Satellite Navigation Branch, ANG-E66
NSTB/WAAS T&E Team

WIDE AREA AUGMENTATION SYSTEM PERFORMANCE ANALYSIS REPORT

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Report #92
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Executive Summary

Since 1999, the Wide Area Augmentation System (WAAS) Test Team at the FAA William J. Hughes Technical Center has reported GPS performance as measured against the GPS Standard Positioning Service (SPS) Signal Specification in quarterly GPS Performance Analysis Network (PAN) Reports. In addition to the GPS PAN reports, the WAAS Test Team has provided quarterly reports on WAAS performance. The current WAAS PAN Report #92 provides WAAS performance data from the January 01 through March 31, 2025 reporting period.

This report provides the following results: accuracy, availability, coverage, safety index, range accuracy, WAAS broadcast message rates, geostationary satellite ranging availability, WAAS airport availability, WAAS Code Noise and Multipath analysis, WAAS reference station survey validation, and WAAS Signal Quality Monitoring.

The following table shows observations for accuracy and availability made during the reporting period for Continental United States (CONUS) and Alaska sites (the international sites are presented in the body of this report). Localizer Performance (LP) service is available when the calculated horizontal protection level (HPL) is less than 40 meters. Localizer Performance with Vertical Guidance (LPV) service is available when the calculated HPL is less than 40 meters, and the Vertical Protection Level (VPL) is less than 50 meters. Localizer Performance with Vertical Guidance to 200-foot decision height (LPV200) service is available when the calculated HPL is less than 40 meters and the VPL is less than 35 meters. The FAA's National Satellite Test Bed sites—Grand Forks, North Dakota; Atlantic City, New Jersey; and Arcata, California—are outliers due to receiver quality issues, and not because of the WAAS signal in space quality.

Parameter	CONUS Site/Maximum	CONUS Site/Minimum	Alaska Site/Maximum	Alaska Site/Minimum
95% Horizontal Accuracy (HPL <=40 meters)	Arcata 1.423 meters	Memphis 0.646 meters	Barrow 1.052 meters	Bethel 0.856 meters
95% Vertical Accuracy (VPL <=50 meters)	Miami 2.023 meters	Denver 0.927 meters	Barrow 2.224 meters	Cold Bay 1.430 meters
LP Availability (HPL <=40 meters)	Arcata GT 100%	Boston 99.39%	Cold Bay 99.31%	Barrow 98.01%
LPV Availability (HPL <=40 meters & VPL <=50 meters)	Elko GT 100%	Boston 99.31%	Cold Bay 99.27%	Barrow 97.59%
LPV200 Availability (HPL <=40 meters & VPL <=35 meters)	Elko GT 99.98%	Miami 99.11%	Bethel 98.73%	Barrow 95.45%
99% HPL	Miami 22.805 meters	Denver 11.395 meters	Barrow 72.028 meters	Cold Bay 25.826 meters
99% VPL	Oakland 33.847 meters	Chicago 22.198 meters	Barrow 112.731 meters	Cold Bay 36.595 meters

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

The FAA monitors the Wide Area Augmentation System (WAAS) and GPS Standard Positioning Service (SPS) performance to ensure the safe and effective use of the satellite navigation system in the National Airspace System (NAS). The WAAS augments timely integrity monitoring and improves GPS position accuracy and availability within the WAAS coverage area.

The objectives of this report are:

1. To evaluate and monitor the WAAS ability to augment GPS by characterizing important performance parameters.
2. To analyze the effects of GPS satellite operation and maintenance as well as ionospheric activity on WAAS performance.
3. To investigate GPS and WAAS anomalies and determine potential user impact.
4. To archive GPS and WAAS performance for future evaluations.

The evaluation uses the WAAS data transmitted from geostationary satellites (GEOs) pseudo-random noise (PRN) 131 (SM9), 133 (S15), and 135 (G30). SM9, S15 and G30 GEOs provide a precision approach (PA) ranging capability that supports all levels of WAAS service.

In this report, the terms PA and NPA are used in reference of the two modes of user equipment operation. These terms were used in the original WAAS specification, FAA-E-2892. See Table 1-1 for a mapping of PA and NPA to the user service levels.

Table 1-1 WAAS Service Levels

User Service	NPA or PA	WAAS Protection Levels
RNP 556	NPA	HPL <=556 m
RNP 185	NPA	HPL <=185 m
LNAV	NPA	HPL <=556 m
LNAV/VNAV	PA	HPL <=556 m VPL <=50 m
LP	PA	HPL <=40 m
LPV	PA	HPL <=40 m VPL <=50 m
LPV200	PA	HPL <=40 m VPL <=35 m

The receivers in PA mode are required to: (1) use all WAAS corrections, (2) use only corrected satellites, (3) never mix corrections from multiple GEOs, (4) exclusively use the designated Space Based Augmentation System (SBAS) for the published approach procedure, and (5) never use ranging from a GPS or GEO satellite with a User Differential Range Error (UDRE) status of greater than 15 meters. The receivers in NPA mode are allowed to: (1) mix corrected and uncorrected satellites, (2) mix corrections from different GEOs or SBASs, (3) use either the WAAS ionosphere corrections or the GPS Klobuchar model for ionosphere corrections, and (4) use ranging from a GPS or GEO satellite with a UDRE status of greater than 15 meters. The receivers in NPA mode can also operate using Fault Detection/Fault Detection Exclusion (FD/FDE) in the absence of an SBAS. The data presented in this report does not take credit for the additional NPA mode availability and continuity through use of either full or partial FD/FDE, which allowed the mixing of corrected and uncorrected satellites. To remain conservative, the NPA accuracy data presented in this report uses Klobuchar ionosphere corrections.

The results in this report are based on the application of the WAAS corrections to receiver data from the WAAS network and the FAA's National Satellite Test Bed (NSTB) network, and from analyses based on the WAAS-broadcasted correction data. Table 1-2 lists the receivers used in the PA analyses, and Table 1-3 lists the receivers used in the NPA analyses.

Table 1-2 PA Evaluation Sites

Location	Number of Days Evaluated	Number of Samples
NSTB:		
Arcata	58	4986628
Atlantic City	87	7537840
Bangor	61	5289314
Elko	49	4202014
Grand Forks	60	5166117
Oklahoma City	90	7764734
WAAS:		
Albuquerque	90	7774505
Anchorage	90	7772246
Atlanta	90	7775673
Barrow	90	7766724
Bethel	90	7775617
Billings	90	7773985
Boston	90	7775932
Chicago	90	7775608
Cleveland	90	7764506
Cold Bay	90	7769775
Dallas	90	7775073
Denver	90	7771906
Fairbanks	90	7773312
Gander	90	7771647
Goose Bay	90	7773452
Houston	90	7770219
Iqaluit	89	7663605
Jacksonville	90	7775532
Juneau	90	7767602
Kansas City	90	7770603
Kotzebue	90	7769217
Los Angeles	90	7771408
Memphis	90	7774583
Merida	88	7640880
Mexico City	77	6676960
Miami	90	7771330
Minneapolis	90	7775667
New York	90	7775849
Oakland	90	7773716

Location	Number of Days Evaluated	Number of Samples
Puerto Vallarta	87	7541336
Salt Lake City	90	7774244
San Jose Del Cabo	74	6429226
Seattle	90	7769892
Washington, DC	90	7775726
Winnipeg	90	7775586

Table 1-3 NPA Evaluation Site

Location	Number of Days Evaluated	Number of Samples
Albuquerque	90	7775998
Anchorage	90	7771293
Atlanta	90	7775999
Barrow	90	7775443
Bethel	90	7775691
Billings	90	7775373
Boston	90	7775972
Cleveland	90	7775968
Cold Bay	90	7770061
Fairbanks	90	7775657
Gander	90	7775629
Honolulu	90	7775994
Houston	90	7776000
Iqaluit	89	7730911
Juneau	90	7773457
Kansas City	90	7773505
Kotzebue	90	7769585
Los Angeles	90	7775998
Merida	53	4584716
Miami	90	7775997
Minneapolis	90	7775999
Oakland	90	7775998
Salt Lake City	90	7775998
San Jose Del Cabo	78	6704922
San Juan	90	7739761
Seattle	90	7776000
Tapachula	78	6747776
Washington, DC	90	7775999

The report is divided by the performance category:

1. WAAS Position Accuracy
2. WAAS Operational Service Availability
3. WAAS Coverage
4. WAAS Integrity
5. WAAS Range Domain Accuracy
6. WAAS GEO Ranging Performance
7. WAAS Airport Availability
8. WAAS Code Noise and Multipath (CNMP) Analysis
9. WAAS Antenna Survey Validation
10. WAAS Signal Quality Monitor (SQM) Analysis

Table 1-4 lists the evaluated WAAS performance parameters for this report. Note that these are the performance parameters associated with the WAAS system, and that these requirements are extracted from FAA Specification FAA-E-2892.

Table 1-4 WAAS Performance Parameters

Performance Parameter	Expected WAAS Performance
LPV Accuracy Horizontal	≤1.5 m error 95% of the time
LPV Accuracy Vertical	≤2 m error 95% of the time
LNAV Accuracy Horizontal	≤36 m error 95% of the time
Availability LPV CONUS	99% availability of 100% of CONUS
Availability LPV Alaska	95% availability of 75% of Alaska
Availability LNAV CONUS	99.99% availability with HPL <556 m
Availability LNAV Alaska	99.9% availability with HPL <556 m
Availability En Route OCONUS	99.9% availability with HPL <2 nmi
Probability of Hazardous Misleading Information	<10e-7 per approach

1.1 Event Summary

Table 1-5 lists events that affected WAAS performance or the ability to determine the WAAS performance during the reporting period. The events include GPS or WAAS anomalies, relevant receiver malfunctions, receiver maintenance, and ionospheric activity. The reporting of ionospheric activity includes reference to the planetary index (Kp) for the event time period. The Kp index quantifies the disturbance in the Earth's magnetic field and is an indicator of solar storms causing geomagnetic disturbances resulting in an unpredictable ionosphere. The detection of an ionospheric disturbance causes the WAAS to increase Grid Ionospheric Vertical Error (GIVE) values, making PA service unavailable.

Analyses of events that merit more detailed investigations are documented in the Discrepancy Reports (DRs). The DRs are available at http://www.nstb.tc.faa.gov under "WAAS Technical Reports" and are also accessible via hyperlink in Table 1-5. Note that "TOW" is the time of GPS week, which is the cumulative number of seconds beginning 00:00:00 Sunday (GMT without leap seconds).

Table 1-6 lists events related to WAAS upgrades during this reporting period, and

Table 1-7 lists events related to ground uplink station (GUS) switchovers, which are transitions from one GEO uplink site to another GEO uplink site.

Table 1-5 Events

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/1/2025	1/2/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 8) caused by a G4 geomagnetic storm disturbed the ionosphere causing the WAAS Extreme Storm Detector to trip (see DR 171). This resulted in significant degradation of: (1) LPV service coverage in CONUS from 14:00 UTC on 1/1 to 02:40 UTC on 1/2; (2) LPV service coverage in Alaska from 05:00 UTC on 1/1 to 05:35 UTC on 1/1, 09:25 UTC on 1/1 to 10:30 UTC on 1/1, 12:30 UTC on 1/1 to 13:30 UTC on 1/1, 14:30 UTC on 1/1 to 15:30 UTC on 1/1, and from 02:40 UTC on 1/2; (3) LPV service coverage in Canada from 09:40 UTC on 1/1 to 10:15 UTC on 1/1, 12:40 UTC on 1/1 to 13:30 UTC on 1/1, and from 13:35 UTC on 1/1 to 02:40 UTC on 1/2; (4) LPV200 service coverage in CONUS from 13:50 UTC on 1/1 to 02:40 UTC on 1/2; (5) LPV200 service coverage in Alaska from 04:50 UTC on 1/1 to 05:35 UTC on 1/1, 09:05 UTC on 1/1 to 10:40 UTC on 1/1, 12:05 UTC on 1/1 to 13:30 UTC, 13:35 UTC to 14:15 UTC on 1/1, 14:25 UTC on 1/1 to 16:25 UTC on 1/1, 17:15 UTC on 1/1 to 02:40 UTC on 1/2; (6) LPV200 service coverage in Canada from 04:35 UTC to 05:05 UTC on 1/1, 09:35 UTC on 1/1 to 10:20 UTC on 1/1, and from 12:30 UTC on 1/1 to 02:40 UTC on 1/2. Please see plot(s): Cov_vs_Time_Canada_1/1/2025 Cov_vs_Time_CONUS_1/1/2025 Cov_vs_Time_Alaska_1/1/2025 LPV_1/1/2025 LPV200_1/1/2025
1/2/2025	1/2/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4.67) caused by an IGP storm disturbed the ionosphere causing elevated GIVE values (see DR 171). This resulted in significant degradation of (1) LPV service coverage in Canada from 14:25 UTC to 20:30 UTC; (2) LPV200 service coverage in Canada from 10:05 UTC to 10:20 UTC, from 12:20 UTC to 12:55 UTC and from 14:10 UTC to 20:55 UTC. The elevated GIVE values also resulted in moderate degradation of LPV200 service coverage in CONUS (FL) from 09:10 UTC to 09:50 UTC. The elevated GIVE values also resulted in minor degradation of LPV200 service coverage in Alaska from 09:50 UTC to 10:00 UTC and from 10:20 UTC to 10:30 UTC. Please see plot(s): Cov_vs_Time_Canada_1/2/2025 Cov_vs_Time_CONUS_1/2/2025 Cov_vs_Time_Alaska_1/2/2025 LPV_1/2/2025 LPV200_1/2/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/3/2025	1/3/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) significant degradation of the LPV200 service coverage in Canada from about 20:00 UTC to 23:30 UTC on 1/03, and (2) moderate degradation of the LPV service coverage in Canada from about 20:45 UTC to 21:05 UTC on 1/03. Please see plot(s): Cov_vs_Time_Canada_1/3/2025 LPV_1/3/2025 LPV200_1/3/2025
1/4/2025	1/5/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 5) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in CONUS from 18:20 UTC to 23:05 UTC; (2) LPV service coverage in Alaska from 10:45 TUC to 12:00 UTC and from 19:35 UTC on 01/04 to 00:50 UTC on 01/05; (3) LPV service coverage in Canada from 11:10 UTC to 12:00 UTC on 01/04 and 16:40 UTC on 01/04 to 00:50 UTC on 01/05; (4) LPV200 service coverage in CONUS from 18:05 UTC on 01/04 to 23:10 UTC on 01/04; (5) LPV200 service coverage in Alaska from 07:35 UTC to 13:15 UTC on 01/04 and from 18:00 UTC on 01/04 to 01:25 UTC on 01/05; and (6) LPV200 service coverage in Canada from 10:05 UTC to 12:00 UTC on 01/04 and from 16:15 UTC on 01/04 to 01:40 UTC on 01/05. Please see plot(s): Cov_vs_Time_Canada_1/4/2025 Cov_vs_Time_CONUS_1/4/2025 Cov_vs_Time_Alaska_1/4/2025 LPV_1/4/2025 LPV200_1/4/2025
1/5/2025	1/5/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 15:00 UTC to 21:35 UTC and from 21:50 UTC to 22:25 UTC; (3) LPV200 service coverage in Canada from 13:50 UTC to 14:10 UTC and from 14:40 UTC to 23:10 UTC. The elevated GIVE values also caused moderate degradation of: (1) LPV service coverage in CONUS (Maine) from 18:45 UTC to 19:20 UTC; (2) LPV200 service coverage in CONUS (Maine) from 18:15 UTC to 19:20 UTC. Please see plot(s): Cov_vs_Time_Canada_1/5/2025 Cov_vs_Time_CONUS_1/5/2025 Cov_vs_Time_Alaska_1/5/2025 LPV_1/5/2025 LPV200_1/5/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/6/2025	1/6/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 16:30 UTC to 19:00 UTC and from 21:00 UTC to 22:45 UTC. The elevated GIVE values also resulted in moderate degradation of LPV service coverage in Canada from 16:40 UTC to 18:45 UTC. The elevated GIVE values also resulted in minor degradation of LPV200 service coverage in CONUS (FL) from 01:55 UTC to 02:05 UTC and from 17:55 UTC to 18:10 UTC. Please see plot(s): Cov_vs_Time_Canada_1/6/2025 Cov_vs_Time_CONUS_1/6/2025 LPV_1/6/2025 LPV200_1/6/2025
1/7/2025	1/7/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) significant degradation of the LPV service coverage in Canada from about 17:30 UTC to 19:30 UTC on 2025-01-07, and (2) significant degradation of the LPV200 service coverage in Canada from about 16:30 UTC to 21:00 UTC on 2025-01-07. Please see plot(s): Cov_vs_Time_Canada_1/7/2025 LPV_1/7/2025 LPV200_1/7/2025
1/8/2025	1/8/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 17:30 UTC to 18:10 UTC. Please see plot(s): Cov_vs_Time_Canada_1/8/2025 Cov_vs_Time_CONUS_1/8/2025 LPV200_1/8/2025
1/9/2025	1/9/2025	PRN10	LPV200_CONUS, LPV200_Canada	There was a GPS NANU on PRN 10 (see NANU 2025002) which was unusable from 10:04 UTC on 12/23 to 14:12 UTC on 01/09. The NANU along with the elevated GIVE values (see Event 28051) resulted in moderate degradation of: (1) LPV200 service coverage in CONUS from 11:30 UTC to 12:00 UTC; and (2) LPV200 service coverage in Canada from 10:35 UTC to 12:55 UTC. Please see plot(s): Cov_vs_Time_Canada_1/9/2025 Cov_vs_Time_CONUS_1/9/2025 LPV_1/9/2025 LPV200_1/9/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/9/2025	1/9/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 3.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 00:15 UTC to 00:50 UTC, from 10:05 to 11:15 UTC, from 12:15 UTC to 13:05 UTC, from 13:40 UTC to 13:55 UTC, from 14:30 UTC to 15:40 UTC, from 16:05 UTC to 16:55 UTC, from 18:50 UTC to 19:05 UTC, from 19:50 UTC to 21:05 UTC and from 21:25 UTC to 22:30 UTC. The elevated GIVE values along with the NANU event (see Event 27804) also resulted in moderate degradation of (1) LPV service coverage in Canada from 10:15 UTC to 10:50 UTC, from 12:30 UTC to 12:40 UTC, from 16:05 UTC to 17:05 UTC, from 19:55 UTC to 21:00 UTC and from 22:10 UTC to 22:17 UTC; (2) LPV200 service coverage in CONUS from 09:05 UTC to 09:15 UTC and from 11:35 UTC to 11:55 UTC. Please see plot(s): Cov_vs_Time_Canada_1/9/2025 Cov_vs_Time_CONUS_1/9/2025 LPV_1/9/2025 LPV200_1/9/2025
1/10/2025	1/10/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_All	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) moderate degradation of the LPV service coverage in Canada from about 21:15 UTC to 22:00 UTC on 01/10, (2) moderate degradation of the LPV200 service coverage in Canada from about 19:30 UTC on 1/10 to 00:30 UTC on 01/11, (3) minor degradation of the LPV200 service coverage in CONUS from about 08:45 UTC to 09:10 UTC on 01/10, and (4) minor degradation of the LPV200 service coverage in Alaska from about 00:00 UTC to 03:00 UTC on 01/10. Please see plot(s): Cov_vs_Time_Canada_1/10/2025 Cov_vs_Time_CONUS_1/10/2025 Cov_vs_Time_Alaska_1/10/2025 LPV_1/10/2025 LPV200_1/10/2025
1/11/2025	1/11/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 2.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 00:00 UTC on 11/01 to 00:05 UTC on 11/01, 16:50 UTC on 11/01 to 17:40 UTC on 11/01, 21:35 UTC on 11/01 to 21:45 UTC on 11/01, and from 23:55 UTC on 11/01 to 00:00 UTC on 12/01; and (2) LPV200 service coverage in Canada from 00:00 UTC on 11/01 to 01:05 UTC on 11/01, 02:40 UTC on 11/01 to 02:45 UTC on 11/01, 04:25 UTC on 11/01 to 04:35 UTC on 11/01, 06:15 UTC on 11/01 to 06:20 UTC on 11/01, and from 16:50 UTC on 11/01 to 18:00 UTC on 11/01. Please see plot(s): Cov_vs_Time_Canada_1/11/2025 LPV_1/11/2025 LPV200_1/11/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/13/2025	1/13/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 17:05 UTC to 22:25 UTC. The elevated GIVE values also resulted in moderate degradation of LPV service coverage in Canada from 17:00 UTC to 18:00 UTC, from 18:30 UTC to 20:45 UTC and from 21:40 UTC to 22:10 UTC. The elevated GIVE values also resulted in minor degradation of LPV200 service coverage in CONUS (CA, TX) from 08:30 UTC to 09:00 UTC. Please see plot(s): Cov_vs_Time_Canada_1/13/2025 Cov_vs_Time_CONUS_1/13/2025 LPV_1/13/2025 LPV200_1/13/2025
1/14/2025	1/14/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) significant degradation of the LPV200 service coverage in Canada from about 20:00 UTC to 20:50 UTC on 01/14, and (2) moderate degradation of the LPV service coverage in Canada from about 19:30 UTC to 21:20 UTC on 01/14. Please see plot(s): Cov_vs_Time_Canada_1/14/2025 LPV_1/14/2025 LPV200_1/14/2025
1/15/2025	1/15/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 3.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 17:05 UTC to 17:35 UTC; (2) LPV200 service coverage in Canada from 16:45 UTC to 18:10 UTC, 18:30 UTC to 20:15 UTC, and from 23:30 UTC to 23:40 UTC. Please see plot(s): Cov_vs_Time_Canada_1/15/2025 LPV_1/15/2025 LPV200_1/15/2025
1/16/2025	1/16/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 14:25 UTC to 14:35 UTC, from 18:00 UTC to 22:00 UTC and from 22:40 UTC to 22:52 UTC. The elevated GIVE values also resulted in moderate degradation of LPV service coverage in Canada from 18:00 UTC to 19:35 UTC, from 20:10 UTC to 21:50 UTC and from 22:45 UTC to 22:55 UTC. The elevated GIVE values also resulted in minor degradation of LPV200 service coverage in CONUS (CA, TX) from 08:20 UTC to 08:45 UTC. Please see plot(s): Cov_vs_Time_Canada_1/16/2025 Cov_vs_Time_CONUS_1/16/2025 LPV_1/16/2025 LPV200_1/16/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/17/2025	1/17/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) significant degradation of the LPV200 service coverage in Canada from about 09:00 UTC on 1/17 to 00:40 UTC on 01/18, (2) moderate degradation of the LPV service coverage in Canada from about 17:30 UTC on 1/17 to 00:05 UTC on 01/18, and (3) moderate degradation of the LPV200 service coverage in Alaska from about 23:10 UTC 1/17 to 00:15 UTC on 1/18. Please see plot(s): Cov_vs_Time_Canada_1/17/2025 Cov_vs_Time_Alaska_1/17/2025 LPV_1/17/2025 LPV200_1/17/2025
1/18/2025	1/18/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 2.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 00:00 UTC on 01/18 to 00:25 UTC on 01/18, 03:15 UTC on 01/18 to 03:20 UTC on 01/18, 16:10 UTC on 01/18 to 16:15 UTC on 01/18, and from 21:30 UTC on 01/18 to 23:55 UTC on 01/18; and (2) LPV200 service coverage in Canada from 00:00 UTC on 01/18 to 02:05 UTC on 01/18, 16:00 UTC on 01/18 to 16:15 UTC on 01/18, 19:35 UTC on 01/18 to 19:55 UTC on 01/18, and from 21:30 UTC on 01/18 to 23:50 UTC on 01/18.minor degradation of LPV200 service coverage in Alaska from 00:00 UTC on 01/18 to 00:05 UTC on 01/18, and from 01:50 UTC on 01/18 to 02:05 UTC on 01/18. Please see plot(s): Cov_vs_Time_Canada_1/18/2025 Cov_vs_Time_Alaska_1/18/2025 LPV_1/18/2025 LPV200_1/18/2025
1/19/2025	1/19/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 18:25 UTC on 1/19 to 00:45 UTC on 1/20; (2) LPV200 service coverage in Canada from 11:20 UTC on 1/19 to 11:30 UTC, 15:50 UTC on 1/19 to 16:15 UTC on 1/19, and from 17:50 UTC to 02:15 UTC on 1/20. The elevated GIVE values also caused moderate degradation of LPV200 service coverage in Alaska from 10:55 UTC on 1/19 to 12:15 UTC on 1/19 and from 23:00 UTC on 1/19 to 01:20 UTC on 1/20. The elevated GIVE values also caused minor degradation of LPV service coverage in Alaska from 23:45 UTC on 1/19 to 00:45 UTC on 1/20. Please see plot(s): Cov_vs_Time_Canada_1/19/2025 Cov_vs_Time_Alaska_1/19/2025 LPV_1/19/2025 LPV200_1/19/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/20/2025	1/20/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 00:00 UTC on 01/20 to 03:05 UTC on 01/20, 12:55 UTC on 01/20 to 13:55 UTC on 01/20, 15:30 UTC on 01/20 to 17:20 UTC on 01/20, 19:15 UTC on 01/20 to 21:45 UTC on 01/20, and from 22:55 UTC on 01/20 to 23:55 UTC on 01/20; and (2) LPV200 service coverage in Canada from 00:00 UTC on 01/20 to 03:00 UTC on 01/20, 05:00 UTC on 01/20 to 05:05 UTC on 01/20, 11:15 UTC on 01/20 to 11:25 UTC on 01/20, 12:55 UTC on 01/20 to 13:50 UTC on 01/20, 15:50 UTC on 01/20 to 17:15 UTC on 01/20, and from 19:15 UTC on 01/20 to 00:00 UTC on 01/21.The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Alaska from 00:00 UTC on 01/20 to 00:30 UTC on 01/20, and from 01:50 UTC on 01/20 to 02:05 UTC on 01/20; and (2) LPV200 service coverage in Alaska from 00:00 UTC on 01/20 to 02:10 UTC on 01/20 and from 00:00 UTC on 01/20 to 02:10 UTC on 01/20. Please see plot(s): Cov_vs_Time_Canada_1/20/2025 Cov_vs_Time_Alaska_1/20/2025 LPV_1/20/2025 LPV200_1/20/2025
1/21/2025	1/21/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) significant degradation of the LPV service coverage in Canada from about 00:30 UTC to 01:30 UTC on 1/21 and at around 23:15 UTC on 1/21 to 00:05 UTC on 1/22, (2) significant degradation of the LPV200 service coverage in Canada from about 21:50 UTC to 01:00 UTC on 01/22, and (3) minor degradation of the LPV200 service coverage in Alaska from about 23:10 UTC to 23:50 UTC on 01/21. Please see plot(s): Cov_vs_Time_Canada_1/21/2025 Cov_vs_Time_Alaska_1/21/2025 LPV_1/21/2025 LPV200_1/21/2025
1/22/2025	1/22/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 02:25 UTC on 01/22 to 03:10 UTC on 1/22, 04:00 UTC on 1/22 to 04:20 UTC on 1/22, and from 20:45 UTC on 1/22 to 00:45 UTC on 1/23. The elevated GIVE values also caused moderate degradation of: (1) LPV service coverage in Alaska from 00:45 UTC on 1/22 to 01:30 UTC on 1/22; (2) LPV service coverage in Canada from 00:40 UTC on 1/22 to 01:40 UTC on 1/22, 20:45 UTC on 1/22 to 21:20 UTC on 1/22, and from 23:10 UTC on 1/22 to 00:20 UTC on 1/23; (3) LPV200 service coverage in Alaska from 00:30 UTC on 1/22 to 02:15 UTC on 1/22, and from 22:55 UTC on 1/22 to 00:10 UTC on 1/23. Please see plot(s): Cov_vs_Time_Canada_1/22/2025 Cov_vs_Time_Alaska_1/22/2025 LPV_1/22/2025 LPV200_1/22/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/22/2025	1/22/2025	PRN1	None	GPS NANU 2025005 announced SVN-80 to begin broadcasting as PRN-1 starting January 22nd, 2025 at 17:31 UTC. Please see plot(s): Cov_vs_Time_Canada_1/22/2025 Cov_vs_Time_Alaska_1/22/2025 LPV_1/22/2025 LPV200_1/22/2025
1/22/2025	1/22/2025	PRN22	None	A GPS NANU 2025046 announced SVN44 to begin broadcasting as PRN-22 starting January 22nd, 2025 at 23:02 UTC. Please see plot(s): Cov_vs_Time_Canada_1/22/2025 Cov_vs_Time_Alaska_1/22/2025 LPV_1/22/2025 LPV200_1/22/2025
1/23/2025	1/23/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 01:50 UTC on 01/23 to 03:00 UTC on 01/23, 15:50 UTC on 01/23 to 16:55 UTC on 01/23, and from 18:10 UTC on 01/23 to 23:45 UTC on 01/23; and (2) LPV200 service coverage in Canada from 02:45 UTC on 01/23 to 04:15 UTC on 01/23, and from 15:45 UTC on 01/23 to 23:45 UTC on 01/23. Please see plot(s): Cov_vs_Time_Canada_1/23/2025 LPV_1/23/2025 LPV200_1/23/2025
1/24/2025	1/24/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 2.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of the LPV200 service coverage in Canada from about 22:20 UTC to 23:55 UTC on 1/24. The elevated GIVE values also resulted in minor degradation of the LPV200 service coverage in Alaska from about 23:00 UTC to 23:45 UTC on 1/24. Please see plot(s): Cov_vs_Time_Canada_1/24/2025 Cov_vs_Time_Alaska_1/24/2025 LPV200_1/24/2025
1/25/2025	1/25/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 0.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 00:00 UTC on 01/25 to 01:45 UTC on 01/25, 17:30 UTC on 01/25 to 17:50 UTC on 01/25, 20:10 UTC on 01/25 to 20:15 UTC on 01/25, and from 22:20 UTC on 01/25 to 22:25 UTC on 01/25. Please see plot(s): Cov_vs_Time_Canada_1/25/2025 LPV200_1/25/2025
1/27/2025	1/27/2025	PRN21	LPV200_CONUS	There was a GPS NANU on PRN 21 (see NANU 2025008) broadcasting that the SV would be unusable until further notice. SV45 (PRN 21) was decommissioned on 01/27/2025 (see NANU 2025010). The NANU resulted in moderate degradation of LPV200 service coverage in CONUS (California) from 19:20 UTC on 01/27 to 22:30 UTC on 01/27. Similar degradation due to this NANU can be seen from 01/27 to 02/21. Please see plot(s): Cov_vs_Time_Canada_1/28/2025 LPV200_1/28/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/27/2025	1/27/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 09:20 UTC on 01/27 to 09:30 UTC on 01/27, and from 14:50 UTC on 01/27 to 22:30 UTC on 01/27; and (2) LPV200 service coverage in Canada from 03:25 UTC on 01/27 to 03:30 UTC on 01/27, 05:10 UTC on 01/27 to 05:15 UTC on 01/27, 09:10 UTC on 01/27 to 09:30 UTC on 01/27, 12:15 UTC on 01/27 to 13:25 UTC on 01/27, 14:30 UTC on 01/27 to 15:05 UTC on 01/27, and from 16:10 UTC on 01/27 to 23:40 UTC on 01/27. The elevated GIVE values also resulted in minor degradation of LPV200 service coverage in Alaska from 14:55 UTC on 01/27 to 15:05 UTC on 01/27, and from 23:30 UTC on 01/27 to 23:40 UTC on 01/27. Please see plot(s): Cov_vs_Time_Canada_1/27/2025 Cov_vs_Time_Alaska_1/27/2025 LPV_1/27/2025 LPV200_1/27/2025
1/28/2025	1/28/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_All	Geomagnetic activity (KP = 3.67) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) significant degradation of the LPV service coverage in Canada from about 16:30 UTC to 23:50 UTC on 1/28, (2) significant degradation of the LPV200 service coverage in Canada from about 16:20 UTC on 1/28 to 01:15 UTC on 1/29, (3) moderate degradation of the LPV service coverage in Alaska from about 22:00 UTC to 23:55 UTC on 1/28, (4) moderate degradation of the LPV200 service coverage in CONUS from about 10:00 UTC to 10:30 UTC on 01/28, and (5) moderate degradation of the LPV200 service coverage in Alaska from about 21:05 UTC on 1/28 to 02:05 UTC on 01/29. Please see plot(s): Cov_vs_Time_Canada_1/28/2025 Cov_vs_Time_CONUS_1/28/2025 Cov_vs_Time_Alaska_1/28/2025 LPV_1/28/2025 LPV200_1/28/2025
1/29/2025	1/29/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 2.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 16:25 UTC to 16:40 UTC, 17:40 UTC to 17:45 UTC, 18:55 UTC to 19:40 UTC, and from 20:10 UTC to 20:40 UTC; (2) LPV200 service coverage in CONUS (CA, AZ, TX, FL) from 00:05 UTC to 00:35 UTC, 01:45 UTC to 02:15 UTC, 03:00 UTC to 03:30 UTC, 07:25 UTC to 08:00 UTC, and from 09:45 UTC to 10:30 UTC; (3) LPV200 service coverage in Alaska from the start of the day until 02:15 UTC; (4) LPV200 service coverage in Canada from 03:30 UTC to 03:55 UTC, 15:10 UTC to 21:20 UTC, and from 22:00 UTC to 22:20 UTC. Please see plot(s): Cov_vs_Time_Canada_1/29/2025 Cov_vs_Time_CONUS_1/29/2025 Cov_vs_Time_Alaska_1/29/2025 LPV_1/29/2025 LPV200_1/29/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
1/30/2025	1/30/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 2.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV200 service coverage in CONUS from 00:00 UTC on 01/30 to 03:05 UTC on 01/30, 04:45 UTC on 01/30 to 04:55 UTC on 01/30, 07:30 UTC on 01/30 to 07:55 UTC on 01/30, and from 09:40 UTC on 01/30 to 10:15 UTC on 01/30; (2) LPV200 service coverage in Alaska from 00:15 UTC on 01/30 to 01:15 UTC on 01/30, and from 22:35 UTC on 01/30 to 23:05 UTC on 01/30; and (3) LPV200 service coverage in Canada from 00:00 UTC on 01/30 to 01:15 UTC on 01/30, 03:35 UTC on 01/30 to 03:55 UTC on 01/30, 05:45 UTC on 01/30 to 09:15 UTC on 01/30, 11:35 UTC on 01/30 to 11:40 UTC on 01/30, 13:30 UTC on 01/30 to 13:35 UTC on 01/30, 18:10 UTC on 01/30 to 18:15 UTC on 01/30, and from 22:10 UTC on 01/30 to 00:00 UTC on 01/31. Please see plot(s): Cov_vs_Time_Canada_1/30/2025 Cov_vs_Time_CONUS_1/30/2025 Cov_vs_Time_Alaska_1/30/2025 LPV200_1/30/2025
1/31/2025	1/31/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 3) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) moderate degradation of the LPV200 service coverage in CONUS from about 09:30 UTC to 10:30 UTC on 1/31, and (2) moderate degradation of the LPV200 service coverage in Canada from about 21:00 UTC to 22:00 UTC on 1/31. Please see plot(s): Cov_vs_Time_Canada_1/31/2025 Cov_vs_Time_CONUS_1/31/2025 LPV200_1/31/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/1/2025	2/1/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 00:00 UTC on 02/01 to 00:05 UTC on 02/01, 01:50 UTC on 02/01 to 03:50 UTC on 02/01, 06:30 UTC on 02/01 to 07:00 UTC on 02/01, 08:55 UTC on 02/01 to 09:10 UTC on 02/01, 10:45 UTC on 02/01 to 11:10 UTC on 02/01, 13:25 UTC on 02/01 to 13:30 UTC on 02/01, 17:00 UTC on 02/01 to 18:00 UTC on 02/01, 19:15 UTC on 02/01 to 19:20 UTC on 02/01, and from 20:45 UTC on 02/01 to 23:40 UTC on 02/01.The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Canada from 00:00 UTC on 02/01 to 03:20 UTC on 02/01, 08:05 UTC on 02/01 to 09:00 UTC on 02/01, and from 16:00 UTC on 02/01 to 18:15 UTC on 02/01; (2) LPV200 service coverage in CONUS from 00:00 UTC on 02/01 to 00:20 UTC on 02/01, 07:15 UTC on 02/01 to 07:20 UTC on 02/01, and from 09:30 UTC on 02/01 to 10:10 UTC on 02/01; and (3) LPV200 service coverage in Alaska from 02:10 UTC on 02/01 to 03:30 UTC on 02/01 and from 02:10 UTC on 02/01 to 03:30 UTC on 02/01. Please see plot(s): Cov_vs_Time_Canada_2/1/2025 Cov_vs_Time_CONUS_2/1/2025 Cov_vs_Time_Alaska_2/1/2025 LPV_2/1/2025 LPV200_2/1/2025
2/2/2025	2/2/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 4.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 14:55 UTC to 17:40 UTC and from 18:00 UTC to 21:15 UTC; (2) LPV200 service coverage in Canada from 14:40 UTC to 22:35 UTC. The elevated GIVE values also caused minor degradation of LPV200 service coverage in CONUS (CA) from 07:05 UTC to 07:40 UTC and from 09:30 UTC to 10:10 UTC. Please see plot(s): Cov_vs_Time_Canada_2/2/2025 Cov_vs_Time_CONUS_2/2/2025 LPV_2/2/2025 LPV200_2/2/2025
2/3/2025	2/3/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 1.67) disturbed the ionosphere causing elevated GIVE values. This resulted in minor degradation of LPV200 service coverage in Canada from 00:00 UTC on 02/03 to 01:00 UTC on 02/03, and from 03:15 UTC on 02/03 to 03:30 UTC on 02/03. Please see plot(s): Cov_vs_Time_Canada_2/3/2025 LPV200_2/3/2025
2/3/2025	2/3/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 1.67) disturbed the ionosphere causing elevated GIVE values. This resulted in minor degradation of LPV200 service coverage in Canada from 00:00 UTC on 02/03 to 01:00 UTC on 02/03, and from 03:15 UTC on 02/03 to 03:30 UTC on 02/03. Please see plot(s): Cov_vs_Time_Canada_2/3/2025 LPV200_2/3/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/4/2025	2/4/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 1.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of the LPV200 service coverage in Canada from about 20:30 UTC to 20:50 UTC on 2/04. The elevated GIVE values also resulted in minor degradation of the LPV200 service coverage in CONUS from about 09:30 UTC to 10:00 UTC on 2/04. Please see plot(s): Cov_vs_Time_Canada_2/4/2025 Cov_vs_Time_CONUS_2/4/2025 LPV200_2/4/2025
2/5/2025	2/5/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 2.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 17:10 UTC to 17:25 UTC and from 18:20 UTC to 20:20 UTC; (2) LPV200 service coverage in Canada from 16:30 UTC to 21:00 UTC. The elevated GIVE values along with NANU (see Event 27850) also resulted in moderate degradation of CONUS (CA, TX, FL) from 01:20 UTC to 01:45 UTC, 06:55 UTC to 07:40 UTC, 09:15 UTC to 10:00 UTC, and from 23:30 UTC to the end of the day. Please see plot(s): Cov_vs_Time_Canada_2/5/2025 Cov_vs_Time_CONUS_2/5/2025 LPV_2/5/2025 LPV200_2/5/2025
2/5/2025	2/5/2025	PRN28	LPV200_CONUS	There was a GPS NANU on PRN 28 (see NANU 2025013) which was unusable from 00:54 UTC to 08:31 UTC. The NANU along with the elevated GIVE values (see Event 27859) resulted in moderate degradation of LPV200 service coverage in CONUS (CA, TX, FL) from 01:20 UTC to 01:45 UTC. Please see plot(s): Cov_vs_Time_Canada_2/5/2025 Cov_vs_Time_CONUS_2/5/2025 LPV_2/5/2025 LPV200_2/5/2025
2/6/2025	2/6/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 3) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 00:00 UTC on 02/06 to 00:30 UTC on 02/06, 02:45 UTC on 02/06 to 03:20 UTC on 02/06, 04:30 UTC on 02/06 to 04:35 UTC on 02/06, 07:55 UTC on 02/06 to 08:40 UTC on 02/06, 10:45 UTC on 02/06 to 10:50 UTC on 02/06, and from 13:20 UTC on 02/06 to 23:25 UTC on 02/06.The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Canada from 00:00 UTC on 02/06 to 02:50 UTC on 02/06, 07:55 UTC on 02/06 to 08:55 UTC on 02/06, 14:20 UTC on 02/06 to 14:30 UTC on 02/06, 16:40 UTC on 02/06 to 17:20 UTC on 02/06, and from 19:35 UTC on 02/06 to 23:20 UTC on 02/06; and (2) LPV200 service coverage in CONUS from 00:00 UTC on 02/06 to 00:05 UTC on 02/06, 01:35 UTC on 02/06 to 01:40 UTC on 02/06, and from 09:10 UTC on 02/06 to 09:50 UTC on 02/06. Please see plot(s): Cov_vs_Time_Canada_2/6/2025 Cov_vs_Time_CONUS_2/6/2025 LPV_2/6/2025 LPV200_2/6/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/7/2025	2/7/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 1.33) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of the LPV200 service coverage in CONUS from about 09:00 UTC to 10:00 UTC on 2/07. The elevated GIVE values also resulted in minor degradation of the LPV200 service coverage in Canada from about 08:50 UTC to 09:10 UTC on 2/07. Please see plot(s): Cov_vs_Time_Canada_2/7/2025 Cov_vs_Time_CONUS_2/7/2025 LPV200_2/7/2025
2/7/2025	2/7/2025	PRN2	LPV200_CONUS	There was a GPS NANU on PRN 2 (see NANU 2025014) which was unusable from 02:52 UTC to 09:58 UTC on 02/07. The NANU along with the elevated GIVE values (see Event 27995) resulted in moderate degradation of LPV200 service coverage in CONUS (CA, NV) from 09:00 UTC to 10:00 UTC. Please see plot(s): Cov_vs_Time_Canada_2/7/2025 Cov_vs_Time_CONUS_2/7/2025 LPV200_2/7/2025
2/8/2025	2/8/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 1) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 00:00 UTC on 02/08 to 00:05 UTC on 02/08, 14:05 UTC on 02/08 to 15:35 UTC on 02/08, and from 17:00 UTC on 02/08 to 17:15 UTC on 02/08; and (2) LPV200 service coverage in Canada from 00:00 UTC on 02/08 to 00:05 UTC on 02/08, 02:55 UTC on 02/08 to 03:05 UTC on 02/08, 05:20 UTC on 02/08 to 06:10 UTC on 02/08, 07:25 UTC on 02/08 to 09:40 UTC on 02/08, 12:35 UTC on 02/08 to 16:45 UTC on 02/08, and from 20:20 UTC on 02/08 to 20:25 UTC on 02/08. Please see plot(s): Cov_vs_Time_Canada_2/8/2025 LPV_2/8/2025 LPV200_2/8/2025
2/9/2025	2/9/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4.33) caused by a G1 geomagnetic storm disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 16:10 UTC on 2/9 to 01:15 UTC on 2/10; (2) LPV200 service coverage in Canada from 15:10 on 2/9 to 03:15 UTC on 2/10. The elevated GIVE values also caused moderate degradation of: (1) LPV200 service coverage in CONUS from 06:40 UTC on 2/9 to 07:15 UTC on 2/9 and from 08:55 UTC on 2/9 to 09:45 UTC on 2/9, and from 22:50 UTC on 2/9 to 23:10 UTC on 2/9; (2) LPV200 service coverage in Alaska from 15:25 UTC on 2/9 to 16:30 UTC on 2/9 and from 20:55 UTC on 2/9 to 01:05 UTC on 2/10. Please see plot(s): Cov_vs_Time_Canada_2/9/2025 Cov_vs_Time_CONUS_2/9/2025 Cov_vs_Time_Alaska_2/9/2025 LPV_2/9/2025 LPV200_2/9/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/10/2025	2/10/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 10:15 UTC on 02/10 to 10:30 UTC on 02/10, and from 17:55 UTC on 02/10 to 23:50 UTC on 02/10; and (2) LPV200 service coverage in Canada from 04:50 UTC on 02/10 to 05:00 UTC on 02/10, 10:25 UTC on 02/10 to 10:35 UTC on 02/10, and from 17:40 UTC on 02/10 to 23:50 UTC on 02/10.The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Alaska from 02:25 UTC on 02/10 to 02:40 UTC on 02/10, and from 21:45 UTC on 02/10 to 23:20 UTC on 02/10; (2) LPV200 service coverage in CONUS from 06:40 UTC on 02/10 to 07:10 UTC on 02/10, and from 08:50 UTC on 02/10 to 09:30 UTC on 02/10; and (3) LPV200 service coverage in Alaska from 02:05 UTC on 02/10 to 02:45 UTC on 02/10, and from 21:25 UTC on 02/10 to 23:00 UTC on 02/10. Please see plot(s): Cov_vs_Time_Canada_2/10/2025 Cov_vs_Time_CONUS_2/10/2025 Cov_vs_Time_Alaska_2/10/2025 LPV_2/10/2025 LPV200_2/10/2025
2/11/2025	2/11/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) moderate degradation of the LPV200 service coverage in Canada from about 00:30 UTC to 02:50 UTC on 2/11, and (2) minor degradation of the LPV200 service coverage in CONUS from about 06:30 UTC to 09:15 UTC on 2/11. Please see plot(s): Cov_vs_Time_Canada_2/11/2025 Cov_vs_Time_CONUS_2/11/2025 LPV200_2/11/2025
2/12/2025	2/12/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 19:55 UTC to 20:00 UTC; (2) LPV200 service coverage in Canada from 00:30 UTC to 03:05 UTC. The elevated GIVE values also caused minor degradation of LPV200 service coverage in CONUS (CA, TX, FL) from 00:55 UTC to 01:20 UTC, 20:05 UTC to 02:20 UTC, 06:30 UTC to 07:00 UTC, and from 08:50 UTC to 09:30 UTC. Please see plot(s): Cov_vs_Time_Canada_2/12/2025 Cov_vs_Time_CONUS_2/12/2025 LPV_2/12/2025 LPV200_2/12/2025
2/12/2025	2/12/2025	PRN32	None	There was a GPS NANU on PRN 32 (see NANU 2025016) which was unusable from 14:38 UTC to 20:57 UTC. There was no impact on coverage. Please see plot(s): Cov_vs_Time_Canada_2/12/2025 Cov_vs_Time_CONUS_2/12/2025 LPV_2/12/2025 LPV200_2/12/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/13/2025	2/13/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 4.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 02:15 UTC on 02/13 to 08:10 UTC on 02/13, 10:15 UTC on 02/13 to 10:40 UTC on 02/13, 12:05 UTC on 02/13 to 18:30 UTC on 02/13, and from 19:45 UTC on 02/13 to 00:00 UTC on 02/14.The elevated GIVE values also resulted in moderate degradation of LPV service coverage in Canada from 01:55 UTC on 02/13 to 02:25 UTC on 02/13, 05:00 UTC on 02/13 to 05:15 UTC on 02/13, 07:05 UTC on 02/13 to 08:35 UTC on 02/13, 13:50 UTC on 02/13 to 14:05 UTC on 02/13, 16:20 UTC on 02/13 to 18:05 UTC on 02/13, 19:45 UTC on 02/13 to 20:00 UTC on 02/13, 21:30 UTC on 02/13 to 22:45 UTC on 02/13, and from 23:50 UTC on 02/13 to 23:55 UTC on 02/13. Please see plot(s): Cov_vs_Time_Canada_2/13/2025 LPV_2/13/2025 LPV200_2/13/2025
2/14/2025	2/14/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_All	Geomagnetic activity (KP = 4.67) disturbed the ionosphere causing elevated GIVE values. This resulted in (1) significant degradation of the LPV200 service coverage in Canada from about 23:30 UTC on 2/13 to 03:00 UTC on 2/14, and about 20:55 UTC to 23:00 UTC on 2/14, (2) moderate degradation of the LPV service coverage in Canada from about 21:30 UTC to 22:30 UTC on 2/14. The elevated GIVEs also caused minor degradation of: (1) LPV200 service coverage in CONUS from about 09:05 UTC to 09:20 UTC on 2/14, and (2) LPV200 service coverage in Alaska from about 03:00 UTC to 03:45 UTC on 2/14. Please see plot(s): Cov_vs_Time_Canada_2/14/2025 Cov_vs_Time_CONUS_2/14/2025 Cov_vs_Time_Alaska_2/14/2025 LPV_2/14/2025 LPV200_2/14/2025
2/15/2025	2/15/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 00:00 UTC on 02/15 to 01:55 UTC on 02/15, 08:05 UTC on 02/15 to 08:15 UTC on 02/15, and from 18:45 UTC on 02/15 to 00:00 UTC on 02/16; (2) LPV200 service coverage in Alaska from 00:00 UTC on 02/15 to 03:35 UTC on 02/15, and from 23:05 UTC on 02/15 to 23:50 UTC on 02/15; and (3) LPV200 service coverage in Canada from 00:00 UTC on 02/15 to 03:25 UTC on 02/15, 08:05 UTC on 02/15 to 08:15 UTC on 02/15, 15:15 UTC on 02/15 to 16:20 UTC on 02/15, and from 17:25 UTC on 02/15 to 23:50 UTC on 02/15.The elevated GIVE values also resulted in moderate degradation of LPV service coverage in Alaska from 00:10 UTC on 02/15 to 02:20 UTC on 02/15, and from 23:30 UTC on 02/15 to 23:50 UTC on 02/15. Please see plot(s): Cov_vs_Time_Canada_2/15/2025 Cov_vs_Time_Alaska_2/15/2025 LPV_2/15/2025 LPV200_2/15/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/16/2025	2/16/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 18:20 UTC on 2/16 to 20:05 UTC on 2/16, 20:50 UTC on 2/16 to 21:20 UTC, and from 21:50 UTC on 2/16 to 00:10 on 2/17; (2) LPV200 service coverage in Canada from 02:20 UTC on 2/16 to 03:00 UTC on 2/16, and from 17:35 UTC on 2/16 to 02:50 on 2/17. The elevated GIVE values also caused moderate degradation of: (1) LPV service coverage in CONUS (CA, TX, FL) from 00:20 UTC on 2/16 to 01:00 UTC on 2/16; (2) LPV service coverage in Alaska from 22:50 UTC on 2/16 to the end of the day; (3) LPV200 service coverage in Alaska from 21:15 UTC on 2/16 to 22:35 UTC on 2/16 and from 22:45 UTC to 02:45 UTC on 2/17; The elevated GIVE values also caused minor degradation of LPV service in CONUS (CA, TX, FL) from 00:35 UTC on 2/16 to 01:00 UTC on 2/16. Please see plot(s): Cov_vs_Time_Canada_2/16/2025 Cov_vs_Time_CONUS_2/16/2025 Cov_vs_Time_Alaska_2/16/2025 LPV_2/16/2025 LPV200_2/16/2025
2/17/2025	2/17/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4) caused by an IGP storm disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 14:30 UTC on 02/17 to 19:15 UTC on 02/17, and from 21:10 UTC on 02/17 to 00:00 UTC on 02/18; and (2) LPV200 service coverage in Canada from 14:30 UTC on 02/17 to 19:20 UTC on 02/17, and from 20:55 UTC on 02/17 to 23:55 UTC on 02/17.The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Alaska from 00:05 UTC on 02/17 to 01:35 UTC on 02/17 and from 00:05 UTC on 02/17 to 01:35 UTC on 02/17; and (2) LPV200 service coverage in Alaska from 23:40 UTC on 02/17 to 00:00 UTC on 02/18. Please see plot(s): Cov_vs_Time_Canada_2/17/2025 Cov_vs_Time_Alaska_2/17/2025 LPV_2/17/2025 LPV200_2/17/2025
2/18/2025	2/18/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from about 00:15 UTC to 01:00 UTC on 2/18 and from about 23:00 UTC on 2/18 to 03:30 UTC on 2/19, (2) LPV200 service coverage in Alaska from about 02:50 UTC to 03:15 UTC on 2/18, (3) LPV200 service coverage in Canada from about 02:00 UTC to 03:30 UTC on 2/18 and from about 21:45 UTC to 04:00 UTC on 2/19. The elevated GIVE values also resulted in moderate degradation of the LPV service coverage in Alaska from about 23:00 UTC on 2/18 to 03:30 UTC on 2/18. Please see plot(s): Cov_vs_Time_Canada_2/18/2025 Cov_vs_Time_Alaska_2/18/2025 LPV_2/18/2025 LPV200_2/18/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/19/2025	2/20/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 5) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Alaska from 22:10 UTC on 2/19 to 03:40 UTC on 2/20; (2) LPV service coverage in Canada from 21:25 UTC to 03:45 UTC on 2/20; (3) LPV200 service coverage in CONUS from the start of the day to 03:25 UTC on 2/19; (4) LPV200 service coverage in Alaska from 21:00 UTC to 03:40 UTC on 2/20; (5) LPV200 service coverage in Canada from 20:25 UTC on 2/19 to 03:45 UTC on 2/20. The elevated GIVE values also caused moderate degradation of LPV service coverage in CONUS from 00:15 UTC on 2/19 to 01:50 UTC on 2/20. Please see plot(s): Cov_vs_Time_Canada_2/19/2025 Cov_vs_Time_CONUS_2/19/2025 Cov_vs_Time_Alaska_2/19/2025 LPV_2/19/2025 LPV200_2/19/2025
2/20/2025	2/20/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3.67) caused by an IGP storm disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of (1) LPV service coverage in Canada from 15:55 UTC on 02/20 to 16:00 UTC on 02/20, and from 23:10 UTC on 02/20 to 23:45 UTC on 02/20; and (2) LPV200 service coverage in Canada from 23:10 UTC on 02/20 to 23:30 UTC on 02/20. Please see plot(s): Cov_vs_Time_Canada_2/20/2025 Cov_vs_Time_Alaska_2/20/2025 LPV_2/20/2025 LPV200_2/20/2025
2/21/2025	2/21/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from about 00:15 UTC to 03:30 UTC on 2/21. The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Canada from about 02:30 UTC to 02:50 UTC on 2/21, and (2) LPV200 service coverage in Alaska from about 01:00 UTC to 03:10 UTC on 2/21. Please see plot(s): Cov_vs_Time_Canada_2/21/2025 Cov_vs_Time_Alaska_2/21/2025 LPV_2/21/2025 LPV200_2/21/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/22/2025	2/22/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in CONUS from 00:00 UTC on 02/22 to 01:45 UTC on 02/22, 03:00 UTC on 02/22 to 03:15 UTC on 02/22, and from 14:10 UTC on 02/22 to 22:05 UTC on 02/22; (2) LPV service coverage in Alaska from 02:10 UTC on 02/22 to 02:50 UTC on 02/22, and from 13:00 UTC on 02/22 to 22:05 UTC on 02/22; (3) LPV service coverage in Canada from 00:00 UTC on 02/22 to 03:25 UTC on 02/22, 09:30 UTC on 02/22 to 09:35 UTC on 02/22, 13:15 UTC on 02/22 to 22:05 UTC on 02/22, and from 23:45 UTC on 02/22 to 23:50 UTC on 02/22; (4) LPV200 service coverage in CONUS from 00:00 UTC on 02/22 to 03:30 UTC on 02/22, and from 14:10 UTC on 02/22 to 22:05 UTC on 02/22; (5) LPV200 service coverage in Alaska from 00:00 UTC on 02/22 to 03:15 UTC on 02/22, and from 11:40 UTC on 02/22 to 22:05 UTC on 02/22; and (6) LPV200 service coverage in Canada from 00:00 UTC on 02/22 to 02:50 UTC on 02/22, 09:55 UTC on 02/22 to 22:05 UTC on 02/22, and from 23:30 UTC on 02/22 to 23:50 UTC on 02/22. Please see plot(s): Cov_vs_Time_Canada_2/22/2025 Cov_vs_Time_CONUS_2/22/2025 Cov_vs_Time_Alaska_2/22/2025 LPV_2/22/2025 LPV200_2/22/2025
2/23/2025	2/23/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 02:00 UTC to 02:20 UTC; (2) LPV200 service coverage in Alaska from 01:20UTC TO 03:15 UTC and from 23:25 UTC to 23:55 UTC; (3) LPV200 service coverage in Canada from 00:05 UTC to 00:35 UTC, 00:55 UTC to 03:40 UTC, and from 23:20 UTC to 23:55 UTC. Please see plot(s): Cov_vs_Time_Canada_2/23/2025 Cov_vs_Time_Alaska_2/23/2025 LPV_2/23/2025 LPV200_2/23/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/24/2025	2/24/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4.33) caused by an IGP storm disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from 11:05 UTC on 02/24 to 11:20 UTC on 02/24, 13:05 UTC on 02/24 to 13:15 UTC on 02/24, and from 16:00 UTC on 02/24 to 21:30 UTC on 02/24; and (2) LPV200 service coverage in Canada from 00:00 UTC on 02/24 to 01:00 UTC on 02/24, 05:05 UTC on 02/24 to 05:10 UTC on 02/24, 10:55 UTC on 02/24 to 11:40 UTC on 02/24, and from 14:35 UTC on 02/24 to 23:20 UTC on 02/24.The elevated GIVE values also resulted in moderate degradation of LPV200 service coverage in Alaska from 10:55 UTC on 02/24 to 11:20 UTC on 02/24, and from 19:50 UTC on 02/24 to 21:05 UTC on 02/24. The elevated GIVE values also resulted in minor degradation of LPV200 service coverage in CONUS from 00:00 UTC on 02/24 to 00:05 UTC on 02/24, 01:30 UTC on 02/24 to 01:35 UTC on 02/24, and from 05:40 UTC on 02/24 to 06:10 UTC on 02/24. Please see plot(s): Cov_vs_Time_Canada_2/24/2025 Cov_vs_Time_CONUS_2/24/2025 Cov_vs_Time_Alaska_2/24/2025 LPV_2/24/2025 LPV200_2/24/2025
2/25/2025	2/25/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_All	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from about 22:00 UTC on 2/25 to 00:30 UTC on 2/25, (2) LPV200 service coverage in Canada from about 17:30 UTC to 18:00 UTC on 2/25 and from about UTC on 2/25 to 01:00 UTC on 2/26. The elevated give values also resulted in moderate degradation of LPV200 service coverage in Alaska from about 23:00 UTC to 23:50 UTC on 2/25. The elevated GIVE values also resulted in minor degradation of the LPV200 service coverage in CONUS from about 01:10 UTC to 01:30 UTC on 2/25. Please see plot(s): Cov_vs_Time_Canada_2/25/2025 Cov_vs_Time_CONUS_2/25/2025 Cov_vs_Time_Alaska_2/25/2025 LPV_2/25/2025 LPV200_2/25/2025
2/26/2025	2/26/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 01:20 UTC to 04:50 UTC and from 15:25 UTC to 18:20 UTC. The elevated GIVE values also caused moderate degradation of: (1) LPV service coverage in Canada from 17:20 UTC to 17:50 UTC; (2) LPV200 service coverage in Alaska from 01:55 UTC to 02:55 UTC and from 04:00 UTC to 06:50 UTC. Please see plot(s): Cov_vs_Time_Canada_2/26/2025 Cov_vs_Time_Alaska_2/26/2025 LPV_2/26/2025 LPV200_2/26/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
2/27/2025	2/27/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 5.67) caused by an IGP storm disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 12:50 UTC on 02/27 to 13:00 UTC on 02/27, and from 19:05 UTC on 02/27 to 22:55 UTC on 02/27; (2) LPV200 service coverage in Alaska from 10:45 UTC on 02/27 to 11:25 UTC on 02/27 and (3) LPV200 service coverage in Canada from 00:00 UTC on 02/27 to 01:00 UTC on 02/27, 10:45 UTC on 02/27 to 11:30 UTC on 02/27, 12:50 UTC on 02/27 to 13:00 UTC on 02/27, 16:35 UTC on 02/27 to 16:45 UTC on 02/27, and from 19:05 UTC on 02/27 to 22:55 UTC on 02/27. The elevated GIVE values also resulted in minor degradation of LPV service coverage in Alaska from 10:45 UTC on 02/27 to 11:25 UTC on 02/27 and from 10:45 UTC on 02/27 to 11:25 UTC on 02/27. Please see plot(s): Cov_vs_Time_Canada_2/27/2025 Cov_vs_Time_Alaska_2/27/2025 LPV_2/27/2025 LPV200_2/27/2025
2/28/2025	2/28/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 5) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from about 23:55 UTC on 2/27 to 01:30 UTC on 2/28 and from about 18:25 UTC to 21:05 UTC on 2/28. The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Canada from about 16:30 UTC to 17:35 UTC on 2/28 and (2) moderate degradation of the LPV200 service coverage in CONUS from about 01:00 UTC to 01:30 UTC on 2/28. The elevated GIVE values also resulted in minor degradation of LPV service coverage in CONUS from about 01:05 UTC to 01:30 UTC on 2/28. Please see plot(s): Cov_vs_Time_Canada_2/28/2025 Cov_vs_Time_CONUS_2/28/2025 LPV_2/28/2025 LPV200_2/28/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/1/2025	3/1/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 2.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 00:00 UTC on 03/01 to 00:05 UTC on 03/01, 02:15 UTC on 03/01 to 02:20 UTC on 03/01, 08:30 UTC on 03/01 to 10:50 UTC on 03/01, 13:35 UTC on 03/01 to 14:25 UTC on 03/01, and from 18:55 UTC on 03/01 to 23:40 UTC on 03/01.The elevated GIVE values also resulted in moderate degradation of LPV service coverage in Canada from 00:00 UTC on 03/01 to 00:05 UTC on 03/01, 09:30 UTC on 03/01 to 10:05 UTC on 03/01, and from 18:55 UTC on 03/01 to 23:40 UTC on 03/01.The elevated GIVE values also resulted in minor degradation of: (1) LPV200 service coverage in CONUS from 00:00 UTC on 03/01 to 01:10 UTC on 03/01, and from 05:20 UTC on 03/01 to 05:50 UTC on 03/01; and (2) LPV200 service coverage in Alaska from 08:30 UTC on 03/01 to 08:45 UTC on 03/01, and from 11:20 UTC on 03/01 to 11:30 UTC on 03/01. Please see plot(s): Cov_vs_Time_Canada_3/1/2025 Cov_vs_Time_CONUS_3/1/2025 Cov_vs_Time_Alaska_3/1/2025 LPV_3/1/2025 LPV200_3/1/2025
3/2/2025	3/2/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 2.33) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 22:55 UTC to 23:55 UTC. Please see plot(s): Cov_vs_Time_Canada_3/2/2025 LPV200_3/2/2025
3/3/2025	3/3/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 1.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 04:55 UTC on 03/03 to 05:00 UTC on 03/03, 09:00 UTC on 03/03 to 09:30 UTC on 03/03, 14:20 UTC on 03/03 to 16:30 UTC on 03/03, 19:00 UTC on 03/03 to 19:20 UTC on 03/03, and from 20:40 UTC on 03/03 to 20:45 UTC on 03/03. Please see plot(s): Cov_vs_Time_Canada_3/3/2025 LPV200_3/3/2025
3/3/2025	3/3/2025	PRN8	None	There was a GPS NANU on PRN 8 (see NANU 2025020) broadcasting that the SV would be unusable until further notice. This PRN was unusable from 14:16 UTC on 03/03 to 16:09 UTC on 03/03. There was no impact on coverage. Please see plot(s): Cov_vs_Time_Canada_3/3/2025 LPV200_3/3/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/4/2025	3/4/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from about 21:30 UTC on 3/4 to 00:05 UTC on 3/5, and (2) LPV200 service coverage in Canada from about 22:00 UTC on 3/4 to 01:00 UTC on 3/5. The elevated GIVE values also resulted in moderate degradation of the LPV200 service coverage in Alaska from about 22:45 UTC on 3/4 to 00:05 UTC on 3/5. Please see plot(s): Cov_vs_Time_Canada_3/4/2025 Cov_vs_Time_Alaska_3/4/2025 LPV_3/4/2025 LPV200_3/4/2025
3/5/2025	3/5/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 3.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 15:05 UTC to 15:20 UTC, 15:35 UTC to 15:50 UTC, 16:15 UTC to 16:35 UTC and from 18:10 UTC TO 18:40 UTC. Please see plot(s): Cov_vs_Time_Canada_3/5/2025 Cov_vs_Time_CONUS_3/5/2025 LPV_3/5/2025 LPV200_3/5/2025
3/5/2025	3/11/2025	PRN8	LPV_CONUS, LPV200_CONUS	The reduction in LPV200 service in CONUS was due to a GPS NANU on PRN 8 (see NANU 2025023) which was unusable from 00:20 UTC on 03/05 to 22:39 UTC on 03/11. The NANU resulted in significant degradation of LPV200 service coverage in CONUS from 05:00 UTC to 05:35 UTC and from 07:15 UTC to 07:50 UTC. The NANU also resulted in moderate degradation of LPV service coverage in CONUS from 05:00 UTC on 03/06 to 05:10 UTC. This degradation was observed each day until the end of the event on March 11th, 2025. Please see plot(s): LPV_3/6/2025 LPV200_3/6/2025 Cov_vs_Time_Conus_3/6/2025
3/6/2025	3/6/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 2.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 01:20 UTC on 03/06 to 02:35 UTC on 03/06, 04:10 UTC on 03/06 to 05:50 UTC on 03/06, 11:40 UTC on 03/06 to 11:45 UTC on 03/06, 13:05 UTC on 03/06 to 16:30 UTC on 03/06, 18:10 UTC on 03/06 to 18:25 UTC on 03/06, and from 20:35 UTC on 03/06 to 20:50 UTC on 03/06. Please see plot(s): Cov_vs_Time_Canada_3/6/2025 Cov_vs_Time_CONUS_3/6/2025 LPV_3/6/2025 LPV200_3/6/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/7/2025	3/7/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of the LPV200 service coverage in CONUS from about 05:00 UTC to 05:45 UTC on 3/7. The elevated give values also resulted in moderate degradation of (1) the LPV service coverage in CONUS from about 05:00 UTC to 05:40 UTC on 3/7, (2) the LPV service coverage in Canada from about 17:00 UTC to 18:00 UTC on 3/7, and (3) the LPV200 service coverage in Canada from about 16:15 UTC to 18:15 UTC on 3/7. Please see plot(s): Cov_vs_Time_Canada_3/7/2025 Cov_vs_Time_CONUS_3/7/2025 LPV_3/7/2025 LPV200_3/7/2025
3/8/2025	3/8/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 2.33) disturbed the ionosphere causing elevated GIVE values (see DR 172). This resulted in significant degradation of: (1) LPV service coverage in CONUS from 04:55 UTC to 05:10 UTC, 20:40 UTC to 21:25 UTC, and from 22:55 UTC to 00:00 UTC; (2) LPV service coverage in Canada from03:25 UTC on 03/08 to 04:45 UTC, 12:20 UTC to 12:25 UTC, 16:05 UTC to 16:25 UTC, 18:25 UTC to 18:50 UTC, and from 20:00 UTC to 00:00 UTC; (3) LPV200 service coverage in CONUS from 04:50 UTC to 05:25 UTC, 07:05 UTC to 07:40 UTC, 20:30 UTC to 21:20 UTC, and from 22:50 UTC to 00:05 UTC on 03/09; and (4) LPV200 service coverage in Canada from 02:30 UTC to 04:35 UTC, 05:40 UTC to 06:10 UTC, 08:20 UTC to 11:35 UTC, 13:00 UTC to 13:05 UTC, and from 14:25 UTC to 00:00 UTC. The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Alaska from 21:20 UTC to 00:00 UTC on 03/09 and from 21:20 UTC to 00:00 UTC on 03/09; and (2) LPV200 service coverage in Alaska from 05:20 UTC on 03/08 to 05:25 UTC, 07:35 UTC to 07:45 UTC, and from 20:20 UTC to 00:00 UTC on 03/09. Please see plot(s): Cov_vs_Time_Canada_3/8/2025 Cov_vs_Time_CONUS_3/8/2025 Cov_vs_Time_Alaska_3/8/2025 LPV_3/8/2025 LPV200_3/8/2025
3/9/2025	3/9/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 5.67) caused by a G2 geomagnetic storm disturbed the ionosphere causing elevated GIVE values (see DR 172). This resulted in significant degradation of: (1) LPV service coverage in Alaska from 04:25 UTC to 06:05 UTC; (2) LPV200 service coverage in Alaska from 04:25 UTC to 07:45 UTC; (3) LPV200 service coverage in Canada from 14:40 UTC to 15:35 UTC, 15:55 UTC to 16:20 UTC, 16:40 UTC to 17:00 UTC, 17:15 UTC to 17:40 UTC, and from 17:50 UTC to 18:15 UTC. Please see plot(s): Cov_vs_Time_Canada_3/9/2025 Cov_vs_Time_CONUS_3/9/2025 Cov_vs_Time_Alaska_3/9/2025 LPV_3/9/2025 LPV200_3/9/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/10/2025	3/10/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 3) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 01:15 UTC on 03/10 to 01:20 UTC on 03/10, 04:00 UTC on 03/10 to 04:25 UTC on 03/10, 05:45 UTC on 03/10 to 06:50 UTC on 03/10, 12:50 UTC on 03/10 to 14:55 UTC on 03/10, 16:00 UTC on 03/10 to 16:15 UTC on 03/10, 17:55 UTC on 03/10 to 18:10 UTC on 03/10, and from 23:40 UTC on 03/10 to 23:45 UTC on 03/10. Please see plot(s): Cov_vs_Time_Canada_3/10/2025 Cov_vs_Time_CONUS_3/10/2025 LPV_3/10/2025 LPV200_3/10/2025
3/11/2025	3/11/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_CONUS, LPV200_Canada	Geomagnetic activity (KP = 3) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of the LPV200 service coverage in CONUS from 23:00 UTC to 23:30 UTC on 3/11. The elevated GIVE values also resulted in moderate degradation of (1) LPV service coverage in Canada from about 23:30 UTC on 3/11 to 00:00 UTC on 3/12, and (2) LPV200 service coverage in Canada from about 12:00 UTC to 12:30 UTC on 3/11. Please see plot(s): Cov_vs_Time_Canada_3/11/2025 Cov_vs_Time_CONUS_3/11/2025 LPV_3/11/2025 LPV200_3/11/2025
3/11/2025	3/12/2025	PRN6	LPV200_CONUS	There was a GPS NANU on PRN 6 (see NANU 2025024) which was unusable from 19:52 UTC on 03/11 to 00:44 UTC on 03/12. The NANU along with the elevated GIVE values (see event for geomagnetic activity on 3/11) resulted in moderate degradation of LPV200 service coverage in CONUS (CA, TX, NV) from 23:00 UTC to 23:30 UTC. Please see plot(s): Cov_vs_Time_Canada_3/11/2025 Cov_vs_Time_CONUS_3/11/2025 LPV_3/11/2025 LPV200_3/11/2025
3/12/2025	3/12/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 5) disturbed the ionosphere causing elevated GIVE values (see DR 173). This resulted in significant degradation of: (1) LPV service coverage in CONUS from 17:20 UTC to 17:55 UTC, 18:10 UTC to 18:25 UTC, and from 19:10 UTC to 21:15 UTC; (2) LPV service coverage in Alaska from 00:05 UTC to 04:10 UTC and from 12:00 UTC to 14:15 UTC; (3) LPV service coverage in Canada from the start of the day to 02:10 UTC, 02:55 UTC to 03:35 UTC, 12:45 UTC to 13:40 UTC, 14:30 UTC to 15:50 UTC, 16:05 UTC to 17:15 UTC, 18:00 UTC to 18:40 UTC, and from 20:15 UTC to 21:15 UTC; (4) LPV200 service coverage in CONUS from 16:20 UTC to 21:15 UTC; (5) LPV200 service coverage in Alaska from 11:45 UTC to 14:15 UTC; (6) LPV200 service coverage in Canada from 11:35 UTC to 21:20 UTC. Please see plot(s): Cov_vs_Time_Canada_3/12/2025 Cov_vs_Time_CONUS_3/12/2025 Cov_vs_Time_Alaska_3/12/2025 LPV_3/12/2025 LPV200_3/12/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/13/2025	3/13/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 5) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV200 service coverage in Alaska from 01:40 UTC on 03/13 to 01:45 UTC on 03/13, 03:35 UTC on 03/13 to 04:50 UTC on 03/13, 20:00 UTC on 03/13 to 20:05 UTC on 03/13, and from 22:05 UTC on 03/13 to 22:25 UTC on 03/13; and (2) LPV200 service coverage in Canada from 00:00 UTC on 03/13 to 01:50 UTC on 03/13, 04:05 UTC on 03/13 to 06:35 UTC on 03/13, 07:40 UTC on 03/13 to 08:30 UTC on 03/13, 11:25 UTC on 03/13 to 13:35 UTC on 03/13, 18:25 UTC on 03/13 to 18:40 UTC on 03/13, 20:15 UTC on 03/13 to 20:20 UTC on 03/13, and from 23:40 UTC on 03/13 to 23:45 UTC on 03/13. Please see plot(s): Cov_vs_Time_Canada_3/13/2025 Cov_vs_Time_Alaska_3/13/2025 LPV200_3/13/2025
3/14/2025	3/14/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 3) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of the LPV 200 service coverage in Canada from about 01:00 UTC to 01:30 UTC on 3/14. Please see plot(s): Cov_vs_Time_Canada_3/14/2025 LPV200_3/14/2025
3/15/2025	3/15/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 00:00 UTC on 03/15 to 01:25 UTC on 03/15, 03:25 UTC on 03/15 to 03:55 UTC on 03/15, 05:10 UTC on 03/15 to 05:30 UTC on 03/15, 08:50 UTC on 03/15 to 09:10 UTC on 03/15, 11:50 UTC on 03/15 to 13:15 UTC on 03/15, 14:45 UTC on 03/15 to 16:25 UTC on 03/15, and from 23:30 UTC on 03/15 to 23:35 UTC on 03/15. Please see plot(s): Cov_vs_Time_Canada_3/15/2025 LPV200_3/15/2025
3/16/2025	3/17/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 11:35 UTC on 3/16 to 12:10 UTC on 3/16, 14:45 UTC on 3/16 to 15:10 UTC on 3/16, and from 19:30 UTC on 3/16 to 00:10 UTC on 3/17. The elevated GIVE values also caused moderate degradation of LPV service coverage in Canada from 20:45 UTC on 3/16 to 21:45 UTC on 3/16, 22:15 UTC on 3/16 to 23:00 UTC on 3/16, and from 23:25 UTC on 3/16 to 23:40 UTC on 3/16. The elevated GIVE values also caused minor degradation of LPV200 service coverage in Alaska from 10:05 UTC on 3/16 to 10:20 UTC on 3/16, 10:40 UTC on 3/16 to 11:25 UTC on 3/16, 11:35 UTC on 3/16 to 12:25 UTC on 3/16, 12:45 UTC on 3/16 to 14:05 UTC on 3/16, 19:15 UTC on 3/16 to 20:20 UTC on 3/16, and from 21:40 UTC on 3/16 to 22:30 UTC on 3/16. Please see plot(s): Cov_vs_Time_Canada_3/16/2025 Cov_vs_Time_Alaska_3/16/2025 LPV_3/16/2025 LPV200_3/16/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/17/2025	3/17/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 03:45 UTC on 03/17 to 03:50 UTC on 03/17, 05:00 UTC on 03/17 to 05:15 UTC on 03/17, 06:50 UTC on 03/17 to 08:10 UTC on 03/17, 10:10 UTC on 03/17 to 11:10 UTC on 03/17, 15:20 UTC on 03/17 to 18:25 UTC on 03/17, 19:30 UTC on 03/17 to 21:45 UTC on 03/17, and from 23:10 UTC on 03/17 to 00:00 UTC on 03/18. The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Canada from 03:00 UTC on 03/17 to 03:10 UTC on 03/17, 06:00 UTC on 03/17 to 06:10 UTC on 03/17, 07:25 UTC on 03/17 to 09:50 UTC on 03/17, 15:45 UTC on 03/17 to 16:10 UTC on 03/17, 17:30 UTC on 03/17 to 17:35 UTC on 03/17, 20:15 UTC on 03/17 to 20:40 UTC on 03/17, and from 23:15 UTC on 03/17 to 23:25 UTC on 03/17; and (2) LPV200 service coverage in Alaska from 00:40 UTC on 03/17 to 01:10 UTC on 03/17, 04:45 UTC on 03/17 to 05:20 UTC on 03/17, and from 19:45 UTC on 03/17 to 19:50 UTC on 03/17. Please see plot(s): Cov_vs_Time_Canada_3/17/2025 Cov_vs_Time_Alaska_3/17/2025 LPV_3/17/2025 LPV200_3/17/2025
3/18/2025	3/18/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Alaska from about 02:55 UTC to 05:50 UTC on 3/18, (2) LPV service coverage in Canada from about 02:50 UTC to 04:30 UTC on 3/18, (3) LPV200 service coverage in Alaska from about 02:50 UTC to 05:55 UTC on 3/18, and (4) LPV200 service coverage in Canada from about 01:30 UTC to 06:00 UTC on 3/18. Please see plot(s): Cov_vs_Time_Canada_3/18/2025 Cov_vs_Time_Alaska_3/18/2025 LPV_3/18/2025 LPV200_3/18/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/19/2025	3/19/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: LPV service coverage in Canada from 00:50 UTC to 01:20 UTC, 03:30 UTC to 03:45 UTC, 07:05 UTC to 09:00 UTC, and from 20:25 UTC to 22:30 UTC; (2) LPV200 service coverage in Canada from the start of the day to 02:00 UTC, 02:15 UTC to 04:05 UTC, 06:55 UTC to 09:00 UTC, 09:25 UTC to 09:45 UTC, 17:20 UTC to 18:15 UTC, and from 18:40 UTC to 23:15 UTC. The elevated GIVE values also caused moderate degradation of: (1) LPV service coverage in Alaska from 00:55 UTC to 01:50 UTC, 02:35 UTC to 04:30 UTC, 08:15 UTC to 08:55 UTC, and from 21:50 UTC to 22:10 UTC; (2) LPV200 service coverage in CONUS (NV, TX, FL) from 19:30 UTC to 21:50 UTC and from 22:25 UTC to 22:50 UTC; (3) LPV200 service coverage in Alaska from 00:25 UTC to 06:30 UTC, 07:30 UTC to 09:00 UTC, and from 19:05 UTC to 23:30 UTC. Please see plot(s): Cov_vs_Time_Canada_3/19/2025 Cov_vs_Time_CONUS_3/19/2025 Cov_vs_Time_Alaska_3/19/2025 LPV_3/19/2025 LPV200_3/19/2025
3/20/2025	3/20/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 2) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 02:30 UTC on 03/20 to 02:35 UTC on 03/20, 03:40 UTC on 03/20 to 04:50 UTC on 03/20, 08:05 UTC on 03/20 to 09:45 UTC on 03/20, 10:55 UTC on 03/20 to 11:00 UTC on 03/20, 20:20 UTC on 03/20 to 20:40 UTC on 03/20, and from 22:05 UTC on 03/20 to 23:45 UTC on 03/20. Please see plot(s): Cov_vs_Time_Canada_3/20/2025 LPV200_3/20/2025
3/21/2025	3/21/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_All, LPV200_All	Geomagnetic activity (KP = 5.33) disturbed the ionosphere causing elevated GIVE values (see DR 174). This resulted in significant degradation of: (1) LPV service coverage in Alaska from about 21:50 UTC on 3/21 to 00:05 UTC on 3/22, (2) LPV service coverage in Canada from about 17:20 UTC to 23:45 UTC on 3/21, (3) LPV200 service coverage in Alaska from about 19:10 UTC on 3/21 to 00:00 UTC on 3/22, and (4) LPV200 service coverage in Canada from about 18:30 UTC to 05:00 UTC on 3/22. The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in CONUS from about 21:15 UTC to 23:15 UTC on 3/21, and (2) LPV200 service coverage in CONUS from about 21:25 UTC to 23:55 UTC on 3/21. Please see plot(s): Cov_vs_Time_Canada_3/21/2025 Cov_vs_Time_CONUS_3/21/2025 Cov_vs_Time_Alaska_3/21/2025 LPV_3/21/2025 LPV200_3/21/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/22/2025	3/22/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 5.67) disturbed the ionosphere causing elevated GIVE values (see DR 174). This resulted in significant degradation of: (1) LPV service coverage in CONUS from 00:00 UTC on 03/22 to 05:15 UTC on 03/22, 19:15 UTC on 03/22 to 19:25 UTC on 03/22, and from 21:50 UTC on 03/22 to 23:10 UTC on 03/22; (2) LPV service coverage in Alaska from 00:00 UTC on 03/22 to 04:10 UTC on 03/22 and from 00:00 UTC on 03/22 to 04:10 UTC on 03/22; (3) LPV service coverage in Canada from 00:00 UTC on 03/22 to 04:15 UTC on 03/22, and from 11:20 UTC on 03/22 to 00:00 UTC on 03/23; (4) LPV200 service coverage in CONUS from 00:00 UTC on 03/22 to 05:15 UTC on 03/22, 18:55 UTC on 03/22 to 19:50 UTC on 03/22, and from 21:50 UTC on 03/22 to 00:00 UTC on 03/23; (5) LPV200 service coverage in Alaska from 00:00 UTC on 03/22 to 04:25 UTC on 03/22, and from 21:10 UTC on 03/22 to 21:40 UTC on 03/22; and (6) LPV200 service coverage in Canada from 00:00 UTC on 03/22 to 05:00 UTC on 03/22, 10:45 UTC on 03/22 to 11:05 UTC on 03/22, and from 12:30 UTC on 03/22 to 00:05 UTC on 03/23. Please see plot(s): Cov_vs_Time_Canada_3/22/2025 Cov_vs_Time_CONUS_3/22/2025 Cov_vs_Time_Alaska_3/22/2025 LPV_3/22/2025 LPV200_3/22/2025
3/23/2025	3/23/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values (see DR 174). This resulted in significant degradation of LPV200 service coverage in Canada from 02:05 UTC to 04:20 UTC, 09:00 UTC to 10:15 UTC, and from 11:00 UTC to 11:25 UTC. The elevated GIVE values also caused moderate degradation of: (1) LPV200 service coverage in CONUS (ND, MN, WI, MI) from 03:45 UTC to 04:15 UTC; (2) LPV200 service coverage in Alaska from 00:35 UTC to 01:25 UTC, 09:30 UTC to 15:10 UTC, 18:50 UTC to 19:55 UTC, and from 21:05 UTC to 22:10 UTC. The elevated GIVE values also caused minor degradation of LPV service coverage in CONUS (ND, MN, WI, MI) from 00:35 UTC to 01:30 UTC. Please see plot(s): Cov_vs_Time_Canada_3/23/2025 Cov_vs_Time_CONUS_3/23/2025 Cov_vs_Time_Alaska_3/23/2025 LPV_3/23/2025 LPV200_3/23/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/24/2025	3/24/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Alaska, LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 4.33) caused by an IGP storm disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Alaska from 14:10 UTC on 03/24 to 15:15 UTC on 03/24 and from 14:10 UTC on 03/24 to 15:15 UTC on 03/24; (2) LPV200 service coverage in Alaska from 04:15 UTC on 03/24 to 04:50 UTC on 03/24, 11:10 UTC on 03/24 to 11:15 UTC on 03/24, 13:05 UTC on 03/24 to 15:15 UTC on 03/24, and from 19:20 UTC on 03/24 to 19:25 UTC on 03/24; and (3) LPV200 service coverage in Canada from 00:00 UTC on 03/24 to 01:10 UTC on 03/24, 02:15 UTC on 03/24 to 03:25 UTC on 03/24, 04:40 UTC on 03/24 to 05:35 UTC on 03/24, 07:05 UTC on 03/24 to 09:00 UTC on 03/24, 10:25 UTC on 03/24 to 20:25 UTC on 03/24, and from 22:25 UTC on 03/24 to 22:50 UTC on 03/24. The elevated GIVE values also resulted in moderate degradation of LPV service coverage in Canada from 00:00 UTC on 03/24 to 00:05 UTC on 03/24, 02:15 UTC on 03/24 to 03:05 UTC on 03/24, 04:40 UTC on 03/24 to 05:30 UTC on 03/24, 08:35 UTC on 03/24 to 08:40 UTC on 03/24, 11:05 UTC on 03/24 to 12:40 UTC on 03/24, 13:45 UTC on 03/24 to 18:00 UTC on 03/24, and from 19:25 UTC on 03/24 to 20:25 UTC on 03/24. Please see plot(s): Cov_vs_Time_Canada_3/24/2025 Cov_vs_Time_Alaska_3/24/2025 LPV_3/24/2025 LPV200_3/24/2025
3/25/2025	3/25/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Canada, LPV200_All	Geomagnetic activity (KP = 4) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in Canada from about 19:15 UTC on 3/25 to 3:45 UTC on 3/26, (2) LPV200 service coverage in CONUS from about 21:00 UTC on 3/25 to 02:55 UTC on 3/26, and (3) LPV200 service coverage in Canada from about 17:45 UTC on 3/25 to 3:45 UTC on 3/26. The elevated GIVE values also resulted in moderate degradation of (1) LPV service coverage in CONUS from about 21:00 UTC to 22:30 UTC on 3/25, and (2) LPV200 service coverage in Alaska from about 22:00 UTC to 00:10 UTC on 3/25. Please see plot(s): Cov_vs_Time_Canada_3/25/2025 Cov_vs_Time_CONUS_3/25/2025 Cov_vs_Time_Alaska_3/25/2025 LPV_3/25/2025 LPV200_3/25/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/26/2025	3/26/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV_Alaska, LPV_Canada, LPV200_CONUS, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 6.33) caused by a G2 geomagnetic storm disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of: (1) LPV service coverage in CONUS from 01:40 UTC to 02:40 UTC; (2) LPV service coverage in Alaska from 02:10 UTC to 03:50 UTC; (3) LPV service coverage in Canada from 15:15 UTC to 16:00 UTC, 16:25 UTC TO 16:50 UTC, 17:20 UTC to 17:30 UTC, and from 20:45 UTC to 21:50 UTC; (4) LPV200 service coverage in CONUS from 02:55 UTC to 03:25 UTC and from 03:35 UTC to 03:50 UTC; (5) LPV200 service coverage in Alaska from 00:25 UTC to 01:00 UTC, 01:05 UTC to 01:25 UTC, 02:05 UTC to 04:55 UTC; (6) LPV200 service coverage in Canada from 14:05 UTC to 18:45 UTC and from 20:25 UTC to 23:30 UTC. Please see plot(s): Cov_vs_Time_Canada_3/26/2025 Cov_vs_Time_CONUS_3/26/2025 Cov_vs_Time_Alaska_3/26/2025 LPV_3/26/2025 LPV200_3/26/2025
3/27/2025	3/27/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Alaska, LPV200_Canada	Geomagnetic activity (KP = 5) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of LPV200 service coverage in Canada from 02:10 UTC on 03/27 to 03:00 UTC on 03/27, 05:30 UTC on 03/27 to 06:05 UTC on 03/27, 10:25 UTC on 03/27 to 10:30 UTC on 03/27, 12:30 UTC on 03/27 to 12:35 UTC on 03/27, 14:50 UTC on 03/27 to 19:15 UTC on 03/27, and from 21:00 UTC on 03/27 to 23:55 UTC on 03/27. The elevated GIVE values also resulted in moderate degradation of LPV service coverage in Canada from 02:15 UTC on 03/27 to 03:00 UTC on 03/27, 17:00 UTC on 03/27 to 17:05 UTC on 03/27, and from 22:20 UTC on 03/27 to 00:00 UTC on 03/28. The elevated GIVE values also resulted in minor degradation of LPV200 service coverage in Alaska from 18:40 UTC on 03/27 to 18:45 UTC on 03/27, and from 23:10 UTC on 03/27 to 23:45 UTC on 03/27. Please see plot(s): Cov_vs_Time_Canada_3/27/2025 Cov_vs_Time_Alaska_3/27/2025 LPV_3/27/2025 LPV200_3/27/2025
3/28/2025	3/28/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_CONUS, LPV200_All	Geomagnetic activity (KP = 3.67) disturbed the ionosphere causing elevated GIVE values. This resulted in significant degradation of the LPV200 service coverage in Canada from about 00:00 UTC to 02:10 UTC on 3/28, and from about 21:00 UTC to 23:55 UTC on 3/28. The elevated GIVE values also resulted in moderate degradation of: (1) LPV service coverage in Canada from about 21:30 UTC to 22:30 UTC on 3/28, (2) LPV200 service coverage in CONUS from about 00:05 UTC to 21:10 UTC on 3/28, and (3) LPV200 service coverage in Alaska from about 00:05 UTC to 00:40 UTC on 3/28, and from about 21:00 UTC to 21:20 UTC on 3/28. Please see plot(s): Cov_vs_Time_Canada_3/28/2025 Cov_vs_Time_CONUS_3/28/2025 Cov_vs_Time_Alaska_3/28/2025 LPV_3/28/2025 LPV200_3/28/2025

Start Date	End Date	Location Satellite	Service Affected	Event Description
3/29/2025	3/29/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 3.33) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 00:00 UTC on 03/29 to 00:05 UTC on 03/29, 19:05 UTC on 03/29 to 21:00 UTC on 03/29, and from 22:20 UTC on 03/29 to 22:30 UTC on 03/29; and (2) LPV200 service coverage in Canada from 00:00 UTC on 03/29 to 00:50 UTC on 03/29, 04:25 UTC on 03/29 to 04:30 UTC on 03/29, 10:30 UTC on 03/29 to 10:35 UTC on 03/29, 13:30 UTC on 03/29 to 13:35 UTC on 03/29, and from 19:05 UTC on 03/29 to 22:00 UTC on 03/29. Please see plot(s): Cov_vs_Time_Canada_3/29/2025 LPV_3/29/2025 LPV200_3/29/2025
3/30/2025	3/30/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV_Canada, LPV200_Canada	Geomagnetic activity (KP = 2.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of: (1) LPV service coverage in Canada from 19:40 UTC to 19:50 UTC; (2) LPV200 service coverage in Canada 18:10 UTC to 18:20 UTC and from 18:55 UTC to 19:15 UTC. Please see plot(s): Cov_vs_Time_Canada_3/30/2025 LPV_3/30/2025 LPV200_3/30/2025
3/31/2025	3/31/2025	Washington D.C. (CnV), Los Angeles (CnV), Atlanta (CnV)	LPV200_Canada	Geomagnetic activity (KP = 2.67) disturbed the ionosphere causing elevated GIVE values. This resulted in moderate degradation of LPV200 service coverage in Canada from 03:05 UTC on 03/31 to 03:10 UTC on 03/31, 05:05 UTC on 03/31 to 05:50 UTC on 03/31, 07:05 UTC on 03/31 to 07:20 UTC on 03/31, 10:10 UTC on 03/31 to 11:20 UTC on 03/31, 12:40 UTC on 03/31 to 13:25 UTC on 03/31, and from 21:40 UTC on 03/31 to 23:40 UTC on 03/31. Please see plot(s): Cov_vs_Time_Canada_3/31/2025 LPV200_3/31/2025

Table 1-6 WAAS Upgrades

Start Date	End Date	Location Satellite	Event Description
01/14/2025	01/14/2025	South Mountain (CM1)	SSM-WAAS-064: This system support modification (SSM) replaces the GUST receivers with 2xG-III receivers and upgrades the South Mountain (CM1) GUS to software build 7.425L. This started 17:25 UTC on 01/14/2025 and ended at 23:32 UTC on 01/15/25.
01/28/2025	01/30/2025	Southbury (DX1)	SSM-WAAS-064: This system support modification (SSM) replaces the GUST receivers with 2xG-III receivers and upgrades the South Mountain (DX1) GUS to software build 7.425L. This started 14:19 UTC on 01/28/2025 and ended at 22:38 UTC on 01/30/25.
02/04/2025	02/06/2025	Santa Paula (SZ1)	SSM-WAAS-064: This system support modification (SSM) replaces the GUST receivers with 2xG-III receivers and upgrades the Santa Paula (SZ1) GUS to software build 7.425L. This started 16:23 UTC on 02/04/2025 and ended at 01:13 UTC on 02/06/25.
02/11/2025	02/11/2025	NOCC	SSM-WAAS-064: This system support modification (SSM) upgrades the NOCC O&M to software build 7.425L. This started 14:16 UTC on 02/11/2025 and ended at 14:49 UTC on 02/11/25.
02/11/2025	02/11/2025	POCC	SSM-WAAS-064: This system support modification (SSM) upgrades the NOCC O&M to software build 7.425L. This started 14:16 UTC on 02/11/2025 and ended at 14:49 UTC on 02/11/25.

Table 1-7 GUS Switchovers

Start Date	End Date	GUS Switch	Location Satellite	Service Affected	Event Description
1/13/2025	1/13/2025	Manual	GEO135, Napa (AP1)	None	The uplink for the G30 GEO, PRN135 switched from the Napa uplink site to the Brewster uplink site at 16:36:18 UTC. This caused a 4-second outage of the GEO 135 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN135. There was no impact on coverage. TOW 146195-146200
1/15/2025	1/15/2025	Manual	GEO133, Brewster (BR1)	None	The uplink for the S15 GEO, PRN133 switched from the Brewster uplink site to the South Mountain uplink site at 22:53:46 UTC. This caused a 3-second outage of the GEO 133 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN133. There was no impact on coverage. TOW 341644-341648
1/15/2025	1/15/2025	Manual	GEO133, Brewster (BR1)	None	The uplink for the S15 GEO, PRN133 switched from the Brewster uplink site to the South Mountain uplink site at 23:32:30 UTC. This caused a 4-second outage of the GEO 133 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN133. There was no impact on coverage. TOW 343968-343973
1/21/2025	1/21/2025	Manual	GEO135, NAPA (APC), Brewster (BRE-B)	None	The uplink for the S30 GEO, PRN135 switched from the Brewster uplink site to the Napa uplink site at 01:48:01 UTC. This caused a 2-second outage of the GEO 135 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN135. There was no impact on coverage. TOW 179281 - 179283
1/28/2025	1/28/2025	Manual	GEO131, Southbury (DX1), Santa Paula (SZ1)	None	The uplink for the SM9 GEO, PRN131 switched from the Southbury uplink site to the Santa_Paula uplink site at 07:01:58 UTC. This caused a 2-second outage of the GEO 131 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN131. There was no impact on coverage. TOW 198118-198120
1/30/2025	1/30/2025	Manual	GEO131, Santa_Paula (SZ1)	None	The uplink for the SM9 GEO, PRN131 switched from the Santa_Paula uplink site to the Southbury uplink site at 22:38:28 UTC. This caused a 3-second outage of the GEO 131 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN131. There was no impact on coverage. TOW 427126-427130

Start Date	End Date	GUS Switch	Location Satellite	Service Affected	Event Description
1/30/2025	1/30/2025	Manual	GEO131, Southbury (DX1)	None	The uplink for the SM9 GEO, PRN131 switched from the Southbury uplink site to the Santa_Paula uplink site at 18:10:34 UTC. This caused a 4-second outage of the GEO 131 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN131. There was no impact on coverage. TOW 411052-411057
1/30/2025	1/30/2025	Manual	GEO131, Santa_Paula (SZ1)	None	The uplink for the SM9 GEO, PRN131 switched from the Santa_Paula uplink site to the Southbury uplink site at 00:09:12 UTC. This caused a 3-second outage of the GEO 131 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN131. There was no impact on coverage. TOW 346170-346174
1/31/2025	1/31/2025	Manual	GEO131, Southbury (DX1), Santa Paula (SZ1)	None	The uplink for the SM9 GEO, PRN131 switched from the Southbury uplink site to the Santa Paula uplink site at 13:59:58 UTC. This caused a 2-second outage of the GEO 131 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN131. There was no impact on coverage. TOW 482398-482400
2/1/2025	2/1/2025	Manual	GEO131, Santa_Paula (SZ1)	None	The uplink for the SM9 GEO, PRN131 switched from the Santa Paula uplink site to the Southbury uplink site at 08:02:25 UTC. This caused a 4-second outage of the GEO 131 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN131. There was no impact on coverage. TOW 547363-547368
2/13/2025	2/13/2025	Manual	GEO131, Santa_Paula (SZ1)	None	The uplink for the SM9 GEO, PRN131 switched from the Santa_Paula uplink site to the Southbury uplink site at 07:07:26 UTC. This caused a 3-second outage of the GEO 131 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN131. There was no impact on coverage. TOW 371263-371267
2/14/2025	2/14/2025	Manual	GEO135, NAPA (APC), Brewster (BRE-B), Brewster (BR1)	None	The uplink for the S30 GEO, PRN135 switched from the Napa uplink site to the Brewster uplink site at 07:21:18 UTC. This caused a 2-second outage of the GEO 135 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN135. There was no impact on coverage. TOW 458478-458480

Start Date	End Date	GUS Switch	Location Satellite	Service Affected	Event Description
2/15/2025	2/15/2025	Manual	GEO133, South Mountain (CM1)	None	The uplink for the S15 GEO, PRN133 switched from the South Mountain uplink site to the Brewster uplink site at 07:00:03 UTC. This caused a 3-second outage of the GEO 133 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN133. There was no impact on coverage. TOW 543621-543625
2/26/2025	2/26/2025	Manual	GEO133, Brewster (BR1)	None	The uplink for the S15 GEO, PRN133 switched from the Brewster uplink site to the South Mountain uplink site at 11:22:02 UTC. This caused a 3-second outage of the GEO 133 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN133. There was no impact on coverage. TOW 300140-300144
2/26/2025	2/26/2025	Manual	GEO133, South Mountain (CM1)	None	The uplink for the S15 GEO, PRN133 switched from the South Mountain uplink site to the Brewster uplink site at 13:10:44 UTC. This caused a 3-second outage of the GEO 133 broadcast and also caused the WAAS carrier smoothing algorithm to reinitialize for PRN133. There was no impact on coverage. TOW 306662-306666

1.2 Report Overview

Section 2.0 provides the observed Localizer Performance with Vertical Guidance (LPV) and NPA performance for the evaluated receiver locations (see PA Evaluation Sites and NPA Evaluation Site). This section also shows tabulated data for the 95% accuracy and the maximum inaccuracy. In addition, the daily 95% accuracy for each receiver and the histograms of vertical and horizontal error are shown.

Section 3.0 provides the summary of the WAAS instantaneous availability performance at each receiver for three operational service levels. In addition, the daily availability, number of outages, and outage rate for each evaluated receiver are also reported.

Section 4.0 provides geographic plots of the WAAS service availability. Also shown in this section are plots of the percentage of the Continental United States (CONUS) and Alaska service areas covered by various levels of service availability.

Section 5.0 provides the summary of the Hazardous Misleading Information (HMI) analysis as well as a safety margin index for each receiver. This section also shows update rates of WAAS messages transmitted from SM9, S15, and G30.

Section 6.0 provides the UDRE and GIVE bounding percentages and the 95% index of the range and ionospheric accuracy for each satellite tracked by the WAAS receiver at 12 locations.

Section 7.0 provides the GEO ranging performance for SM9, S15, and G30.

Section 8.0 provides the WAAS LPV availability and outages at selected airports.

Section 9.0 provides the assessment of WAAS CNMP bounding for 114 WAAS receivers.

Section 10.0 provides surveyed positions of all Wide-Area Reference Equipment (WRE) and the difference between the WRE survey positions and the survey positions using both the National Geodetic Survey (NGS) Online Positioning Use Server (OPUS) and the Canadian Spatial Reference System (CSRS) Precise Point Positioning (PPP) service.

Section 11.0 provides the daily and quarterly average of SQM PRN type biases and PRN biases.

2.0 WAAS POSITION ACCURACY

Navigation error data, collected from WAAS and NSTB reference stations, was processed to determine position accuracy at each location. This was accomplished by using the GPS/WAAS position solution tool to compute a RTCA DO-229F-weighted least squares user navigation solution and WAAS horizontal protection level (HPL) and vertical protection level (VPL) once every second. The user position calculated for each receiver was compared to the surveyed position of the antenna to assess position error associated with the WAAS signal in space (SIS) over time. The position errors were analyzed, and statistics were generated for the operational service levels shown in Table 1-1.

Table 2-1 shows PA horizontal and vertical position accuracy maintained for 95% of the time at LP, LPV and lateral navigation (LNAV)/vertical navigation (VNAV) operational service levels as well as 95% SPS accuracy for certain locations. Note that WAAS accuracy statistics presented are compiled only when all WAAS corrections (i.e., fast, long term, and ionospheric corrections) for at least four satellites are available; this is referred to as PA navigation mode. Asterisks denote that SPS accuracy is not computed for those receivers. Table 2-1 also shows the percentage of time PA navigation mode was supported by WAAS at each receiver. The maximum and minimum LPV errors for this reporting period are:

- The maximum 95% CONUS horizontal LPV error was 1.423 meters observed at Arcata.
- The maximum 95% CONUS vertical LPV error was 2.023 meters observed at Miami.
- The minimum 95% CONUS horizontal LPV errors was 0.646 meters observed at Memphis.
- The minimum 95% CONUS vertical LPV error was 0.927 meters observed at Denver.

Table 2-1 PA 95% Horizontal and Vertical Accuracy

Location	Horizontal (HAL=40 m) (m)	Horizontal (HAL=556 m) (m)	Vertical (VAL=50 m) (m)	Percentage in PA Mode (%)	SPS Accuracy	
					95% Horizontal (m)	95% Vertical (m)
Arcata	1.423	1.423	1.601	100	*	*
Atlantic City	1.318	1.332	1.614	100	*	*
Bangor	1.172	1.172	1.818	100	*	*
Elko	1.053	1.053	1.324	100	*	*
Grand Forks	1.319	1.323	1.677	100	*	*
Oklahoma City	0.773	0.780	1.320	100	*	*
Albuquerque	0.822	0.830	1.146	100	2.68	5.14
Anchorage	0.920	0.931	1.612	100	3.01	7.11
Atlanta	0.897	0.905	1.429	100	2.59	4.97
Barrow	1.052	1.091	2.224	100	3.37	9.08
Bethel	0.856	0.862	1.617	100	2.74	7.72
Billings	0.914	0.918	1.117	100	2.5	5.03
Boston	0.910	0.929	1.202	100	2.79	5.02
Chicago	0.945	0.950	1.104	100	*	*
Cleveland	0.860	0.869	1.145	100	2.57	4.51
Cold Bay	0.963	0.970	1.430	100	2.51	7.12
Dallas	0.709	0.715	1.513	100	*	*
Denver	0.835	0.839	0.927	100	*	*
Fairbanks	0.962	0.991	1.763	100	3.28	7.73
Gander	1.050	1.106	1.419	99.999	2.88	5.46
Goose Bay	1.260	1.384	1.666	100	*	*
Houston	0.773	0.779	1.705	100	2.95	5.26

Location	Horizontal (HAL=40 m) (m)	Horizontal (HAL=556 m) (m)	Vertical (VAL=50 m) (m)	Percentage in PA Mode (%)	SPS Accuracy	
					95% Horizontal (m)	95% Vertical (m)
Iqaluit	1.611	1.780	2.799	100	4.24	6.01
Jacksonville	0.782	0.784	1.584	100	*	*
Juneau	0.990	1.015	1.541	100	2.96	5.92
Kansas City	0.764	0.772	1.049	100	2.55	4.55
Kotzebue	0.992	1.016	1.956	100	3.20	8.55
Los Angeles	0.899	0.911	1.356	100	3.12	5.96
Memphis	0.646	0.651	1.269	100	*	*
Merida	1.256	1.264	2.545	99.996	5.49	8.37
Mexico City	1.385	1.407	2.576	100	*	*
Miami	1.088	1.090	2.023	100	3.72	5.90
Minneapolis	1.012	1.017	1.092	100	2.56	4.45
New York	0.928	0.942	1.173	100	*	*
Oakland	0.912	0.922	1.247	100	3	6.07
Puerto Vallarta	1.403	1.419	2.848	100	*	*
Salt Lake City	0.764	0.767	0.981	100	2.58	5.52
San Jose Del Cabo	1.124	1.134	2.548	99.990	5.79	7.24
Seattle	0.869	0.870	1.124	100	2.32	5.74
Washington, DC	0.879	0.887	1.157	100	2.62	4.73
Winnipeg	0.936	0.964	1.323	100	*	*

NPA navigation mode is when only WAAS fast and long-term corrections are available to a user (i.e., no ionospheric corrections). Table 2-2 shows the 95%, 99.999%, and maximum NPA horizontal position accuracy. The maximum and minimum NPA errors for this reporting period are listed below:

- The maximum 95% horizontal error was 10.730 meters observed at Honolulu.
- The maximum 99.999% horizontal error was 25.838 meters observed at San Juan.
- The minimum 95% horizontal error was 1.803 meters observed at Seattle.
- The minimum 99.999% horizontal error was 6.099 meters observed at Bethel.

Table 2-2 NPA 95% and 99.999% Horizontal Accuracy

Location	95% Horizontal (m)	99.999% Horizontal (m)	Percentage in NPA Mode (%)	Maximum Horizontal Error (m)
Albuquerque	2.152	14.473	100	14.650
Anchorage	2.942	6.312	100	7.183
Atlanta	2.222	9.526	100	9.661
Barrow	3.316	7.229	100	7.327
Bethel	2.726	6.099	100	6.235
Billings	1.975	6.138	100	6.329
Boston	2.606	13.417	100	13.728
Cleveland	2.321	9.506	100	9.594
Cold Bay	2.397	7.519	100	7.681
Fairbanks	3.125	6.872	100	6.964
Gander	2.582	21.923	99.999	22.137
Honolulu	10.730	21.985	100	22.411
Houston	2.315	9.418	100	9.530
Iqaluit	3.939	9.726	100	10.090
Juneau	2.672	6.953	100	7.061
Kansas City	2.045	9.912	100	10.020
Kotzebue	3.139	7.013	100	7.140
Los Angeles	2.198	14.810	100	15.010
Merida	3.678	10.240	100	10.540
Miami	2.868	7.550	100	7.900
Minneapolis	2.366	7.482	100	7.745
Oakland	2.143	14.138	100	14.421
Salt Lake City	1.948	10.189	100	10.321
San Jose Del Cabo	3.306	10.791	99.996	11.063
San Juan	6.039	25.838	100	25.971
Seattle	1.803	6.885	100	7.036
Tapachula	5.632	20.288	100	28.254
Washington, DC	2.406	12.792	100	12.979

Table 2-3 shows the quarterly maximum LPV error statistics: (1) the Horizontal Error column shows the maximum position errors while the calculated HPL meets the LPV service level defined in Table 1-1, (2) the Vertical Error column shows the maximum position errors while the calculated VPL meets the LPV service level, (3) the Horizontal Error/HPL column and the Vertical Error/VPL column show the ratio of position error to protection level at the time the maximum error occurred, (4) the Horizontal Maximum Ratio column and the Vertical Maximum Ratio column show the maximum position error to protection level ratio for the quarter. During this reporting period, the maximum LPV horizontal error was 5.764 meters occurred at Merida and maximum vertical LPV error was 8.774 meters occurred at Iqaluit.

Table 2-3 Maximum LPV Error Statistics

Location	Horizontal Error (m)	Horizontal Error/ HPL	Horizontal Maximum Ratio	Vertical Error (m)	Vertical Error/ VPL	Vertical Maximum Ratio
Arcata	2.315	0.192	0.213	5.125	0.110	0.180
Atlantic City	4.147	0.121	0.221	5.065	0.167	0.214
Bangor	2.262	0.144	0.187	3.929	0.196	0.204
Elko	2.222	0.193	0.205	3.152	0.128	0.172
Grand Forks	2.874	0.124	0.213	6.912	0.240	0.284
Oklahoma City	2.763	0.135	0.236	4.833	0.126	0.193
Albuquerque	3.225	0.115	0.219	3.741	0.135	0.161
Anchorage	4.083	0.193	0.197	6.839	0.164	0.223
Atlanta	3.636	0.188	0.270	5.653	0.116	0.238
Barrow	4.037	0.117	0.169	7.586	0.213	0.282
Bethel	3.184	0.254	0.254	5.216	0.204	0.221
Billings	2.644	0.175	0.223	5.151	0.116	0.171
Boston	3.651	0.110	0.190	6.736	0.146	0.241
Chicago	3.019	0.077	0.225	3.607	0.148	0.203
Cleveland	3.382	0.105	0.210	4.688	0.116	0.185
Cold Bay	3.818	0.198	0.199	5.084	0.174	0.187
Dallas	2.477	0.080	0.201	6.308	0.157	0.228
Denver	2.437	0.074	0.197	5.494	0.117	0.142
Fairbanks	3.087	0.079	0.188	5.709	0.124	0.254
Gander	3.895	0.112	0.138	6.036	0.209	0.220
Goose Bay	5.022	0.141	0.186	5.599	0.144	0.200
Houston	2.801	0.177	0.216	6.354	0.152	0.291
Iqaluit	4.919	0.143	0.201	8.774	0.223	0.286
Jacksonville	2.839	0.220	0.242	5.618	0.113	0.231
Juneau	4.604	0.184	0.253	5.060	0.108	0.216
Kansas City	2.167	0.077	0.196	2.954	0.204	0.204
Kotzebue	3.922	0.141	0.207	6.236	0.151	0.228
Los Angeles	2.908	0.093	0.208	5.507	0.121	0.166
Memphis	3.639	0.139	0.220	3.068	0.215	0.215
Merida	5.764	0.170	0.214	7.455	0.167	0.271
Mexico City	4.223	0.160	0.219	6.359	0.151	0.200

Location	Horizontal Error (m)	Horizontal Error/ HPL	Horizontal Maximum Ratio	Vertical Error (m)	Vertical Error/ VPL	Vertical Maximum Ratio
Miami	2.535	0.168	0.185	5.151	0.239	0.239
Minneapolis	2.877	0.131	0.245	5.803	0.170	0.195
New York	2.664	0.099	0.204	5.517	0.127	0.190
Oakland	2.784	0.231	0.231	4.977	0.113	0.176
Puerto Vallarta	4.316	0.108	0.275	7.212	0.155	0.198
Salt Lake City	2.480	0.205	0.205	4.267	0.115	0.154
San Jose Del Cabo	4.296	0.180	0.180	7.091	0.181	0.196
Seattle	3.327	0.101	0.217	5.460	0.111	0.177
Washington, DC	2.363	0.129	0.190	3.421	0.174	0.188
Winnipeg	4.018	0.152	0.202	5.984	0.245	0.250

Figure 2-1 through Figure 2-3 show the daily LPV 95% horizontal accuracy at the PA evaluation sites, and Figure 2-4 through Figure 2-6 show the daily LPV 95% vertical accuracy. Noteworthy increases in the 95% PA position errors over multiple evaluation sites due to geomagnetic activity in Figure 2-1 through Figure 2-6 are listed below.

- January 1, 2025—Position errors in CONUS, Alaska, and Canada were elevated. The maximum 95% horizontal and vertical LPV errors were 2.605 meters and 3.178 meters at Atlantic City and Anchorage, respectively. The Kp index was 8.0.
- January 4, 2025—Position errors in CONUS, Alaska, and Mexico were elevated. The maximum 95% horizontal and vertical LPV errors were 2.086 meters and 4.488 meters at Puerto Vallarta and Boston, respectively. The Kp index was 5.0.
- February 9-10, 2025—Position errors in CONUS, Alaska and Canada were elevated. The maximum 95% horizontal and vertical LPV errors were 2.512 meters and 4.015 meters at Goose Bay and Iqaluit, respectively. The Kp index was 4.7 both days.
- March 9, 2025—Position errors in CONUS and Alaska were elevated. The maximum 95% horizontal and vertical LPV errors were 1.743 meters and 2.955 meters at Grand Forks and Kotzebue, respectively. The Kp index was 5.7.
- March 12, 2025—Position errors in CONUS and Alaska were elevated. The maximum 95% horizontal and vertical LPV errors were 2.360 meters and 3.356 meters at Albuquerque and Fairbanks, respectively. The Kp index was 5.0.
- March 19, 2025—Position errors in CONUS and Mexico were elevated. The maximum 95% horizontal and vertical LPV errors were 2.737 meters and 4.239 meters at Mexico City and Merida, respectively. The Kp index was 4.7.
- March 22-23, 2025—Position errors in CONUS, Alaska, and Canada were elevated. The maximum 95% horizontal and vertical LPV errors were 2.598 meters and 3.846 meters at Goose Bay and Dallas, respectively. The Kp index was 5.7 and 4.0 respectively.

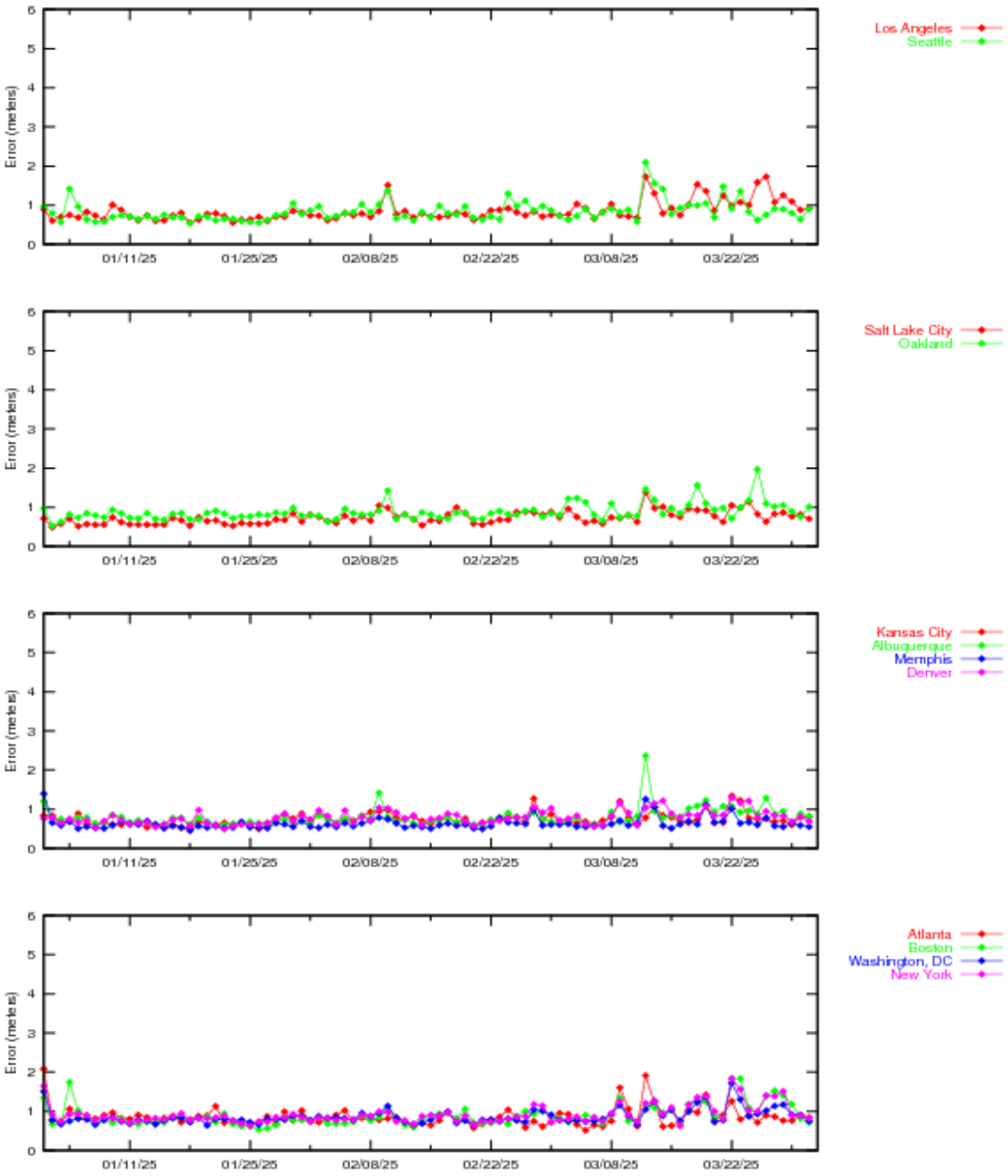

Figure 2-1 LPV 95% Horizontal Accuracy

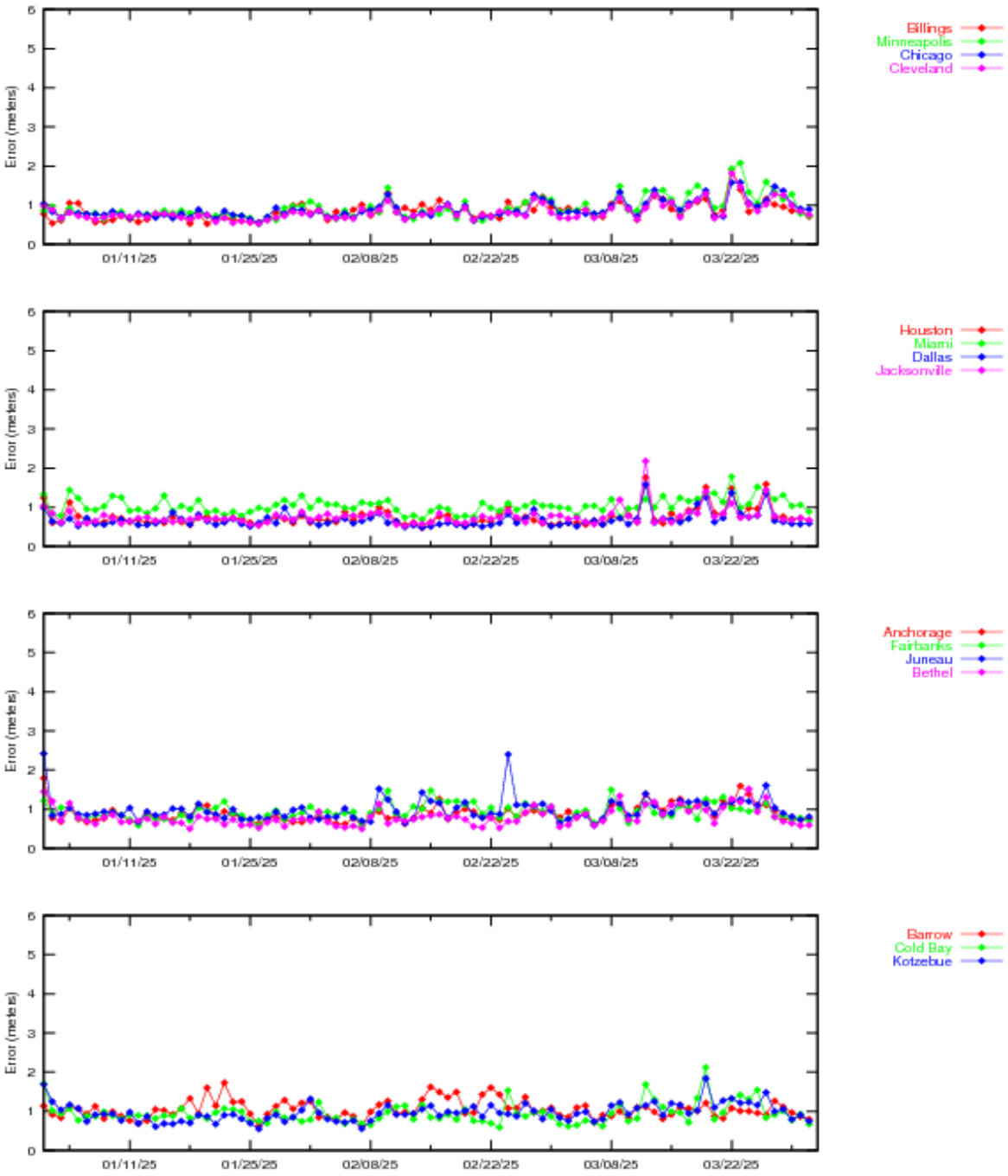

Figure 2-2 LPV 95% Horizontal Accuracy

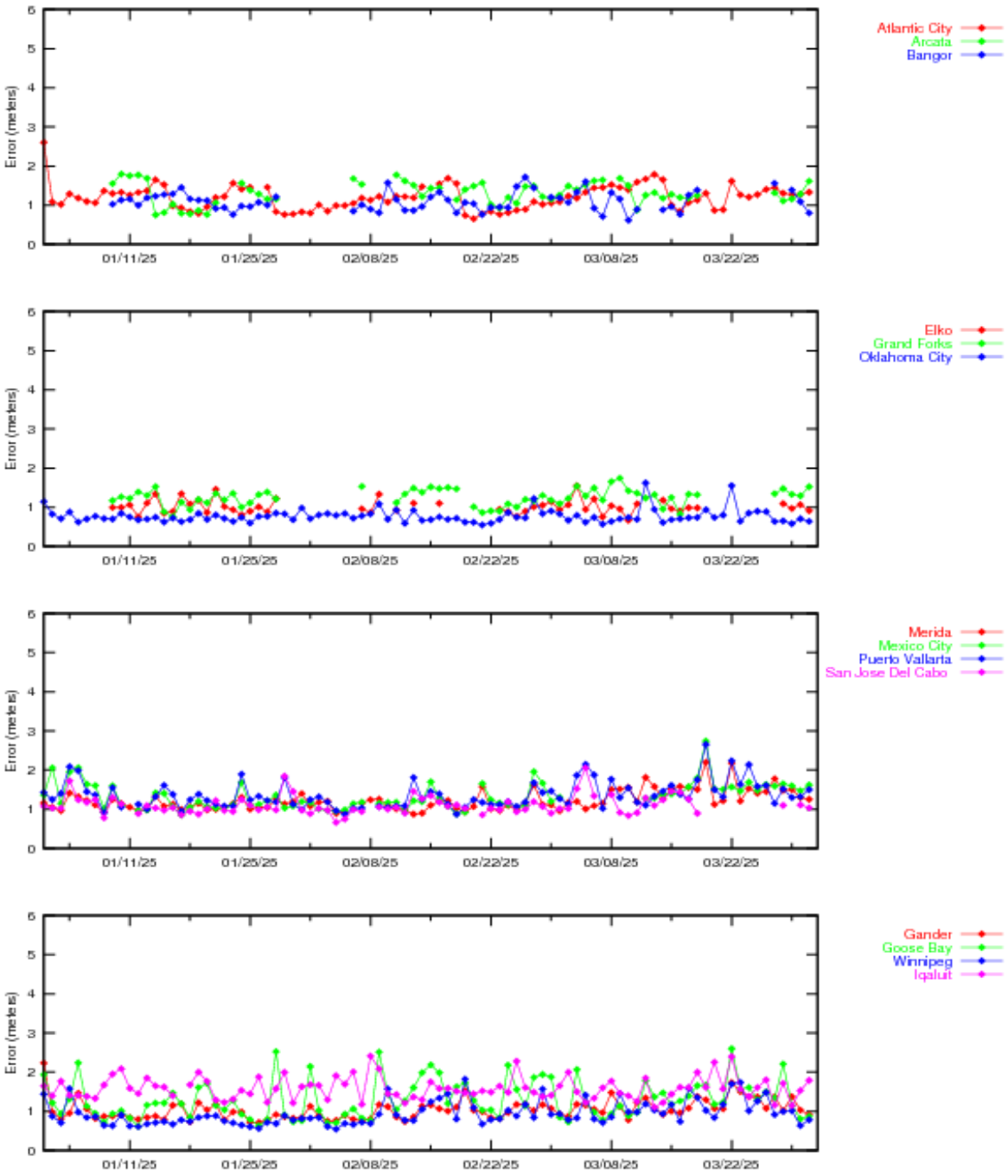

Figure 2-3 LPV 95% Horizontal Accuracy

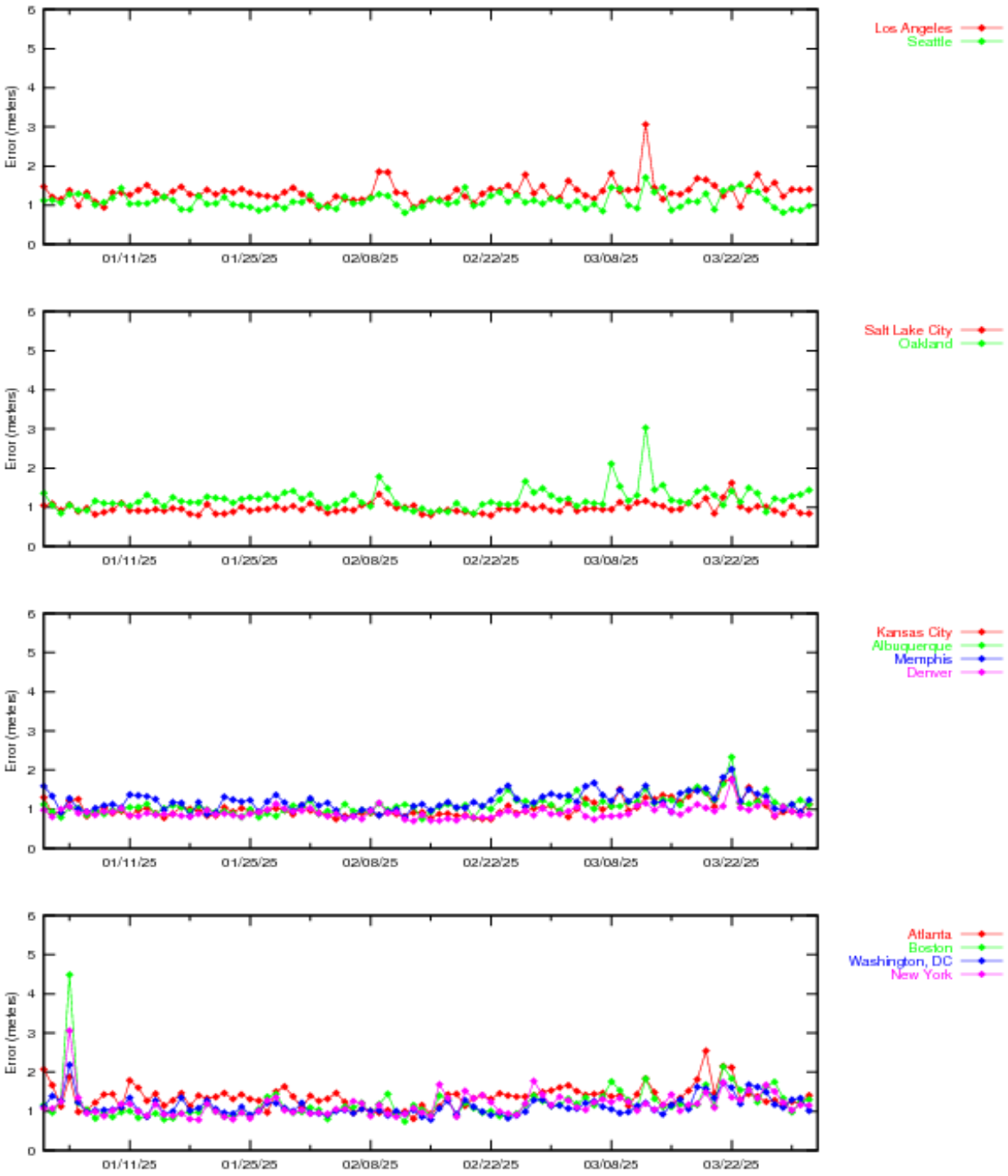

Figure 2-4 LPV 95% Vertical Accuracy

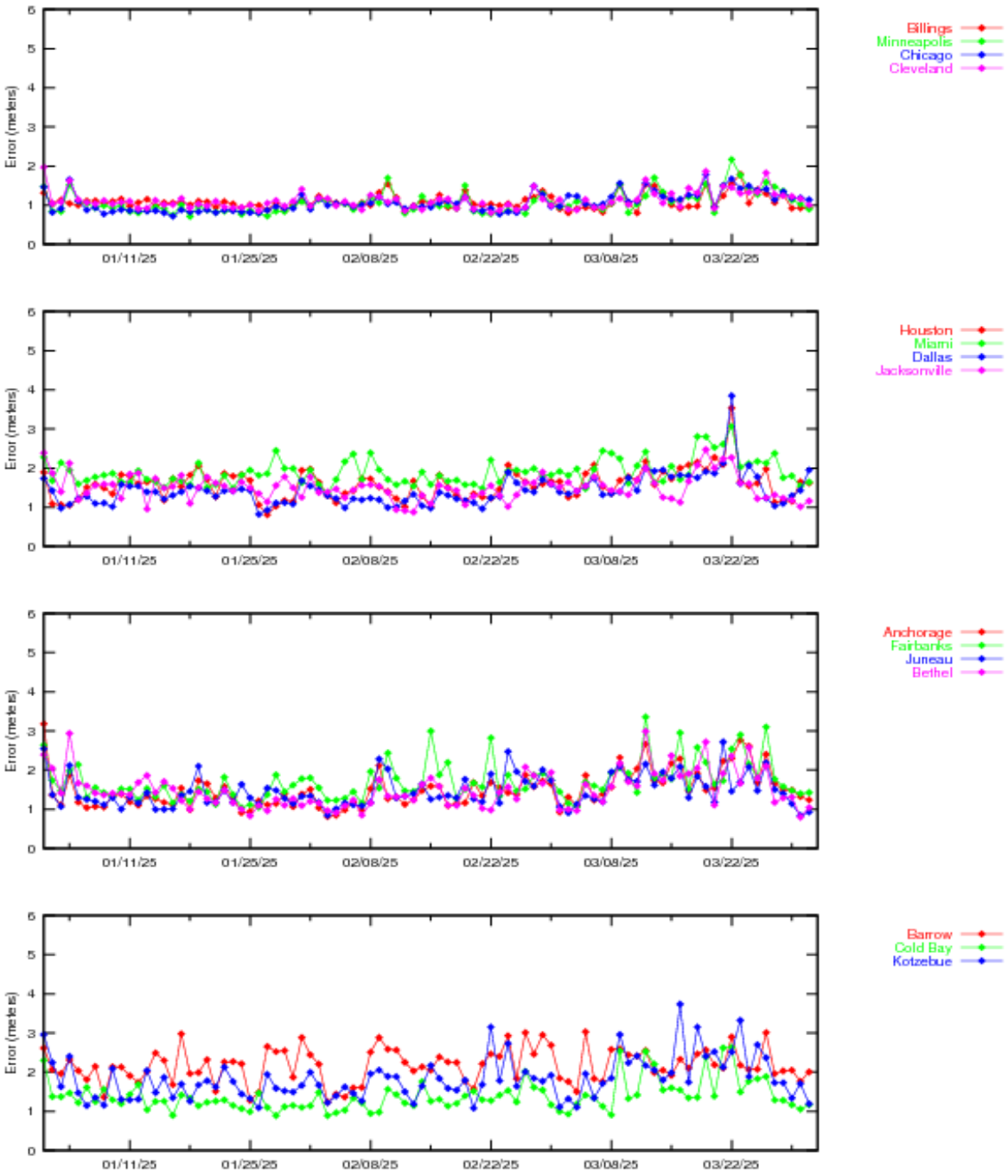

Figure 2-5 LPV 95% Vertical Accuracy

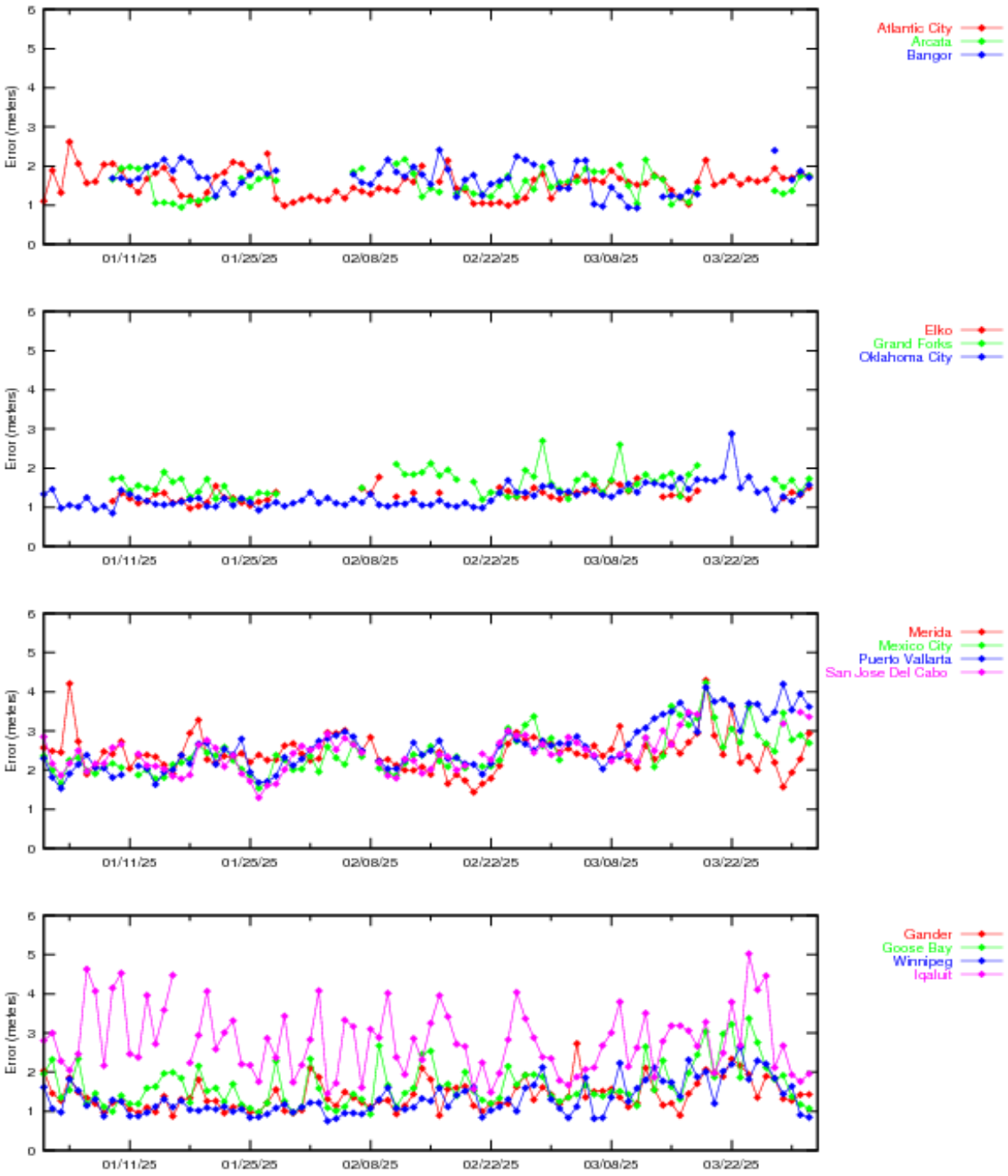

Figure 2-6 LPV 95% Vertical Accuracy

Figure 2-7 and Figure 2-8 show the daily NPA 95% horizontal accuracy at the NPA evaluation sites for the reporting period. The increases in 95% NPA position errors were due to geomagnetic activity occurred on January 1, February 27, and March 9, 12, and 22-23, 2025.

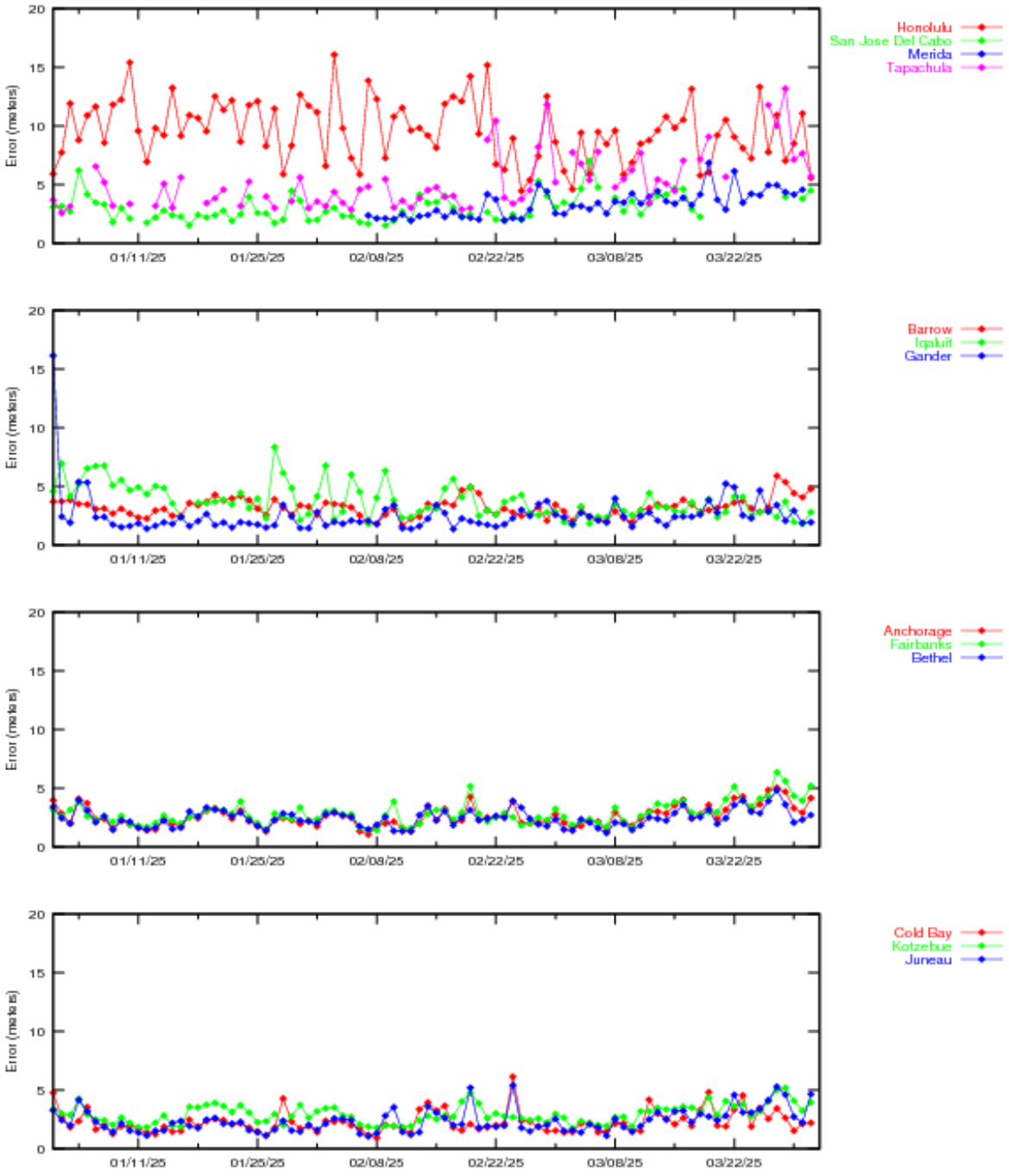

Figure 2-7 NPA 95% Horizontal Accuracy

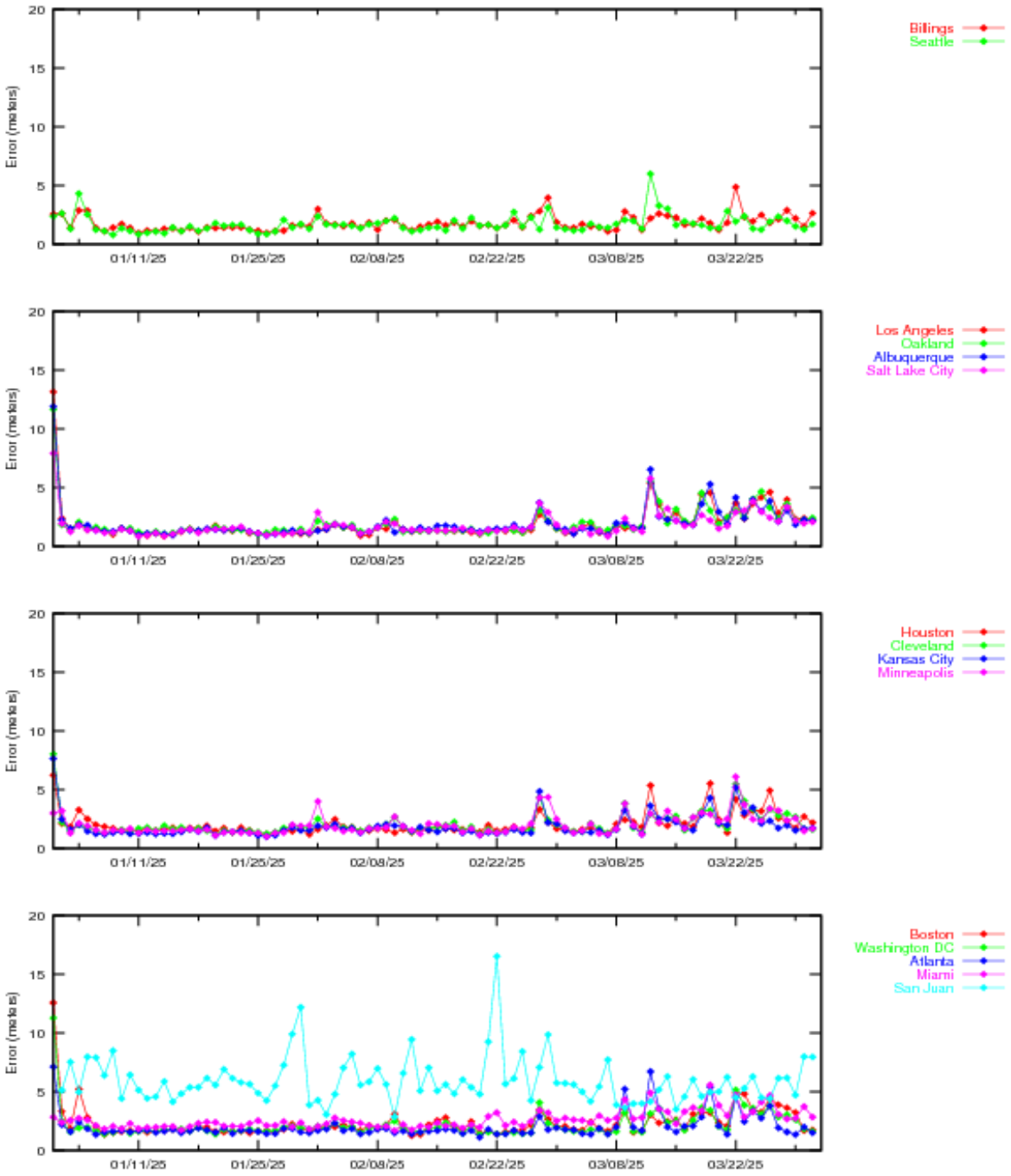

Figure 2-8 NPA 95% Horizontal Accuracy

Figure 2-9 through Figure 2-12 show the distributions of the vertical and horizontal errors at all 38 WAAS receivers for the quarter. Figure 2-9 and Figure 2-10 show the triangular distributions of vertical position error (VPE) versus VPL and horizontal position error (HPE) versus HPL: (1) the horizontal axis is the position error, (2) the vertical axis is the WAAS protection level where lower protection levels equate to better availability, (3) the diagonal line shows the point where error equals protection level, (4) above and to the left of the diagonal line show where errors are bounded (WAAS is providing integrity in the position domain), and (5) below and to the right show where errors are not bounded (HMI could be present). Figure 2-11 and Figure 2-12 show the 2-D histograms of HPE, VPE, and normalized position errors: (1) the blue trace shows the distributions of the actual HPE and VPE; (2) the horizontal axis is the position errors and the vertical axis is the total count of data samples (log scale) in each 0.1-meter bin; (3) the magenta trace shows the distributions of the actual horizontal and vertical errors normalized by one-sigma value of the protection level: horizontal protection level (HPL/6.0) and vertical protection level (VPL/5.33); (4) the horizontal axis is the standard units and vertical axis is the observed distribution of normalized errors data samples in each 0.1-sigma bin. The narrowness of the normalized error distributions indicates good safety performance.

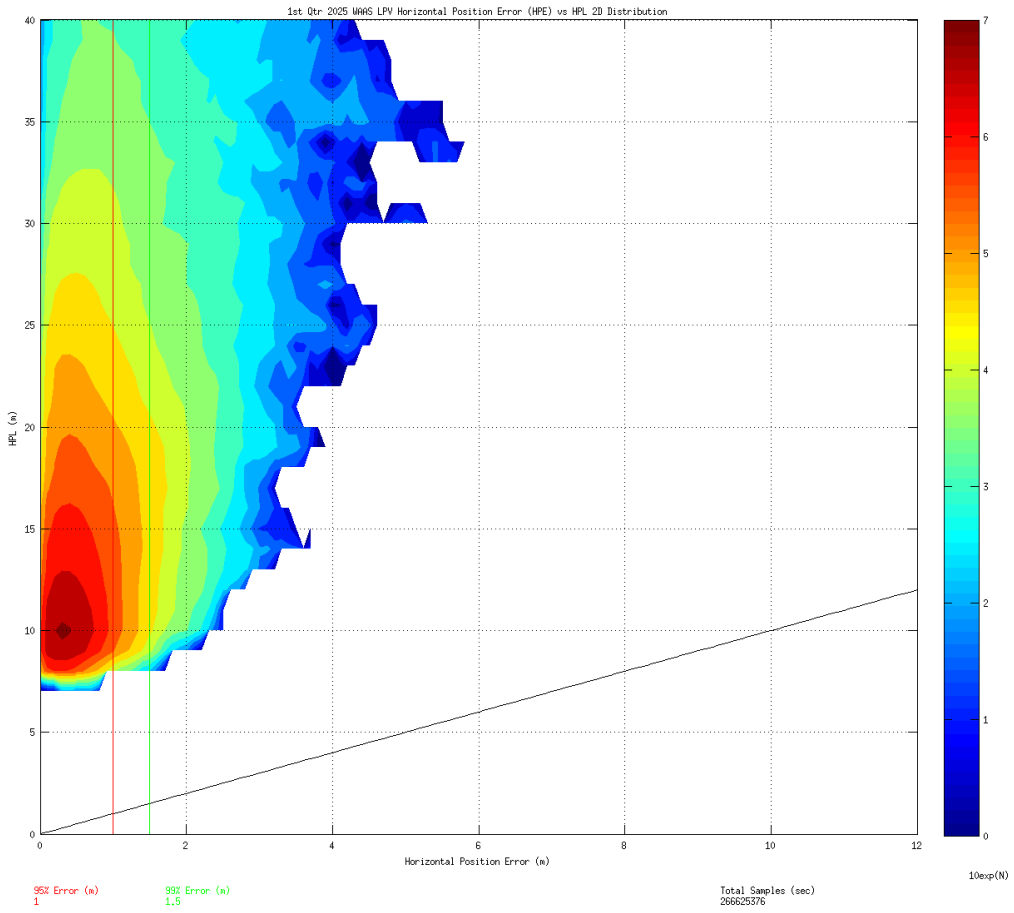

Figure 2-9 LPV Horizontal Error Bounding Triangle Chart

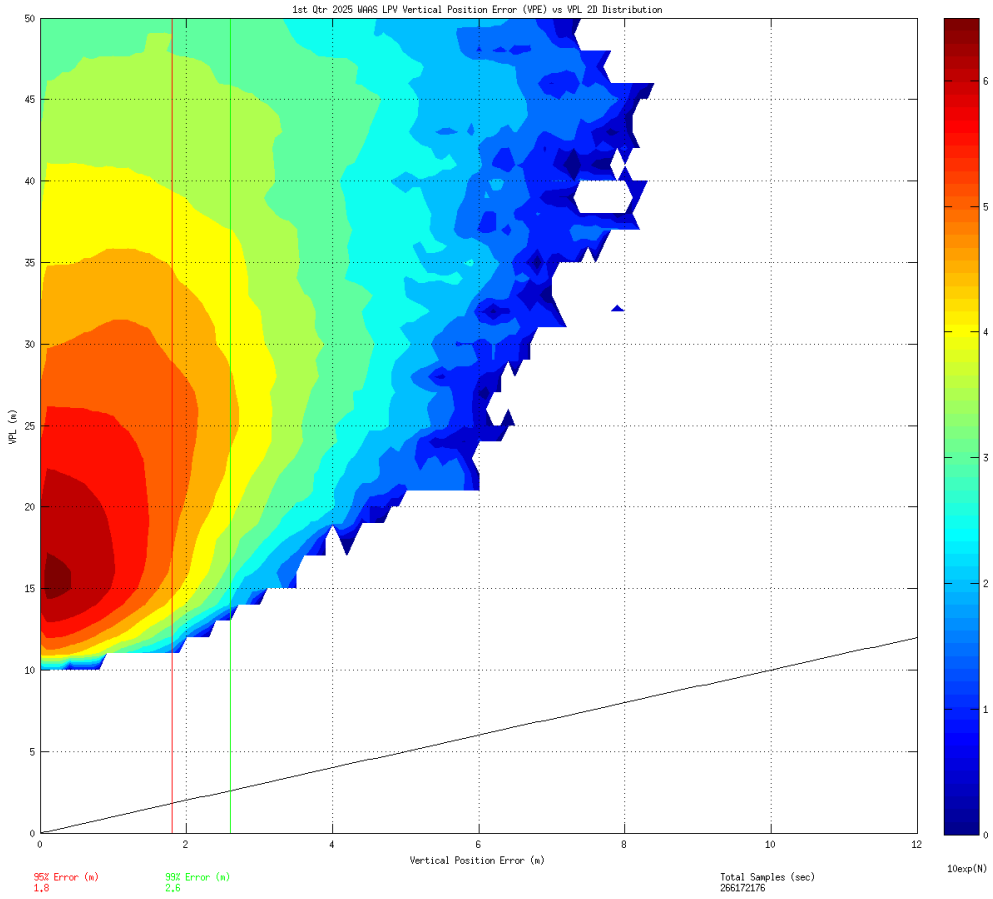

Figure 2-10 LPV Vertical Error Bounding Triangle Chart

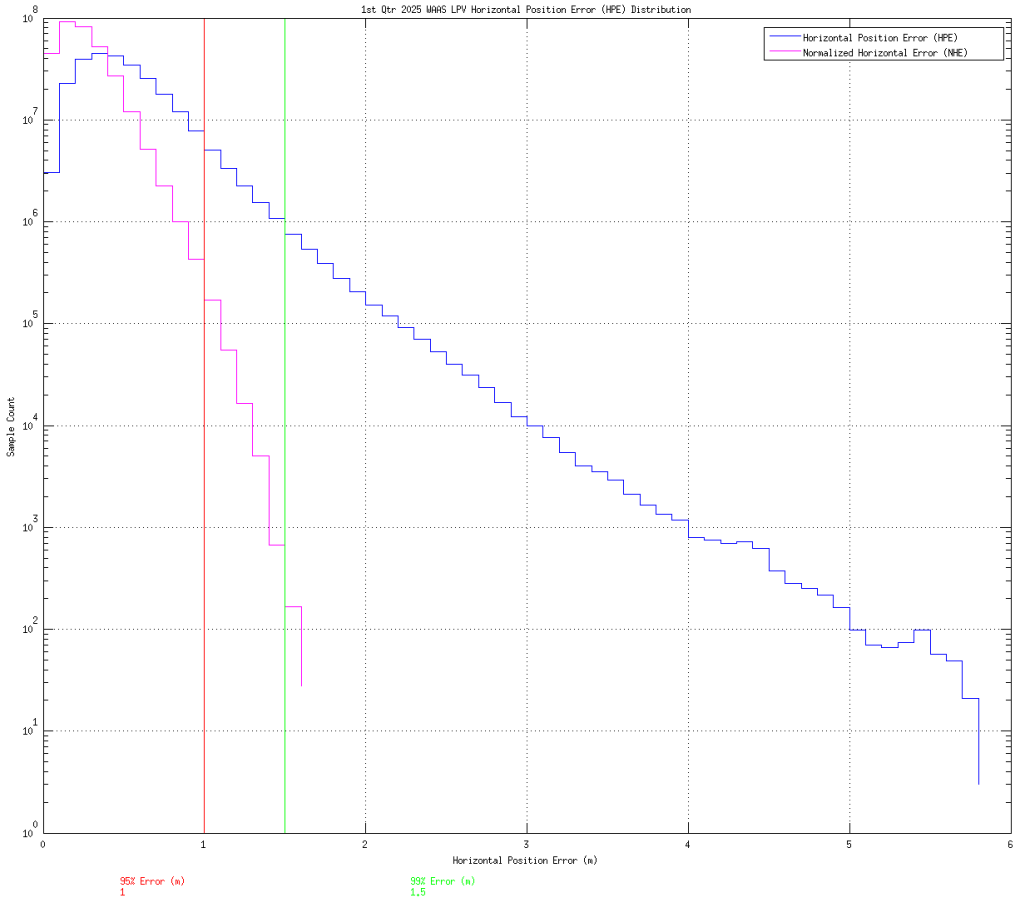

Figure 2-11 LPV 2-D Horizontal Error Distribution Histogram

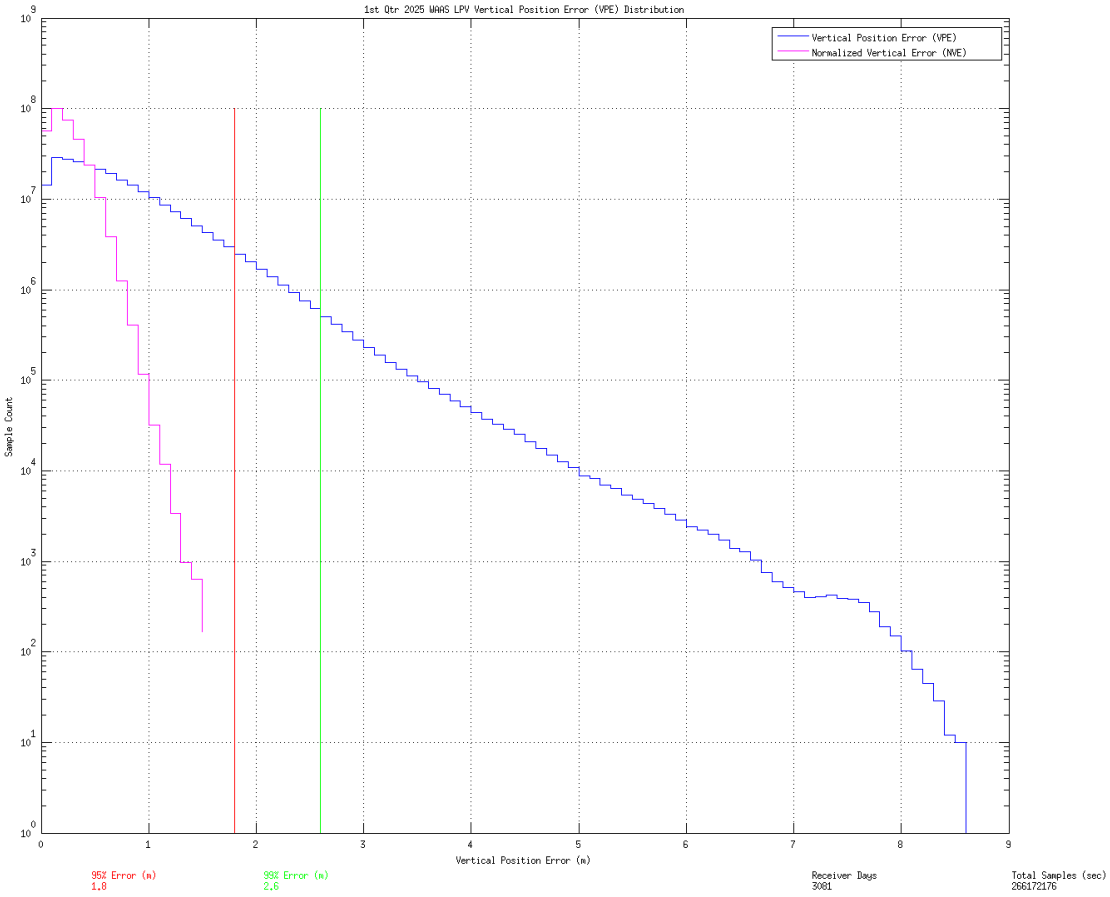

Figure 2-12 LPV 2-D Vertical Error Distribution Histogram

3.0 AVAILABILITY

The WAAS availability evaluation documents the percentage of time the WAAS provided service for the operational service levels defined in Table 1-1. The RTCA DO-229F VPL and HPL were computed for each evaluated receiver. Table 3-1 shows the evaluated receivers, the 99% maintained protection levels, and the percentage in PA mode (described in Section 2.0). The maximum and minimum VPL and HPL for this reporting period are listed as:

- The maximum 99% CONUS HPL was 22.805 meters observed at Miami
- The maximum 99% CONUS VPL was 33.847 meters observed at Oakland
- The minimum 99% CONUS HPL was 11.395 meters observed at Denver
- The minimum 99% CONUS VPL was 22.198 meters observed at Chicago
- The maximum 99% Alaska HPL was 72.028 meters observed at Barrow
- The maximum 99% Alaska VPL was 112.731 meters observed at Barrow
- The minimum 99% Alaska HPL was 25.826 meters observed at Cold Bay
- The minimum 99% Alaska VPL was 36.595 meters observed at Cold Bay

Table 3-1 99% Protection Level

Location	99% HPL (m)	99% VPL (m)	PA Mode (%)
Arcata	16.745	30.855	100
Atlantic City	15.240	26.829	100
Bangor	17.019	26.195	100
Elko	12.031	24.909	100
Grand Forks	14.932	23.867	100
Oklahoma City	13.130	24.152	100
Albuquerque	12.765	27.184	100
Anchorage	40.856	59.754	100
Atlanta	12.988	23.691	100
Barrow	72.028	112.731	100
Bethel	31.917	40.767	100
Billings	14.442	25.501	100
Boston	18.687	27.142	100
Chicago	13.010	22.198	100
Cleveland	14.514	23.028	100
Cold Bay	25.826	36.595	100
Dallas	12.507	23.519	100
Denver	11.395	23.010	100
Fairbanks	55.412	89.308	100
Gander	87.781	107.232	99.999
Goose Bay	87.909	100.280	100
Houston	14.574	26.503	100
Iqaluit	90.936	129.997	100
Jacksonville	14.919	26.069	100
Juneau	49.664	80.350	100
Kansas City	11.869	22.428	100
Kotzebue	57.062	76.764	100
Los Angeles	14.355	32.998	100
Memphis	12.316	23.240	100
Merida	29.314	52.759	99.996
Mexico City	40.340	71.021	100
Miami	22.805	33.148	100
Minneapolis	16.544	23.484	100
New York	15.856	25.849	100
Oakland	14.795	33.847	100
Puerto Vallarta	35.874	62.596	100
Salt Lake City	11.786	23.689	100
San Jose Del Cabo	30.537	58.938	99.990
Seattle	17.451	29.397	100
Washington, DC	13.799	23.720	100
Winnipeg	31.051	51.361	100

Availability of LP, LPV, and LPV200 services are evaluated by monitoring the WAAS protection levels at receiver locations. Service is available when the VPL is less than the vertical alert limit (VAL) and the HPL is less than the horizontal alert limit (HAL). When the protection level exceeds the alert limit, the service is unavailable and an outage in service is recorded along with its duration. The operational service is not available again until both protection levels are within the alert limits for at least 15 minutes. Although this will cause minimal reduction in operational service availability, it will substantially reduce the number of service outages and prevent excessive switching in/out of service availability.

Table 3-2 shows the percentage of time LP, LPV, and LPV200 service is available using the 15-minute window criteria. Table 3-3 shows LP, LPV, and LPV200 service outages and associated outage rates. The outage rate is the percentage of theoretically interrupted approaches through a loss of operational service once the approach had started. Figure 3-1 through Figure 3-6 show the daily availability of LPV and LPV200 service levels. Figure 3-7 through Figure 3-12 show the daily interruptions of LPV and LPV200 service levels.

Table 3-2 PA Availability (15-minute window)

Location	LP WAAS With 15-Minute Window (%)	LPV WAAS With 15-Minute Window (%)	LPV200 WAAS With 15-Minute Window (%)
Arcata	100	99.92	99.84
Atlantic City	99.42	99.41	99.34
Bangor	100	100	99.95
Elko	100	100	99.98
Grand Forks	99.87	99.87	99.86
Oklahoma City	99.55	99.55	99.46
Albuquerque	99.57	99.54	99.49
Anchorage	98.95	98.72	98.37
Atlanta	99.53	99.53	99.49
Barrow	98.01	97.59	95.45
Bethel	99.23	99.05	98.73
Billings	99.47	99.47	99.4
Boston	99.39	99.31	99.26
Chicago	99.53	99.51	99.47
Cleveland	99.52	99.51	99.4
Cold Bay	99.31	99.27	98.71
Dallas	99.57	99.56	99.47
Denver	99.48	99.48	99.47
Fairbanks	98.54	98.36	97.73
Gander	97.74	97.57	95.26
Goose Bay	97.11	96.99	95.45
Houston	99.52	99.5	99.43
Iqaluit	93.88	93.21	86.67
Jacksonville	99.52	99.49	99.42
Juneau	98.78	98.52	97.85
Kansas City	99.52	99.52	99.47
Kotzebue	98.61	98.35	97.44
Los Angeles	99.55	99.5	99.19
Memphis	99.57	99.57	99.55
Merida	99.27	98.52	92.69
Mexico City	98.9	96.71	80.39
Miami	99.57	99.46	99.11
Minneapolis	99.47	99.43	99.32

Location	LP WAAS With 15-Minute Window (%)	LPV WAAS With 15-Minute Window (%)	LPV200 WAAS With 15-Minute Window (%)
New York	99.44	99.38	99.3
Oakland	99.56	99.52	99.12
Puerto Vallarta	99.15	97.3	78.3
Salt Lake City	99.56	99.52	99.48
San Jose Del Cabo	99.29	98.11	88.91
Seattle	99.51	99.44	99.27
Washington, DC	99.52	99.51	99.46
Winnipeg	99.08	98.93	98.74

Table 3-3 LP, LPV, and LPV200 Outage Rate (Per 150-sec approach)

Location	LP Outages (Number)	LP Outage Rates	LPV Outages (Number)	LPV Outage Rates	LPV200 Outages (Number)	LPV200 Outage Rates
Arcata	0	0.000000	1	0.000030	5	0.000151
Atlantic City	4	0.000080	4	0.000080	4	0.000080
Bangor	0	0.000000	0	0.000000	2	0.000057
Elko	0	0.000000	0	0.000000	7	0.000250
Grand Forks	2	0.000058	2	0.000058	3	0.000087
Oklahoma City	3	0.000058	4	0.000078	4	0.000078
Albuquerque	2	0.000039	3	0.000058	11	0.000213
Anchorage	19	0.000371	22	0.000430	26	0.000510
Atlanta	2	0.000039	2	0.000039	4	0.000078
Barrow	36	0.000709	56	0.001108	132	0.002671
Bethel	17	0.000331	18	0.000351	36	0.000703
Billings	3	0.000058	3	0.000058	11	0.000214
Boston	5	0.000097	4	0.000078	4	0.000078
Chicago	4	0.000078	3	0.000058	3	0.000058
Cleveland	3	0.000058	3	0.000058	4	0.000078
Cold Bay	9	0.000175	11	0.000214	47	0.000919
Dallas	2	0.000039	3	0.000058	3	0.000058
Denver	3	0.000058	3	0.000058	3	0.000058
Fairbanks	25	0.000490	32	0.000628	64	0.001264
Gander	35	0.000691	37	0.000732	130	0.002634
Goose Bay	34	0.000676	36	0.000716	72	0.001456
Houston	4	0.000078	4	0.000078	3	0.000058
Iqaluit	110	0.002293	138	0.002898	301	0.006798
Jacksonville	2	0.000039	3	0.000058	3	0.000058
Juneau	20	0.000391	25	0.000490	52	0.001026
Kansas City	3	0.000058	3	0.000058	3	0.000058

Location	LP Outages (Number)	LP Outage Rates	LPV Outages (Number)	LPV Outage Rates	LPV200 Outages (Number)	LPV200 Outage Rates
Kotzebue	25	0.000489	35	0.000687	76	0.001506
Los Angeles	3	0.000058	10	0.000194	32	0.000623
Memphis	2	0.000039	2	0.000039	3	0.000058
Merida	11	0.000218	111	0.002212	404	0.008557
Mexico City	19	0.000432	209	0.004855	840	0.023475
Miami	4	0.000078	8	0.000155	41	0.000798
Minneapolis	6	0.000116	6	0.000116	8	0.000155
New York	4	0.000078	5	0.000097	5	0.000097
Oakland	3	0.000058	4	0.000078	53	0.001032
Puerto Vallarta	35	0.000702	236	0.004825	923	0.023448
Salt Lake City	3	0.000058	3	0.000058	3	0.000058
San Jose Del Cabo	12	0.000282	108	0.002568	410	0.010758
Seattle	3	0.000058	7	0.000136	10	0.000194
Washington, DC	2	0.000039	2	0.000039	4	0.000078
Winnipeg	13	0.000253	13	0.000254	20	0.000391

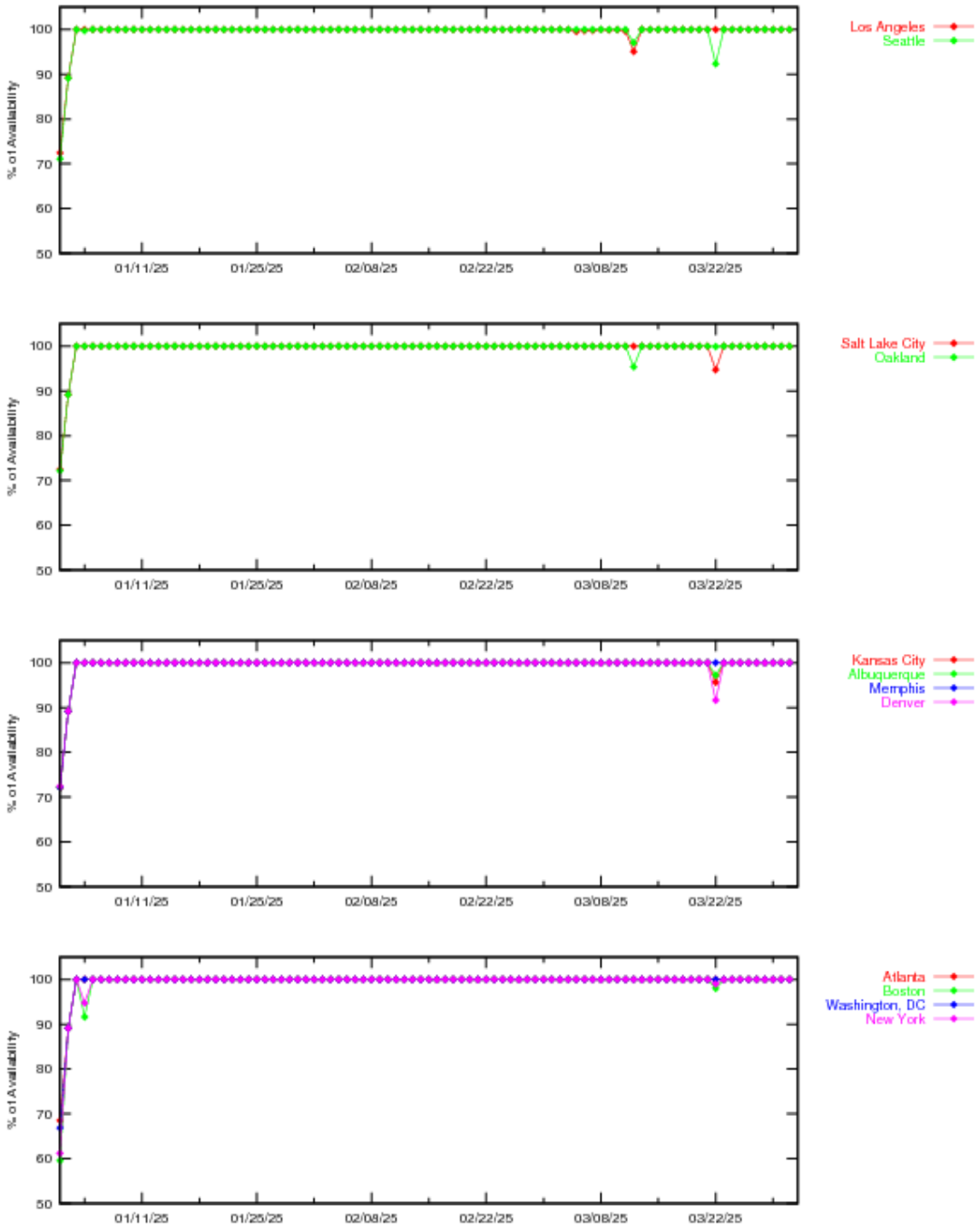

Figure 3-1 LPV Instantaneous Availability

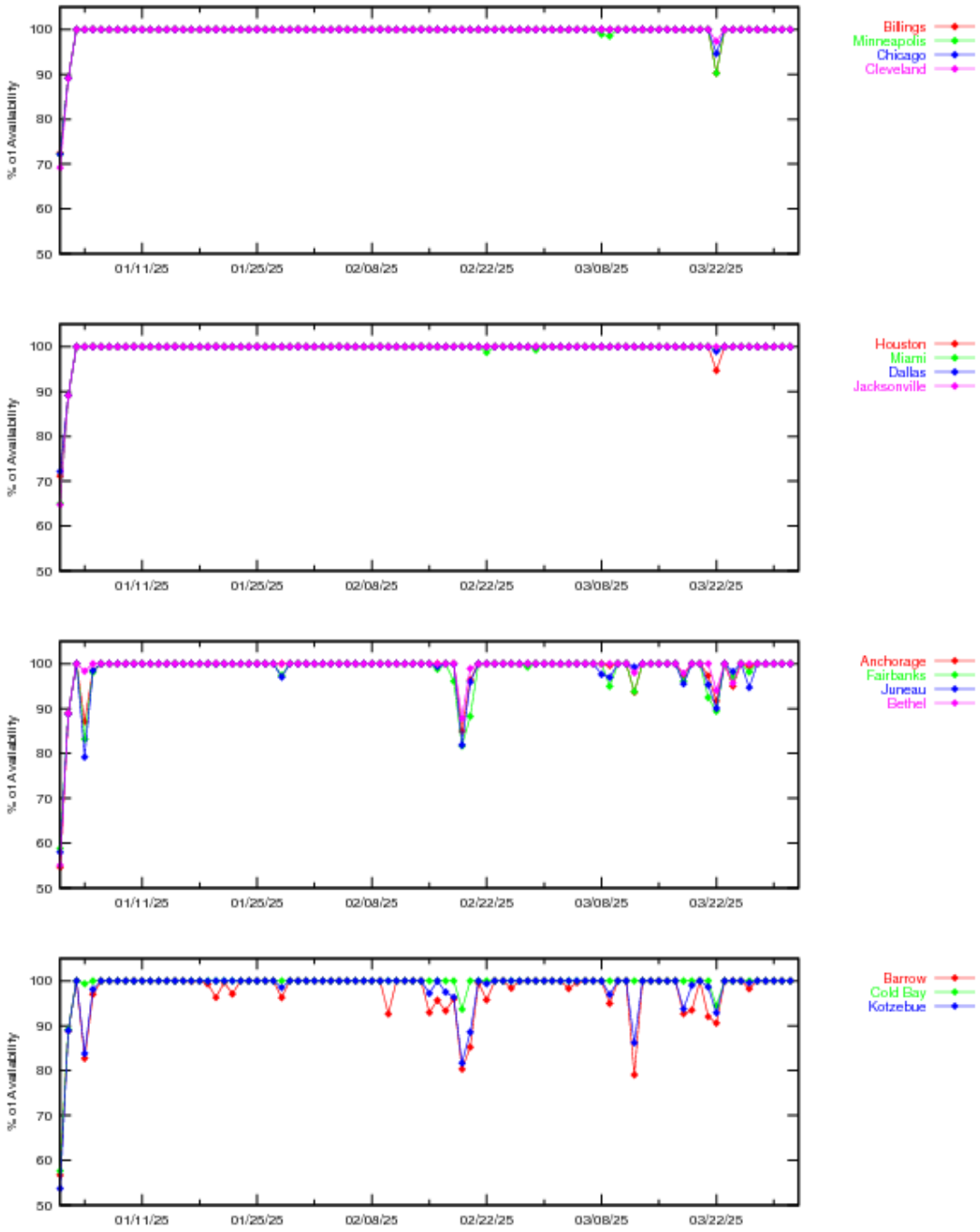

Figure 3-2 LPV Instantaneous Availability

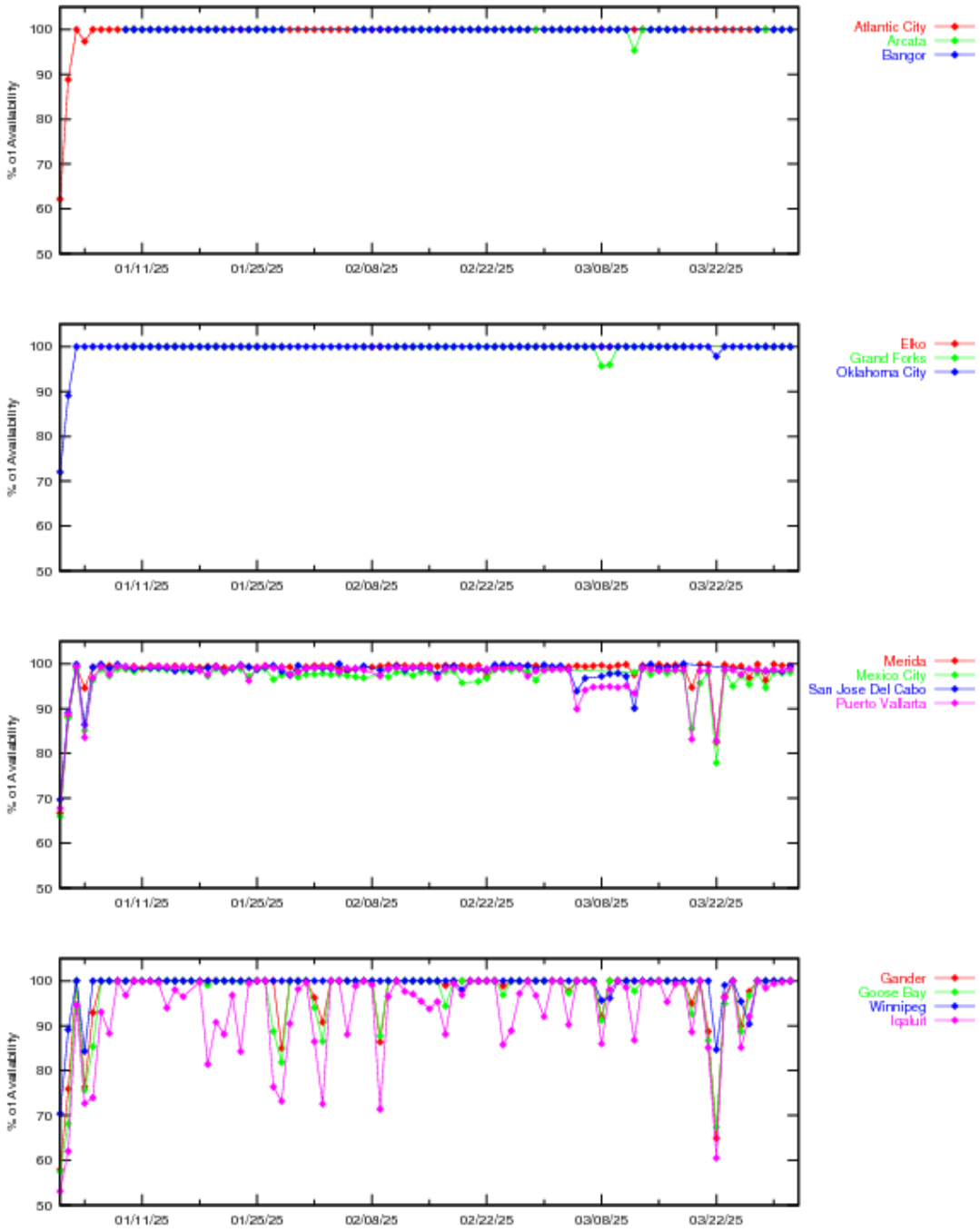

Figure 3-3 LPV Instantaneous Availability

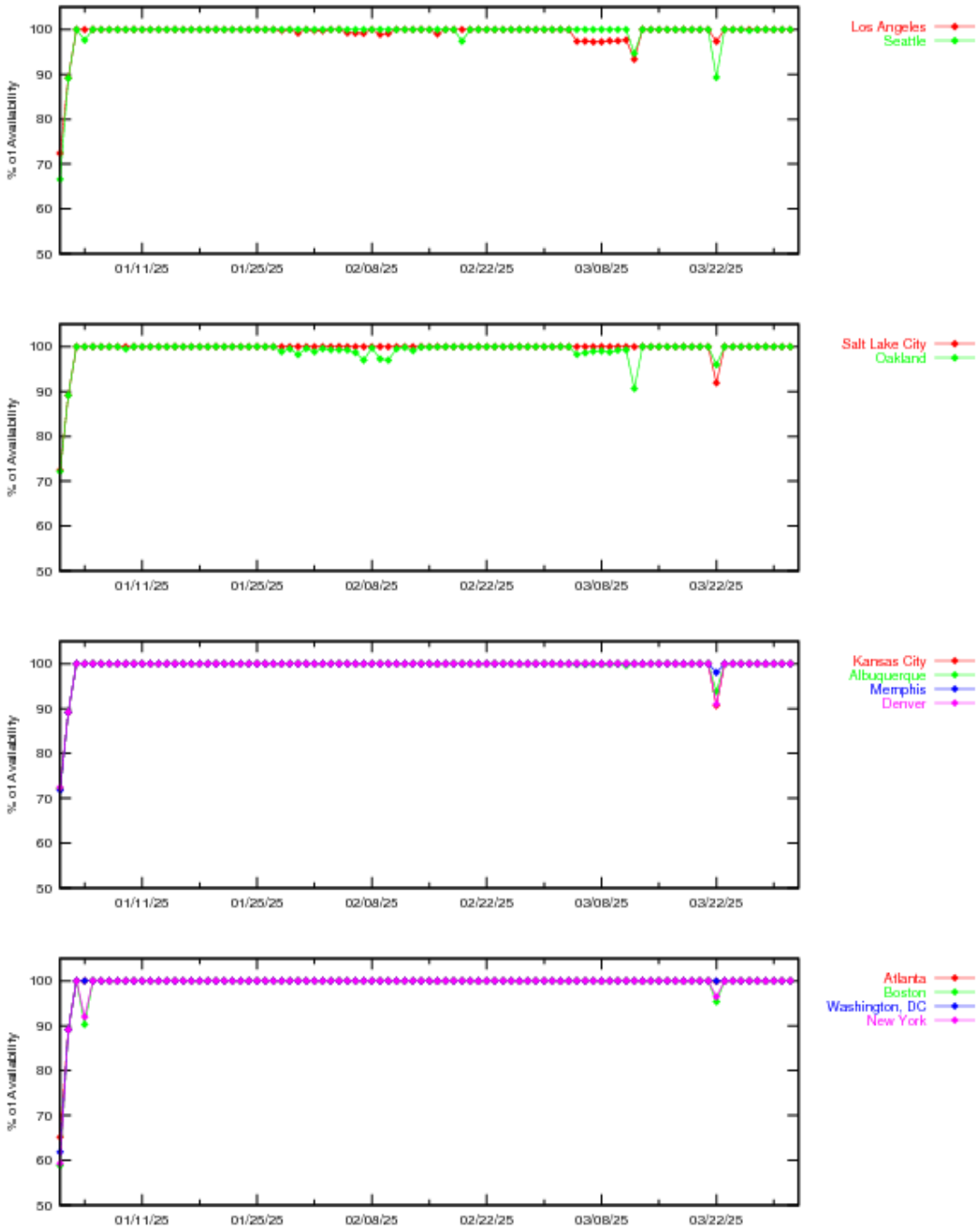

Figure 3-4 LPV200 Instantaneous Availability

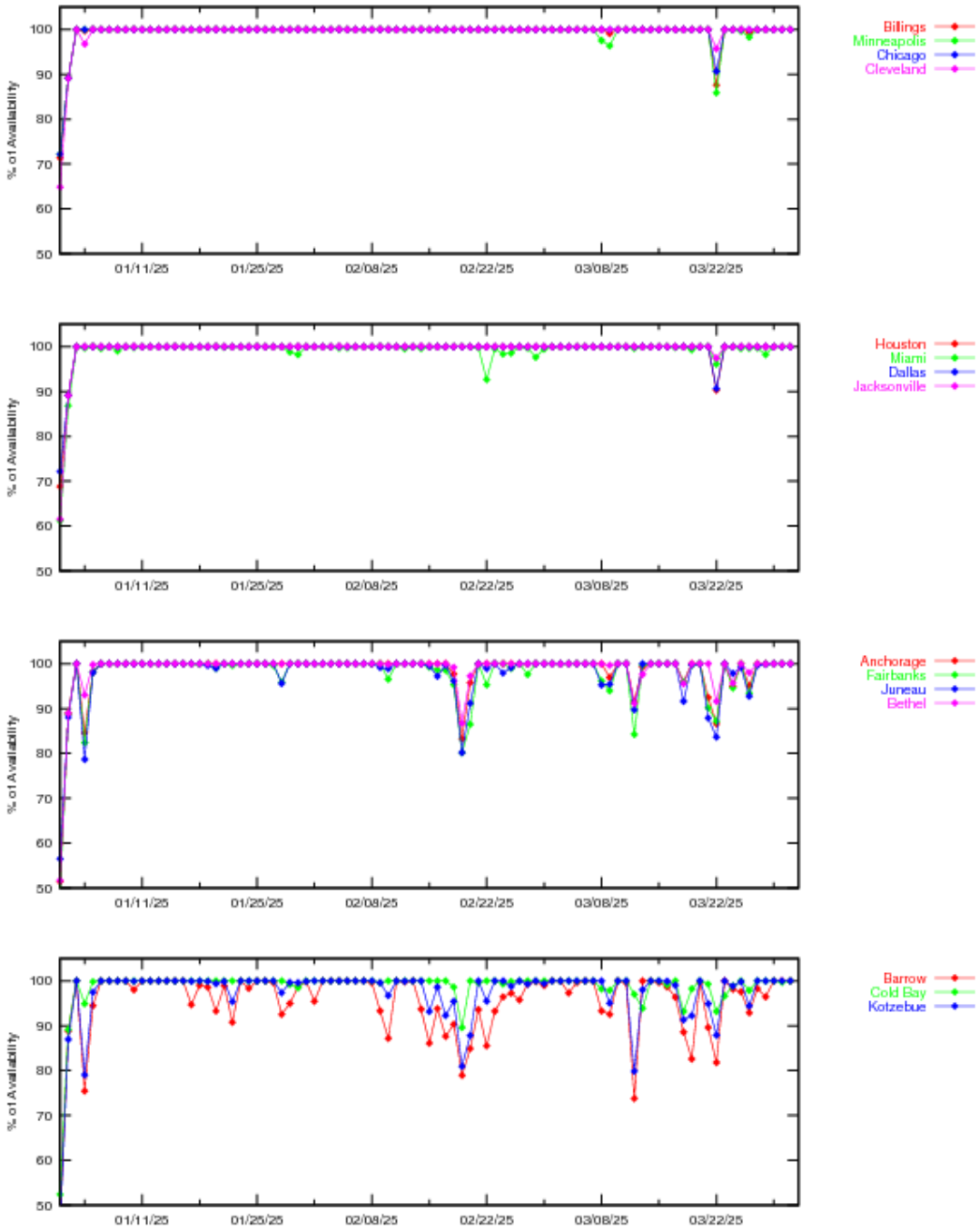

Figure 3-5 LPV200 Instantaneous Availability

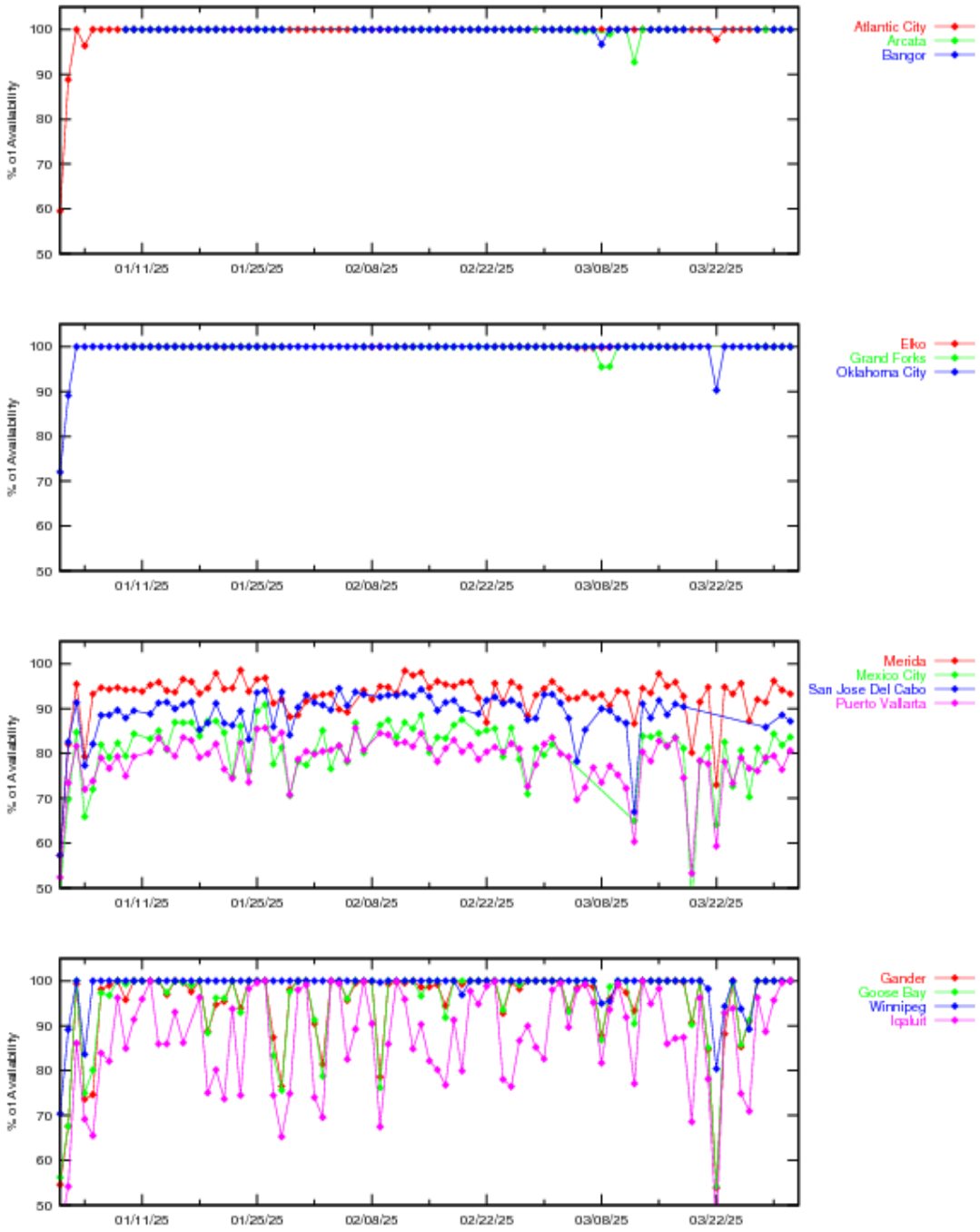

Figure 3-6 LPV200 Instantaneous Availability

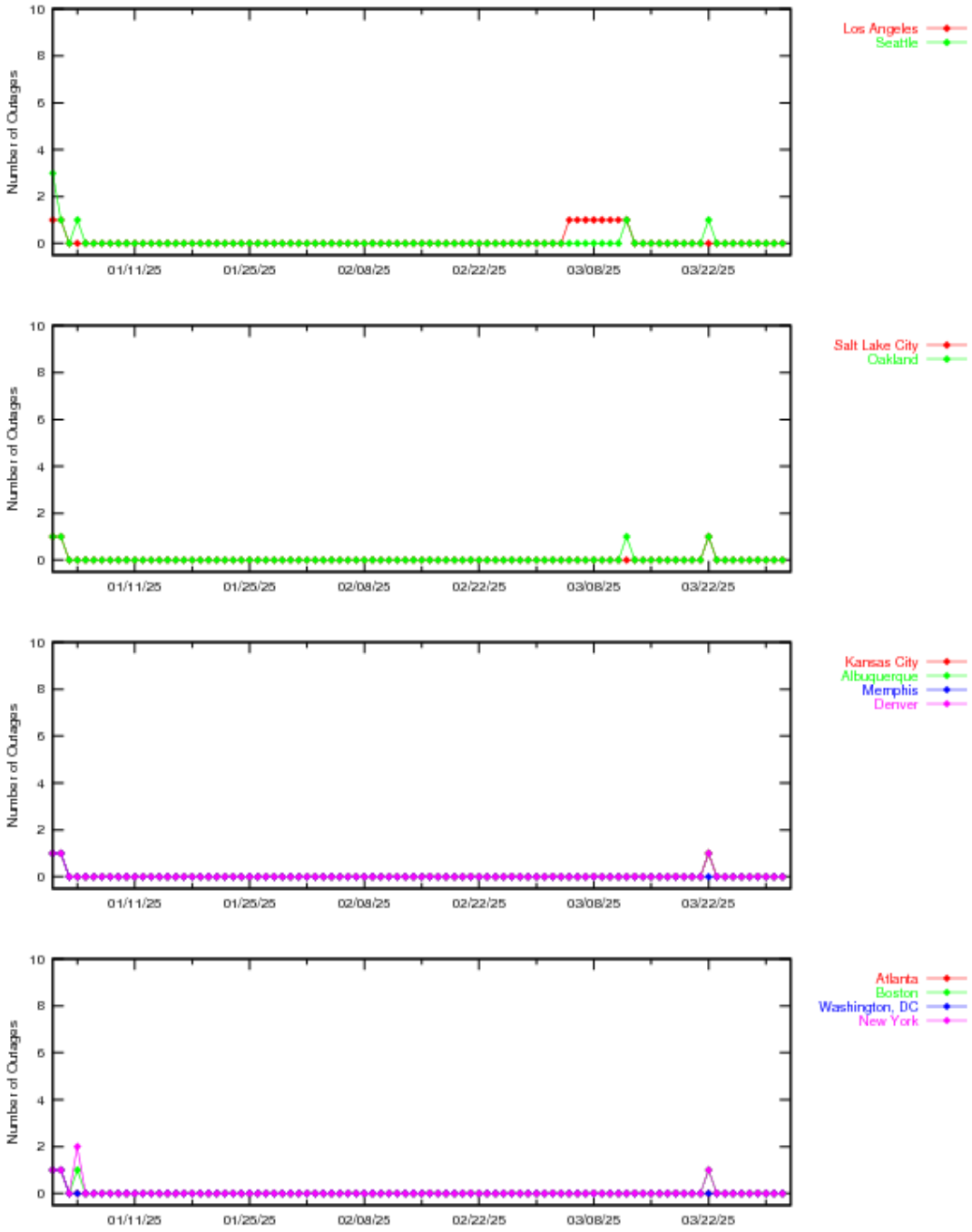

Figure 3-7 LPV Outages

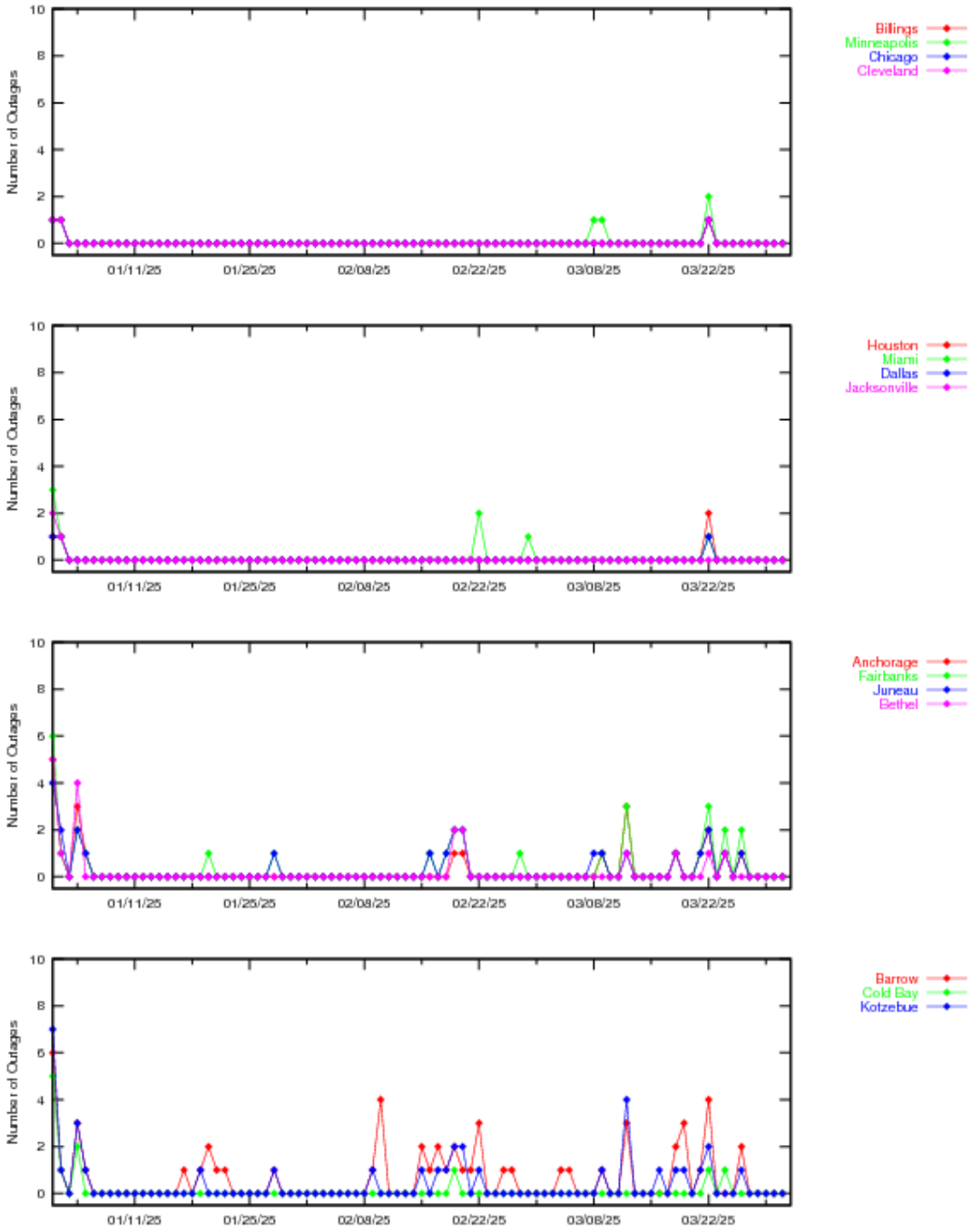

Figure 3-8 LPV Outages

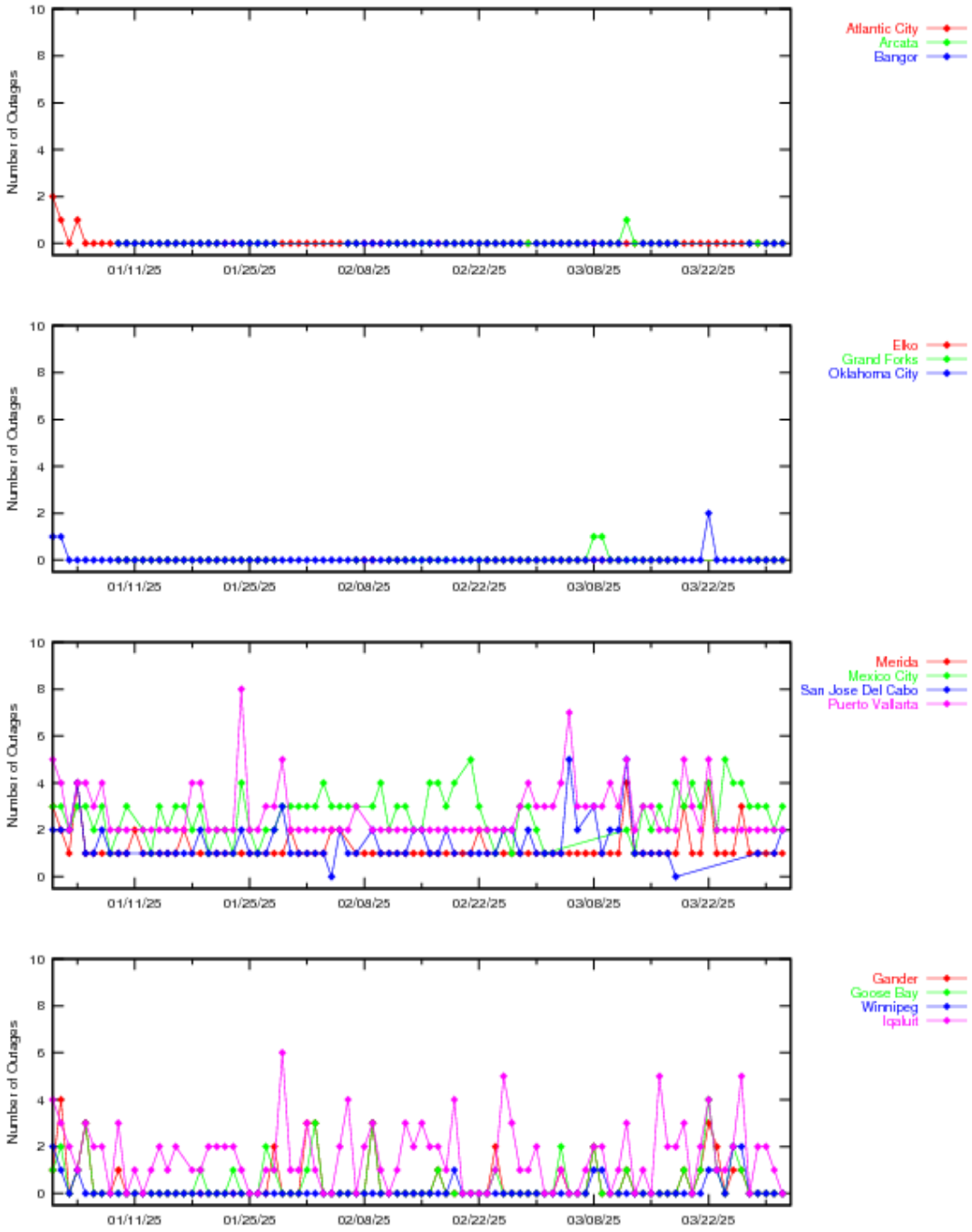

Figure 3-9 LPV Outages

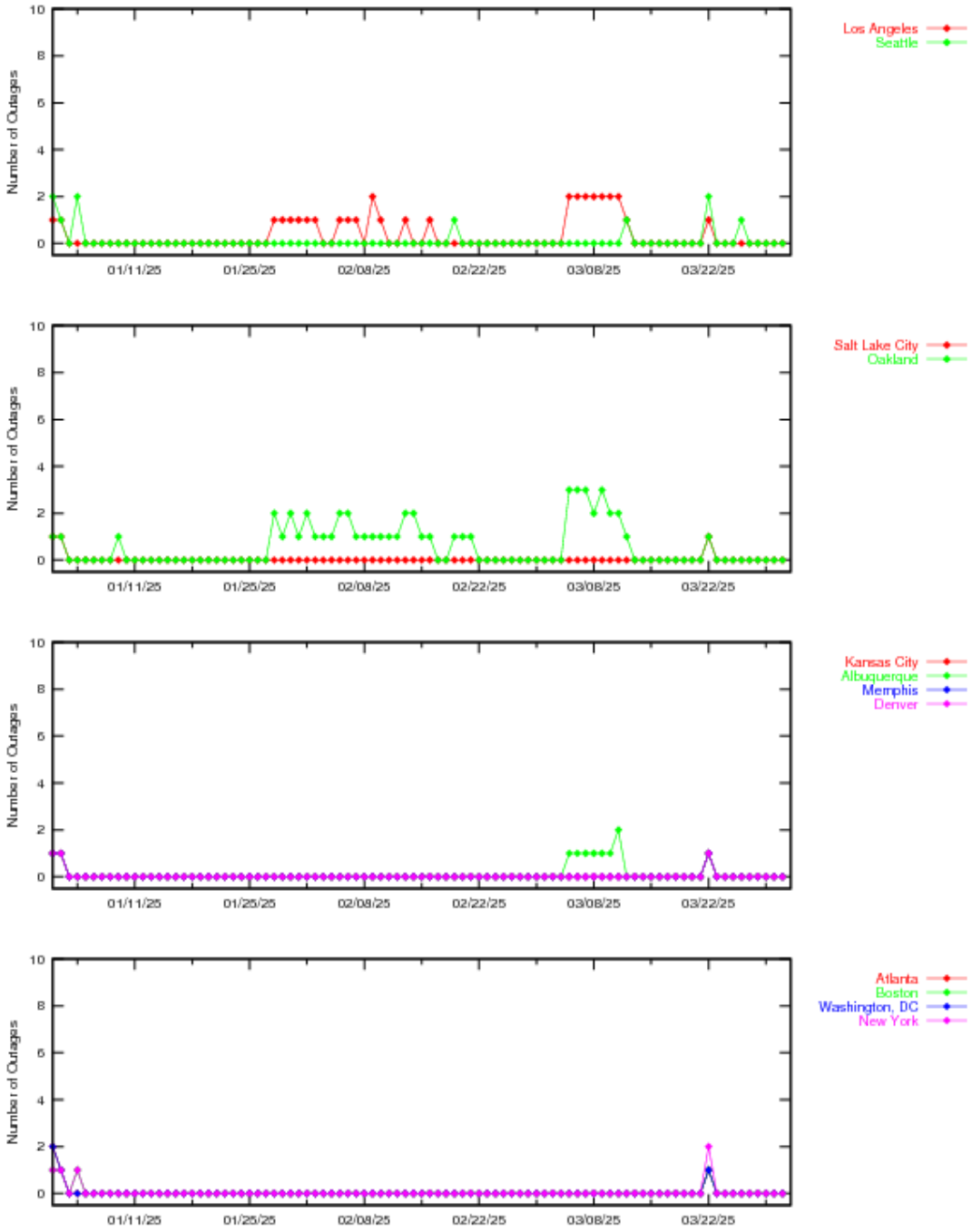

Figure 3-10 LPV200 Outages

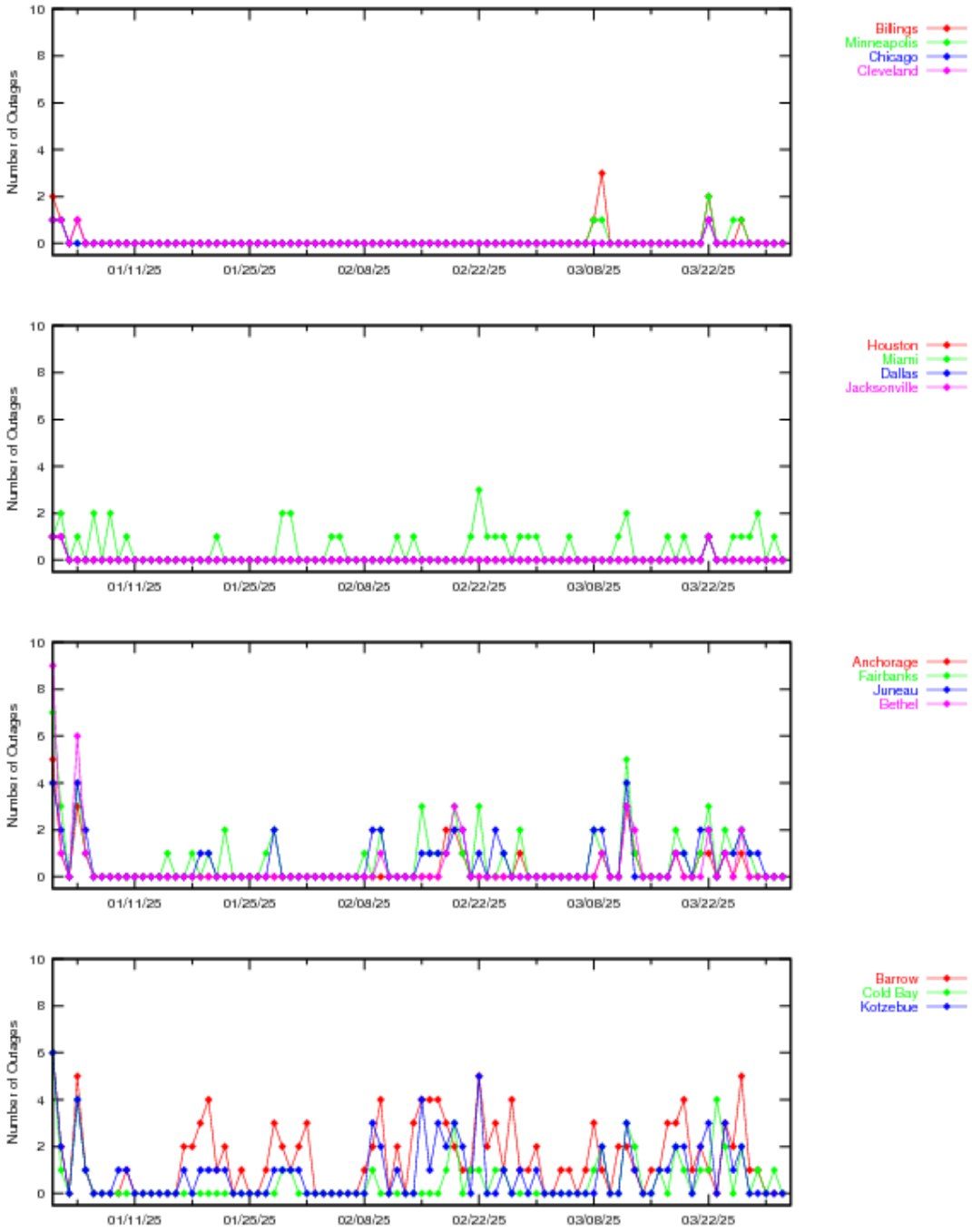

Figure 3-11 LPV200 Outages

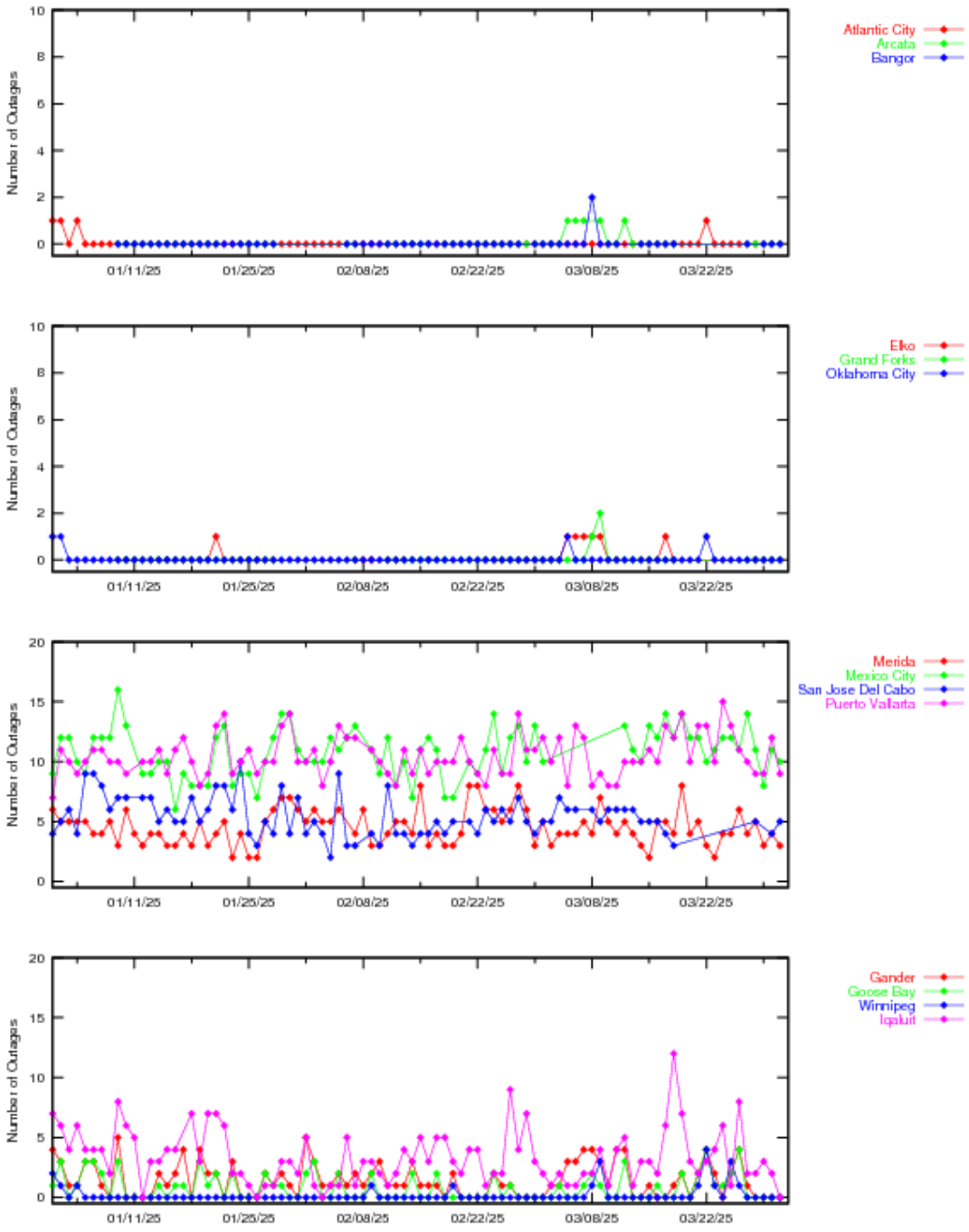

Figure 3-12 LPV200 Outages

Availability of NPA service is evaluated by monitoring the WAAS HPL at receiver locations. Service is available when the HPL is less than a HAL of 556 meters. The service is unavailable when HPL exceeds the HAL or when a WAAS navigation message is not received, and the service outage and its duration are recorded. NPA service is not available again until the HPL is within the HAL for at least 15 minutes. Table 3-4 shows the percentage of time that NPA service is available using the 15-minute window criteria. Table 3-5 shows the NPA service outages and associated outage rates. The outage rate is the percentage of theoretically interrupted NPA approaches through a loss of operational service once the approach had started.

Table 3-4 NPA Availability (15-minute window)

Location	NPA Availability (Excluding RAIM/FDE) (%)
Atlantic City	100
Oklahoma City	100
Albuquerque	100
Anchorage	100
Atlanta	100
Barrow	100
Bethel	100
Billings	100
Boston	100
Cleveland	100
Cold Bay	100
Fairbanks	100
Gander	100
Honolulu	100
Houston	100
Iqaluit	100
Juneau	100
Kansas City	100
Kotzebue	100
Los Angeles	100
Merida	100
Miami	100
Minneapolis	100
Oakland	100
Salt Lake City	100
San Jose Del Cabo	100
San Juan	100
Seattle	100
Tapachula	100
Washington, DC	100

Table 3-5 NPA Outage Rates (Excluding FD/FDE)

Location	NPA Outages (Number)	NPA Outage Rates
Oklahoma City	0	0
Albuquerque	0	0
Anchorage	0	0
Atlanta	0	0
Barrow	0	0
Bethel	0	0
Billings	0	0
Boston	0	0
Cleveland	0	0
Cold Bay	0	0
Fairbanks	0	0
Gander	0	0
Honolulu	0	0
Houston	0	0
Iqaluit	0	0
Juneau	0	0
Kansas City	0	0
Kotzebue	0	0
Los Angeles	0	0
Merida	0	0
Miami	0	0
Minneapolis	0	0
Oakland	0	0
Salt Lake City	0	0
San Jose Del Cabo	0	0
San Juan	0	0
Seattle	0	0
Tapachula	0	0
Washington, DC	0	0

The availability decreases for this quarter were due to satellite maintenance, geomagnetic activity, and elevated UDRE values. Noteworthy events that affected availability are:

- Jan 01 - Jan 02 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS, Alaska, and Canada.
- Jan 02 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS, Alaska, and Canada.
- Jan 03 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Jan 04 - Jan 05 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS, Alaska, and Canada.

- Jan 05 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS and Canada.
- Jan 06 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS and Canada.
- Jan 07 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Jan 08 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Jan 09 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS and Canada.
- Jan 09 - Jan 09 - Satellite maintenance elevated UDREs on PRN10 and reduced LPV200 availability in CONUS and Canada.
- Jan 10 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS, Alaska, and Canada.
- Jan 11 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Jan 13 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS and Canada.
- Jan 14 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Jan 15 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Jan 16 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS and Canada.
- Jan 17 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.
- Jan 18 - Geomagnetic activity increased GIVEs and reduced LPV availability in CONUS and LPV200 availability in Alaska and Canada.
- Jan 19 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Jan 20 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Jan 21 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.
- Jan 22 - Satellite maintenance elevated UDREs on PRN22 and reduced LPV200 availability in CONUS.
- Jan 22 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Jan 22 - Satellite maintenance elevated UDREs on PRN1 and reduced LPV200 availability in CONUS.
- Jan 23 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Jan 24 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Alaska and Canada.
- Jan 25 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Jan 27 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.
- Jan 27 - Satellite maintenance elevated UDREs on PRN21 and reduced LPV200 availability in CONUS.
- Jan 28 - Geomagnetic activity increased GIVEs and reduced LPV availability in Alaska and Canada and LPV200 availability in All.
- Jan 29 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS, Alaska, and Canada.
- Jan 30 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in CONUS, Alaska, and Canada.
- Jan 31 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in CONUS and Canada.
- Feb 01 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS, Alaska, and Canada.
- Feb 02 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS and Canada.
- Feb 03 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Feb 03 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Feb 04 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in CONUS and Canada.

- Feb 05 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS and Canada.
- Feb 05 - Feb 05 - Satellite maintenance elevated UDREs on PRN28 and reduced LPV200 availability in CONUS.
- Feb 06 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS and Canada.
- Feb 07 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in CONUS and Canada.
- Feb 07 - Feb 07 - Satellite maintenance elevated UDREs on PRN2 and reduced LPV200 availability in CONUS.
- Feb 08 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Feb 09 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS, Alaska, and Canada.
- Feb 10 - Geomagnetic activity increased GIVEs and reduced LPV availability in Alaska and Canada and LPV200 availability in CONUS, Alaska, and Canada.
- Feb 11 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in CONUS and Canada.
- Feb 12 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS and Canada.
- Feb 13 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Feb 14 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in All.
- Feb 15 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Feb 16 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS, Alaska, and Canada.
- Feb 17 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Feb 18 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Feb 19 - Feb 20 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS, Alaska, and Canada.
- Feb 20 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Feb 21 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.
- Feb 22 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS, Alaska, and Canada.
- Feb 23 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.
- Feb 24 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS, Alaska, and Canada.
- Feb 25 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in All.
- Feb 26 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.
- Feb 27 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Feb 28 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS and Canada.
- Mar 01 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in CONUS, Alaska, and Canada.
- Mar 02 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Mar 03 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Mar 04 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.

- Mar 05 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Mar 05 - Mar 11 - Satellite maintenance elevated UDREs on PRN8 and reduced LPV and LPV200 availability in CONUS.
- Mar 06 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Mar 07 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS and Canada.
- Mar 08 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS, Alaska, and Canada.
- Mar 09 - Geomagnetic activity increased GIVEs and reduced LPV availability in Alaska and LPV200 availability in Alaska and Canada.
- Mar 10 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Mar 11 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS and Canada.
- Mar 11 - Mar 12 - Satellite maintenance elevated UDREs on PRN6 and reduced LPV200 availability in CONUS.
- Mar 12 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS, Alaska, and Canada.
- Mar 13 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Alaska and Canada.
- Mar 14 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Mar 15 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Mar 16 - Mar 17 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.
- Mar 17 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.
- Mar 18 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Mar 19 - Geomagnetic activity increased GIVEs and reduced LPV availability in Alaska and Canada and LPV200 availability in CONUS, Alaska, and Canada.
- Mar 20 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.
- Mar 21 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in All.
- Mar 22 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS, Alaska, and Canada.
- Mar 23 - Geomagnetic activity increased GIVEs and reduced LPV availability in CONUS and LPV200 availability in CONUS, Alaska, and Canada.
- Mar 24 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Alaska and Canada.
- Mar 25 - Geomagnetic activity increased GIVEs and reduced LPV availability in CONUS and Canada and LPV200 availability in All.
- Mar 26 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in CONUS, Alaska, and Canada.
- Mar 27 - Geomagnetic activity increased GIVEs and reduced LPV availability in Canada and LPV200 availability in Alaska and Canada.
- Mar 28 - Geomagnetic activity increased GIVEs and reduced LPV availability in CONUS and LPV200 availability in All.
- Mar 29 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Mar 30 - Geomagnetic activity increased GIVEs and reduced LPV and LPV200 availability in Canada.
- Mar 31 - Geomagnetic activity increased GIVEs and reduced LPV200 availability in Canada.

4.0 COVERAGE

The WAAS coverage area evaluation estimates the percentage of service volume where WAAS provided service for the operational service levels defined in Table 1-1. The WAAS message and GPS/GEO satellite status are used to determine WAAS availability across North America. For PA coverage, protection levels were calculated at 30-second intervals at 1-degree spacing over the PA service volume, whereas for NPA coverage, the protection levels were calculated at 30-second intervals at 5-degree spacing over the NPA service volume.

Daily PA analysis was conducted for LP, LPV, and LPV200 service levels. The PA coverage plots provide 100%, 99.9%, 99%, 98%, and 95% availability contours. Figure 4-1 shows the rollup LP North America coverage, Figure 4-2 shows the rollup LPV North America coverage, Figure 4-3 shows the rollup LPV200 North America coverage, Figure 4-4 shows the daily LPV and LPV200 CONUS coverage, Figure 4-5 shows the daily LPV Alaska coverage at 99% availability and ionosphere Kp index values, and Figure 4-6 shows the daily LPV and LPV200 Canada coverage at 99% availability and ionosphere Kp index values. See APPENDIX B: ADDITIONAL COVERAGE PLOTS for coverage plots of 98% LP and LPV availability contour and 99% LPV200 availability contour. Kp quantifies the disturbance in the Earth's magnetic field and is an indicator of solar storms causing geomagnetic disturbances, which can cause an unpredictable ionosphere. When the WAAS detects a disturbed ionosphere, it increases GIVE values that may result in unavailable PA service.

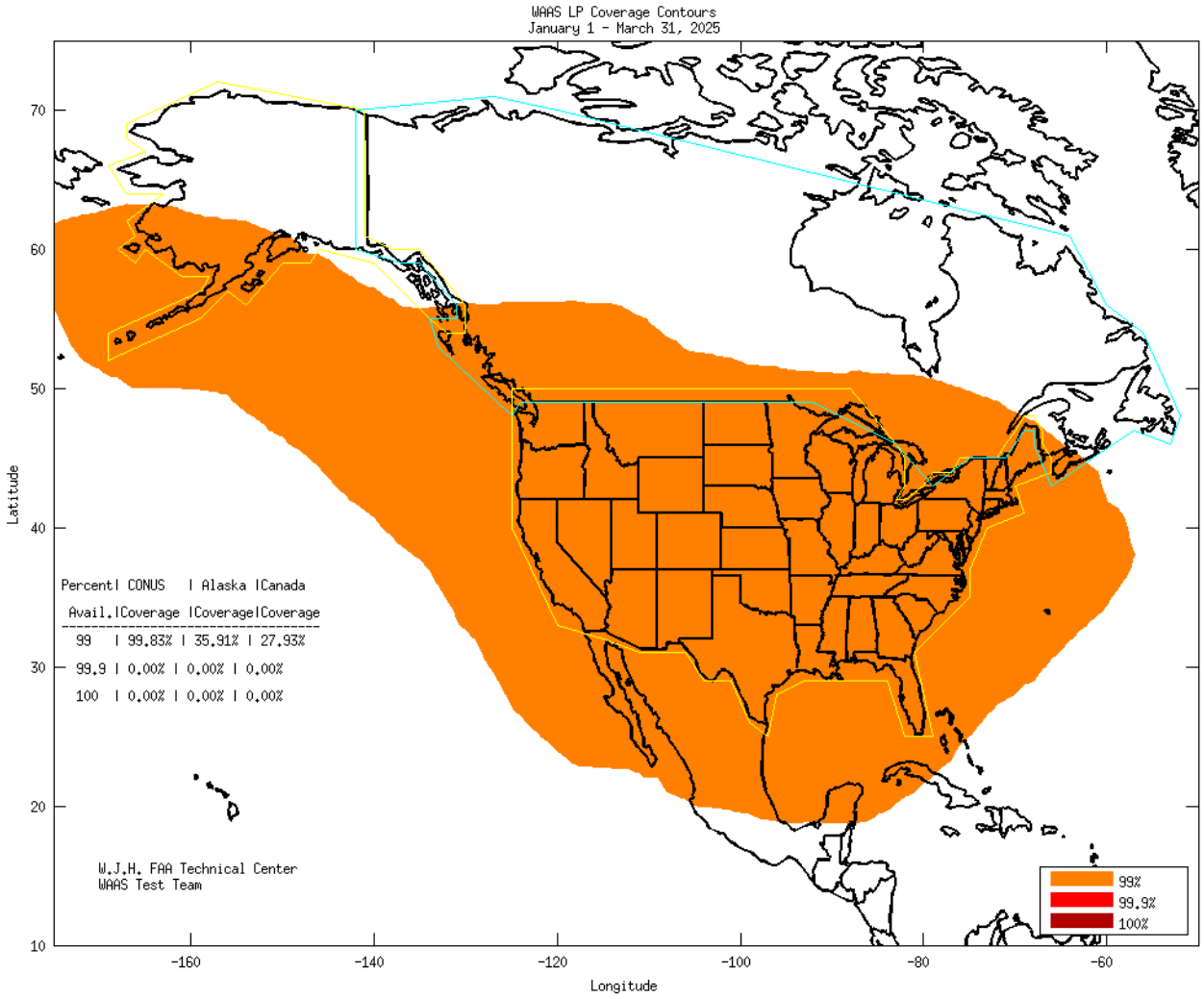

Figure 4-1 LP North America Coverage for the Quarter

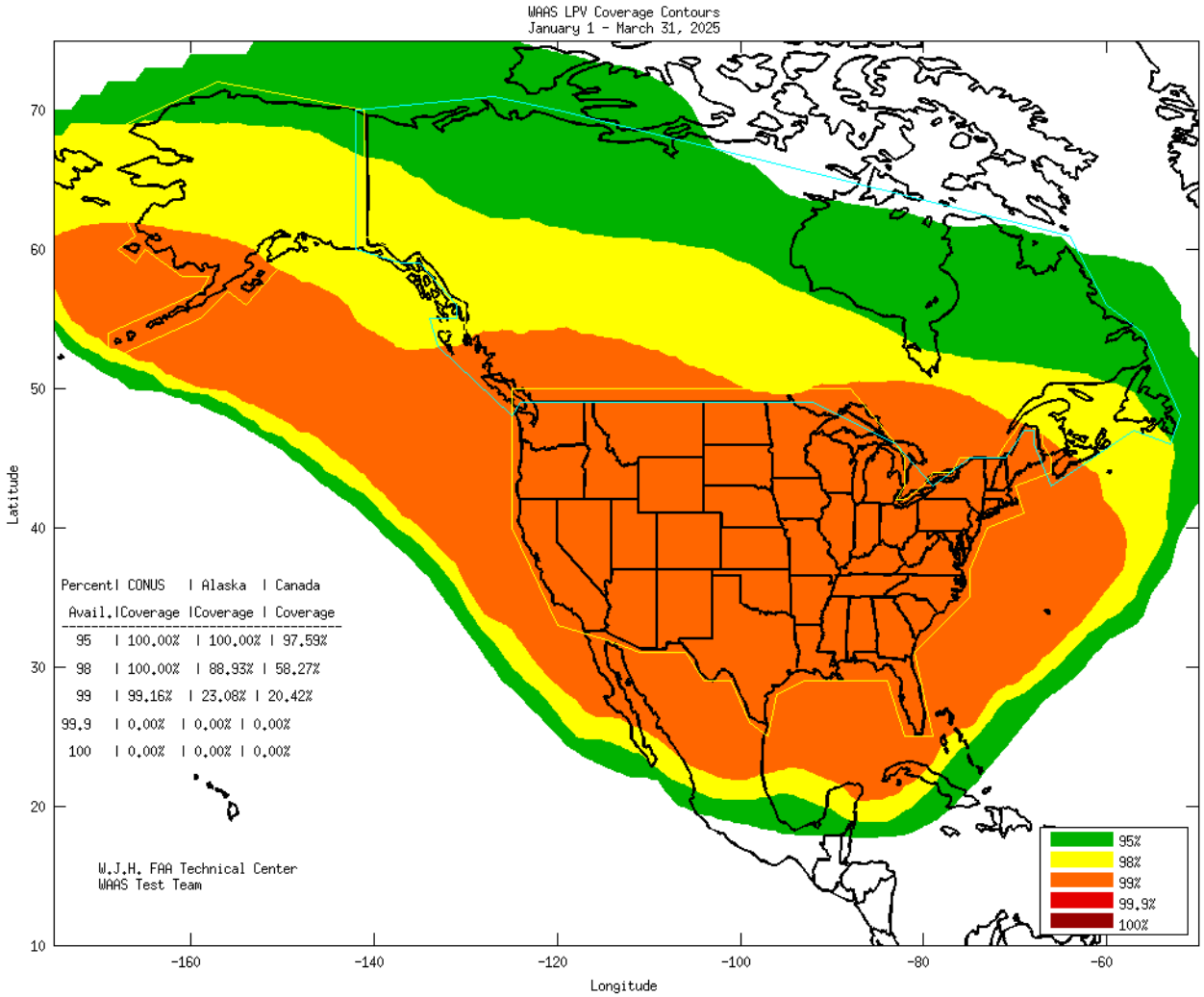

Figure 4-2 LPV North America Coverage for the Quarter

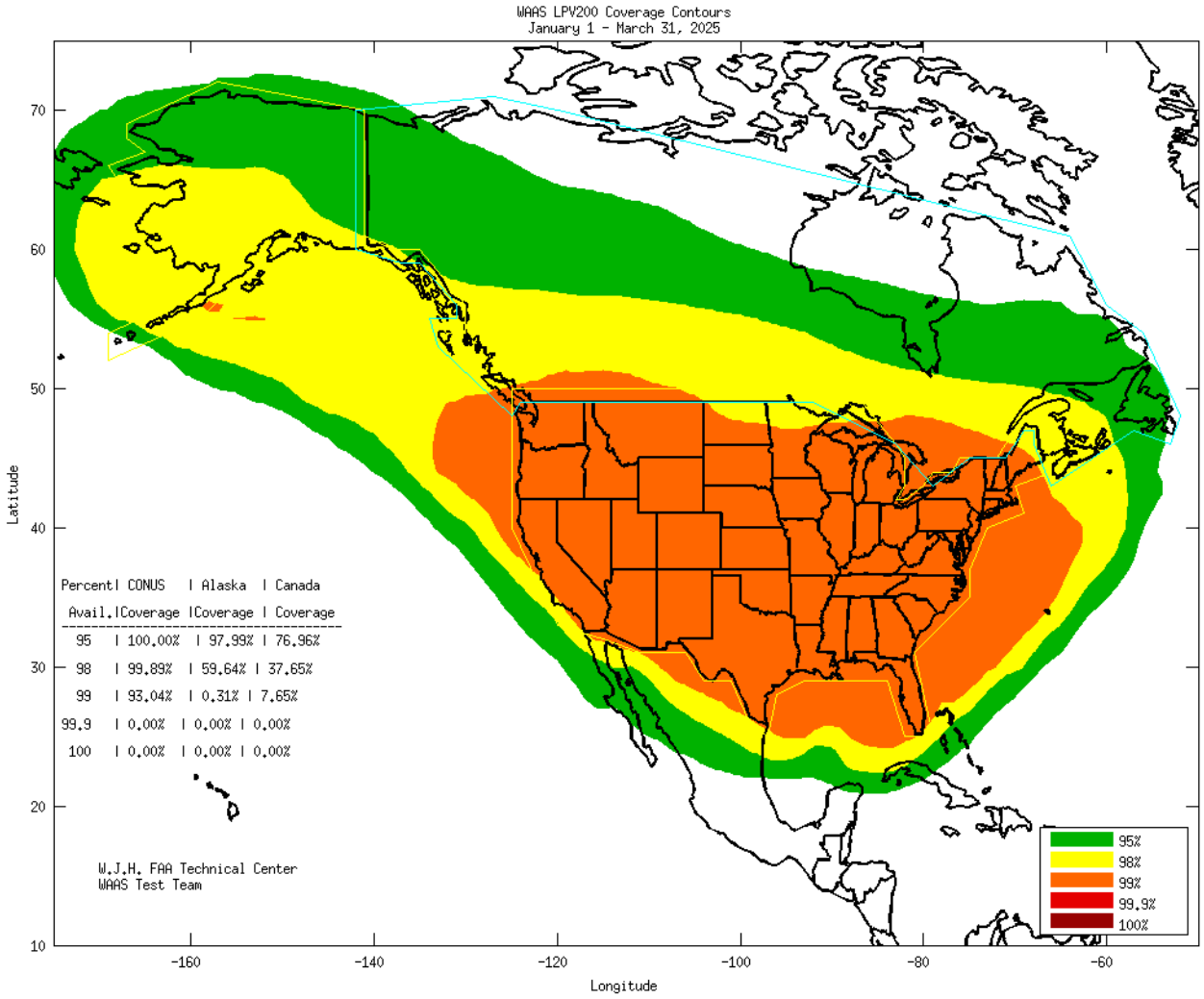

Figure 4-3 LPV200 North America Coverage for the Quarter

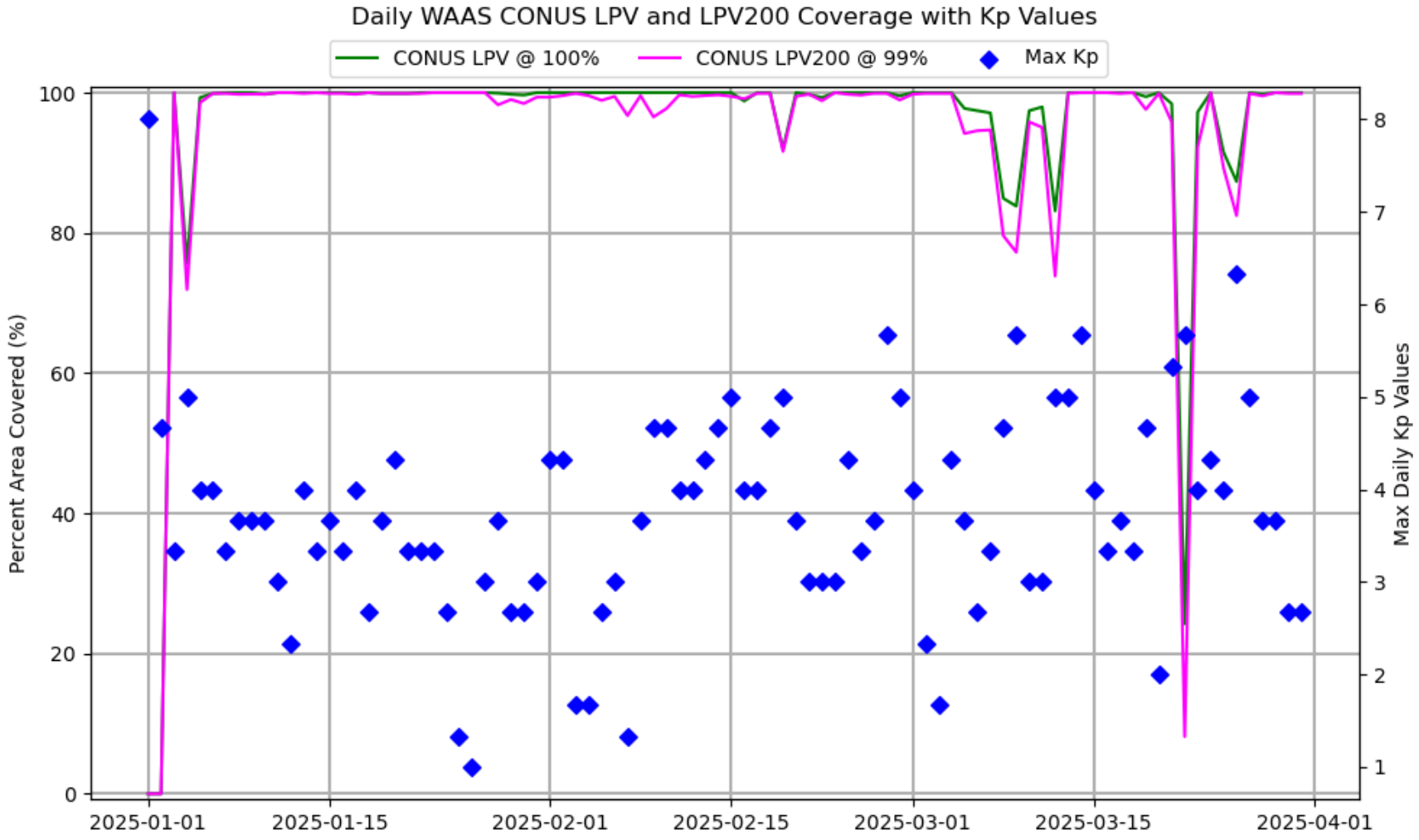

Figure 4-4 Daily LPV and LPV200 CONUS Coverage

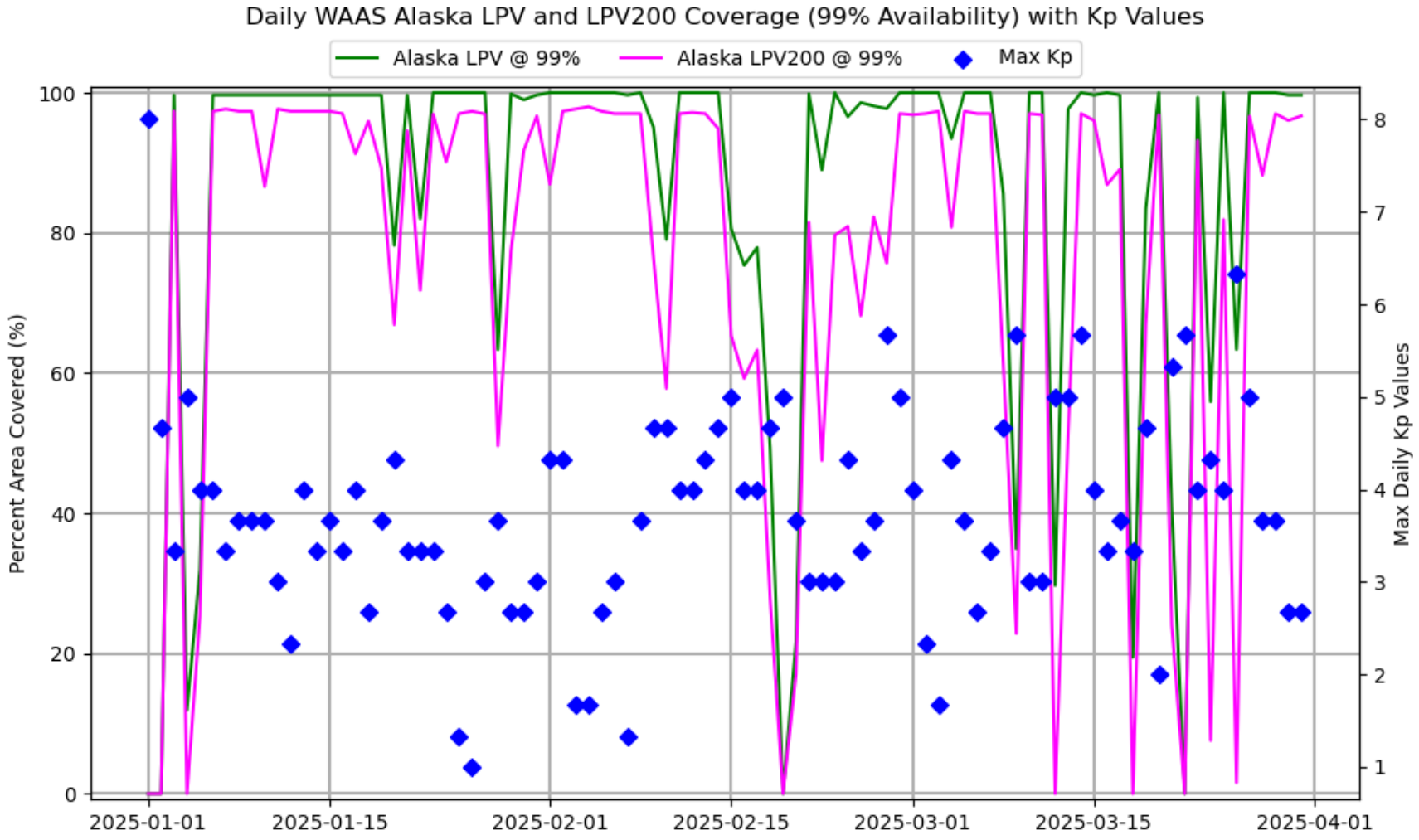

Figure 4-5 Daily LPV and LPV200 Alaska Coverage

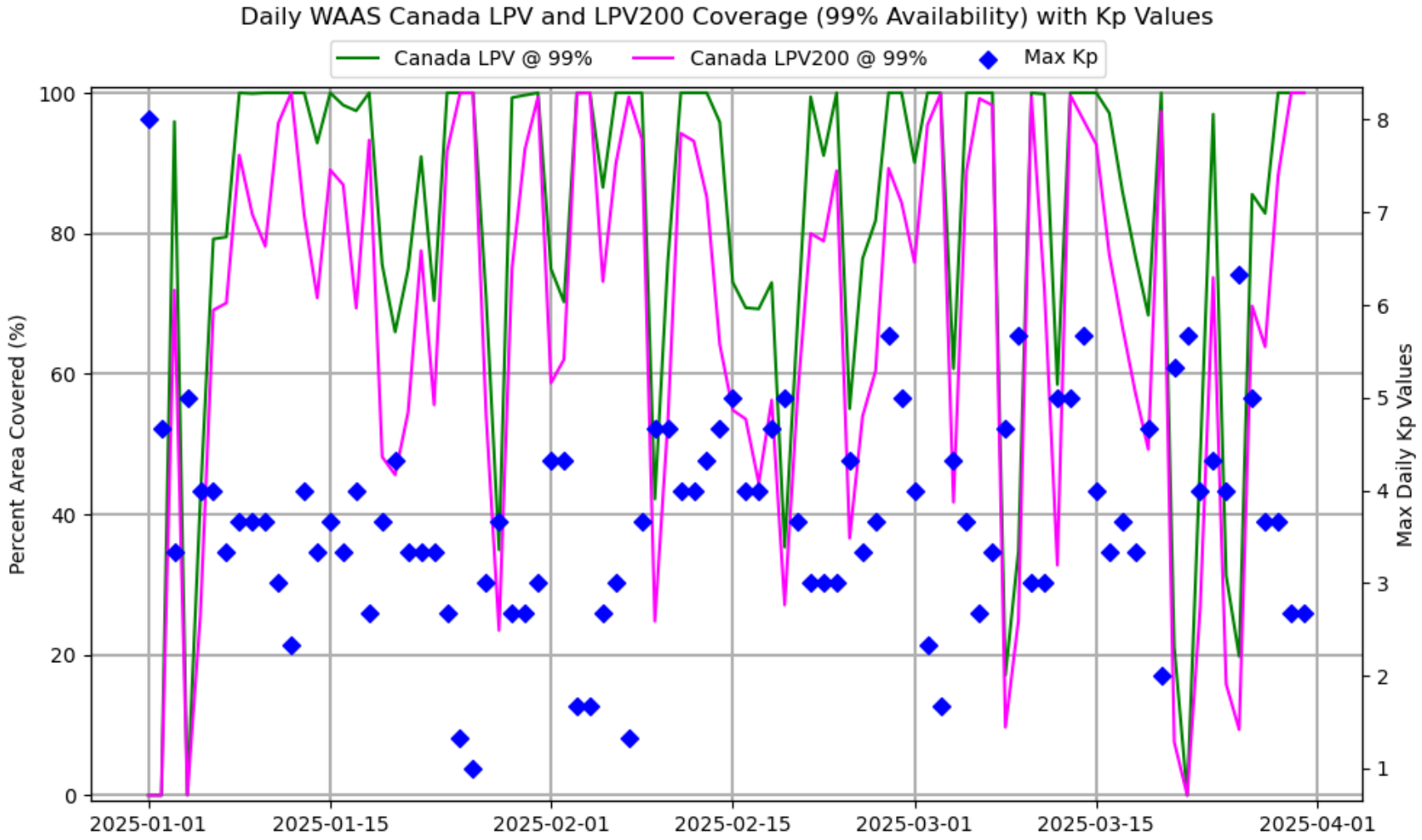

Figure 4-6 Daily LPV and LPV200 Canada Coverage

Daily analysis for NPA was conducted for the Required Navigation Performance (RNP) 0.1 and RNP 0.3 service levels based on a 100% availability requirement. The NPA coverage plots provide 100%, 99.9%, and 99% availability contours. Figure 4-7 shows the rollup RNP 0.1 coverage and Figure 4-8 shows the rollup RNP 0.3 coverage for the quarter. Figure 4-9 shows the daily RNP coverage at 100% availability and ionosphere Kp index values for this quarter.

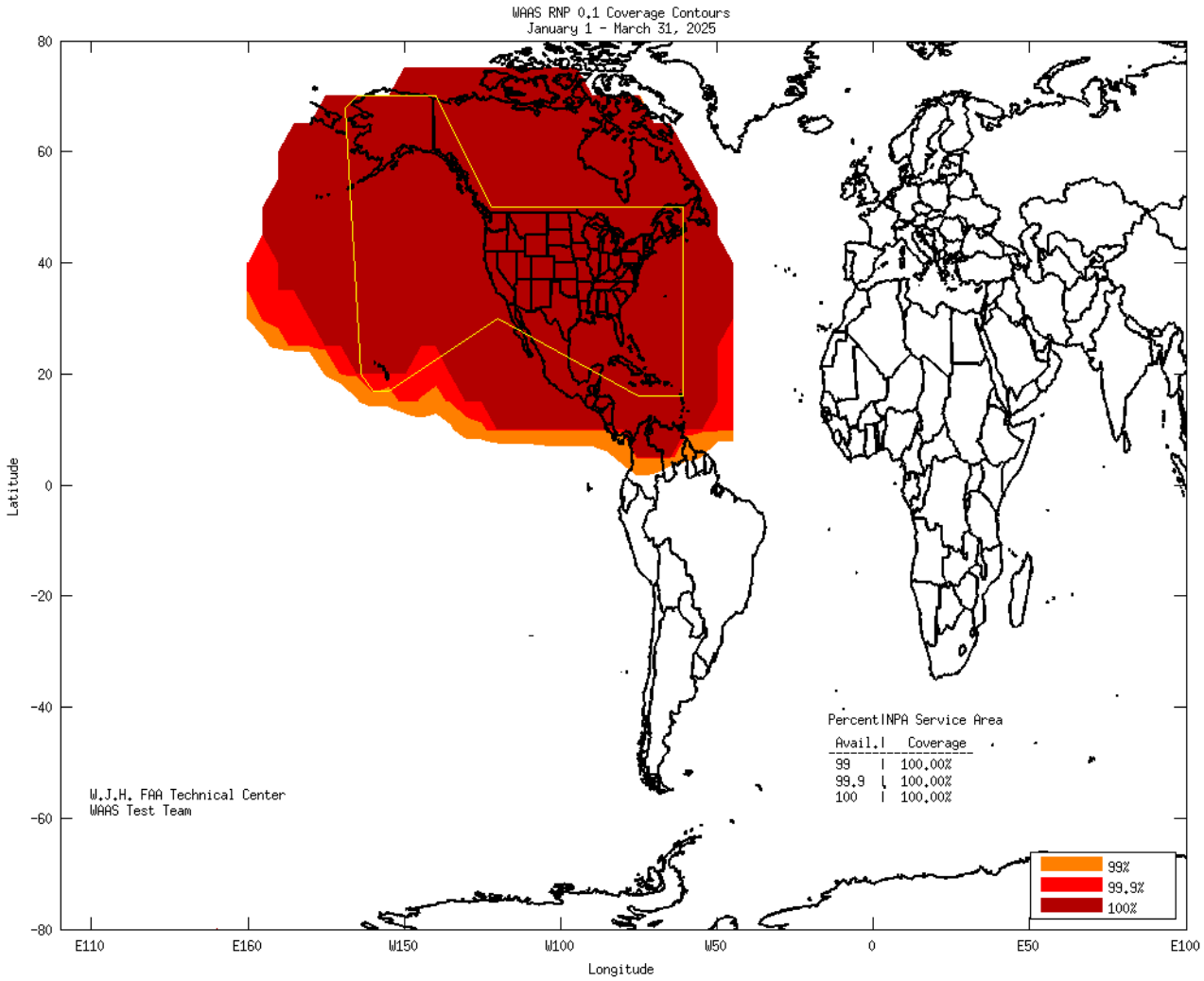

Figure 4-7 RNP 0.1 Coverage for the Quarter

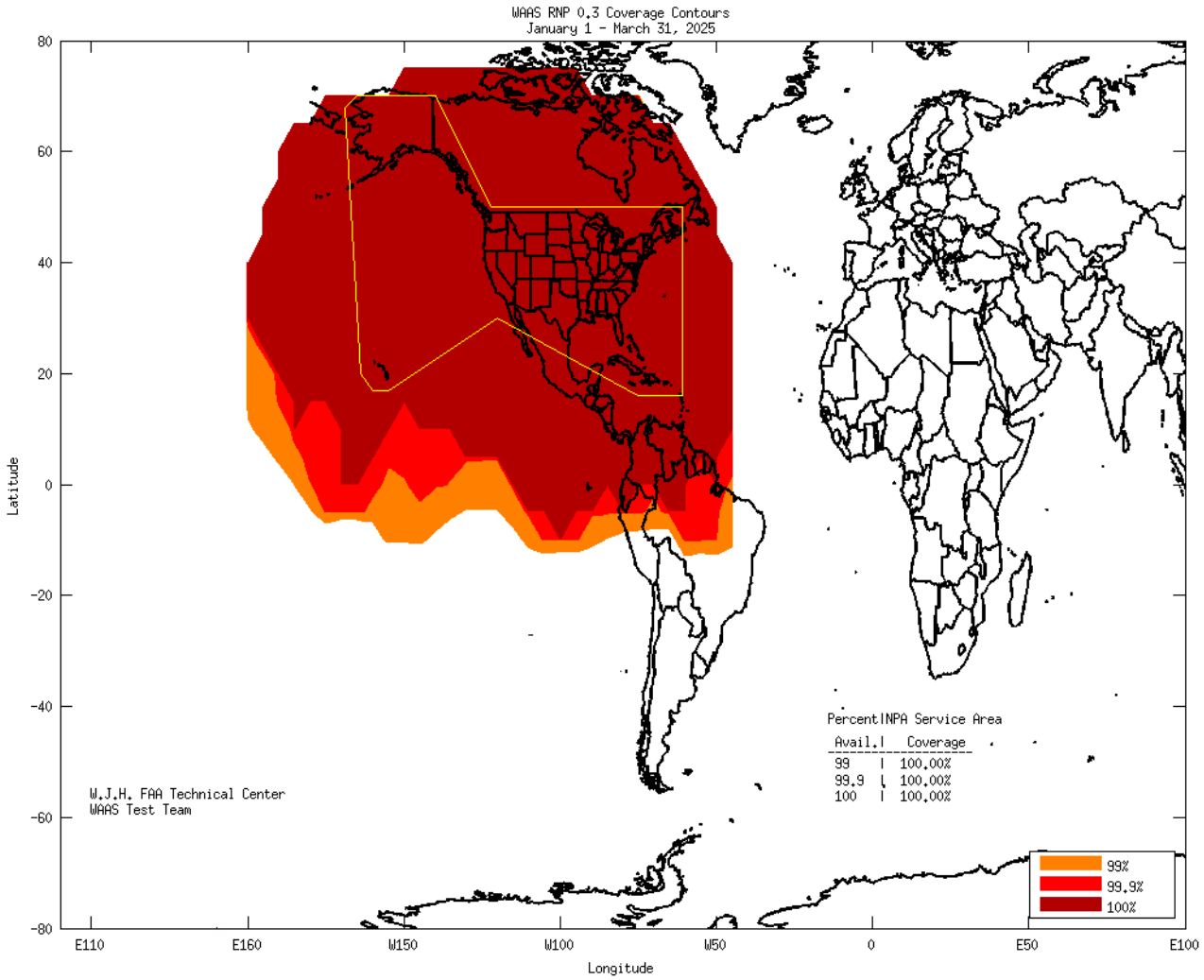

Figure 4-8 RNP 0.3 Coverage for the Quarter

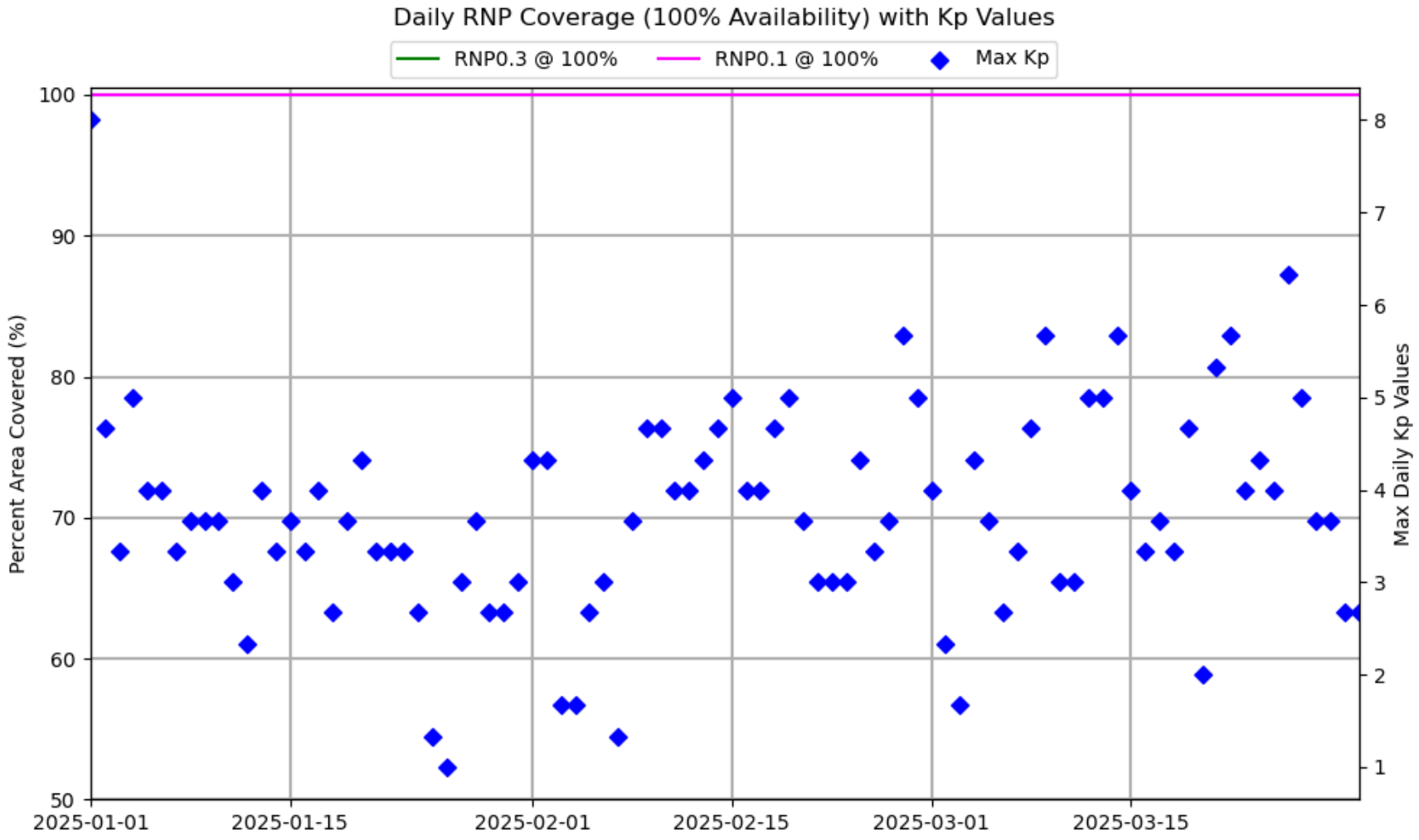

Figure 4-9 Daily RNP Coverage

5.0 INTEGRITY

5.1 HMI Analysis

Integrity analysis includes the identification and evaluation of HMI as well as the generation of the safety index to illustrate the safety margin provided by WAAS protection levels. The safety index is a metric that shows how well the protection levels are bounding the maximum observed error when LPV service is available. The horizontal and vertical safety margin index is the ratio of HPL/HPE and VPL/VPE, respectively, at the time the maximum position error occurred. Section 2.0 provides a detailed description of the methodology for computing HPL, VPL, and position errors.

A computed safety margin index of greater than one indicates safe bounding of the greatest observed error, less than one indicates that the maximum error was not bounded, and a result equal to one means that the maximum position error was equal to the protection level. An HMI event occurs if the position error exceeds the protection level in the vertical or horizontal dimensions at any time and coupled with the passage of 6.2 seconds before this event is corrected by WAAS.

Table 5-1 lists the safety margin index and the number of HMI events. For this reporting period, the lowest safety margin index is 3.941 at Bethel and there were no HMI events. There has not been an HMI event since WAAS was made available to the public in August 2000. In July 2003, WAAS was commissioned by the FAA for safety of life services.

Table 5-1 Minimum Safety Margin Index and HMI Statistics

Location	Horizontal Safety Index (m)	Vertical Safety Index (m)	Number of HMIs
Arcata	5.204	9.128	0
Atlantic City	8.293	5.973	0
Bangor	6.962	5.104	0
Elko	5.184	7.829	0
Grand Forks	8.036	4.158	0
Oklahoma City	7.397	7.961	0
Albuquerque	8.695	7.383	0
Anchorage	5.190	6.100	0
Atlanta	5.306	8.642	0
Barrow	8.527	4.693	0
Bethel	3.941	4.909	0
Billings	5.703	8.643	0
Boston	9.071	6.838	0
Chicago	12.929	6.766	0
Cleveland	9.526	8.649	0
Cold Bay	5.062	5.754	0
Dallas	12.553	6.371	0
Denver	13.489	8.521	0
Fairbanks	12.708	8.036	0
Gander	8.897	4.791	0
Goose Bay	7.079	6.933	0

Location	Horizontal Safety Index (m)	Vertical Safety Index (m)	Number of HMIs
Houston	5.641	6.563	0
Iqaluit	6.989	4.489	0
Jacksonville	4.536	8.819	0
Juneau	5.443	9.269	0
Kansas City	12.997	4.895	0
Kotzebue	7.112	6.621	0
Los Angeles	10.716	8.297	0
Memphis	7.186	4.646	0
Merida	5.895	5.972	0
Mexico City	6.256	6.609	0
Miami	5.937	4.188	0
Minneapolis	7.628	5.897	0
New York	10.075	7.872	0
Oakland	4.323	8.822	0
Puerto Vallarta	9.266	6.433	0
Salt Lake City	4.877	8.658	0
San Jose Del Cabo	5.560	5.534	0
Seattle	9.941	9.012	0
Washington, DC	7.768	5.762	0
Winnipeg	6.597	4.085	0

5.2 Broadcast Alerts

The WAAS transmits alert messages for user protection when the active WAAS corrections are no longer bound by the UDREs. Alerts increase the UDRE for one or more PRNs, which can reduce the weighting of the satellite or exclude the satellite from the navigation solution. An increase in UDREs after an alert effectively increases the user protection levels (HPL and VPL), which affects the availability. Additionally, if an alert message sequence lasts for more than 12 seconds, the WAAS fast corrections can time out and cause a loss of continuity. Table 5-2 shows the total number of alerts and the average number of alerts per day.

Table 5-2 WAAS SV Alert

	Number of Alerts			Average Alerts Per Day		
Message Type	**SM9**	**S15**	**G30**	**SM9**	**S15**	**G30**
T2	56	57	57	0.6222	0.6333	0.6333
T3	33	33	34	0.3667	0.3667	0.3778
T4	36	38	38	0.4	0.4222	0.4222
T5	0	0	0	0	0	0
T6	0	0	0	0	0	0
T24	0	0	0	0	0	0
T26	0	0	0	0	0	0
Total SV Alerts	125	128	129	1.3889	1.4222	1.4333
Days in Service	90	90	90			

Figure 5-1 provides the daily SV alerts. The number of alerts on one GEO is often the same as the number of alerts on the other GEO, therefore, lines tend to overlap in most points on this plot.

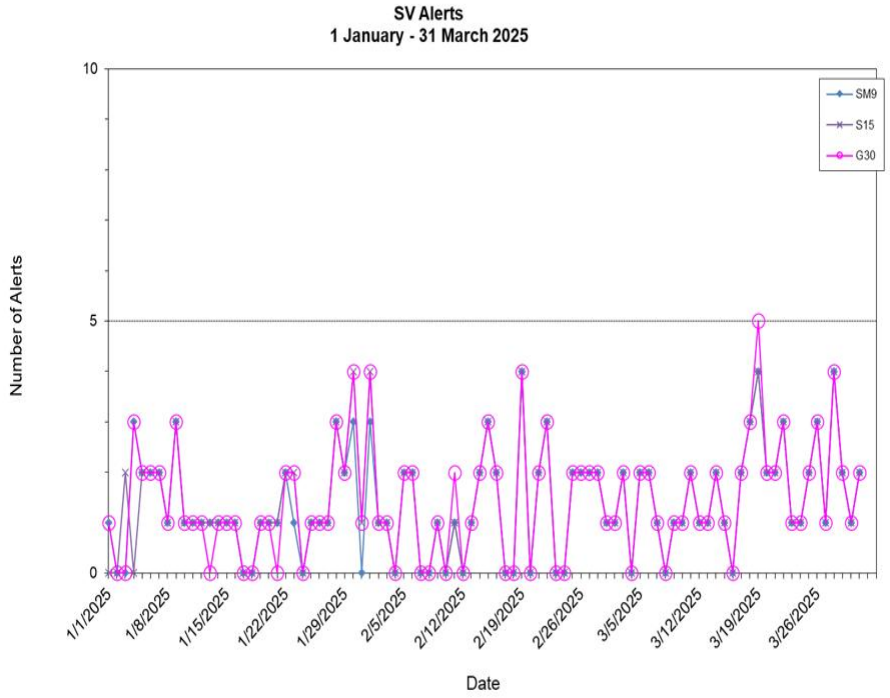

Figure 5-1 SV Daily Alert Trend

5.3 Availability of WAAS Messages (SM9, S15, and G30)

Accurate and current calculations of user position are dependent on the broadcast and receipt of the WAAS message within precise time specifications. This aspect of the WAAS is critical to maintaining continuity requirements. Each message type in the WAAS SIS has a specific timeout interval and expected worst-case broadcast interval. Table 5-3 lists the maximum intervals at which each message must broadcast to meet system requirements.

Table 5-3 Update Rates for WAAS Messages

Data	Associated Message Types	Maximum Update Interval (seconds)	En Route, Terminal, NPA Timeout (seconds)	Precision Approach Timeout (seconds)
WAAS in Test Mode	0	6	N/A	N/A
PRN Mask	1	60	None	None
UDREI	2-6, 24	6	18	12
Fast Corrections	2-5, 24	See Table A-8 in RTCA DO-229F in APPENDIX C: RTCA TABLE DO-229F	See Table A-8 in RTCA DO-229F in APPENDIX C: RTCA TABLE DO-229F	See Table A-8 in RTCA DO-229F in APPENDIX C: RTCA TABLE DO-229F
Long Term Corrections	24, 25	120	360	240
GEO Nav. Data	9	120	360	240
Fast Correction Degradation	7	120	360	240
Weighting Factors	8	120	240	240

Data	Associated Message Types	Maximum Update Interval (seconds)	En Route, Terminal, NPA Timeout (seconds)	Precision Approach Timeout (seconds)
Degradation Parameters	10	120	360	240
Ionospheric Grid Mask	18	300	None	None
Ionospheric Corrections	26	300	600	600
UTC Timing Data	12	300	None	None
Almanac Data	17	300	None	None

GUS switchovers and broadcast WAAS alerts can interrupt the normal broadcast message stream. If these events occur when the maximum interval of a specific message is approaching, that message may be delayed, resulting in its late transmittal.

For this quarter, statistics reported for late messages were mainly caused by GEO SIS outages, GUS switchovers, and SV alerts; excluding message types 7 and 10. Furthermore, the delay of message types 7 and 10 had little or no impact on user performance and safety, and they were not caused by GEO SIS outages, GUS switchovers, or SV alerts. Table 5-4 through

Table 5-8 show statistics for fast correction, long correction, ephemeris covariance, ionosphere correction, and ionospheric mask message rates broadcasted on SM9 GEO. Table 5-9 through Table 5-13 show statistics for message rates broadcasted on S15 GEO. Table 5-14 through Table 5-18 show statistics for message rates broadcasted on G30 GEO.

The high Max Late Length reported by SM9 GEO for SM9 GEO Type 28 messages occurred after PRN131 switched from Southbury (manual) to Santa Paula on January 31, 2025, causing a 4-second message outage. The high Max Late Length reported by SM9 GEO for S15 GEO Type 28 messages occurred after PRN133 switched from Brewster (manual) to South Mountain on January 15, 2025, causing a 4-second message outage.

The high Max Late Length reported by S15 GEO for SM9 GEO Type 28 messages occurred after PRN131 switched from Santa Paula (manual) to Southbury on February 1, 2025, causing a 4-second message outage. The high Max Late Length reported by S15 GEO for S15 GEO Type 28 messages occurred after PRN133 switched from South Mountain (manual) to Brewster on February 15, 2025, causing a 3-second message outage.

The high Max Late Length reported by G30 GEO for SM9 GEO Type 28 messages occurred after PRN131 switched from Santa Paula (manual) to Southbury on February 13, 2025, causing a 3-second message outage. The high Max Late Length reported by G30 GEO for S15 GEO Type 28 messages occurred after PRN133 switched from Brewster (manual) to South Mountain on January 15, 2025, causing a 4-second message outage. The high Max Late Length reported by G30 GEO for G30 GEO Type 28 messages occurred after PRN135 switched from Napa (manual) to Brewster on February 14, 2025, causing a 3-second message outage.

Table 5-4 WAAS Fast Correction and Degradation Message Rates–SM9

Message Type	On Time (number received)	Late (number received)	Max Late Length (seconds)
1	114053	2	168
2	1497780	69	18
3	1497696	77	18
4	1497686	88	12
7	106407	9	127

9	105433	0	0
10	106482	11	136
17	35276	0	0

Table 5-5 WAAS Long Correction Message Rates (Type 24 and 25)–SM9

PRN	On Time (number received)	Late (number received)	Max Late Length (seconds)
1	44402	0	0
2	56490	0	0
3	53747	0	0
4	53639	0	0
5	53867	0	0
6	54201	0	0
7	53876	0	0
8	50653	0	0
9	53526	0	0
10	53832	1	169
11	54153	0	0
12	53794	0	0
13	55027	0	0
14	52638	0	0
15	53679	0	0
16	53856	0	0
17	54320	0	0
18	53338	1	165
19	52863	0	0
20	54992	0	0
21	14389	0	0
22	42530	0	0
23	53102	0	0
24	54767	1	169
25	55843	0	0
26	54314	0	0
27	55190	0	0
28	54076	1	180
29	53669	0	0
30	53393	0	0
31	53630	0	0
32	52754	0	0

Table 5-6 WAAS Ephemeris Covariance Message Rates (Type 28)–SM9

PRN	On Time (number received)	Late (number received)	Max Late Length (seconds)
1	30469	2	144
2	40264	3	174
3	38305	0	0
4	38165	0	0
5	38268	1	207
6	38456	0	0
7	38331	2	275
8	35736	0	0
9	38029	0	0
10	38379	0	0
11	38452	1	208
12	38174	0	0
13	39279	0	0
14	37513	4	178
15	38184	0	0
16	38325	0	0
17	38635	0	0
18	37926	3	209
19	37613	1	180
20	39051	0	0
21	11861	0	0
22	29087	1	137
23	37837	0	0
24	39116	1	149
25	39680	0	0
26	38643	0	0
27	39382	0	0
28	38462	0	0
29	38178	0	0
30	38017	1	128
31	38131	0	0
32	37616	1	208
131	74310	2	5528
133	74128	1	7878
135	74427	0	0

Table 5-7 WAAS Ionospheric Correction Message Rates (Type 26)–SM9

Band	Block	On Time (number received)	Late (number received)	Max Late Length (seconds)
0	0	31270	2	305
0	1	31261	4	306
0	2	31263	4	305
1	0	31267	0	0
1	1	31264	3	302
1	2	31268	3	306
1	3	31265	3	580
1	4	31266	0	0
2	0	31263	0	0
2	1	31261	6	305
2	2	31260	7	578
2	3	31262	7	301
2	4	31266	0	0
3	0	31258	5	305
3	1	31258	4	301
3	2	31263	2	306
9	0	31262	5	578
9	1	31261	4	585
9	2	31262	3	306
9	3	31271	0	0
9	4	31263	4	576
9	5	31263	4	305
9	6	31265	3	306

Table 5-8 WAAS Ionospheric Mask Message Rates (Type 18)–SM9

Band	On Time (number received)	Late (number received)	Max Late Length (seconds)
0	39891	0	0
1	39851	0	0
2	39915	0	0
3	39867	0	0
9	39843	0	0

Table 5-9 WAAS Fast Correction and Degradation Message Rates–S15

Message Type	On Time (number received)	Late (number received)	Max Late Length (seconds)
1	113794	4	175
2	1497780	70	31
3	1497675	87	30
4	1497677	92	29
7	106374	6	175
9	105433	1	152
10	106304	8	132
17	35246	0	0

Table 5-10 WAAS Long Correction Message Rates (Type 24 and 25)–S15

Message Type	On Time (number received)	Late (number received)	Max Late Length (seconds)
1	44395	0	0
2	56485	0	0
3	53749	1	166
4	53637	0	0
5	53869	0	0
6	54206	2	0
7	53868	2	0
8	50656	0	0
9	53524	0	0
10	53843	3	169
11	54157	0	0
12	53790	0	0
13	55034	0	0
14	52635	1	181
15	53688	1	166
16	53857	0	0
17	54321	0	0
18	53327	0	0
19	52849	0	0
20	54993	0	0
21	14386	0	0
22	42529	0	0
23	53111	0	0
24	54770	0	0
25	55843	1	169
26	54334	0	0

Message Type	On Time (number received)	Late (number received)	Max Late Length (seconds)
27	55182	0	0
28	54089	0	0
29	53664	0	0
30	53393	1	186
31	53629	1	157
32	52746	1	166

Table 5-11 WAAS Ephemeris Covariance Message Rates (Type 28)–S15

PRN	On Time (number received)	Late (number received)	Max Late Length (seconds)
1	30464	4	179
2	40263	3	181
3	38296	0	0
4	38176	3	209
5	38274	0	0
6	38445	0	0
7	38330	2	144
8	35735	3	216
9	38032	0	0
10	38376	1	208
11	38431	0	0
12	38179	1	200
13	39276	1	125
14	37499	6	228
15	38190	0	0
16	38329	0	0
17	38622	2	208
18	37921	3	144
19	37607	1	168
20	39037	0	0
21	11856	4	210
22	29072	6	182
23	37834	0	0
24	39119	1	144
25	39681	0	0
26	38655	0	0
27	39383	0	0
28	38477	0	0
29	38155	0	0

PRN	On Time (number received)	Late (number received)	Max Late Length (seconds)
30	37983	0	0
31	38137	0	0
32	37587	2	210
131	74308	6	5424
133	74088	3	5477
135	74459	5	210

Table 5-12 WAAS Ionospheric Correction Message Rates (Type 26)–S15

Band	Block	On Time (number received)	Late (number received)	Max Late Length (seconds)
0	0	31263	4	417
0	1	31266	2	416
0	2	31266	4	395
1	0	31262	3	398
1	1	31258	6	407
1	2	31254	6	465
1	3	31257	6	471
1	4	31257	5	581
2	0	31259	5	483
2	1	31259	4	482
2	2	31261	3	477
2	3	31263	4	494
2	4	31266	4	488
3	0	31267	2	306
3	1	31263	3	301
3	2	31264	2	301
9	0	31267	2	393
9	1	31263	6	392
9	2	31256	8	376
9	3	31266	2	393
9	4	31264	5	576
9	5	31265	4	580
9	6	31262	5	374

Table 5-13 WAAS Ionospheric Mask Message Rates (Type 18)–S15

Band	On Time (number received)	Late (number received)	Max Late Length (seconds)
0	39832	4	473
1	39847	2	370
2	39847	0	0
3	39862	1	432
9	39856	0	0

Table 5-14 WAAS Fast Correction and Degradation Message Rates–G30

Message Type	On Time (number received)	Late (number received)	Max Late Length (seconds)
1	113994	1	125
2	1497786	72	18
3	1497696	83	12
4	1497698	87	12
7	106371	10	125
9	105439	0	0
10	106297	8	164
17	35259	1	320

Table 5-15 WAAS Long Correction Message Rates (Type 24 and 25)–G30

PRN	On Time (number received)	Late (number received)	Max Late Length (seconds)
1	44398	0	0
2	56477	0	0
3	53748	0	0
4	53648	0	0
5	53864	0	0
6	54202	0	0
7	53876	0	0
8	50655	0	0
9	53528	1	165
10	53834	0	0
11	54148	0	0
12	53786	0	0
13	55027	0	0
14	52636	0	0
15	53684	1	173
16	53870	0	0
17	54314	0	0
18	53336	0	0
19	52859	0	0

PRN	On Time (number received)	Late (number received)	Max Late Length (seconds)
20	54983	0	0
21	14387	0	0
22	42537	0	0
23	53110	0	0
24	54778	0	0
25	55836	0	0
26	54333	0	0
27	55182	0	0
28	54075	0	0
29	53673	0	0
30	53387	0	0
31	53639	0	0
32	52752	0	0

Table 5-16 WAAS Ephemeris Covariance Message Rates (Type 28)–G30

PRN	On Time (number received)	Late (number received)	Max Late Length (seconds)
1	30457	2	151
2	40280	2	179
3	38288	1	162
4	38156	3	209
5	38247	0	0
6	38450	1	209
7	38329	2	195
8	35731	4	192
9	38029	0	0
10	38382	0	0
11	38436	2	209
12	38184	0	0
13	39270	0	0
14	37494	3	224
15	38175	1	192
16	38320	2	152
17	38626	0	0
18	37916	0	0
19	37612	0	0
20	39060	1	207
21	11855	2	168
22	29073	5	174
23	37843	0	0

PRN	On Time (number received)	Late (number received)	Max Late Length (seconds)
24	39118	0	0
25	39680	1	130
26	38625	1	126
27	39377	2	133
28	38469	1	176
29	38142	0	0
30	38006	0	0
31	38142	0	0
32	37585	0	0
131	74263	1	5501
133	74188	1	7867
135	74449	1	5536

Table 5-17 WAAS Ionospheric Correction Message Rates (Type 26)–G30

Band	Block	On Time (number received)	Late (number received)	Max Late Length (seconds)
0	0	31263	3	399
0	1	31253	8	578
0	2	31260	3	405
1	0	31263	2	389
1	1	31260	2	580
1	2	31263	5	382
1	3	31266	5	364
1	4	31266	3	364
2	0	31259	8	475
2	1	31260	6	501
2	2	31257	4	511
2	3	31258	4	530
2	4	31253	10	505
3	0	31260	6	470
3	1	31268	2	464
3	2	31268	1	301
9	0	31264	2	304
9	1	31265	0	0
9	2	31265	1	305
9	3	31261	4	304
9	4	31264	2	576
9	5	31257	5	383
9	6	31259	5	578

Table 5-18 WAAS Ionospheric Mask Message Rates (Type 18)–G30

Band	Block	On Time (number received)	Late (number received)
0	39857	0	0
1	39892	1	411
2	39863	0	0
3	39847	0	0
9	39820	1	310

5.4 Satellite Glitches

The GPS satellites will occasionally experience periods of signal carrier stability glitches of varying magnitude. These glitches are short degradations in the signal, which in severe cases may cause WAAS to lose track or cycle slip for some or all the WAAS receivers. The more severe glitches will cause the WAAS-reported UDRE to increase to "Not Monitor" and result in an alert. Figure 5-2 shows the SV glitch trend for this quarter. Severity 0, displayed by blue dots, indicates fewer than 10 receivers lost track of the satellite. Severity 1, displayed by green dots, indicates a significant number of receivers, but not all receivers, lost track of the satellite. Severity 2, displayed by yellow dots, indicates only Signal Quality Monitoring (SQM) was affected, and all receivers lost track. Severity 3, displayed by red dots, indicates more than just SQM was affected, and all receivers lost track.

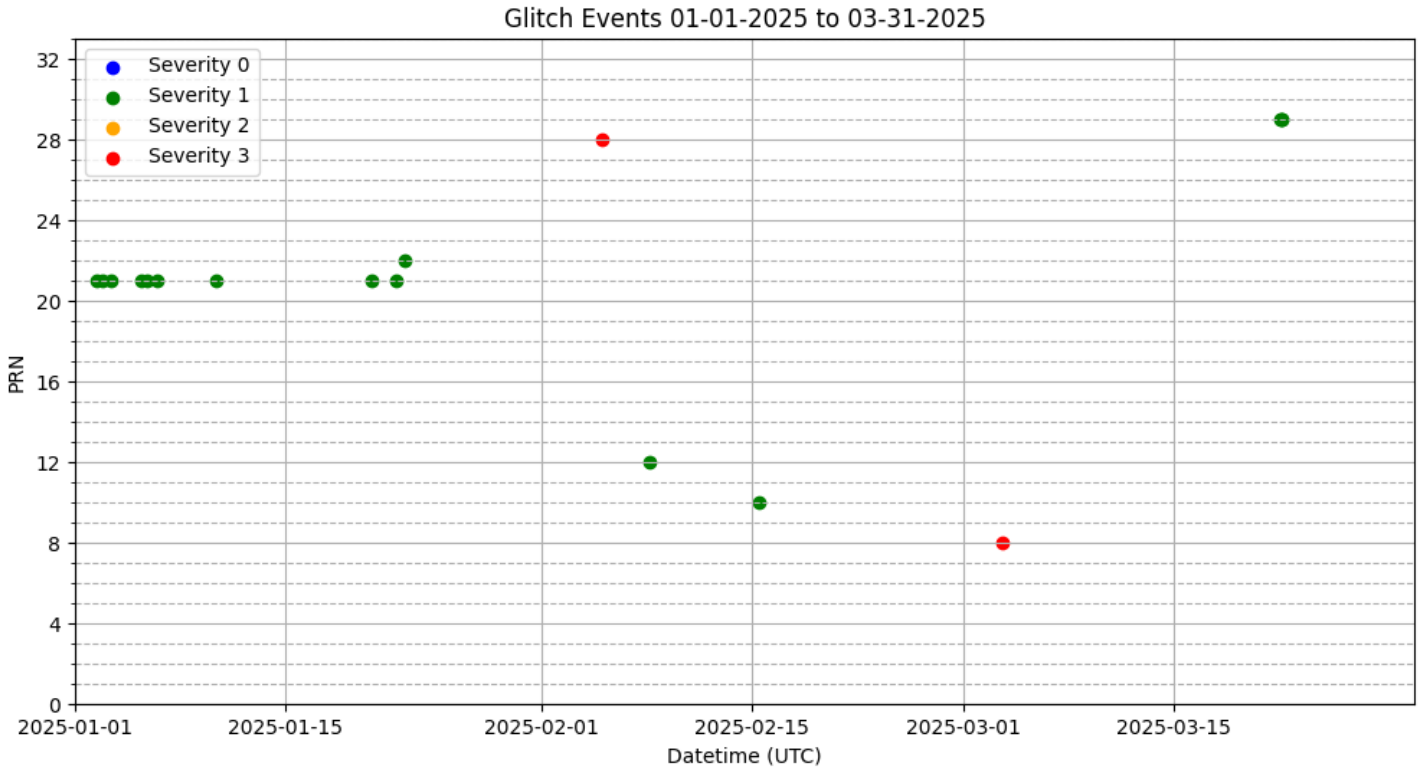

Figure 5-2 SV Glitch Trend

6.0 SV RANGE ACCURACY

WAAS transmits UDRE and GIVE values to support protection levels such that the position error is bounded 99.9999%. The position domain analysis in this report provides the information regarding how well the transmitted WAAS UDRE and GIVE values bound the position errors. A UDRE is broadcasted by the WAAS for each monitored satellite, and the 95% error bound and the maximum normalized value (divided by sigma_UDRE) of the pseudorange residual error after application of fast and long-term corrections is checked. The pseudorange residual error is determined by taking the difference between the raw pseudorange and a calculated reference range. The reference range is equal to the true range between the corrected satellite position and surveyed user antenna plus all corrections (i.e., WAAS fast clock, WAAS long-term clock, WAAS ionospheric delay, tropospheric delay, receiver clock bias, and multipath). Because the true ionospheric delay and multipath error are not precisely known, the estimated variance in these error sources are added to the UDRE before comparing it to the normalized residual error.

The GPS satellite range residual errors were calculated for 12 WAAS receivers during the quarter. Table 6-1 and Table 6-2 show the range error 95% index, maximum range error, and maximum normalized value (divided by sigma_UDRE) at the time of the maximum range error. Figure 6-1 through Figure 6-3 show the 95% range error for each SV measured by the WAAS receivers at the Washington, DC reference station.

Table 6-1 Range Error 95% Index and 3.29 Sigma Bounding

Site	Minneapolis			Chicago			Boston			Juneau			Honolulu			Salt Lake City		
PRN ↓	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma
1	3.634	6.482	1.958	3.779	5.394	1.760	3.779	5.412	4.275	3.201	4.836	1.833	3.792	6.442	1.210	3.702	6.263	2.172
2	1.377	6.678	2.000	1.364	4.625	2.255	1.525	3.358	0.880	1.700	4.611	1.672	1.674	3.434	1.434	1.157	2.960	0.793
3	1.139	3.385	1.148	1.482	5.067	1.501	1.597	3.946	1.217	1.529	3.378	1.239	1.990	4.451	1.380	1.331	3.540	1.076
4	1.040	3.293	1.090	1.438	10.258	6.025	1.210	7.934	5.043	1.402	4.007	1.496	1.640	5.111	4.162	0.966	3.023	0.841
5	1.165	3.480	2.176	1.003	2.676	1.700	1.284	2.799	1.086	1.353	4.025	2.425	1.490	3.372	0.628	1.545	3.657	1.252
6	1.328	2.835	0.987	1.300	3.571	1.284	1.639	3.105	1.880	1.477	5.978	2.700	1.930	4.647	0.909	1.424	2.832	1.423
7	1.105	2.605	1.242	1.279	9.930	4.619	1.403	7.133	3.739	1.510	4.421	1.300	1.650	4.649	3.115	1.025	2.335	1.794
8	1.318	4.616	1.987	1.643	10.338	5.666	1.528	8.003	4.954	1.816	4.012	2.005	1.698	4.659	2.990	1.072	2.805	1.222
9	1.149	2.971	1.352	1.641	10.006	5.383	1.479	7.958	4.663	1.634	3.348	1.282	1.798	5.395	4.023	1.106	2.647	0.803
10	1.135	3.663	2.616	1.208	4.580	1.275	0.904	1.914	0.335	1.462	3.822	1.277	1.853	5.281	3.429	1.039	2.785	2.002
11	1.115	2.720	1.136	1.094	2.799	1.566	1.405	3.381	1.663	1.668	4.422	1.319	2.200	10.829	3.408	1.224	3.423	1.027
12	1.161	3.207	0.976	1.433	3.691	1.621	1.511	3.499	1.425	1.390	6.328	3.908	2.246	4.837	1.495	1.392	3.332	1.038
13	1.421	3.631	1.000	1.465	5.131	1.685	1.548	3.417	0.984	1.163	4.315	1.578	1.720	4.618	1.562	1.212	3.855	1.073
14	1.423	2.996	0.990	1.660	4.250	1.340	1.581	3.095	1.045	1.679	5.534	2.139	1.871	4.925	1.820	1.226	2.259	0.643
15	2.137	4.754	1.901	1.061	3.078	0.956	1.194	3.088	0.977	1.435	3.951	1.681	1.627	3.812	0.768	1.054	2.809	1.696
16	1.175	2.898	0.981	1.079	9.994	5.910	1.260	7.469	4.981	1.386	4.638	2.912	1.491	4.710	2.916	1.053	2.073	0.816
17	1.327	2.561	1.011	1.588	3.336	1.782	1.656	2.976	1.925	1.716	5.579	3.107	2.860	6.985	2.189	1.447	2.967	1.404
18	1.171	3.957	3.002	1.268	9.842	3.762	1.061	5.803	1.893	1.244	4.157	2.884	1.811	3.773	2.165	1.071	3.272	1.128
19	1.462	4.337	1.414	1.487	3.066	1.030	1.592	4.105	1.307	1.717	6.329	3.536	1.767	4.013	0.685	1.759	3.755	1.020
20	1.617	3.381	1.087	1.211	2.657	0.856	1.448	4.027	1.240	1.490	3.782	1.833	1.599	2.582	1.581	1.327	2.963	1.796
21	1.288	2.829	1.127	1.766	4.664	2.494	1.597	2.746	1.693	1.557	3.757	1.384	1.773	4.157	1.351	1.522	3.253	0.891
22	1.326	2.651	0.860	1.727	3.046	0.996	1.821	3.111	1.680	1.529	3.082	1.402	1.917	3.407	2.094	1.424	3.174	1.104
23	1.252	3.621	2.833	0.953	2.934	1.617	0.989	2.140	1.337	1.256	4.598	2.340	1.802	5.056	3.338	1.271	3.848	1.067
24	1.804	7.045	2.147	1.154	3.805	1.126	1.333	3.273	0.925	1.578	7.090	5.261	1.882	4.429	1.316	1.109	2.796	1.525
25	1.235	2.976	1.069	1.409	3.650	1.101	1.258	3.095	1.208	1.182	4.427	1.440	1.667	3.203	0.969	1.876	5.540	1.633
26	1.348	3.645	1.131	1.178	10.109	7.013	1.272	7.507	4.907	1.182	4.482	3.454	1.553	3.062	1.037	1.268	3.555	1.012
27	1.638	4.361	2.210	1.183	10.256	6.034	1.180	7.874	5.557	1.499	4.451	1.448	1.394	4.684	3.110	0.904	3.003	2.098
28	1.121	2.684	2.053	1.215	4.208	2.760	1.305	2.849	1.414	1.269	3.897	1.228	1.660	5.513	2.290	1.319	3.197	1.203
29	1.206	3.869	2.599	1.222	4.201	1.691	1.616	2.776	1.388	1.187	4.269	2.304	2.093	3.871	1.300	1.267	2.859	1.029
30	1.001	2.825	1.267	1.609	8.826	2.740	1.234	3.362	1.041	1.211	3.150	1.380	1.946	5.361	2.514	1.012	2.142	1.178
31	1.075	2.802	1.116	1.089	10.005	6.577	1.086	7.583	4.762	1.468	3.451	1.007	2.048	3.989	0.651	1.066	2.450	1.021
32	1.287	3.752	2.014	1.098	3.155	1.556	1.317	2.690	1.661	1.342	5.861	2.597	1.796	4.548	2.788	1.564	4.506	1.263
131	1.900	6.092	1.312	1.702	5.804	0.961	1.937	4.363	0.849	1.593	5.050	0.876	1.454	7.637	0.477	1.396	3.328	1.105
133	2.236	6.208	1.237	2.475	5.690	0.994	1.834	4.380	0.884	1.445	6.442	0.317	1.636	6.880	0.364	1.214	3.365	0.801
135	2.075	4.849	1.173	1.676	4.968	0.862	1.601	4.223	0.929	2.156	5.458	0.223	1.900	7.589	0.434	1.367	4.427	0.694

Table 6-2 Range Error 95% Index and 99.9% Bounding

Site	Billings			Miami			Albuquerque			Kansas City			Los Angeles			Atlanta		
PRN ↓	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma	0.95 Range Error (m)	Max Range Error (m)	Max Range Error Sigma
1	3.335	4.949	1.469	4.315	6.554	1.330	3.621	6.689	2.011	3.702	6.012	2.851	3.641	5.789	2.934	4.248	5.274	2.723
2	1.232	3.043	0.873	1.927	4.385	2.242	1.028	5.344	1.671	1.281	7.097	2.366	1.339	5.752	1.763	1.295	3.678	0.682
3	1.257	2.900	0.945	2.135	4.197	2.569	1.048	2.674	0.933	1.422	4.873	1.518	1.104	2.161	0.672	1.176	4.455	3.203
4	1.187	2.306	1.202	1.819	4.353	2.582	0.961	2.684	2.061	1.057	2.710	1.031	1.031	2.496	0.691	1.194	4.149	2.755
5	1.240	3.013	0.925	3.262	7.296	1.391	1.089	2.538	0.477	1.923	5.652	1.984	1.697	3.237	1.045	1.402	3.578	1.323
6	1.220	2.739	1.205	3.154	7.354	1.292	1.189	2.026	1.413	2.672	7.506	2.587	1.493	4.232	2.557	1.704	3.786	1.201
7	1.215	2.522	1.361	2.562	5.913	3.076	0.900	2.414	1.855	1.085	2.594	0.829	1.119	3.030	1.599	1.306	3.869	2.521
8	1.184	2.907	0.936	2.080	4.477	2.186	1.130	2.976	1.208	1.421	3.677	1.410	1.258	2.753	0.730	1.483	3.980	2.656
9	1.180	3.398	1.417	2.297	4.782	2.377	1.067	3.148	0.989	1.473	5.058	1.590	1.188	3.032	1.594	1.485	4.206	2.918
10	1.411	3.005	1.258	1.639	3.252	1.342	1.012	2.443	1.732	0.915	2.858	0.855	1.172	2.721	1.437	1.222	2.244	1.515
11	1.156	4.880	1.561	2.517	4.883	1.952	1.143	3.697	0.642	1.450	4.472	1.342	1.465	4.449	2.585	1.564	3.543	1.830
12	1.141	2.907	1.254	1.836	4.839	1.616	1.293	3.115	1.093	1.529	4.905	1.565	1.522	4.000	2.206	1.726	3.184	1.083
13	1.143	3.270	2.145	2.369	4.854	2.572	1.550	3.766	1.117	1.305	2.890	0.856	1.529	4.245	1.310	1.455	3.605	1.083
14	0.940	1.980	0.687	2.655	4.642	1.774	1.249	3.835	0.681	1.321	2.926	0.947	1.411	5.067	2.724	1.539	3.122	2.626
15	1.295	3.959	1.514	2.112	4.448	2.409	1.067	3.391	1.149	1.690	4.105	1.973	1.442	3.532	1.722	1.178	2.641	1.832
16	1.248	3.428	1.309	1.831	3.812	2.293	1.307	2.431	0.847	1.860	5.506	1.817	1.272	2.628	0.911	1.012	4.144	3.038
17	1.340	2.733	1.196	2.356	4.090	2.240	1.477	3.888	0.681	1.606	4.881	1.513	1.371	4.768	2.542	1.623	3.115	2.074
18	1.524	3.381	1.350	3.053	6.063	2.248	1.148	2.403	1.675	1.201	2.632	1.250	1.070	3.303	1.103	1.213	2.355	0.760
19	1.560	4.040	1.257	2.244	3.996	2.234	1.597	5.598	1.804	1.397	3.243	1.060	1.604	4.460	2.259	1.418	2.749	1.800
20	1.210	2.576	0.989	2.256	4.379	2.561	1.364	3.400	1.095	3.096	6.998	1.930	1.679	4.727	1.272	1.402	2.489	1.006
21	1.357	3.562	1.209	2.358	4.863	0.970	1.224	2.926	0.875	1.383	3.141	1.002	1.414	2.940	1.277	1.807	3.924	1.408
22	1.516	3.257	1.384	2.239	4.477	3.131	1.527	2.782	0.933	1.549	2.615	1.513	1.549	4.456	2.479	2.062	3.332	2.707
23	1.465	3.108	0.932	1.704	4.079	1.138	1.029	2.612	1.726	1.198	2.605	1.000	1.279	2.677	1.417	1.371	2.427	1.898
24	1.096	3.463	1.086	2.124	4.130	1.556	1.099	2.770	0.934	1.293	5.111	1.612	1.465	4.252	2.942	1.160	3.378	1.211
25	1.518	3.073	1.059	1.906	4.206	1.868	1.393	2.365	0.732	1.365	6.019	1.842	1.631	4.408	1.246	1.491	2.813	1.244
26	1.063	3.065	0.955	1.903	4.110	0.825	1.273	4.030	1.213	1.456	4.896	1.755	1.896	4.004	1.329	1.048	4.120	2.912
27	1.028	3.132	1.427	1.556	4.040	2.224	1.243	2.763	0.787	1.732	4.071	1.315	1.524	5.001	1.642	1.016	3.869	2.303
28	1.255	3.236	1.049	2.995	8.262	1.522	1.066	4.107	2.213	1.309	4.912	1.998	1.419	4.537	1.564	1.588	5.013	1.387
29	1.355	2.760	1.017	1.849	4.011	1.952	1.278	3.779	1.536	1.503	3.536	1.203	1.674	4.491	1.218	1.763	2.736	1.291
30	1.344	3.934	1.300	1.681	3.806	1.854	0.876	2.099	1.102	1.155	4.080	1.236	1.068	2.908	1.795	1.384	3.256	1.653
31	1.199	3.411	1.068	1.968	4.349	1.641	1.219	3.023	0.553	1.689	6.215	2.549	1.245	2.848	1.761	1.269	4.355	3.283
32	1.481	3.434	1.143	2.215	6.005	1.726	1.393	2.726	0.860	1.166	3.611	1.229	1.370	2.631	0.496	1.556	2.637	1.693
131	1.881	3.852	1.093	1.959	5.105	0.902	2.074	4.623	1.076	1.566	4.052	0.428	1.911	6.510	0.466	1.952	6.205	0.326
133	1.804	5.230	0.354	1.784	5.708	0.800	1.786	3.586	0.860	2.209	4.071	0.999	1.601	6.235	0.424	1.560	6.018	0.263
135	1.611	4.204	0.624	1.691	5.230	0.871	1.323	4.076	0.628	1.738	4.796	0.486	1.500	6.198	0.433	1.302	5.400	0.253

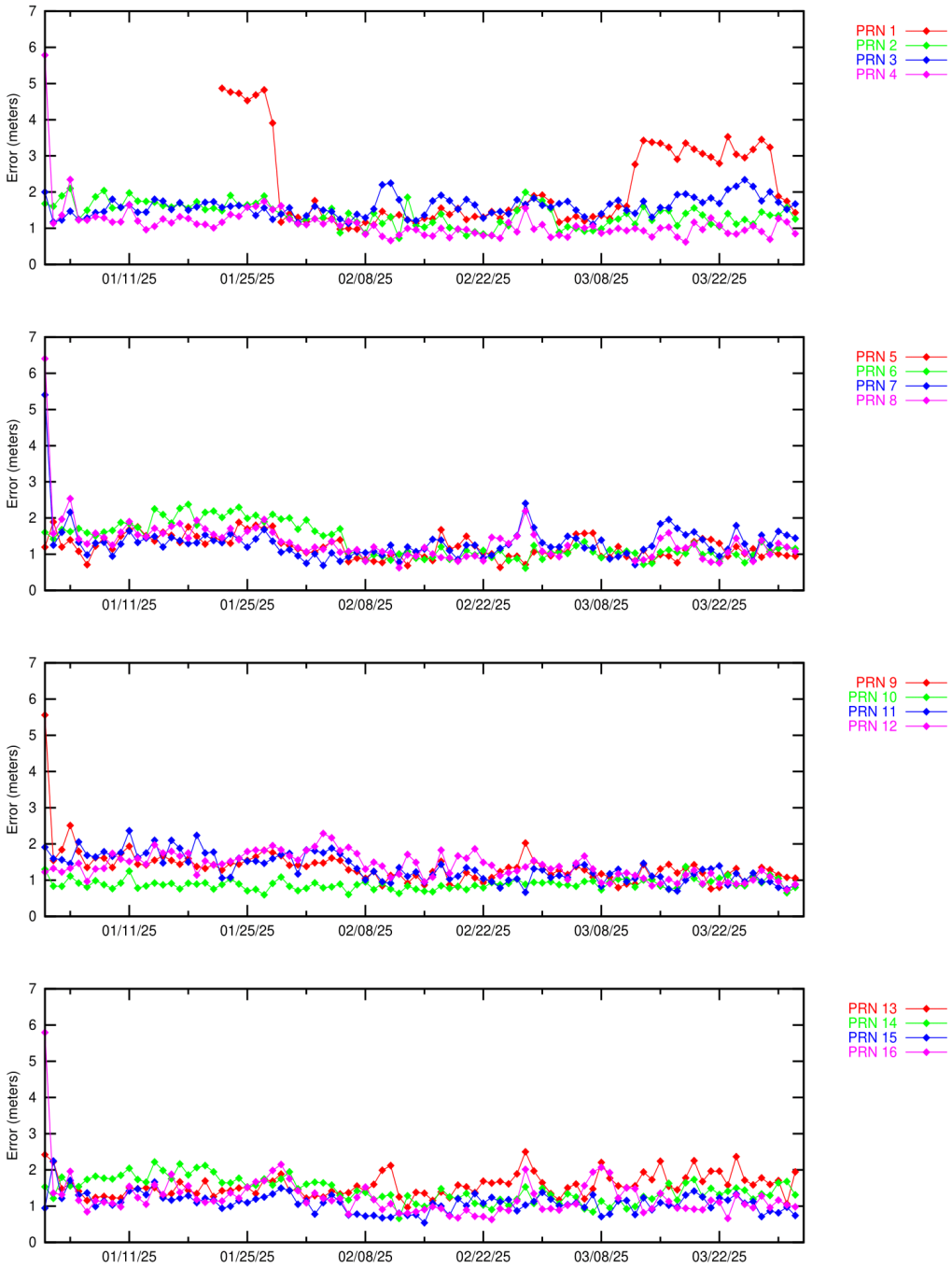

Figure 6-1 Range Error (PRN1–PRN16)—Washington, DC

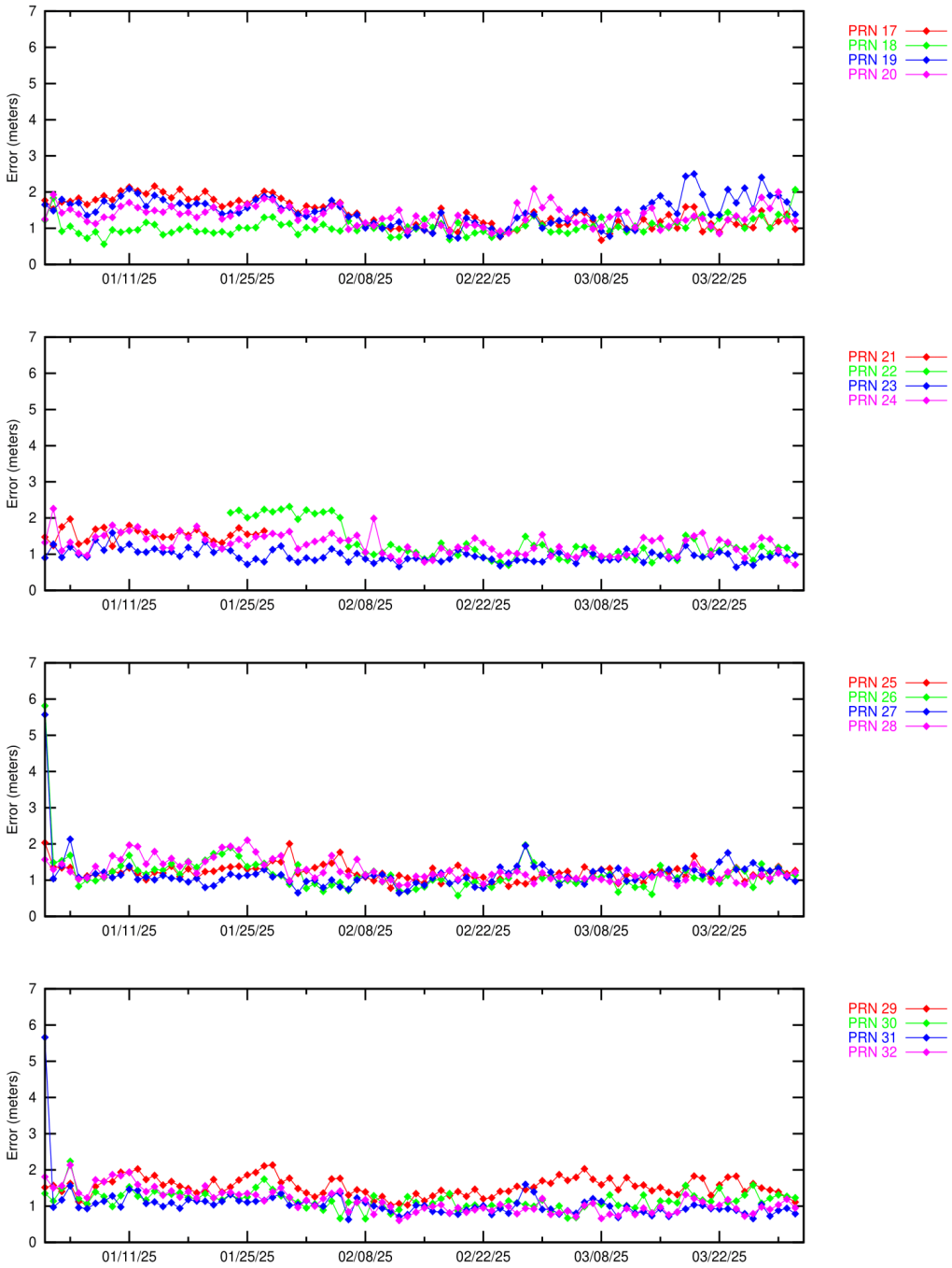

Figure 6-2 Range Error (PRN17–PRN32)—Washington, DC

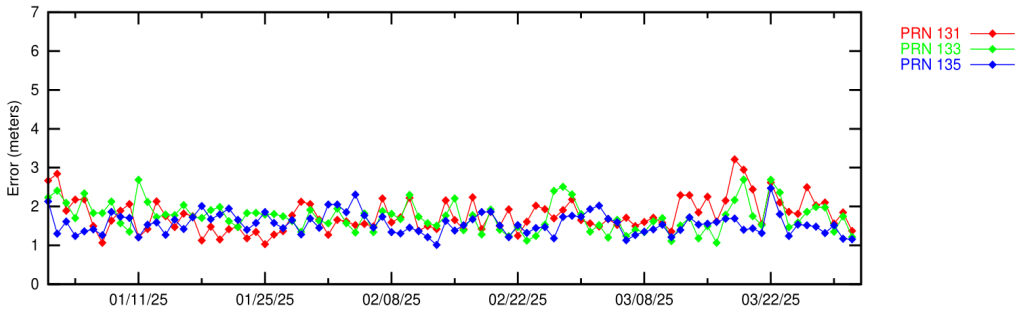

Figure 6-3 Range Error (PRN131, PRN133, and PRN138)—Washington, DC

A GIVE is broadcasted by the WAAS for each monitored IGP and the maximum normalized value (divided by sigma_UISE [User Ionospheric Slant Error]) of the ionospheric error after application of ionospheric corrections is checked. The WAAS broadcasts the ionospheric model using IGPs at predefined geographic locations. Each IGP contains the vertical ionospheric delay and the delay error in the form of the GIVE. The ionospheric error is determined by taking the difference between the WAAS vertical ionospheric delay interpolated from the IGP and GPS dual frequency measurement at that GPS satellite.

The GPS satellite ionospheric errors were calculated for 12 WAAS receivers during the quarter. Table 6-3 and Table 6-4 show the ionospheric error 95% index, maximum ionospheric error, and maximum normalized value (divided by sigma_UISE) for each SV at the selected locations. Figure 6-4 and Figure 6-5 show the 95% ionospheric error for each SV measured by the WAAS receiver at the Washington, DC reference station.

Table 6-3 Ionospheric Error 95% Index and 99.9% Sigma Bounding

Site	Minneapolis			Chicago			Boston			Juneau			Honolulu			Salt Lake City		
PRN ↓	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma
1	1.800	4.094	1.151	1.820	4.366	1.508	1.800	4.093	1.353	1.826	4.337	0.493	1.756	3.957	2.146	1.791	3.794	1.067
2	0.648	3.642	0.304	0.704	2.450	0.610	0.576	2.198	0.696	0.859	4.530	0.831	0.615	2.420	0.803	0.509	1.548	0.064
3	0.704	3.357	0.326	0.787	3.473	0.892	0.671	2.011	0.701	0.916	5.375	0.445	0.870	2.993	1.051	0.625	1.666	0.485
4	0.820	5.864	1.107	0.927	5.732	0.216	0.903	2.538	0.548	0.810	5.941	0.291	0.756	2.882	0.581	0.535	2.250	0.076
5	0.656	2.393	0.868	0.752	2.196	0.872	0.624	2.172	0.740	0.832	3.295	1.278	1.185	6.015	0.226	0.719	3.521	0.139
6	0.756	3.066	0.952	0.888	2.760	0.908	0.763	2.510	0.589	0.904	4.838	0.198	1.293	4.339	1.119	0.741	2.127	0.065
7	0.661	2.282	1.133	0.864	4.744	0.345	0.721	2.502	0.274	0.833	3.014	0.813	0.665	2.282	0.512	0.621	1.822	0.614
8	0.579	2.075	0.455	0.687	2.361	0.912	0.625	2.502	0.750	0.774	4.221	0.282	0.707	3.186	0.805	0.613	2.051	0.571
9	0.779	4.391	0.493	0.794	3.175	0.120	0.877	2.101	0.666	0.799	7.858	0.875	0.793	2.092	0.494	0.751	2.638	0.105
10	0.590	5.104	0.194	0.704	4.041	1.017	0.489	2.126	0.490	0.735	7.477	0.214	0.646	1.933	0.559	0.437	1.766	0.641
11	0.773	2.689	1.041	0.746	2.636	0.689	0.562	2.193	0.679	1.004	3.139	0.736	1.776	7.678	0.919	0.576	2.141	0.559
12	0.674	3.020	0.829	0.760	4.325	0.785	0.638	2.175	0.611	0.741	4.199	0.812	1.070	3.380	0.747	0.746	2.310	0.059
13	0.597	2.652	0.080	0.750	9.361	0.276	0.617	3.388	0.116	0.806	4.096	0.379	0.658	3.115	0.107	0.502	1.741	0.117
14	0.583	2.094	0.809	0.621	3.204	0.152	0.648	2.600	0.096	0.823	2.812	0.693	0.906	2.988	0.595	0.568	1.946	0.732
15	0.748	10.286	0.257	0.633	2.403	0.715	0.621	1.988	0.538	0.716	3.081	0.131	0.715	6.290	1.089	0.696	3.202	0.213
16	0.587	3.710	0.627	0.573	3.220	0.138	0.598	3.430	0.124	0.800	5.003	0.174	0.792	3.497	0.718	0.589	1.848	0.562
17	0.685	2.744	0.090	0.827	3.553	1.107	0.695	2.517	0.966	0.903	4.426	0.932	1.419	5.544	1.450	0.724	3.388	0.158
18	0.602	2.394	0.179	0.771	11.913	0.354	0.616	8.941	0.263	0.738	4.072	1.051	0.917	2.528	0.798	0.477	2.887	0.663
19	0.717	2.405	0.721	0.694	2.724	0.107	0.810	3.005	0.836	1.012	3.472	0.716	0.756	4.128	0.160	0.848	6.624	0.193
20	0.853	4.376	0.705	0.963	2.676	0.761	0.787	3.046	0.917	0.979	2.982	0.381	1.217	5.533	0.651	0.680	2.829	0.073
21	0.659	3.061	1.013	0.809	2.723	0.444	0.580	1.658	0.104	0.936	6.852	0.184	0.706	1.892	0.622	0.730	2.323	0.684
22	0.903	2.098	0.642	0.879	2.531	0.754	1.036	1.924	0.713	0.984	4.149	1.095	1.022	3.727	0.400	1.007	2.186	0.654
23	0.668	2.452	0.299	0.578	2.754	0.953	0.498	1.530	0.537	0.722	3.603	0.971	0.513	2.989	0.561	0.900	2.855	1.025
24	0.705	3.547	0.902	0.676	3.754	0.605	0.651	2.158	0.475	0.559	3.161	0.805	0.631	2.283	0.391	0.453	2.497	0.133
25	0.626	2.899	0.374	0.842	4.818	1.249	0.526	2.410	0.089	0.629	2.625	0.532	0.588	2.192	0.713	0.993	4.954	1.124
26	0.783	4.829	0.122	0.651	2.399	0.527	0.578	2.601	0.704	0.733	3.681	1.153	0.927	2.810	0.578	0.610	2.360	0.494
27	0.630	4.208	0.210	0.658	3.510	0.779	0.494	2.430	0.105	0.618	4.012	0.432	0.537	2.029	0.459	0.420	1.802	0.584
28	0.564	1.664	0.769	0.897	3.164	0.102	0.678	3.054	0.111	0.710	3.021	0.716	0.888	3.895	0.206	0.640	2.417	0.425
29	0.669	6.349	0.162	0.757	13.639	0.336	0.952	5.218	0.321	0.640	2.972	0.821	0.932	3.324	0.139	0.565	2.199	0.543
30	0.596	2.955	0.632	0.814	3.933	0.411	0.754	2.519	0.473	0.666	2.680	0.207	0.892	4.424	0.338	0.549	1.902	0.572
31	0.593	2.904	0.122	0.659	3.204	0.177	0.621	3.982	0.174	0.908	4.172	0.168	0.762	3.454	0.695	0.650	2.042	0.388
32	0.848	2.307	1.072	0.672	2.902	0.100	0.733	1.795	0.672	0.960	5.870	0.182	0.864	3.190	0.714	0.972	3.666	0.999

Table 6-4 Ionospheric Error 95% Index and 99.9% Sigma Bounding

Site	Billings			Miami			Albuquerque			Kansas City			Atlanta			Los Angeles		
PRN ↓	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma	0.95 Iono Error (m)	Max Iono Error (m)	Max Iono Error Sigma
1	1.839	3.349	0.997	1.935	4.590	1.158	1.810	3.849	1.036	1.837	4.228	0.843	1.926	4.582	1.145	1.794	3.860	1.233
2	0.560	2.106	0.562	0.717	1.945	0.461	0.551	2.361	0.843	0.659	3.183	1.268	0.617	1.803	0.467	0.583	3.111	1.005
3	0.722	3.625	0.676	0.856	2.460	0.478	0.623	1.840	0.680	0.653	2.089	0.811	0.612	2.970	0.770	0.454	3.002	0.510
4	0.507	1.834	0.057	0.630	1.718	0.406	0.739	2.443	0.123	0.551	1.899	0.113	0.652	2.229	0.671	0.442	3.034	0.184
5	0.633	3.968	0.635	0.739	4.917	0.817	0.802	3.106	0.635	1.348	5.763	0.461	0.689	3.605	0.125	0.926	6.241	0.501
6	0.610	3.100	0.243	1.020	5.310	0.479	0.796	3.585	1.045	1.527	5.019	1.250	0.794	3.242	0.832	0.702	3.992	0.808
7	0.783	2.042	0.981	1.294	2.859	0.984	0.632	2.315	0.520	0.637	1.930	0.746	0.736	2.090	0.056	0.499	2.057	0.646
8	0.568	2.059	0.596	0.715	2.207	0.500	0.545	1.591	0.733	0.699	3.430	0.836	0.597	2.444	0.559	0.605	2.277	0.498
9	0.988	4.357	0.838	1.113	3.330	0.088	0.614	2.203	0.128	0.807	4.104	0.142	0.940	2.420	0.703	0.537	2.041	0.190
10	0.823	2.134	0.616	0.685	3.822	0.813	0.486	1.511	0.452	0.476	1.698	0.435	0.444	2.008	0.596	0.417	1.797	0.461
11	0.794	3.502	0.976	0.775	3.706	0.927	0.750	3.064	0.741	0.744	4.573	1.134	0.666	3.321	0.669	0.697	10.399	0.779
12	0.645	2.475	0.506	0.778	2.453	0.787	0.797	2.473	0.489	0.722	2.951	1.009	0.752	1.927	0.492	0.603	2.554	0.478
13	0.528	3.664	1.105	0.939	3.434	0.802	0.580	1.796	0.279	0.606	4.655	0.473	0.777	2.249	0.740	0.492	3.876	0.936
14	0.687	2.345	0.704	1.398	5.178	0.172	0.621	1.957	0.129	0.586	3.803	0.134	0.640	3.203	0.114	0.540	3.036	0.630
15	0.621	4.196	0.127	0.623	3.812	0.728	0.615	2.320	0.193	1.163	4.477	0.828	0.674	2.327	0.598	0.709	3.959	0.114
16	0.572	2.947	0.294	0.713	5.126	0.916	0.618	2.438	0.736	0.931	4.303	1.115	0.591	2.834	0.668	0.720	2.331	0.569
17	0.792	3.199	0.155	0.991	4.411	0.379	0.832	3.079	0.165	1.027	5.289	0.168	0.679	2.095	0.058	0.803	6.725	0.528
18	0.699	2.391	0.639	1.444	3.816	1.231	0.514	2.030	0.520	0.641	1.830	0.518	0.584	3.032	0.418	0.553	3.073	0.420
19	0.905	2.467	1.332	0.837	3.994	0.409	0.843	4.743	0.176	0.637	6.674	0.175	0.627	2.410	0.366	0.725	7.569	0.593
20	0.772	2.594	0.105	0.893	4.690	0.910	0.918	4.374	0.958	1.713	6.407	1.433	0.825	3.612	0.793	0.726	8.206	0.896
21	0.602	2.693	0.082	0.850	2.498	0.164	0.572	1.924	0.066	0.556	3.100	0.126	0.840	2.904	0.082	0.578	2.205	0.074
22	0.900	1.868	0.604	0.970	3.828	0.126	0.946	2.547	0.761	0.933	2.568	0.841	1.150	2.743	0.833	0.894	2.374	0.409
23	0.753	2.428	0.662	0.684	3.700	0.579	0.493	2.275	0.405	0.660	2.646	0.783	0.482	1.488	0.330	0.740	4.023	0.667
24	0.465	3.873	0.160	1.034	2.388	0.101	0.490	2.179	0.830	0.619	2.539	0.854	0.616	2.121	0.611	0.615	2.878	0.784
25	0.762	2.849	0.099	0.735	5.340	0.152	0.640	2.207	0.686	0.630	3.545	1.244	0.712	2.146	0.163	0.512	2.277	0.441
26	0.523	4.026	0.328	0.707	2.692	0.574	0.564	2.068	0.565	0.718	3.274	0.863	0.545	2.421	0.139	0.736	2.950	0.365
27	0.485	3.659	0.345	0.841	2.224	0.734	0.425	2.002	0.121	0.599	2.478	0.648	0.502	2.852	0.078	0.499	2.656	0.740
28	0.765	5.529	1.075	0.913	5.600	1.061	0.823	2.874	0.647	1.081	3.745	1.103	0.687	3.720	0.816	0.619	2.224	0.604
29	0.763	2.653	0.622	0.642	4.405	0.971	0.649	2.258	0.412	0.649	3.224	0.180	0.836	3.433	0.086	0.696	3.879	0.332
30	0.805	2.972	0.707	0.627	2.499	0.595	0.580	2.101	0.200	0.627	1.821	0.685	0.670	2.369	0.546	0.594	3.255	0.630
31	0.856	5.121	0.503	0.833	4.347	0.335	0.612	3.422	0.618	1.154	4.886	0.125	0.674	2.598	0.643	0.686	3.464	0.649
32	0.976	3.081	0.895	0.898	7.059	1.287	0.828	3.201	0.866	0.811	2.998	1.074	0.779	3.733	0.344	0.782	3.582	0.957

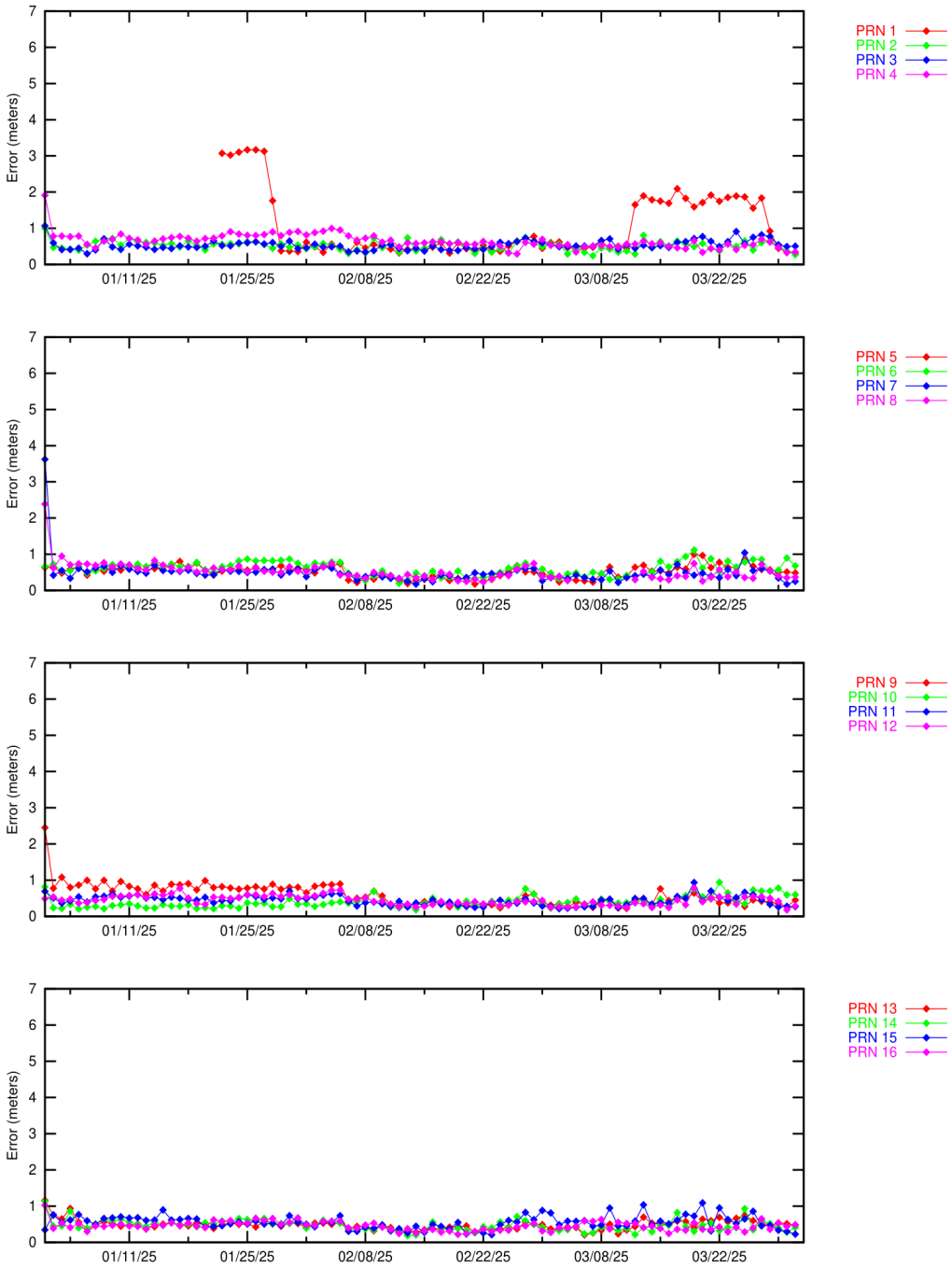

Figure 6-4 Ionospheric Error (PRN1–PRN16)—Washington, DC

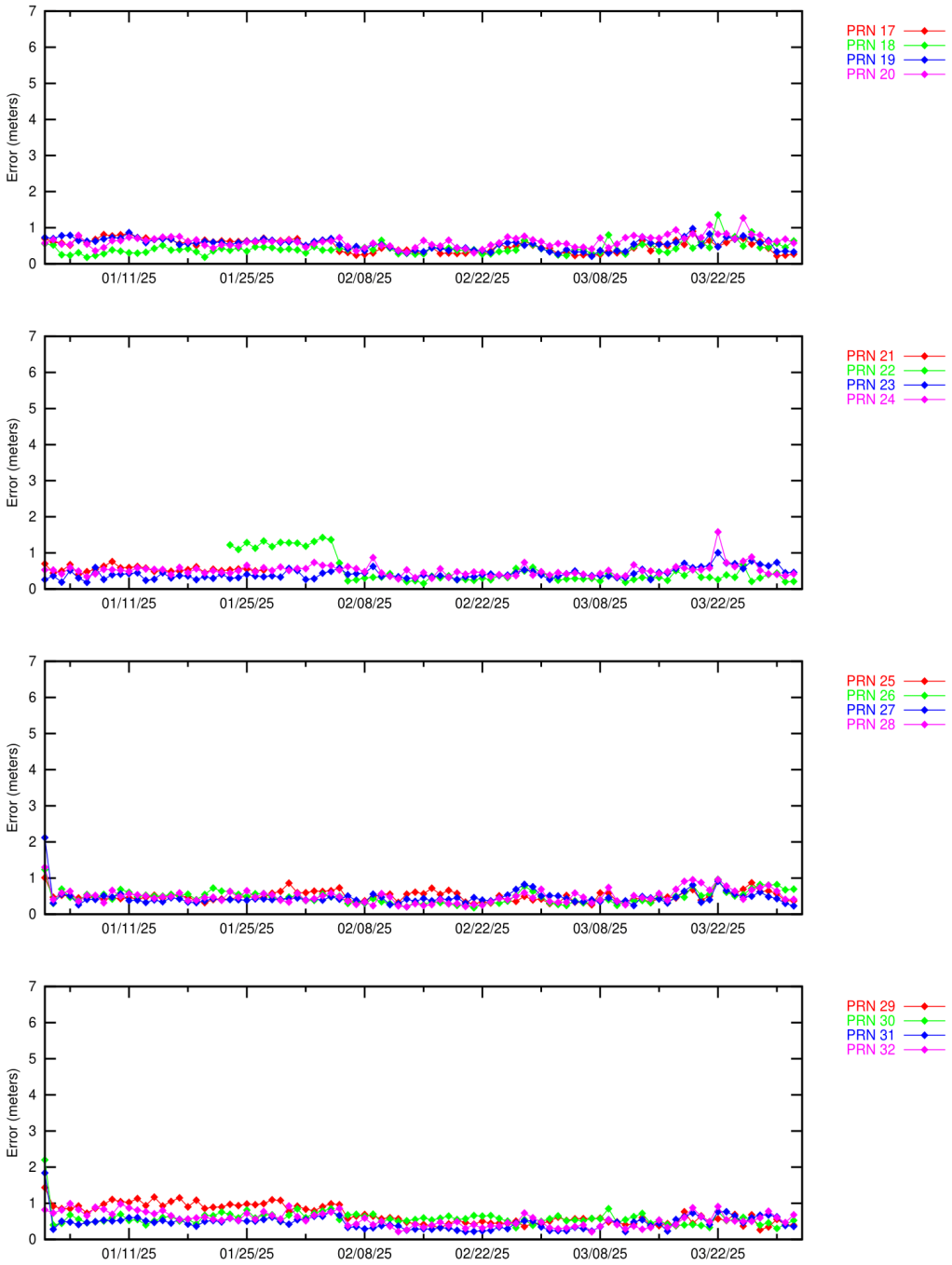

Figure 6-5 Ionospheric Error (PRN17–PRN32)—Washington, DC

For this reporting period, most satellite range errors were bounded at least 99.9% of the time by UDRE. Other unbounded errors (i.e., errors bounded less than 100% of the time) were due to geomagnetic activity, noise, and/or multipath.

7.0 GEO RANGING PERFORMANCE

The WAAS GEO navigation messages provide corrections and UDRE values for each satellite. The GEO ranging availability from each GEO navigation message source was evaluated separately to determine the quality of service provided.

Table 7-1 shows the GEO PA and NPA ranging availability as well as the percentage of time the GEO UDRE was set to "Not Monitored" and "Do Not Use." Figure 7-1 to Figure 7-3 show the trend of SM9, S15, and G30 GEO PA ranging availability, respectively.

The reductions in SM9 GEO PA, S15 GEO PA and G30 GEO PA ranging availability were due to GUS switchovers and a WAAS Extreme Storm Detector (ESD) trip on January 1, 2025 (see Figure 7-1 to Figure 7-3). Refer to

Table 1-7 for detailed information on the GUS switchovers for this reporting period.

Table 7-1 GEO Ranging Availability

GEO Source	GEO	PA (%)	NPA (%)	Not Monitored (%)	Do Not Use (%)
SM9 131	SM9	98.74	0.52	0.71	0.03
SM9 131	S15	98.55	0.49	0.84	0.13
SM9 131	G30	99.00	0.47	0.45	0.09
S15 133	SM9	98.74	0.52	0.71	0.03
S15 133	S15	98.54	0.49	0.84	0.13
S15 133	G30	99.00	0.47	0.45	0.09
G30 135	SM9	98.74	0.52	0.72	0.03
G30 135	S15	98.53	0.49	0.85	0.13
G30 135	G30	99.02	0.47	0.44	0.08

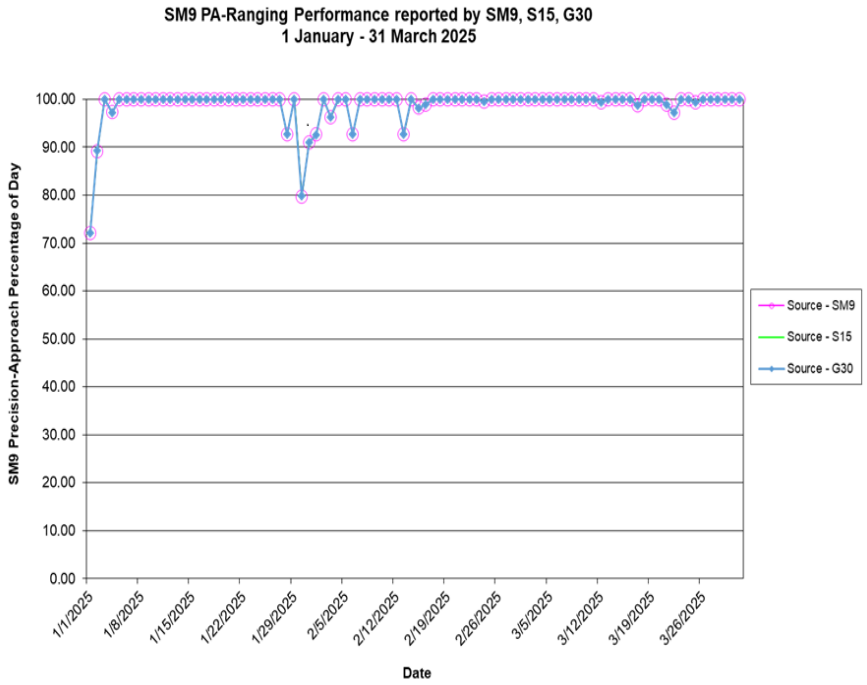

Figure 7-1 Daily PA SM9 GEO Ranging Availability Trend

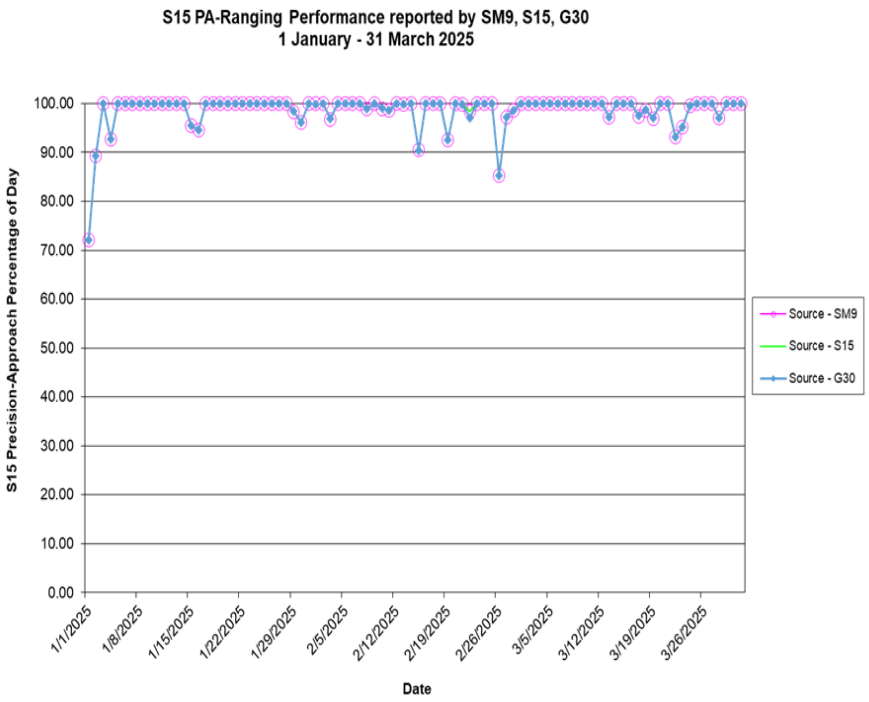

Figure 7-2 Daily PA S15 GEO Ranging Availability Trend

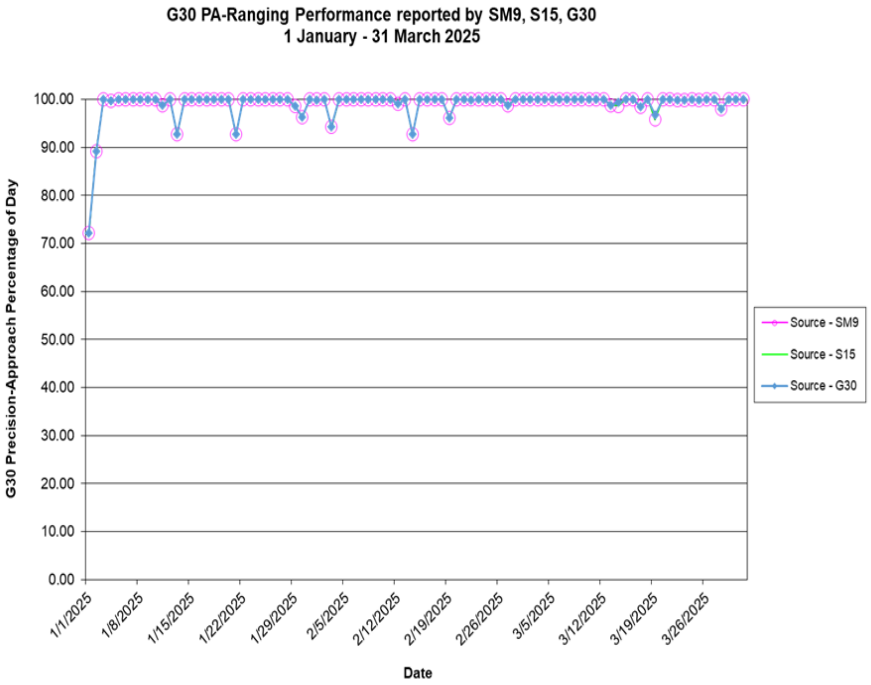

Figure 7-3 Daily PA G30 GEO Ranging Availability Trend

8.0 WAAS AIRPORT AVAILABILITY

The WAAS airport availability evaluation determines the number and length of LPV service outages at selected airports using the transmitted WAAS navigation message. The navigation messages transmitted from all GEO satellites are processed simultaneously, and WAAS protection levels (VPL and HPL) are computed at each airport once every 30 seconds in accordance with the RTCA DO-229F. The WAAS LPV service is available for a user when the VPL is less than or equal to the VAL of 50 meters and the HPL is less than or equal to the HAL of 40 meters. If both conditions are met, WAAS LPV service is available at that airport. Consequently, if either one of the conditions are not met, the WAAS LPV service outage and its duration is recorded.

When the LPV service becomes unavailable, it is not considered available again until protection levels are below or equal to alert limits for at least 15 minutes. Although this will minimally reduce LPV service availability, it substantially reduces the number of service outages and prevents excessive switching in and out of service availability. Similar service analyses are computed for the LP and LPV200 services in accordance with HAL and VAL shown in Table 1-1. Table 8-1 shows the WAAS LPV service availability and outages at selected airports in the U.S. and Canada. Figure 8-1 through Figure 8-6 provide graphical representation of the LP, LPV, and LPV200 availability and outage counts at airports in the U.S. and Canada that have published GPS area navigation (RNAV) Instrument Approach Procedures (IAPs). These results are geographically depicted on an interactive web page and are accessible at http://www.nstb.tc.faa.gov/AirportOutages/.

To use the interactive web page, select the current quarter from the dropdown menu in the upper left corner, and click “Submit Request”. The WAAS LPV airport layer will appear providing color-coded availability results, as shown in Figure 8-1 and Figure 8-2. Rolling the cursor over any airport will display the LPV availability and outages for the reporting period. The “WAAS Layer” menu in the upper right of the display allows the user to select WAAS LP or LPV200 availability and outage results, as shown in Figure 8-3 through Figure 8-6. Selecting “Show All Airports” displays WAAS availability for U.S. airports with GPS RNAV IAPs; not selecting “Show All Airports” displays only airports with approved LPV approaches, as shown in Table 8-1.

Table 8-1 WAAS LP, LPV, and LPV200 Outages and Availability

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CAL4	ALBIAN	AB	LPV	19	98.703	17	98.491	49	97.647
CEA3	OLDS-DIDSBURY	AB	LPV	8	99.264	11	99.153	15	98.842
CEB5	FAIRVIEW	AB	LPV	10	99.499	13	99.258	31	98.650
CEC4	JASPER-HINTON	AB	LP	7	99.645	14	99.507	18	99.148
CEH3	PONOKA (LABRIE FIELD)	AB	LPV	10	99.207	10	99.052	16	98.740
CEH5	RED EARTH CREEK	AB	LP	12	99.380	16	99.237	35	98.492
CEH6	PROVOST	AB	LPV	8	99.128	9	99.029	16	98.659
CEN3	THREE HILLS	AB	LPV	6	99.698	8	99.590	13	99.321
CEN5	COLD LAKE REGIONAL	AB	LPV	9	99.463	12	99.305	23	98.900
CEQ3	CAMROSE	AB	LPV	8	99.608	11	99.478	16	99.141
CET2	CONKLIN (LEISMER)	AB	LPV	13	99.404	12	99.223	36	98.645
CEV3	VEGREVILLE	AB	LPV	10	99.117	12	98.929	19	98.585
CEW3	ST. PAUL	AB	LPV	7	99.550	11	99.360	19	99.016
CEX3	WETASKIWIN REGIONAL	AB	LPV	7	99.655	9	99.495	15	99.185
CEZ3	COOKING LAKE	AB	LPV	7	99.591	10	99.424	19	99.099
CFB6	JOSEPHBURG	AB	LPV	7	99.584	11	99.420	18	99.070
CFM4	DONNELLY	AB	LPV	11	99.528	14	99.335	31	98.762
CYBF	BONNYVILLE	AB	LPV	8	99.493	11	99.326	22	98.953
CYBW	SPRINGBANK	AB	LPV	7	99.374	12	99.302	16	98.986
CYEG	EDMONTON INTL	AB	LPV200	9	99.134	13	98.974	21	98.641
CYFI	FIREBAG	AB	LPV	15	99.131	14	98.943	48	98.105
CYLB	LAC LA BICHE	AB	LPV	7	99.538	12	99.327	26	98.885
CYLL	LLOYDMINSTER	AB	LPV	9	99.089	11	98.920	19	98.573
CYMM	FORT MCMURRAY	AB	LPV200	16	98.766	16	98.589	46	97.876
CYNR	HORIZON	AB	LPV	17	99.182	17	98.960	50	98.121
CYOD	GROUP CAPTAIN R.W. MCNAIR	AB	LP	11	99.006	15	98.849	26	98.446
CYOJ	HIGH LEVEL	AB	LPV	12	99.180	21	98.920	51	97.803
CYOP	RAINBOW LAKE	AB	LPV	14	99.219	25	99.032	53	97.941
CYPE	PEACE RIVER	AB	LPV	14	99.444	14	99.241	32	98.610
CYPY	FORT CHIPEWYAN	AB	LPV	18	98.521	23	98.229	53	96.951
CYQF	RED DEER REGIONAL	AB	LPV	8	99.223	11	99.089	16	98.790
CYQL	LETHBRIDGE	AB	LPV200	2	99.865	7	99.813	10	99.604
CYQU	GRANDE PRAIRIE	AB	LPV200	7	99.576	13	99.410	29	98.868
CYWM	ATHABASCA	AB	LPV	7	99.579	14	99.371	25	98.888
CYXH	MEDICINE HAT	AB	LPV	9	99.370	10	99.314	12	99.051

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CYYC	YYC CALGARY INTL	AB	LPV200	7	99.372	11	99.290	14	98.968
CYZU	WHITECOURT	AB	LPV	7	99.618	14	99.464	23	99.038
CZPC	PINCHER CREEK	AB	LPV	2	99.872	4	99.835	11	99.633
CZVL	VILLENEUVE	AB	LPV	8	99.098	12	98.941	23	98.594
2C7	SHAKTOOLIK	AK	LPV	16	98.775	18	98.631	35	98.297
6A8	ALLAKAKET	AK	LP	18	98.586	28	98.406	48	97.638
7KA	TATITLEK	AK	LP	17	98.915	22	98.726	25	98.285
9A3	CHUATHBALUK	AK	LPV	17	99.120	22	98.910	29	98.555
ADQ	KODIAK	AK	LPV	10	99.219	13	99.144	23	98.765
AFM	AMBLER	AK	LPV	18	98.607	28	98.316	50	97.447
AKN	KING SALMON	AK	LPV	10	99.255	11	99.154	21	98.915
ANC	TED STEVENS ANCHORAGE INTL	AK	LPV200	18	98.978	20	98.735	21	98.419
ANI	ANIAK	AK	LPV	17	99.125	21	98.912	28	98.564
AQH	QUINHAGAK	AK	LPV	8	99.286	14	99.179	23	98.877
AQT	NUIQSUT	AK	LPV	26	98.143	38	97.830	87	96.056
ATK	ATQASUK EDWARD BURNELL SR MEML	AK	LPV	27	98.121	37	97.801	87	96.243
AWI	WAINWRIGHT	AK	LPV	27	98.094	37	97.845	87	96.079
BET	BETHEL	AK	LPV200	14	99.235	17	99.083	32	98.757
BRW	WILEY POST-WILL ROGERS MEML	AK	LPV	28	98.048	43	97.669	93	95.732
BVK	BUCKLAND	AK	LPV	16	98.682	18	98.566	43	97.938
CDB	COLD BAY	AK	LPV200	8	99.309	10	99.275	42	98.752
CDV	MERLE K (MUDHOLE) SMITH	AK	LPV	16	98.910	21	98.718	25	98.307
CEM	CENTRAL	AK	LP	20	98.417	27	98.223	52	97.448
CLP	CLARKS POINT	AK	LPV	9	99.262	11	99.155	22	98.885
CXF	COLDFOOT	AK	LP	22	98.474	33	98.173	60	97.272
D76	ROBERT/BOB/CURTIS MEML	AK	LPV	17	98.649	25	98.384	52	97.636
DEE	DEERING	AK	LPV	16	98.677	19	98.534	46	97.907
DLG	DILLINGHAM	AK	LPV	8	99.263	11	99.151	22	98.900
ELI	ELIM	AK	LPV	16	98.744	19	98.621	38	98.284
ENA	KENAI MUNICIPAL	AK	LPV200	15	99.019	18	98.812	22	98.544
ENM	EMMONAK	AK	LPV	18	98.997	21	98.847	30	98.353
FAI	FAIRBANKS INTL	AK	LPV200	20	98.557	27	98.373	46	97.792
FYU	FORT YUKON	AK	LPV	24	98.392	30	98.106	59	97.120
GAL	EDWARD G PITKA SR	AK	LPV	18	98.760	23	98.558	37	98.138
GAM	GAMBELL	AK	LPV	19	98.825	22	98.687	57	97.812
GKN	GULKANA	AK	LPV	17	98.769	22	98.520	38	97.947

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
GST	GUSTAVUS	AK	LP	16	98.802	22	98.607	33	98.049
HLA	HUSLIA	AK	LPV	16	98.669	22	98.506	39	98.006
HOM	HOMER	AK	LPV	16	99.074	19	98.894	22	98.627
HPB	HOOPER BAY	AK	LP	15	99.173	18	99.053	34	98.518
HRR	HEALY RIVER	AK	LP	19	98.659	23	98.452	35	98.004
IAN	BOB BAKER MEML	AK	LPV	18	98.638	26	98.361	53	97.544
IIK	KIPNUK	AK	LPV	6	99.839	7	99.818	23	99.494
ILI	ILIAMNA	AK	LPV	13	99.208	14	99.070	23	98.805
IWK	WALES	AK	LP	17	98.602	19	98.489	49	97.869
IYS	WASILLA	AK	LPV	19	98.941	22	98.653	25	98.292
KAL	KALTAG	AK	LPV	16	98.796	19	98.665	34	98.223
KGX	GRAYLING	AK	LP	15	99.515	14	99.322	23	99.108
KKA	KOYUK ALFRED ADAMS	AK	LP	16	98.730	18	98.611	39	98.239
KSM	ST MARY'S	AK	LPV200	18	99.094	21	98.871	30	98.479
KTN	KETCHIKAN INTL	AK	LPV	13	99.020	20	98.859	29	98.404
KTS	BREVIG MISSION	AK	LPV	17	98.681	19	98.567	45	97.969
KWT	KWETHLUK	AK	LPV	15	99.232	18	99.077	32	98.767
KYU	KOYUKUK	AK	LPV	17	98.737	21	98.548	37	98.141
MCG	MC GRATH	AK	LP	17	98.878	18	98.648	31	98.296
MDM	MARSHALL DON HUNTER SR	AK	LP	17	99.097	21	98.883	30	98.522
MDO	MIDDLETON ISLAND	AK	LP	15	98.985	19	98.880	24	98.432
MLY	MANLEY HOT SPRINGS	AK	LP	16	99.221	19	99.050	34	98.639
MOU	MOUNTAIN VILLAGE	AK	LPV200	18	99.091	21	98.870	30	98.473
MYU	MEKORYUK	AK	LPV	10	99.231	14	99.162	34	98.724
OME	NOME	AK	LPV	17	98.743	20	98.644	39	98.166
OOK	TOKSOOK BAY	AK	LP	10	99.247	13	99.147	31	98.719
ORT	NORTHWAY	AK	LP	16	98.612	25	98.246	40	97.717
OTZ	RALPH WIEN MEML	AK	LPV	19	98.631	26	98.378	53	97.557
PAQ	WARREN 'BUD' WOODS PALMER MUNICIPAL	AK	LP	20	98.940	22	98.647	25	98.282
PBV	ST GEORGE	AK	LPV	8	99.250	14	99.216	76	98.079
PHO	POINT HOPE	AK	LPV	25	98.383	27	98.133	83	96.674
PTU	PLATINUM	AK	LPV	10	99.288	11	99.216	21	98.859
RBY	RUBY	AK	LPV	18	98.743	24	98.558	33	98.131
RSH	RUSSIAN MISSION	AK	LP	18	99.096	22	98.881	30	98.552
SCC	DEADHORSE	AK	LPV200	29	98.138	43	97.780	87	95.827
SCM	SCAMMON BAY	AK	LP	17	99.122	21	98.987	37	98.478

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
SDP	SAND POINT	AK	LPV	7	99.309	9	99.275	34	98.873
SHG	SHUNGNAK	AK	LP	18	98.611	27	98.323	48	97.517
SHX	SHAGELUK	AK	LPV	21	98.955	20	98.713	29	98.420
SIT	SITKA ROCKY GUTIERREZ	AK	LP	14	98.873	20	98.694	32	98.277
SLQ	SLEETMUTE	AK	LP	13	99.629	15	99.437	21	99.145
SMK	ST MICHAEL	AK	LPV	18	98.829	19	98.674	30	98.343
SXQ	SOLDOTNA	AK	LP	15	99.023	18	98.819	21	98.547
TER	TELLER	AK	LPV200	17	98.681	19	98.575	42	97.963
TKA	TALKEETNA	AK	LPV	17	98.856	22	98.589	25	98.241
TOG	TOGIAK	AK	LP	10	99.283	12	99.171	23	98.910
WLK	SELAWIK	AK	LPV	17	98.645	25	98.424	48	97.686
WMO	WHITE MOUNTAIN	AK	LPV	17	98.733	19	98.629	37	98.234
WNA	NAPAKIAK	AK	LPV	13	99.243	16	99.092	32	98.781
WSN	SOUTH NAKNEK NR 2	AK	LPV	10	99.258	11	99.153	21	98.910
WTK	NOATAK	AK	LPV	16	99.136	22	98.919	57	98.001
YAK	YAKUTAT	AK	LPV200	16	98.820	20	98.672	32	98.161
02A	CHILTON COUNTY	AL	LP	1	99.533	1	99.533	2	99.479
06A	MOTON FLD MUNICIPAL	AL	LPV	1	99.533	1	99.529	3	99.473
09A	BUTLER/CHOCTAW COUNTY	AL	LPV	1	99.548	1	99.533	2	99.501
0J6	HEADLAND MUNICIPAL	AL	LPV	1	99.533	1	99.526	3	99.444
0R1	ATMORE MUNICIPAL	AL	LPV	1	99.533	1	99.533	5	99.469
11A	CLAYTON MUNICIPAL	AL	LPV	1	99.533	1	99.526	3	99.454
12J	BREWTON MUNICIPAL	AL	LPV	1	99.533	1	99.532	5	99.468
1A9	PRATTVILLE - GROUBY FLD	AL	LPV	1	99.533	1	99.533	2	99.476
1M4	POSEY FLD	AL	LPV	1	99.559	1	99.557	1	99.545
1R8	BAY MINETTE MUNICIPAL	AL	LPV	1	99.533	1	99.533	4	99.463
2R5	ST ELMO	AL	LPV	1	99.533	1	99.533	3	99.468
33J	GENEVA MUNICIPAL	AL	LP	1	99.533	1	99.526	3	99.446
3M8	NORTH PICKENS	AL	LP	1	99.550	1	99.545	2	99.518
4A9	ISBELL FLD	AL	LPV	1	99.537	1	99.537	2	99.529
5R1	ROY WILCOX	AL	LP	1	99.533	1	99.533	3	99.494
5R4	FOLEY MUNICIPAL	AL	LPV	1	99.533	1	99.533	4	99.460
71J	OZARK/BLACKWELL FLD	AL	LPV	1	99.533	1	99.526	3	99.449
79J	SOUTH ALABAMA RGNL AT BILL BEN	AL	LPV	1	99.533	1	99.529	4	99.464
8A0	ALBERTVILLE RGNL/THOMAS J BRUM	AL	LPV	1	99.547	1	99.547	1	99.533
8A1	GUNTERSVILLE MUNICIPAL/JOE STARNES	AL	LPV	1	99.553	1	99.553	1	99.532

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
9A4	COURTLAND	AL	LPV200	1	99.567	1	99.567	1	99.540
A08	VAIDEN FLD	AL	LPV	1	99.540	1	99.533	3	99.501
ALX	THOMAS C RUSSELL FLD	AL	LPV	1	99.533	1	99.533	3	99.477
ANB	ANNISTON RGNL	AL	LPV	1	99.533	1	99.533	3	99.522
ASN	TALLADEGA MUNICIPAL	AL	LPV200	1	99.533	1	99.533	3	99.524
AUO	AUBURN UNIVERSITY RGNL	AL	LPV200	1	99.533	1	99.529	3	99.473
BFM	MOBILE DOWNTOWN	AL	LPV200	1	99.533	1	99.533	3	99.469
BHM	BIRMINGHAM-SHUTTLESWORTH INTL	AL	LPV200	1	99.537	1	99.535	1	99.530
CMD	CULLMAN RGNL-FOLSOM FLD	AL	LPV	1	99.552	1	99.552	1	99.533
CQF	H L SONNY CALLAHAN	AL	LPV200	1	99.533	1	99.533	4	99.461
DCU	PRYOR FLD RGNL	AL	LPV200	1	99.567	1	99.567	1	99.534
DHN	DOTHAN RGNL	AL	LPV200	1	99.533	1	99.526	3	99.444
DYA	DEMOPOLIS RGNL	AL	LPV	1	99.548	1	99.533	2	99.501
EDN	ENTERPRISE MUNICIPAL	AL	LPV	1	99.533	1	99.526	3	99.450
EET	SHELBY COUNTY	AL	LPV	1	99.533	1	99.533	2	99.505
EKY	BESSEMER	AL	LPV200	1	99.537	1	99.533	2	99.513
EUF	WEEDON FLD	AL	LPV	1	99.530	1	99.526	3	99.451
GAD	NORTHEAST ALABAMA RGNL	AL	LPV200	1	99.536	1	99.536	2	99.533
GZH	EVERGREEN RGNL/MIDDLETON FLD	AL	LP	1	99.533	1	99.533	3	99.469
HAB	MARION COUNTY-RANKIN FITE	AL	LPV	1	99.559	1	99.555	1	99.544
HSV	HUNTSVILLE INTL-CARL T JONES F	AL	LPV200	1	99.567	1	99.567	1	99.533
JFX	WALKER COUNTY-BEVILL FLD	AL	LPV	1	99.545	1	99.545	1	99.536
JKA	GULF SHORES INTL/JACK EDWARDS	AL	LPV200	1	99.533	1	99.533	4	99.459
M95	RICHARD ARTHUR FLD	AL	LPV	1	99.549	1	99.547	2	99.530
MDQ	HUNTSVILLE EXEC TOM SHARP JR F	AL	LPV200	1	99.567	1	99.567	1	99.532
MGM	MONTGOMERY RGNL (DANNELLY FLD)	AL	LPV200	1	99.533	1	99.533	3	99.476
MOB	MOBILE RGNL	AL	LPV200	1	99.533	1	99.533	2	99.469
MSL	NORTHWEST ALABAMA RGNL	AL	LPV200	1	99.567	1	99.567	1	99.545
PLR	ST CLAIR COUNTY	AL	LPV	1	99.533	1	99.533	2	99.529
PYP	CENTRE-PIEDMONT-CHEROKEE COUNT	AL	LPV	1	99.533	1	99.533	3	99.521
SCD	MERKEL FLD SYLACAUGA MUNICIPAL	AL	LPV	1	99.533	1	99.533	3	99.496
SEM	CRAIG FLD	AL	LPV200	1	99.533	1	99.533	3	99.490
TCL	TUSCALOOSA NTL	AL	LPV	1	99.545	1	99.533	2	99.509
TOI	TROY MUNICIPAL AT N KENNETH CAMPBEL	AL	LPV	1	99.533	1	99.528	3	99.476
0M0	BILLY FREE MUNICIPAL	AR	LPV	1	99.570	1	99.567	3	99.556
42A	MELBOURNE MUNICIPAL - JOHN E MILLER	AR	LP	2	99.570	2	99.545	2	99.527

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
4A5	SEARCY COUNTY	AR	LPV	2	99.570	3	99.556	3	99.522
4M1	CARROLL COUNTY	AR	LP	2	99.563	2	99.522	3	99.501
4M3	CARLISLE MUNICIPAL	AR	LPV	1	99.570	1	99.570	2	99.538
6M7	MARIANNA/LEE COUNTY-STEVE EDWA	AR	LPV	1	99.570	1	99.570	2	99.563
7M1	MC GEHEE MUNICIPAL	AR	LP	1	99.570	1	99.567	5	99.538
9M8	SHERIDAN-GRANT COUNTY RGNL	AR	LPV	1	99.570	1	99.570	3	99.559
ADF	DEXTER B FLORENCE MEML FLD	AR	LPV	1	99.570	1	99.570	4	99.545
ARG	WALNUT RIDGE RGNL	AR	LPV200	1	99.570	2	99.549	2	99.541
ASG	SPRINGDALE MUNICIPAL	AR	LPV	2	99.554	2	99.522	3	99.497
AWM	WEST MEMPHIS MUNICIPAL	AR	LPV	1	99.570	1	99.570	2	99.545
BPK	BAXTER COUNTY	AR	LPV	2	99.564	2	99.541	3	99.522
BVX	BATESVILLE RGNL	AR	LPV	1	99.570	2	99.567	2	99.541
BYH	ARKANSAS INTL	AR	LPV200	1	99.570	2	99.566	2	99.541
CDH	HARRELL FLD	AR	LPV	1	99.570	1	99.570	4	99.530
CXW	CONWAY RGNL	AR	LPV	1	99.570	1	99.570	2	99.538
DRP	DELTA RGNL	AR	LPV	1	99.570	1	99.570	2	99.545
ELD	SOUTH ARKANSAS RGNL AT GOODWIN	AR	LPV	1	99.570	1	99.567	4	99.535
FLP	MARION COUNTY RGNL	AR	LPV	2	99.564	2	99.541	3	99.521
FSM	FORT SMITH RGNL	AR	LPV200	2	99.565	2	99.565	3	99.502
FYV	DRAKE FLD	AR	LPV	2	99.555	3	99.536	3	99.497
H34	HUNTSVILLE MUNICIPAL	AR	LPV	2	99.564	3	99.535	3	99.498
HEE	THOMPSON-ROBBINS	AR	LPV	1	99.570	1	99.567	1	99.567
HRO	BOONE COUNTY	AR	LPV	2	99.564	2	99.522	3	99.508
JBR	JONESBORO MUNICIPAL	AR	LPV200	1	99.570	2	99.567	2	99.541
LIT	BILL AND HILLARY CLINTON NTL/A	AR	LPV200	1	99.570	1	99.570	3	99.551
LLQ	MONTICELLO MUNICIPAL/ELLIS FLD	AR	LPV	1	99.570	1	99.568	4	99.542
M18	HOPE MUNICIPAL	AR	LP	1	99.570	1	99.570	4	99.523
M19	NEWPORT RGNL	AR	LPV	1	99.570	2	99.568	2	99.541
M32	LAKE VILLAGE MUNICIPAL	AR	LP	1	99.570	1	99.567	3	99.511
M70	POCAHONTAS MUNICIPAL	AR	LPV	1	99.999	1	99.974	1	99.974
M77	HOWARD COUNTY	AR	LP	1	99.570	1	99.570	4	99.530
MXA	MANILA MUNICIPAL	AR	LPV	1	99.570	2	99.567	2	99.541
ORK	NORTH LITTLE ROCK MUNICIPAL	AR	LPV	1	99.570	1	99.570	2	99.538
PBF	PINEBLUFF RGNL/GRIDER FLD	AR	LPV	1	99.570	1	99.570	3	99.557
ROG	ROGERS EXEC - CARTER FLD	AR	LPV	2	99.552	2	99.522	3	99.497
RUE	RUSSELLVILLE RGNL	AR	LPV	2	99.570	2	99.570	2	99.533

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
SGT	STUTTGART MUNICIPAL CARL HUMPHREY F	AR	LPV	1	99.570	1	99.570	2	99.566
SLG	SMITH FLD	AR	LPV	2	99.553	2	99.522	3	99.497
SRC	SEARCY MUNICIPAL	AR	LPV	1	99.570	1	99.570	2	99.543
SUZ	SALINE COUNTY RGNL	AR	LPV	1	99.570	1	99.570	2	99.556
TXK	TEXARKANA RGNL-WEBB FLD	AR	LPV	1	99.570	1	99.570	3	99.510
VBT	BENTONVILLE MUNICIPAL/LOUISE M THAD	AR	LPV	2	99.553	2	99.522	3	99.497
XNA	NORTHWEST ARKANSAS NTL	AR	LPV200	2	99.553	2	99.522	3	99.497
AVQ	MARANA RGNL	AZ	LP	4	99.554	4	99.517	21	99.283
AZC	COLORADO CITY MUNICIPAL	AZ	LPV	0	100	2	99.994	9	99.895
CGZ	CASA GRANDE MUNICIPAL	AZ	LPV	3	99.558	2	99.525	13	99.341
CHD	CHANDLER MUNICIPAL	AZ	LPV	3	99.559	2	99.525	13	99.369
DVT	PHOENIX DEER VALLEY	AZ	LPV	2	99.560	2	99.525	10	99.401
FFZ	FALCON FLD	AZ	LP	2	99.560	2	99.525	11	99.395
FHU	SIERRA VISTA MUNICIPAL-LIBBY AAF	AZ	LPV200	5	99.535	5	99.482	34	99.220
FLG	FLAGSTAFF PULLIAM	AZ	LPV	1	99.574	1	99.574	10	99.438
GCN	GRAND CANYON NTL PARK	AZ	LPV	1	99.574	3	99.568	11	99.454
GEU	GLENDALE MUNICIPAL	AZ	LPV	3	99.559	2	99.525	11	99.386
GYR	PHOENIX GOODYEAR	AZ	LP	3	99.559	2	99.525	11	99.379
HII	LAKE HAVASU CITY	AZ	LPV	2	99.560	3	99.540	11	99.390
IFP	LAUGHLIN/BULLHEAD INTL	AZ	LPV	2	99.571	3	99.538	10	99.389
IGM	KINGMAN	AZ	LPV	1	99.574	3	99.560	10	99.388
IWA	PHOENIX-MESA GATEWAY	AZ	LPV200	2	99.560	2	99.525	14	99.379
JTC	SPRINGERVILLE MUNICIPAL	AZ	LP	1	99.574	2	99.566	10	99.436
P08	COOLIDGE MUNICIPAL	AZ	LPV	3	99.559	3	99.525	14	99.347
P20	AVI SUQUILLA	AZ	LPV	2	99.560	2	99.525	11	99.379
P33	COCHISE COUNTY	AZ	LPV	4	99.549	5	99.509	27	99.305
PGA	PAGE MUNICIPAL	AZ	LPV	1	99.574	2	99.539	10	99.480
PHX	PHOENIX SKY HARBOR INTL	AZ	LPV	3	99.559	2	99.525	11	99.385
PRC	PRESCOTT RGNL - ERNEST A LOVE	AZ	LPV200	2	99.573	3	99.543	10	99.420
RQE	WINDOW ROCK	AZ	LP	1	99.574	2	99.542	10	99.478
RYN	RYAN FLD	AZ	LPV	4	99.973	4	99.922	24	99.685
SAD	SAFFORD RGNL	AZ	LPV	2	99.564	2	99.528	15	99.347
SJN	ST JOHNS INDUSTRIAL AIR PARK	AZ	LPV	1	99.574	1	99.574	10	99.462
SOW	SHOW LOW RGNL	AZ	LPV200	1	99.574	2	99.563	10	99.437
TUS	TUCSON INTL	AZ	LPV	4	99.548	4	99.493	29	99.265
TYL	TAYLOR	AZ	LPV	1	99.574	1	99.574	10	99.439

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CAJ4	ANAHIM LAKE	BC	LPV	6	99.193	11	99.061	21	98.617
CAJ9	FORT WARE	BC	LP	11	99.341	17	99.185	41	98.377
CAU4	VANDERHOOF	BC	LPV	8	99.121	18	98.996	28	98.489
CBN9	TSAY KEH	BC	LP	10	99.375	17	99.249	40	98.497
CBW4	BOB QUINN LAKE	BC	LP	11	99.430	19	99.254	35	98.629
CYBL	CAMPBELL RIVER	BC	LPV	7	99.429	10	99.308	16	98.981
CYCD	NANAIMO	BC	LPV	6	99.455	8	99.354	16	99.164
CYCZ	FAIRMONT HOT SPRINGS	BC	LPV	2	99.857	5	99.822	15	99.577
CYDL	DEASE LAKE	BC	LP	13	99.330	19	99.050	39	98.267
CYDQ	DAWSON CREEK	BC	LPV	11	99.034	17	98.835	32	98.212
CYKA	KAMLOOPS	BC	LPV	3	99.852	7	99.762	16	99.507
CYLW	KELOWNA	BC	LPV	4	99.856	6	99.762	13	99.644
CYPK	PITT MEADOWS	BC	LPV	6	99.465	7	99.360	15	99.148
CYPR	PRINCE RUPERT	BC	LPV	7	99.602	11	99.460	22	99.060
CYQQ	COMOX	BC	LPV200	6	99.440	8	99.328	17	99.036
CYQZ	QUESNEL	BC	LPV	7	99.179	15	99.046	22	98.620
CYVR	VANCOUVER INTL	BC	LPV200	6	99.469	7	99.358	17	99.148
CYWL	WILLIAMS LAKE	BC	LPV	5	99.754	10	99.637	15	99.214
CYXJ	FORT ST. JOHN	BC	LPV200	13	98.955	17	98.768	36	98.111
CYXS	PRINCE GEORGE	BC	LPV200	7	99.139	17	98.998	26	98.536
CYXT	TERRACE	BC	LPV	7	99.620	13	99.472	27	99.022
CYXX	ABBOTSFORD	BC	LPV	6	99.483	8	99.370	15	99.170
CYYD	SMITHERS	BC	LPV	10	99.094	16	98.923	34	98.431
CYYE	FORT NELSON	BC	LPV200	16	98.691	23	98.441	55	97.388
CYYF	PENTICTON	BC	LPV	5	99.887	7	99.807	12	99.668
CYYJ	VICTORIA INTL	BC	LPV200	4	99.502	8	99.378	14	99.175
CYZP	SANDSPIT	BC	LPV	6	99.674	12	99.497	22	99.132
CYZT	PORT HARDY	BC	LPV	5	99.320	10	99.216	22	98.833
CZBB	BOUNDARY BAY	BC	LPV	6	99.469	7	99.359	14	99.165
AAT	ALTURAS MUNICIPAL	CA	LPV	1	99.574	3	99.544	7	99.451
ACV	CALIFORNIA REDWOOD COAST-HUMBO	CA	LPV	1	99.571	4	99.535	13	99.369
APC	NAPA COUNTY	CA	LPV200	1	99.571	2	99.519	33	99.267
APV	APPLE VALLEY	CA	LPV	2	99.560	4	99.520	20	99.320
AUN	AUBURN MUNICIPAL	CA	LPV	1	99.574	3	99.542	18	99.365
BFL	MEADOWS FLD	CA	LPV	2	99.549	5	99.530	22	99.281
BLH	BLYTHE	CA	LP	4	99.558	3	99.522	13	99.340

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
BUR	BOB HOPE	CA	LP	3	99.542	10	99.479	34	99.172
C83	BYRON	CA	LPV	1	99.571	3	99.532	34	99.277
CCB	CABLE	CA	LP	3	99.546	9	99.491	29	99.261
CCR	BUCHANAN FLD	CA	LPV	1	99.571	2	99.519	34	99.261
CEC	JACK MC NAMARA FLD	CA	LPV	1	99.571	4	99.520	8	99.376
CIC	CHICO MUNICIPAL	CA	LPV	1	99.571	3	99.542	17	99.380
CMA	CAMARILLO	CA	LPV	4	99.541	11	99.465	42	98.997
CNO	CHINO	CA	LPV	3	99.546	10	99.486	32	99.250
CPU	CALAVERAS COUNTY-MAURY RASMUSS	CA	LP	1	99.574	2	99.540	25	99.360
CRQ	MC CLELLAN-PALOMAR	CA	LPV	5	99.525	11	99.429	47	99.153
CVH	HOLLISTER MUNICIPAL	CA	LPV	2	99.545	3	99.517	43	99.160
DAG	BARSTOW-DAGGETT	CA	LPV	2	99.560	2	99.520	15	99.351
DWA	YOLO COUNTY	CA	LPV	1	99.571	2	99.537	26	99.319
F70	FRENCH VALLEY	CA	LPV	4	99.534	11	99.474	30	99.254
FAT	FRESNO YOSEMITE INTL	CA	LPV200	2	99.565	3	99.538	17	99.332
FCH	FRESNO CHANDLER EXEC	CA	LPV	2	99.565	2	99.520	19	99.327
GOO	NEVADA COUNTY	CA	LPV	1	99.574	3	99.561	17	99.380
HAF	HALF MOON BAY	CA	LPV	2	99.564	3	99.519	50	99.115
HHR	JACK NORTHROP FLD/HAWTHORNE MU	CA	LPV	4	99.544	11	99.468	40	99.108
HJO	HANFORD MUNICIPAL	CA	LPV	2	99.549	2	99.519	18	99.307
HWD	HAYWARD EXEC	CA	LPV	2	99.564	3	99.519	36	99.197
L35	BIG BEAR CITY	CA	LP	3	99.550	8	99.519	20	99.326
LAX	LOS ANGELES INTL	CA	LPV200	4	99.544	11	99.466	40	99.095
LGB	LONG BEACH (DAUGHERTY FLD)	CA	LPV	4	99.543	11	99.467	40	99.112
LHM	LINCOLN RGNL/KARL HARDER FLD	CA	LPV200	1	99.571	2	99.540	22	99.365
LLR	LITTLE RIVER	CA	LP	1	99.571	10	99.489	30	99.233
LSN	LOS BANOS MUNICIPAL	CA	LPV	2	99.565	4	99.538	34	99.235
LVK	LIVERMORE MUNICIPAL	CA	LPV200	1	99.571	3	99.518	36	99.248
MAE	MADERA MUNICIPAL	CA	LPV	2	99.566	2	99.540	28	99.335
MCE	MERCED RGNL/MACREADY FLD	CA	LPV200	2	99.570	2	99.539	35	99.315
MER	CASTLE	CA	LPV200	2	99.571	2	99.539	33	99.316
MHR	SACRAMENTO MATHER	CA	LPV200	1	99.571	3	99.539	22	99.336
MHV	MOJAVE AIR AND SPACE PORT	CA	LP	2	99.549	3	99.520	21	99.292
MIT	SHAFTER-MINTER FLD	CA	LPV	2	99.549	4	99.530	22	99.274
MOD	MODESTO CITY-COUNTY-HARRY SHAM	CA	LPV200	2	99.572	3	99.537	34	99.294
MRY	MONTEREY RGNL	CA	LPV	2	99.546	3	99.509	56	99.021

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
MYF	MONTGOMERY-GIBBS EXEC	CA	LPV200	5	99.516	11	99.424	59	99.105
MYV	YUBA COUNTY	CA	LPV200	1	99.571	2	99.549	20	99.364
NUQ	MOFFETT FEDERAL AIRFIELD	CA	LPV200	1	99.993	2	99.948	42	99.593
O02	NERVINO	CA	LPV	1	99.574	3	99.557	11	99.415
O08	COLUSA COUNTY	CA	LPV	1	99.571	3	99.547	20	99.348
O27	OAKDALE	CA	LPV	1	99.574	2	99.538	28	99.329
O32	REEDLEY MUNICIPAL	CA	LPV	1	99.989	1	99.946	15	99.759
O69	PETALUMA MUNICIPAL	CA	LPV	1	99.571	2	99.519	34	99.240
O88	RIO VISTA MUNICIPAL	CA	LP	1	99.571	2	99.536	31	99.303
OAK	METRO OAKLAND INTL	CA	LPV200	1	99.571	2	99.519	38	99.207
ONT	ONTARIO INTL	CA	LPV200	3	99.546	9	99.491	28	99.262
OVE	OROVILLE MUNICIPAL	CA	LPV	1	99.571	3	99.546	17	99.368
OXR	OXNARD	CA	LPV	4	99.540	11	99.460	47	98.964
PMD	PALMDALE USAF PLANT 42	CA	LPV200	2	99.549	9	99.504	23	99.261
POC	BRACKETT FLD	CA	LPV	3	99.546	9	99.487	30	99.251
PRB	PASO ROBLES MUNICIPAL	CA	LPV	2	99.540	9	99.507	59	99.026
PVF	PLACERVILLE	CA	LPV	1	99.574	3	99.541	24	99.372
RAL	RIVERSIDE MUNICIPAL	CA	LPV	3	99.546	9	99.491	29	99.267
RBL	RED BLUFF MUNICIPAL	CA	LPV	1	99.571	3	99.537	16	99.381
RDD	REDDING MUNICIPAL	CA	LPV	1	99.571	3	99.546	14	99.392
RHV	REID-HILLVIEW OF SANTA CLARA C	CA	LPV	2	99.564	3	99.518	38	99.183
RIV	MARCH ARB	CA	LPV200	3	99.546	9	99.491	28	99.276
SAC	SACRAMENTO EXEC	CA	LPV	1	99.571	3	99.540	24	99.326
SAN	SAN DIEGO INTL	CA	LPV	4	99.504	11	99.422	71	99.072
SBA	SANTA BARBARA MUNICIPAL	CA	LPV	4	99.542	11	99.458	94	98.815
SBD	SAN BERNARDINO INTL	CA	LPV	3	99.546	9	99.501	24	99.286
SBP	SAN LUIS COUNTY RGNL	CA	LPV200	2	99.540	10	99.489	90	98.811
SCK	STOCKTON METRO	CA	LPV200	1	99.571	3	99.532	31	99.300
SDM	BROWN FLD MUNICIPAL	CA	LPV200	4	99.513	11	99.413	74	99.039
SEE	GILLESPIE FLD	CA	LP	5	99.516	11	99.429	56	99.158
SFO	SAN FRANCISCO INTL	CA	LPV200	2	99.564	2	99.519	43	99.148
SJC	NORMAN Y MINETA SAN JOSE INTL	CA	LPV200	2	99.564	3	99.518	43	99.167
SMF	SACRAMENTO INTL	CA	LPV200	1	99.571	2	99.540	21	99.336
SMO	SANTA MONICA MUNICIPAL	CA	LPV	4	99.540	11	99.469	38	99.103
SMX	SANTA MARIA PUB/CAPT G ALLAN H	CA	LPV200	2	99.540	10	99.466	97	98.729
SNA	JOHN WAYNE/ORANGE COUNTY	CA	LPV200	4	99.534	11	99.456	42	99.131

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
SNS	SALINAS MUNICIPAL	CA	LPV200	2	99.545	3	99.512	51	99.086
STS	CHARLES M SCHULZ - SONOMA COUN	CA	LPV200	1	99.571	2	99.519	32	99.249
TCY	TRACY MUNICIPAL	CA	LPV	1	99.571	3	99.532	33	99.262
TNP	TWENTYNINE PALMS	CA	LP	3	99.558	2	99.522	12	99.356
TOA	ZAMPERINI FLD	CA	LPV	4	99.539	11	99.459	45	99.065
TRK	TRUCKEE-TAHOE	CA	LP	1	99.574	2	99.567	11	99.406
TRM	JACQUELINE COCHRAN RGNL	CA	LPV	4	99.549	10	99.505	14	99.312
TVL	LAKE TAHOE	CA	LP	1	99.574	2	99.543	11	99.400
VCB	NUT TREE	CA	LPV	0	100	1	99.952	30	99.736
VCV	SOUTHERN CALIFORNIA LOGISTICS	CA	LPV	2	99.549	5	99.518	21	99.305
VIS	VISALIA MUNICIPAL	CA	LPV	2	99.563	2	99.519	18	99.317
WJF	GENERAL WM J FOX AIRFIELD	CA	LPV	2	99.549	9	99.508	23	99.258
WLW	WILLOWS/GLENN COUNTY	CA	LPV	1	99.571	3	99.535	19	99.358
WVI	WATSONVILLE MUNICIPAL	CA	LPV	2	99.546	3	99.517	51	99.106
1V6	FREMONT COUNTY	CO	LPV	3	99.542	2	99.500	3	99.473
20V	MC ELROY AIRFIELD	CO	LPV	3	99.497	2	99.482	2	99.474
2V5	WRAY MUNICIPAL	CO	LPV200	2	99.492	2	99.474	2	99.467
2V6	YUMA MUNICIPAL	CO	LPV200	1	99.921	1	99.901	2	99.896
33V	WALDEN-JACKSON COUNTY	CO	LPV	2	99.482	2	99.478	2	99.474
4V0	RANGELY	CO	LPV	2	99.974	1	99.942	1	99.907
4V1	SPANISH PEAKS AIRFIELD	CO	LPV	2	99.557	2	99.499	3	99.471
AEJ	CENTRAL COLORADO RGNL	CO	LP	3	99.532	2	99.503	2	99.482
AJZ	BLAKE FLD	CO	LPV	2	99.567	2	99.512	2	99.482
AKO	COLORADO PLAINS RGNL	CO	LPV	2	99.493	2	99.477	3	99.472
ALS	SAN LUIS VALLEY RGNL/BERGMAN F	CO	LPV200	2	99.566	2	99.503	3	99.494
APA	CENTENNIAL	CO	LPV200	2	99.490	2	99.481	3	99.471
BJC	ROCKY MOUNTAIN METRO	CO	LPV200	2	99.485	2	99.482	2	99.474
CAG	CRAIG-MOFFAT	CO	LP	3	99.502	2	99.485	2	99.475
CEZ	CORTEZ MUNICIPAL	CO	LPV	1	99.574	2	99.525	2	99.506
CFO	COLORADO AIR AND SPACE PORT	CO	LPV200	1	99.913	1	99.907	2	99.896
COS	CITY OF COLORADO SPRINGS MUNICIPAL	CO	LPV200	3	99.515	2	99.491	3	99.470
DEN	DENVER INTL	CO	LPV200	2	99.486	2	99.481	3	99.471
DRO	DURANGO-LA PLATA COUNTY	CO	LPV200	1	99.574	2	99.519	2	99.503
FMM	FORT MORGAN MUNICIPAL	CO	LPV	2	99.486	2	99.477	3	99.468
FNL	NORTHERN COLORADO RGNL	CO	LPV200	2	99.482	2	99.479	2	99.474
FTG	FRONT RANGE	CO	LPV200	2	99.486	2	99.481	3	99.469

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
GJT	GRAND JUNCTION RGNL	CO	LPV200	2	99.569	2	99.515	2	99.489
GXY	GREELEY-WELD COUNTY	CO	LPV200	2	99.482	2	99.478	3	99.473
HDN	YAMPA VALLEY	CO	LPV200	3	99.500	2	99.483	2	99.474
ITR	KIT CARSON COUNTY	CO	LPV	3	99.525	2	99.477	3	99.466
LAA	SOUTHEAST COLORADO RGNL	CO	LPV	3	99.532	2	99.496	3	99.464
LHX	LA JUNTA MUNICIPAL	CO	LPV	3	99.529	2	99.495	3	99.471
LMO	VANCE BRAND	CO	LPV	2	99.482	2	99.482	2	99.474
MTJ	MONTROSE RGNL	CO	LPV200	2	99.567	2	99.512	2	99.493
MVI	MONTE VISTA MUNICIPAL	CO	LPV	2	99.564	2	99.503	3	99.496
PSO	STEVENS FLD	CO	LP	1	99.571	2	99.508	2	99.501
PUB	PUEBLO MEML	CO	LPV200	3	99.535	2	99.498	3	99.470
RCV	ASTRONAUT KENT ROMINGER	CO	LPV	1	99.991	1	99.933	1	99.927
RIL	RIFLE GARFIELD COUNTY	CO	LPV	2	99.553	2	99.505	2	99.482
STK	STERLING MUNICIPAL	CO	LPV	2	99.491	2	99.475	2	99.470
TEX	TELLURIDE RGNL	CO	LP	2	99.571	2	99.518	2	99.501
4B8	ROBERTSON FLD	CT	LP	4	99.425	4	99.357	4	99.287
BDL	BRADLEY INTL	CT	LPV200	4	99.422	3	99.340	4	99.287
BDR	IGOR I SIKORSKY MEML	CT	LPV	3	99.441	4	99.375	4	99.303
DXR	DANBURY MUNICIPAL	CT	LP	3	99.433	4	99.383	3	99.296
GON	GROTON-NEW LONDON	CT	LPV	4	99.431	4	99.350	4	99.290
HVN	TWEED/NEW HAVEN	CT	LPV	4	99.436	4	99.371	4	99.286
IJD	WINDHAM	CT	LP	4	99.428	3	99.331	4	99.286
MMK	MERIDEN MARKHAM MUNICIPAL	CT	LP	4	99.429	4	99.365	4	99.286
OXC	WATERBURY-OXFORD	CT	LPV	3	99.433	4	99.371	4	99.288
DCA	RONALD REAGAN WASHINGTON NTL	DC	LPV	1	99.518	1	99.511	2	99.437
HEF	MANASSAS RGNL/HARRY P DAVIS FL	DC	LPV	1	99.518	1	99.512	1	99.437
IAD	WASHINGTON DULLES INTL	DC	LPV200	1	99.518	1	99.511	1	99.437
33N	DELAWARE AIRPARK	DE	LP	1	99.507	2	99.494	4	99.403
DOV	DOVER AFB	DE	LPV200	0	100	0	100	3	99.963
EVY	SUMMIT	DE	LPV	1	99.507	2	99.494	4	99.397
GED	DELAWARE COASTAL	DE	LPV	1	99.507	3	99.485	4	99.395
ILG	NEW CASTLE	DE	LPV	1	99.507	2	99.491	4	99.393
1J0	TRI-COUNTY	FL	LP	1	99.533	1	99.526	3	99.442
24J	SUWANNEE COUNTY	FL	LPV	1	99.526	3	99.514	2	99.414
28J	PALATKA MUNICIPAL - LT KAY LARKIN F	FL	LPV	1	99.526	3	99.498	3	99.424
40J	PERRY-FOLEY	FL	LPV	1	99.526	2	99.515	2	99.414

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
54J	DEFUNIAK SPRINGS	FL	LP	1	99.533	1	99.526	3	99.444
AAF	APALACHICOLA RGNL-CLEVE RANDOL	FL	LPV	1	99.530	1	99.526	3	99.428
APF	NAPLES MUNICIPAL	FL	LPV	2	99.551	3	99.473	14	99.284
AVO	AVON PARK EXEC	FL	LPV	2	99.541	3	99.463	5	99.388
BCR	TRI-COUNTY	FL	LPV	0	100	0	100	1	99.962
BCT	BOCA RATON	FL	LPV	2	99.545	5	99.454	25	99.243
BKV	BROOKSVILLE-TAMPA BAY RGNL	FL	LPV	1	99.526	4	99.491	3	99.405
BOW	BARTOW EXEC	FL	LPV	1	99.526	4	99.481	5	99.397
CEW	BOB SIKES	FL	LPV	1	99.533	1	99.529	5	99.467
CGC	CRYSTAL RIVER-CAPT TOM DAVIS F	FL	LP	1	99.526	4	99.503	2	99.408
CHN	WAUCHULA MUNICIPAL	FL	LP	2	99.542	3	99.465	5	99.387
COI	MERRITT ISLAND	FL	LPV	2	99.525	2	99.445	4	99.402
CRG	JACKSONVILLE EXEC AT CRAIG	FL	LPV200	1	99.517	2	99.480	2	99.417
CTY	CROSS CITY	FL	LPV	1	99.526	3	99.512	2	99.410
DAB	DAYTONA BEACH INTL	FL	LPV200	1	99.526	2	99.485	2	99.412
DED	DELAND MUNICIPAL-SIDNEY H TAYLOR FL	FL	LPV	1	99.526	3	99.484	3	99.424
DTS	DESTIN EXEC	FL	LPV	1	99.533	1	99.529	4	99.446
ECP	NORTHWEST FLORIDA BEACHES INTL	FL	LPV200	1	99.533	1	99.526	3	99.442
EVB	NEW SMYRNA BEACH MUNICIPAL	FL	LPV	1	99.526	2	99.485	2	99.412
EYW	KEY WEST INTL	FL	LPV	5	99.545	10	99.458	50	98.938
F45	NORTH PALM BEACH COUNTY GENERA	FL	LPV	2	99.545	3	99.461	15	99.319
FHB	FERNANDINA BEACH MUNICIPAL	FL	LPV	1	99.517	2	99.483	2	99.422
FIN	FLAGLER EXEC	FL	LPV	1	99.526	2	99.486	3	99.427
FLL	FORT LAUDERDALE/HOLLYWOOD INTL	FL	LPV200	2	99.562	6	99.465	33	99.181
FMY	PAGE FLD	FL	LPV	2	99.549	3	99.467	11	99.333
FPR	TREASURE COAST INTL	FL	LPV	1	99.526	3	99.459	9	99.371
FPY	PERRY-FOLEY	FL	LPV	0	100	0	100	1	99.962
FXE	FORT LAUDERDALE EXEC	FL	LPV200	2	99.557	6	99.466	31	99.218
GIF	WINTER HAVEN RGNL	FL	LPV	1	99.526	4	99.482	5	99.397
GNV	GAINESVILLE RGNL	FL	LPV	1	99.526	3	99.500	2	99.411
HEG	HERLONG RECREATIONAL	FL	LPV	1	99.517	2	99.486	2	99.416
IMM	IMMOKALEE RGNL	FL	LPV	2	99.548	3	99.465	14	99.305
ISM	KISSIMMEE GATEWAY	FL	LPV200	1	99.526	3	99.464	3	99.405
JAX	JACKSONVILLE INTL	FL	LPV200	1	99.517	2	99.486	2	99.420
LAL	LAKELAND LINDER INTL	FL	LPV200	1	99.526	4	99.483	3	99.399
LCQ	LAKE CITY GATEWAY	FL	LPV	1	99.526	3	99.509	2	99.411

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
LEE	LEESBURG INTL	FL	LPV	1	99.526	3	99.495	2	99.408
LNA	PALM BEACH COUNTY PARK	FL	LP	2	99.544	5	99.458	23	99.284
MAI	MARIANNA MUNICIPAL	FL	LPV	1	99.531	1	99.517	3	99.439
MCO	ORLANDO INTL	FL	LPV200	1	99.526	3	99.460	3	99.408
MIA	MIAMI INTL	FL	LPV200	2	99.566	7	99.464	38	99.162
MKY	MARCO ISLAND EXEC	FL	LPV	2	99.569	4	99.486	18	99.264
MLB	MELBOURNE ORLANDO INTL	FL	LPV200	2	99.525	2	99.445	4	99.398
MTH	THE FLORIDA KEYS MARATHON INTL	FL	LPV	5	99.539	12	99.445	55	98.907
OBE	OKEECHOBEE COUNTY	FL	LPV	2	99.539	3	99.462	8	99.366
OCF	OCALA INTL-JIM TAYLOR FLD	FL	LPV200	1	99.526	3	99.499	2	99.408
OMN	ORMOND BEACH MUNICIPAL	FL	LPV	1	99.526	2	99.485	3	99.427
OPF	MIAMI-OPA LOCKA EXEC	FL	LPV200	3	99.566	7	99.466	34	99.173
ORL	EXEC	FL	LPV200	1	99.526	4	99.474	2	99.409
PBI	PALM BEACH INTL	FL	LPV200	2	99.544	4	99.461	23	99.296
PCM	PLANT CITY	FL	LPV	1	99.526	4	99.485	3	99.397
PGD	PUNTA GORDA	FL	LPV200	2	99.550	3	99.468	9	99.361
PHK	PALM BEACH COUNTY GLADES	FL	LPV	2	99.546	3	99.461	13	99.319
PIE	ST PETE-CLEARWATER INTL	FL	LPV200	2	99.540	4	99.493	3	99.392
PMP	POMPANO BEACH AIRPARK	FL	LPV	2	99.549	5	99.452	31	99.223
PNS	PENSACOLA INTL	FL	LPV200	1	99.533	1	99.532	4	99.456
RSW	SOUTHWEST FLORIDA INTL	FL	LPV	2	99.549	3	99.466	11	99.330
SEF	SEBRING RGNL	FL	LPV	2	99.541	3	99.463	6	99.375
SFB	ORLANDO SANFORD INTL	FL	LPV200	1	99.526	3	99.477	2	99.410
SGJ	NORTHEAST FLORIDA RGNL	FL	LPV	1	99.517	2	99.472	3	99.427
SRQ	SARASOTA/BRADENTON INTL	FL	LPV200	2	99.544	3	99.475	5	99.389
SUA	WITHAM FLD	FL	LPV	2	99.545	3	99.459	11	99.348
TIX	SPACE COAST RGNL	FL	LPV200	2	99.525	2	99.445	4	99.407
TLH	TALLAHASSEE INTL	FL	LPV200	1	99.526	2	99.517	2	99.414
TMB	MIAMI EXEC	FL	LPV200	2	99.566	7	99.466	37	99.125
TNT	DADE-COLLIER TRAINING AND TRAN	FL	LPV200	1	99.570	6	99.480	24	99.209
TPA	TAMPA INTL	FL	LPV200	2	99.538	4	99.493	4	99.394
TPF	PETER O KNIGHT	FL	LP	2	99.540	4	99.488	3	99.393
TTS	NASA SHUTTLE LANDING FACILITY	FL	LPV200	2	99.525	2	99.451	3	99.409
VDF	TAMPA EXEC	FL	LPV	1	99.526	4	99.487	3	99.395
VNC	VENICE MUNICIPAL	FL	LP	2	99.548	3	99.473	9	99.368
VQQ	CECIL	FL	LPV200	1	99.517	2	99.486	2	99.416

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
VRB	VERO BEACH RGNL	FL	LPV200	1	99.526	3	99.457	8	99.375
X07	LAKE WALES MUNICIPAL	FL	LP	2	99.538	3	99.465	5	99.396
X14	LA BELLE MUNICIPAL	FL	LPV	2	99.548	3	99.463	10	99.340
X35	MARION COUNTY	FL	LP	1	99.526	3	99.500	2	99.408
X51	MIAMI HOMESTEAD GENERAL AVIATI	FL	LPV	2	99.564	8	99.467	45	99.121
ZPH	ZEPHYRHILLS MUNICIPAL	FL	LPV	1	99.526	4	99.486	3	99.400
09J	JEKYLL ISLAND	GA	LPV200	1	99.517	2	99.484	2	99.424
15J	COOK COUNTY	GA	LPV	1	99.526	2	99.517	2	99.424
17J	DONALSONVILLE MUNICIPAL	GA	LPV	1	99.530	1	99.517	3	99.436
18A	FRANKLIN-HART	GA	LPV	1	99.530	1	99.530	2	99.480
19A	JACKSON COUNTY	GA	LPV	1	99.530	1	99.530	2	99.485
2J3	LOUISVILLE MUNICIPAL	GA	LPV	0	100	0	100	1	99.975
2J5	MILLEN	GA	LPV	1	99.526	2	99.512	2	99.429
3J7	GREENE COUNTY RGNL	GA	LPV	1	99.530	1	99.530	2	99.479
48A	COCHRAN	GA	LPV	1	99.526	1	99.517	3	99.443
49A	GILMER COUNTY	GA	LPV	0	100	0	100	0	100
4A4	POLK COUNTY/CORNELIUS MOORE FL	GA	LPV	1	99.533	1	99.533	3	99.518
4J1	BRANTLEY COUNTY	GA	LPV	1	99.517	2	99.495	2	99.425
4J2	BERRIEN COUNTY	GA	LPV	1	99.517	2	99.513	2	99.424
4J5	QUITMAN BROOKS COUNTY	GA	LP	1	99.526	2	99.516	2	99.414
52A	MADISON MUNICIPAL	GA	LP	1	99.530	1	99.530	2	99.484
6A1	BUTLER MUNICIPAL	GA	LPV	1	99.530	1	99.526	3	99.453
6A2	GRIFFIN-SPALDING COUNTY	GA	LPV	1	99.530	1	99.530	3	99.474
70J	CAIRO-GRADY COUNTY	GA	LPV	1	99.526	2	99.517	2	99.414
75J	TURNER COUNTY	GA	LP	0	100	0	100	1	99.970
9A5	BARWICK LAFAYETTE	GA	LP	1	99.533	1	99.533	2	99.522
ABY	SOUTHWEST GEORGIA RGNL	GA	LPV200	1	99.526	1	99.517	3	99.437
ACJ	JIMMY CARTER RGNL	GA	LPV	1	99.530	1	99.517	3	99.447
AGS	AUGUSTA RGNL AT BUSH FLD	GA	LPV200	1	99.528	2	99.517	2	99.449
AHN	ATHENS/BEN EPPS	GA	LPV200	1	99.530	1	99.530	2	99.482
AJR	HABERSHAM COUNTY	GA	LPV	1	99.530	1	99.530	3	99.497
AMG	BACON COUNTY	GA	LPV	1	99.517	2	99.501	2	99.425
ATL	HARTSFIELD - JACKSON ATLANTA I	GA	LPV200	1	99.530	1	99.530	4	99.512
AYS	WAYCROSS-WARE COUNTY	GA	LPV200	1	99.517	2	99.499	2	99.425
BGE	DECATUR COUNTY INDUSTRIAL AIR	GA	LPV200	1	99.530	1	99.517	3	99.432
BHC	BAXLEY MUNICIPAL	GA	LPV	1	99.517	2	99.501	2	99.425

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
BIJ	EARLY COUNTY	GA	LPV	1	99.530	1	99.517	3	99.441
BQK	BRUNSWICK GOLDEN ISLES	GA	LPV200	1	99.517	2	99.485	2	99.425
CCO	NEWNAN COWETA COUNTY	GA	LPV	1	99.530	1	99.530	4	99.493
CKF	CRISP COUNTY-CORDELE	GA	LPV	1	99.526	1	99.517	3	99.442
CNI	CHEROKEE COUNTY RGNL	GA	LPV	1	99.532	1	99.532	3	99.512
CSG	COLUMBUS	GA	LPV	1	99.530	1	99.526	3	99.466
CTJ	WEST GEORGIA RGNL - O V GRAY F	GA	LPV	1	99.533	1	99.533	4	99.517
CVC	COVINGTON MUNICIPAL	GA	LPV	1	99.530	1	99.530	2	99.488
CWV	CLAXTON-EVANS COUNTY	GA	LPV	1	99.517	2	99.500	2	99.427
CXU	CAMILLA-MITCHELL COUNTY	GA	LPV	1	99.526	1	99.517	3	99.436
CZL	TOM B DAVID FLD	GA	LPV	1	99.533	1	99.533	2	99.519
D73	CY NUNNALLY MEML	GA	LP	1	99.530	1	99.530	2	99.486
DBN	W H 'BUD' BARRON	GA	LPV200	1	99.526	2	99.517	3	99.444
DNL	DANIEL FLD	GA	LPV	1	99.530	1	99.517	2	99.450
DNN	DALTON MUNICIPAL	GA	LPV	1	99.533	1	99.533	2	99.519
DQH	DOUGLAS MUNICIPAL	GA	LPV200	1	99.517	2	99.512	2	99.425
EBA	ELBERT COUNTY-PATZ FLD	GA	LP	1	99.530	1	99.530	2	99.476
EZM	HEART OF GEORGIA RGNL	GA	LPV200	1	99.526	2	99.517	3	99.440
FFC	ATLANTA RGNL FALCON FLD	GA	LPV	1	99.530	1	99.530	3	99.487
FTY	FULTON COUNTY EXEC/CHARLIE BRO	GA	LPV	1	99.530	1	99.530	4	99.512
FZG	FITZGERALD MUNICIPAL	GA	LPV	1	99.526	2	99.513	2	99.423
GVL	LEE GILMER MEML	GA	LPV	1	99.530	1	99.530	3	99.500
HMP	ATLANTA SPEEDWAY	GA	LPV200	1	99.530	1	99.530	3	99.486
HOE	HOMERVILLE	GA	LPV	1	99.517	2	99.500	2	99.424
HQU	THOMSON-MCDUFFIE COUNTY	GA	LPV	1	99.530	1	99.527	2	99.455
IIY	WASHINGTON/WILKES COUNTY	GA	LPV	1	99.530	1	99.530	1	99.459
JCA	JACKSON COUNTY	GA	LPV	1	99.530	1	99.530	2	99.485
JES	JESUP-WAYNE COUNTY	GA	LPV	1	99.517	2	99.497	2	99.425
JYL	PLANTATION AIRPARK	GA	LPV	1	99.517	2	99.499	2	99.434
JZP	PICKENS COUNTY	GA	LPV	1	99.532	1	99.532	3	99.514
LGC	LAGRANGE/CALLAWAY	GA	LPV200	1	99.532	1	99.530	3	99.476
LHW	WRIGHT AAF (FORT STEWART)/MIDC	GA	LPV	1	99.517	2	99.495	2	99.424
LZU	GWINNETT COUNTY/BRISCOE FLD	GA	LPV200	1	99.530	1	99.530	3	99.501
MAC	MACON DOWNTOWN	GA	LPV	1	99.530	1	99.526	3	99.452
MCN	MIDDLE GEORGIA RGNL	GA	LPV200	1	99.530	1	99.517	3	99.452
MGR	MOULTRIE MUNICIPAL	GA	LPV200	1	99.526	2	99.517	2	99.423

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
MHP	JOHN EDWIN JONES SR FLD/METTER	GA	LPV	1	99.517	2	99.501	2	99.428
MLJ	BALDWIN COUNTY RGNL	GA	LPV	1	99.530	1	99.526	3	99.468
MQW	TELFAIR-WHEELER	GA	LPV	1	99.526	2	99.513	2	99.426
OKZ	KAOLIN FLD	GA	LPV	1	99.526	1	99.517	3	99.449
OPN	THOMASTON-UPSON COUNTY	GA	LPV200	1	99.530	1	99.528	3	99.462
PIM	HARRIS COUNTY	GA	LPV	1	99.530	1	99.529	3	99.474
PUJ	PAULDING NORTHWEST ATLANTA	GA	LPV200	1	99.533	1	99.533	4	99.517
PXE	PERRY-HOUSTON COUNTY	GA	LPV	1	99.526	1	99.517	3	99.450
RMG	RICHARD B RUSSELL RGNL - J H T	GA	LPV	1	99.533	1	99.533	2	99.520
RVJ	SWINTON SMITH FLD AT REIDSVILL	GA	LP	1	99.517	2	99.500	2	99.425
RYY	COBB COUNTY INTL/MCCOLLUM FLD	GA	LPV200	1	99.533	1	99.533	3	99.512
SAV	SAVANNAH/HILTON HEAD INTL	GA	LPV200	1	99.517	2	99.493	2	99.420
SBO	EAST GEORGIA RGNL	GA	LPV	1	99.526	2	99.512	3	99.442
TBR	STATESBORO-BULLOCH COUNTY	GA	LPV	1	99.517	2	99.500	2	99.427
TMA	HENRY TIFT MYERS	GA	LPV	1	99.526	2	99.517	2	99.423
TOC	TOCCOA RG LETOURNEAU FLD	GA	LPV	1	99.530	1	99.530	2	99.482
TVI	THOMASVILLE RGNL	GA	LPV	1	99.526	2	99.517	2	99.414
VDI	VIDALIA RGNL	GA	LPV200	1	99.517	2	99.501	2	99.427
VLD	VALDOSTA RGNL	GA	LPV	1	99.526	2	99.516	2	99.422
VPC	CARTERSVILLE	GA	LPV	1	99.533	1	99.533	3	99.518
WDR	BARROW COUNTY	GA	LPV	1	99.530	1	99.530	2	99.486
3Y2	GEORGE L SCOTT MUNICIPAL	IA	LPV	2	99.493	3	99.472	5	99.424
4C8	ALBIA MUNICIPAL	IA	LPV	2	99.515	2	99.481	3	99.455
AIO	ATLANTIC MUNICIPAL	IA	LPV	2	99.496	3	99.477	3	99.446
ALO	WATERLOO RGNL	IA	LPV200	2	99.493	3	99.471	5	99.425
AMW	AMES MUNICIPAL	IA	LPV	2	99.496	3	99.470	3	99.443
AWG	WASHINGTON MUNICIPAL	IA	LPV200	2	99.515	2	99.489	3	99.454
BNW	BOONE MUNICIPAL	IA	LPV	2	99.495	3	99.469	4	99.429
BRL	SOUTHEAST IOWA RGNL	IA	LPV200	2	99.526	2	99.522	3	99.459
C25	WAVERLY MUNICIPAL	IA	LPV	1	99.922	2	99.898	5	99.849
CAV	CLARION MUNICIPAL	IA	LPV	2	99.489	3	99.465	5	99.387
CBF	COUNCIL BLUFFS MUNICIPAL	IA	LPV200	2	99.496	2	99.483	3	99.446
CCY	NORTHEAST IOWA RGNL	IA	LPV	2	99.487	3	99.468	5	99.397
CID	THE EASTERN IOWA	IA	LPV200	2	99.515	3	99.481	3	99.443
CIN	ARTHUR N NEU	IA	LPV	2	99.494	3	99.472	4	99.426
CKP	CHEROKEE COUNTY RGNL	IA	LPV	2	99.489	4	99.459	5	99.378

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CSQ	CRESTON MUNICIPAL	IA	LPV	2	99.501	2	99.482	3	99.454
CWI	CLINTON MUNICIPAL	IA	LPV200	2	99.515	2	99.508	4	99.462
DBQ	DUBUQUE RGNL	IA	LPV200	2	99.515	2	99.489	4	99.436
DEH	DECORAH MUNICIPAL	IA	LPV	2	99.492	3	99.471	6	99.419
DNS	DENISON MUNICIPAL	IA	LPV	2	99.494	3	99.475	4	99.422
DSM	DES MOINES INTL	IA	LPV200	2	99.498	3	99.472	3	99.446
DVN	DAVENPORT MUNICIPAL	IA	LPV200	2	99.515	2	99.508	4	99.459
EAG	EAGLE GROVE MUNICIPAL	IA	LPV	2	99.489	3	99.465	5	99.386
EBS	WEBSTER CITY MUNICIPAL	IA	LPV	2	99.491	3	99.465	5	99.409
EFW	JEFFERSON MUNICIPAL	IA	LPV	2	99.493	3	99.471	4	99.427
EOK	KEOKUK MUNICIPAL	IA	LPV	2	99.515	3	99.507	3	99.461
EST	ESTHERVILLE MUNICIPAL	IA	LPV	2	99.481	4	99.447	5	99.357
FFL	FAIRFIELD MUNICIPAL	IA	LPV	2	99.515	2	99.484	3	99.455
FOD	FORT DODGE RGNL	IA	LPV200	2	99.491	3	99.465	5	99.390
FSW	FORT MADISON MUNICIPAL	IA	LPV	2	99.525	3	99.516	3	99.459
FXY	FOREST CITY MUNICIPAL	IA	LPV	2	99.483	3	99.464	5	99.381
GCT	GUTHRIE COUNTY RGNL	IA	LPV	2	99.496	3	99.473	3	99.444
GFZ	GREENFIELD MUNICIPAL	IA	LPV	2	99.498	3	99.477	3	99.449
GGI	GRINNELL RGNL	IA	LPV	2	99.501	3	99.473	3	99.445
HPT	HAMPTON MUNICIPAL	IA	LPV	2	99.489	3	99.466	6	99.402
I75	OSCEOLA MUNICIPAL	IA	LPV	2	99.515	2	99.481	3	99.453
ICL	SCHENCK FLD	IA	LPV	2	99.503	2	99.484	3	99.455
IFA	IOWA FALLS MUNICIPAL	IA	LPV	2	99.491	3	99.468	5	99.418
IIB	JAMES H CONNELL FLD AT INDEPEN	IA	LPV	2	99.498	3	99.473	4	99.439
IKV	ANKENY RGNL	IA	LPV200	2	99.497	3	99.471	3	99.446
IOW	IOWA CITY MUNICIPAL	IA	LPV	2	99.515	2	99.487	3	99.453
LRJ	LE MARS MUNICIPAL	IA	LPV	2	99.488	4	99.445	5	99.381
LWD	LAMONI MUNICIPAL	IA	LPV	2	99.515	2	99.481	3	99.454
MCW	MASON CITY MUNICIPAL	IA	LPV200	2	99.483	3	99.466	5	99.376
MIW	MARSHALLTOWN MUNICIPAL	IA	LPV	2	99.497	3	99.469	3	99.442
MPZ	MOUNT PLEASANT MUNICIPAL	IA	LPV	2	99.525	3	99.511	3	99.457
MUT	MUSCATINE MUNICIPAL	IA	LPV200	2	99.515	2	99.491	3	99.454
MXO	MONTICELLO RGNL	IA	LP	2	99.515	2	99.489	4	99.438
OOA	OSKALOOSA MUNICIPAL	IA	LPV	2	99.515	2	99.481	3	99.453
OQW	MAQUOKETA MUNICIPAL	IA	LPV	2	99.515	2	99.493	4	99.442
ORC	ORANGE CITY MUNICIPAL	IA	LPV	2	99.482	4	99.442	5	99.381

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
OTM	OTTUMWA RGNL	IA	LPV	2	99.515	2	99.481	3	99.454
OXV	KNOXVILLE MUNICIPAL	IA	LPV	2	99.515	3	99.478	3	99.449
PEA	PELLA MUNICIPAL	IA	LPV	2	99.515	3	99.476	3	99.448
POH	POCAHONTAS MUNICIPAL	IA	LPV	2	99.490	3	99.467	5	99.379
PRO	PERRY MUNICIPAL	IA	LPV200	2	99.496	3	99.471	3	99.444
RDK	RED OAK MUNICIPAL	IA	LPV	2	99.498	2	99.485	3	99.448
RRQ	ROCK RAPIDS MUNICIPAL	IA	LP	2	99.481	4	99.453	5	99.359
SDA	SHENANDOAH MUNICIPAL	IA	LPV	2	99.501	2	99.485	3	99.454
SHL	SHELDON RGNL	IA	LPV	2	99.481	4	99.441	6	99.373
SKI	SAC CITY MUNICIPAL	IA	LPV	2	99.493	3	99.472	5	99.394
SLB	STORM LAKE MUNICIPAL	IA	LPV	2	99.491	4	99.472	5	99.380
SPW	SPENCER MUNICIPAL	IA	LPV200	2	99.481	4	99.445	6	99.373
SUX	SIOUX GATEWAY/BRIG GENERAL BUD	IA	LPV200	2	99.491	4	99.468	5	99.386
SXK	SIOUX COUNTY RGNL	IA	LPV200	1	99.912	3	99.872	4	99.811
TNU	NEWTON MUNICIPAL-EARL JOHNSON FLD	IA	LPV200	2	99.500	3	99.472	3	99.446
TVK	CENTERVILLE MUNICIPAL	IA	LPV	2	99.515	2	99.481	3	99.457
TZT	BELLE PLAINE MUNICIPAL	IA	LPV	2	99.515	3	99.473	3	99.444
VTI	VINTON VETERANS MEML AIRPARK	IA	LPV	2	99.500	3	99.473	3	99.441
1U7	BEAR LAKE COUNTY	ID	LPV	2	99.944	2	99.933	1	99.901
BOI	BOISE AIR TRML/GOWEN FLD	ID	LPV200	3	99.510	3	99.506	3	99.459
COE	COEUR D'ALENE/PAPPY BOYINGTON	ID	LPV200	4	99.467	4	99.432	11	99.341
DIJ	DRIGGS-REED MEML	ID	LP	2	99.479	2	99.475	2	99.467
EUL	TREASURE VALLEY EXEC AT CALDWE	ID	LPV	3	99.510	3	99.506	3	99.457
GNG	GOODING MUNICIPAL	ID	LPV	2	99.514	2	99.511	3	99.467
IDA	IDAHO FALLS RGNL	ID	LPV200	2	99.497	2	99.478	2	99.471
JER	JEROME COUNTY	ID	LPV	3	99.535	2	99.511	3	99.473
LWS	LEWISTON/NEZ PERCE COUNTY	ID	LPV200	2	99.485	2	99.478	5	99.404
MAN	NAMPA MUNICIPAL	ID	LPV	3	99.510	3	99.506	3	99.458
MYL	MC CALL MUNICIPAL	ID	LPV	2	99.482	2	99.478	4	99.439
PIH	POCATELLO RGNL	ID	LPV200	3	99.505	3	99.496	2	99.471
SUN	FRIEDMAN MEML	ID	LP	2	99.489	2	99.486	3	99.467
SZT	SANDPOINT	ID	LP	4	99.459	5	99.420	12	99.284
TWF	JOSLIN FLD/MAGIC VALLEY RGNL	ID	LPV200	3	99.537	2	99.512	3	99.474
U76	MOUNTAIN HOME MUNICIPAL	ID	LPV	3	99.526	2	99.510	3	99.461
1H2	EFFINGHAM COUNTY MEML	IL	LPV	2	99.570	2	99.542	2	99.530
3LF	LITCHFIELD MUNICIPAL	IL	LPV	2	99.541	2	99.534	2	99.533

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
3MY	MOUNT HAWLEY AUXILIARY	IL	LPV	2	99.534	2	99.529	3	99.486
AJG	MOUNT CARMEL MUNICIPAL	IL	LPV	1	99.570	2	99.561	2	99.530
ALN	ST LOUIS RGNL	IL	LPV200	2	99.541	2	99.534	2	99.533
ARR	AURORA MUNICIPAL	IL	LPV200	3	99.534	2	99.512	2	99.467
BLV	SCOTT AFB/MIDAMERICA ST LOUIS	IL	LPV200	2	99.555	2	99.534	2	99.533
BMI	CENTRAL IL RGNL/BLOOMINGTON-NO	IL	LPV	2	99.534	2	99.533	3	99.498
C15	PEKIN MUNICIPAL	IL	LPV	2	99.534	2	99.531	3	99.496
C73	DIXON MUNICIPAL-CHARLES R WALGREEN	IL	LPV	2	99.515	2	99.508	2	99.467
C75	MARSHALL COUNTY	IL	LP	2	99.534	2	99.529	2	99.467
CIR	CAIRO RGNL	IL	LP	1	99.570	2	99.550	2	99.541
CMI	UNIVERSITY OF ILLINOIS/WILLARD	IL	LPV200	2	99.548	2	99.539	3	99.521
CPS	ST LOUIS DOWNTOWN	IL	LPV200	2	99.554	2	99.534	2	99.533
CTK	INGERSOLL	IL	LPV	2	99.534	2	99.529	3	99.495
CUL	CARMI MUNICIPAL	IL	LPV	1	99.570	2	99.561	2	99.541
DEC	DECATUR	IL	LPV200	2	99.534	2	99.534	3	99.521
DKB	DE KALB TAYLOR MUNICIPAL	IL	LPV	2	99.515	2	99.508	2	99.467
DNV	VERMILION RGNL	IL	LPV	2	99.548	2	99.540	3	99.522
DPA	DUPAGE	IL	LPV200	3	99.530	2	99.508	2	99.467
ENL	CENTRALIA MUNICIPAL	IL	LPV	2	99.562	2	99.541	2	99.530
EZI	KEWANEE MUNICIPAL	IL	LPV	2	99.532	2	99.528	2	99.467
FEP	ALBERTUS	IL	LPV	2	99.515	2	99.508	3	99.462
FOA	FLORA MUNICIPAL	IL	LPV	1	99.570	2	99.550	2	99.530
GBG	GALESBURG MUNICIPAL	IL	LPV200	2	99.529	2	99.525	2	99.467
GRE	GREENVILLE	IL	LPV	2	99.557	2	99.534	2	99.530
HSB	HARRISBURG-RALEIGH	IL	LPV	1	99.570	2	99.561	2	99.541
I63	MOUNT STERLING MUNICIPAL	IL	LPV	2	99.534	2	99.533	2	99.481
IGQ	LANSING MUNICIPAL	IL	LPV	3	99.538	3	99.529	2	99.464
IKK	GREATER KANKAKEE	IL	LPV200	2	99.540	2	99.533	3	99.491
LOT	LEWIS UNIVERSITY	IL	LPV200	3	99.535	2	99.512	2	99.467
LWV	LAWRENCEVILLE-VINCENNES INTL	IL	LPV200	1	99.570	2	99.562	2	99.530
MDW	CHICAGO MIDWAY INTL	IL	LPV	3	99.536	3	99.523	2	99.464
MLI	QUAD CITIES INTL	IL	LPV200	2	99.515	2	99.509	3	99.463
MQB	MACOMB MUNICIPAL	IL	LPV200	2	99.530	2	99.526	3	99.488
MTO	COLES COUNTY MEML	IL	LPV200	2	99.555	2	99.542	2	99.530
MVN	MOUNT VERNON	IL	LPV	2	99.570	2	99.545	2	99.530
MWA	VETERANS AIRPORT OF SOUTHERN I	IL	LPV200	1	99.570	2	99.549	2	99.541

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
OLY	OLNEY-NOBLE	IL	LPV	1	99.570	2	99.551	2	99.530
ORD	CHICAGO O'HARE INTL	IL	LPV200	3	99.534	2	99.512	2	99.467
PIA	GENERAL DOWNING - PEORIA INTL	IL	LPV	2	99.534	2	99.529	3	99.494
PJY	PINCKNEYVILLE/DU QUOIN	IL	LPV	2	99.563	2	99.545	2	99.541
PNT	PONTIAC MUNICIPAL	IL	LPV	2	99.538	2	99.529	3	99.493
PPQ	PITTSFIELD PENSTONE MUNICIPAL	IL	LPV	2	99.534	2	99.533	2	99.493
PRG	EDGAR COUNTY	IL	LPV	2	99.556	2	99.542	2	99.530
PWK	CHICAGO EXEC	IL	LPV	3	99.528	2	99.508	2	99.467
RFD	CHICAGO/ROCKFORD INTL	IL	LPV200	2	99.515	2	99.508	2	99.467
RPJ	ROCHELLE MUNICIPAL/KORITZ FLD	IL	LPV	2	99.515	2	99.508	2	99.467
RSV	CRAWFORD COUNTY	IL	LPV	1	99.570	2	99.557	2	99.530
SAR	SPARTA COMMUNICIPALTY-HUNTER FLD	IL	LPV	2	99.560	2	99.545	2	99.531
SFY	TRI-TOWNSHIP	IL	LP	2	99.515	2	99.508	3	99.464
SLO	SALEM-LECKRONE	IL	LPV200	2	99.563	2	99.541	2	99.530
SPI	ABRAHAM LINCOLN CAPITAL	IL	LPV	2	99.534	2	99.533	3	99.522
SQI	WHITESIDE COUNTY/JOS H BITTORF	IL	LPV200	2	99.515	2	99.508	2	99.467
TIP	RANTOUL NTL AVN CNTR-FRANK ELL	IL	LPV	2	99.548	2	99.538	3	99.507
UGN	WAUKEGAN NTL	IL	LPV	2	99.515	2	99.508	2	99.457
UIN	QUINCY RGNL-BALDWIN FLD	IL	LPV200	2	99.527	2	99.527	2	99.481
VYS	ILLINOIS VALLEY RGNL-WALTER A	IL	LPV	3	99.533	2	99.514	2	99.467
2R2	HENDRICKS COUNTY-GORDON GRAHAM	IN	LPV	2	99.569	2	99.546	2	99.508
50I	KENTLAND MUNICIPAL	IN	LPV	1	99.978	1	99.968	2	99.930
AID	ANDERSON MUNICIPAL-DARLINGTON FLD	IN	LPV	2	99.565	2	99.547	2	99.507
ASW	WARSAW MUNICIPAL	IN	LPV200	2	99.548	2	99.540	3	99.485
BAK	COLUMBUS MUNICIPAL	IN	LPV	1	99.570	2	99.557	2	99.508
BFR	VIRGIL I GRISSOM MUNICIPAL	IN	LP	1	99.570	2	99.566	2	99.515
BMG	MONROE COUNTY	IN	LPV200	1	99.570	2	99.559	2	99.508
C62	KENDALLVILLE MUNICIPAL	IN	LPV	2	99.545	2	99.537	4	99.471
C65	PLYMOUTH MUNICIPAL	IN	LPV	2	99.548	2	99.540	3	99.459
CEV	METTEL FLD	IN	LPV	1	99.555	2	99.544	2	99.515
CFJ	CRAWFORDSVILLE RGNL	IN	LPV	2	99.557	2	99.541	2	99.507
DCY	DAVIESS COUNTY	IN	LPV	1	99.570	2	99.565	2	99.515
EKM	ELKHART MUNICIPAL	IN	LPV	2	99.548	2	99.540	3	99.452
EVV	EVANSVILLE RGNL	IN	LPV200	1	99.570	2	99.565	2	99.541
EYE	EAGLE CREEK AIRPARK	IN	LPV	2	99.569	2	99.546	2	99.507
FKR	FRANKFORT CLINTON COUNTY RGNL	IN	LPV	2	99.556	2	99.541	2	99.503

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
FRH	FRENCH LICK MUNICIPAL	IN	LPV	1	99.570	1	99.567	2	99.519
FWA	FORT WAYNE INTL	IN	LPV200	2	99.534	2	99.526	3	99.492
GEZ	SHELBYVILLE MUNICIPAL	IN	LPV	1	99.570	2	99.553	2	99.508
GGP	LOGANSPORT/CASS COUNTY	IN	LPV200	2	99.548	2	99.540	3	99.503
GPC	PUTNAM COUNTY RGNL	IN	LPV	2	99.569	2	99.553	2	99.508
GSH	GOSHEN MUNICIPAL	IN	LPV	2	99.548	2	99.540	3	99.474
GWB	DE KALB COUNTY	IN	LPV	2	99.522	2	99.515	3	99.488
GYY	GARY/CHICAGO INTL	IN	LPV200	3	99.539	3	99.529	2	99.464
HFY	INDY SOUTH GREENWOOD	IN	LPV	1	99.570	2	99.552	2	99.508
HNB	HUNTINGBURG	IN	LPV	1	99.570	1	99.567	2	99.519
HUF	TERRE HAUTE RGNL	IN	LPV200	2	99.569	2	99.553	3	99.526
I22	RANDOLPH COUNTY	IN	LPV	1	99.544	2	99.525	2	99.515
I76	PERU MUNICIPAL	IN	LPV	2	99.548	2	99.540	2	99.503
IMS	MADISON MUNICIPAL	IN	LPV	1	99.567	1	99.567	2	99.519
IND	INDIANAPOLIS INTL	IN	LPV200	2	99.570	2	99.550	2	99.508
JVY	CLARK RGNL	IN	LPV200	1	99.567	1	99.567	2	99.522
LAF	PURDUE UNIVERSITY	IN	LPV	2	99.548	2	99.540	3	99.501
MCX	WHITE COUNTY	IN	LP	2	99.548	2	99.540	4	99.496
MIE	DELAWARE COUNTY RGNL	IN	LPV	2	99.562	2	99.540	2	99.507
MQJ	INDIANAPOLIS RGNL	IN	LPV200	2	99.570	2	99.544	2	99.508
MZZ	MARION MUNICIPAL - MCKINNEY FLD	IN	LPV200	2	99.548	2	99.541	2	99.503
OKK	KOKOMO MUNICIPAL	IN	LPV200	2	99.548	2	99.541	2	99.503
OVO	NORTH VERNON	IN	LPV	1	99.570	1	99.567	2	99.515
OXI	STARKE COUNTY	IN	LPV	2	99.548	2	99.539	3	99.457
PLD	PORTLAND MUNICIPAL	IN	LPV	2	99.540	2	99.518	3	99.501
PPO	LA PORTE MUNICIPAL	IN	LPV	3	99.540	3	99.534	3	99.458
RCR	FULTON COUNTY	IN	LPV	2	99.548	2	99.540	3	99.483
RID	RICHMOND MUNICIPAL	IN	LPV200	1	99.544	2	99.536	2	99.516
RWN	ARENS FLD	IN	LPV	2	99.548	2	99.540	3	99.476
RZL	JASPER COUNTY	IN	LPV	2	99.548	2	99.539	4	99.496
SBN	SOUTH BEND INTL	IN	LPV200	3	99.540	3	99.538	2	99.434
SER	FREEMAN MUNICIPAL	IN	LPV	1	99.570	1	99.567	2	99.515
SIV	SULLIVAN COUNTY	IN	LPV	1	99.570	2	99.556	2	99.526
SMD	SMITH FLD	IN	LPV	2	99.532	2	99.525	3	99.490
TEL	PERRY COUNTY MUNICIPAL	IN	LP	1	99.570	1	99.567	2	99.519
TYQ	INDIANAPOLIS EXEC	IN	LPV	2	99.561	2	99.542	2	99.507

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
UWL	NEW CASTLE HENRY COUNTY MARLAT	IN	LPV	1	99.567	2	99.547	2	99.512
VPZ	PORTER COUNTY RGNL	IN	LPV	3	99.540	3	99.533	4	99.473
1QK	GOVE COUNTY	KS	LPV	1	99.961	1	99.914	2	99.898
3AU	AUGUSTA MUNICIPAL	KS	LP	2	99.534	3	99.517	3	99.469
3K3	SYRACUSE-HAMILTON COUNTY MUNICIPAL	KS	LPV	2	99.538	2	99.504	3	99.464
3K7	MARK HOARD MEML	KS	LPV	1	99.966	1	99.921	2	99.893
3K8	COMANCHE COUNTY	KS	LPV	2	99.546	3	99.508	3	99.464
5K2	TRIBUNE MUNICIPAL	KS	LPV	2	99.538	2	99.492	3	99.463
9K8	KINGMAN/CLYDE CESSNA FLD	KS	LP	2	99.526	3	99.510	3	99.466
AAO	COLONEL JAMES JABARA	KS	LPV	2	99.527	3	99.517	3	99.469
ADT	ATWOOD-RAWLINS COUNTY CITY-COU	KS	LPV	2	99.508	2	99.474	2	99.468
ANY	ANTHONY MUNICIPAL	KS	LPV	2	99.549	3	99.512	3	99.465
BEC	BEECH FACTORY	KS	LPV	2	99.528	3	99.517	3	99.469
CBK	SHALZ FLD	KS	LPV	2	99.526	2	99.474	3	99.469
CFV	COFFEYVILLE MUNICIPAL	KS	LPV	2	99.550	2	99.522	3	99.490
CNK	BLOSSER MUNICIPAL	KS	LP	2	99.522	2	99.485	2	99.471
DDC	DODGE CITY RGNL	KS	LPV200	2	99.532	2	99.498	3	99.463
EGT	WELLINGTON MUNICIPAL	KS	LPV200	2	99.549	3	99.518	3	99.467
EHA	ELKHART-MORTON COUNTY	KS	LPV	2	99.539	2	99.504	3	99.465
EMP	EMPORIA MUNICIPAL	KS	LPV	2	99.525	2	99.518	2	99.471
EQA	EL DORADO/CAPT JACK THOMAS MEM	KS	LPV200	2	99.532	2	99.516	3	99.471
EWK	NEWTON-CITY-COUNTY	KS	LPV	2	99.522	3	99.512	3	99.470
FOE	TOPEKA RGNL	KS	LPV	2	99.520	2	99.519	2	99.469
FSK	FORT SCOTT MUNICIPAL	KS	LPV	2	99.545	2	99.522	3	99.486
GBD	GREAT BEND MUNICIPAL	KS	LPV200	2	99.528	2	99.487	3	99.467
GCK	GARDEN CITY RGNL	KS	LPV	2	99.535	2	99.500	3	99.463
GLD	RENNER FLD /GOODLAND MUNICIPAL/	KS	LPV200	3	99.525	2	99.474	3	99.468
HLC	HILL CITY MUNICIPAL	KS	LPV	2	99.527	2	99.474	3	99.470
HQG	HUGOTON MUNICIPAL	KS	LPV	2	99.539	2	99.502	3	99.464
HRU	HERINGTON RGNL	KS	LPV	2	99.521	3	99.515	2	99.471
HUT	HUTCHINSON RGNL	KS	LPV200	2	99.522	3	99.510	3	99.469
HYS	HAYS RGNL	KS	LPV200	2	99.529	2	99.486	3	99.468
ICT	WICHITA DWIGHT D EISENHOWER NT	KS	LPV200	2	99.527	3	99.516	3	99.468
IDP	INDEPENDENCE MUNICIPAL	KS	LPV200	2	99.550	2	99.522	3	99.490
IXD	NEW CENTURY AIRCENTER	KS	LPV	2	99.523	2	99.522	2	99.467
K38	WASHINGTON COUNTY VETERAN'S ME	KS	LPV	2	99.520	2	99.485	2	99.468

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
K78	ABILENE MUNICIPAL	KS	LPV	2	99.522	2	99.495	2	99.471
K79	JETMORE MUNICIPAL	KS	LPV	2	99.532	2	99.498	3	99.464
K81	MIAMI COUNTY	KS	LPV	2	99.525	2	99.522	2	99.468
K82	SMITH CENTER MUNICIPAL	KS	LPV200	2	99.525	2	99.474	2	99.468
K88	ALLEN COUNTY	KS	LPV	2	99.545	2	99.522	2	99.471
LBL	LIBERAL MID-AMERICA RGNL	KS	LPV200	2	99.540	2	99.501	3	99.464
LQR	LARNED-PAWNEE COUNTY	KS	LPV	2	99.529	2	99.496	3	99.466
LWC	LAWRENCE RGNL	KS	LPV200	2	99.523	2	99.522	2	99.468
LYO	LYONS-RICE COUNTY MUNICIPAL	KS	LPV	2	99.522	2	99.490	3	99.469
MHK	MANHATTAN RGNL	KS	LPV200	2	99.518	2	99.496	2	99.471
MPR	MC PHERSON	KS	LPV	2	99.522	3	99.505	3	99.471
MYZ	MARYSVILLE MUNICIPAL	KS	LPV	2	99.515	2	99.485	2	99.468
NRN	NORTON MUNICIPAL	KS	LPV	2	99.503	2	99.474	2	99.467
OEL	OAKLEY MUNICIPAL	KS	LPV	2	99.532	2	99.476	3	99.468
OIN	OBERLIN MUNICIPAL	KS	LPV	2	99.504	2	99.474	2	99.467
OJC	JOHNSON COUNTY EXEC	KS	LPV	2	99.523	2	99.522	2	99.467
OWI	OTTAWA MUNICIPAL	KS	LPV	2	99.526	2	99.522	2	99.468
PHG	PHILLIPSBURG MUNICIPAL	KS	LPV	2	99.525	2	99.474	2	99.468
PPF	TRI-CITY	KS	LPV	2	99.549	2	99.522	3	99.490
PTS	ATKINSON MUNICIPAL	KS	LPV	2	99.549	2	99.522	3	99.490
PTT	PRATT RGNL	KS	LPV	2	99.528	3	99.509	3	99.464
RCP	ROOKS COUNTY RGNL	KS	LPV	2	99.527	2	99.475	3	99.470
RPB	BELLEVILLE MUNICIPAL	KS	LPV	2	99.515	2	99.485	2	99.468
RSL	RUSSELL MUNICIPAL	KS	LPV	2	99.525	2	99.487	3	99.469
SLN	SALINA RGNL	KS	LPV	2	99.522	2	99.493	2	99.471
SYF	CHEYENNE COUNTY MUNICIPAL	KS	LPV	2	99.505	2	99.474	3	99.469
TOP	PHILIP BILLARD MUNICIPAL	KS	LPV	2	99.518	3	99.513	2	99.469
TQK	SCOTT CITY MUNICIPAL	KS	LPV	2	99.535	2	99.492	3	99.464
UKL	COFFEY COUNTY	KS	LPV	2	99.529	2	99.522	2	99.469
ULS	ULYSSES	KS	LPV	2	99.537	2	99.502	3	99.464
WLD	STROTHER FLD	KS	LPV	2	99.549	2	99.517	3	99.468
0I8	CYNTHIANA-HARRISON COUNTY	KY	LP	1	99.544	1	99.544	1	99.544
18I	MC CREARY COUNTY	KY	LP	1	99.544	1	99.544	2	99.519
1M7	FULTON	KY	LPV	0	100	1	99.996	1	99.974
27K	GEORGETOWN-SCOTT COUNTY RGNL	KY	LPV200	1	99.544	1	99.544	1	99.544
2I0	MADISONVILLE RGNL	KY	LPV	1	99.567	1	99.567	3	99.531

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
2M0	PRINCETON-CALDWELL COUNTY	KY	LPV	1	99.570	2	99.566	2	99.541
4M7	RUSSELLVILLE-LOGAN COUNTY	KY	LPV	1	99.567	1	99.567	2	99.519
5M9	MARION-CRITTENDEN COUNTY JAMES	KY	LPV	1	99.570	2	99.562	2	99.541
6I2	LEBANON SPRINGFIELD-GEORGE HOE	KY	LPV	1	99.555	1	99.555	2	99.530
AAS	TAYLOR COUNTY	KY	LPV	1	99.555	1	99.555	2	99.530
BRY	SAMUELS FLD	KY	LPV	1	99.567	1	99.567	2	99.528
BWG	BOWLING GREEN-WARREN COUNTY RG	KY	LPV200	1	99.567	1	99.567	2	99.519
BYL	WILLIAMSBURG-WHITLEY COUNTY	KY	LPV	1	99.544	1	99.544	2	99.519
CEY	KYLE-OAKLEY FLD	KY	LPV	1	99.570	2	99.565	2	99.541
CPF	WENDELL H FORD	KY	LPV200	1	99.544	1	99.544	2	99.508
CVG	CINCINNATI/NORTHERN KENTUCKY I	KY	LPV200	1	99.544	1	99.544	2	99.524
DVK	STUART POWELL FLD	KY	LPV	1	99.544	1	99.544	1	99.544
DWU	ASHLAND RGNL	KY	LP	1	99.544	1	99.544	1	99.522
EHR	HENDERSON CITY-COUNTY	KY	LPV	1	99.570	2	99.565	2	99.541
EKQ	WAYNE COUNTY	KY	LPV	1	99.544	1	99.544	2	99.529
EKX	ADDINGTON FLD	KY	LPV	1	99.567	1	99.567	2	99.522
FFT	CAPITAL CITY	KY	LPV	1	99.544	1	99.544	2	99.544
FGX	FLEMING-MASON	KY	LPV	1	99.544	1	99.544	1	99.544
GLW	GLASGOW MUNICIPAL	KY	LPV	1	99.567	1	99.567	2	99.525
HVC	HOPKINSVILLE-CHRISTIAN COUNTY	KY	LPV	1	99.567	1	99.567	2	99.519
I93	BRECKINRIDGE COUNTY	KY	LPV	0	100	0	100	1	99.974
IOB	MOUNT STERLING/MONTGOMERY COUN	KY	LPV	1	99.544	1	99.544	1	99.544
JQD	OHIO COUNTY	KY	LPV	1	99.567	1	99.567	2	99.519
K24	RUSSELL COUNTY	KY	LPV	1	99.544	1	99.544	2	99.519
K62	GENE SNYDER	KY	LP	1	99.544	1	99.544	1	99.544
KY8	HANCOCK COUNTY/RON LEWIS FLD	KY	LPV	1	99.570	1	99.567	2	99.519
LEX	BLUE GRASS	KY	LPV	1	99.544	1	99.544	1	99.544
LOU	BOWMAN FLD	KY	LPV	1	99.567	1	99.567	2	99.522
LOZ	LONDON/CORBIN/MAGEE	KY	LPV	1	99.544	1	99.544	2	99.519
M20	LEITCHFIELD-GRAYSON COUNTY	KY	LPV	0	100	0	100	1	99.978
M21	MUHLENBERG COUNTY	KY	LP	1	99.567	1	99.567	2	99.519
M25	MAYFIELD GRAVES COUNTY	KY	LPV	1	99.570	2	99.563	2	99.541
OWB	OWENSBORO/DAVIESS COUNTY RGNL	KY	LPV200	1	99.570	1	99.567	3	99.531
PAH	BARKLEY RGNL	KY	LPV200	1	99.570	2	99.562	2	99.541
PBX	PIKE COUNTY/HATCHER FLD	KY	LPV200	1	99.544	1	99.544	2	99.493
RGA	CENTRAL KENTUCKY RGNL	KY	LPV	1	99.544	1	99.544	2	99.544

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
SDF	LOUISVILLE MUHAMMAD ALI INTL	KY	LPV200	1	99.567	1	99.567	2	99.522
SJS	BIG SANDY RGNL	KY	LPV	1	99.544	1	99.544	2	99.498
SME	LAKE CUMBERLAND RGNL	KY	LPV	1	99.544	1	99.544	2	99.525
SYM	MOREHEAD-ROWAN COUNTY CLYDE A	KY	LPV200	1	99.544	1	99.544	1	99.544
TWT	STURGIS MUNICIPAL	KY	LPV	1	99.570	2	99.562	2	99.541
TZV	TOMPKINSVILLE/MONROE COUNTY	KY	LPV	1	99.567	1	99.567	2	99.517
0R4	CONCORDIA PARISH	LA	LPV	1	99.559	1	99.533	3	99.497
0R7	THE RED RIVER	LA	LPV	0	100	0	100	2	99.937
3R4	HART	LA	LPV	1	99.570	1	99.566	3	99.463
3R7	JENNINGS	LA	LPV	2	99.548	2	99.522	3	99.452
5R8	DE QUINCY INDUSTRIAL AIRPARK	LA	LPV	2	99.553	2	99.520	4	99.462
ACP	ALLEN PARISH	LA	LPV	1	99.564	1	99.533	3	99.471
AEX	ALEXANDRIA INTL	LA	LPV200	1	99.566	1	99.533	3	99.471
APS	PORT OF SOUTH LOUISIANA EXEC R	LA	LPV	1	99.555	1	99.533	3	99.461
ARA	ACADIANA RGNL	LA	LPV200	2	99.553	2	99.530	3	99.445
BQP	MOREHOUSE MEML	LA	LPV	1	99.570	1	99.567	3	99.501
BTR	BATON ROUGE METRO` RYAN FLD	LA	LPV200	1	99.555	1	99.533	5	99.484
BXA	GEORGE R CARR MEML AIR FLD	LA	LPV	1	99.555	1	99.533	3	99.486
CWF	CHENNAULT INTL	LA	LPV200	2	99.554	2	99.521	4	99.447
DTN	SHREVEPORT DOWNTOWN	LA	LPV	1	99.570	1	99.567	3	99.477
ESF	ESLER RGNL	LA	LPV200	1	99.566	1	99.533	3	99.472
F88	JONESBORO	LA	LP	1	99.570	1	99.566	3	99.477
GAO	SOUTH LAFOURCHE LEONARD MILLER	LA	LPV200	2	99.549	2	99.530	4	99.445
HDC	HAMMOND NORTHSHORE RGNL	LA	LPV200	1	99.555	1	99.533	3	99.486
HUM	HOUMA-TERREBONNE	LA	LPV200	2	99.553	2	99.530	4	99.444
HZR	FALSE RIVER RGNL	LA	LPV	1	99.555	1	99.533	4	99.486
IER	NATCHITOCHES RGNL	LA	LPV	1	99.570	2	99.566	3	99.465
IYA	ABBEVILLE CHRIS CRUSTA MEML	LA	LPV	2	99.548	2	99.525	3	99.445
L39	LEESVILLE	LA	LPV	1	99.567	1	99.533	3	99.464
LCH	LAKE CHARLES RGNL	LA	LPV200	2	99.554	2	99.521	4	99.446
LFT	LAFAYETTE RGNL/PAUL FOURNET FL	LA	LPV200	2	99.555	2	99.533	3	99.450
M79	JOHN H HOOKS JR MEML	LA	LPV	1	99.570	1	99.563	3	99.500
MLU	MONROE RGNL	LA	LPV200	1	99.570	1	99.566	4	99.497
MSY	LOUIS ARMSTRONG NEW ORLEANS IN	LA	LPV200	1	99.555	1	99.533	3	99.462
NEW	LAKEFRONT	LA	LPV	1	99.555	1	99.533	4	99.481
OPL	ST LANDRY PARISH-AHART FLD	LA	LPV	1	99.555	1	99.533	3	99.471

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
PTN	HARRY P WILLIAMS MEML	LA	LPV200	2	99.549	2	99.526	3	99.444
REG	LOUISIANA RGNL	LA	LPV	1	99.555	1	99.533	4	99.461
RSN	RUSTON RGNL	LA	LPV	1	99.570	1	99.567	4	99.493
SHV	SHREVEPORT RGNL	LA	LPV200	1	99.570	1	99.567	3	99.468
SPH	SPRINGHILL	LA	LPV	1	99.570	1	99.567	3	99.516
TVR	VICKSBURG TALLULAH RGNL	LA	LPV200	1	99.567	1	99.533	3	99.506
UXL	SOUTHLAND FLD	LA	LPV	2	99.554	2	99.521	4	99.446
3B0	SOUTHBRIDGE MUNICIPAL	MA	LPV	4	99.402	3	99.330	4	99.274
ACK	NANTUCKET MEML	MA	LPV200	3	99.382	3	99.323	4	99.271
BAF	WESTFIELD-BARNES RGNL	MA	LPV	4	99.413	3	99.335	3	99.287
BED	LAURENCE G HANSCOM FLD	MA	LPV200	4	99.390	3	99.317	3	99.267
BOS	GENERAL EDWARD LAWRENCE LOGAN	MA	LPV200	3	99.391	3	99.317	3	99.270
BVY	BEVERLY RGNL	MA	LPV	4	99.390	3	99.307	3	99.263
EWB	NEW BEDFORD RGNL	MA	LPV200	3	99.393	3	99.327	3	99.275
GBR	WALTER J KOLADZA	MA	LP	3	99.422	4	99.371	3	99.296
GHG	MARSHFIELD MUNICIPAL - GEORGE HARLO	MA	LPV	3	99.392	3	99.324	4	99.269
HYA	CAPE COD GATEWAY	MA	LPV200	3	99.384	3	99.323	4	99.268
LWM	LAWRENCE MUNICIPAL	MA	LPV200	4	99.389	3	99.307	3	99.265
MVY	MARTHA'S VINEYARD	MA	LPV200	3	99.390	3	99.331	4	99.275
ORE	ORANGE MUNICIPAL	MA	LPV	4	99.383	3	99.328	3	99.275
ORH	WORCESTER RGNL	MA	LPV200	4	99.389	3	99.327	4	99.272
OWD	NORWOOD MEML	MA	LPV	3	99.392	3	99.327	3	99.270
PSF	PITTSFIELD MUNICIPAL	MA	LPV	4	99.417	3	99.339	3	99.291
PVC	PROVINCETOWN MUNICIPAL	MA	LPV200	3	99.385	3	99.316	4	99.268
PYM	PLYMOUTH MUNICIPAL	MA	LPV200	3	99.392	3	99.326	4	99.270
TAN	TAUNTON MUNICIPAL - KING FLD	MA	LPV	3	99.393	3	99.327	3	99.271
CJA3	MORDEN REGIONAL	MB	LPV	7	99.627	11	99.488	10	99.261
CJJ4	DELORAINE	MB	LPV	9	99.238	12	99.090	12	98.883
CJW5	RUSSELL	MB	LPV	10	99.106	10	98.960	15	98.764
CKK7	STEINBACH (SOUTH)	MB	LPV	9	99.589	8	99.409	13	99.209
CKZ7	WINKLER	MB	LPV	7	99.626	11	99.486	10	99.268
CYAV	ST. ANDREWS	MB	LPV	10	99.059	10	98.926	14	98.716
CYBR	BRANDON MUNICIPALCIPALITY	MB	LPV	8	99.593	8	99.409	11	99.251
CYFO	FLIN FLON	MB	LPV	11	98.829	14	98.705	31	98.123
CYGX	GILLAM	MB	LPV	18	98.992	23	98.776	56	97.620
CYIV	ISLAND LAKE	MB	LPV	11	98.828	13	98.697	34	98.063

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CYQD	THE PAS	MB	LPV	10	99.317	10	99.221	29	98.737
CYTH	THOMPSON	MB	LPV200	15	98.626	20	98.487	43	97.588
CYVD	R.J. (BOB) ANDREW FIELD REGIONAL	MB	LPV	10	99.177	11	98.994	12	98.847
CYWG	JAMES ARMSTRONG RICHARDSON INTL	MB	LPV200	9	99.527	8	99.377	14	99.188
CYYQ	CHURCHILL	MB	LPV	43	97.821	47	97.349	114	94.897
CZJG	JENPEG	MB	LPV	10	99.242	10	99.152	29	98.479
2G4	GARRETT COUNTY	MD	LPV	1	99.518	1	99.518	2	99.461
2W5	MARYLAND	MD	LP	1	99.518	2	99.510	2	99.437
2W6	ST MARY'S COUNTY RGNL	MD	LPV	1	99.512	2	99.492	2	99.433
BWI	BALTIMORE/WASHINGTON INTL THUR	MD	LPV200	1	99.512	2	99.505	3	99.443
CBE	GREATER CUMBERLAND RGNL	MD	LPV	1	99.518	1	99.518	2	99.458
CGE	CAMBRIDGE-DORCHESTER RGNL	MD	LPV	1	99.511	2	99.492	3	99.431
DMW	CARROLL COUNTY RGNL/JACK B POA	MD	LPV200	1	99.515	2	99.505	3	99.429
ESN	EASTON/NEWNAM FLD	MD	LPV200	1	99.511	1	99.507	3	99.429
FDK	FREDERICK MUNICIPAL	MD	LPV	1	99.518	2	99.511	3	99.444
GAI	MONTGOMERY COUNTY AIRPARK	MD	LPV	1	99.518	1	99.511	1	99.456
HGR	HAGERSTOWN RGNL/RICHARD A HENS	MD	LPV200	1	99.518	1	99.511	2	99.436
MTN	MARTIN STATE	MD	LPV	1	99.511	2	99.497	4	99.437
OXB	OCEAN CITY MUNICIPAL	MD	LPV	1	99.507	2	99.447	3	99.397
SBY	SALISBURY-OCEAN CITY WICOMICO	MD	LPV200	1	99.507	2	99.459	4	99.416
W29	BAY BRIDGE	MD	LPV	1	99.512	1	99.507	3	99.431
1B0	DEXTER RGNL	ME	LP	3	99.297	4	99.271	10	99.110
2B7	PITTSFIELD MUNICIPAL	ME	LPV	3	99.300	4	99.275	10	99.130
3B1	GREENVILLE MUNICIPAL	ME	LPV	3	99.295	4	99.270	11	99.049
59B	NEWTON FLD	ME	LP	2	99.868	3	99.845	10	99.630
81B	OXFORD COUNTY RGNL	ME	LP	4	99.345	3	99.289	9	99.219
AUG	AUGUSTA STATE	ME	LPV200	3	99.305	3	99.284	9	99.182
BGR	BANGOR INTL	ME	LPV200	4	99.295	5	99.268	10	99.091
BHB	HANCOCK COUNTY/BAR HARBOR	ME	LPV200	4	99.298	5	99.259	11	99.055
BST	BELFAST MUNICIPAL	ME	LPV	3	99.306	3	99.280	10	99.134
BXM	BRUNSWICK EXEC	ME	LPV200	5	99.340	3	99.287	9	99.211
CAR	CARIBOU MUNICIPAL	ME	LPV	11	99.047	12	98.988	13	98.682
EPM	EASTPORT MUNICIPAL	ME	LPV	5	99.285	9	99.206	11	98.854
FVE	NORTHERN AROOSTOOK RGNL	ME	LPV200	10	99.005	12	98.966	15	98.631
HUL	HOULTON INTL	ME	LP	11	99.153	14	99.117	11	98.760
IZG	EASTERN SLOPES RGNL	ME	LPV	5	99.361	3	99.299	8	99.227

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
LEW	AUBURN/LEWISTON MUNICIPAL	ME	LPV200	5	99.357	3	99.290	9	99.219
LRG	LINCOLN RGNL	ME	LP	5	99.289	6	99.252	11	98.949
MLT	MILLINOCKET MUNICIPAL	ME	LPV	5	99.287	7	99.239	11	98.947
OWK	CENTRAL MAINE /NORRIDGEWOCK	ME	LPV	3	99.302	3	99.277	12	99.166
PQI	PRESQUE ISLE INTL	ME	LPV200	11	99.079	12	99.018	12	98.708
PWM	PORTLAND INTL JETPORT	ME	LPV200	5	99.365	3	99.291	8	99.223
RKD	KNOX COUNTY RGNL	ME	LPV200	3	99.308	3	99.282	10	99.175
SFM	SANFORD SEACOAST RGNL	ME	LPV200	5	99.375	3	99.302	5	99.245
WVL	WATERVILLE ROBERT LAFLEUR	ME	LPV200	3	99.304	3	99.284	10	99.171
48D	CLARE MUNICIPAL	MI	LP	3	99.493	3	99.481	5	99.399
4D0	ABRAMS MUNICIPAL	MI	LP	3	99.509	3	99.505	5	99.415
6Y1	BOIS BLANC ISLAND	MI	LP	3	99.423	3	99.413	13	99.260
77G	MARLETTE TOWNSHIP	MI	LPV	3	99.479	3	99.465	6	99.398
9D9	HASTINGS	MI	LPV	3	99.532	2	99.515	5	99.419
ACB	ANTRIM COUNTY	MI	LPV	4	99.453	4	99.452	10	99.370
ADG	LENAWEE COUNTY	MI	LPV	2	99.522	2	99.515	4	99.450
AMN	GRATIOT COMMUNICIPALTY	MI	LPV	3	99.505	2	99.486	5	99.405
ANJ	SAULT STE MARIE MUNICIPAL/SANDERSON	MI	LPV	6	99.360	7	99.338	14	99.134
APN	ALPENA COUNTY RGNL	MI	LPV	3	99.469	3	99.459	10	99.349
ARB	ANN ARBOR MUNICIPAL	MI	LPV	2	99.515	2	99.507	5	99.441
AZO	KALAMAZOO/BATTLE CREEK INTL	MI	LPV200	3	99.539	3	99.534	5	99.445
BAX	HURON COUNTY MEML	MI	LPV	3	99.478	3	99.466	5	99.377
BEH	SOUTHWEST MICHIGAN RGNL	MI	LPV200	3	99.538	3	99.526	4	99.442
BIV	WEST MICHIGAN RGNL	MI	LPV200	2	99.519	2	99.512	4	99.413
BTL	BATTLE CREEK EXEC AT KELLOGG F	MI	LPV200	3	99.537	3	99.535	5	99.429
C04	OCEANA COUNTY	MI	LPV	2	99.515	2	99.508	4	99.407
C20	ANDREWS UNIVERSITY AIRPARK	MI	LP	2	99.970	2	99.962	1	99.897
CAD	WEXFORD COUNTY	MI	LPV200	3	99.493	3	99.488	6	99.380
CFS	TUSCOLA AREA	MI	LP	3	99.479	3	99.462	6	99.411
CIU	CHIPPEWA COUNTY INTL	MI	LPV	6	99.398	7	99.386	12	99.155
CMX	HOUGHTON COUNTY MEML	MI	LPV	8	99.284	8	99.235	14	99.016
CVX	CHARLEVOIX MUNICIPAL	MI	LPV	4	99.451	4	99.447	12	99.323
D95	DUPONT-LAPEER	MI	LP	3	99.503	3	99.471	5	99.423
DET	COLEMAN A YOUNG MUNICIPAL	MI	LPV	2	99.522	3	99.478	4	99.423
DTW	DETROIT METRO WAYNE COUNTY	MI	LPV200	2	99.515	3	99.498	4	99.441
ERY	LUCE COUNTY	MI	LPV	6	99.390	7	99.368	13	99.118

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
ESC	DELTA COUNTY	MI	LPV200	6	99.441	7	99.413	11	99.220
FFX	FREMONT MUNICIPAL	MI	LPV	2	99.519	2	99.512	4	99.388
FNT	BISHOP INTL	MI	LPV200	2	99.511	3	99.502	6	99.430
GDW	GLADWIN ZETTEL MEML	MI	LP	3	99.470	3	99.465	7	99.406
GLR	GAYLORD RGNL	MI	LPV	3	99.454	3	99.454	10	99.374
GRR	GERALD R FORD INTL	MI	LPV200	2	99.518	2	99.513	5	99.404
HTL	ROSCOMMON COUNTY - BLODGETT ME	MI	LP	3	99.463	3	99.459	7	99.398
HYX	SAGINAW COUNTY H W BROWNE	MI	LPV200	4	99.508	4	99.487	6	99.408
IKW	JACK BARSTOW	MI	LPV	5	99.497	3	99.467	6	99.408
IMT	FORD	MI	LPV	6	99.437	8	99.386	9	99.212
IRS	KIRSCH MUNICIPAL	MI	LPV	2	99.548	2	99.540	4	99.466
ISQ	SCHOOLCRAFT COUNTY	MI	LP	6	99.430	7	99.412	12	99.181
IWD	GOGEBIC/IRON COUNTY	MI	LPV200	9	99.324	8	99.259	13	99.085
JXN	JACKSON COUNTY-REYNOLDS FLD	MI	LPV200	2	99.522	2	99.515	5	99.434
JYM	HILLSDALE MUNICIPAL	MI	LPV	2	99.522	2	99.515	5	99.446
LAN	CAPITAL REGION INTL	MI	LPV200	3	99.517	3	99.510	5	99.415
LDM	MASON COUNTY	MI	LPV	2	99.515	2	99.508	6	99.398
MBL	MANISTEE COUNTY/BLACKER	MI	LPV200	2	99.508	3	99.502	8	99.389
MBS	MBS INTL	MI	LPV200	4	99.505	3	99.470	6	99.408
MCD	MACKINAC ISLAND	MI	LPV	5	99.420	5	99.410	11	99.214
MKG	MUSKEGON COUNTY	MI	LPV200	2	99.515	2	99.508	4	99.411
MNM	MENOMINEE RGNL	MI	LPV200	5	99.496	5	99.460	10	99.312
MOP	MOUNT PLEASANT MUNICIPAL	MI	LPV	2	99.493	3	99.483	5	99.404
N98	BOYNE CITY MUNICIPAL	MI	LP	4	99.454	4	99.451	12	99.339
OEB	BRANCH COUNTY MEML	MI	LPV	2	99.522	2	99.515	5	99.455
OGM	ONTONAGON COUNTY - SCHUSTER FL	MI	LPV	10	99.324	7	99.236	14	99.028
OSC	OSCODA-WURTSMITH	MI	LPV200	3	99.473	3	99.461	7	99.380
OZW	LIVINGSTON COUNTY SPENCER J HA	MI	LPV200	2	99.515	2	99.506	5	99.439
PHN	ST CLAIR COUNTY INTL	MI	LPV200	3	99.496	3	99.474	4	99.400
PLN	PELLSTON RGNL/EMMET COUNTY	MI	LPV200	4	99.426	4	99.416	13	99.267
PTK	OAKLAND COUNTY INTL	MI	LPV200	2	99.515	3	99.494	5	99.430
RMY	BROOKS FLD	MI	LP	2	99.522	2	99.514	5	99.436
RNP	OWOSSO COMMUNICIPALTY	MI	LPV	2	99.518	3	99.510	6	99.419
RQB	ROBEN-HOOD	MI	LPV200	2	99.518	2	99.511	4	99.385
SAW	SAWYER INTL	MI	LPV200	7	99.400	9	99.355	15	99.132
SLH	CHEBOYGAN COUNTY	MI	LPV	3	99.424	3	99.413	13	99.267

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
TEW	MASON JEWETT FLD	MI	LP	2	99.522	2	99.513	6	99.429
TTF	CUSTER	MI	LPV	2	99.523	2	99.507	4	99.442
TVC	CHERRY CAPITAL	MI	LPV200	4	99.479	4	99.479	9	99.361
Y31	WEST BRANCH COMMUNICIPALTY	MI	LP	3	99.461	3	99.456	7	99.390
Y70	IONIA COUNTY	MI	LPV	3	99.505	2	99.488	5	99.409
YIP	WILLOW RUN	MI	LPV200	2	99.515	2	99.507	4	99.441
16D	PERHAM MUNICIPAL	MN	LPV	7	99.314	8	99.239	13	99.031
3N8	MAHNOMEN COUNTY	MN	LPV	9	99.270	10	99.134	11	98.940
ACQ	WASECA MUNICIPAL	MN	LPV	3	99.477	4	99.455	6	99.339
ADC	WADENA MUNICIPAL	MN	LPV	8	99.327	9	99.253	12	99.046
AEL	ALBERT LEA MUNICIPAL	MN	LPV	2	99.481	3	99.464	6	99.356
AIT	AITKIN MUNICIPAL/STEVE KURTZ FLD	MN	LPV	9	99.325	11	99.253	12	99.051
ANE	ANOKA COUNTY-BLAINE (JANES FLD	MN	LPV	5	99.442	5	99.403	8	99.297
AUM	AUSTIN MUNICIPAL	MN	LPV200	2	99.481	3	99.465	6	99.356
AXN	CHANDLER FLD	MN	LPV	5	99.426	5	99.341	12	99.153
BBB	BENSON MUNICIPAL	MN	LPV	5	99.430	5	99.356	9	99.249
BDE	BAUDETTE INTL	MN	LPV	11	99.142	11	99.031	14	98.829
BDH	WILLMAR MUNICIPAL/JOHN L RICE FLD	MN	LPV200	5	99.439	5	99.370	9	99.263
BJI	BEMIDJI RGNL	MN	LPV200	10	99.234	10	99.090	14	98.913
BRD	BRAINERD LAKES RGNL	MN	LPV200	8	99.331	9	99.273	13	99.071
CBG	CAMBRIDGE MUNICIPAL	MN	LPV	5	99.436	4	99.389	12	99.226
CFE	BUFFALO MUNICIPAL	MN	LPV	4	99.441	5	99.405	7	99.275
CKC	GRAND MARAIS/COOK COUNTY	MN	LPV	8	99.196	8	99.142	18	98.964
CKN	CROOKSTON MUNICIPAL/KIRKWOOD FLD	MN	LPV	9	99.238	12	99.106	12	98.902
CNB	MYERS FLD	MN	LPV	4	99.452	5	99.369	8	99.276
COQ	CLOQUET/CARLTON COUNTY	MN	LPV	8	99.309	12	99.252	13	99.034
CQM	COOK MUNICIPAL	MN	LP	10	99.236	11	99.137	14	98.892
D39	SAUK CENTRE MUNICIPAL	MN	LPV	5	99.429	5	99.345	12	99.177
D42	SPRINGFIELD MUNICIPAL	MN	LP	3	99.464	6	99.430	6	99.329
DLH	DULUTH INTL	MN	LPV200	8	99.289	12	99.242	13	99.031
DTL	DETROIT LAKES/WETHING FLD	MN	LPV	8	99.292	11	99.198	12	98.987
DVP	SLAYTON MUNICIPAL	MN	LP	3	99.464	4	99.439	7	99.332
DXX	LAC QUI PARLE COUNTY	MN	LPV200	5	99.440	5	99.367	8	99.252
ELO	ELY MUNICIPAL	MN	LPV200	9	99.197	10	99.120	17	98.942
ETH	WHEATON MUNICIPAL	MN	LP	5	99.411	5	99.335	14	99.181
EVM	EVELETH-VIRGINIA MUNICIPAL	MN	LPV	9	99.249	12	99.175	16	98.961

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
FBL	FARIBAULT MUNICIPAL-LIZ WALL STROHF	MN	LPV	4	99.472	5	99.447	6	99.327
FCM	FLYING CLOUD	MN	LPV200	5	99.444	5	99.405	7	99.299
FFM	FERGUS FALLS MUNICIPAL/EINAR MICKEL	MN	LPV200	7	99.330	8	99.286	12	99.098
FKA	FILLMORE COUNTY	MN	LPV	2	99.483	3	99.467	6	99.369
FOZ	BIGFORK MUNICIPAL	MN	LP	10	99.218	11	99.118	14	98.881
FRM	FAIRMONT MUNICIPAL	MN	LPV	2	99.478	4	99.443	5	99.357
FSE	FOSSTON MUNICIPAL-ANDERSON FLD	MN	LP	9	99.244	11	99.105	12	98.910
GHW	GLENWOOD MUNICIPAL	MN	LPV	5	99.429	5	99.344	12	99.179
GPZ	GRAND RAPIDS/ITASCA COUNTY-GOR	MN	LPV200	10	99.256	11	99.169	14	98.953
GYL	GLENCOE MUNICIPAL	MN	LPV	4	99.445	6	99.410	7	99.294
HCD	HUTCHINSON MUNICIPAL/BUTLER FLD	MN	LPV	4	99.441	6	99.405	6	99.278
HCO	HALLOCK MUNICIPAL	MN	LPV	10	99.199	11	99.025	13	98.815
HIB	RANGE RGNL	MN	LPV200	10	99.253	12	99.180	16	98.961
INL	FALLS INTL/EINARSON FLD	MN	LPV	10	99.177	13	99.093	14	98.844
JKJ	MOORHEAD MUNICIPAL	MN	LPV	9	99.304	12	99.221	12	99.002
JMR	MORA MUNICIPAL	MN	LPV	7	99.419	6	99.356	12	99.159
JYG	ST JAMES MUNICIPAL	MN	LPV	3	99.474	4	99.432	6	99.346
LJF	LITCHFIELD MUNICIPAL	MN	LPV	4	99.440	6	99.388	8	99.270
LVN	AIRLAKE	MN	LPV200	5	99.466	5	99.435	6	99.326
LXL	LITTLE FALLS/MORRISON COUNTY-L	MN	LPV	7	99.414	6	99.338	12	99.120
LYV	QUENTIN AANENSON FLD	MN	LPV200	2	99.478	4	99.443	6	99.352
MJQ	JACKSON MUNICIPAL	MN	LPV	2	99.478	4	99.431	5	99.356
MKT	MANKATO RGNL	MN	LPV200	3	99.472	5	99.432	6	99.327
MML	SOUTHWEST MINNESOTA RGNL MARSH	MN	LPV200	3	99.464	6	99.402	8	99.301
MOX	MORRIS MUNICIPAL/CHARLIE SCHMIDT FL	MN	LPV	5	99.417	5	99.350	12	99.191
MSP	MINNEAPOLIS-ST PAUL INTL/WOLD-	MN	LPV200	5	99.451	5	99.403	7	99.302
MVE	MONTEVIDEO-CHIPPEWA COUNTY	MN	LPV	5	99.440	5	99.368	8	99.260
MWM	WINDOM MUNICIPAL	MN	LPV	3	99.473	4	99.431	6	99.347
MZH	MOOSE LAKE CARLTON COUNTY	MN	LPV	8	99.332	10	99.276	13	99.062
ONA	WINONA MUNICIPAL-MAX CONRAD FLD	MN	LPV	2	99.489	3	99.463	6	99.336
ORB	ORR RGNL	MN	LP	12	99.218	10	99.117	14	98.891
OTG	WORTHINGTON MUNICIPAL	MN	LPV200	2	99.478	4	99.430	5	99.349
OWA	OWATONNA DEGNER RGNL	MN	LPV200	3	99.478	5	99.454	6	99.339
PEX	PAYNESVILLE MUNICIPAL	MN	LPV200	5	99.432	5	99.370	12	99.258
PKD	PARK RAPIDS MUNICIPAL/KONSHOK FLD	MN	LPV200	9	99.278	11	99.186	13	98.976
PQN	PIPESTONE MUNICIPAL	MN	LPV200	3	99.464	4	99.424	7	99.332

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
RGK	RED WING RGNL	MN	LPV200	5	99.470	5	99.450	6	99.328
ROS	RUSH CITY RGNL	MN	LPV	5	99.435	4	99.389	13	99.215
ROX	ROSEAU MUNICIPAL/RUDY BILLBERG FLD	MN	LPV	10	99.159	10	98.998	13	98.814
RRT	WARROAD INTL MEML	MN	LPV200	10	99.118	11	99.002	12	98.788
RST	ROCHESTER INTL	MN	LPV200	3	99.479	4	99.464	6	99.359
RWF	REDWOOD FALLS MUNICIPAL	MN	LPV	3	99.454	6	99.403	8	99.299
SAZ	STAPLES MUNICIPAL	MN	LPV	8	99.320	10	99.285	11	99.066
SBU	BLUE EARTH MUNICIPAL	MN	LPV	2	99.478	3	99.463	5	99.357
SGS	SOUTH ST PAUL MUNICIPAL-RICHARD E F	MN	LPV	5	99.463	5	99.415	7	99.305
STC	ST CLOUD RGNL	MN	LPV200	5	99.433	5	99.375	13	99.224
STP	ST PAUL DOWNTOWN HOLMAN FLD	MN	LPV	5	99.451	5	99.402	7	99.303
TOB	DODGE CENTER	MN	LPV	3	99.477	5	99.456	6	99.344
TVF	THIEF RIVER FALLS RGNL	MN	LPV	9	99.227	11	99.085	13	98.873
TWM	RICHARD B HELGESON	MN	LPV	9	99.274	12	99.225	16	99.034
ULM	NEW ULM MUNICIPAL	MN	LPV200	3	99.464	6	99.420	6	99.326
VVV	ORTONVILLE MUNICIPAL-MARTINSON FLD	MN	LP	5	99.428	5	99.351	9	99.242
Y49	WALKER MUNICIPAL	MN	LP	9	99.255	11	99.154	14	98.938
Y63	ELBOW LAKE MUNICIPAL - PRIDE OF THE	MN	LPV	7	99.402	6	99.331	11	99.134
03D	MEMPHIS MEML	MO	LPV	2	99.515	2	99.486	3	99.457
1H0	CREVE COEUR	MO	LPV	2	99.541	2	99.534	2	99.533
1MO	MOUNTAIN GROVE MEML	MO	LP	2	99.562	2	99.526	3	99.515
2H2	JERRY SUMNERS SR AURORA MUNICIPAL	MO	LP	2	99.558	2	99.522	3	99.493
6M6	LEWIS COUNTY RGNL	MO	LPV	2	99.515	3	99.512	2	99.468
8WC	WASHINGTON COUNTY	MO	LPV	2	99.558	2	99.545	2	99.534
94K	CASSVILLE MUNICIPAL	MO	LPV	2	99.557	2	99.522	3	99.496
AIZ	LEE C FINE MEML	MO	LPV	2	99.555	2	99.524	3	99.506
BBG	BRANSON	MO	LPV200	2	99.563	2	99.522	3	99.503
BUM	BUTLER MEML	MO	LPV	2	99.529	2	99.522	2	99.471
CGI	CAPE GIRARDEAU RGNL	MO	LPV200	2	99.566	2	99.545	2	99.541
CHT	CHILLICOTHE MUNICIPAL	MO	LPV	2	99.515	2	99.486	2	99.467
COU	COLUMBIA RGNL	MO	LPV200	2	99.526	2	99.524	4	99.505
DMO	SEDALIA RGNL	MO	LPV	2	99.523	2	99.522	3	99.483
DXE	DEXTER MUNICIPAL	MO	LPV	2	99.570	2	99.545	2	99.541
EIW	COUNTY MEML	MO	LPV	1	99.570	2	99.551	2	99.541
EOS	NEOSHO HUGH ROBINSON	MO	LPV	2	99.551	2	99.522	3	99.491
EVU	NORTHWEST MISSOURI RGNL	MO	LPV	2	99.515	2	99.485	3	99.460

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
EZZ	CAMERON MEML	MO	LPV	2	99.515	2	99.485	2	99.467
FAM	FARMINGTON RGNL	MO	LPV	2	99.560	2	99.545	2	99.538
FTT	ELTON HENSLEY MEML	MO	LPV	2	99.527	2	99.525	4	99.506
FWB	BRANSON WEST MUNICIPAL - EMERSON FL	MO	LPV200	2	99.562	2	99.522	3	99.497
FYG	WASHINGTON RGNL	MO	LPV	2	99.547	2	99.534	2	99.527
GLY	CLINTON RGNL	MO	LPV	2	99.530	2	99.522	3	99.486
GPH	MIDWEST NTL AIR CENTER	MO	LPV	2	99.523	3	99.516	2	99.467
H19	BOWLING GREEN MUNICIPAL	MO	LPV	2	99.528	2	99.527	2	99.493
H79	ELDON MODEL AIRPARK	MO	LP	2	99.545	2	99.524	3	99.493
H88	A PAUL VANCE FREDERICKTOWN RGN	MO	LPV	2	99.561	2	99.545	2	99.544
HAE	HANNIBAL RGNL	MO	LPV	2	99.526	2	99.525	2	99.470
HFJ	MONETT RGNL	MO	LPV	2	99.551	2	99.522	3	99.491
HIG	HIGGINSVILLE INDUSTRIAL MUNICIPAL	MO	LPV	2	99.523	2	99.522	2	99.467
IRK	KIRKSVILLE RGNL	MO	LPV200	2	99.515	3	99.503	2	99.466
JEF	JEFFERSON CITY MEML	MO	LPV	2	99.535	2	99.525	4	99.508
JLN	JOPLIN RGNL	MO	LPV	2	99.550	2	99.522	3	99.490
K15	GRAND GLAIZE-OSAGE BEACH	MO	LP	2	99.555	2	99.524	3	99.493
K57	GOULD PETERSON MUNICIPAL	MO	LPV	2	99.515	2	99.485	3	99.461
K89	MACON-FOWER MEML	MO	LPV	2	99.517	3	99.513	2	99.467
LLU	LAMAR MUNICIPAL	MO	LPV	2	99.548	2	99.522	3	99.490
LRY	LAWRENCE SMITH MEML	MO	LPV	2	99.523	2	99.522	2	99.468
LXT	LEE'S SUMMIT MUNICIPAL	MO	LPV	2	99.523	2	99.522	2	99.467
M05	CARUTHERSVILLE MEML	MO	LPV	1	99.570	2	99.566	2	99.541
M12	STEELE MUNICIPAL	MO	LPV	1	99.570	2	99.555	2	99.541
M17	BOLIVAR MUNICIPAL	MO	LPV	2	99.557	2	99.523	3	99.490
M48	HOUSTON MEML	MO	LPV	2	99.561	2	99.539	3	99.522
MAW	MALDEN RGNL	MO	LPV	1	99.570	2	99.549	2	99.541
MBY	OMAR N BRADLEY	MO	LPV	2	99.524	2	99.522	2	99.468
MCI	KANSAS CITY INTL	MO	LPV200	2	99.522	3	99.515	2	99.467
MHL	MARSHALL MEML MUNICIPAL	MO	LPV	2	99.523	2	99.522	2	99.471
MKC	CHARLES B WHEELER DOWNTOWN	MO	LPV	2	99.523	3	99.521	2	99.467
MNF	MOUNTAIN VIEW	MO	LP	2	99.562	2	99.541	2	99.522
MO3	STOCKTON MUNICIPAL	MO	LP	2	99.550	2	99.522	3	99.490
MO8	NORTH CENTRAL MISSOURI RGNL	MO	LPV	2	99.515	3	99.508	2	99.467
MYJ	MEXICO MEML	MO	LPV	2	99.526	2	99.525	2	99.471
NVD	NEVADA MUNICIPAL	MO	LPV200	2	99.545	2	99.522	3	99.486

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
OZS	CAMDENTON MEML-LAKE RGNL	MO	LPV	2	99.555	2	99.524	3	99.504
PCD	PERRYVILLE RGNL	MO	LPV	2	99.561	2	99.545	2	99.543
PLK	M GRAHAM CLARK DOWNTOWN	MO	LPV200	2	99.563	2	99.522	3	99.503
POF	POPLAR BLUFF RGNL BUSINESS	MO	LPV	2	99.569	2	99.545	2	99.544
RAW	WARSAW MUNICIPAL	MO	LPV200	2	99.532	2	99.522	3	99.486
RCM	SKYHAVEN	MO	LPV	2	99.523	2	99.522	2	99.468
SGF	SPRINGFIELD-BRANSON NTL	MO	LPV	2	99.561	2	99.523	3	99.493
SIK	SIKESTON MEML MUNICIPAL	MO	LPV	1	99.570	2	99.549	2	99.541
STJ	ROSECRANS MEML	MO	LPV200	2	99.515	2	99.485	2	99.468
STL	ST LOUIS LAMBERT INTL	MO	LPV200	2	99.541	2	99.534	2	99.533
SUS	SPIRIT OF ST LOUIS	MO	LPV200	2	99.545	2	99.534	2	99.533
TBN	WAYNESVILLE-ST ROBERT RGNL FOR	MO	LPV	2	99.557	2	99.525	3	99.514
TKX	KENNETT MEML	MO	LPV	1	99.570	2	99.551	2	99.541
TRX	TRENTON MUNICIPAL	MO	LPV	2	99.515	2	99.485	3	99.461
UBX	CUBA MUNICIPAL	MO	LPV	2	99.555	2	99.536	2	99.522
UNO	WEST PLAINS RGNL	MO	LPV	2	99.562	2	99.541	2	99.522
UUV	SULLIVAN RGNL	MO	LPV	2	99.555	2	99.534	2	99.522
VER	JESSE VIERTEL MEML	MO	LPV	2	99.524	2	99.522	2	99.471
VIH	ROLLA NTL	MO	LPV	2	99.555	2	99.527	2	99.519
0R0	COLUMBIA/MARION COUNTY	MS	LPV	1	99.555	1	99.533	2	99.494
17M	MAGEE MUNICIPAL	MS	LP	1	99.555	1	99.533	2	99.502
5A4	OKOLONA MUNICIPAL/RICHARD STOVALL F	MS	LPV	1	99.567	1	99.566	2	99.550
5A6	WINONA-MONTGOMERY COUNTY	MS	LP	1	99.567	1	99.566	2	99.518
87I	YAZOO COUNTY	MS	LPV	1	99.567	1	99.566	3	99.511
8M1	BOONEVILLE/BALDWYN	MS	LPV	1	99.567	1	99.567	1	99.555
CKM	FLETCHER FLD	MS	LPV	1	99.570	1	99.567	2	99.566
CRX	ROSCOE TURNER	MS	LPV200	1	99.567	1	99.567	2	99.552
GLH	GREENVILLE MID-DELTA	MS	LPV200	1	99.570	1	99.567	3	99.518
GNF	GRENADA MUNICIPAL	MS	LPV	1	99.567	1	99.567	2	99.534
GPT	GULFPORT-BILOXI INTL	MS	LPV200	1	99.533	1	99.533	3	99.483
GTR	GOLDEN TRIANGLE RGNL	MS	LPV200	1	99.555	1	99.555	2	99.518
GWO	GREENWOOD-LEFLORE	MS	LPV	1	99.567	1	99.567	2	99.518
HBG	HATTIESBURG BOBBY L CHAIN MUNICIPAL	MS	LPV200	1	99.555	1	99.533	2	99.494
HEZ	HARDY-ANDERS FLD/NATCHEZ-ADAMS	MS	LPV200	1	99.559	1	99.533	3	99.498
HKS	HAWKINS FLD	MS	LPV	1	99.559	1	99.533	2	99.508
HSA	STENNIS INTL	MS	LPV200	1	99.533	1	99.533	3	99.486

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
IDL	INDIANOLA MUNICIPAL	MS	LPV	1	99.570	1	99.567	2	99.518
JAN	JACKSON-MEDGAR WILEY EVERS INT	MS	LPV200	1	99.555	1	99.533	2	99.508
JVW	JOHN BELL WILLIAMS	MS	LPV200	1	99.566	1	99.533	3	99.508
LMS	LOUISVILLE/WINSTON COUNTY	MS	LPV	1	99.559	2	99.555	2	99.512
LUL	HESLER-NOBLE FLD	MS	LPV	1	99.555	1	99.533	2	99.497
M11	COPIAH COUNTY	MS	LPV	0	100	0	100	1	99.968
M40	MONROE COUNTY	MS	LPV	1	99.566	1	99.556	2	99.536
M41	HOLLY SPRINGS-MARSHALL COUNTY	MS	LPV	1	99.567	1	99.567	2	99.559
M43	PRENTISS-JEFFERSON DAVIS COUNT	MS	LPV	1	99.555	1	99.533	2	99.497
MBO	BRUCE CAMPBELL FLD	MS	LPV	1	99.559	1	99.533	2	99.510
MCB	MC COMB/PIKE COUNTY/JOHN E LEW	MS	LPV200	1	99.555	1	99.533	3	99.496
MEI	KEY FLD	MS	LPV200	1	99.552	1	99.533	2	99.503
MJD	PICAYUNE MUNICIPAL	MS	LPV	2	99.552	1	99.533	3	99.486
MMS	SELFS	MS	LPV	1	99.570	1	99.567	2	99.565
MPE	PHILADELPHIA MUNICIPAL	MS	LPV	1	99.555	1	99.533	2	99.512
OLV	OLIVE BRANCH/TAYLOR FLD	MS	LPV200	1	99.570	1	99.570	2	99.547
PIB	HATTIESBURG/LAUREL RGNL	MS	LPV200	1	99.555	1	99.533	2	99.494
PMU	PANOLA COUNTY	MS	LPV	1	99.567	1	99.567	1	99.562
PQL	TRENT LOTT INTL	MS	LPV200	1	99.533	1	99.533	3	99.474
RNV	CLEVELAND MUNICIPAL	MS	LPV	1	99.570	1	99.567	4	99.545
STF	GEORGE M BRYAN	MS	LPV200	1	99.559	1	99.557	2	99.518
TUP	TUPELO RGNL	MS	LPV200	1	99.567	1	99.567	1	99.552
UBS	COLUMBUS-LOWNDES COUNTY	MS	LPV	1	99.555	1	99.551	2	99.518
UOX	UNIVERSITY-OXFORD	MS	LPV	1	99.567	1	99.567	1	99.559
UTA	TUNICA MUNICIPAL	MS	LPV200	1	99.570	1	99.567	2	99.566
VKS	VICKSBURG MUNICIPAL	MS	LP	1	99.566	1	99.533	3	99.506
00U	BIG HORN COUNTY	MT	LPV200	1	99.892	1	99.889	6	99.811
1S3	TILLITT FLD	MT	LPV	2	99.464	3	99.437	10	99.290
4U6	CIRCLE TOWN COUNTY	MT	LPV	5	99.377	8	99.260	9	99.134
6S0	BIG TIMBER	MT	LPV	1	99.896	1	99.893	3	99.867
6S8	LAUREL MUNICIPAL	MT	LPV	2	99.467	2	99.467	6	99.422
7S0	RONAN	MT	LPV	4	99.455	4	99.422	12	99.357
7S1	TWIN BRIDGES	MT	LPV	1	99.904	1	99.900	2	99.878
BHK	BAKER MUNICIPAL	MT	LPV	6	99.400	6	99.338	7	99.185
BIL	BILLINGS LOGAN INTL	MT	LPV200	2	99.467	2	99.467	9	99.410
BTM	BERT MOONEY	MT	LPV	2	99.474	2	99.467	5	99.433

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
BZN	BOZEMAN YELLOWSTONE INTL	MT	LPV	2	99.474	2	99.467	5	99.438
CII	CHOTEAU	MT	LPV200	2	99.888	3	99.861	8	99.740
CTB	CUT BANK INTL	MT	LPV200	4	99.442	6	99.398	10	99.235
DLN	DILLON	MT	LPV	2	99.478	2	99.475	3	99.459
EKS	ENNIS BIG SKY	MT	LPV	2	99.478	2	99.474	5	99.454
GDV	DAWSON COMMUNICIPALTY	MT	LPV	5	99.368	9	99.279	8	99.147
GGW	WOKAL FLD/GLASGOW-VALLEY COUNT	MT	LPV200	6	99.377	8	99.256	9	99.124
GPI	GLACIER PARK INTL	MT	LPV	4	99.448	6	99.409	12	99.284
GTF	GREAT FALLS INTL	MT	LPV200	3	99.465	5	99.419	10	99.300
HLN	HELENA RGNL	MT	LPV	2	99.471	2	99.456	10	99.403
HRF	RAVALLI COUNTY	MT	LPV	1	99.900	1	99.881	5	99.856
HVR	HAVRE CITY-COUNTY	MT	LPV	5	99.426	8	99.360	9	99.153
HWQ	WHEATLAND COUNTY AT HARLOWTON	MT	LPV	1	99.892	1	99.881	6	99.807
LVM	MISSION FLD	MT	LP	2	99.474	2	99.467	5	99.436
LWT	LEWISTOWN MUNICIPAL	MT	LPV200	3	99.463	6	99.432	11	99.305
M75	MALTA	MT	LP	8	99.425	9	99.315	8	99.132
MLS	FRANK WILEY FLD	MT	LPV	5	99.450	7	99.414	8	99.204
MSO	MISSOULA MONTANA	MT	LPV200	2	99.474	4	99.451	9	99.391
OLF	L M CLAYTON	MT	LPV200	6	99.340	9	99.245	9	99.121
PO1	POPLAR MUNICIPAL	MT	LPV200	6	99.332	9	99.239	9	99.115
PWD	SHER-WOOD	MT	LPV200	7	99.287	9	99.202	12	99.054
RPX	ROUNDUP	MT	LPV	2	99.467	3	99.458	9	99.340
RVF	RUBY VALLEY FLD	MT	LPV	1	99.904	1	99.900	2	99.878
S01	CONRAD	MT	LPV	2	99.886	4	99.846	9	99.717
SBX	SHELBY	MT	LPV	4	99.437	7	99.397	10	99.220
SDY	SIDNEY-RICHLAND RGNL	MT	LPV	7	99.326	9	99.243	10	99.112
WYS	YELLOWSTONE	MT	LPV200	2	99.478	2	99.474	3	99.464
CCE3	JUNIPER	NB	LP	10	99.629	11	99.568	11	99.282
CCN2	GRAND MANAN	NB	LPV	6	99.287	8	99.209	11	98.859
CCR3	FLORENCEVILLE	NB	LPV	11	99.682	11	99.613	10	99.308
CDJ4	CLEARWATER	NB	LPV	10	99.577	11	99.520	12	99.248
CYCH	MIRAMICHI	NB	LPV	9	98.905	13	98.848	15	98.520
CYCL	CHARLO	NB	LPV	13	98.847	14	98.813	20	98.424
CYFC	FREDERICTON INTL	NB	LPV	12	99.681	10	99.610	10	99.312
CYQM	GREATER MONCTON ROMEO LEBLANC INTL	NB	LPV200	10	98.933	12	98.885	12	98.647
CYSJ	SAINT JOHN	NB	LPV	10	99.129	10	99.074	11	98.747

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CYSL	ST. LEONARD	NB	LPV	10	98.998	12	98.952	15	98.631
CZBF	BATHURST	NB	LPV	13	98.873	13	98.810	18	98.458
43A	MONTGOMERY COUNTY	NC	LP	1	99.515	2	99.501	1	99.441
7W6	HYDE COUNTY	NC	LP	0	100	0	100	0	100
ACZ	HENDERSON FLD	NC	LPV	2	99.503	3	99.467	1	99.430
AFP	ANSON COUNTY/JEFF CLOUD FLD	NC	LPV	1	99.516	2	99.498	1	99.442
AKH	GASTONIA MUNICIPAL	NC	LPV	1	99.526	1	99.526	1	99.448
ASJ	TRI-COUNTY AT HENRY JOYNER FIE	NC	LPV	1	99.512	3	99.473	1	99.430
AVL	ASHEVILLE RGNL	NC	LPV200	1	99.530	1	99.530	1	99.461
BUY	BURLINGTON/ALAMANCE RGNL	NC	LPV	1	99.518	2	99.503	1	99.440
CLT	CHARLOTTE/DOUGLAS INTL	NC	LPV200	1	99.526	1	99.526	1	99.445
CPC	COLUMBUS COUNTY MUNICIPAL	NC	LPV	1	99.512	2	99.481	1	99.430
CTZ	CLINTON-SAMPSON COUNTY	NC	LPV200	1	99.512	2	99.481	2	99.442
DPL	DUPLIN COUNTY	NC	LPV200	2	99.507	3	99.471	1	99.430
ECG	ELIZABETH CITY CG AIR STATION/	NC	LPV	2	99.488	1	99.429	1	99.423
EDE	NORTHEASTERN RGNL	NC	LPV200	2	99.497	1	99.430	1	99.429
EHO	SHELBY-CLEVELAND COUNTY RGNL	NC	LPV	1	99.530	1	99.530	1	99.452
EQY	CHARLOTTE/MONROE EXEC	NC	LPV200	1	99.526	1	99.515	1	99.442
EWN	COASTAL CAROLINA RGNL	NC	LPV	2	99.486	3	99.458	1	99.430
EXX	DAVIDSON COUNTY	NC	LPV	1	99.526	2	99.524	1	99.441
EYF	CURTIS L BROWN JR FLD	NC	LPV	1	99.512	2	99.481	2	99.442
FAY	FAYETTEVILLE RGNL/GRANNIS FLD	NC	LPV200	1	99.512	2	99.484	1	99.442
FFA	FIRST FLIGHT	NC	LP	2	99.467	1	99.429	1	99.422
FQD	RUTHERFORD COUNTY/MARCHMAN FLD	NC	LPV	1	99.530	1	99.530	1	99.455
GEV	ASHE COUNTY	NC	LP	1	99.530	1	99.529	1	99.468
GSO	PIEDMONT TRIAD INTL	NC	LPV200	1	99.518	2	99.509	1	99.441
GWW	WAYNE EXEC JETPORT	NC	LPV200	1	99.512	3	99.475	1	99.430
HBI	ASHEBORO RGNL	NC	LPV	1	99.526	2	99.515	1	99.441
HKY	HICKORY RGNL	NC	LPV200	1	99.529	1	99.529	1	99.452
HNZ	HENDERSON/OXFORD	NC	LPV	1	99.512	2	99.498	1	99.440
HRJ	HARNETT RGNL JETPORT	NC	LPV	1	99.512	2	99.485	1	99.442
ILM	WILMINGTON INTL	NC	LPV200	2	99.483	3	99.465	1	99.430
INT	SMITH REYNOLDS	NC	LPV200	1	99.518	2	99.515	1	99.441
IPJ	LINCOLNTON-LINCOLN COUNTY RGNL	NC	LPV	1	99.526	1	99.526	1	99.452
ISO	KINSTON RGNL JETPORT AT STALLI	NC	LPV200	2	99.507	3	99.471	1	99.430
IXA	HALIFAX/NORTHAMPTON RGNL	NC	LPV200	1	99.512	2	99.483	1	99.440

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
JNX	JOHNSTON RGNL	NC	LPV	1	99.512	2	99.484	1	99.442
JQF	CONCORD-PADGETT RGNL	NC	LPV	1	99.526	1	99.526	1	99.444
LBT	LUMBERTON RGNL	NC	LPV	1	99.512	2	99.484	1	99.442
LHZ	TRIANGLE NORTH EXEC	NC	LPV200	1	99.512	2	99.486	1	99.441
MCZ	MARTIN COUNTY	NC	LPV	2	99.505	3	99.464	1	99.430
MEB	LAURINBURG/MAXTON	NC	LPV200	1	99.512	2	99.488	1	99.442
MQI	DARE COUNTY RGNL	NC	LPV	2	99.465	1	99.429	1	99.422
MRH	MICHAEL J SMITH FLD	NC	LPV	2	99.474	1	99.430	1	99.422
MRN	FOOTHILLS RGNL	NC	LPV	1	99.530	1	99.530	1	99.453
MWK	MOUNT AIRY/SURRY COUNTY	NC	LPV	1	99.526	1	99.526	1	99.448
OAJ	ALBERT J ELLIS	NC	LPV200	2	99.494	3	99.466	1	99.430
OCW	WASHINGTON-WARREN	NC	LPV	2	99.500	3	99.463	1	99.430
ONX	CURRITUCK COUNTY RGNL	NC	LPV	2	99.488	1	99.429	2	99.422
PGV	PITT-GREENVILLE	NC	LPV	2	99.507	3	99.471	1	99.430
PMZ	PLYMOUTH MUNICIPAL	NC	LP	2	99.497	2	99.442	1	99.430
RCZ	RICHMOND COUNTY	NC	LPV	1	99.512	2	99.505	1	99.442
RDU	RALEIGH-DURHAM INTL	NC	LPV200	1	99.512	2	99.488	1	99.441
RHP	WESTERN CAROLINA RGNL	NC	LP	1	99.530	1	99.530	3	99.511
RUQ	MID-CAROLINA RGNL	NC	LPV200	1	99.526	2	99.525	1	99.442
RWI	ROCKY MOUNT/WILSON RGNL	NC	LPV	1	99.512	3	99.481	1	99.430
SCR	SILER CITY MUNICIPAL	NC	LPV	1	99.515	2	99.500	1	99.441
SOP	MOORE COUNTY	NC	LPV200	1	99.512	2	99.492	1	99.442
SUT	CAPE FEAR RGNL JETPORT/HOWIE F	NC	LPV	2	99.484	3	99.464	1	99.430
SVH	STATESVILLE RGNL	NC	LPV200	1	99.526	1	99.526	1	99.448
TDF	RALEIGH RGNL AT PERSON COUNTY	NC	LPV200	1	99.515	2	99.499	1	99.440
TTA	RALEIGH EXEC JETPORT AT SANFOR	NC	LPV200	1	99.512	2	99.491	1	99.441
UKF	WILKES COUNTY	NC	LPV200	1	99.526	1	99.526	1	99.452
VUJ	STANLY COUNTY	NC	LPV200	1	99.526	2	99.524	1	99.441
W03	WILSON INDUSTRIAL AIR CENTER	NC	LPV	1	99.512	3	99.481	1	99.430
W40	MOUNT OLIVE MUNICIPAL	NC	LPV	1	99.512	3	99.478	2	99.442
ZEF	ELKIN MUNICIPAL	NC	LP	1	99.526	1	99.526	1	99.452
06D	ROLLA MUNICIPAL	ND	LPV	9	99.248	13	99.091	12	98.886
20U	BEACH	ND	LPV	5	99.366	10	99.273	8	99.152
2C8	CAVALIER MUNICIPAL	ND	LPV	8	99.185	12	99.059	12	98.829
3H4	HILLSBORO MUNICIPAL	ND	LPV	9	99.272	13	99.163	10	98.940
46D	CARRINGTON MUNICIPAL	ND	LPV	8	99.294	12	99.184	11	98.954

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
4E7	ELLENDALE MUNICIPAL	ND	LPV	4	99.816	7	99.742	11	99.616
51D	EDGELEY MUNICIPAL	ND	LPV	7	99.346	9	99.266	12	99.120
5L0	LAKOTA MUNICIPAL	ND	LPV	9	99.250	12	99.140	11	98.926
5N8	CASSELTON ROBERT MILLER RGNL	ND	LPV	8	99.311	10	99.242	11	98.981
6L3	LISBON MUNICIPAL	ND	LPV	7	99.323	9	99.254	14	99.088
7L2	LINTON MUNICIPAL	ND	LPV	6	99.352	9	99.282	9	99.133
9D7	CANDO MUNICIPAL	ND	LPV	8	99.252	12	99.129	11	98.897
BAC	BARNES COUNTY MUNICIPAL	ND	LPV	8	99.307	10	99.236	11	98.977
BIS	BISMARCK MUNICIPAL	ND	LPV200	7	99.335	10	99.245	11	99.071
BWP	HARRY STERN	ND	LPV	7	99.331	9	99.284	12	99.104
BWW	BOWMAN RGNL	ND	LPV	6	99.397	6	99.337	9	99.182
D05	GARRISON MUNICIPAL	ND	LPV	8	99.307	11	99.202	11	98.975
D09	BOTTINEAU MUNICIPAL	ND	LPV	8	99.243	11	99.104	10	98.901
D55	ROBERTSON FLD	ND	LPV	10	99.216	12	99.078	12	98.847
D57	GLEN ULLIN RGNL	ND	LPV	4	99.793	9	99.712	9	99.556
D60	TIOGA MUNICIPAL	ND	LPV	7	99.272	8	99.182	12	98.967
DIK	DICKINSON/THEODORE ROOSEVELT R	ND	LPV200	6	99.352	9	99.272	10	99.127
DVL	DEVILS LAKE RGNL	ND	LPV200	8	99.255	12	99.138	10	98.919
FAR	HECTOR INTL	ND	LPV200	9	99.303	12	99.216	11	98.982
GAF	HUTSON FLD	ND	LPV	10	99.222	12	99.066	12	98.836
GFK	GRAND FORKS INTL	ND	LPV	9	99.236	12	99.108	11	98.896
GWR	GWINNER-ROGER MELROE FLD	ND	LPV	6	99.371	9	99.292	12	99.117
HEI	HETTINGER/JB LINDQUIST RGNL	ND	LPV	5	99.414	7	99.354	9	99.192
HZE	MERCER COUNTY RGNL	ND	LPV	7	99.327	9	99.221	12	99.012
ISN	SLOULIN FLD INTL	ND	LPV200	7	99.295	9	99.199	13	99.026
JMS	JAMESTOWN RGNL	ND	LPV200	8	99.319	10	99.237	11	98.988
K74	ROBERT ODEGAARD FLD	ND	LP	8	99.312	9	99.247	12	99.025
MOT	MINOT INTL	ND	LPV	8	99.257	12	99.142	11	98.954
RUG	RUGBY MUNICIPAL	ND	LP	8	99.248	12	99.135	10	98.910
S25	WATFORD CITY MUNICIPAL	ND	LPV	7	99.307	9	99.210	11	99.017
XWA	WILLISTON BASIN INTL	ND	LPV200	5	99.743	7	99.639	10	99.483
Y19	MANDAN RGNL/LAWLER FLD	ND	LPV	7	99.336	10	99.246	11	99.088
07K	CENTRAL CITY MUNICIPAL - LARRY REIN	NE	LPV	2	99.496	2	99.474	5	99.457
08K	HARVARD STATE	NE	LPV	2	99.500	2	99.474	3	99.464
0B4	HARTINGTON MUNICIPAL/ BUD BECKER FL	NE	LPV	2	99.490	3	99.450	5	99.383
0C4	PENDER MUNICIPAL	NE	LPV	2	99.492	3	99.471	5	99.403

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
0F4	LOUP CITY MUNICIPAL	NE	LPV	2	99.492	2	99.474	4	99.426
0G3	TECUMSEH MUNICIPAL	NE	LPV	2	99.515	2	99.485	3	99.466
0V3	PIONEER VILLAGE FLD	NE	LPV	2	99.499	2	99.474	2	99.467
12K	SUPERIOR MUNICIPAL	NE	LPV	2	99.515	2	99.474	2	99.467
47V	CURTIS MUNICIPAL	NE	LPV	2	99.486	2	99.474	2	99.467
4D9	ALMA MUNICIPAL	NE	LPV	2	99.501	2	99.474	2	99.467
4V9	ANTELOPE COUNTY	NE	LPV	2	99.491	3	99.448	5	99.395
6K3	CREIGHTON MUNICIPAL	NE	LPV	2	99.490	3	99.447	5	99.375
7V7	RED CLOUD MUNICIPAL	NE	LPV	2	99.503	2	99.474	2	99.467
8V2	STUART-ATKINSON MUNICIPAL	NE	LPV	2	99.488	3	99.448	5	99.381
93Y	DAVID CITY MUNICIPAL	NE	LPV	2	99.496	2	99.481	5	99.444
9V5	MODISETT	NE	LPV	2	99.477	2	99.473	8	99.408
AFK	NEBRASKA CITY MUNICIPAL	NE	LPV	2	99.501	2	99.485	3	99.461
AHQ	WAHOO MUNICIPAL	NE	LPV	2	99.496	2	99.484	5	99.444
AIA	ALLIANCE MUNICIPAL	NE	LPV200	2	99.478	2	99.477	4	99.448
ANW	AINSWORTH RGNL	NE	LPV200	2	99.485	3	99.449	6	99.376
AUH	AURORA MUNICIPAL - AL POTTER FLD	NE	LPV	2	99.498	2	99.474	3	99.461
BBW	BROKEN BOW MUNICIPAL/KEITH GLAZE FL	NE	LPV	2	99.486	3	99.467	4	99.421
BFF	WESTERN NEBRASKA RGNL/WILLIAM	NE	LPV	2	99.478	2	99.474	4	99.464
BIE	BEATRICE MUNICIPAL	NE	LPV200	2	99.515	2	99.485	2	99.467
BTA	BLAIR MUNICIPAL	NE	LPV	2	99.495	2	99.482	4	99.424
BUB	CRAM FLD	NE	LPV	2	99.489	3	99.457	4	99.415
BVN	ALBION MUNICIPAL	NE	LPV	2	99.493	3	99.459	4	99.419
CDR	CHADRON MUNICIPAL	NE	LPV200	2	99.477	2	99.473	6	99.415
CEK	CRETE MUNICIPAL	NE	LPV	2	99.501	2	99.485	3	99.463
CSB	CAMBRIDGE MUNICIPAL	NE	LPV	2	99.498	2	99.474	2	99.467
CZD	COZAD MUNICIPAL	NE	LPV	2	99.488	2	99.474	3	99.465
EAR	KEARNEY RGNL	NE	LPV200	2	99.497	2	99.474	3	99.465
FBY	FAIRBURY MUNICIPAL	NE	LPV	2	99.515	2	99.485	2	99.467
FET	FREMONT MUNICIPAL	NE	LPV	2	99.495	2	99.482	4	99.423
FMZ	FAIRMONT STATE AIRFIELD	NE	LPV	2	99.501	2	99.475	3	99.464
FNB	BRENNER FLD	NE	LPV	2	99.515	2	99.485	3	99.467
GGF	GRANT MUNICIPAL	NE	LPV	2	99.488	2	99.477	2	99.466
GRI	CENTRAL NEBRASKA RGNL	NE	LPV	2	99.497	2	99.474	3	99.461
GRN	GORDON MUNICIPAL	NE	LPV	2	99.477	3	99.463	8	99.400
HDE	BREWSTER FLD	NE	LPV	2	99.498	2	99.474	2	99.467

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
HSI	HASTINGS MUNICIPAL	NE	LPV	2	99.500	2	99.474	3	99.465
IBM	KIMBALL MUNICIPAL/ROBERT E ARRAJ FL	NE	LPV	2	99.482	2	99.474	2	99.467
IML	IMPERIAL MUNICIPAL	NE	LPV	2	99.485	2	99.474	2	99.467
JYR	YORK MUNICIPAL	NE	LPV	2	99.498	2	99.474	3	99.460
K01	FARINGTON FLD	NE	LPV	1	99.944	1	99.914	2	99.893
LBF	NORTH PLATTE RGNL/LEE BIRD FLD	NE	LPV200	2	99.485	2	99.474	5	99.442
LCG	WAYNE MUNICIPAL/ STAN MORRIS FLD	NE	LPV	2	99.491	3	99.464	5	99.390
LNK	LINCOLN	NE	LPV200	2	99.499	2	99.485	3	99.459
LXN	JIM KELLY FLD	NE	LPV	2	99.491	2	99.474	3	99.466
MCK	MC COOK BEN NELSON RGNL	NE	LPV	2	99.498	2	99.474	2	99.467
MLE	MILLARD	NE	LPV	2	99.496	2	99.485	3	99.446
ODX	EVELYN SHARP FLD	NE	LPV	2	99.490	3	99.461	4	99.420
OFK	NORFOLK RGNL/KARL STEFAN MEML	NE	LPV200	2	99.492	3	99.456	5	99.415
OGA	SEARLE FLD	NE	LPV	2	99.479	2	99.477	3	99.450
OKS	GARDEN COUNTY/KING RHILEY FLD	NE	LPV	2	99.479	2	99.477	3	99.450
OLU	COLUMBUS MUNICIPAL	NE	LPV	2	99.495	2	99.473	4	99.422
OMA	EPPLEY AIRFIELD	NE	LPV200	2	99.496	2	99.483	3	99.446
ONL	THE O'NEILL MUNICIPAL-JOHN L BAKER	NE	LPV	2	99.489	3	99.447	5	99.383
PMV	PLATTSMOUTH MUNICIPAL/DOUGLAS V DUE	NE	LPV	2	99.498	2	99.485	3	99.449
RBE	ROCK COUNTY	NE	LPV	2	99.485	3	99.448	6	99.374
SCB	SCRIBNER STATE	NE	LPV	2	99.494	2	99.481	4	99.422
SNY	SIDNEY MUNICIPAL/LLOYD W CARR FLD	NE	LPV	2	99.488	2	99.474	2	99.467
SWT	SEWARD MUNICIPAL	NE	LPV	2	99.499	2	99.485	3	99.459
TIF	THOMAS COUNTY	NE	LPV	2	99.476	3	99.456	5	99.416
TQE	TEKAMAH MUNICIPAL	NE	LPV	2	99.494	2	99.481	4	99.421
VTN	MILLER FLD	NE	LPV	2	99.477	4	99.447	8	99.363
ASH	BOIRE FLD	NH	LPV200	4	99.387	3	99.309	3	99.263
CON	CONCORD MUNICIPAL	NH	LPV	5	99.380	3	99.304	3	99.261
DAW	SKYHAVEN	NH	LPV	6	99.380	3	99.303	5	99.264
EEN	DILLANT/HOPKINS	NH	LPV	4	99.379	3	99.327	3	99.269
HIE	MOUNT WASHINGTON RGNL	NH	LPV	5	99.363	3	99.291	8	99.226
LCI	LACONIA MUNICIPAL	NH	LPV	5	99.365	3	99.311	4	99.257
LEB	LEBANON MUNICIPAL	NH	LPV	4	99.366	3	99.312	3	99.259
MHT	MANCHESTER BOSTON RGNL	NH	LPV200	4	99.387	3	99.304	3	99.263
PSM	PORTSMOUTH INTL AT PEASE	NH	LPV200	5	99.385	3	99.303	4	99.262
47N	CENTRAL JERSEY RGNL	NJ	LP	2	99.453	4	99.415	4	99.340

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
4N1	GREENWOOD LAKE	NJ	LP	3	99.442	4	99.395	4	99.332
ACY	ATLANTIC CITY INTL	NJ	LPV200	2	99.481	3	99.457	4	99.383
CDW	ESSEX COUNTY	NJ	LPV	3	99.449	4	99.400	4	99.334
EWR	NEWARK LIBERTY INTL	NJ	LPV200	3	99.451	4	99.408	4	99.336
MIV	MILLVILLE MUNICIPAL	NJ	LPV200	2	99.503	3	99.487	4	99.396
MJX	OCEAN COUNTY	NJ	LPV	2	99.459	2	99.436	5	99.359
MMU	MORRISTOWN MUNICIPAL	NJ	LPV200	3	99.450	4	99.405	4	99.334
N12	LAKEWOOD	NJ	LP	2	99.459	3	99.434	4	99.338
N14	FLYING W	NJ	LPV	2	99.483	3	99.455	4	99.356
N40	SKY MANOR	NJ	LP	2	99.465	4	99.420	4	99.341
TEB	TETERBORO	NJ	LPV	3	99.447	4	99.399	4	99.333
TTN	TRENTON MERCER	NJ	LPV	2	99.464	3	99.432	4	99.350
VAY	SOUTH JERSEY RGNL	NJ	LP	2	99.483	3	99.456	4	99.355
WWD	CAPE MAY COUNTY	NJ	LPV	1	99.507	2	99.485	4	99.392
CVB2	VOISEY'S BAY	NL	LPV	39	97.108	44	96.956	70	95.155
CYDF	DEER LAKE	NL	LPV200	28	98.164	29	98.111	44	96.780
CYJT	STEPHENVILLE	NL	LPV	21	98.404	22	98.378	42	97.076
CYQX	GANDER INTL	NL	LPV200	33	97.780	36	97.604	118	95.275
CYWK	WABUSH	NL	LPV	33	97.383	34	97.184	50	96.269
CYYR	GOOSE BAY	NL	LPV	32	97.127	36	97.040	66	95.547
CYYT	ST. JOHN'S INTL	NL	LPV	32	97.818	37	97.569	209	93.864
CZUM	CHURCHILL FALLS	NL	LPV	30	97.145	31	97.052	54	95.901
LFVM	MIQUELON	NL	LPV	18	98.463	20	98.403	52	96.986
LFVP	ST PIERRE	NL	LPV	18	98.475	19	98.422	53	96.997
0E0	MORIARTY MUNICIPAL	NM	LPV	1	99.571	2	99.540	6	99.499
ABQ	ALBUQUERQUE INTL SUNPORT	NM	LPV200	1	99.571	2	99.540	10	99.498
AEG	DOUBLE EAGLE II	NM	LPV200	1	99.571	2	99.540	10	99.496
ALM	ALAMOGORDO-WHITE SANDS RGNL	NM	LPV	2	99.564	3	99.535	12	99.389
ATS	ARTESIA MUNICIPAL	NM	LPV200	1	99.570	2	99.557	13	99.433
CAO	CLAYTON MUNICIPAL AIRPARK	NM	LPV	2	99.547	2	99.498	3	99.488
CNM	CAVERN CITY AIR TRML	NM	LPV200	1	99.570	2	99.541	13	99.381
CVN	CLOVIS RGNL	NM	LPV200	1	99.571	3	99.533	3	99.487
DMN	DEMING MUNICIPAL	NM	LPV	5	99.559	5	99.513	14	99.340
E06	LEA COUNTY/ZIP FRANKLIN MEML	NM	LPV	1	99.570	2	99.567	6	99.455
FMN	FOUR CORNERS RGNL	NM	LPV200	1	99.574	2	99.523	8	99.508
HOB	LEA COUNTY RGNL	NM	LPV	1	99.570	2	99.569	6	99.437

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
LAM	LOS ALAMOS	NM	LP	1	99.571	2	99.513	7	99.496
LRU	LAS CRUCES INTL	NM	LPV200	4	99.559	4	99.515	12	99.339
ONM	SOCORRO MUNICIPAL	NM	LP	1	99.571	2	99.548	11	99.466
ROW	ROSWELL AIR CENTER	NM	LPV	1	99.570	1	99.570	10	99.454
SAF	SANTA FE MUNICIPAL	NM	LPV200	1	99.571	2	99.522	9	99.494
SRR	SIERRA BLANCA RGNL	NM	LPV200	1	99.571	1	99.571	11	99.454
SVC	GRANT COUNTY	NM	LPV	3	99.562	3	99.521	14	99.357
CCQ3	DEBERT	NS	LPV	9	98.928	10	98.908	12	98.644
CYHZ	STANFIELD INTL	NS	LPV200	9	99.016	11	98.973	12	98.678
CYQI	YARMOUTH	NS	LPV	5	99.869	7	99.784	8	99.455
CYQY	J.A. DOUGLAS MCCURDY	NS	LPV200	12	98.790	11	98.745	28	98.228
CYTN	TRENTON	NS	LPV	9	98.892	9	98.882	13	98.571
CYZX	GREENWOOD	NS	LP	10	99.067	10	99.023	11	98.740
CDK2	DIAVIK	NT	LPV	31	98.150	38	97.540	133	94.158
CEU9	SAMBAA K'E	NT	LPV	18	99.054	27	98.715	57	97.391
CGK2	GAHCHO KUE	NT	LPV	28	98.243	38	97.572	109	94.953
CSK6	SNAP LAKE	NT	LPV	31	98.304	34	97.637	111	95.111
CYEV	INUVIK (MIKE ZUBKO)	NT	LPV	28	97.951	47	97.449	113	94.831
CYFR	FORT RESOLUTION	NT	LPV	27	98.773	32	98.345	67	96.730
CYFS	FORT SIMPSON	NT	LPV	23	98.232	32	97.898	64	96.374
CYGH	FORT GOOD HOPE	NT	LPV	23	98.003	46	97.554	117	95.053
CYHY	MERLYN CARTER AIRPORT	NT	LPV	25	98.355	34	97.930	64	96.464
CYJP	FORT PROVIDENCE	NT	LPV	24	98.849	33	98.414	57	97.005
CYKD	FREDDIE CARMICHAEL	NT	LPV	27	98.001	46	97.525	121	95.137
CYOA	EKATI	NT	LPV	33	98.136	37	97.537	138	94.053
CYOC	OLD CROW	NT	LPV	24	98.718	31	98.305	85	96.964
CYPC	PAULATUK (NORA ALIQATCHIALUK RUBEN)	NT	LPV	33	97.631	58	96.825	156	92.790
CYSM	FORT SMITH	NT	LPV	19	98.969	28	98.636	66	96.954
CYSY	SACHS HARBOUR (DAVID NASOGALUAK JR. SAARYUAQ)	NT	LPV	38	97.426	78	96.045	208	91.269
CYUB	JAMES GRUBEN	NT	LPV	34	97.826	57	97.257	126	94.232
CYVQ	NORMAN WELLS	NT	LPV	23	98.037	42	97.637	111	95.309
CYWJ	DELINE	NT	LPV	23	98.505	37	98.032	114	95.386
CYZF	YELLOWKNIFE	NT	LPV200	24	98.524	33	97.988	74	96.110
CZFM	FORT MCPHERSON	NT	LPV	28	98.045	41	97.615	120	95.651
CZFN	TULITA	NT	LPV	21	98.610	35	98.169	101	95.865

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CMB2	MEADOWBANK	NU	LPV	72	95.367	78	94.577	197	88.845
CMR2	MARY RIVER	NU	LPV	445	86.374	551	78.922	819	50.782
CYBK	BAKER LAKE	NU	LPV	65	95.567	72	94.821	209	89.977
CYCS	CHESTERFIELD INLET	NU	LPV	60	96.409	59	95.696	193	91.006
CYEK	ARVIAT	NU	LPV	54	96.737	59	96.229	143	92.860
CYFB	IQALUIT	NU	LPV200	119	93.871	136	93.236	242	86.572
CYRB	RESOLUTE BAY	NU	LPV	380	88.991	509	80.468	1062	45.156
CYRT	RANKIN INLET	NU	LPV	56	95.825	66	95.106	178	90.810
CYSK	SANIKILUAQ	NU	LPV	38	97.375	44	97.166	70	95.665
CYTE	KINNGAIT AIRPORT	NU	LPV	98	94.302	110	93.785	203	87.751
CYYH	TALOYOAK	NU	LPV	104	93.944	129	92.086	301	81.317
05U	EUREKA	NV	LP	1	99.574	2	99.548	11	99.464
10U	OWYHEE	NV	LPV200	1	99.986	1	99.937	3	99.896
67L	MESQUITE	NV	LP	0	100	0	100	10	99.851
BAM	BATTLE MOUNTAIN	NV	LPV	1	99.574	2	99.527	10	99.485
BVU	BOULDER CITY MUNICIPAL	NV	LP	0	100	3	99.978	9	99.800
CXP	CARSON CITY	NV	LP	1	99.574	2	99.571	11	99.405
ELY	ELY/YELLAND FLD	NV	LPV	1	99.574	2	99.559	10	99.467
HTH	HAWTHORNE INDUSTRIAL	NV	LP	0	100	2	99.980	10	99.824
LAS	HARRY REID INTL	NV	LPV200	1	99.574	3	99.554	10	99.371
LOL	DERBY FLD	NV	LPV	1	99.574	3	99.566	11	99.437
RNO	RENO/TAHOE INTL	NV	LPV	1	99.574	2	99.572	11	99.411
RTS	RENO/STEAD	NV	LPV	1	99.574	2	99.572	11	99.416
SPZ	SILVER SPRINGS	NV	LPV	1	99.574	3	99.572	11	99.409
TPH	TONOPAH	NV	LP	1	99.574	2	99.544	11	99.399
VGT	NORTH LAS VEGAS	NV	LP	1	99.574	3	99.554	10	99.373
WMC	WINNEMUCCA MUNICIPAL	NV	LPV	1	99.574	3	99.540	10	99.476
06N	RANDALL	NY	LP	3	99.435	4	99.391	3	99.312
0G7	FINGER LAKES RGNL	NY	LPV	3	99.432	4	99.392	3	99.300
1B1	COLUMBIA COUNTY	NY	LPV	3	99.420	4	99.373	3	99.295
20N	KINGSTON-ULSTER	NY	LPV	3	99.422	4	99.376	3	99.297
44N	SKY ACRES	NY	LPV	3	99.426	4	99.378	3	99.297
4B6	TICONDEROGA MUNICIPAL	NY	LPV	4	99.373	3	99.321	3	99.274
5B2	SARATOGA COUNTY	NY	LPV	4	99.413	5	99.374	3	99.285
5G0	LE ROY	NY	LP	3	99.446	4	99.411	4	99.350
9G0	BUFFALO AIRFIELD	NY	LP	3	99.456	4	99.441	4	99.362

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
9G3	AKRON/JESSON FLD	NY	LP	3	99.456	4	99.414	4	99.358
ALB	ALBANY INTL	NY	LPV200	4	99.416	4	99.375	3	99.290
ART	WATERTOWN INTL	NY	LPV200	4	99.417	4	99.376	3	99.292
BGM	GREATER BINGHAMTON/EDWIN A LIN	NY	LPV200	3	99.430	4	99.389	4	99.316
BUF	BUFFALO NIAGARA INTL	NY	LPV200	3	99.456	4	99.434	4	99.361
ELM	ELMIRA/CORNING RGNL	NY	LPV200	3	99.448	4	99.398	4	99.345
ELZ	WELLSVILLE MUNICIPAL/TARANTINE FLD	NY	LPV200	3	99.463	5	99.444	4	99.353
FOK	FRANCIS S GABRESKI	NY	LPV200	3	99.437	4	99.379	4	99.298
FRG	REPUBLIC	NY	LPV200	3	99.444	4	99.386	5	99.318
FZY	OSWEGO COUNTY	NY	LPV	3	99.426	5	99.396	3	99.300
GFL	FLOYD BENNETT MEML	NY	LPV200	4	99.390	3	99.329	3	99.285
GVQ	GENESEE COUNTY	NY	LPV200	3	99.449	4	99.405	4	99.352
HPN	WESTCHESTER COUNTY	NY	LPV	3	99.441	4	99.393	3	99.312
HTF	HORNELL MUNICIPAL	NY	LPV	3	99.456	5	99.431	4	99.347
HTO	EAST HAMPTON	NY	LPV	3	99.434	4	99.374	4	99.298
HWV	BROOKHAVEN	NY	LPV	3	99.440	4	99.379	4	99.302
IAG	NIAGARA FALLS INTL	NY	LPV	3	99.457	4	99.434	4	99.376
ISP	LONG ISLAND MAC ARTHUR	NY	LPV200	2	99.444	4	99.381	4	99.301
ITH	ITHACA TOMPKINS INTL	NY	LPV	3	99.435	4	99.392	4	99.313
IUA	CANANDAIGUA	NY	LPV	2	99.941	3	99.919	3	99.875
JFK	JOHN F KENNEDY INTL	NY	LPV200	2	99.448	4	99.403	4	99.330
JHW	CHAUTAUQUA COUNTY/JAMESTOWN	NY	LPV200	3	99.487	3	99.460	3	99.409
K09	PISECO	NY	LP	4	99.413	4	99.378	3	99.285
LGA	LAGUARDIA	NY	LPV	3	99.447	4	99.397	4	99.334
MAL	MALONE-DUFORT	NY	LPV	4	99.380	3	99.312	4	99.276
MGJ	ORANGE COUNTY	NY	LPV	3	99.435	4	99.390	3	99.312
MSS	MASSENA INTL-RICHARDS FLD	NY	LPV	3	99.386	3	99.335	4	99.277
MSV	SULLIVAN COUNTY INTL	NY	LPV	3	99.429	4	99.387	3	99.304
N23	SIDNEY MUNICIPAL	NY	LP	3	99.426	4	99.385	3	99.302
N66	ALBERT S NADER RGNL	NY	LPV	3	99.426	4	99.380	3	99.300
NY0	FULTON COUNTY	NY	LPV	4	99.414	4	99.374	3	99.290
OGS	OGDENSBURG INTL	NY	LPV	3	99.392	3	99.352	3	99.284
OIC	LT WARREN EATON	NY	LP	3	99.426	4	99.381	3	99.300
OLE	CATTARAUGUS COUNTY-OLEAN	NY	LPV	3	99.468	4	99.448	4	99.369
PBG	PLATTSBURGH INTL	NY	LPV	4	99.370	3	99.301	5	99.254
PEO	PENN YAN	NY	LPV	3	99.443	4	99.397	4	99.318

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
POU	HUDSON VALLEY RGNL	NY	LPV	3	99.428	4	99.383	3	99.297
RME	GRIFFISS INTL	NY	LPV200	4	99.420	4	99.381	3	99.300
ROC	FREDERICK DOUGLASS/GREATER ROC	NY	LPV200	3	99.445	4	99.410	5	99.342
SCH	SCHENECTADY COUNTY	NY	LPV200	4	99.414	4	99.373	3	99.285
SDC	WILLIAMSON-SODUS	NY	LPV	3	99.428	5	99.405	3	99.300
SLK	ADIRONDACK RGNL	NY	LPV200	4	99.384	3	99.320	3	99.282
SWF	NEW YORK STEWART INTL	NY	LPV200	3	99.432	4	99.388	3	99.297
SYR	SYRACUSE HANCOCK INTL	NY	LPV200	3	99.426	4	99.384	3	99.300
VGC	HAMILTON MUNICIPAL	NY	LPV	3	99.426	4	99.383	3	99.300
0G6	WILLIAMS COUNTY	OH	LPV	2	99.522	2	99.515	3	99.486
10G	HOLMES COUNTY	OH	LP	1	99.537	2	99.518	2	99.459
16G	SENECA COUNTY	OH	LPV	2	99.534	2	99.515	3	99.492
17G	PORT BUCYRUS-CRAWFORD COUNTY	OH	LP	2	99.543	2	99.515	3	99.492
1G0	WOOD COUNTY	OH	LPV	2	99.533	2	99.515	4	99.481
1G3	KENT STATE UNIVERSITY	OH	LPV	2	99.532	3	99.506	3	99.413
2G2	GEARY A BATES/JEFFERSON COUNTY	OH	LPV	1	99.537	2	99.512	3	99.449
4G5	MONROE COUNTY	OH	LP	1	99.537	1	99.537	2	99.468
4I3	KNOX COUNTY	OH	LPV200	1	99.544	2	99.529	4	99.487
5A1	NORWALK-HURON COUNTY	OH	LP	2	99.523	2	99.508	5	99.455
6G5	BARNESVILLE-BRADFIELD	OH	LP	1	99.537	2	99.529	2	99.464
7G8	GEAUGA COUNTY	OH	LP	2	99.531	4	99.480	3	99.407
AKR	AKRON FULTON INTL	OH	LP	1	99.537	2	99.508	4	99.429
AOH	LIMA ALLEN COUNTY	OH	LPV200	2	99.541	2	99.515	3	99.494
AXV	NEIL ARMSTRONG	OH	LPV	1	99.544	2	99.518	3	99.498
BJJ	WAYNE COUNTY	OH	LPV	1	99.537	2	99.508	3	99.449
BKL	BURKE LAKEFRONT	OH	LPV	2	99.523	4	99.499	3	99.409
CAK	AKRON-CANTON RGNL	OH	LPV200	1	99.537	2	99.515	3	99.444
CDI	CAMBRIDGE MUNICIPAL	OH	LP	1	99.544	2	99.543	2	99.463
CGF	CUYAHOGA COUNTY	OH	LPV200	2	99.523	3	99.479	3	99.408
CLE	CLEVELAND-HOPKINS INTL	OH	LPV200	2	99.523	2	99.508	3	99.411
CMH	JOHN GLENN COLUMBUS INTL	OH	LPV200	1	99.544	2	99.544	3	99.502
CQA	LAKEFIELD	OH	LPV	1	99.544	2	99.518	3	99.499
CYO	PICKAWAY COUNTY MEML	OH	LPV	1	99.544	1	99.544	4	99.519
DAY	JAMES M COX DAYTON INTL	OH	LPV200	1	99.544	2	99.539	3	99.504
DLZ	DELAWARE MUNICIPAL/JIM MOORE FLD	OH	LPV	1	99.544	2	99.530	3	99.501
EDJ	BELLEFONTAINE RGNL	OH	LPV	1	99.544	2	99.521	3	99.501

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
EOP	PIKE COUNTY	OH	LP	1	99.544	1	99.544	3	99.532
FDY	FINDLAY	OH	LPV	2	99.536	2	99.515	3	99.493
FZI	FOSTORIA METRO	OH	LPV	2	99.534	2	99.515	3	99.487
GQQ	GALION MUNICIPAL	OH	LP	1	99.544	2	99.515	4	99.490
HAO	BUTLER COUNTY RGNL/HOGAN FLD	OH	LPV	1	99.544	1	99.544	2	99.520
HOC	HIGHLAND COUNTY	OH	LP	1	99.544	1	99.544	2	99.528
HZY	NORTHEAST OHIO RGNL	OH	LPV	2	99.520	3	99.470	3	99.406
I10	NOBLE COUNTY	OH	LP	1	99.544	1	99.544	2	99.466
I19	GREENE COUNTY/LEWIS A JACKSON	OH	LPV	1	99.544	2	99.544	3	99.505
I40	RICHARD DOWNING	OH	LPV	1	99.537	2	99.522	2	99.459
I66	CLINTON FLD	OH	LPV	1	99.544	1	99.544	3	99.521
I68	WARREN COUNTY/JOHN LANE FLD	OH	LPV	1	99.544	1	99.544	2	99.524
I69	CLERMONT COUNTY	OH	LP	1	99.544	1	99.544	2	99.525
I74	GRIMES FLD	OH	LPV	1	99.544	2	99.537	3	99.502
ILN	WILMINGTON AIR PARK	OH	LPV200	1	99.544	1	99.544	3	99.522
LCK	RICKENBACKER INTL	OH	LPV200	1	99.544	1	99.544	4	99.505
LHQ	FAIRFIELD COUNTY	OH	LPV200	1	99.544	1	99.544	4	99.505
LNN	LAKE COUNTY EXEC	OH	LPV	2	99.521	3	99.475	3	99.406
LPR	LORAIN COUNTY RGNL	OH	LPV200	2	99.523	2	99.508	3	99.417
LUK	CINCINNATI MUNICIPAL/LUNKEN FLD	OH	LPV	1	99.544	1	99.544	2	99.525
MFD	MANSFIELD LAHM RGNL	OH	LPV200	1	99.537	2	99.508	3	99.473
MGY	DAYTON-WRIGHT BROTHERS	OH	LPV	1	99.544	1	99.544	2	99.517
MNN	MARION MUNICIPAL	OH	LPV	1	99.544	2	99.516	3	99.494
MRT	UNION COUNTY	OH	LP	1	99.544	2	99.532	3	99.501
MWO	MIDDLETOWN RGNL/HOOK FLD	OH	LPV	1	99.544	1	99.544	2	99.517
OSU	OHIO STATE UNIVERSITY	OH	LPV200	1	99.544	2	99.536	3	99.501
OWX	PUTNAM COUNTY	OH	LPV	2	99.536	2	99.515	3	99.489
OXD	MIAMI UNIVERSITY	OH	LPV	1	99.544	2	99.539	2	99.517
PCW	ERIE-OTTAWA INTL	OH	LPV	2	99.523	2	99.508	4	99.437
PHD	HARRY CLEVER FLD	OH	LP	1	99.537	2	99.520	3	99.454
PMH	GREATER PORTSMOUTH RGNL	OH	LPV	1	99.544	1	99.544	2	99.536
POV	PORTAGE COUNTY	OH	LPV	2	99.533	3	99.504	3	99.412
RZT	ROSS COUNTY	OH	LPV	1	99.544	1	99.544	4	99.520
S24	SANDUSKY COUNTY RGNL	OH	LPV	2	99.524	2	99.508	5	99.471
SCA	SIDNEY MUNICIPAL	OH	LPV	1	99.544	2	99.528	3	99.503
SGH	SPRINGFIELD/BECKLEY MUNICIPAL	OH	LPV200	1	99.544	2	99.543	3	99.505

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
TDZ	TOLEDO EXEC	OH	LPV	2	99.531	2	99.515	4	99.456
TOL	EUGENE F KRANZ TOLEDO EXPRESS	OH	LPV200	2	99.522	2	99.515	4	99.478
TSO	CARROLL COUNTY-TOLSON	OH	LP	1	99.537	2	99.520	3	99.450
TZR	BOLTON FLD	OH	LPV	1	99.544	2	99.544	3	99.503
UNI	OHIO UNIVERSITY	OH	LPV200	1	99.544	1	99.544	2	99.514
USE	FULTON COUNTY	OH	LPV	2	99.522	2	99.515	4	99.469
UYF	MADISON COUNTY	OH	LPV	1	99.544	2	99.543	3	99.503
VES	DARKE COUNTY	OH	LPV	1	99.544	2	99.527	3	99.503
VTA	NEWARK-HEATH	OH	LP	1	99.544	2	99.544	4	99.490
YNG	YOUNGSTOWN/WARREN RGNL	OH	LPV	1	99.537	3	99.496	3	99.409
ZZV	ZANESVILLE MUNICIPAL	OH	LPV200	1	99.544	1	99.544	2	99.463
1F0	ARDMORE DOWNTOWN EXEC	OK	LP	2	99.567	2	99.559	4	99.498
1K8	SOUTH GRAND LAKE RGNL	OK	LPV	2	99.552	2	99.522	3	99.492
1O4	THOMAS MUNICIPAL	OK	LPV	2	99.546	3	99.542	3	99.468
2K4	SCOTT FLD	OK	LPV	2	99.549	2	99.544	4	99.466
3F7	JONES MEML	OK	LPV	2	99.552	3	99.540	3	99.490
4O4	MC CURTAIN COUNTY RGNL	OK	LP	1	99.570	1	99.570	4	99.516
6K4	FAIRVIEW MUNICIPAL	OK	LPV	2	99.547	3	99.515	3	99.467
80F	ANTLERS MUNICIPAL	OK	LPV	2	99.567	2	99.560	4	99.522
ADH	ADA RGNL	OK	LPV	2	99.550	2	99.550	4	99.498
ADM	ARDMORE MUNICIPAL	OK	LPV	2	99.567	2	99.557	4	99.501
AVK	ALVA RGNL	OK	LPV	2	99.547	3	99.511	3	99.465
AXS	ALTUS/QUARTZ MOUNTAIN RGNL	OK	LPV	2	99.555	2	99.548	4	99.469
BKN	BLACKWELL-TONKAWA MUNICIPAL	OK	LPV	2	99.549	2	99.521	3	99.469
BVO	BARTLESVILLE MUNICIPAL	OK	LPV	2	99.550	2	99.522	3	99.490
CHK	CHICKASHA MUNICIPAL	OK	LPV200	2	99.548	2	99.548	3	99.479
CLK	CLINTON RGNL	OK	LPV	2	99.546	3	99.542	3	99.463
CSM	CLINTON/SHERMAN	OK	LPV200	2	99.545	2	99.545	3	99.468
CUH	CUSHING MUNICIPAL	OK	LPV	2	99.551	3	99.539	2	99.471
DUA	DURANT RGNL/EAKER FLD	OK	LPV	2	99.567	2	99.559	3	99.504
DUC	HALLIBURTON FLD	OK	LPV200	2	99.567	2	99.554	3	99.481
ELK	ELK CITY RGNL BUSINESS	OK	LPV	2	99.545	3	99.531	3	99.466
F22	PERRY MUNICIPAL	OK	LPV	2	99.549	3	99.535	3	99.470
FDR	FREDERICK RGNL	OK	LPV200	1	99.570	2	99.555	3	99.480
GCM	CLAREMORE RGNL	OK	LPV	2	99.552	2	99.522	3	99.490
GMJ	GROVE MUNICIPAL	OK	LPV	2	99.552	2	99.522	3	99.492

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
GOK	GUTHRIE/EDMOND RGNL	OK	LPV	2	99.549	3	99.542	2	99.471
GUY	GUYMON MUNICIPAL	OK	LPV	2	99.540	2	99.504	3	99.466
GZL	STIGLER RGNL	OK	LPV	2	99.554	2	99.554	4	99.499
H71	MID-AMERICA INDUSTRIAL	OK	LPV	2	99.552	2	99.522	3	99.490
HBR	HOBART RGNL	OK	LPV	2	99.549	2	99.545	4	99.467
HHW	STAN STAMPER MUNICIPAL	OK	LPV	2	99.567	2	99.560	4	99.518
HSD	SUNDANCE	OK	LPV	2	99.549	3	99.547	2	99.475
LAW	LAWTON-FORT SILL RGNL	OK	LPV200	2	99.567	2	99.554	3	99.481
MKO	MUSKOGEE-DAVIS RGNL	OK	LPV	2	99.554	3	99.541	3	99.493
MLC	MC ALESTER RGNL	OK	LPV	2	99.552	2	99.552	4	99.498
OJA	WEATHERFORD STAFFORD	OK	LPV	2	99.546	3	99.545	3	99.464
OKC	WILL ROGERS WORLD	OK	LPV200	2	99.549	3	99.547	3	99.475
OKM	OKMULGEE RGNL	OK	LPV200	2	99.552	3	99.542	3	99.492
OUN	UNIVERSITY OF OKLAHOMA WESTHEI	OK	LPV200	2	99.549	2	99.549	3	99.476
OWP	WILLIAM R POGUE MUNICIPAL	OK	LPV	2	99.552	2	99.522	3	99.490
PNC	PONCA CITY RGNL	OK	LPV	2	99.549	2	99.523	3	99.469
PVJ	PAULS VALLEY MUNICIPAL	OK	LPV200	2	99.549	2	99.549	4	99.494
PWA	WILEY POST	OK	LPV200	2	99.549	3	99.547	2	99.464
RCE	CLARENCE E PAGE MUNICIPAL	OK	LPV	2	99.548	3	99.547	2	99.464
RKR	ROBERT S KERR	OK	LPV	2	99.566	2	99.566	4	99.501
RQO	EL RENO RGNL	OK	LPV	2	99.548	3	99.546	3	99.465
RVS	TULSA RIVERSIDE	OK	LPV200	2	99.552	3	99.537	3	99.490
SNL	SHAWNEE RGNL	OK	LPV200	2	99.550	3	99.549	4	99.490
SWO	STILLWATER RGNL	OK	LPV200	2	99.550	3	99.534	2	99.471
TQH	TAHLEQUAH MUNICIPAL	OK	LPV	2	99.554	3	99.537	3	99.490
TUL	TULSA INTL	OK	LPV200	2	99.552	2	99.522	3	99.490
WDG	ENID WOODRING RGNL	OK	LPV200	2	99.549	4	99.534	3	99.469
WWR	WEST WOODWARD	OK	LPV	2	99.545	3	99.512	3	99.465
CNV8	EDENVALE	ON	LPV	2	99.933	2	99.924	4	99.884
CNY3	COLLINGWOOD	ON	LPV	3	99.451	4	99.446	5	99.366
CYAC	CAT LAKE	ON	LPV	10	98.893	13	98.769	25	98.358
CYAM	SAULT STE. MARIE	ON	LPV200	6	99.360	7	99.338	15	99.133
CYCC	CORNWALL REGIONAL	ON	LPV	4	99.376	3	99.309	7	99.265
CYCK	CHATHAM-KENT	ON	LPV	1	99.981	2	99.937	2	99.918
CYEE	HURONIA	ON	LPV	3	99.920	3	99.916	5	99.886
CYFA	FORT ALBANY	ON	LPV	22	99.202	28	98.966	38	97.918

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CYGK	KINGSTON	ON	LPV	3	99.929	3	99.895	2	99.856
CYHD	DRYDEN REGIONAL	ON	LPV	12	99.062	11	98.971	16	98.681
CYHF	HEARST (RENE FONTAINE) MUNICIPALCIPALITY	ON	LPV	9	99.673	10	99.602	19	99.057
CYHM	HAMILTON	ON	LPV	3	99.456	4	99.449	3	99.400
CYHS	SAUGEEN MUNICIPALCIPALITY	ON	LPV	3	99.463	3	99.452	4	99.368
CYKF	WATERLOO	ON	LPV200	3	99.460	4	99.449	4	99.387
CYKM	KINCARDINE	ON	LPV	2	99.926	2	99.926	3	99.891
CYKZ	BUTTONVILLE MUNICIPALCIPAL	ON	LPV	3	99.454	4	99.433	5	99.377
CYLS	LAKE SIMCOE	ON	LPV	3	99.436	4	99.427	5	99.365
CYMG	MANITOUWADGE	ON	LPV	8	99.657	9	99.598	20	99.207
CYMO	MOOSONEE	ON	LPV	17	98.902	23	98.721	38	97.897
CYOO	OSHAWA EXECUTIVE AIRPORT	ON	LPV	2	99.949	2	99.926	4	99.876
CYOS	BILLY BISHOP REGIONAL	ON	LPV	2	99.928	2	99.925	4	99.883
CYOW	MACDONALD-CARTIER INTL	ON	LPV200	3	99.383	3	99.348	9	99.256
CYPL	PICKLE LAKE	ON	LPV	13	98.913	15	98.809	23	98.351
CYPQ	PETERBOROUGH	ON	LPV	3	99.436	4	99.403	5	99.318
CYPT	PELEE ISLAND	ON	LPV	1	99.985	3	99.961	2	99.924
CYQG	WINDSOR	ON	LPV	2	99.522	3	99.478	4	99.423
CYQK	KENORA	ON	LPV	12	99.077	10	98.938	14	98.691
CYQS	ST. THOMAS MUNICIPALCIPALITY	ON	LPV	3	99.488	3	99.461	3	99.404
CYQT	THUNDER BAY	ON	LPV200	8	99.168	9	99.114	17	98.875
CYRL	RED LAKE	ON	LPV	8	99.442	7	99.327	15	99.018
CYSA	STRATFORD MUNICIPALCIPALITY	ON	LPV	2	99.934	2	99.926	3	99.904
CYSB	SUDBURY	ON	LPV	3	99.862	4	99.853	16	99.706
CYSN	NIAGARA DISTRICT	ON	LPV	3	99.463	4	99.434	4	99.384
CYTL	BIG TROUT LAKE	ON	LPV	17	98.734	21	98.561	48	97.577
CYTS	TIMMINS (VICTOR M. POWER)	ON	LPV200	5	99.311	9	99.244	24	98.767
CYTZ	BILLY BISHOP TORONTO CITY AIRPORT	ON	LPV	2	99.946	2	99.927	4	99.895
CYVV	WIARTON	ON	LPV	2	99.928	2	99.925	5	99.880
CYWP	WEBEQUIE	ON	LPV	15	99.243	19	99.102	34	98.282
CYXL	SIOUX LOOKOUT	ON	LPV	10	99.035	11	98.981	19	98.653
CYXR	EARLTON (TIMISKAMING REGIONAL)	ON	LPV	5	99.356	7	99.281	19	99.022
CYXU	LONDON	ON	LPV200	3	99.478	3	99.459	3	99.402
CYYB	NORTH BAY	ON	LPV200	3	99.876	3	99.857	12	99.766
CYYU	KAPUSKASING	ON	LPV	10	99.239	11	99.185	23	98.469
CYYW	ARMSTRONG	ON	LPV	8	99.507	13	99.428	20	99.021

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CYYZ	LESTER B. PEARSON INTL	ON	LPV200	4	99.466	4	99.445	4	99.381
CYZD	DOWNSVIEW	ON	LPV	3	99.458	4	99.438	4	99.381
CYZR	SARNIA (CHRIS HADFIELD)	ON	LPV	2	99.956	2	99.937	3	99.917
CZPB	SACHIGO LAKE	ON	LP	11	98.792	14	98.613	40	97.873
3S8	GRANTS PASS	OR	LP	1	99.571	4	99.537	6	99.399
77S	HOBBY FLD	OR	LPV	0	100	2	99.946	4	99.826
AST	ASTORIA RGNL	OR	LPV	2	99.527	3	99.496	9	99.339
BDN	BEND MUNICIPAL	OR	LPV	3	99.561	2	99.519	5	99.433
BKE	BAKER CITY MUNICIPAL	OR	LPV	2	99.485	2	99.478	3	99.447
CVO	CORVALLIS MUNICIPAL	OR	LPV200	2	99.564	3	99.511	6	99.382
EUG	MAHLON SWEET FLD	OR	LPV200	1	99.571	3	99.513	6	99.385
GCD	GRANT COUNTY RGNL/OGILVIE FLD	OR	LPV	3	99.534	2	99.510	3	99.456
HIO	PORTLAND-HILLSBORO	OR	LPV200	2	99.542	3	99.503	8	99.381
LGD	LA GRANDE/UNION COUNTY	OR	LPV	2	99.482	2	99.478	4	99.434
LKV	LAKE COUNTY	OR	LPV	1	99.574	2	99.528	5	99.464
LMT	CRATER LAKE/KLAMATH RGNL	OR	LPV	1	99.571	2	99.535	5	99.423
MMV	MC MINNVILLE MUNICIPAL	OR	LPV	2	99.542	3	99.512	6	99.369
ONO	ONTARIO MUNICIPAL	OR	LPV	2	99.490	2	99.486	3	99.454
ONP	NEWPORT MUNICIPAL	OR	LPV	2	99.564	3	99.527	7	99.378
OTH	SOUTHWEST OREGON RGNL	OR	LPV	1	99.571	5	99.515	9	99.396
PDT	EASTERN OREGON RGNL AT PENDLET	OR	LPV200	2	99.496	2	99.485	6	99.424
PDX	PORTLAND INTL	OR	LPV200	2	99.538	3	99.503	8	99.383
RDM	ROBERTS FLD	OR	LPV200	2	99.545	3	99.514	5	99.432
S33	MADRAS MUNICIPAL	OR	LPV	3	99.539	2	99.506	6	99.420
S39	PRINEVILLE	OR	LP	3	99.547	3	99.519	5	99.446
SLE	MCNARY FLD	OR	LPV200	2	99.560	3	99.508	5	99.381
SPB	SCAPPOOSE	OR	LPV	2	99.537	3	99.506	8	99.372
UAO	AURORA STATE	OR	LPV	2	99.542	3	99.512	7	99.387
22N	JAKE ARNER MEML	PA	LP	3	99.479	4	99.416	4	99.339
29D	GROVE CITY	PA	LP	1	99.526	3	99.496	3	99.410
2G9	SOMERSET COUNTY	PA	LPV	1	99.518	1	99.518	2	99.462
6G1	TITUSVILLE	PA	LPV	2	99.515	3	99.462	3	99.409
6P7	MCVILLE	PA	LP	0	100	2	99.972	2	99.943
8G2	CORRY-LAWRENCE	PA	LPV	3	99.501	3	99.461	3	99.409
8N8	DANVILLE	PA	LP	3	99.483	4	99.448	4	99.342
9D4	DECK	PA	LPV	2	99.500	4	99.449	4	99.353

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
ABE	LEHIGH VALLEY INTL	PA	LPV200	3	99.484	4	99.421	4	99.341
AFJ	WASHINGTON COUNTY	PA	LPV200	1	99.526	2	99.517	2	99.463
AGC	ALLEGHENY COUNTY	PA	LPV200	1	99.526	2	99.515	3	99.446
AOO	ALTOONA/BLAIR COUNTY	PA	LPV	1	99.518	2	99.506	3	99.405
AVP	WILKES-BARRE/SCRANTON INTL	PA	LPV200	3	99.448	4	99.395	4	99.335
AXQ	CLARION COUNTY	PA	LPV	2	99.516	3	99.485	3	99.412
BFD	BRADFORD RGNL	PA	LPV	3	99.480	3	99.452	4	99.382
BTP	PITTSBURGH/BUTLER RGNL	PA	LPV	1	99.526	3	99.499	3	99.429
BVI	BEAVER COUNTY	PA	LPV	1	99.526	3	99.508	3	99.437
CXY	CAPITAL CITY	PA	LPV	1	99.510	3	99.490	4	99.370
DUJ	DUBOIS RGNL	PA	LPV200	2	99.515	3	99.483	4	99.406
ERI	ERIE INTL/TOM RIDGE FLD	PA	LPV	4	99.513	3	99.465	3	99.405
FIG	CLEARFIELD-LAWRENCE	PA	LPV	1	99.518	3	99.483	5	99.381
FKL	VENANGO RGNL	PA	LPV	2	99.524	4	99.485	3	99.410
FWQ	ROSTRAVER	PA	LPV	1	99.522	2	99.513	3	99.454
GKJ	PORT MEADVILLE	PA	LP	1	99.526	3	99.469	3	99.408
HMZ	BEDFORD COUNTY	PA	LPV	1	99.518	1	99.518	3	99.423
HZL	HAZLETON RGNL	PA	LPV	3	99.474	4	99.412	4	99.337
IDI	INDIANA COUNTY/JIMMY STEWART F	PA	LPV	1	99.518	3	99.491	3	99.434
IPT	WILLIAMSPORT RGNL	PA	LPV	3	99.471	5	99.442	4	99.344
JST	JOHN MURTHA JOHNSTOWN/CAMBRIA	PA	LPV200	1	99.518	2	99.513	3	99.440
LBE	ARNOLD PALMER RGNL	PA	LPV200	1	99.518	2	99.510	3	99.445
LNS	LANCASTER	PA	LPV200	2	99.505	4	99.483	4	99.366
LOM	WINGS FLD	PA	LPV	2	99.493	3	99.443	4	99.354
MDT	HARRISBURG INTL	PA	LPV	1	99.510	3	99.490	4	99.371
MPO	POCONO MOUNTAINS RGNL	PA	LPV	3	99.447	4	99.401	4	99.334
MQS	CHESTER COUNTY G O CARLSON	PA	LPV	2	99.506	4	99.483	4	99.378
N38	GRAND CANYON RGNL	PA	LP	3	99.461	6	99.436	4	99.352
N57	NEW GARDEN	PA	LP	0	100	0	100	3	99.952
N79	NORTHUMBERLAND COUNTY	PA	LPV	3	99.485	4	99.442	4	99.347
N96	BELLEFONTE	PA	LPV	1	99.518	3	99.479	4	99.359
OQN	BRANDYWINE RGNL	PA	LP	2	99.504	4	99.469	4	99.361
OYM	ST MARYS MUNICIPAL	PA	LPV	3	99.492	3	99.463	4	99.383
PHL	PHILADELPHIA INTL	PA	LPV200	2	99.500	3	99.473	5	99.377
PIT	PITTSBURGH INTL	PA	LPV200	1	99.526	2	99.512	3	99.445
PNE	NORTHEAST PHILADELPHIA	PA	LPV200	2	99.486	3	99.444	4	99.348

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
PSB	MID-STATE	PA	LPV	1	99.518	3	99.483	4	99.367
PTW	HERITAGE FLD	PA	LPV	2	99.495	3	99.437	4	99.351
RDG	READING RGNL/CARL A SPAATZ FLD	PA	LPV	2	99.496	3	99.432	4	99.350
RVL	MIFFLIN COUNTY	PA	LPV	1	99.518	3	99.479	4	99.360
SEG	PENN VALLEY	PA	LP	2	99.494	4	99.453	4	99.350
THV	YORK	PA	LP	1	99.511	3	99.498	3	99.410
UCP	NEW CASTLE MUNICIPAL	PA	LPV	1	99.526	3	99.498	3	99.412
UKT	QUAKERTOWN	PA	LP	2	99.486	3	99.430	4	99.342
UNV	UNIVERSITY PARK	PA	LPV200	1	99.518	3	99.480	4	99.360
VVS	JOSEPH A HARDY CONNELLSVILLE	PA	LPV	1	99.518	2	99.518	2	99.466
WAY	GREENE COUNTY	PA	LPV	1	99.526	2	99.525	2	99.468
WBW	WILKES-BARRE WYOMING VALLEY	PA	LPV	3	99.450	4	99.398	4	99.334
XLL	ALLENTOWN QUEEN CITY MUNICIPAL	PA	LP	2	99.485	3	99.426	4	99.342
ZER	SCHUYLKILL COUNTY/JOE ZERBEY	PA	LPV200	2	99.489	4	99.440	4	99.347
CYYG	CHARLOTTETOWN	PE	LPV	9	98.844	10	98.821	16	98.513
CEL8	ELEONORE	QC	LPV	33	98.085	38	97.689	50	96.604
CFX5	RENARD	QC	LPV	29	98.420	33	98.113	44	97.224
CSC3	DRUMMONDVILLE	QC	LPV	2	99.870	2	99.846	13	99.696
CSD4	MONT-LAURIER	QC	LPV	3	99.873	3	99.847	15	99.701
CSF3	POSTE MONTAGNAIS (MILE 134)	QC	LPV	34	97.704	37	97.619	43	96.683
CSH4	LEBEL-SUR-QUEVILLON	QC	LPV	11	99.728	11	99.655	21	99.176
CSR3	VICTORIAVILLE (ANDRE-FORTIN)	QC	LPV	3	99.308	4	99.279	13	99.010
CSU2	CHISASIBI	QC	LPV	40	97.898	37	97.510	50	96.288
CTP9	DONALDSON	QC	LPV	68	95.159	71	94.832	166	90.829
CTT5	LA ROMAINE	QC	LPV	25	98.184	26	98.158	43	96.925
CTU2	FONTANGES	QC	LPV	36	97.088	36	96.861	61	95.446
CYAD	LA GRANDE-3	QC	LPV	43	97.750	43	97.340	54	96.242
CYAH	LA GRANDE-4	QC	LPV	40	97.388	40	97.137	52	95.954
CYAS	KANGIRSUK	QC	LPV	54	95.542	54	95.289	138	92.086
CYBC	BAIE-COMEAU	QC	LPV200	14	98.788	13	98.745	28	98.229
CYBG	BAGOTVILLE	QC	LPV200	11	99.006	11	98.924	22	98.533
CYBX	LOURDES-DE-BLANC-SABLON	QC	LPV	36	97.289	37	97.143	82	95.261
CYEY	MAGNY	QC	LPV	9	99.298	8	99.233	21	98.777
CYFJ	MONT-TREMBLANT	QC	LPV	5	99.346	4	99.285	17	99.101
CYGL	LA GRANDE RIVIERE	QC	LPV	41	97.893	40	97.492	52	96.264
CYGP	GASPE (MICHEL-POULIOT)	QC	LPV	13	98.704	13	98.698	23	98.184

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CYGR	ILES-DE-LA-MADELEINE	QC	LPV	11	98.729	11	98.708	25	98.206
CYGV	HAVRE ST-PIERRE	QC	LPV	24	99.077	24	99.074	37	98.052
CYGW	KUUJJUARAPIK	QC	LPV	44	97.117	42	96.854	67	95.481
CYHA	QUAQTAQ	QC	LPV	70	95.261	75	95.061	152	91.236
CYHH	NEMISCAU	QC	LPV	25	98.488	31	98.287	50	97.272
CYHR	CHEVERY	QC	LPV	30	97.991	30	97.967	43	96.774
CYHU	ST-HUBERT	QC	LPV	4	99.352	3	99.296	9	99.199
CYIF	ST-AUGUSTIN	QC	LPV	32	97.527	32	97.464	48	96.336
CYIK	IVUJIVIK	QC	LPV	66	95.112	70	94.664	170	90.081
CYKG	KANGIQSUJUAQ (WAKEHAM BAY)	QC	LPV	70	95.164	74	94.908	167	90.865
CYKL	SCHEFFERVILLE	QC	LPV	35	96.924	38	96.736	57	95.356
CYKO	AKULIVIK	QC	LPV	55	95.587	56	95.140	158	91.247
CYKQ	WASKAGANISH	QC	LPV	20	99.296	24	99.112	41	98.206
CYLA	AUPALUK	QC	LPV	51	95.761	48	95.464	127	92.902
CYLQ	LA TUQUE	QC	LPV	8	99.776	10	99.707	14	99.358
CYLU	KANGIQSUALUJJUAQ (GEORGES RIVER)	QC	LPV	49	95.771	51	95.489	143	92.792
CYME	RUSSELL-BURNETT	QC	LPV	13	99.382	12	99.347	23	98.941
CYMT	CHAPAIS	QC	LPV	15	98.910	14	98.835	32	98.300
CYMU	UMIUJAQ	QC	LPV	41	96.557	45	96.286	83	94.631
CYMW	MANIWAKI	QC	LPV	4	99.368	4	99.321	14	99.182
CYMX	MONTREAL INTL (MIRABEL)	QC	LPV200	4	99.351	3	99.294	9	99.202
CYNA	NATASHQUAN	QC	LPV	26	98.344	26	98.338	38	97.294
CYNC	WEMINDJI	QC	LPV	29	98.765	33	98.338	44	97.328
CYND	GATINEAU	QC	LPV	3	99.380	4	99.346	9	99.249
CYNM	MATAGAMI	QC	LPV	13	99.077	17	98.998	26	98.471
CYPH	INUKJUAK	QC	LPV	45	96.102	47	95.764	113	93.520
CYPN	PORT-MENIER	QC	LPV	22	98.572	22	98.562	35	97.656
CYPX	PUVIRNITUQ	QC	LPV	54	95.658	59	95.284	153	92.077
CYQB	JEAN LESAGE INTL	QC	LPV200	8	99.243	9	99.167	15	98.859
CYRI	RIVIERE-DU-LOUP	QC	LPV	9	98.996	10	98.937	18	98.589
CYRJ	ROBERVAL	QC	LPV	12	99.627	11	99.542	19	99.129
CYRQ	TROIS-RIVIERES	QC	LPV200	3	99.305	4	99.280	13	99.003
CYSC	SHERBROOKE	QC	LPV	3	99.311	3	99.275	13	99.159
CYSG	ST-GEORGES	QC	LPV	3	99.307	6	99.256	13	98.967
CYTF	ALMA	QC	LPV	11	99.599	11	99.523	21	99.107
CYTQ	TASIUJAQ	QC	LPV	49	95.862	46	95.498	100	93.436

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CYUL	PIERRE-ELLIOTT-TRUDEAU INTL	QC	LPV200	4	99.356	3	99.297	9	99.207
CYUY	ROUYN-NORANDA	QC	LPV200	8	99.317	9	99.253	17	98.843
CYVB	BONAVENTURE	QC	LPV	12	98.798	12	98.750	21	98.355
CYVO	VAL-DOR	QC	LPV200	7	99.338	9	99.255	19	98.873
CYVP	KUUJJUAQ	QC	LPV200	46	95.936	48	95.691	99	93.945
CYYY	MONT-JOLI	QC	LPV	14	98.856	13	98.805	23	98.410
CYZG	SALLUIT	QC	LPV	67	95.014	71	94.644	168	90.377
CYZV	SEPT-ILES	QC	LPV200	22	98.558	22	98.532	35	97.660
BID	BLOCK ISLAND STATE	RI	LPV	3	99.426	4	99.355	4	99.290
OQU	QUONSET STATE	RI	LPV200	4	99.417	3	99.332	4	99.289
PVD	RHODE ISLAND TF GREEN INTL	RI	LPV200	4	99.415	3	99.331	4	99.280
SFZ	NORTH CENTRAL STATE	RI	LPV	3	99.394	3	99.327	4	99.275
35A	UNION COUNTY` TROY SHELTON FLD	SC	LP	1	99.529	1	99.529	1	99.452
6J0	LEXINGTON COUNTY	SC	LPV	1	99.526	2	99.512	1	99.446
AIK	AIKEN RGNL	SC	LPV200	1	99.526	1	99.517	2	99.451
AND	ANDERSON RGNL	SC	LPV200	1	99.530	1	99.530	1	99.459
AQX	ALLENDALE COUNTY	SC	LPV	1	99.517	2	99.499	2	99.431
ARW	BEAUFORT EXEC	SC	LPV200	1	99.517	2	99.489	2	99.418
BBP	MARLBORO COUNTY JETPORT - H E	SC	LPV	1	99.512	2	99.496	1	99.442
BNL	BARNWELL RGNL	SC	LPV	1	99.526	2	99.497	2	99.424
CAE	COLUMBIA METRO	SC	LPV200	1	99.526	2	99.512	1	99.444
CDN	WOODWARD FLD	SC	LPV	1	99.526	2	99.511	1	99.442
CEU	OCONEE COUNTY RGNL	SC	LPV200	1	99.530	1	99.530	1	99.462
CHS	CHARLESTON AFB/INTL	SC	LPV200	1	99.516	2	99.485	2	99.427
CKI	WILLIAMSBURG RGNL	SC	LPV	1	99.512	2	99.486	1	99.442
CQW	CHERAW MUNICIPAL/LYNCH BELLINGER FL	SC	LPV	1	99.512	2	99.506	1	99.442
CRE	GRAND STRAND	SC	LPV200	1	99.512	2	99.480	1	99.430
CUB	JIM HAMILTON L B OWENS	SC	LPV	1	99.526	2	99.511	1	99.444
DCM	CHESTER CATAWBA RGNL	SC	LPV	1	99.526	1	99.526	1	99.446
DYB	SUMMERVILLE	SC	LPV200	1	99.517	2	99.490	2	99.428
FDW	FAIRFIELD COUNTY	SC	LPV	1	99.526	1	99.513	1	99.444
FLO	FLORENCE RGNL	SC	LPV	1	99.512	2	99.489	1	99.442
GGE	GEORGETOWN COUNTY	SC	LPV	1	99.512	2	99.479	2	99.442
GMU	GREENVILLE DOWNTOWN	SC	LPV200	1	99.530	1	99.530	1	99.456
GRD	GREENWOOD COUNTY	SC	LPV	1	99.530	1	99.530	1	99.453
GSP	GREENVILLE SPARTANBURG INTL	SC	LPV200	1	99.530	1	99.530	1	99.455

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
GYH	DONALDSON FLD	SC	LPV	1	99.530	1	99.530	1	99.456
HVS	HARTSVILLE RGNL	SC	LPV	1	99.513	2	99.499	1	99.442
HXD	HILTON HEAD	SC	LPV	1	99.517	2	99.486	2	99.419
HYW	CONWAY-HORRY COUNTY	SC	LPV	1	99.512	2	99.481	1	99.442
JZI	CHARLESTON EXEC	SC	LPV200	1	99.515	2	99.483	2	99.426
LKR	LANCASTER COUNTY-MC WHIRTER FL	SC	LPV200	1	99.526	1	99.515	1	99.444
LQK	PICKENS COUNTY	SC	LPV	1	99.530	1	99.530	1	99.460
LRO	MT PLEASANT RGNL-FAISON FLD	SC	LPV	1	99.515	2	99.481	2	99.426
LUX	LAURENS COUNTY	SC	LPV	1	99.530	1	99.530	1	99.452
MAO	MARION COUNTY	SC	LPV	1	99.512	2	99.486	1	99.442
MKS	BERKELEY COUNTY	SC	LPV	1	99.512	2	99.484	2	99.428
MYR	MYRTLE BEACH INTL	SC	LPV200	1	99.512	2	99.480	1	99.430
OGB	ORANGEBURG MUNICIPAL	SC	LPV	1	99.526	2	99.494	2	99.441
PYG	PAGELAND	SC	LPV	1	99.526	2	99.512	1	99.442
RBW	LOWCOUNTRY RGNL	SC	LPV200	1	99.517	2	99.493	2	99.429
SMS	SUMTER	SC	LPV200	1	99.517	2	99.495	1	99.442
SPA	SPARTANBURG DOWNTOWN MEML/SIMP	SC	LPV200	1	99.530	1	99.530	1	99.452
UDG	DARLINGTON COUNTY	SC	LPV	1	99.512	2	99.497	1	99.442
UZA	ROCK HILL/YORK COUNTY/BRYANT F	SC	LPV200	1	99.526	1	99.526	1	99.445
0D8	GETTYSBURG MUNICIPAL	SD	LP	5	99.436	5	99.329	9	99.273
49B	STURGIS MUNICIPAL	SD	LPV	2	99.471	3	99.454	8	99.356
4X4	WESSINGTON SPRINGS	SD	LP	2	99.876	5	99.830	6	99.737
8D3	SISSETON MUNICIPAL	SD	LPV	5	99.412	5	99.327	12	99.185
8D7	CLARK COUNTY	SD	LP	4	99.873	4	99.784	7	99.710
8V3	PARKSTON MUNICIPAL	SD	LPV	2	99.481	3	99.443	8	99.360
98D	ONIDA MUNICIPAL	SD	LP	3	99.876	5	99.779	6	99.718
9D0	HIGHMORE MUNICIPAL	SD	LPV	4	99.450	7	99.358	8	99.283
9D1	GREGORY MUNICIPAL - FLYNN FLD	SD	LPV	2	99.481	4	99.443	6	99.332
9V6	MARTIN MUNICIPAL	SD	LPV	2	99.478	3	99.456	10	99.387
9V9	CHAMBERLAIN MUNICIPAL	SD	LP	2	99.473	5	99.431	7	99.316
ABR	ABERDEEN RGNL	SD	LPV200	5	99.420	5	99.325	11	99.251
AGZ	WAGNER MUNICIPAL	SD	LPV	2	99.481	3	99.443	7	99.363
ATY	WATERTOWN RGNL	SD	LPV200	5	99.442	5	99.357	8	99.271
BKX	BROOKINGS RGNL	SD	LPV200	4	99.455	5	99.381	7	99.321
EFC	BELLE FOURCHE MUNICIPAL	SD	LPV	2	99.470	3	99.451	8	99.348
FSD	JOE FOSS FLD	SD	LPV200	2	99.481	4	99.440	6	99.358

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
HON	HURON RGNL	SD	LPV200	4	99.445	6	99.376	7	99.290
HSR	HOT SPRINGS MUNICIPAL	SD	LP	2	99.478	3	99.471	6	99.423
ICR	WINNER RGNL	SD	LPV	2	99.479	4	99.442	7	99.332
IEN	PINE RIDGE	SD	LPV	2	99.477	2	99.473	8	99.405
LEM	LEMMON MUNICIPAL	SD	LPV	5	99.416	8	99.363	9	99.191
MBG	MOBRIDGE MUNICIPAL	SD	LPV	5	99.411	7	99.339	11	99.253
MDS	MADISON MUNICIPAL	SD	LPV	3	99.464	6	99.417	7	99.328
MHE	MITCHELL MUNICIPAL	SD	LPV	3	99.467	5	99.427	6	99.332
MKA	MILLER MUNICIPAL	SD	LPV	4	99.444	6	99.363	8	99.282
PHP	PHILIP	SD	LPV	2	99.474	3	99.447	7	99.317
PIR	PIERRE RGNL	SD	LPV	3	99.473	6	99.420	8	99.289
RAP	RAPID CITY RGNL	SD	LPV200	2	99.474	3	99.459	7	99.360
SPF	BLACK HILLS-CLYDE ICE FLD	SD	LPV	2	99.471	3	99.454	8	99.370
SUO	ROSEBUD SIOUX TRIBAL	SD	LPV	1	99.904	3	99.874	7	99.782
VMR	HAROLD DAVIDSON FLD	SD	LPV	2	99.485	3	99.448	5	99.380
YKN	CHAN GURNEY MUNICIPAL	SD	LPV200	2	99.483	3	99.448	6	99.371
CCB2	SEABEE MINE	SK	LPV	10	99.194	11	99.055	35	98.411
CJC5	SHAUNAVON	SK	LPV	8	99.285	9	99.240	14	99.037
CJE3	WEYBURN	SK	LPV	7	99.672	9	99.581	12	99.341
CJH3	MAIDSTONE	SK	LPV	6	99.527	8	99.370	17	99.067
CJP9	CHARLOT RIVER	SK	LP	16	98.919	25	98.665	65	96.912
CJQ4	MAPLE CREEK	SK	LPV	7	99.736	8	99.713	12	99.482
CJU4	HUMBOLDT	SK	LPV	6	99.454	9	99.347	16	99.054
CJW7	CIGAR LAKE	SK	LPV	13	99.015	19	98.709	56	97.401
CJY3	TISDALE	SK	LPV	6	99.383	9	99.236	15	98.967
CJZ3	MELFORT (MILLER FIELD)	SK	LPV	6	99.385	9	99.257	15	98.982
CKQ8	MCARTHUR RIVER	SK	LPV	16	98.574	22	98.282	61	97.066
CYBE	URANIUM CITY	SK	LPV	17	98.919	25	98.648	65	96.899
CYBU	NIPAWIN	SK	LPV	7	99.352	9	99.213	19	98.928
CYEN	ESTEVAN REGIONAL	SK	LPV	8	99.247	9	99.138	12	98.898
CYES	EDMUNDSTON	SK	LPV	8	99.564	10	99.524	15	99.206
CYKC	COLLINS BAY	SK	LPV	12	98.966	20	98.686	61	97.266
CYKJ	KEY LAKE	SK	LPV	13	98.583	19	98.383	52	97.419
CYLJ	MEADOW LAKE	SK	LPV	11	98.940	12	98.802	25	98.427
CYMJ	AIR VICE MARSHAL C.M. MCEWEN	SK	LPV200	9	99.226	9	99.118	14	98.863
CYNL	POINTS NORTH LANDING	SK	LPV	13	98.982	20	98.697	58	97.255

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
CYPA	PRINCE ALBERT (GLASS FIELD)	SK	LPV	8	98.926	10	98.798	18	98.493
CYQR	REGINA INTL	SK	LPV200	8	99.179	10	99.084	14	98.821
CYQV	YORKTON MUNICIPALCIPALITY	SK	LPV	9	99.541	9	99.391	12	99.178
CYQW	NORTH BATTLEFORD	SK	LPV	6	99.490	9	99.380	17	99.070
CYVC	LA RONGE (BARBER FIELD)	SK	LPV	11	98.796	14	98.668	34	98.099
CYXE	JOHN G. DIEFENBAKER INTL	SK	LPV200	4	99.488	8	99.383	15	99.113
CYYN	SWIFT CURRENT	SK	LPV	9	99.263	9	99.181	15	98.959
0A3	SMITHVILLE MUNICIPAL	TN	LPV	1	99.567	1	99.567	2	99.519
0M3	PAUL BRIDGES FLD	TN	LP	1	99.567	1	99.567	2	99.525
0M4	BENTON COUNTY	TN	LPV	1	99.567	1	99.567	2	99.528
0M5	HUMPHREYS COUNTY	TN	LP	1	99.567	1	99.567	2	99.524
1A3	MARTIN CAMPBELL FLD	TN	LP	1	99.532	1	99.532	2	99.519
1M5	PORTLAND MUNICIPAL	TN	LPV	1	99.567	1	99.567	2	99.519
2A0	MARK ANTON	TN	LPV	1	99.537	1	99.537	2	99.520
2M2	LAWRENCEBURG-LAWRENCE COUNTY	TN	LPV	1	99.567	1	99.567	2	99.526
2M8	CHARLES W BAKER	TN	LPV	1	99.570	1	99.570	2	99.543
3A2	NEW TAZEWELL MUNICIPAL	TN	LP	1	99.533	1	99.533	2	99.507
3M7	LAFAYETTE MUNICIPAL	TN	LPV	1	99.567	1	99.567	2	99.519
8A3	LIVINGSTON MUNICIPAL	TN	LP	1	99.544	1	99.544	2	99.519
BGF	WINCHESTER MUNICIPAL	TN	LPV	1	99.567	1	99.567	2	99.530
BNA	NASHVILLE INTL	TN	LPV200	1	99.567	1	99.567	2	99.522
CHA	LOVELL FLD	TN	LPV200	1	99.533	1	99.533	2	99.521
CKV	OUTLAW FLD	TN	LPV	1	99.567	1	99.567	2	99.519
CSV	CROSSVILLE MEML-WHITSON FLD	TN	LPV200	1	99.544	1	99.544	3	99.521
DYR	DYERSBURG RGNL	TN	LPV	1	99.570	2	99.569	2	99.541
FYE	FAYETTE COUNTY	TN	LPV	1	99.567	1	99.567	2	99.541
FYM	FAYETTEVILLE MUNICIPAL	TN	LPV	1	99.567	1	99.567	1	99.532
GCY	GREENEVILLE MUNICIPAL	TN	LPV	1	99.530	1	99.530	2	99.484
GHM	CENTERVILLE MUNICIPAL	TN	LP	1	99.567	1	99.567	2	99.519
GKT	GATLINBURG-PIGEON FORGE	TN	LPV	1	99.530	1	99.530	2	99.506
GZS	ABERNATHY FLD	TN	LPV	1	99.567	1	99.567	2	99.534
HZD	CARROLL COUNTY	TN	LPV	1	99.567	1	99.567	2	99.535
JAU	COLONEL TOMMY C STINER AIRFIEL	TN	LP	1	99.544	1	99.544	2	99.519
JWN	JOHN C TUNE	TN	LPV	1	99.567	1	99.567	2	99.519
LUG	ELLINGTON	TN	LPV	1	99.567	1	99.567	2	99.526
M01	GENERAL DEWITT SPAIN	TN	LPV	1	99.570	1	99.570	2	99.545

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
M08	WILLIAM L WHITEHURST FLD	TN	LP	1	99.567	1	99.567	2	99.542
M53	HUMBOLDT MUNICIPAL	TN	LPV	1	99.567	1	99.567	2	99.537
M54	LEBANON MUNICIPAL	TN	LPV	1	99.567	1	99.567	2	99.518
M91	SPRINGFIELD ROBERTSON COUNTY	TN	LPV	1	99.567	1	99.567	2	99.519
MBT	MURFREESBORO MUNICIPAL	TN	LPV	1	99.567	1	99.567	2	99.521
MEM	MEMPHIS INTL	TN	LPV200	1	99.570	1	99.570	2	99.546
MKL	MC KELLAR-SIPES RGNL	TN	LPV200	1	99.567	1	99.567	2	99.537
MMI	MCMINN COUNTY	TN	LPV	1	99.533	1	99.533	2	99.519
MNV	MONROE COUNTY	TN	LPV	1	99.533	1	99.533	2	99.519
MOR	MOORE-MURRELL	TN	LPV	1	99.530	1	99.530	2	99.506
MQY	SMYRNA	TN	LPV200	1	99.567	1	99.567	2	99.519
MRC	MAURY COUNTY RGNL	TN	LPV	1	99.567	1	99.567	2	99.523
NQA	MILLINGTON/MEMPHIS	TN	LPV200	1	99.570	1	99.570	2	99.541
PHT	HENRY COUNTY	TN	LPV200	1	99.567	1	99.567	2	99.537
PVE	BEECH RIVER RGNL	TN	LPV	1	99.567	1	99.567	2	99.528
RKW	ROCKWOOD MUNICIPAL	TN	LPV	1	99.544	1	99.544	2	99.519
RNC	WARREN COUNTY MEML	TN	LPV	1	99.567	1	99.567	2	99.523
RVN	HAWKINS COUNTY	TN	LP	1	99.530	1	99.530	2	99.489
RZR	CLEVELAND RGNL JETPORT	TN	LPV200	1	99.533	1	99.533	2	99.519
SCX	SCOTT MUNICIPAL	TN	LPV	1	99.544	1	99.544	2	99.519
SNH	SAVANNAH-HARDIN COUNTY	TN	LPV	1	99.567	1	99.567	2	99.533
SRB	UPPER CUMBERLAND RGNL	TN	LPV	1	99.555	1	99.555	2	99.519
SYI	BOMAR FLD/SHELBYVILLE MUNICIPAL	TN	LPV	1	99.567	1	99.567	2	99.522
SZY	ROBERT SIBLEY	TN	LPV	1	99.567	1	99.567	2	99.535
TGC	GIBSON COUNTY	TN	LP	1	99.567	1	99.567	2	99.537
THA	TULLAHOMA RGNL/WM NORTHERN FLD	TN	LPV	1	99.567	1	99.567	2	99.528
TRI	TRI-CITIES	TN	LPV200	1	99.530	1	99.530	1	99.468
TYS	MC GHEE TYSON	TN	LPV200	1	99.533	1	99.533	2	99.511
UCY	EVERETT-STEWART RGNL	TN	LPV200	1	99.570	2	99.567	2	99.541
XNX	MUSIC CITY EXEC	TN	LPV	0	100	0	100	1	99.980
0F2	BOWIE MUNICIPAL	TX	LPV	1	99.570	2	99.555	3	99.480
11R	BRENHAM MUNICIPAL	TX	LPV	3	99.528	3	99.506	2	99.426
2R9	KENEDY RGNL	TX	LP	3	99.498	2	99.449	3	99.392
3R9	LAKEWAY AIRPARK	TX	LP	3	99.536	4	99.514	3	99.409
3T5	FAYETTE RGNL AIR CENTER	TX	LPV	3	99.517	3	99.490	3	99.423
41F	FLOYDADA MUNICIPAL	TX	LP	1	99.570	2	99.560	4	99.477

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
45R	HAWTHORNE FLD	TX	LP	2	99.551	3	99.535	3	99.434
4T2	KENNETH COPELAND	TX	LPV	1	99.570	2	99.558	2	99.466
50R	LOCKHART MUNICIPAL	TX	LPV	3	99.523	4	99.498	3	99.407
5C1	BOERNE STAGE FLD	TX	LP	3	99.521	4	99.498	3	99.409
5T9	MAVERICK COUNTY MEML INTL	TX	LPV	3	99.528	3	99.448	15	99.367
60R	NAVASOTA MUNICIPAL	TX	LPV	4	99.542	3	99.507	2	99.426
6R3	CLEVELAND MUNICIPAL	TX	LPV	2	99.546	4	99.526	2	99.434
77F	WINTERS MUNICIPAL	TX	LP	2	99.557	3	99.528	3	99.450
8F3	CROSBYTON MUNICIPAL	TX	LP	1	99.570	2	99.554	4	99.476
ABI	ABILENE RGNL	TX	LPV200	2	99.562	3	99.526	2	99.463
ACT	WACO RGNL	TX	LPV200	2	99.554	3	99.535	2	99.459
ADS	ADDISON	TX	LPV	1	99.570	2	99.559	2	99.466
AFW	FORT WORTH ALLIANCE	TX	LPV200	1	99.570	2	99.558	2	99.466
ALI	ALICE INTL	TX	LPV	3	99.497	2	99.445	17	99.348
AMA	RICK HUSBAND AMARILLO INTL	TX	LPV200	2	99.552	3	99.531	3	99.480
ARM	WHARTON RGNL	TX	LPV	3	99.517	3	99.470	3	99.423
ASL	HARRISON COUNTY	TX	LPV	1	99.570	1	99.567	3	99.484
AUS	AUSTIN-BERGSTROM INTL	TX	LPV200	3	99.525	3	99.501	3	99.409
AXH	HOUSTON/SOUTHWEST	TX	LPV	3	99.517	3	99.500	2	99.426
BAZ	NEW BRAUNFELS NTL	TX	LPV	3	99.514	4	99.486	3	99.401
BBD	CURTIS FLD	TX	LPV	2	99.548	3	99.528	3	99.440
BEA	BEEVILLE MUNICIPAL	TX	LPV	3	99.497	2	99.449	10	99.384
BFE	TERRY COUNTY	TX	LPV	1	99.570	2	99.564	5	99.460
BGD	HUTCHINSON COUNTY	TX	LPV	2	99.545	3	99.521	3	99.484
BKD	STEPHENS COUNTY	TX	LP	2	99.562	3	99.534	2	99.463
BKS	BROOKS COUNTY	TX	LPV	3	99.490	2	99.445	29	99.232
BMT	BEAUMONT MUNICIPAL	TX	LPV	2	99.545	4	99.519	4	99.432
BPG	BIG SPRING MC MAHON-WRINKLE	TX	LPV200	2	99.564	2	99.545	4	99.433
BPT	JACK BROOKS RGNL	TX	LPV200	2	99.545	4	99.509	4	99.431
BRO	BROWNSVILLE/SOUTH PADRE ISLAND	TX	LPV200	2	99.449	3	99.435	76	99.052
BWD	BROWNWOOD RGNL	TX	LPV	2	99.554	3	99.530	3	99.447
BYY	BAY CITY RGNL	TX	LPV	3	99.500	3	99.476	2	99.426
CDS	CHILDRESS MUNICIPAL	TX	LPV200	1	99.570	2	99.555	4	99.468
CFD	COULTER FLD	TX	LPV	2	99.549	4	99.524	2	99.426
CLL	EASTERWOOD FLD	TX	LPV200	3	99.542	4	99.517	2	99.426
CNW	TSTC WACO	TX	LPV200	2	99.553	3	99.536	2	99.459

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
COM	COLEMAN MUNICIPAL	TX	LPV	2	99.555	3	99.529	3	99.446
COT	COTULLA-LA SALLE COUNTY	TX	LPV	3	99.497	3	99.445	13	99.382
CPT	CLEBURNE RGNL	TX	LPV	2	99.560	3	99.537	2	99.465
CRP	CORPUS CHRISTI INTL	TX	LPV200	3	99.493	2	99.445	15	99.352
CVB	CASTROVILLE MUNICIPAL	TX	LPV	3	99.510	3	99.471	3	99.404
CWC	KICKAPOO DOWNTOWN	TX	LPV	1	99.570	2	99.555	3	99.479
CXO	CONROE/NORTH HOUSTON RGNL	TX	LPV200	2	99.545	4	99.522	2	99.426
CZT	DIMMIT COUNTY	TX	LPV	3	99.498	3	99.436	15	99.376
DAL	DALLAS LOVE FLD	TX	LPV200	1	99.570	2	99.559	2	99.466
DFW	DALLAS-FORT WORTH INTL	TX	LPV200	1	99.570	2	99.559	2	99.466
DHT	DALHART MUNICIPAL	TX	LPV	2	99.546	2	99.503	3	99.488
DKR	HOUSTON COUNTY	TX	LP	2	99.552	3	99.539	4	99.477
DRT	DEL RIO INTL	TX	LPV	2	99.534	5	99.482	14	99.383
DTO	DENTON ENTERPRISE	TX	LPV200	1	99.570	2	99.556	2	99.466
DUX	MOORE COUNTY	TX	LPV200	2	99.546	2	99.504	3	99.486
DWH	DAVID WAYNE HOOKS MEML	TX	LPV	3	99.529	3	99.502	2	99.426
E01	ROY HURD MEML	TX	LP	1	99.570	3	99.539	12	99.381
E11	ANDREWS COUNTY	TX	LPV	1	99.570	2	99.566	5	99.420
E19	GRUVER MUNICIPAL	TX	LP	2	99.542	2	99.504	3	99.469
E30	BRUCE FLD	TX	LPV	2	99.554	3	99.528	3	99.446
E38	ALPINE-CASPARIS MUNICIPAL	TX	LPV	3	99.557	3	99.498	14	99.316
EBG	SOUTH TEXAS INTL AT EDINBURG	TX	LPV	2	99.452	2	99.441	59	99.128
EDC	AUSTIN EXEC	TX	LPV200	3	99.537	4	99.513	3	99.411
EFD	ELLINGTON	TX	LPV200	3	99.518	3	99.503	3	99.426
ELA	EAGLE LAKE	TX	LP	3	99.516	3	99.499	3	99.423
ELP	EL PASO INTL	TX	LP	4	99.561	5	99.514	13	99.336
ERV	KERRVILLE MUNICIPAL/LOUIS SCHREINER	TX	LPV	3	99.530	6	99.509	3	99.417
ETN	EASTLAND MUNICIPAL	TX	LP	2	99.561	3	99.527	2	99.463
F00	JONES FLD	TX	LPV	1	99.570	2	99.559	3	99.500
F05	WILBARGER COUNTY	TX	LPV	1	99.570	2	99.555	3	99.480
F49	CITY OF SLATON/LARRY T NEAL ME	TX	LPV	1	99.570	2	99.563	4	99.477
F98	YOAKUM COUNTY	TX	LPV	1	99.570	2	99.564	5	99.473
FST	FORT STOCKTON-PECOS COUNTY	TX	LPV	3	99.564	4	99.529	15	99.375
FTW	FORT WORTH MEACHAM INTL	TX	LPV200	1	99.570	3	99.557	2	99.466
FWS	FORT WORTH SPINKS	TX	LPV200	2	99.564	3	99.545	2	99.466
GDJ	GRANBURY RGNL	TX	LPV	2	99.561	3	99.528	2	99.464

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
GGG	EAST TEXAS RGNL	TX	LPV	1	99.570	1	99.567	3	99.490
GKY	ARLINGTON MUNICIPAL	TX	LPV200	1	99.570	3	99.552	2	99.466
GLE	GAINESVILLE MUNICIPAL	TX	LPV	1	99.570	2	99.556	4	99.496
GLS	SCHOLES INTL AT GALVESTON	TX	LPV200	3	99.518	3	99.505	3	99.427
GNC	GAINES COUNTY	TX	LPV	1	99.570	2	99.568	4	99.422
GRK	ROBERT GRAY AAF	TX	LPV200	2	99.551	3	99.531	3	99.444
GTU	GEORGETOWN MUNICIPAL	TX	LPV	3	99.547	4	99.528	4	99.437
GVT	MAJORS	TX	LPV200	1	99.570	2	99.559	3	99.485
GYI	NORTH TEXAS RGNL/PERRIN FLD	TX	LPV200	1	99.570	2	99.559	4	99.498
GZN	GREGORY M SIMMONS MEML	TX	LPV	1	99.991	2	99.956	1	99.893
HBV	JIM HOGG COUNTY	TX	LPV	3	99.493	2	99.445	33	99.246
HDO	SOUTH TEXAS RGNL AT HONDO	TX	LPV	3	99.519	4	99.468	3	99.404
HHF	HEMPHILL COUNTY	TX	LPV	2	99.541	3	99.513	3	99.468
HOU	WILLIAM P HOBBY	TX	LPV200	3	99.517	3	99.501	2	99.426
HQZ	MESQUITE METRO	TX	LPV	1	99.570	2	99.559	2	99.464
HRL	VALLEY INTL	TX	LPV200	2	99.449	2	99.441	64	99.111
HRX	HEREFORD MUNICIPAL	TX	LPV200	1	99.570	3	99.541	3	99.484
HYI	SAN MARCOS RGNL	TX	LPV200	3	99.522	4	99.498	3	99.404
IAH	GEORGE BUSH INTCNTL/HOUSTON	TX	LPV200	3	99.530	3	99.504	2	99.426
IKG	KLEBERG COUNTY	TX	LPV	3	99.490	2	99.445	26	99.319
ILE	SKYLARK FLD	TX	LPV200	2	99.552	3	99.531	3	99.456
INJ	HILLSBORO MUNICIPAL	TX	LPV	2	99.556	3	99.537	2	99.462
INK	WINKLER COUNTY	TX	LPV200	1	99.570	3	99.543	12	99.369
IWS	WEST HOUSTON	TX	LP	3	99.520	3	99.502	2	99.426
JAS	JASPER COUNTY/BELL FLD	TX	LPV	2	99.553	2	99.552	3	99.454
JSO	CHEROKEE COUNTY	TX	LPV	2	99.557	3	99.550	4	99.482
JWY	MID-WAY RGNL	TX	LPV200	2	99.562	3	99.552	2	99.463
JXI	FOX STEPHENS FLD - GILMER MUNICIPAL	TX	LP	1	99.570	1	99.570	3	99.490
LBB	LUBBOCK PRESTON SMITH INTL	TX	LPV200	1	99.570	2	99.563	4	99.478
LBX	TEXAS GULF COAST RGNL	TX	LPV	3	99.512	3	99.501	3	99.424
LFK	ANGELINA COUNTY	TX	LPV	2	99.555	3	99.544	3	99.452
LHB	HEARNE MUNICIPAL	TX	LPV200	2	99.549	4	99.533	3	99.441
LIU	LITTLEFIELD TAYLOR BROWN MUNICIPAL	TX	LPV	1	99.570	2	99.563	4	99.480
LLN	LEVELLAND MUNICIPAL	TX	LPV	1	99.570	2	99.563	5	99.464
LNC	LANCASTER RGNL	TX	LPV200	1	99.570	3	99.548	2	99.464
LRD	LAREDO INTL	TX	LPV200	3	99.497	3	99.444	32	99.246

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
LUD	DECATUR MUNICIPAL	TX	LPV	1	99.570	2	99.556	3	99.479
LUV	LAMESA MUNICIPAL	TX	LPV200	0	100	2	99.995	3	99.884
LVJ	PEARLAND RGNL	TX	LPV	3	99.518	3	99.501	3	99.425
LXY	MEXIA-LIMESTONE COUNTY	TX	LP	2	99.552	3	99.535	3	99.478
MAF	MIDLAND INTL AIR AND SPACE POR	TX	LPV200	2	99.567	3	99.528	6	99.421
MDD	MIDLAND AIRPARK	TX	LPV	2	99.567	3	99.537	6	99.422
MFE	MC ALLEN MILLER INTL	TX	LPV200	2	99.452	2	99.441	74	99.046
MKN	COMANCHE COUNTY-CITY	TX	LPV	2	99.556	3	99.534	3	99.458
MNZ	HAMILTON MUNICIPAL	TX	LPV	2	99.554	3	99.531	3	99.459
MWL	MINERAL WELLS RGNL	TX	LPV200	2	99.564	4	99.549	2	99.464
OCH	NACOGDOCHES A L MANGHAM JR RGN	TX	LPV200	2	99.556	3	99.550	4	99.476
ODO	ODESSA-SCHLEMEYER FLD	TX	LPV200	1	99.570	4	99.546	6	99.420
ONY	OLNEY MUNICIPAL	TX	LPV	1	99.570	2	99.555	3	99.478
ORG	ORANGE COUNTY	TX	LPV	2	99.545	3	99.510	4	99.432
PEQ	PECOS MUNICIPAL	TX	LPV200	3	99.568	4	99.515	14	99.368
PIL	PORT ISABEL-CAMERON COUNTY	TX	LPV	2	99.449	2	99.441	59	99.133
PKV	CALHOUN COUNTY	TX	LPV	3	99.494	2	99.449	3	99.423
PPA	PERRY LEFORS FLD	TX	LPV	2	99.542	3	99.524	3	99.477
PRX	COX FLD	TX	LPV	1	99.570	2	99.570	3	99.500
PSX	PALACIOS MUNICIPAL	TX	LPV	3	99.499	2	99.450	3	99.423
PVW	HALE COUNTY	TX	LPV	1	99.570	2	99.563	4	99.477
PWG	MC GREGOR EXEC	TX	LPV	2	99.554	3	99.535	2	99.459
PYX	PERRYTON OCHILTREE COUNTY	TX	LPV	2	99.540	3	99.519	3	99.466
RAS	MUSTANG BEACH	TX	LPV	3	99.493	2	99.445	13	99.368
RBD	DALLAS EXEC	TX	LPV200	1	99.570	3	99.553	2	99.465
RBO	NUECES COUNTY	TX	LPV	3	99.493	2	99.445	15	99.351
RKP	ARANSAS COUNTY	TX	LPV	3	99.493	2	99.445	12	99.392
RYW	LAGO VISTA TX/RUSTY ALLEN	TX	LPV	3	99.536	4	99.515	3	99.410
SAT	SAN ANTONIO INTL	TX	LPV200	3	99.512	4	99.486	3	99.396
SGR	SUGAR LAND RGNL	TX	LPV200	3	99.520	3	99.499	2	99.426
SJT	SAN ANGELO RGNL/MATHIS FLD	TX	LPV	2	99.554	3	99.527	3	99.438
SLR	SULPHUR SPRINGS MUNICIPAL	TX	LPV	1	99.570	2	99.567	3	99.490
SNK	WINSTON FLD	TX	LPV200	2	99.567	4	99.550	4	99.473
SWI	SHERMAN MUNICIPAL	TX	LP	1	99.570	2	99.559	4	99.498
SWW	AVENGER FLD	TX	LPV	2	99.564	3	99.528	2	99.463
T23	ALBANY MUNICIPAL	TX	LPV	2	99.562	3	99.534	2	99.463

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
T41	LA PORTE MUNICIPAL	TX	LPV	3	99.518	3	99.503	3	99.429
T74	TAYLOR MUNICIPAL	TX	LPV	3	99.539	4	99.515	3	99.423
T78	LIBERTY MUNICIPAL	TX	LP	2	99.544	4	99.523	2	99.434
T82	GILLESPIE COUNTY	TX	LPV	3	99.535	5	99.515	3	99.426
TDW	TRADEWIND	TX	LPV	2	99.555	3	99.528	3	99.481
TFP	MCCAMPBELL-PORTER	TX	LPV	3	99.493	2	99.445	12	99.370
TKI	MCKINNEY NTL	TX	LPV200	1	99.570	2	99.559	3	99.485
TME	HOUSTON EXEC	TX	LPV	3	99.519	3	99.501	2	99.426
TPL	DRAUGHON-MILLER CENTRAL TEXAS	TX	LPV200	2	99.552	3	99.534	4	99.455
TRL	TERRELL MUNICIPAL	TX	LPV	1	99.570	2	99.559	3	99.480
TX2	CHASE FLD INDUSTRIAL	TX	LPV	2	99.927	1	99.893	8	99.853
TXW	MID VALLEY	TX	LPV	1	99.893	1	99.893	68	99.549
TYR	TYLER POUNDS RGNL	TX	LPV200	1	99.570	3	99.561	3	99.486
UTS	HUNTSVILLE MUNICIPAL	TX	LPV	2	99.552	4	99.533	2	99.426
VCT	VICTORIA RGNL	TX	LPV200	3	99.498	2	99.449	3	99.423
XBP	BRIDGEPORT MUNICIPAL	TX	LPV	1	99.570	2	99.556	2	99.465
41U	MANTI-EPHRAIM	UT	LPV	1	99.574	2	99.524	2	99.495
74V	ROOSEVELT MUNICIPAL	UT	LPV	3	99.561	2	99.519	2	99.482
BCE	BRYCE CANYON	UT	LPV	1	99.574	3	99.547	10	99.495
BDG	BLANDING MUNICIPAL	UT	LPV	1	99.574	2	99.530	3	99.511
BMC	BRIGHAM CITY RGNL	UT	LP	2	99.531	2	99.514	2	99.478
CDC	CEDAR CITY RGNL	UT	LPV	1	99.574	3	99.562	10	99.484
CNY	CANYONLANDS RGNL	UT	LP	1	99.574	2	99.520	2	99.499
DTA	DELTA MUNICIPAL	UT	LP	1	99.574	2	99.526	2	99.495
ENV	WENDOVER	UT	LPV	1	99.574	2	99.518	2	99.490
FOM	FILLMORE MUNICIPAL	UT	LPV	1	99.574	2	99.535	6	99.503
LGU	LOGAN-CACHE	UT	LPV	2	99.527	2	99.514	2	99.477
OGD	OGDEN-HINCKLEY	UT	LPV	3	99.558	2	99.515	2	99.480
PUC	CARBON COUNTY RGNL/BUCK DAVIS	UT	LP	2	99.573	2	99.521	2	99.489
PVU	PROVO MUNICIPAL	UT	LPV200	2	99.567	2	99.520	2	99.489
RIF	RICHFIELD MUNICIPAL	UT	LP	1	99.574	2	99.534	7	99.505
SGU	ST GEORGE RGNL	UT	LPV	1	99.574	2	99.573	10	99.459
SLC	SALT LAKE CITY INTL	UT	LPV200	2	99.564	2	99.517	2	99.485
SPK	SPANISH FORK MUNICIPAL/WOODHOUSE FL	UT	LP	1	99.993	1	99.946	1	99.914
TVY	BOLINDER FLD-TOOELE VALLEY	UT	LPV200	1	99.574	2	99.517	2	99.486
U14	NEPHI MUNICIPAL	UT	LPV	1	99.574	2	99.522	2	99.489

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
U42	SOUTH VALLEY RGNL	UT	LPV	2	99.564	2	99.517	2	99.486
U55	PANGUITCH MUNICIPAL	UT	LPV200	1	99.574	3	99.549	10	99.491
VEL	VERNAL RGNL	UT	LPV	3	99.549	2	99.518	2	99.481
0V4	BROOKNEAL/CAMPBELL COUNTY	VA	LPV	1	99.518	2	99.501	1	99.438
0VG	LEE COUNTY	VA	LPV	1	99.533	1	99.533	2	99.505
AVC	MECKLENBURG-BRUNSWICK RGNL	VA	LPV	1	99.513	2	99.498	2	99.439
BCB	VIRGINIA TECH/MONTGOMERY EXEC	VA	LPV	1	99.527	2	99.524	1	99.462
BKT	ALLEN C PERKINSON BLACKSTONE A	VA	LPV	1	99.515	2	99.496	2	99.439
CHO	CHARLOTTESVILLE-ALBEMARLE	VA	LPV200	1	99.518	2	99.503	1	99.437
CJR	CULPEPER RGNL	VA	LPV	1	99.518	2	99.510	1	99.437
CPK	CHESAPEAKE RGNL	VA	LPV200	2	99.507	1	99.429	2	99.429
DAN	DANVILLE RGNL	VA	LPV200	1	99.518	2	99.502	1	99.439
EMV	EMPORIA-GREENSVILLE RGNL	VA	LPV	1	99.512	2	99.485	2	99.439
FCI	RICHMOND EXEC/CHESTERFIELD COU	VA	LPV	1	99.515	2	99.493	2	99.435
FKN	FRANKLIN RGNL	VA	LPV	1	99.512	3	99.473	2	99.429
FVX	FARMVILLE RGNL	VA	LPV	1	99.518	2	99.497	2	99.438
FYJ	MIDDLE PENINSULA RGNL	VA	LPV	1	99.512	2	99.488	2	99.435
HLX	TWIN COUNTY	VA	LPV	1	99.527	1	99.527	1	99.466
HSP	INGALLS FLD	VA	LPV	1	99.520	2	99.516	1	99.457
HWY	WARRENTON/FAUQUIER	VA	LPV200	1	99.518	1	99.512	1	99.437
JFZ	TAZEWELL COUNTY	VA	LPV	1	99.530	1	99.530	1	99.465
JYO	LEESBURG EXEC	VA	LPV	1	99.518	1	99.511	1	99.456
LKU	LOUISA COUNTY/FREEMAN FLD	VA	LPV	1	99.518	2	99.497	1	99.437
LNP	LONESOME PINE	VA	LPV	1	99.530	1	99.530	2	99.481
LUA	LURAY CAVERNS	VA	LP	1	99.518	1	99.518	1	99.441
LYH	LYNCHBURG RGNL/PRESTON GLENN F	VA	LPV	1	99.518	2	99.506	1	99.438
MFV	ACCOMACK COUNTY	VA	LPV	1	99.507	3	99.465	2	99.426
MKJ	MOUNTAIN EMPIRE	VA	LPV	1	99.530	1	99.529	1	99.465
MTV	BLUE RIDGE	VA	LPV	1	99.518	2	99.510	1	99.442
OFP	HANOVER COUNTY MUNICIPAL	VA	LPV	1	99.515	2	99.493	2	99.434
OKV	WINCHESTER RGNL	VA	LPV200	1	99.518	1	99.518	1	99.457
ORF	NORFOLK INTL	VA	LPV200	1	99.512	2	99.450	2	99.426
PHF	NEWPORT NEWS/WILLIAMSBURG INTL	VA	LPV200	1	99.512	3	99.473	2	99.426
PSK	NEW RIVER VALLEY	VA	LPV200	1	99.528	1	99.528	1	99.463
PTB	DINWIDDIE COUNTY	VA	LPV	1	99.515	2	99.493	2	99.435
PVG	HAMPTON ROADS EXEC	VA	LPV200	1	99.512	3	99.462	2	99.427

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
RIC	RICHMOND INTL	VA	LPV200	1	99.514	2	99.493	2	99.435
RMN	STAFFORD RGNL	VA	LPV	1	99.518	2	99.501	1	99.437
ROA	ROANOKE/BLACKSBURG RGNL (WOODR	VA	LPV	1	99.520	2	99.513	1	99.452
SFQ	SUFFOLK EXEC	VA	LPV	1	99.512	3	99.464	2	99.429
SHD	SHENANDOAH VALLEY RGNL	VA	LPV200	1	99.518	2	99.512	1	99.441
VJI	VIRGINIA HIGHLANDS	VA	LPV	1	99.530	1	99.530	1	99.467
W78	WILLIAM M TUCK	VA	LPV	1	99.515	2	99.499	1	99.439
W96	NEW KENT COUNTY	VA	LP	1	99.512	2	99.490	2	99.435
WAL	WALLOPS FLIGHT FACILITY	VA	LPV	1	99.507	2	99.445	2	99.426
XSA	TAPPAHANNOCK/ESSEX COUNTY	VA	LPV	1	99.512	2	99.493	2	99.434
BTV	BURLINGTON INTL	VT	LPV200	4	99.370	3	99.300	4	99.254
EFK	NORTHEAST KINGDOM INTL	VT	LP	5	99.357	3	99.290	10	99.208
FSO	FRANKLIN COUNTY STATE	VT	LPV	4	99.364	3	99.300	9	99.230
MPV	EDWARD F KNAPP STATE	VT	LPV	4	99.364	3	99.311	4	99.254
MVL	MORRISVILLE-STOWE STATE	VT	LPV	4	99.365	3	99.300	6	99.244
RUT	RUTLAND - SOUTHERN VERMONT RGN	VT	LPV	4	99.368	3	99.321	3	99.274
ALW	WALLA WALLA RGNL	WA	LPV200	2	99.489	2	99.478	6	99.404
AWO	ARLINGTON MUNICIPAL	WA	LPV200	3	99.511	8	99.398	13	99.194
BLI	BELLINGHAM INTL	WA	LPV200	5	99.497	8	99.365	14	99.181
BVS	SKAGIT RGNL	WA	LPV	3	99.511	8	99.385	14	99.186
CLM	WILLIAM R FAIRCHILD INTL	WA	LPV	3	99.508	8	99.434	14	99.197
CLS	CHEHALIS-CENTRALIA	WA	LPV	2	99.515	5	99.491	9	99.324
DEW	DEER PARK	WA	LPV	4	99.466	5	99.432	10	99.305
EPH	EPHRATA MUNICIPAL	WA	LPV	2	99.493	5	99.453	10	99.318
FHR	FRIDAY HARBOR	WA	LPV	4	99.510	8	99.376	14	99.182
GEG	SPOKANE INTL	WA	LPV200	4	99.469	5	99.431	11	99.347
HQM	BOWERMAN	WA	LPV200	2	99.523	6	99.483	8	99.280
KLS	SOUTHWEST WASHINGTON RGNL	WA	LPV	2	99.523	3	99.497	8	99.351
MWH	GRANT COUNTY INTL	WA	LPV200	2	99.493	5	99.456	10	99.351
OLM	OLYMPIA RGNL	WA	LPV200	2	99.514	5	99.483	7	99.291
ORS	ORCAS ISLAND	WA	LP	5	99.501	8	99.364	14	99.175
PAE	SNOHOMISH COUNTY (PAINE FLD)	WA	LPV200	2	99.512	7	99.426	12	99.233
PLU	PIERCE COUNTY - THUN FLD	WA	LPV	2	99.512	6	99.466	6	99.290
PSC	TRI-CITIES	WA	LPV200	2	99.500	3	99.483	7	99.375
PWT	BREMERTON NTL	WA	LPV200	2	99.512	6	99.428	9	99.249
RLD	RICHLAND	WA	LPV	2	99.500	3	99.482	7	99.371

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
RNT	RENTON MUNICIPAL	WA	LPV	2	99.512	6	99.437	9	99.256
SEA	SEATTLE-TACOMA INTL	WA	LPV200	2	99.512	6	99.437	8	99.264
SFF	FELTS FLD	WA	LPV	4	99.469	4	99.432	11	99.339
SHN	SANDERSON FLD	WA	LPV	2	99.514	6	99.454	6	99.262
TDO	ED CARLSON MEML FLD - SOUTH LE	WA	LPV	2	99.523	3	99.497	8	99.334
TIW	TACOMA NARROWS	WA	LPV	2	99.512	5	99.440	6	99.278
YKM	YAKIMA AIR TRML/MCALLISTER FLD	WA	LPV200	2	99.503	3	99.478	7	99.361
3T3	BOYCEVILLE MUNICIPAL	WI	LPV	5	99.464	5	99.424	7	99.292
57C	EAST TROY MUNICIPAL	WI	LPV	2	99.515	2	99.508	3	99.449
61C	FORT ATKINSON MUNICIPAL	WI	LP	2	99.515	2	99.508	3	99.447
82C	MAUSTON/NEW LISBON UNION	WI	LP	3	99.505	3	99.486	7	99.404
8D1	NEW HOLSTEIN MUNICIPAL	WI	LPV	2	99.515	3	99.502	7	99.388
AHH	AMERY MUNICIPAL	WI	LP	5	99.447	5	99.408	10	99.284
AIG	LANGLADE COUNTY	WI	LPV	3	99.503	3	99.473	9	99.311
ARV	LAKELAND/NOBLE F LEE MEML FLD	WI	LPV	10	99.437	8	99.382	8	99.172
ASX	JOHN F KENNEDY MEML	WI	LPV	8	99.320	8	99.256	14	99.074
ATW	APPLETON INTL	WI	LPV200	3	99.504	3	99.485	8	99.384
AUW	WAUSAU DOWNTOWN	WI	LPV200	3	99.504	3	99.472	9	99.335
BCK	BLACK RIVER FALLS AREA	WI	LPV	3	99.490	4	99.469	7	99.337
BUU	BURLINGTON MUNICIPAL	WI	LP	2	99.515	2	99.508	3	99.451
C29	MIDDLETON MUNICIPAL/MOREY FLD	WI	LPV	2	99.515	3	99.503	3	99.448
C35	REEDSBURG MUNICIPAL	WI	LP	2	99.515	2	99.489	6	99.426
C47	PORTAGE MUNICIPAL	WI	LP	2	99.515	2	99.489	6	99.430
CLI	CLINTONVILLE MUNICIPAL	WI	LPV	3	99.503	3	99.480	8	99.341
CMY	SPARTA/FORT MC COY	WI	LPV	3	99.506	4	99.474	7	99.383
CWA	CENTRAL WISCONSIN	WI	LPV200	3	99.505	3	99.471	8	99.363
DLL	BARABOO/WISCONSIN DELLS RGNL	WI	LPV	2	99.515	2	99.489	6	99.427
EAU	CHIPPEWA VALLEY RGNL	WI	LPV200	4	99.483	5	99.447	6	99.311
EGV	EAGLE RIVER UNION	WI	LPV	8	99.429	8	99.374	8	99.172
ENW	KENOSHA RGNL	WI	LPV200	2	99.515	2	99.508	2	99.456
ETB	WEST BEND MUNICIPAL	WI	LPV	2	99.515	2	99.508	4	99.436
EZS	SHAWANO MUNICIPAL	WI	LPV	3	99.503	3	99.473	8	99.324
FLD	FOND DU LAC COUNTY	WI	LPV	2	99.515	3	99.503	7	99.425
GRB	GREEN BAY/AUSTIN STRAUBEL INTL	WI	LPV200	3	99.503	3	99.485	7	99.361
GTG	GRANTSBURG MUNICIPAL	WI	LP	5	99.436	4	99.389	12	99.194
HXF	HARTFORD MUNICIPAL	WI	LPV	2	99.515	2	99.508	3	99.446

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
HYR	SAWYER COUNTY	WI	LPV	6	99.393	7	99.333	11	99.159
ISW	ALEXANDER FLD SOUTH WOOD COUNT	WI	LPV	3	99.505	3	99.473	7	99.365
JVL	SOUTHERN WISCONSIN RGNL	WI	LPV200	2	99.515	2	99.508	3	99.450
LNR	TRI-COUNTY RGNL	WI	LPV	2	99.515	2	99.489	6	99.424
LSE	LA CROSSE RGNL	WI	LPV	3	99.489	4	99.469	7	99.379
LUM	MENOMONIE MUNICIPAL/SCORE FLD	WI	LPV	5	99.469	5	99.433	6	99.308
MDZ	TAYLOR COUNTY	WI	LPV	5	99.498	5	99.464	8	99.289
MFI	MARSHFIELD MUNICIPAL	WI	LPV	3	99.505	3	99.472	7	99.345
MKE	GENERAL MITCHELL INTL	WI	LPV200	2	99.515	2	99.508	4	99.446
MRJ	IOWA COUNTY	WI	LPV200	2	99.515	2	99.489	4	99.432
MSN	DANE COUNTY RGNL/TRUAX FLD	WI	LPV200	2	99.515	3	99.504	3	99.447
MTW	MANITOWOC COUNTY	WI	LPV200	2	99.508	3	99.501	7	99.386
MWC	LAWRENCE J TIMMERMAN	WI	LPV	2	99.515	2	99.508	3	99.446
OCQ	OCONTO/J DOUGLAS BAKE MUNICIPAL	WI	LP	4	99.498	4	99.477	8	99.338
OEO	L O SIMENSTAD MUNICIPAL	WI	LPV200	5	99.440	5	99.393	9	99.272
OSH	WITTMAN RGNL	WI	LPV200	2	99.509	2	99.489	5	99.393
OVS	BOSCOBEL	WI	LPV	2	99.515	2	99.489	6	99.417
PBH	PRICE COUNTY	WI	LPV	7	99.482	7	99.422	11	99.211
PCZ	WAUPACA MUNICIPAL	WI	LPV	3	99.503	3	99.485	7	99.387
PVB	PLATTEVILLE MUNICIPAL	WI	LPV	2	99.515	2	99.489	4	99.436
RAC	BATTEN INTL	WI	LPV	2	99.515	2	99.508	2	99.454
RCX	RUSK COUNTY	WI	LPV	5	99.468	5	99.416	10	99.237
RHI	RHINELANDER/ONEIDA COUNTY	WI	LPV200	6	99.482	7	99.437	10	99.213
RNH	NEW RICHMOND RGNL	WI	LPV	5	99.461	5	99.420	8	99.299
RPD	RICE LAKE RGNL/CARL'S FLD	WI	LPV200	5	99.455	5	99.417	10	99.265
RRL	MERRILL MUNICIPAL	WI	LPV	4	99.494	4	99.461	9	99.292
SBM	SHEBOYGAN COUNTY MEML	WI	LPV200	2	99.515	3	99.505	5	99.409
STE	STEVENS POINT MUNICIPAL	WI	LPV	3	99.504	3	99.471	7	99.365
SUE	DOOR COUNTY CHERRYLAND	WI	LPV	5	99.499	5	99.479	8	99.347
SUW	RICHARD I BONG	WI	LP	8	99.301	11	99.256	14	99.048
TKV	TOMAHAWK RGNL	WI	LP	4	99.491	5	99.446	10	99.247
UBE	CUMBERLAND MUNICIPAL	WI	LPV	5	99.439	5	99.403	10	99.248
UES	WAUKESHA COUNTY	WI	LPV200	2	99.515	2	99.508	3	99.446
UNU	DODGE COUNTY	WI	LPV	2	99.515	3	99.506	3	99.444
VIQ	NEILLSVILLE MUNICIPAL	WI	LPV	3	99.506	5	99.470	7	99.338
Y50	WAUTOMA MUNICIPAL	WI	LP	3	99.504	3	99.485	6	99.399

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
Y55	CRANDON/STEVE CONWAY MUNICIPAL	WI	LPV	6	99.492	6	99.459	11	99.248
Y72	BLOYER FLD	WI	LP	3	99.506	4	99.486	7	99.381
3I2	MASON COUNTY	WV	LPV	1	99.544	1	99.544	1	99.518
6L4	LOGAN COUNTY	WV	LPV	1	99.544	1	99.536	2	99.481
BKW	RALEIGH COUNTY MEML	WV	LPV200	1	99.530	1	99.528	1	99.463
BLF	MERCER COUNTY	WV	LPV	1	99.530	1	99.528	1	99.463
CKB	NORTH CENTRAL WEST VIRGINIA	WV	LPV200	1	99.530	1	99.529	1	99.489
CRW	WEST VIRGINIA INTL YEAGER	WV	LPV200	1	99.544	1	99.544	1	99.511
HLG	WHEELING OHIO COUNTY	WV	LPV200	1	99.537	2	99.515	2	99.463
HTS	TRI-STATE/MILTON J FERGUSON FL	WV	LPV200	1	99.544	1	99.544	1	99.518
I18	JACKSON COUNTY	WV	LPV200	1	99.544	1	99.544	1	99.518
LWB	GREENBRIER VALLEY	WV	LPV	1	99.529	1	99.528	1	99.460
MGW	MORGANTOWN MUNICIPAL (WALTER L BILL	WV	LPV200	1	99.526	1	99.526	2	99.479
MRB	EASTERN WV RGNL/SHEPHERD FLD	WV	LPV	1	99.518	1	99.518	1	99.456
PKB	MID-OHIO VALLEY RGNL	WV	LPV	1	99.544	1	99.544	2	99.485
USW	BOGGS FLD	WV	LPV	1	99.539	1	99.539	1	99.511
W22	UPSHUR COUNTY RGNL	WV	LPV	1	99.530	1	99.530	2	99.503
W35	POTOMAC AIRPARK	WV	LP	1	99.518	1	99.518	2	99.439
W99	GRANT COUNTY	WV	LP	1	99.518	1	99.518	1	99.459
BYG	JOHNSON COUNTY	WY	LPV	2	99.478	2	99.467	4	99.424
COD	YELLOWSTONE RGNL	WY	LPV	2	99.478	2	99.478	4	99.449
CPR	CASPER/NATRONA COUNTY INTL	WY	LPV	2	99.478	2	99.474	3	99.462
CYS	CHEYENNE RGNL/JERRY OLSON FLD	WY	LPV200	2	99.481	2	99.475	2	99.468
DGW	CONVERSE COUNTY	WY	LPV200	2	99.478	2	99.474	4	99.459
DWX	DIXON	WY	LP	1	99.911	1	99.903	1	99.900
EAN	PHIFER AIRFIELD	WY	LPV200	2	99.474	2	99.474	2	99.467
ECS	MONDELL FLD	WY	LPV	2	99.478	3	99.465	5	99.421
EMM	KEMMERER MUNICIPAL	WY	LPV	3	99.520	3	99.510	2	99.476
EVW	EVANSTON-UINTA COUNTY BURNS FL	WY	LPV	2	99.530	2	99.515	2	99.479
FBR	FORT BRIDGER	WY	LP	2	99.527	3	99.515	2	99.478
GCC	NORTHEAST WYOMING RGNL	WY	LPV	2	99.478	3	99.468	5	99.406
GEY	SOUTH BIG HORN COUNTY	WY	LPV	2	99.478	2	99.478	4	99.446
GUR	CAMP GUERNSEY	WY	LP	2	99.478	2	99.474	4	99.461
HSG	HOT SPRINGS COUNTY	WY	LPV	2	99.478	2	99.478	2	99.474
JAC	JACKSON HOLE	WY	LPV200	2	99.480	2	99.475	2	99.467
LAR	LARAMIE RGNL	WY	LPV	2	99.482	2	99.476	2	99.470

Airport	Airport Name	State/ Province	Service	LP Outages	LP Avail (%)	LPV Outages	LPV Avail (%)	LPV200 Outages	LPV200 Avail (%)
LND	HUNT FLD	WY	LPV	1	99.911	1	99.904	1	99.900
PNA	RALPH WENZ FLD	WY	LPV	2	99.486	2	99.482	2	99.474
POY	POWELL MUNICIPAL	WY	LPV	2	99.478	2	99.478	5	99.443
RIW	CENTRAL WYOMING RGNL	WY	LPV200	2	99.481	2	99.478	2	99.474
RKS	SOUTHWEST WYOMING RGNL	WY	LPV200	3	99.512	3	99.500	2	99.476
RWL	RAWLINS MUNICIPAL/HARVEY FLD	WY	LPV	2	99.482	2	99.475	2	99.473
SAA	SHIVELY FLD	WY	LPV	2	99.482	2	99.476	2	99.473
SHR	SHERIDAN COUNTY	WY	LPV	2	99.467	2	99.467	6	99.411
U68	NORTH BIG HORN COUNTY	WY	LPV	2	99.478	2	99.478	5	99.432
W43	HULETT MUNICIPAL	WY	LPV	2	99.471	3	99.455	7	99.370
WRL	WORLAND MUNICIPAL	WY	LPV	2	99.478	2	99.478	2	99.463
CYMA	MAYO	YT	LPV	19	98.945	22	98.559	57	97.695
CYQH	WATSON LAKE	YT	LPV	25	98.614	25	98.233	61	97.280
CYXY	ERIK NIELSEN INTL	YT	LPV200	22	98.611	26	98.334	50	97.549
CYZW	TESLIN	YT	LPV	20	99.198	23	98.909	46	98.147

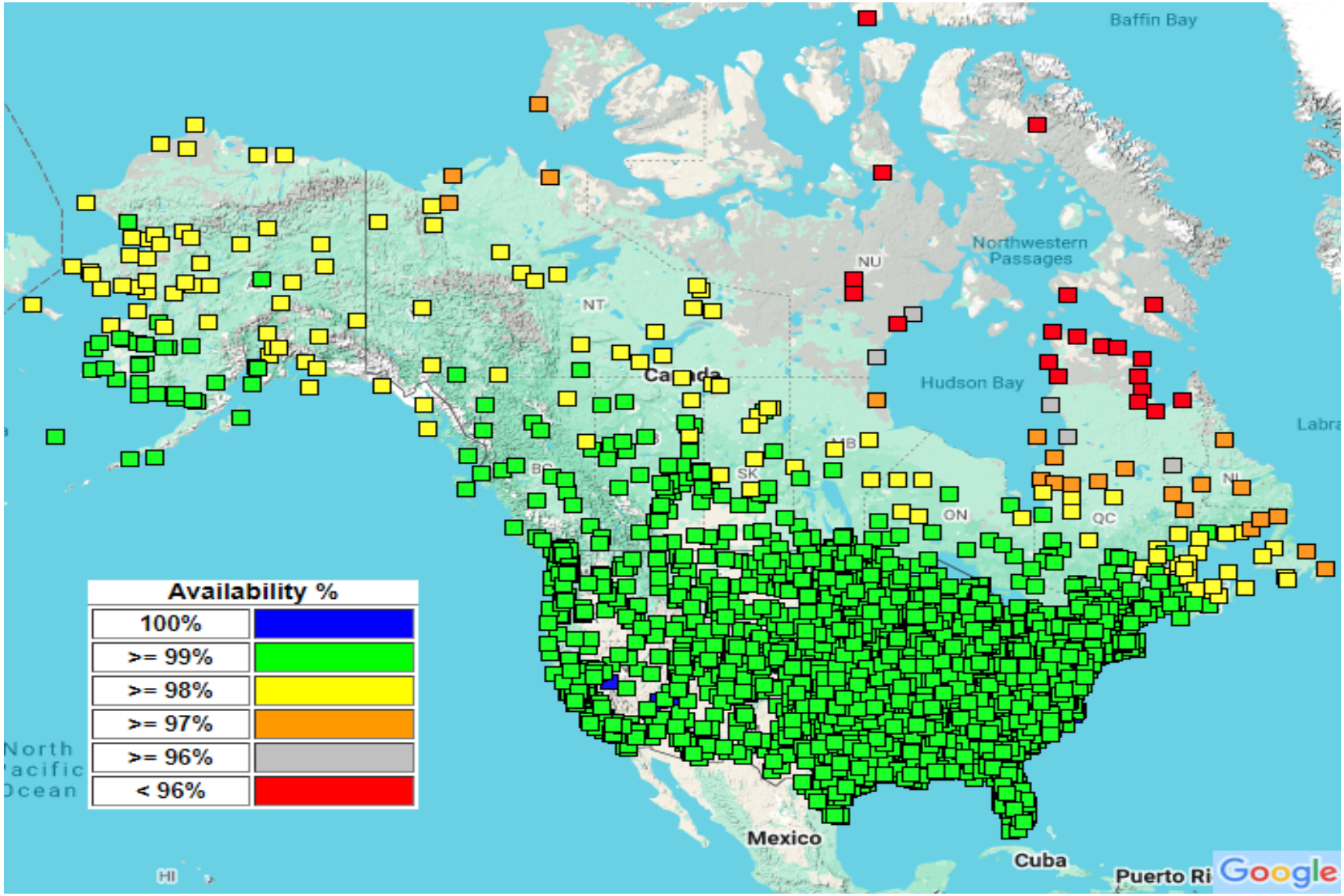

Figure 8-1 WAAS LP Availability at Airports in the U.S. and Canada with GPS RNAV IAPs

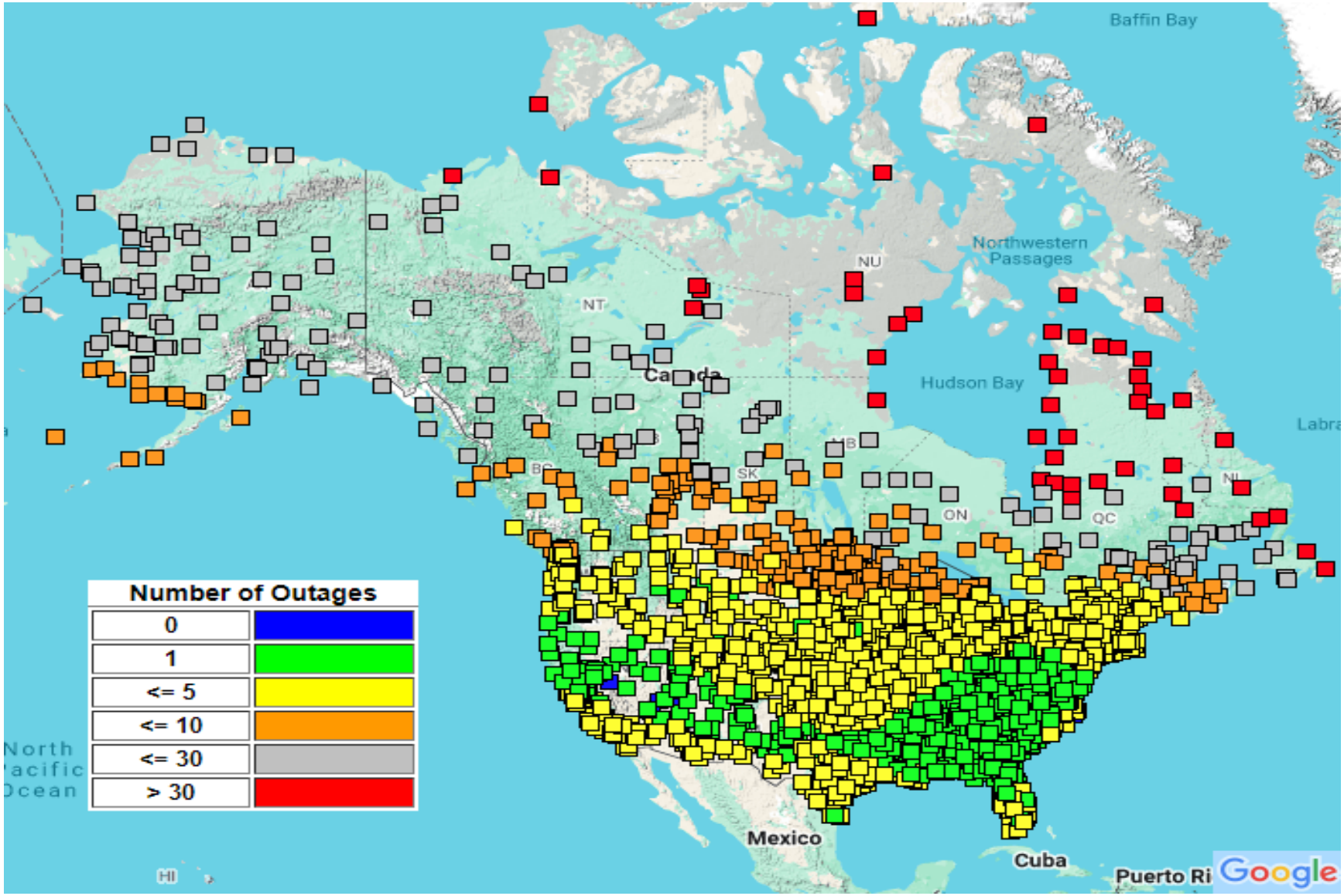

Figure 8-2 WAAS LP Outages at Airports in the U.S. and Canada with GPS RNAV IAPs

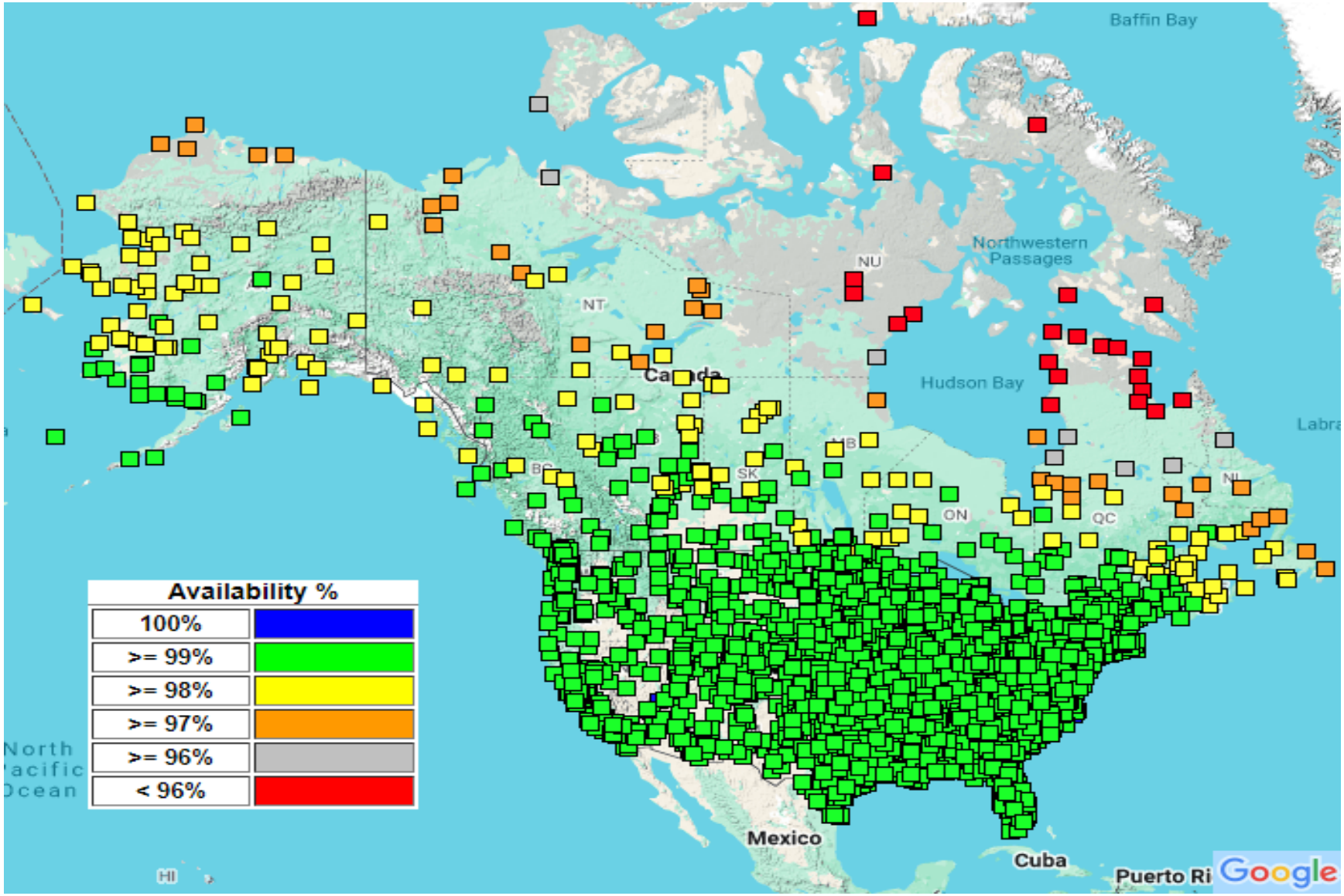

Figure 8-3 WAAS LPV Availability Airports in the U.S. and Canada with GPS RNAV IAPs

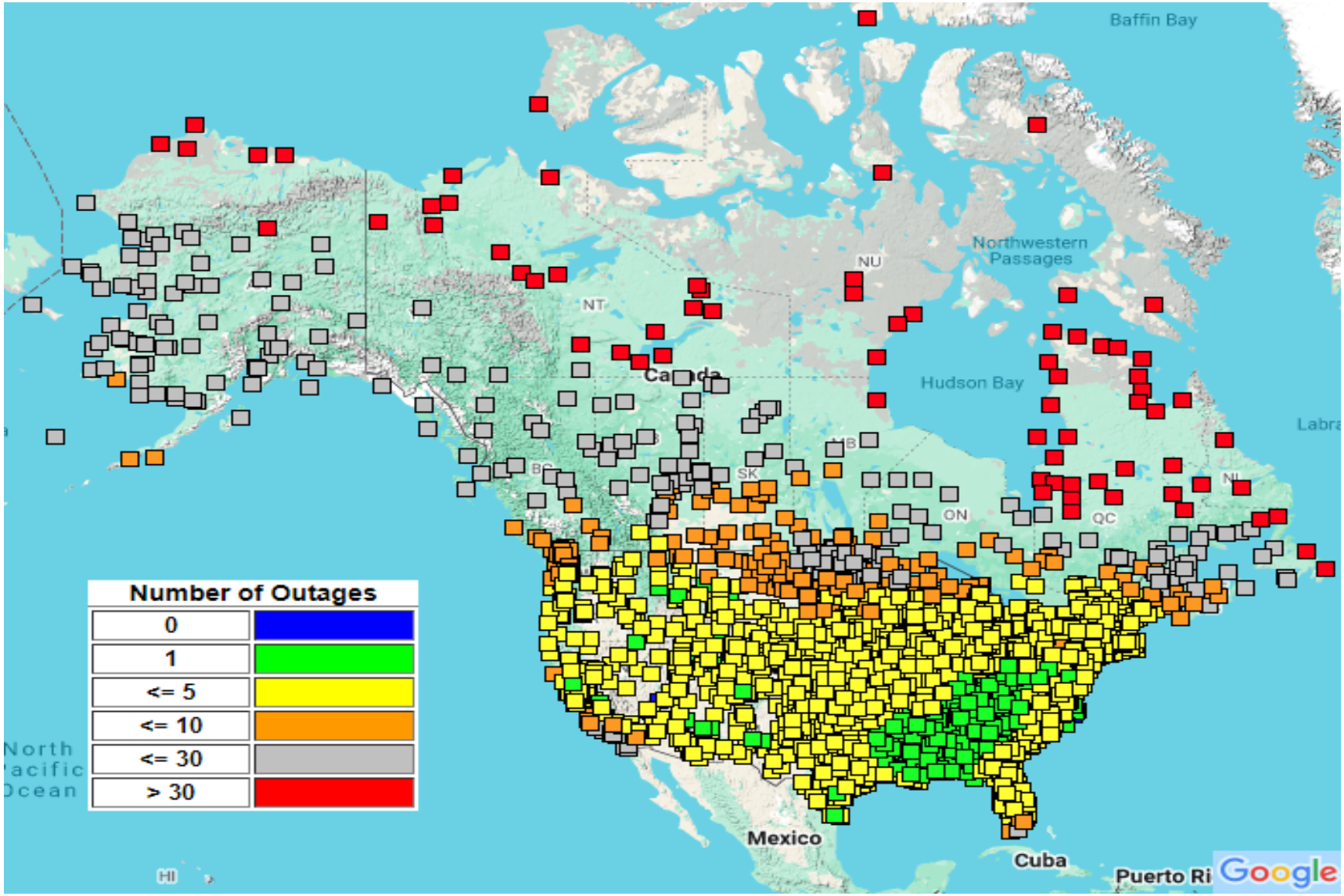

Figure 8-4 WAAS LPV Outages at Airports in the U.S. and Canada with GPS RNAV IAPs

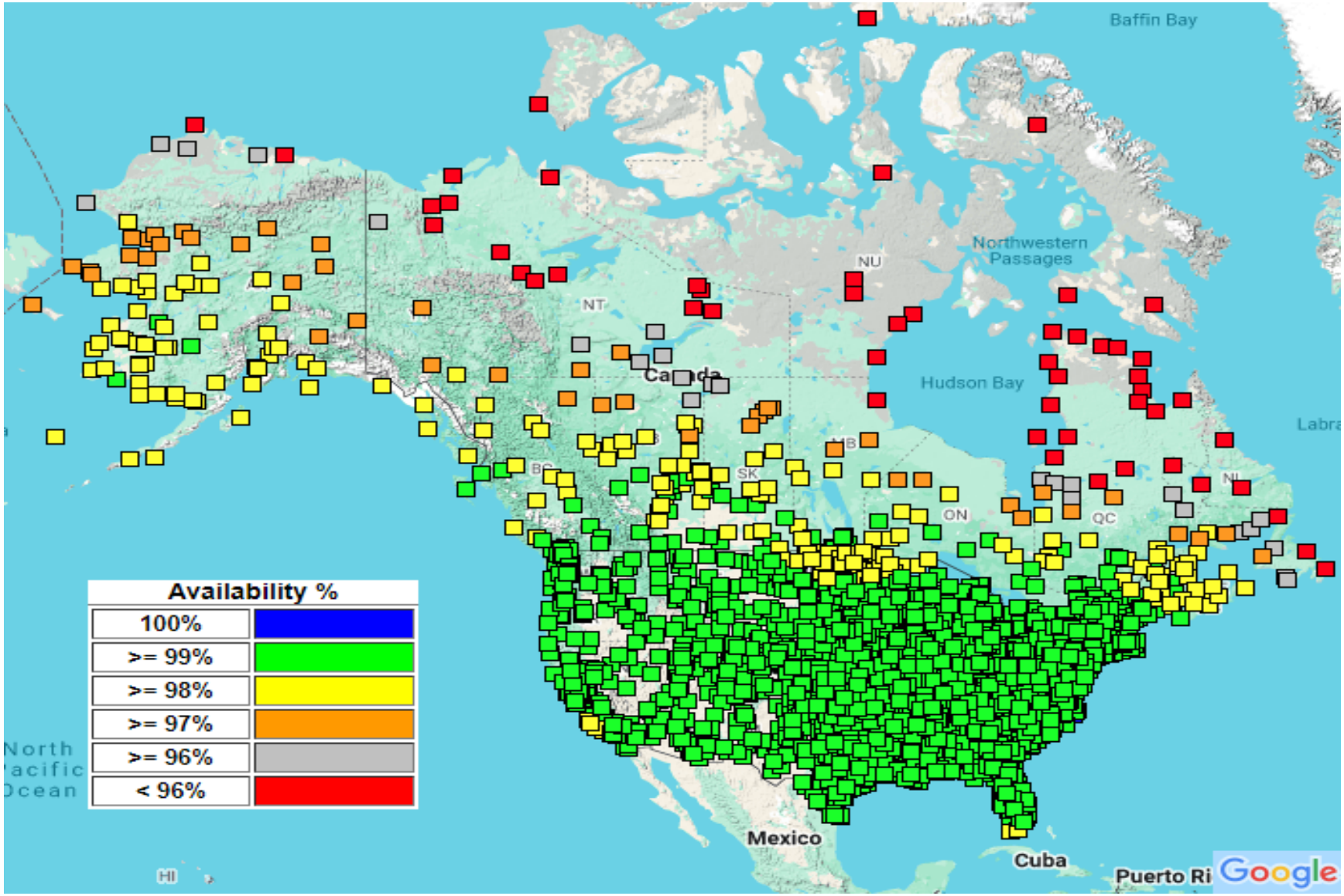

Figure 8-5 WAAS LPV200 Availability at Airports in the U.S. and Canada with GPS RNAV IAPs

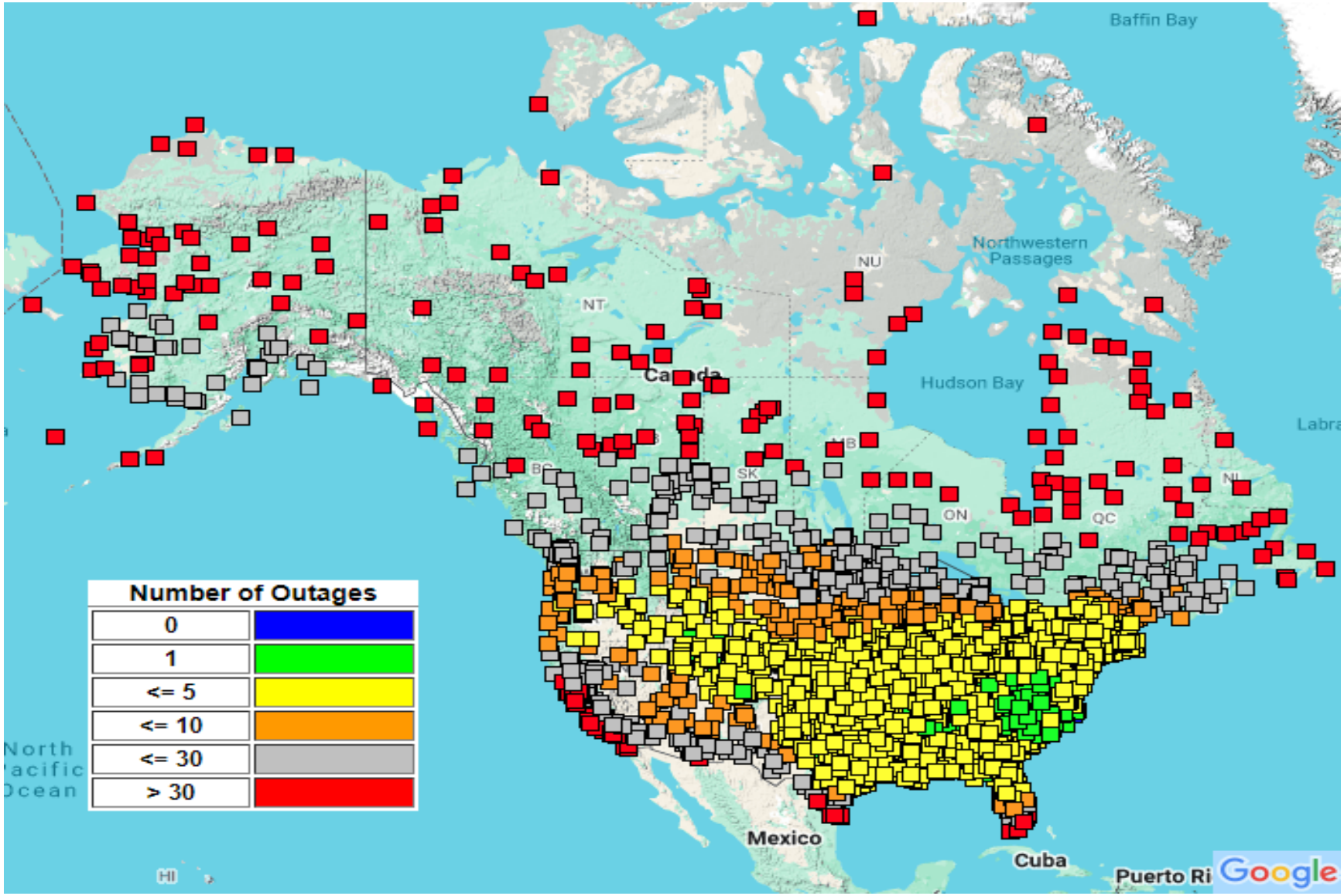

Figure 8-6 WAAS LPV200 Outages at Airports in the U.S. and Canada with GPS RNAV IAPs

9.0 WAAS CNMP BOUNDING ANALYSIS

The purpose of the WAAS CNMP Bounding Analysis is to evaluate the performance of the CNMP algorithm and identify any undetected anomalous events to limit exposure to faulted receivers and persistent large multipath errors. The identification of undetected anomalous events ensures that the probability of more than one WAAS reference station (WRS)-producing persistent unbounded measurement errors is negligible. This offline analysis is critical to ensure that CNMP bounding is not invalidated by changes in WRE environmental conditions.

The operational CNMP functionality resides in the WAAS safety processor. The CNMP algorithm estimates, and corrects for, observed code noise and multipath and provides confidence estimates for residual error in multipath-corrected pseudorange measurements. These confidence terms provide a conservative Gaussian overbound of the true error distribution, which integrity monitors use in the weighting of the measurements.

The measurement data from the offline analysis is post-processed to estimate the carrier phase ambiguity of each entire arc of measurements for each satellite pass. The ambiguity estimate is used to level the carrier measurement, which is then used as a multipath-free truth estimate. The WAAS real-time CNMP smoothing algorithm is then applied to the original measurements, and the difference between the smoothed measurements and the multipath-free truth estimates is the observed residual error. To minimize the impacts of non-zero mean multipath biasing the truth estimates, only arcs with a continuous carrier phase greater than 7200 seconds are used for this analysis. The WAAS dual frequency cycle slip detector algorithm is used to detect any discontinuities in the carrier phase.

Statistics are calculated based on how well Gaussian distributions with 0.1 multiples of the CNMP standard deviation bound the observed residual error. Subsequently, these statistics are compared to a theoretical Gaussian distribution and an extensive set of plots are generated and manually reviewed. Table 9-1 shows the analysis results for the previous 12 months for all three threads of WRE at each WAAS reference station. The color coding represents four levels of performance based on the magnitude and probability distribution of the residual error and the bounding performance of the CNMP algorithm.

Table 9-1 CNMP Bounding Statistics

WAAS Site	WRE	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25
Albuquerque	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Anchorage	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Atlanta	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Barrow	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Bethel	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Billings	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Boston	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Chicago	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Cleveland	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Cold Bay	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Dallas	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Denver	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Fairbanks	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Gander	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Goose Bay	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Honolulu	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Houston	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Iqaluit	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Jacksonville	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•

WAAS Site	WRE	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25
Juneau	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Kansas City	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Kotzebue	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Los Angeles	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Memphis	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Merida	A	•	•	•	•	•	•	•	•	•	–	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Mexico City	A	•	•	•	•	•	•	•	–	–	–	–	–
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	–	–	–	–	–	–	–	–	–	–
Miami	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Minneapolis	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
New York	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Oakland	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Puerto Vallarta	A	•	•	•	•	–	•	•	•	•	•	•	•
	B	•	–	–	–	–	–	–	–	–	–	–	–
	C	•	•	•	•	–	•	•	•	•	•	•	•
Salt Lake City	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	–	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
San Jose Del Cabo	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
San Juan	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Seattle	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Tapachula	A	–	–	–	–	•	•	•	•	•	•	•	•
	B	–	–	–	–	•	•	•	–	–	–	–	–
	C	–	–	–	–	•	•	•	–	•	•	•	•
Washington, DC	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•
Winnipeg	A	•	•	•	•	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•	•	•

• **Excellent** - 3.29σ bounded 100%
• **Good** - 4σ bounded 100%
• **Fair** - 4σ bounded 100% with one worst satellite excluded (Requires manual review if symptoms repeat from month to month)
• **Poor** - Requires manual review
– **N/A** - No data available

10.0 WRS ANTENNA SURVEY VALIDATION

Antenna L1 phase center position surveys were performed for all the WRS antennas using 24-hour sets on 04/02/2025. Merida Thread A (MMD1), Mexico City Thread A (MMX1), Mexico City Thread C (MMX3), Puerto Vallarta Thread B (MPR2), and Tapachula Thread B (MTP2) are excluded from this since they were out of service. Each WAAS WRS has three independent threads of WRE: (1) Thread A is also referred to as Thread 1, (2) Thread B is also referred to as Thread 2, and (3) Thread C is referred to as Thread 3.

Duplicate surveys were performed using both the National Geodetic Survey (NGS) Online Positioning User Service (OPUS) and the Canadian Spatial Reference System (CSRS) Precise Point Positioning (PPP) service. The IGS08 reference frame is used for the OPUS solutions. A value of -0.4445 meters was used for the antenna reference point (ARP) to antenna phase center (APC) offset for the MicroPulse MPL-WAAS-2225W WAAS antennas in the processing of the data.

The OPUS-reported RMS quality metrics were 2.3 cm or less. The CSRS surveys' RSSs of the reported ECEF sigmas were 14.1 mm or less. The OPUS and CSRS surveys agreed to an average of 1.27 cm with a standard deviation of 7.03 mm. The maximum difference was 3.61 cm at San Jose Del Cabo Thread A (MSD1).

The OPUS positions were compared to the positions computed by the WAAS C&Vs. The survey was completed on April 02, 2025. The OPUS surveys agree with the calculated positions to better or equal to 2.16 cm for most sites. The maximum difference was 10.79 cm at Mexico City Thread B (MMX2).

Table 10-1 lists the WAAS antenna L1 phase center positions using the OPUS data. Asterisks represent receivers not available for evaluation.

Table 10-1 WAAS Antenna Positions (OPUS IGS08) as of 04/02/2017

WRE	X (m)	Y (m)	Z (m)	LATITUDE	LONGITUDE	H (m)
BET1	-2965385.294	-972576.671	5543892.74	60.7879128	-161.8417255	52.168
BET2	-2965386.057	-972580.398	5543891.675	60.7878934	-161.8416648	52.159
BET3	-2965388.634	-972577.523	5543890.819	60.7878775	-161.8417297	52.169
BIL1	-1416446.053	-4223577.013	4550862.054	45.8037059	-108.5397252	1112.209
BIL2	-1416450.125	-4223574.868	4550862.778	45.8037152	-108.5397836	1112.213
BIL3	-1416441.755	-4223574.267	4550865.913	45.8037557	-108.539684	1112.208
BRW1	-1886759.175	-809058.711	6018494.364	71.2827625	-156.7899263	15.546
BRW2	-1886756.585	-809055.963	6018495.547	71.2827953	-156.7899683	15.555
BRW3	-1886755.498	-809059.751	6018495.371	71.2827906	-156.7898592	15.546
CDB1	-3484099.313	-1084748.836	5213678.469	55.1923714	-162.7064051	49.716
CDB2	-3484105.941	-1084741.643	5213675.518	55.1923253	-162.7065439	49.685
CDB3	-3484112.228	-1084734.86	5213672.77	55.1922818	-162.7066749	49.705
FAI1	-2304742.064	-1448715.358	5748843.654	64.8096278	-147.8473423	150.016
FAI2	-2304741.611	-1448706.55	5748846.05	64.8096781	-147.8474941	150.026
FAI3	-2304733.087	-1448707.489	5748849.204	64.8097447	-147.8473819	150.021
JNU1	-2354255.21	-2388549.727	5407043.188	58.3625728	-134.5857099	16.309
JNU2	-2354253.122	-2388565.841	5407037.029	58.3624673	-134.5854913	16.316
JNU3	-2354239.907	-2388568.694	5407041.491	58.3625437	-134.5852963	16.315
MMD1	*	*	*	*	*	*
MMD2	35065.385	-5959687.015	2264364.979	20.9319016	-89.6628891	29.135
MMD3	35065.05	-5959685.224	2264369.632	20.9319466	-89.6628922	29.123
MMX1	*	*	*	*	*	*
MMX2	-948696.199	-5943932.027	2109213.994	19.4316774	-99.068349	2231.963
MMX3	*	*	*	*	*	*
MPR1	-1570142.298	-5759530.593	2238184.736	20.6790031	-105.2492039	10.98
MPR2	*	*	*	*	*	*
MPR3	-1570143.58	-5759527.984	2238190.547	20.6790592	-105.2492224	10.993

WRE	X (m)	Y (m)	Z (m)	LATITUDE	LONGITUDE	H (m)
MSD1	-1979520.308	-5523222.754	2493107.049	23.1604493	-109.7176545	104.31
MSD2	-1979521.868	-5523225.083	2493100.648	23.1603865	-109.7176611	104.292
MSD3	-1979526.319	-5523221.782	2493104.307	23.1604226	-109.7177129	104.255
MTP1	-254854.397	-6162909.134	1617805.096	14.7913663	-92.3679996	54.92
MTP2	*	*	*	*	*	*
MTP3	-254855.553	-6162910.264	1617800.139	14.7913203	-92.3680099	54.793
OTZ1	-2396056.267	-750356.228	5843502.37	66.8873296	-162.6113731	10.852
OTZ2	-2396053.098	-750354.399	5843503.899	66.8873644	-162.6113914	10.856
OTZ3	-2396053.077	-750358.339	5843503.409	66.8873531	-162.6113054	10.86
YFB1	1035381.21	-2634289.684	5696539.627	63.7314912	-68.5431882	10.085
YFB2	1035371.993	-2634296.098	5696538.251	63.7314649	-68.5434094	10.001
YFB3	1035365.923	-2634306.86	5696534.476	63.7313872	-68.5436034	10.066
YQX1	2430424.443	-3419640.425	4788223.934	48.9664912	-54.5976346	146.9
YQX2	2430432.38	-3419639.081	4788220.882	48.9664494	-54.5975356	146.897
YQX3	2430440.286	-3419637.731	4788217.897	48.9664082	-54.5974369	146.93
YWG1	-520164.626	-4083476.002	4855842.984	49.9005734	-97.259401	222.118
YWG2	-520150.753	-4083468.934	4855850.379	49.9006765	-97.2592218	222.129
YWG3	-520152.624	-4083478.048	4855842.551	49.9005673	-97.2592316	222.117
YYR1	1885341.212	-3321428.397	5091171.764	53.3086482	-60.4194713	37.89
YYR2	1885344.179	-3321419.914	5091176.177	53.3087145	-60.4193698	37.896
YYR3	1885339.902	-3321413.101	5091182.186	53.3088047	-60.4193752	37.912
ZAB1	-1488637.009	-5003946.537	3654557.648	35.1735747	-106.5673516	1620.128
ZAB2	-1488631.672	-5003948.222	3654557.625	35.1735741	-106.5672902	1620.191
ZAB3	-1488632.45	-5003950.8	3654553.77	35.1735317	-106.5672903	1620.171
ZAN1	-2659536.843	-1549114.664	5567750.731	61.2292008	-149.7802545	80.728
ZAN2	-2659548.588	-1549110.707	5567746.229	61.2291172	-149.7804282	80.708
ZAN3	-2659541.535	-1549106.582	5567750.703	61.2292008	-149.7804285	80.697
ZAU1	138703.928	-4761244.121	4227763.913	41.7826581	-88.3313389	195.856
ZAU2	138704.19	-4761248.745	4227758.755	41.7825957	-88.3313374	195.872

WRE	X (m)	Y (m)	Z (m)	LATITUDE	LONGITUDE	H (m)
ZAU3	138710.895	-4761248.476	4227758.831	41.7825966	-88.3312567	195.867
ZBW1	1490299.031	-4448983.188	4306010.54	42.7357211	-71.4804281	39.112
ZBW2	1490304.146	-4448981.181	4306010.884	42.735725	-71.4803611	39.141
ZBW3	1490305.855	-4448984.807	4306006.575	42.7356722	-71.4803554	39.141
ZDC1	1069125.581	-4839598.99	4001126.531	39.1015963	-77.5427486	80.05
ZDC2	1069127.978	-4839603.621	4001120.334	39.1015243	-77.5427331	80.052
ZDC3	1069123.882	-4839602.706	4001122.531	39.1015498	-77.542777	80.059
ZDV1	-1273628.791	-4711375.568	4094890.057	40.1873027	-105.1272264	1541.352
ZDV2	-1273623.09	-4711377.083	4094890.067	40.1873029	-105.1271572	1541.339
ZDV3	-1273625.103	-4711380.288	4094885.785	40.1872524	-105.1271702	1541.341
ZFW1	-659983.36	-5324060.79	3438276.451	32.8306494	-97.0664735	155.635
ZFW2	-659988.628	-5324063.342	3438271.455	32.830596	-97.066526	155.599
ZFW3	-659983.656	-5324063.869	3438271.664	32.830598	-97.0664726	155.638
ZHN1	-5508637.246	-2234492.523	2303722.604	21.3129943	-157.9208351	24.669
ZHN2	-5508656.407	-2234482.864	2303687.359	21.3126513	-157.9209908	25.018
ZHN3	-5508647.818	-2234496.797	2303694.446	21.3127199	-157.9208352	25.058
ZHU1	-513864.607	-5506451.598	3166720.403	29.9618962	-95.3314278	10.733
ZHU2	-513867.253	-5506455.009	3166714.248	29.9618317	-95.3314518	10.814
ZHU3	-513873.531	-5506457.651	3166708.652	29.9617735	-95.331514	10.804
ZJX1	772646.301	-5434462.198	3237231.769	30.6988599	-81.9081866	2.14
ZJX2	772649.629	-5434463.751	3237228.373	30.6988243	-81.9081545	2.131
ZJX3	772645.563	-5434466.174	3237225.261	30.6987918	-81.9082001	2.113
ZKC1	-415247.688	-4954556.392	3982161.099	38.8801592	-94.7908358	305.901
ZKC2	-415231.295	-4954557.714	3982161.151	38.8801598	-94.7906463	305.893
ZKC3	-415237.412	-4954561.06	3982155.957	38.8801017	-94.7907133	305.626
ZLA1	-2474410.196	-4637294.447	3602183.617	34.6035192	-118.0838989	763.513
ZLA2	-2474404.936	-4637297.238	3602183.614	34.6035193	-118.083834	763.5
ZLA3	-2474411.524	-4637296.926	3602179.636	34.6034753	-118.0838989	763.567
ZLC1	-1808273.406	-4486410.812	4145302.953	40.7860425	-111.9521797	1287.436

WRE	X (m)	Y (m)	Z (m)	LATITUDE	LONGITUDE	H (m)
ZLC2	-1808274.793	-4486414.435	4145298.455	40.785989	-111.9521789	1287.435
ZLC3	-1808270.59	-4486416.138	4145298.458	40.785989	-111.9521252	1287.443
ZMA1	966042.169	-5662999.818	2761581.538	25.8246126	-80.3191911	-7.595
ZMA2	966029.196	-5662999.114	2761586.022	25.8246604	-80.3193174	-8.23
ZMA3	966037.272	-5662997.953	2761586.375	25.8246624	-80.3192361	-7.884
ZME1	4070.724	-5226189.294	3644028.416	35.0673941	-89.9553718	68.596
ZME2	4070.759	-5226186.745	3644032.527	35.0674376	-89.9553714	68.872
ZME3	4064.565	-5226186.616	3644032.68	35.0674394	-89.9554393	68.85
ZMP1	-249978.562	-4539297.484	4458955.003	44.637463	-93.1520878	262.616
ZMP2	-249972.763	-4539297.822	4458955.002	44.6374629	-93.1520146	262.628
ZMP3	-249973.864	-4539302.102	4458950.526	44.6374068	-93.1520254	262.567
ZNY1	1406144.443	-4627343.969	4144322.115	40.7843294	-73.0971678	6.434
ZNY2	1406146.243	-4627347.017	4144317.312	40.7842764	-73.0971579	5.901
ZNY3	1406140.683	-4627348.673	4144317.35	40.7842769	-73.0972266	5.902
ZOA1	-2684437.146	-4293337.146	3865351.968	37.543055	-122.015952	-3.497
ZOA2	-2684434.135	-4293341.22	3865349.542	37.5430275	-122.0158986	-3.502
ZOA3	-2684438.51	-4293342.101	3865345.687	37.5429831	-122.0159353	-3.419
ZOB1	650769.996	-4754715.652	4187420.743	41.2971547	-82.2064469	223.642
ZOB2	650777.678	-4754714.826	4187422.762	41.297167	-82.2063547	225.143
ZOB3	650776.006	-4754719.651	4187414.971	41.2970872	-82.2063823	223.422
ZSE1	-2308930.394	-3668169.663	4663526.401	47.2869924	-122.1883743	82.08
ZSE2	-2308934.786	-3668175.205	4663519.99	47.2869069	-122.1883844	82.138
ZSE3	-2308935.845	-3668179.482	4663516.051	47.2868552	-122.1883661	82.082
ZSU1	2462589.497	-5529372.03	2003724.619	18.4313372	-65.9934759	-28.108
ZSU2	2462587.565	-5529377.4	2003712.328	18.4312201	-65.9935133	-28.086
ZSU3	2462594.197	-5529375.135	2003710.246	18.4312004	-65.9934472	-28.148
ZTL1	529840.247	-5305248.81	3489342.861	33.3796888	-84.2967277	261.128
ZTL2	529846.626	-5305247.969	3489343.144	33.3796919	-84.2966586	261.114
ZTL3	529847.307	-5305251.41	3489337.912	33.3796352	-84.296655	261.151

Figure 10-1 through Figure 10-3 show the RSS of the ECEF differences between the OPUS survey antenna phase center locations and the locations in the C&V computed positions. Figure 10-4 through Figure 10-6 show the OPUS surveys overall RMS quality indications.

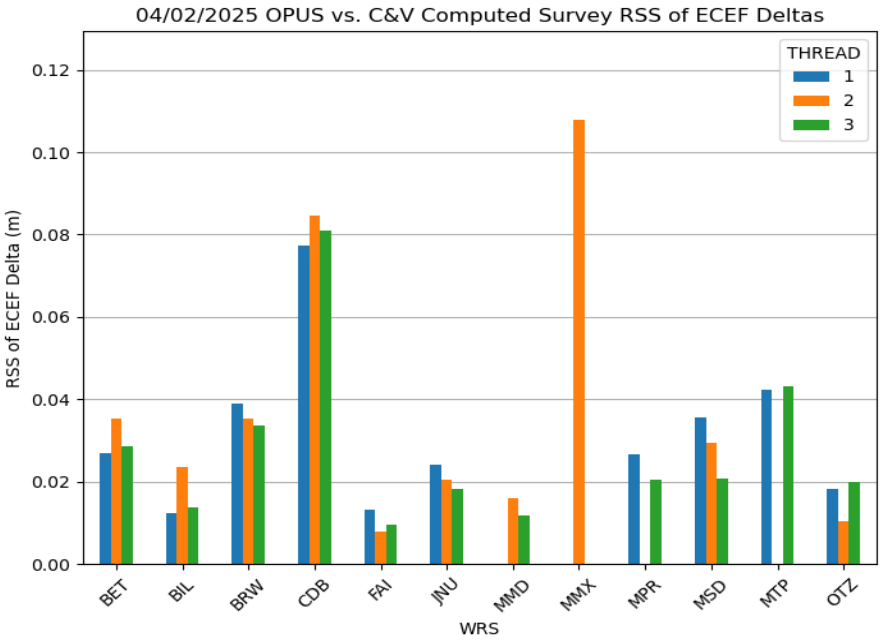

Figure 10-1 WAAS C&V Calculated Antenna Positions Deltas OPUS Survey

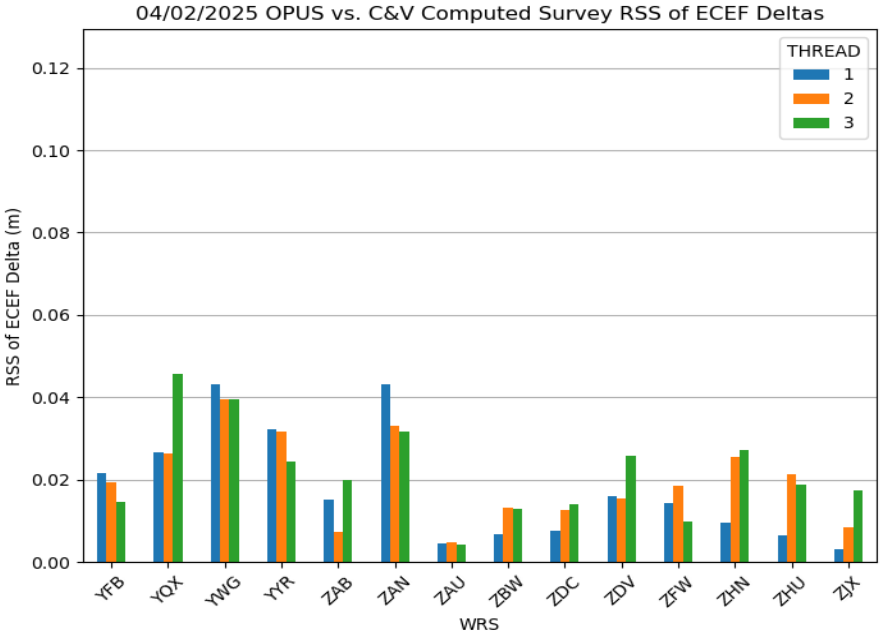

Figure 10-2 WAAS C&V Calculated Antenna Positions Deltas OPUS Survey

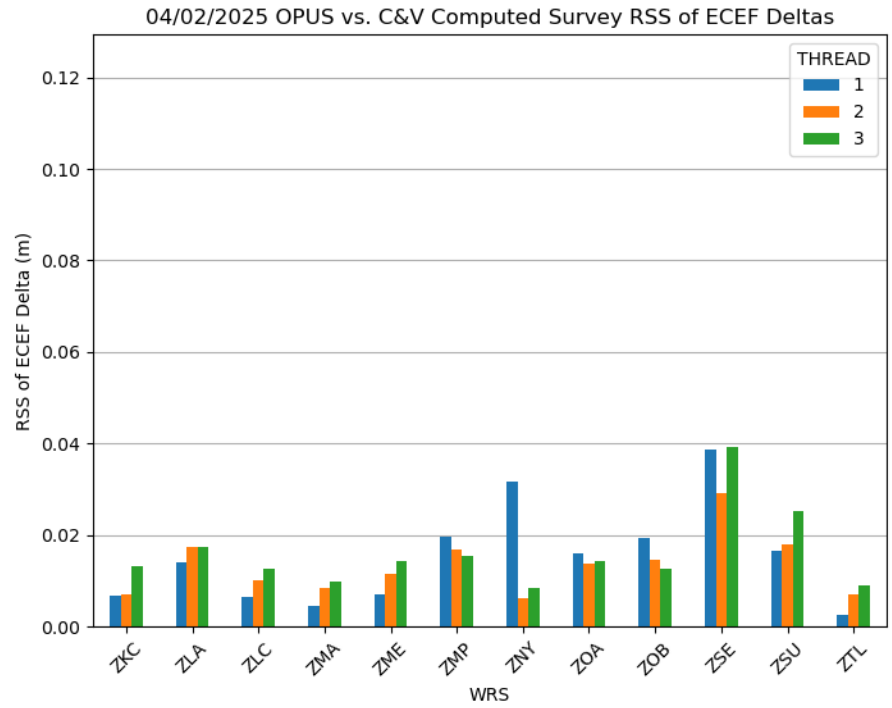

Figure 10-3 WAAS C&V Calculated Antenna Positions Deltas OPUS Survey

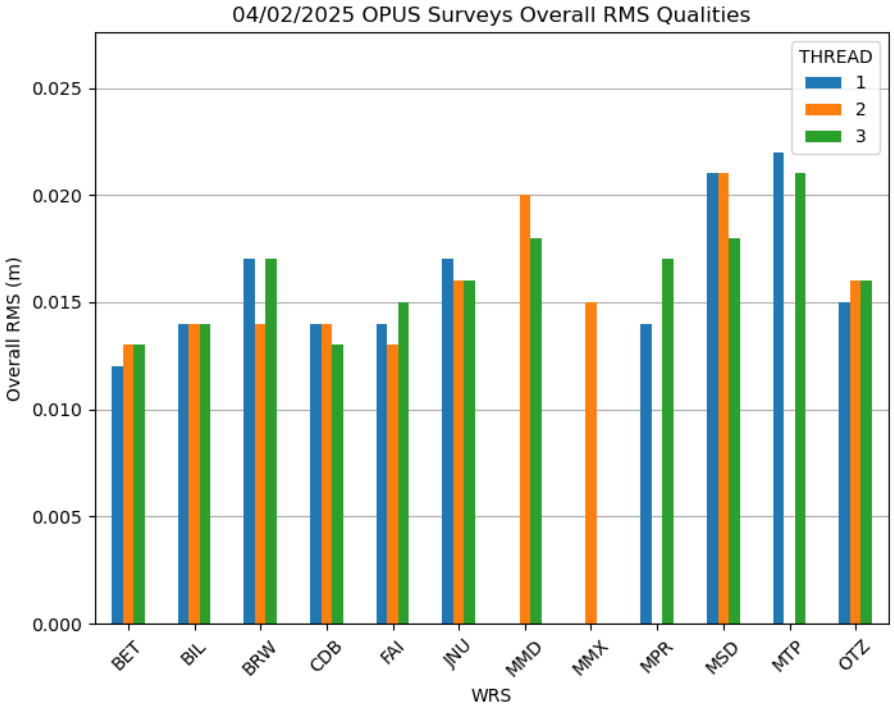

Figure 10-4 OPUS Survey Overall RMS Qualities

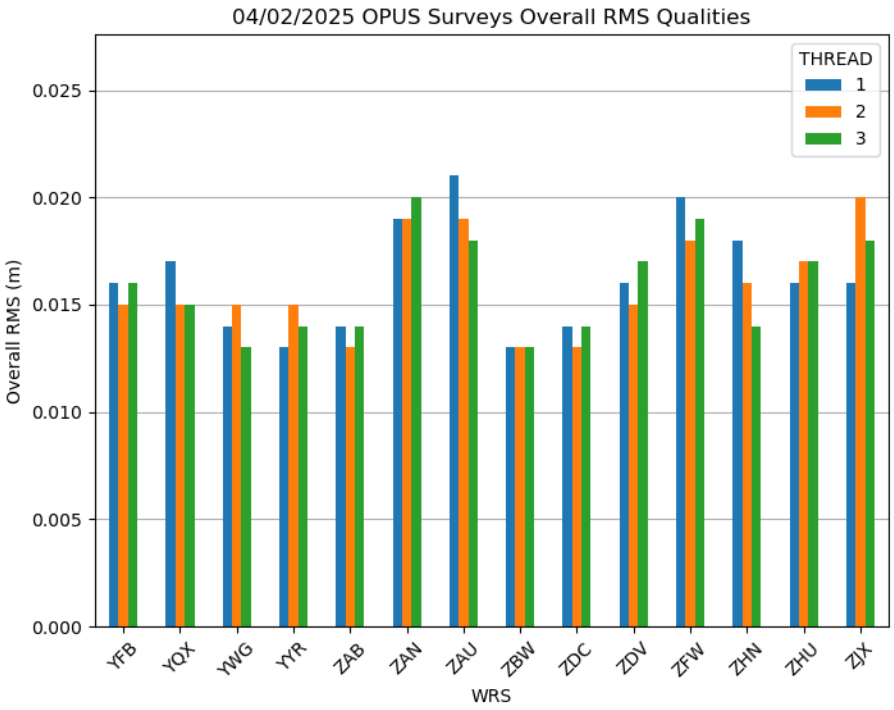

Figure 10-5 OPUS Survey Overall RMS Qualities

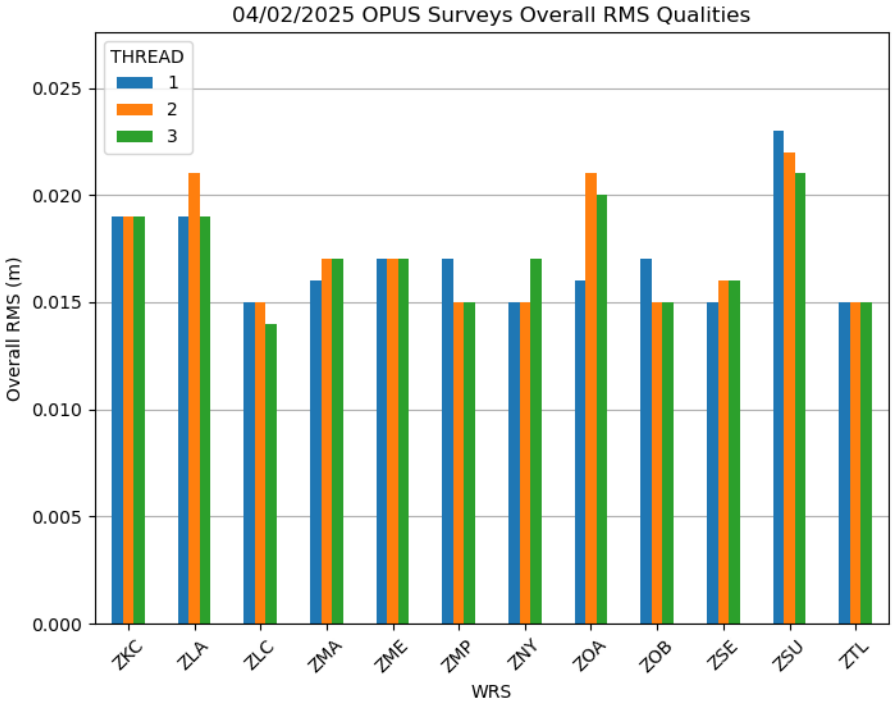

Figure 10-6 OPUS Survey Overall RMS Qualities

The “take action” threshold established by the WAAS Integrity Performance Panel (WIPP) is 25 cm for Mexico City and 10 cm for the remaining sites. The large MMX allowance is required because of the rapid subsidence in Mexico City (approximately 28 to 30 cm/year).

Figure 10-7 through Figure 10-9 show the RSS of the ECEF difference between the OPUS positions and the CSRS positions. Note that the OPUS positions are in IGS08 and the CSRS positions are in ITRF-2008. Figure 10-10 to Figure 10-12 show the RSS of the ECEF sigma’s survey qualities reported by CSRS.

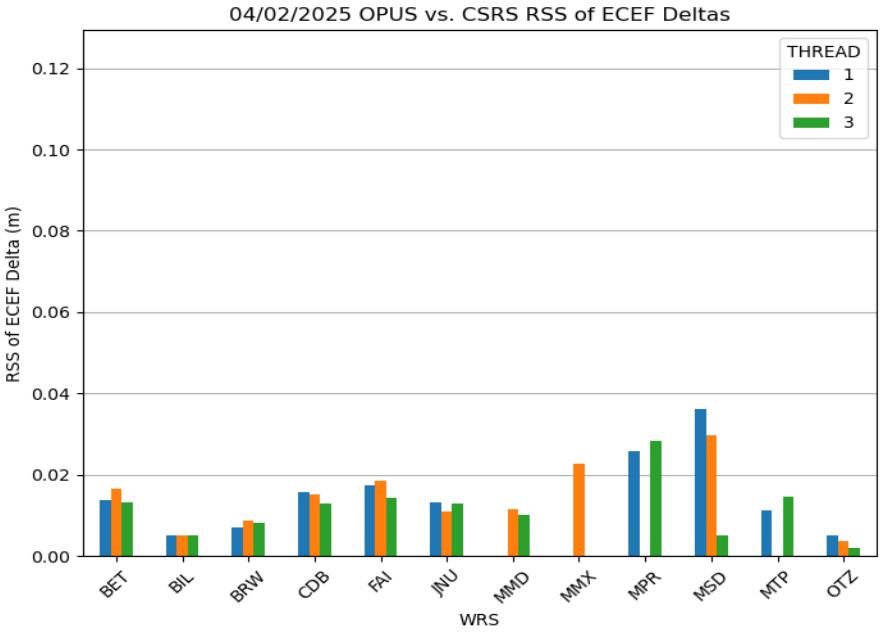

Figure 10-7 OPUS vs. CSRS RSS ECEF Deltas

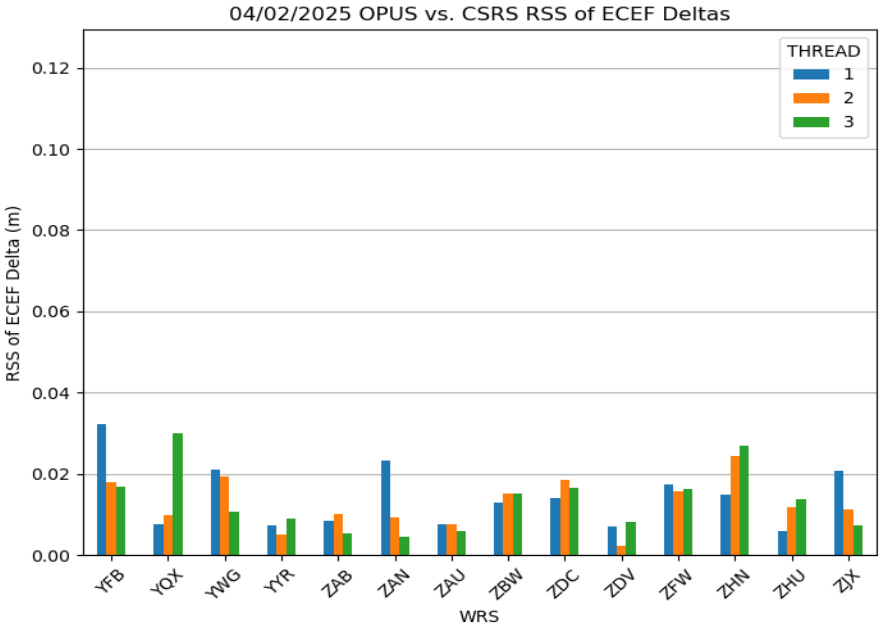

Figure 10-8 OPUS vs. CSRS RSS ECEF Deltas

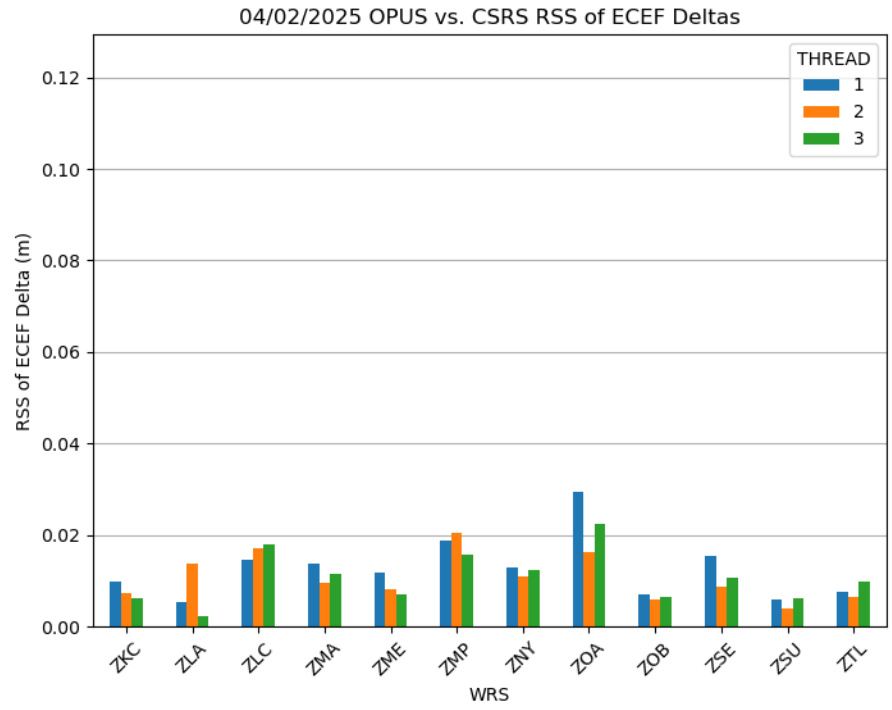

Figure 10-9 OPUS vs. CSRS RSS ECEF Deltas

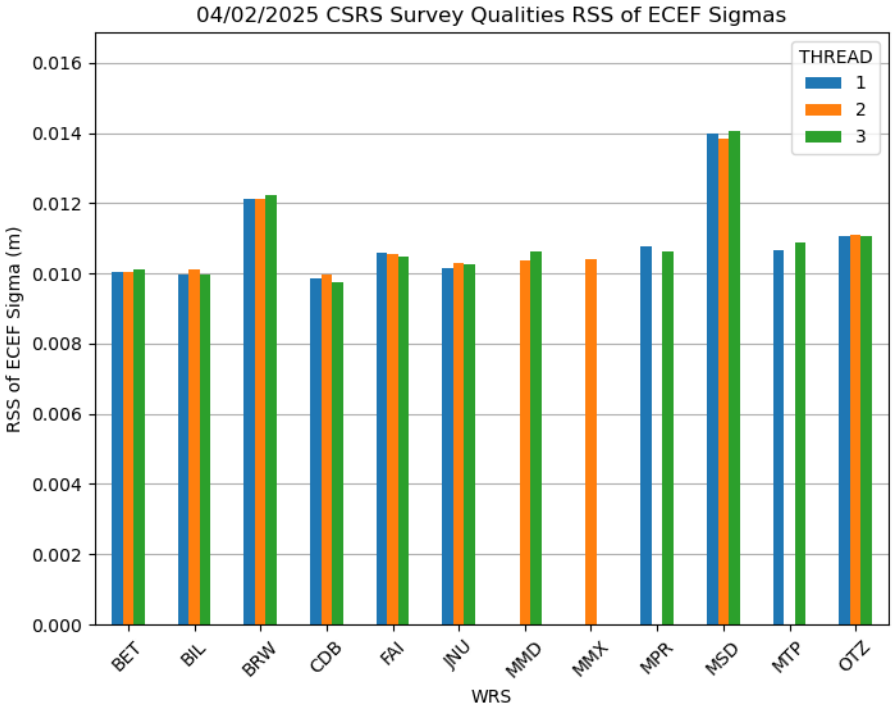

Figure 10-10 CSRS Survey Qualities

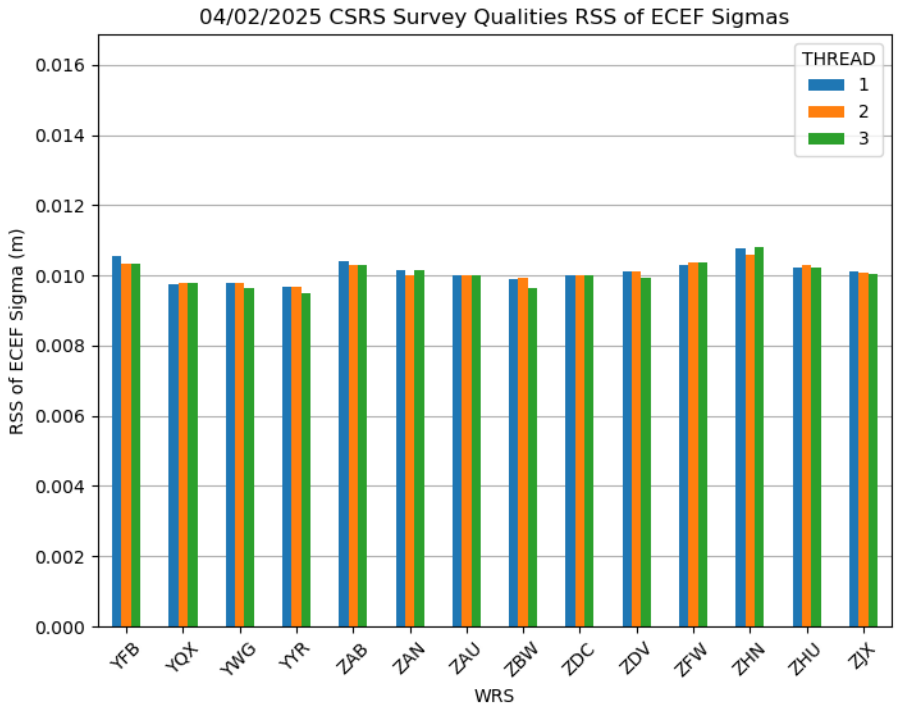

Figure 10-11 CSRS Survey Qualities

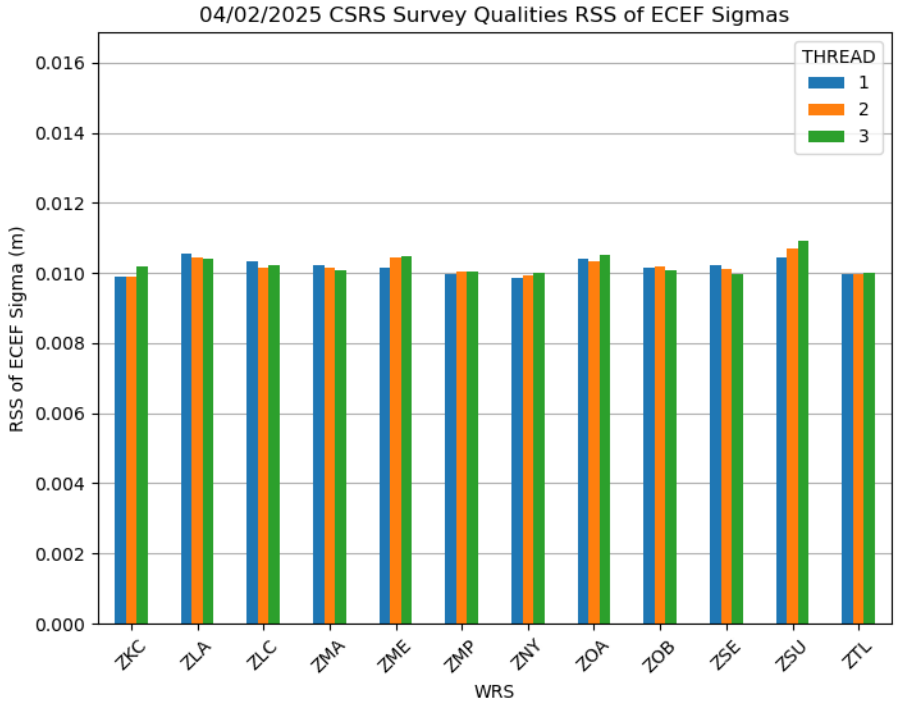

Figure 10-12 CSRS Survey Qualities

11.0 SQM

The SQM is designed to detect signal deformations originating from the GPS or GEO satellites and to ensure that the UDRE values are sufficiently inflated given the monitor's current observations. The SQM processes various correlator spacing measurements produced by the reference station receivers. These measurements are used to form four detection metrics for each receiver, and statistics are calculated based on the observed performance against "ideal" signal correlation peaks, resulting in an overall estimated deformation per satellite. The estimated deformation is compared against threshold values, which includes the acceptable error levels per UDRE value. If the estimated deformation exceeds threshold, the SQM trips for the given satellite and the UDRE value is set to "Don't Use." Currently, all 114 WAAS WREs are being used in the SQM computations because SQM depends on the entire ground network to ensure the satellite is the source of any detected problem rather than a localized affect.

The WAAS SQM offline monitoring effort includes the monitoring of the PRN type biases, trips, and the estimated deformation for each satellite (referred to as PRN bias in this report).

11.1 Alpha Metrics

The alpha metrics values are pre-determined by offline integrity analysis and are defined as constants in the SQM algorithm. These values remained unchanged for this reporting period and are listed in Table 11-1. Currently there are four sets of alpha metrics in the WAAS SQM algorithm that form four detection metrics for each receiver channel. For this report, the four detection metrics (DM) will be referred to as: DM1, DM2, DM3, and DM4.

Table 11-1 Alpha Metrics

Correlator Spacing	DM1	DM2	DM3	DM4
-0.1	0	0.43407318	0	-0.36110353
-0.075	0	0.48570652	-0.0058771682	-0.74860302
-0.05	-0.4071265	-0.69931105	-0.011382325	0.23726003
-0.025	1	-0.010099034	0.00037033029	-0.0076011735
0	0	0	0	0
0.025	-0.25	0.13317879	0.99991788	-0.062414070
0.05	1.008525	-0.22851782	0	0.25177272
0.075	0	0.10209042	0	0.42875623
0.1	0	0.078436452	0	0.41602138

11.2 Type Bias

The PRN type biases are evaluated as part of the WAAS SQM offline monitoring effort. Depending on the PRN number of any given GPS satellite, it can be classified into three categories of correlation function shapes: skinny (Type 0), nominal (Type 1), and broad (Type 2). Note that wideband GEOs are considered a different type (Type 3). The PRN type biases are estimates that are computed at each epoch, and daily averages are computed for each type, for four detection metrics.

For this reporting period, the GEO-type biases were not evaluated. Table 11-2 shows the rollup averages for the quarter.

Table 11-3 shows the rollup averages since January 1, 2008.

Figure 11-1 shows shifts in Type Bias Daily average from 01-22-2025 for Type 0 on all four detection metrics. This is the result of PRN1 (SVN80) being initialized on 01-22-2025. Figure 11-1 also shows shifts in Type Bias Daily

average from 03-05-2025 to 03-11-2025 for Type 0 on all four detection metrics. This is the result of NANU on PRN8 (SVN72) being unusable from 03-05-2025 to 03-11-2025.

Table 11-2 Type Bias Average for the Quarter

Detection Metric	Type 0	Type 1	Type 2
DM 1	1.31765	1.31942	1.3215
DM 2	0.243308	0.24638	0.24954
DM 3	0.972674	0.973114	0.97379
DM 4	-0.188065	-0.189884	-0.19187

Table 11-3 Type Bias Average Since January 1, 2008

Detection Metric	Type 0	Type 1	Type 2
DM 1	1.31597	1.31813	1.3199
DM 2	0.241606	0.24478	0.24791
DM 3	0.970762	0.971251	0.971837
DM 4	-0.186946	-0.188622	-0.190631

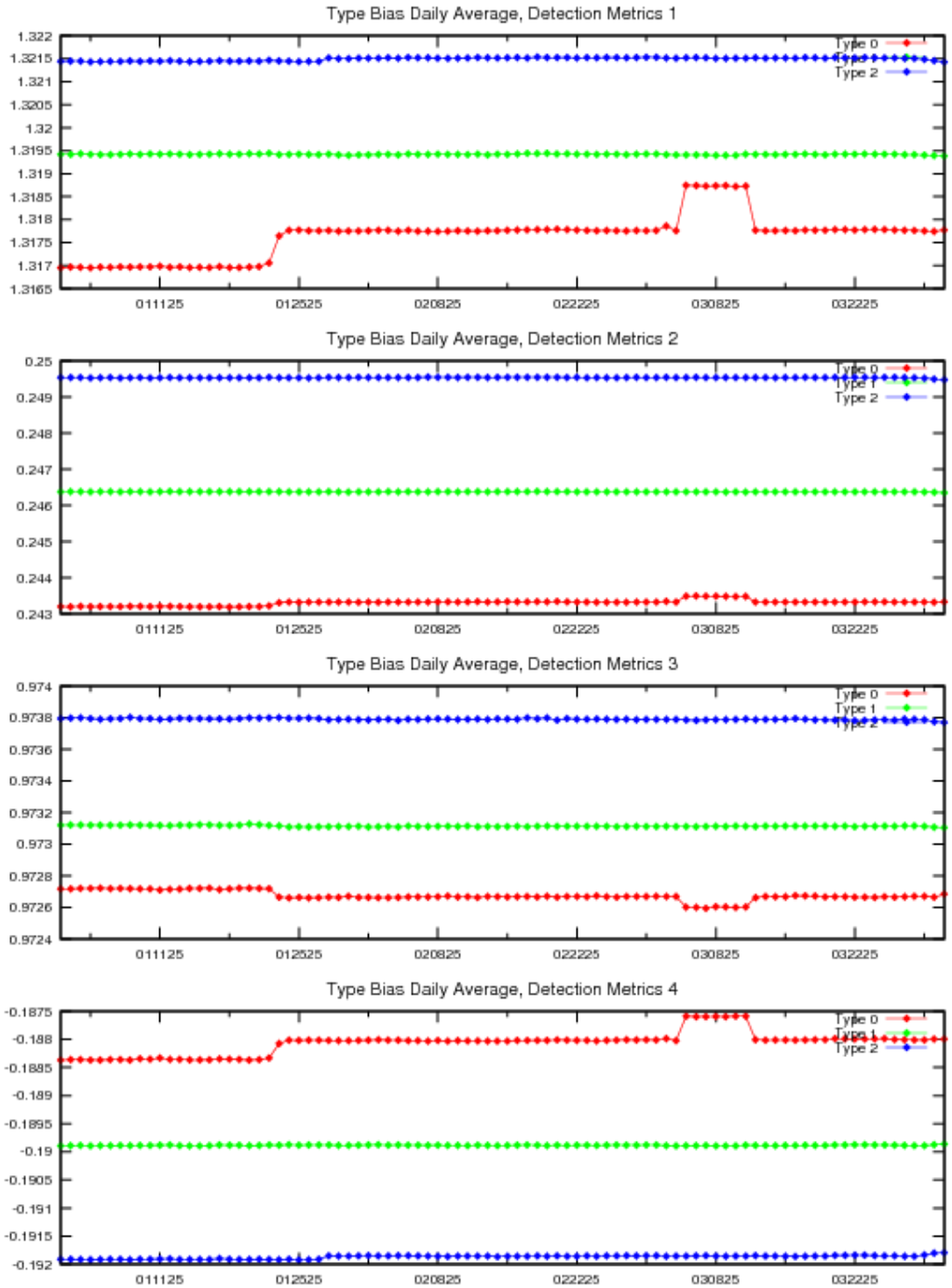

Figure 11-1 Type Bias Average Trend

11.3 PRN Bias

The PRN biases are evaluated as part of the WAAS SQM offline monitoring effort. A PRN bias is the overall estimated deformation per satellite across receivers. Detection metrics are adjusted for inter-receiver bias, corrected for PRN-type bias, and combined across receivers for each satellite. Relying on the assertion that the majority of the SV signals

are healthy and normal, detection metrics are normalized over all the orbiting satellites, which results in an overall PRN bias for each satellite. PRN biases are collected at each epoch and daily averages are computed for each satellite for four detection metrics.

Table 11-4 and Figure 11-2 show the rollup PRN bias averages for the quarter with the maximum values for each detection metrics as follows: (1) the maximum average for DM1 is 0.0014391 observed on PRN22, (2) the maximum average for DM2 is 0.0002107 observed on PRN19, (3) the maximum average for DM3 is 0.0004459 observed on PRN18, (4) the maximum average for DM4 is 0.0006139 observed on PRN22.

Table 11-4 PRN Bias Average for the Quarter

PRN	DM 1	DM 2	DM 3	DM 4
1	0.000228584	0.000120252	0.000328128	0.000281628
2	0.000227898	7.42089e-05	9.02067e-05	0.000100527
3	0.000160937	5.20289e-05	9.38911e-05	8.61622e-05
4	0.000729011	0.000228397	0.000392906	0.000241637
5	0.000148842	7.29689e-05	0.000105582	9.50711e-05
6	0.000810192	8.28911e-05	8.82489e-05	0.000367889
7	0.000154526	0.000159973	5.11256e-05	0.000142938
8	0.000353381	0.000111694	9.51759e-05	0.000156129
9	0.00023337	8.15189e-05	0.000143527	8.28756e-05
10	0.000169292	9.27689e-05	6.67356e-05	0.000111754
11	0.000345734	0.000119163	0.000398106	0.000314648
12	0.000381033	4.74022e-05	5.68256e-05	9.64789e-05
13	0.000594149	6.72878e-05	5.91744e-05	0.000252281
14	0.000522442	0.000187847	0.000376842	0.000243027
15	0.00038388	0.00013527	6.11422e-05	0.000112953
16	0.000182664	4.75211e-05	0.000126911	0.000204191
17	0.000333141	0.000111299	6.11222e-05	0.000103334
18	0.000653518	0.000155902	0.00044593	0.000252451
19	0.000695738	0.000210708	7.22722e-05	0.000113437
20	0.00015959	9.47078e-05	3.68189e-05	0.000160577
21	0.000179504	9.57259e-05	0.000106907	0.000415793
22	0.00143909	0.000155733	5.62275e-05	0.000613888
23	0.000418366	0.000163996	0.000362287	0.000255136
24	0.000189041	7.24956e-05	0.000217922	0.00028716
25	0.0004757	0.000111176	4.08078e-05	0.000156992
26	0.000160803	5.61089e-05	0.000127299	0.000151849
27	0.000272133	0.000138988	0.000231383	0.00033982
28	0.000295114	0.000105573	0.000371328	0.000342258
29	0.00032759	0.000151252	0.000159177	0.000256527
30	0.000284247	0.000108723	0.000127302	0.000110228
31	0.000159771	0.000106933	6.67411e-05	0.000113583
32	0.000298536	0.000164521	5.33411e-05	0.000312541

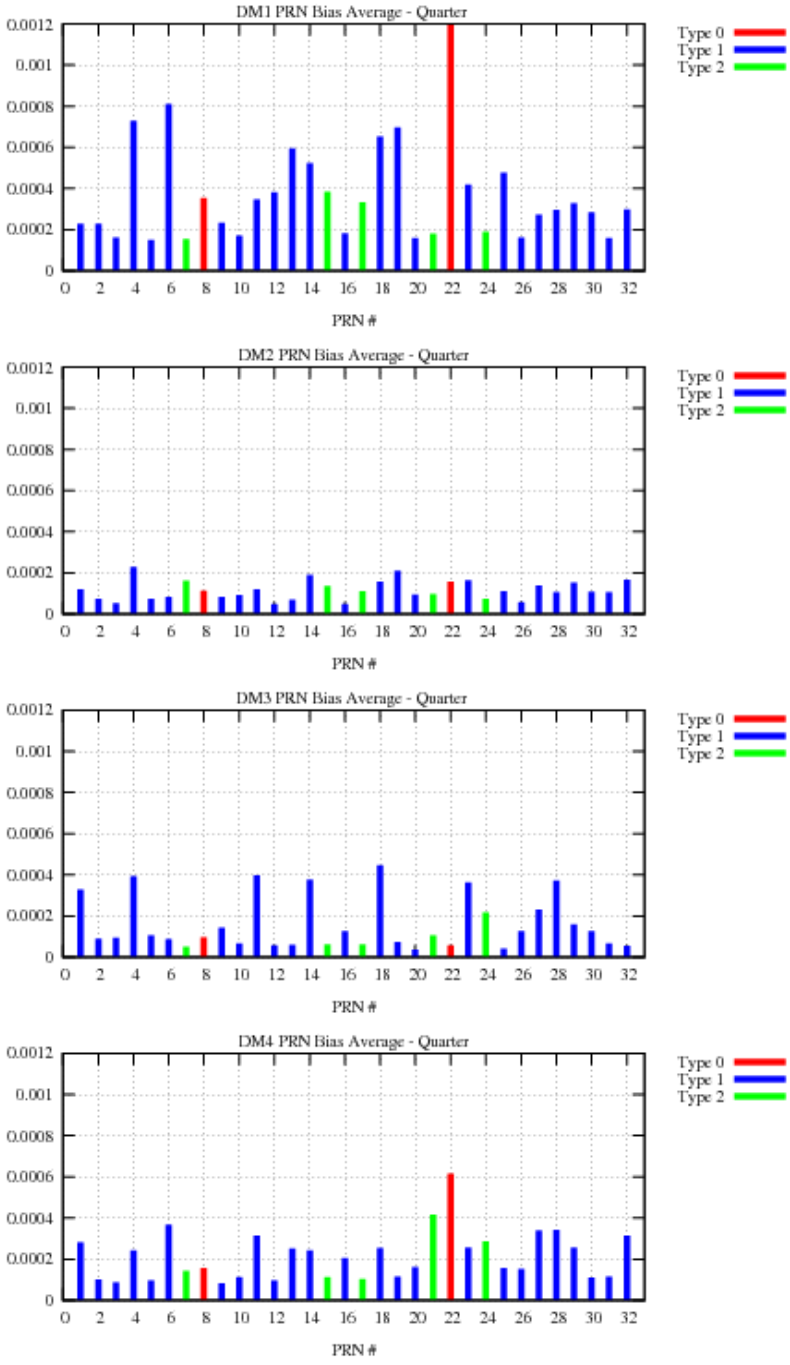

Figure 11-2 PRN Bias Average for the Quarter

Figure 11-3 through Figure 11-10 show the daily PRN bias for each PRN for four detection metrics. Figure 11-3 starts showing SQM data for PRN1 from 01-22-2025 as a result of its initialization. Figure 11-4 shows no SQM data for PRN8 Bias from 03-05-2025 to 03-11-2025 due to UNUSABLE NANU on PRN8. Figure 11-8 shows no SQM data for PRN21 Bias from 01-27-2025 as a result of its decommissioning. Figure 11-8 starts showing SQM data for PRN22 from 01-22-2025 as a result of its initialization.

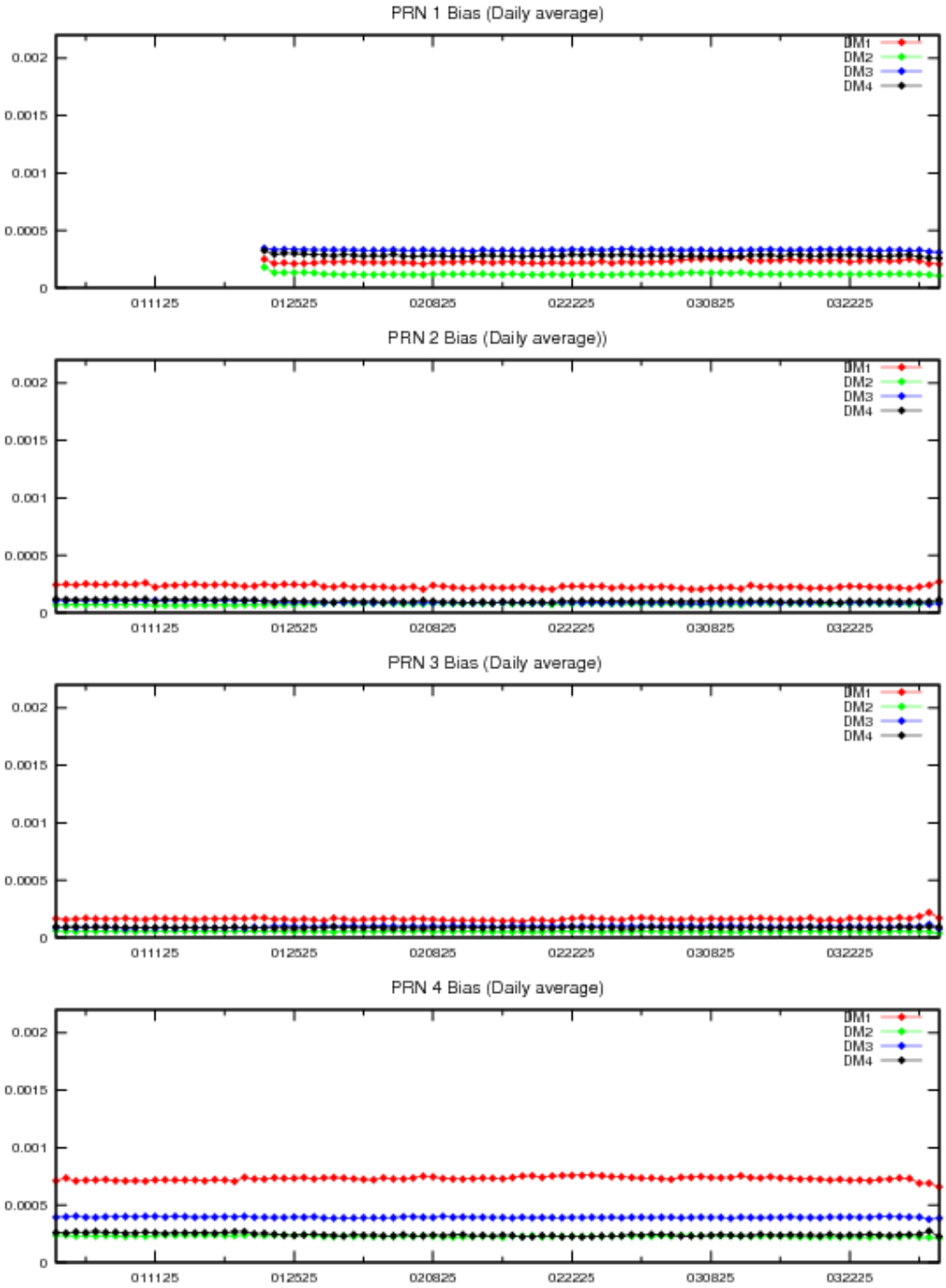

Figure 11-3 PRN Bias Average Trend (PRN1–PRN4)

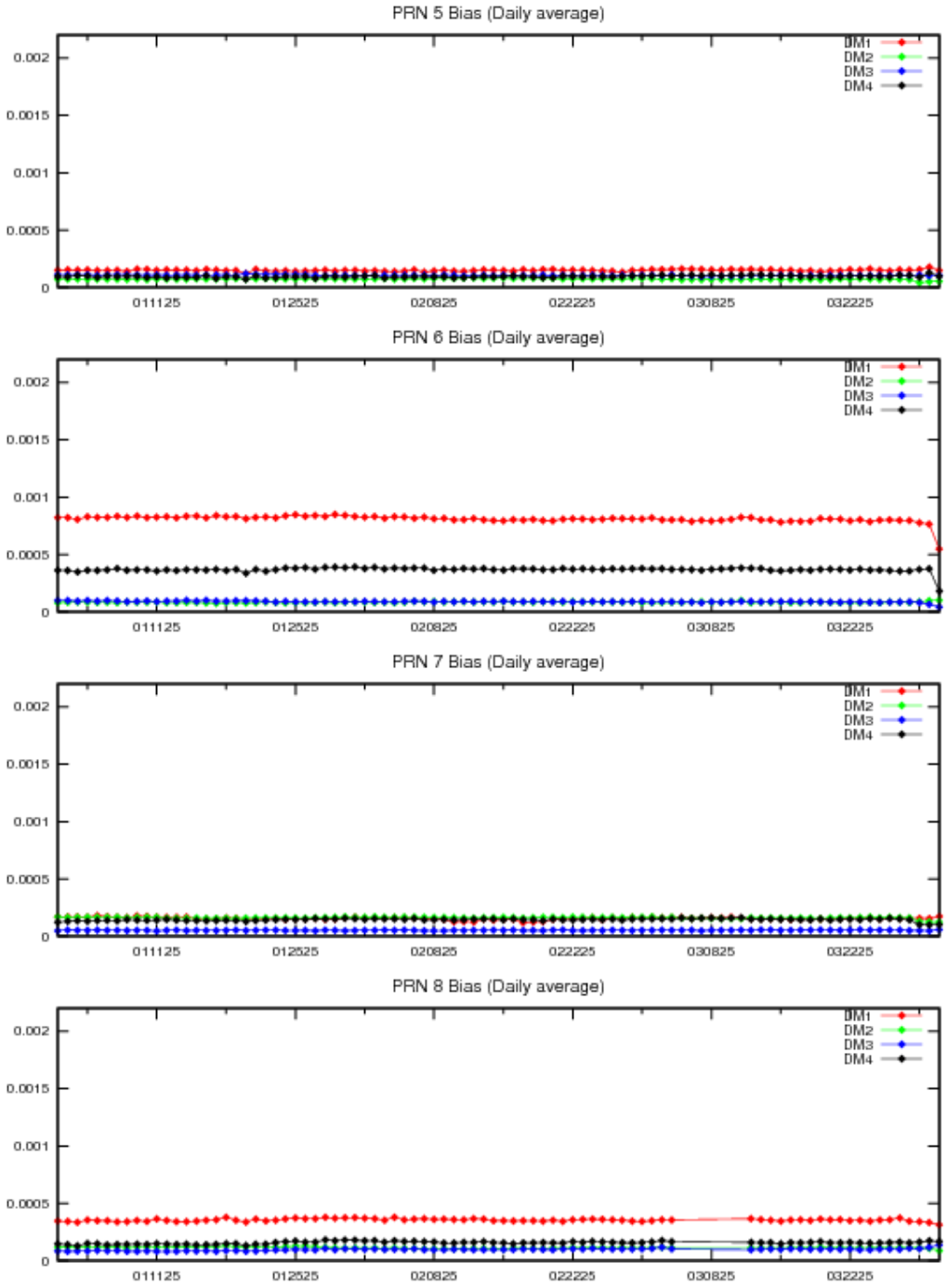

Figure 11-4 PRN Bias Average Trend (PRN5–PRN8)

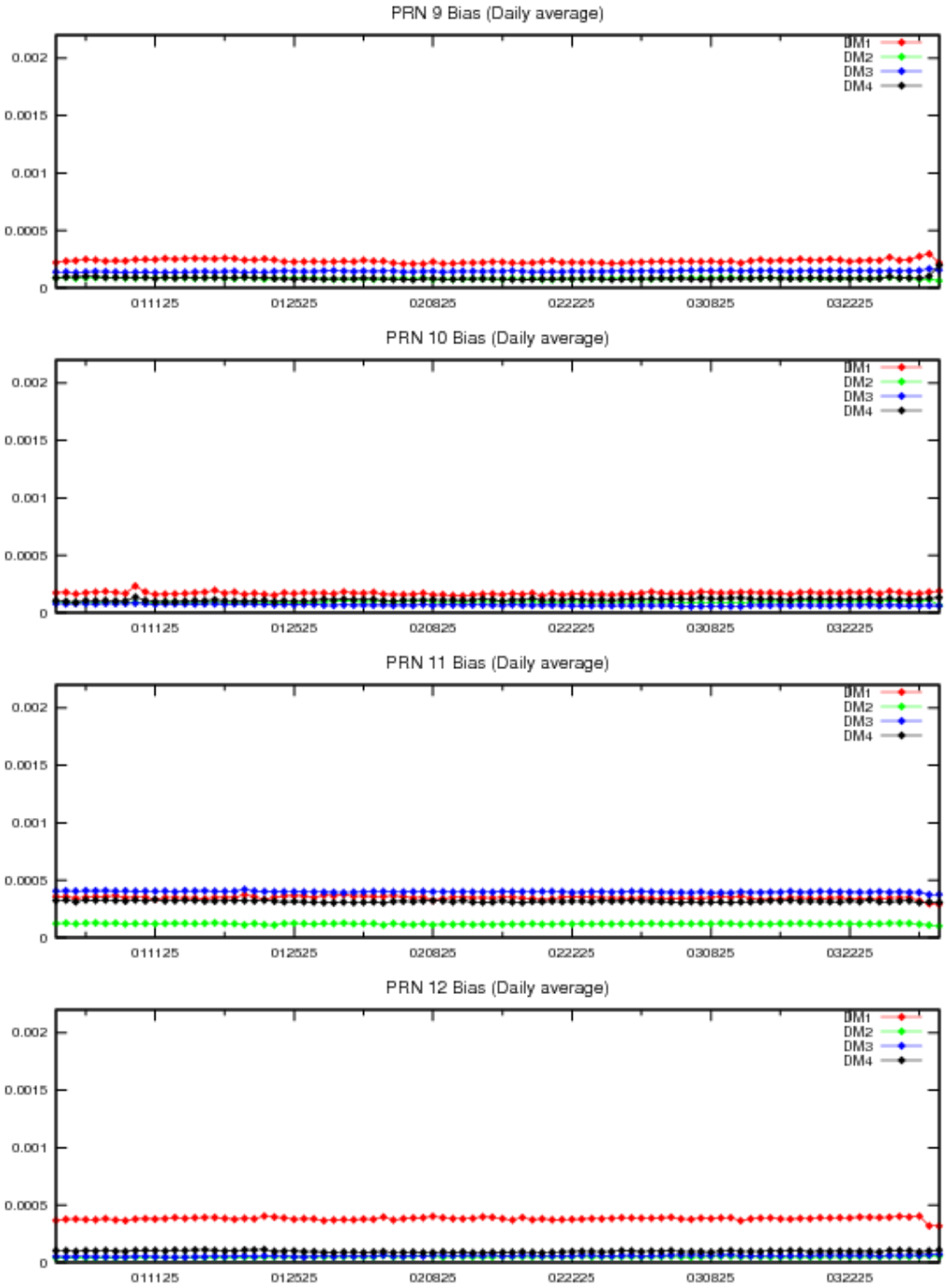

Figure 11-5 PRN Bias Average Trend (PRN9–PRN12)

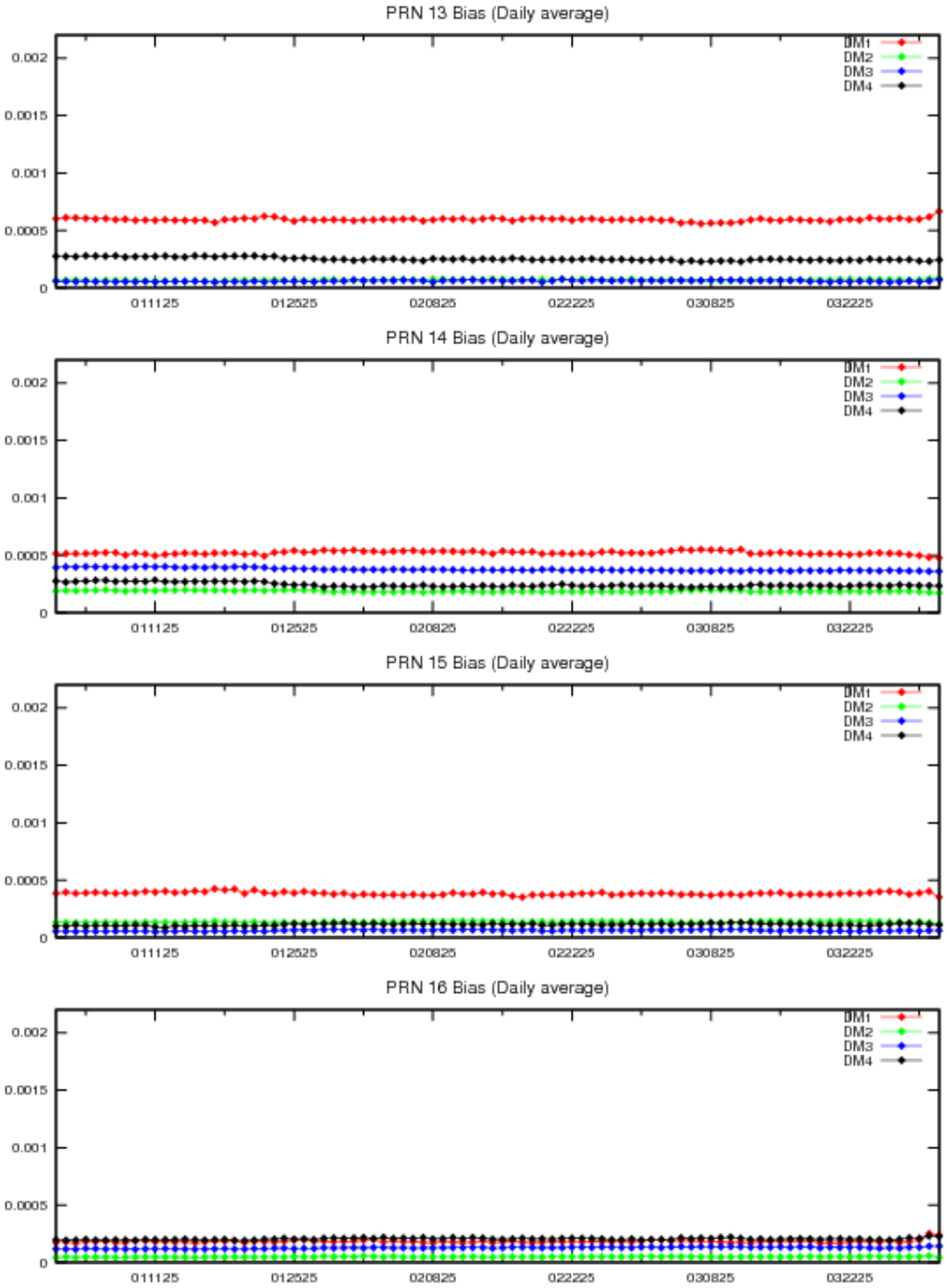

Figure 11-6 PRN Bias Average Trend (PRN13–PRN16)

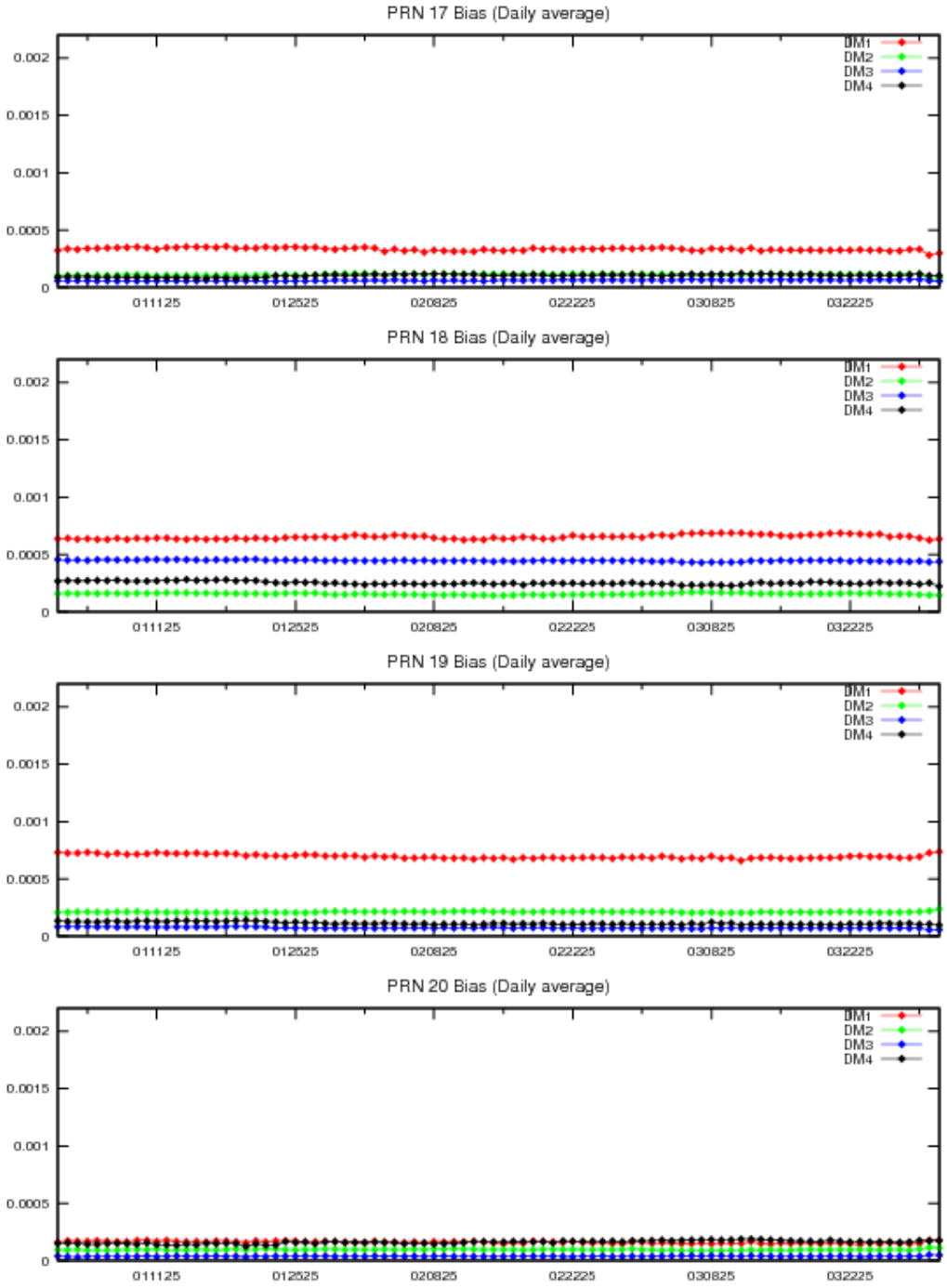

Figure 11-7 PRN Bias Average Trend (PRN17–PRN20)

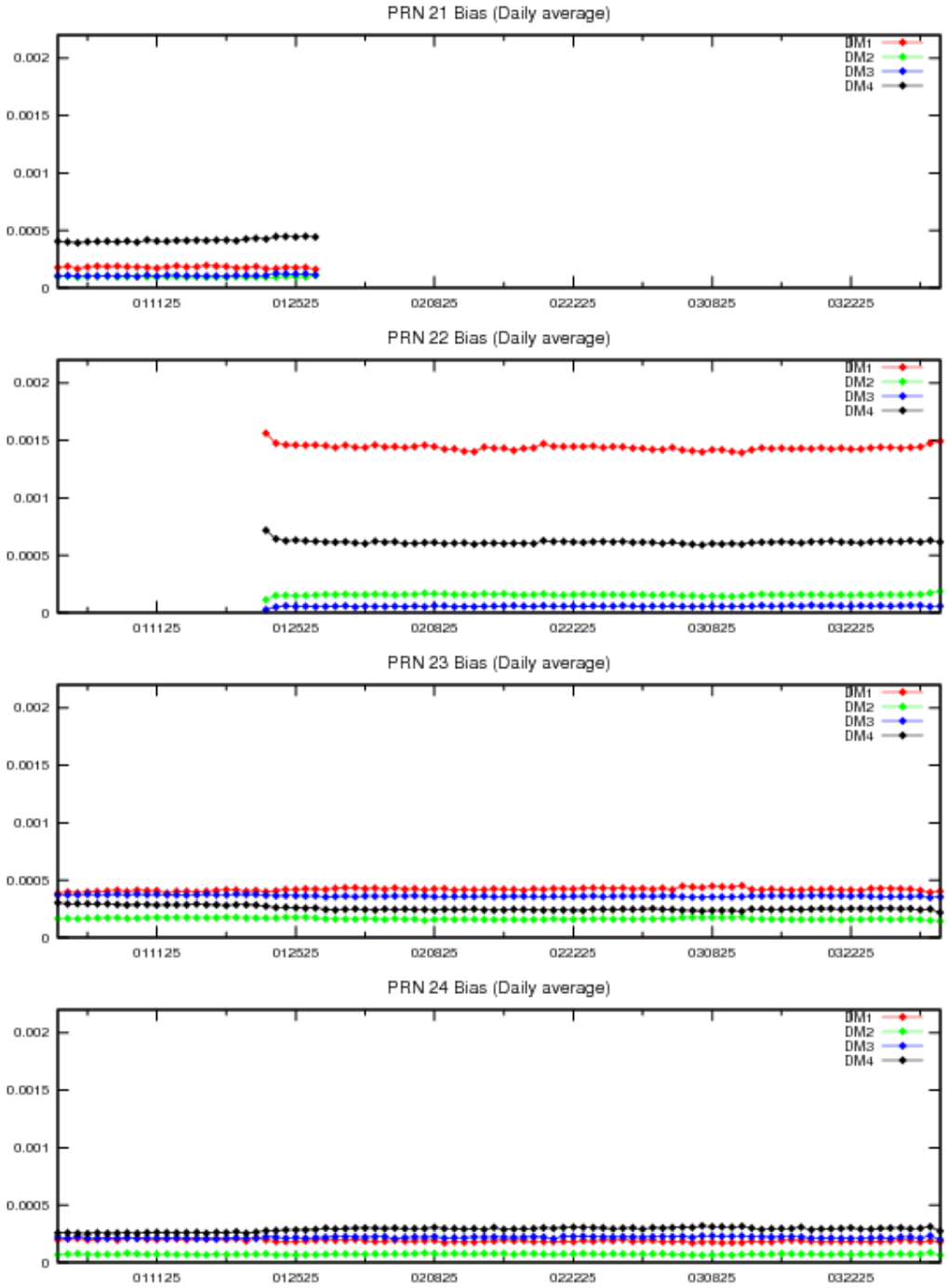

Figure 11-8 PRN Bias Average Trend (PRN21–PRN24)

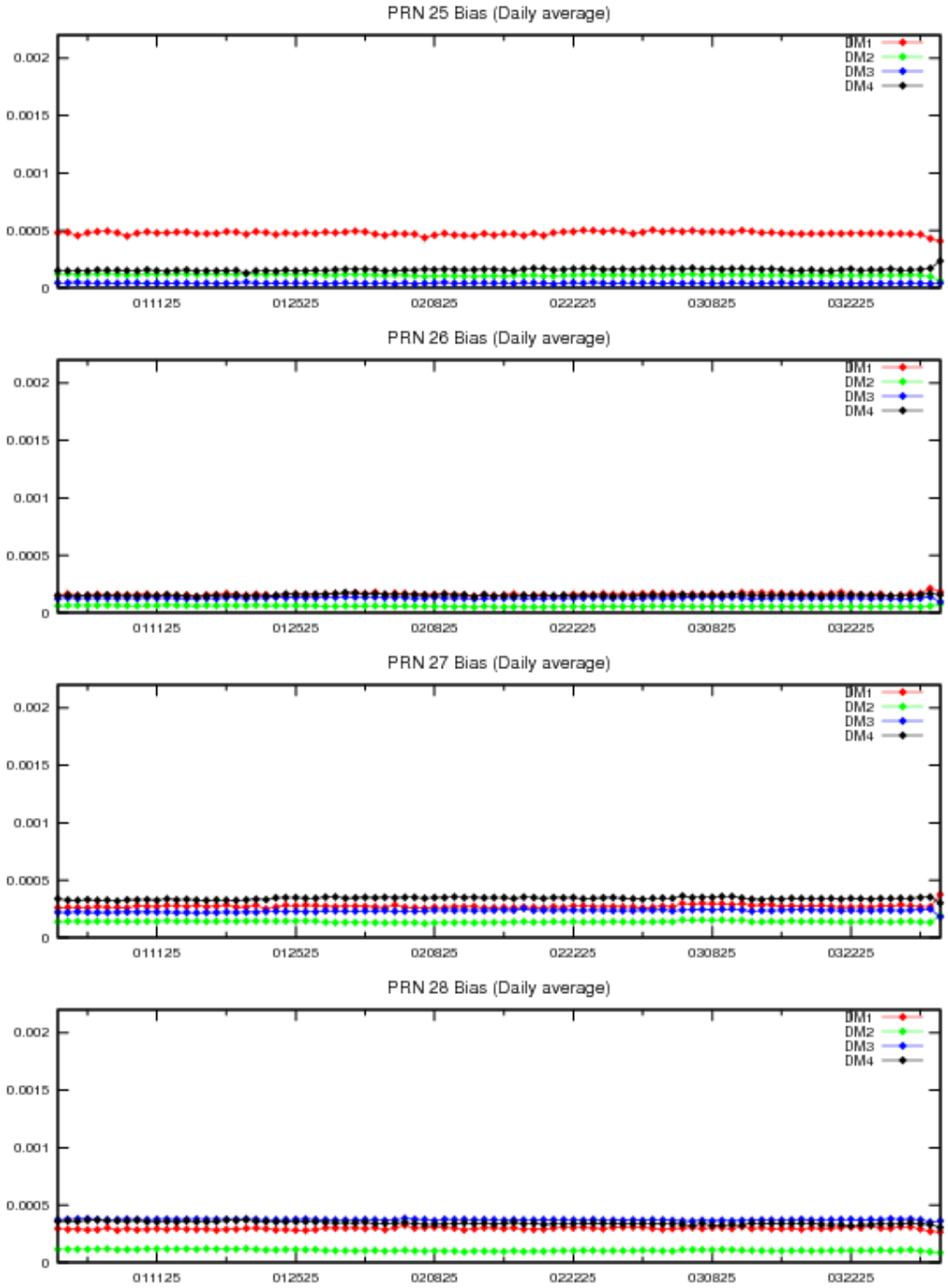

Figure 11-9 PRN Bias Average Trend (PRN25–PRN28)

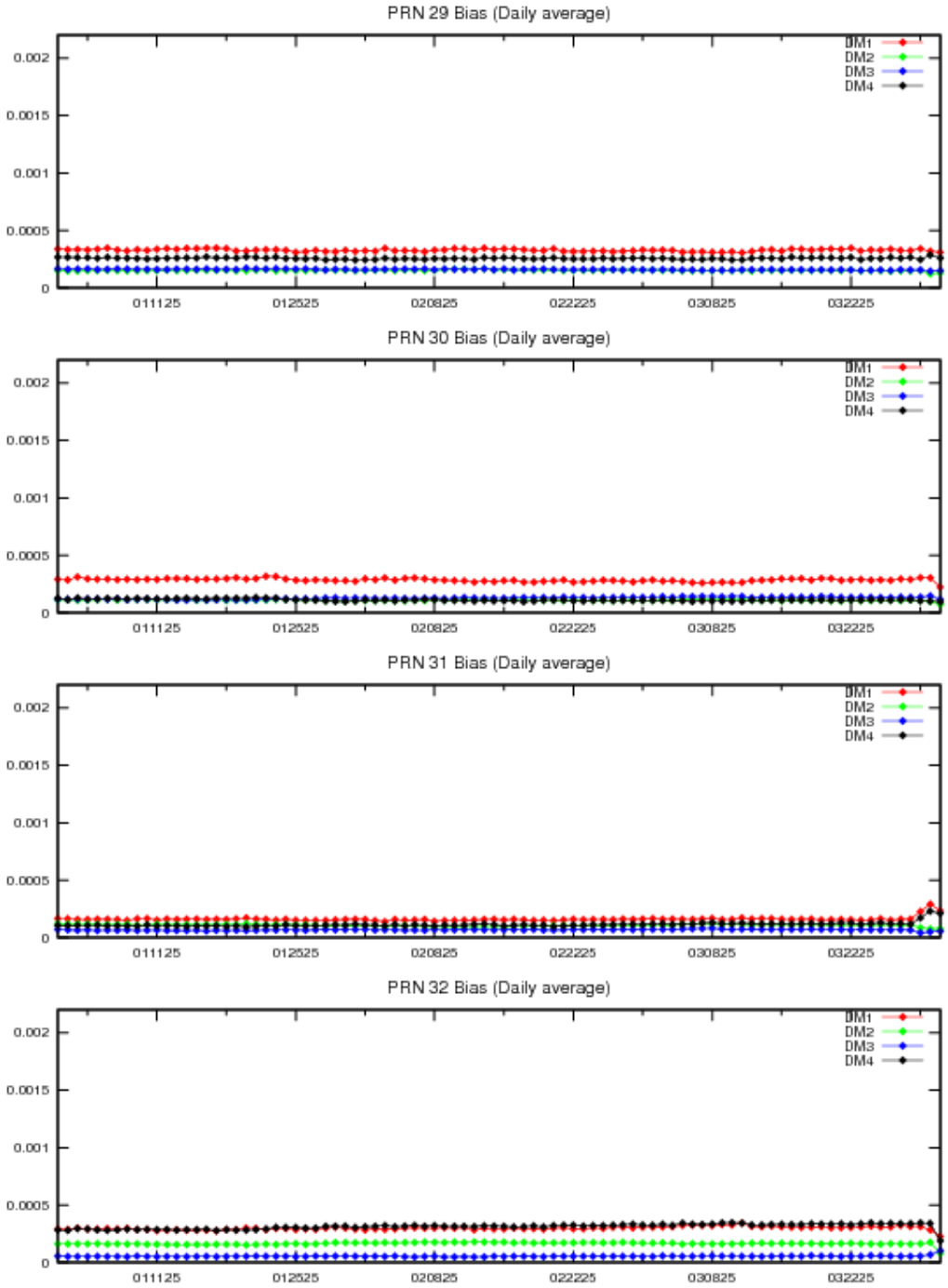

Figure 11-10 PRN Bias Average Trend (PRN29–PRN32)

11.4 SQM Trips

There we no SQM trips observed in this quarter.

APPENDIX A: GLOSSARY AND ACRONYMS

General Terms and Definitions

Alert. An alert is an indication provided by the GPS/WAAS equipment to inform the user when the positioning performance achieved by the equipment does not meet the integrity requirements.

AMR. GEO PRN133

APC. Antenna phase center

ARP. Antenna reference point

Availability. The availability of a navigation system is the ability of the system to provide the required function and performance at the initiation of the intended operation. Availability is an indication of the ability of the system to provide usable service within the specified coverage area.

C&V. The Correction and Verification Subsystem

CNMP. Code noise and multipath

CONUS. Continental United States

Continuity. The continuity of a system is the ability of the total system (comprising all elements necessary to maintain aircraft position within the defined airspace) to perform its function without interruption during the intended operation. More specifically, continuity is the probability that the specified system performance will be maintained for the duration of a phase of operation, presuming that the system was available at the beginning of that phase of operation.

Coverage. The coverage provided by a radio navigation system is the surface area or space volume in which the signals are adequate to permit the user to determine position to a specified level of accuracy. Coverage is influenced by system geometry, signal power levels, receiver sensitivity, atmospheric noise conditions, and other factors that affect signal availability.

CSRS. Canadian Spatial Reference System

DM. Detection metrics

DR. Discrepancy Report

ECEF. Earth-centered, Earth-fixed

FAA. Federal Aviation Administration

FD. Fault Detection

FDE. Fault Detection and Exclusion. A receiver processing scheme that autonomously provides integrity monitoring for the position solution using redundant range measurements. The FDE consists of two distinct parts: fault detection and fault exclusion. The fault detection part detects the presence of an unacceptably large position error for a given mode of flight. Upon the detection, fault exclusion follows and excludes the source of the unacceptably large position error, thereby allowing navigation to return to normal performance without an interruption in service.

G30. GEO PRN135

GEO. Geostationary satellite

GIVE. Grid Ionospheric Vertical Error. Indicate the accuracy of ionospheric vertical delay correction at a geographically defined IGP. WAAS transmits one GIVE for each IGP in the mask.

GMT. Greenwich Mean Time

GPS. Global Positioning System. A space-based positioning, velocity, and time system composed of space, control, and user segments. The space segment, when fully operational, will be composed of 24 satellites in six orbital planes. The control segment consists of five monitor stations, three ground antennas, and a master control station. The user segment consists of antennas and receiver-processors that provide positioning, velocity, and precise timing to the user.

GUS. Ground uplink station

HAL. Horizontal alert limit. The radius of a circle in the horizontal plane (the local plane tangent to the WGS-84 ellipsoid), with its center being at the true position, which describes the region that is required to contain the indicated horizontal position with a probability of $1\text{-}10^{-7}$ per flight hour, for a particular navigation mode, assuming the probability of a GPS satellite integrity failure being included in the position solution is less than or equal to 10^{-4} per hour.

HMI. Hazardous Misleading Information. Any position data that has an error larger than the current protection level (HPL/VPL), without any indication of the error (e.g., alert message sequence).

HPE. Horizontal position error

HPL. Horizontal protection level. The radius of a circle in the horizontal plane (the plane tangent to the WGS-84 ellipsoid), with its center being at the true position, which describes the region that is assured to contain the indicated horizontal position. It is based on the error estimates provided by WAAS.

IAP. Instrument Approach Procedures

IGP. Ionsopheric grid point. A geographically defined point for which the WAAS provides the vertical ionospheric delay.

IGS. International GPS Service.

Kp. Planetary index

LNAV. Lateral navigation

LP. Localizer Performance. A WAAS operational service level with a HAL equal to 40 meters.

LPV. Localizer Performance with Vertical Guidance. A WAAS operational service level with a HAL equal to 40 meters and a VAL equal to 50 meters.

LPV200. Localizer Performance with Vertical Guidance to 200 ft decision height. A WAAS operational service level with a HAL equal to 40 meters and a VAL equal to 35 meters.

NANU. Notice Advisory to Navstar Users. NANU is an advisory message to inform users of a change in the GPS constellation. These messages inform users in advance of planned maintenance and also notify users of unscheduled outages.

NAS. National Airspace System

Navigation Message. Message structure designed to carry navigation data.

NGS. National Geodetic Survey

NPA Navigation Mode. Non-precision approach navigation mode. Refers to the navigation solution operating with a minimum of four satellites with fast and long term WAAS corrections (no WAAS ionospheric corrections) available.

NTSB. National Satellite Test Bed

OCONUS. Outside Contiguous United States

OPUS. Online Positioning Use Server

PA Navigation Mode. Precision approach navigation mode. Refers to the navigation solution operating with a minimum of four satellites with all WAAS corrections (fast, long term, and ionospheric) available.

PAN. Performance Analysis Network

Position Solution. The use of ranging signal measurements and navigation data from at least four satellites to solve for three position coordinates and a time offset.

PPP. Precise Point Positioning

PRN. Pseudo-random noise

RAIM. Receiver autonomous integrity monitoring

RFI. Radio frequency interference

RNAV. Area navigation

RNP. Required Navigation Performance

RSS. Residual sum of squares

S15. GEO PRN133

SBAS. Space Based Augmentation System

SIS. Signal in space

SM9. GEO PRN131

SPS. Standard positioning service. Three-dimensional position and time determination capability provided to a user equipped with a minimum capability GPS SPS receiver in accordance with GPS national policy and the performance specifications.

SQM. Signal quality monitor. Monitors correlator measurements to detect signal deformations that originate in the GPS or GEO satellites and ensures that the UDREs are sufficiently inflated to protect given the monitor's current observations.

SSM. System support modification

SV. Space vehicle.

SVN. Space Vehicle Number

TOW. Time of GPS week

UDRE. User differential range error. Indicates the accuracy of combined fast and slow error corrections. WAAS transmits one UDRE for each satellite in the mask.

UTC. Coordinated Universal Time

VAL. Vertical alert limit. Half the length of a segment on the vertical axis (perpendicular to the horizontal plane of WGS-84 ellipsoid), with its center being at the true position, which describes the region that is required to contain the indicated vertical position with a probability of $1\text{-}10^{-7}$ per flight hour, for a particular navigation mode, assuming the probability of a GPS satellite integrity failure being included in the position solution is less than or equal to 10^{-4} per hour.

VNAV. Vertical navigation

VPE. Vertical position error

VPL. Vertical protection level. Half the length of a segment on the vertical axis (perpendicular to the horizontal plane of WGS-84 ellipsoid), with its center being at the true position, which describes the region that is assured to contain the indicated vertical position. It is based upon the error estimates provided by WAAS.

WAAS. Wide Area Augmentation System. Made up of an integrity reference monitoring network, processing facilities, geostationary satellites, and control facilities. Wide-area reference stations and integrity monitors are widely dispersed data collection sites that contain GPS/WAAS ranging receivers that monitor all signals from the GPS and the WAAS geostationary satellites. The reference stations collect measurements from the GPS and WAAS satellites so that differential corrections, ionospheric delay information, GPS/WAAS accuracy, WAAS network time, GPS time, and UTC can be determined. The wide-area reference station and integrity monitor data are forwarded to the central data processing sites. These sites process the data to determine differential corrections, ionospheric delay information, and GPS/WAAS accuracy, as well as verify residual error bounds for each monitored satellite. The central data processing sites also generate navigation messages for the geostationary satellites and WAAS messages. This information is modulated on the GPS-like signal and broadcast to the users from geostationary satellites.

WIPP. WAAS Integrity Performance Panel

WJHTC. William J. Hughes Technical Center

WRE. Wide-Area Reference Equipment

WRS. WAAS reference station

APPENDIX B: ADDITIONAL COVERAGE PLOTS

Appendix B includes the coverage plots with 99% LPV200 availability contour, 98% LPV availability contours, and 98% LP availability contours for the quarter. Figure B-1 shows CONUS coverage with 98% LP availability contour. Figure B-2 shows Alaska coverage with 98% LP availability contour. Figure B-3 shows CONUS coverage with 98% LPV availability contour. Figure B-4 shows Alaska coverage with 98% LPV availability contour. Figure B-5 shows CONUS coverage with 99% LPV200 availability contour. Figure B-6 shows Alaska coverage with 99% LPV200 availability contour.

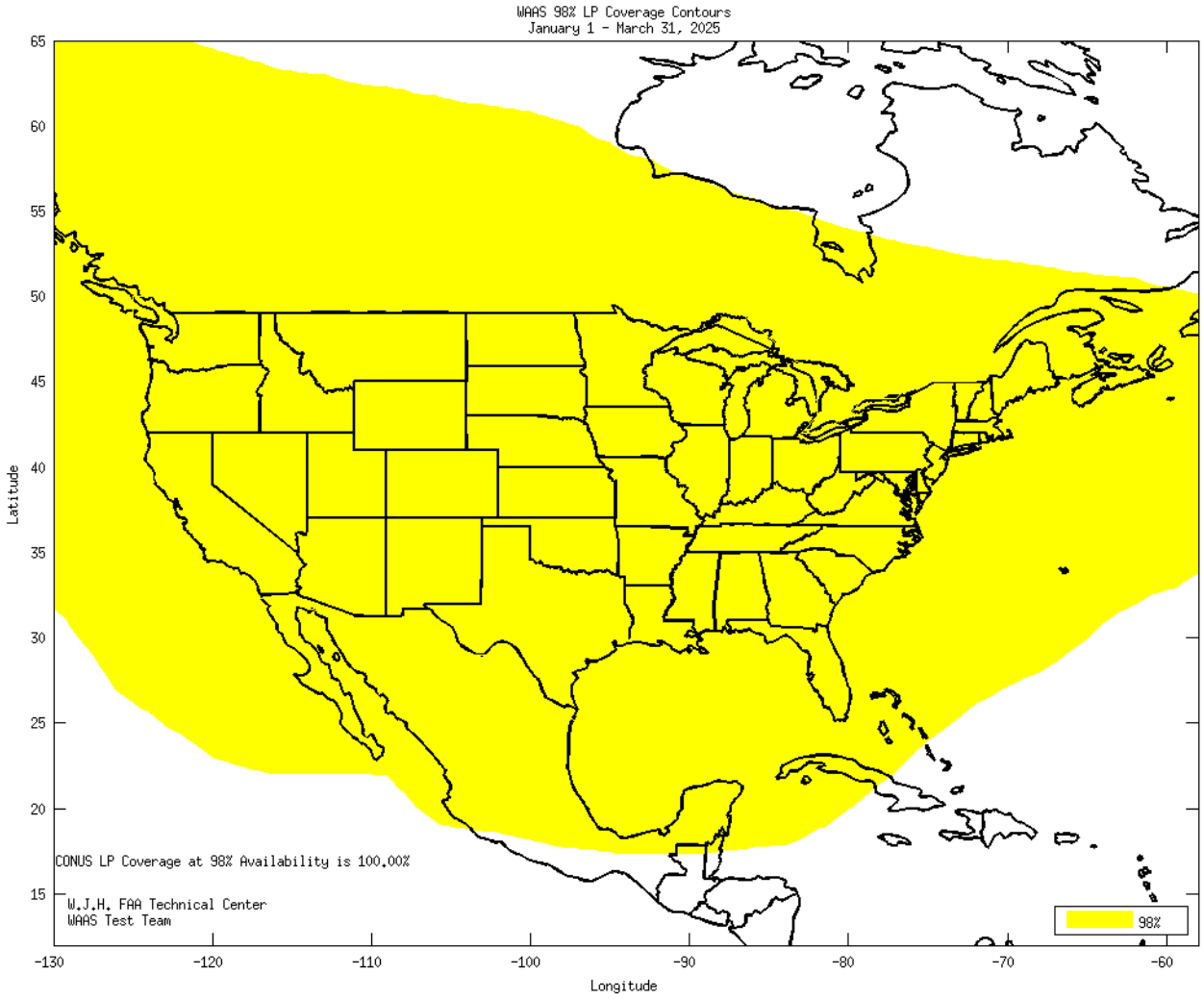

Figure B-1 98% CONUS LP Availability Contour

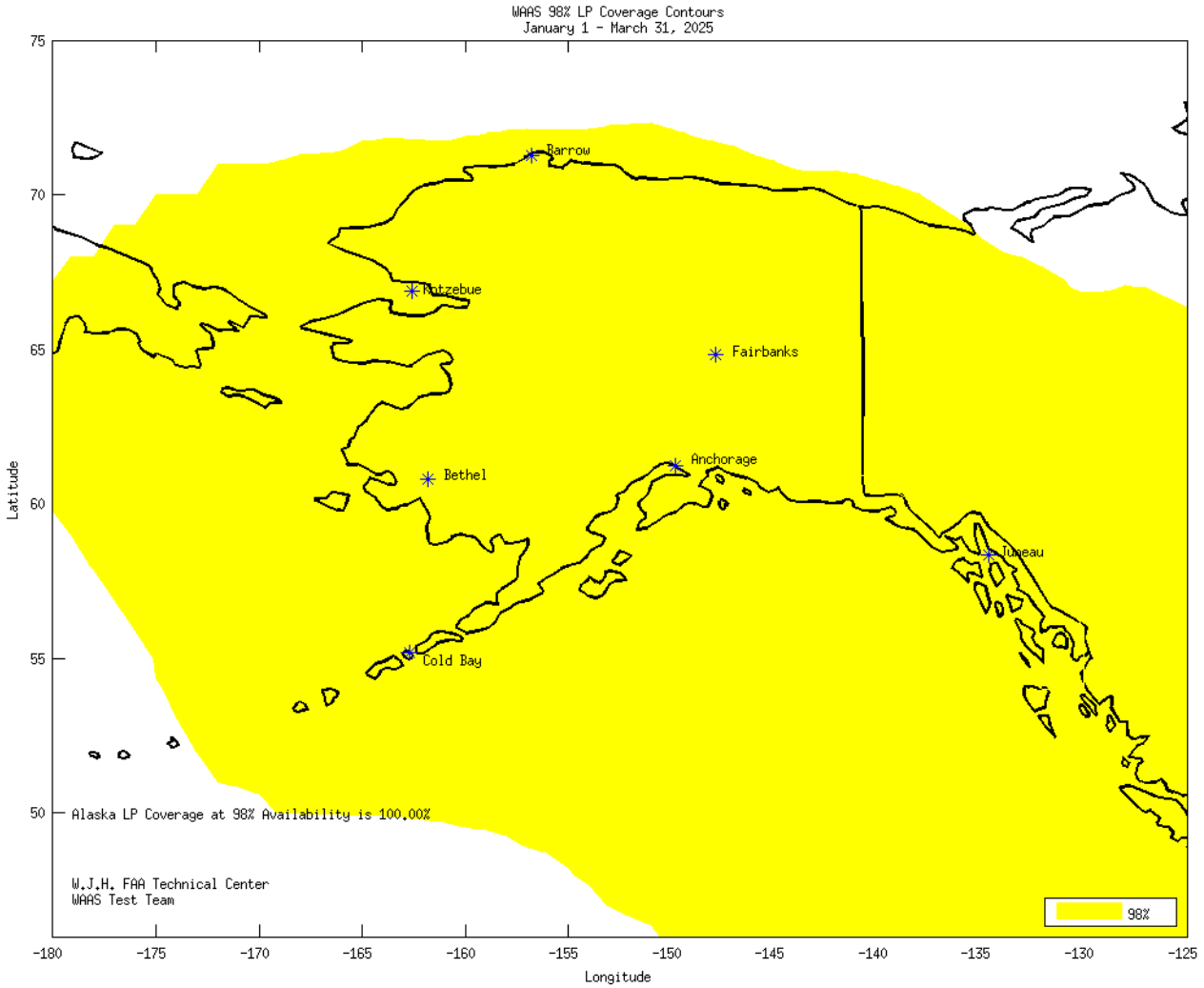

Figure B-2 98% Alaska LP Availability Contour

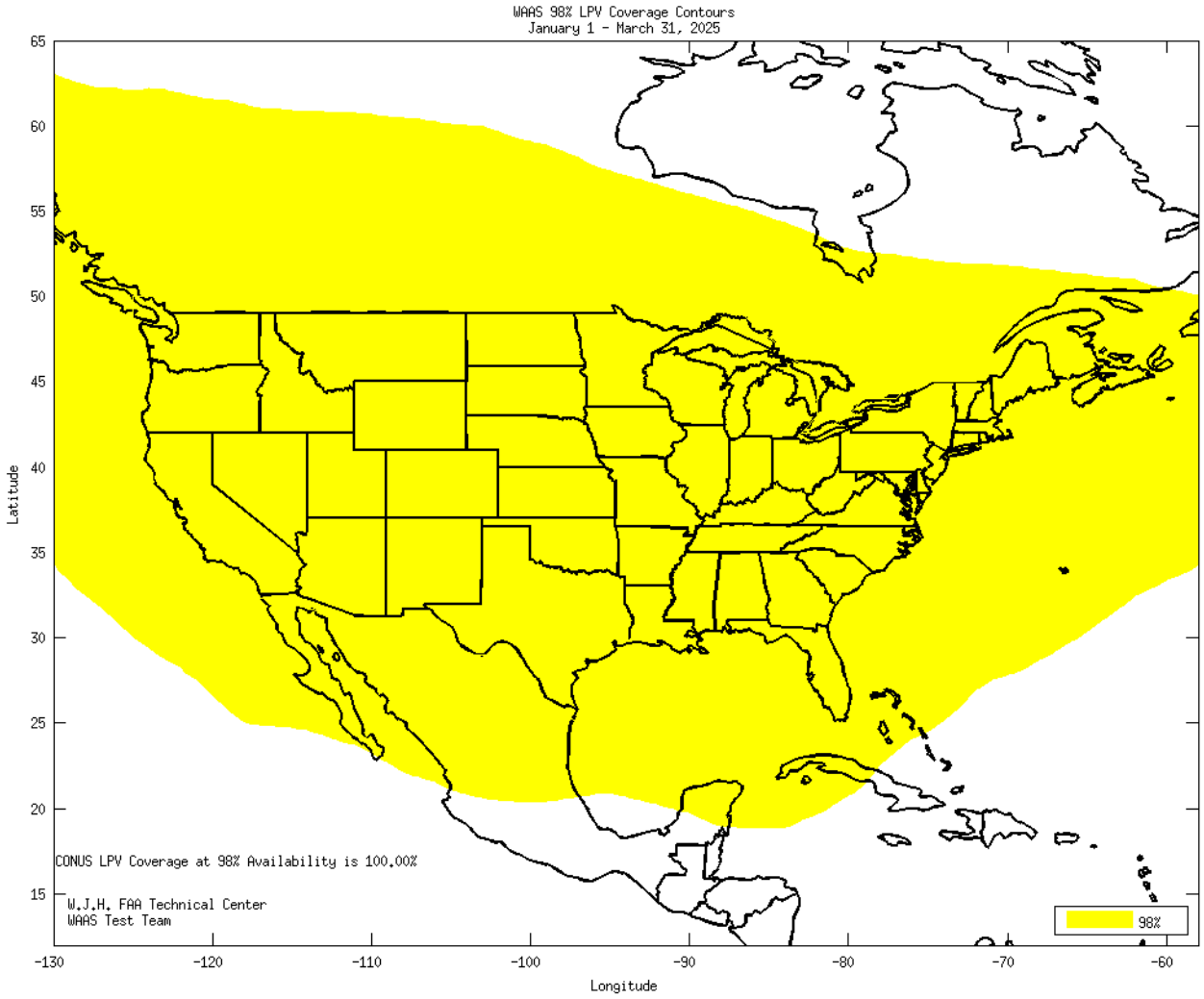

Figure B-3 98% CONUS LPV Availability Contour

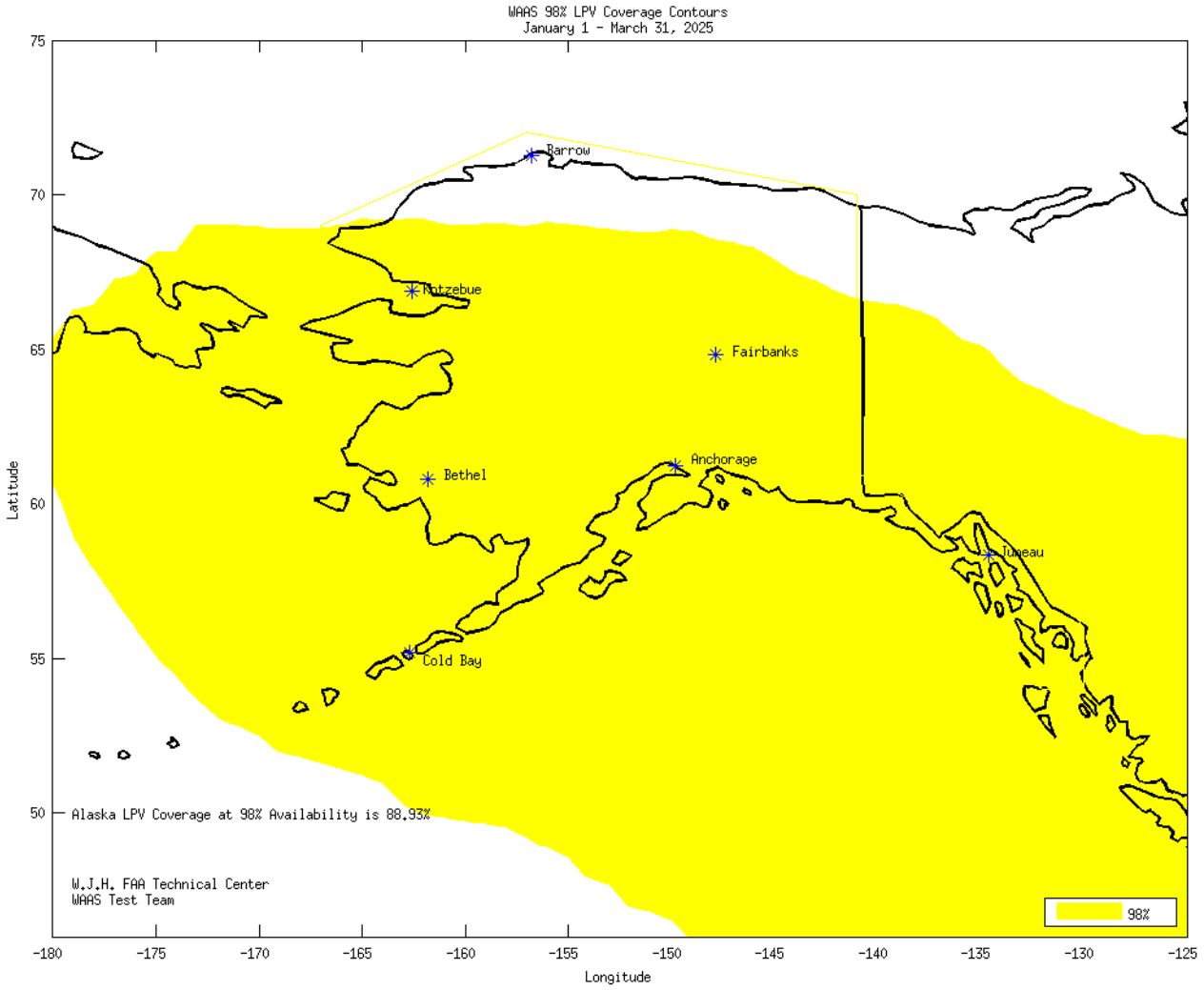

Figure B-4 98% Alaska LPV Availability Contour

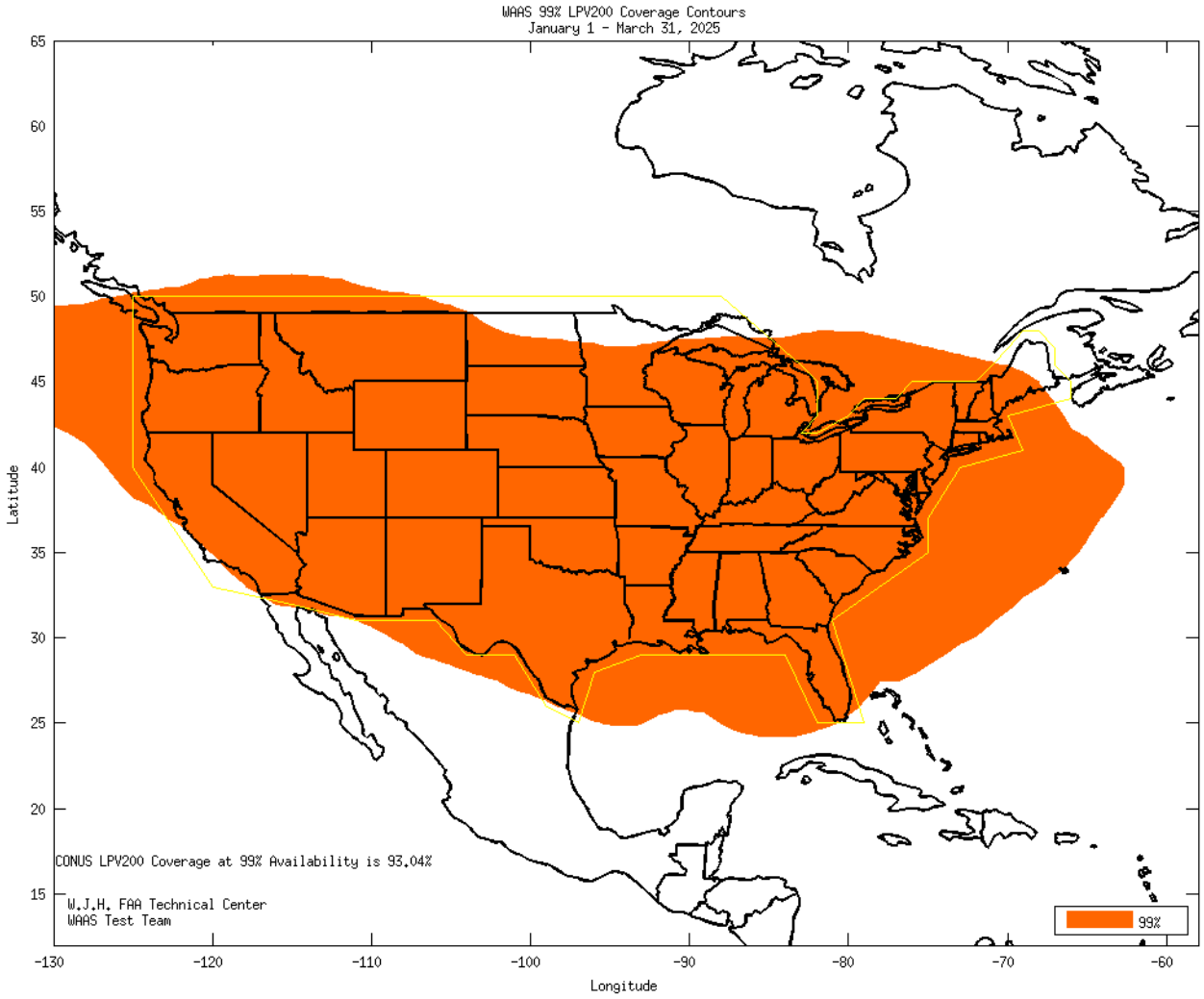

Figure B-5 99% CONUS LPV200 Availability Contour

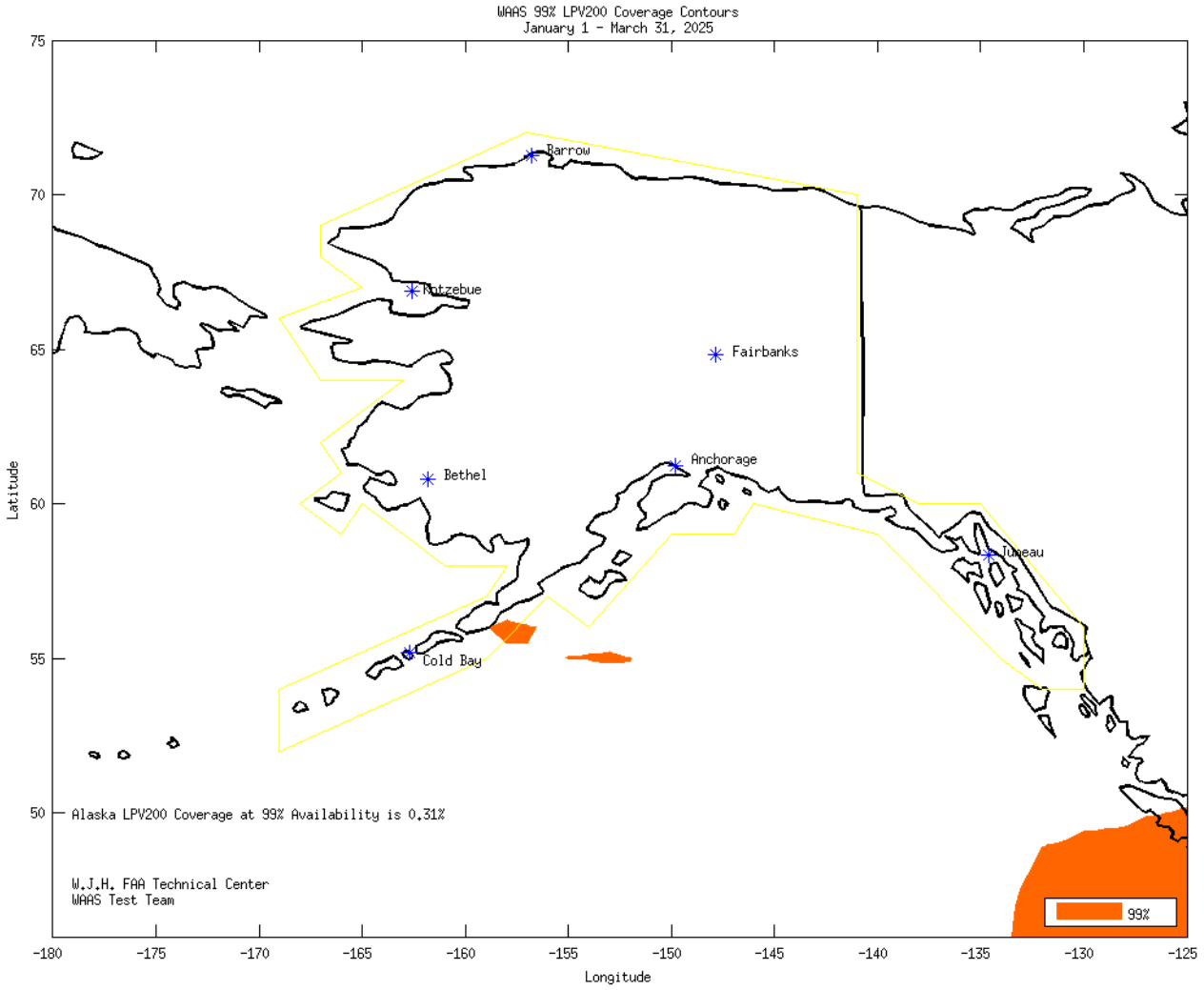

Figure B-6 99% Alaska LPV200 Availability Contour

APPENDIX C: RTCA TABLE DO-229F

Table A-8: Fast Corrections Degradation Factor and User Time-Out Interval Evaluation

Fast Corrections Degradation Factor Indicator (ai_i)	Fast Corrections Degradation Factor (a_i)- m/s^2	User Time-Out Interval for fast corrections - seconds En Route through LNAV Approach (I_{fc})	User Time-Out Interval for fast corrections - seconds LNAV/VNAV, LPV, LP Approach (I_{fc})	Maximum Fast Correction Update Interval (seconds)
0	0.00000	180	120	60
1	0.00005	180	120	60
2	0.00009	153	102	51
3	0.00012	135	90	45
4	0.00015	135	90	45
5	0.00020	117	78	39
6	0.00030	99	66	33
7	0.00045	81	54	27
8	0.00060	63	42	21
9	0.00090	45	30	15
10	0.00150	45	30	15
11	0.00210	27	18	9
12	0.00270	27	18	9
13	0.00330	27	18	9
14	0.00460	18	12	6
15	0.00580	18	12	6