:57