

Hawaii County E9-1-1 Status Report

August 1, 2023 – August 31, 2023



VSE
FEDERAL & DEFENSE SERVICES

Hawaii County E9-1-1 Status Report

August 1, 2023 – August 31, 2023

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1. PSAP OPERATIONS

9-1-1 CALL VOLUME HAWAII COUNTY PSAPS – AUGUST 2023

Source: Intrado Viper system (*) Totals are based on calls to Primary PSAP.

9-1-1 Call Volume																	
HAWAII COUNTY PSAPs		Wireline		Wireless				VOIP		Calls With No ALI		Admin Calls		Abandoned Calls		Other Calls	
2023	Total 9-1-1 Calls Processed	No. of Wireline Calls	% of Total Calls	No. of Wireless Calls	% of Total Calls	% of Wireless WPH1 Calls	% of Wireless WPH2 Calls	No. of VoIP Calls	% of Total Calls	No. of Calls with No ALI	% of Total Calls	No. of Admin Calls	% of Total Calls	No. of 9-1-1 Abandoned	% of Total Calls	No. of Other Calls	% of Total Calls
AUG	14,310	1,311	9.16%	11,564	80.81%	15.95%	84.05%	540	3.77%	5	0.03%	0	0.00%	890	6.22%	0	0.00%

9-1-1 CALL VOLUME – CALENDAR YEAR 2023

9-1-1 Call Volume																	
HAWAII COUNTY PSAPs		Wireline		Wireless				VOIP		Calls with No ALI		Admin Calls		Abandoned Calls		Other Calls	
2023	Total 9-1-1 Calls Processed	No. of Wireline Calls	% of Total Calls	No. of Wireless Calls	% of Total Calls	% of Wireless WPH1 Calls	% of Wireless WPH2 Calls	No. of VoIP Calls	% of Total Calls	No. of Calls with No ALI	% of Total Calls	No. of Admin Calls	% of Total Calls	No. of 9-1-1 Abandoned	% of Total Calls	No. of Other Calls	% of Total Calls
JAN	21,534	2,195	10.19%	17,167	79.72%	17.56%	82.44%	772	3.59%	9	0.04%	0	0.00%	1,391	6.46%	0	0.00%
FEB	19,052	2,089	10.96%	15,238	79.98%	17.98%	82.02%	603	3.17%	7	0.04%	0	0.00%	1,115	5.85%	0	0.00%
MAR	23,183	2,503	10.80%	18,741	80.84%	19.51%	80.49%	713	3.08%	11	0.05%	0	0.00%	1,215	5.24%	0	0.00%
APR	20,161	1,998	9.91%	16,209	80.40%	20.35%	79.65%	700	3.47%	3	0.01%	0	0.00%	1,251	6.21%	0	0.00%
MAY	18,809	1,467	7.80%	15,382	81.78%	17.90%	82.10%	618	3.29%	4	0.02%	0	0.00%	1,338	7.11%	0	0.64%
JUNE	17,439	1,229	7.05%	14,645	83.98%	19.25%	80.75%	496	2.84%	8	0.05%	0	0.00%	1,061	6.08%	0	0.00%
JULY	15,188	1,341	8.83%	12,463	82.06%	17.43%	82.57%	496	3.27%	0	0.00%	0	0.00%	888	5.85%	0	0.00%
AUG	14,310	1,311	9.16%	11,564	80.81%	15.95%	84.05%	540	3.77%	5	0.03%	0	0.00%	890	6.22%	0	0.00%
SEPT																	
OCT																	
NOV																	
DEC																	
YTD	149,676	14,133		121,409				4,938		47		0		9,149		0	
MON AVG	18,710	1,767	9.34%	15,176	81.20%	18.24%	81.76%	617	3.31%	6	0.03%	0	0.00%	1,144	6.13%	0	0.08%

CALL VOLUME HAWAII COUNTY PSAP NOTES:

*911 Calls with No ALI in August 2023 = 0.03% - Statewide average for 2022 = 0.05%

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9-1-1 CALL VOLUME BY AGENCY – AUGUST 2023

2023	9-1-1 Call Volume by Agency									
	Hawaii Police Department					Hawaii Fire Department				
	Number of Total Calls Received	% of Total Calls	Number of Admin Calls	Number of Abandoned Dropped Calls	Number of Other Calls	Number of Total Calls Received	% of Total Calls	Number of Admin Calls	Number of Abandoned Dropped Calls	Number of Other Calls
August	13,316	93.05%	0	890	0	104	0.73%	0	0	0

Hawaii Fire Department “Number of Total Calls Received” was extracted from the Hawaii Police Dispatch Supervisor’s Workstation (HIPDWKS7) for the month of August.

9-1-1 CALL VOLUME BY AGENCY – CALENDAR YEAR 2023

2023	9-1-1 Call Volume by Agency									
	Hawaii Police Department					Hawaii Fire Department				
	Number of Total Calls Received	% of Total Calls	Number of Admin Calls	Number of Abandoned Dropped Calls	Number of Other Calls	Number of Total Calls Received	% of Total Calls	Number of Admin Calls	Number of Abandoned Dropped Calls	Number of Other Calls
January	16,856	78.28%	0	1,336	0	3,287	15.26%	0	55	0
February	15,211	79.84%	0	1,079	0	2,726	14.31%	0	36	0
March	20,076	86.60%	0	1,159	0	3,107	13.40%	0	56	0
April	16,328	80.99%	0	1,202	0	2,582	12.81%	0	49	0
May	17,112	90.98%	0	1,319	0	359	1.91%	0	19	0
June	16,291	93.42%	0	1,061	0	87	0.50%	0	0	0
July	14,223	93.65%	0	888	0	77	0.51%	0	0	0
August	13,316	93.05%	0	890	0	104	0.73%	0	0	0
September										
October										
November										
December										
YTD	129,413		0	8,934	0	12,329		0	215	0
MON AVG	16,177	87.10%	0	1,117	0	1,541	7.43%	0	27	0

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PSAP OPERATION NOTES:

- **Abandoned Calls** represent the number of incoming 9-1-1 calls for which the caller had hung up before a call-taker answered.
- **All VoIP (Voice over Internet Protocol) types of 911 calls are combined in the Call Volume statistic.**
- **A New Class of Service (COS): FIXD** = Wireless 911 calls to the PSAP via fixed **indoor** antennas.
- x (911) call with the COS of FIXD were added to the Wireless Phase I (WPH 1) percentage total.
- **A New Class of Service (COS): WDL1/WDL2** = Wireless 911 calls to the PSAP via fixed **indoor** antennas with a general location i.e., pool area (WDL1) or a specific area i.e., room 101 (WDL2).
- 1 (911) call with the COS of WDL1, or WDL2 were added to the Wireless Phase I or Phase II percentage total.

FOR YOUR INFORMATION

FYI.....For Your Information												
PSAP Operations												
Statewide 911 Call Volumes												
PSAP	2022		2021		2020		2019		2018		2017	
Oahu Civilian	971,113	69.45%	1,052,026	68.91%	991,016	71.11%	1,075,726	69.67%	1,034,190	70.62%	1,022,818	72.16%
RDC Pearl Harbor	31,827	2.28%	39,253	2.58%	37,014	2.66%	37,905	2.45%	37,068	2.53%	27,916	1.97%
Hawaii County	199,811	14.29%	214,220	14.00%	188,329	13.51%	211,611	13.70%	206,648	14.11%	193,166	13.62%
Maui County	140,524	10.05%	160,241	10.51%	125,626	9.01%	157,127	10.18%	133,869	9.14%	123,685	8.73%
Kauai County	54,923	3.93%	60,986	4.00%	51,653	3.71%	61,754	4.00%	52,623	3.60%	49,902	3.52%
Total	1,398,198	100.00%	1,526,726	100.00%	1,393,638	100.00%	1,544,123	100.00%	1,464,398	100.00%	1,417,487	100.00%

911 Call Volume % decrease from 2021 to 2022	
Oahu	-7.69%
RDC	-18.92%
Hawaii	-6.73%
Maui	-12.30%
Kauai	-9.94%
State of Hawaii	-8.42%

911 Calls with No ALI % average for 2022	
Oahu	0.11%
RDC	0.00%
Hawaii	0.05%
Maui	0.06%
Kauai	0.04%
State of Hawaii average	0.05%

State of Hawaii 2022	
TEXT TO 911	
Oahu Civilian	3,415
RDC Pearl Harbor	36
Hawaii County	526
Maui County	223
Kauai County	153
*Total	4,353
*Totals may include PSAP training, testing, and 911 Texting errors	

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TEXT TO 911 – CURRENT MONTH – AUGUST 2023

TEXT TO 911 Hawaii County PSAPs 2023		
Month	Received at Police	Received at Fire
January	48	3
February	55	4
March	47	1
April	59	3
May	42	1
June	34	0
July	37	0
August	26	0
September		
October		
November		
December		
YTD	348	12
Monthly Avg.	43.50	1.50

NOTE:

- 911 Text messages received at the Fire Department are transfers from the Police Department.
- Although there is a “Text to 911” plot on the MapFlex, the location of the plot is not dependable. Text to 911 Dispatchers should use their skills to ascertain the exact location of the emergency response.

WIRELESS PSAP TESTING – AUGUST 2023

HAWAII COUNTY - AUGUST 2023						
Date	WSP	Sites Tested	Sectors Tested	Tested By:	Test Pass/Fail	Comments:

NOTES:

- There were no (0) scheduled Wireless 911 Tests for the month of August 2023.

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2. MSAG (MASTER STREET ADDRESS GUIDE)

MSAG TRANSACTIONS CURRENT MONTH/YEAR – AUGUST 2023

HAWAII COUNTY	9-1-1 TRANSACTIONS								
	Total	Dispatchable Location Transactions Submitted	MSAG	ALI Submitted		Open ALI Discrepancy Records			Customer Addresses Affected
		DL (A)	MSAG (B)	TN CR (C)	ALI DR (D)	TNCR	ALI DR	VoIP DR	
2023									
JANUARY	465	400	4	61	0	839	0	0	8
FEBRUARY	302	285	1	14	2	959	0	0	0
MARCH	231	222	7	2	0	839	0	0	84
APRIL	280	273	3	4	0	710	0	0	0
MAY	319	266	8	45	0	697	0	0	2
JUNE	191	159	12	20	0	653	0	0	82
JULY	180	169	10	1	0	609	0	0	0
AUGUST	157	146	7	4	0	515	0	0	21
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									
TOTAL YTD	2,125	1,920	52	151	2	5,821	0	0	197
AVG PER MONTH	266	240	7	19	0	728	0	0	25

Definitions

- (A) **Dispatchable Location** - is defined in the FCC 15-9 Docket as the verified or corroborated street address of the calling party plus additional information such as floor, suite, apartment or similar information that may be needed to adequately identify the location of the calling party. Please see Dispatchable Location Section for more information.
- (B) **Master Street Address Guide** - Represents corrections made to street records including, street names, address ranges, MSAG Communities and ESNs.
- (C) **Telephone Number Change Request** - Represents address corrections on a specific TN or group of TNs. These "invalid" TNs usually have an associated ESN 299 attached to them which indicates the need for validation.
- (D) **Automatic Location Information Discrepancy Record** - Represents an address discrepancy discovered during a live 9-1-1 call, from a landline OR a VoIP phone. These record corrections are treated with a higher priority and should be processed within 48 hours if wireline, and 72 hours if a VoIP phone, as a general guideline.

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MSAG CURRENT MONTH NOTES:

A total of **157** MSAG transactions were processed in 9-1-1 Net during the current month. Seven (**7**) requests were processed relating to the MSAG database. Changes include: changes to high – low street ranges, combining street records, deletion of invalid records, splitting street records to align with Police, Fire, EMS, and Military response areas, and inserting new MSAG records.

There were **21** customer ANI/ALI (telephone number/address) records updated as a direct result.

TELEPHONE RECORD (ALI) TRANSACTIONS CURRENT MONTH NOTES:

4 Telephone Number Change Request (TN CR) transaction was processed in 9-1-1 Net with valid MSAG address, as a result of the ESN 299 clean-up effort.

ESN 299 TN CRs must be validated against HT records and approved by the end user Hawaiian Telcom customer before updating the ALI record.

VSE (formerly Akimeka) submitted one hundred and forty-six (**146**) TN CRs related to the Dispatchable Location Project during the current month.

OPEN TELEPHONE RECORD (ALI) DISCREPANCY STATUS:

- **There are currently 515 Open TN CR Transactions.**
- **Refer to chart in the next section “TNCR Current Status”**

515 Open TN CR transactions are a direct result of the Dispatchable Location Project and ESN 299 clean-up, both are awaiting approval from Hawaiian Telcom, Inc. Once a telephone number is submitted to Intrado for correction, it is verified against HT records and/or by the customer. Intrado's internal process requires calling each telephone customer individually for verification to update an address in the 9-1-1 database. VSE (formerly Akimeka) continues to monitor and track the progress of the remaining 515 Referred records.

- **There are currently no Open ALI-DRs as of August 31, 2023**
- **There are currently no Open VoIP DRs as of August 31, 2023**

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TNCR (TELEPHONE NUMBER CHANGE REQUEST) CURRENT STATUS – AUGUST 2023

NOTE:

- 9-1-1 NET is a secure web-based application that provides access to request changes to the MSAG, ALI, TN, and ESN/ELT data supported and maintained by Intrado for the Telephone Company (TelCo).
- TNCRs are not requests to change Telephone Numbers (TNs); however, it is a corrective process within 9-1-1 NET to modify location information associated with an Automatic Location Identification (ALI) record to a valid MSAG address for 9-1-1 purposes.

PSAP 9-1-1 Telephone Number Location Change Request (Telephone Number Change Request (TNCR) Status)				
County	TOTAL TNCR RECORDS SUBMITTED BY VSE (formerly AKIMEKA)	OPENED TNCRS PENDING FURTHER ACTION BY INTRADO	OPENED TNCRS REFERRED TO TELCO BY INTRADO	TOTAL UNOPENED TNCR RECORDS
HAWAII	515	0	251	264

STATUS
<p><u>TOTAL TNCRS SUBMITTED</u> - The total number of TNCR requests for modification that have been submitted in 9-1-1 NET.</p>
<p><u>PENDING STATUS</u> - TNCRs assigned this status are requests which have been reviewed by the 9-1-1 Database Service Provider Data Analyst, and are pending investigation whether the request is valid or invalid, and/or whether the request requires additional information to validate.</p>
<p><u>REFERRED STATUS</u> - TNCRs assigned this status are requests which have been reviewed by the 9-1-1 Database Service Provider Data Analyst, and the request requires additional information to validate. The Intrado Data Analysts assigns this status to a TNCR and the request is referred to the telephone service providers for further research.</p>
<p><u>TOTAL UNOPENED TNCR RECORDS STATUS</u> - The request is submitted by VSE (formerly Akimeka) on behalf the PSAP; however, processing by the 9-1-1 Database Service Provider Data Analyst has not begun.</p>

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DISPATCHABLE LOCATION – STATUS AS OF – AUGUST 2023

NARRATIVE:

During the August 2015 State of Hawaii 911 Board meeting, VSE (formerly Akimeka) provided a “State of Hawaii PSAPs Proposed ALI Compliancy with FCC 15-9” presentation. Based on the 9-1-1 Board’s confirmation to add the “Dispatchable Location” information into the ALI database, VSE (formerly Akimeka) researched the format standards of each pertinent field and tested the delivery of the data to the PSAP. After a few configuration adjustments (eliminating the TelCo comments field from appearing on the ALI Screen), VSE (formerly Akimeka) standardized an additional information data format to proceed with this project. During the month of September 2015, VSE (formerly Akimeka) started a pilot project, entering additional location information to a verified MSAG address with multiple telephone numbers. Specifically, the **Kings Shops at 690250 Waikoloa Beach Dr., Waikoloa**. The “Dispatchable Location” data is entered into the “Driving Directions” field in the 9-1-1 Net system and will display on the Viper Power 911 ALI Screen in the “Exact” field should a 911 call be received from that telephone number. There are a total of **15,670** Dispatchable Locations processed to date. There were **146** Dispatchable locations submitted and **243** were processed in August 2023. (see next pages)

Dispatchable Location			
2023	Common Name Place MSAG Address	TNCR* Transactions Submitted	Transactions Processed**
Quarter 3			
Quarter 2 Carryover		15,814	15,204
August	HSG/TRN/Hilo Airport, 1363 Mokuea St, Hilo	105	31
	Multi Bus, 1505 Mokuea St, Hilo	2	0
	Hawaii Medical Service, 32 Pohaku St, Hilo	19	0
	Multi Bus, 18 Pohaku St, Hilo	2	0
	Smith Trading Co, 21 Pohaku St, Hilo	2	0
	Multi Bus, 23 Pohaku St, Hilo	3	2
	Multi Bus, 45 Pohaku St, Hilo	9	3
	Sears Roebuck and Co, 50 Pohaku St, Hilo	4	3
	Multi Bus, 30 Makaala St, Hilo	0	4
	Hawaii State Government, 50 Makaala St, Hilo	0	2
	Frito-Lay of Hawaii Inc/Xerox Corp, 160 Makaala St, Hilo	0	9
	Hilo Steel Works/Pacific Macadamia Nut Corp, 240 Makaala St, Hilo	0	5
	Officemax/Hopaco, 280 Makaala St, Hilo	0	9
	Office Max/Walgreen Drug Stores, 301 E Makaala St, Hilo	0	5
The Vitamin Shoppe, 303 E Makaala St, Hilo	0	2	

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DISPATCHABLE LOCATION – STATUS AS OF – AUGUST 2023 CONTINUED

Dispatchable Location			
2023	Common Name Place MSAG Address	TNCR* Transactions Submitted	Transactions Processed**
Quarter 3			
Quarter 2 Carryover		15,814	15,204
August	Ross Stores, 307 E Makaala St, Hilo	0	5
	Office Max, 311 E Makaala St, Hilo	0	2
	Multi Bus, 315 E Makaala St, Hilo	0	9
	Island Energy Services, 321 E Makaala St, Hilo	0	5
	Multi Bus, 325 E Makaala St, Hilo	0	23
	Multi Bus, 381 E Makaala St, Hilo	0	24
	Multi Bus, 391 E Makaala St, Hilo	0	41
	Hawaiian Telcom, 565 E Lanikaula St, Hilo	0	4
	Richard Lee-Ching MD/Clinical Labs, 780 Laukapu St, Hilo	0	4
	Multi Bus, 811 Laukapu St, Hilo	0	4
	Poke To Your Taste, 790 Leilani St, Hilo	0	2
	Multi Bus, 800 Leilani St, Hilo	0	3
	Stan's Contracting Inc, 819 Leilani St, Hilo	0	4
	Multi Bus, 851 Leilani St, Hilo	0	4
	County of Hawaii, 889 Leilani St, Hilo	0	15
	Multi Bus, 900 Leilani St, Hilo	0	15
	The Fairmont Orchid, 681200 N Kaniku Dr, Kamuela	0	4
September			
Q3 Total		315	466
Total		16,129	15,670

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SPECTRUM (CHARTER) 9-1-1 VOIP DATABASE VERIFICATION PROJECT - AUGUST 2023

VSE (formerly Akimeka) received the Automatic Location Identification (ALI) records from Spectrum (formally known as Charter Communications) which is the predominant Voice over Internet Protocol (VoIP) provider in the State of Hawaii. As VSE (formerly Akimeka) has access to these ALI Records, VSE (formerly Akimeka) is researching and verifying the VoIP records against an MSAG valid address and the GIS data. This research is a validation of the ALI Record to ensure that the location as provided by the VoIP provider matches the GIS Information utilized by the Public Safety Agencies within their specific County 9-1-1 Service Area. This validation reduces the potential of address or location dispute during a 9-1-1 call.

The analysis of the database records indicates that there are invalid MSAG addresses utilized by the VoIP Provider. These records are being identified and will be sent back to Spectrum for corrective action.

*Spectrum (Charter) 9-1-1 VoIP Database Verification Project					
PSAP	TOTAL RECORDS SUBMITTED BY SPECTRUM (A)	TOTAL RECORDS MATCHING & VERIFIED WITH 911 DATABASES (B)	TOTAL RECORDS NOT MATCHING	NON MATCHING RECORDS CORRECTED BY VSE (formerly AKIMEKA) (C)	PERCENT COMPLETED
HAWAII County	22,044	21,638 (98%)	406	406	100.00%
KAUAI County	8,936	8,695 (97%)	241	241	100.00%
MAUI County	18,256	17,517 (96%)	739	739	100.00%
OAHU Civilian	87,414	85,329 (98%)	2,085	2,085	100.00%
OAHU Military	3,663	710 (19%)	2,953	2,953	100.00%
TOTAL	140,313	**133,889	6,424	6,424	100.00%

* Spectrum VoIP Database received on June 21st, 2017

** VSE (formerly Akimeka) provided VoIP Records with Latitude/Longitude coordinates

(A)	VoIP Database records submitted by Spectrum to VSE (formerly Akimeka) for research and MSAG address validation.
(B)	VSE (formally Akimeka) has researched and verified the VoIP record against an MSAG valid address and GIS data. VSE (formerly Akimeka) is tracking corrections needed to be performed by Spectrum. Addressing data will be updated or added in the GIS if the VoIP record is determined to be valid.
(C)	Verification Process Completed.

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BANDWIDTH 9-1-1 VOIP DATABASE VERIFICATION PROJECT – AUGUST 2023

VSE (formerly Akimeka) received the Automatic Location Identification (ALI) records from Bandwidth which is a Voice over Internet Protocol (VoIP) provider in the State of Hawaii. As VSE (formerly Akimeka) has access to these ALI Records, VSE (formerly Akimeka) researched and verified the VoIP records against an MSAG valid address and the GIS data. This research is a validation of the ALI Record to ensure that the location as provided by the VoIP provider matches the GIS Information utilized by the Public Safety Agencies within their specific County 9-1-1 Service Area. This validation reduces the potential of address or location dispute during a 9-1-1 call.

The analysis of the database records indicates that there were invalid MSAG addresses utilized by the VoIP Provider. These records were identified and sent back to Bandwidth for corrective action.

VSE (formerly Akimeka) will update the chart below as we receive updated ALI records from Bandwidth.

*Bandwidth					
9-1-1 VoIP Database Verification Project ***(Updated)					
PSAP	TOTAL RECORDS SUBMITTED BY BANDWIDTH (A)	TOTAL NO MATCHING RECORDS IDENTIFIED BY VSE (formerly AKIMEKA)	BANDWIDTH FALLOUT RECORDS (B)	NON MATCHING RECORDS CORRECTED BY VSE (formerly AKIMEKA) (C)	PERCENT COMPLETED
WAII County	2,126	97	16	106	93.81%
MAUI County	555	75	3	73	93.59%
AUI County	1,794	60	14	69	93.24%
AHU Civilian	12,898	1,556	44	1,590	99.38%
AHU Military	173	156	11	163	97.60%

***Bandwidth VoIP Database received on April 5th, 2018**

****Updated Bandwidth VoIP Database received on September 6th, 2018**

*****Updated Bandwidth VoIP Database received on October 1st, 2021**

(A)	VoIP Database records submitted by Bandwidth to VSE (formerly Akimeka) for research and MSAG address validation.
(B)	VoIP records identified by Bandwidth as fallout records. These records contain invalid MSAG addressing information which can include house number, street name/suffix, or MSAG community.
(C)	Verification Process Completed.

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3. GEOGRAPHIC INFORMATION SYSTEM (GIS) – AUGUST 2023

MAPPING LAYERS UPDATED (PART I)

9-1-1 GIS layers provided by VSE (formerly Akimeka) to the PSAP are designed for use on E9-1-1 systems and NG9-1-1 systems.

HAWAII COUNTY		
Type of Layer	VSE (formerly Akimeka) GIS Server	Other/Remarks
	Date Created/Edits Performed	
CRITICAL 9-1-1 PUBLIC SAFETY LAYERS FOR DISPATCH & RESPONSE (Listed Alphabetically)		
Address Points	8/22/2023 To 8/31/2023	Next Delivery 9/5/2023
		Corrected spatial for two (2) records in Hawi
		Added address for two (2) records in Naalehu
		Added address for fifteen (15) records in Pahoia
		Added address for two (2) records in Pepeekeo
		Added address for one (1) record in Kapaau
		Added address for seven (7) records in Mountain View
		Added address for four (4) records in Captain Cook
		Updated house number and updated street name for one (1) record in Kurtistown
		Corrected spatial for twenty-five (25) records in Kurtistown
		Added address for one (1) record in Papaikou
		Added address for fourteen (14) records in Volcano
		Added address for one (1) record in Holualoa
		Added address for five (5) records in Pahala
		Added address for twenty (20) records in Ocean View
		Added address for five (5) records in Hilo
		Edited spatial for one (1) record in Mountain View
		Added address for one (1) record in Kealakekua
		Added address for twenty-four (24) records in Kailua Kona
		Added address for one (1) record in Paauilo
Corrected spatial for four (4) records in Mountain View		
Added address for one (1) record in Laupahoehoe		
Corrected spatial for five (5) records in Keaau		

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MAPPING LAYERS UPDATED (PART II)

9-1-1 GIS layers provided by VSE (formerly Akimeka) to the PSAP are designed for use on E9-1-1 systems and NG9-1-1 systems.

HAWAII COUNTY			
Type of Layer	VSE (formerly Akimeka) GIS Server	Other/Remarks	
	Date Created/ Edits Performed		
CRITICAL 9-1-1 PUBLIC SAFETY LAYERS FOR DISPATCH & RESPONSE (Listed Alphabetically)			
Address Points	8/22/2023 To 8/31/2023	Added address for one (1) record in Hakalau	
		Added address for twenty-three (23) records in Keaau	
		Added address for one (1) record in Waikoloa	
		Added address for one (1) record in Papaaloa	
		Added address for two (2) records in Kamuela	
		Edited spatial for one (1) record in Keaau	
		Added address for twenty-two (22) records in Kurtistown	
		Added address for one (1) record in Keauhou	
	8/8/2023 To 8/21/2023	Delivered 8/22/2023	
		Corrected spatial for four (4) records in Hawi	
		Added address for eight (8) records in Ocean View	
		Added address for one (1) record in Waikoloa	
		Added address for three (3) records in Pahoa	
		Edited spatial for forty-two (42) records in Kailua Kona	
		Corrected spatial for one (1) record in Captain Cook	
		Added address for four (4) records in Keaau	
		Added address for five (5) records in Volcano	
		Corrected spatial for one (1) record in Pahoa	
		Added address for one (1) record in Kailua Kona	
		Edited spatial for one (1) record in Hawi	
		Added address for one (1) record in Captain Cook	
		Corrected spatial for two (2) records in Kailua Kona	
		Corrected spatial for five (5) records in Kurtistown	
Updated routingID for two (2) records in Captain Cook			

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MAPPING LAYERS UPDATED (PART III)

9-1-1 GIS layers provided by VSE (formerly Akimeka) to the PSAP are designed for use on E9-1-1 systems and NG9-1-1 systems.

HAWAII COUNTY		
Type of Layer	VSE (formerly Akimeka) GIS Server	Other/Remarks
	Date Created/ Edits Performed	
CRITICAL 9-1-1 PUBLIC SAFETY LAYERS FOR DISPATCH & RESPONSE (Listed Alphabetically)		
Address Points	8/8/2023 To 8/21/2023	Added address for two (2) records in Hawi
		Added address for eight (8) records in Mountain View
		Added address for twelve (12) records in Kurtistown
		Corrected spatial for four (4) records in Keaau
		Added address for seven (7) records in Kamuela
	8/1/2023 To 8/7/2023	Delivered 8/8/2023
		Updated street name for one (1) record in Kealakekua
		Updated street name, updated house number, updated alias, and updated routingID for one (1) record in Honokaa
Airports		
Bridges		
Building Footprints		
Bus Stops		
Churches		
Coastal Names		
Coastline		
Common Places		
Correctional Facilities		
Emergency Callboxes		
Emergency Operation Centers		
Emergency Shelters		
ESZ/ESN	8/8/2023 To 8/21/2023	Delivered 8/22/2023
		Edited boundary two (2) records

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MAPPING LAYERS UPDATED (PART IV)

9-1-1 GIS layers provided by VSE (formerly Akimeka) to the PSAP are designed for use on E9-1-1 systems and NG9-1-1 systems.

HAWAII COUNTY		
Type of Layer	VSE (formerly Akimeka) GIS Server	Other/Remarks
	Date Created/ Edits Performed	
CRITICAL 9-1-1 PUBLIC SAFETY LAYERS FOR DISPATCH & RESPONSE (Listed Alphabetically)		
Fire Beats		
Fire Districts		
Fire Response Areas		
Fire Stations		
Food & Beverage		
Gas Stations		
Gate Codes		
Government Buildings		
Harbors		
Helipads		
Hiking Trails		
Hospitals		
Hydrants		
Hyrdology Layers		
Incident Response Areas		
Lodging		
Major Roads		
Medic Beats		
Medic Districts		
Medic Response Areas		
Medic Stations		
Medical Facilities		
Milepost Markers		

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MAPPING LAYERS UPDATED (PART V)

9-1-1 GIS layers provided by VSE (formerly Akimeka) to the PSAP are designed for use on E9-1-1 systems and NG9-1-1 systems.

HAWAII COUNTY		
Type of Layer	VSE (formerly Akimeka) GIS Server	Other/Remarks
	Date Created/Edits Performed	
CRITICAL 9-1-1 PUBLIC SAFETY LAYERS FOR DISPATCH & RESPONSE (Listed Alphabetically)		
MSAG Communities	8/8/2023 To 8/21/2023	Delivered 8/22/2023
		Edited boundary one (1) record in Kamuela
		Edited boundary one (1) record in Honokaa
Net Junctions		
Ocean Rescue Boundaries		
Ocean Safety		
Parcels		
Parks		
Parks Polygon		
Points of Interest		
Police Beats	8/8/2023 To 8/21/2023	Delivered 8/22/2023
		Edited boundary two (2) records
Police Districts		
Police Response Areas	8/22/2023 To 8/31/2023	Next Delivery 9/5/2023
		Updated boundary for two (2) records
Police Stations		
Post Offices		
Schools		
Street Centerlines	8/22/2023 To 8/31/2023	Next Delivery 9/5/2023
		Updated range for one (1) record in Kealahou
		Updated range for one (1) record in Holualoa
		Added segment for one (1) record in Volcano
		Added segment for one (1) record in Mountain View
Updated range for one (1) record in Captain Cook		

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MAPPING LAYERS UPDATED (PART VI)

9-1-1 GIS layers provided by VSE (formerly Akimeka) to the PSAP are designed for use on E9-1-1 systems and NG9-1-1 systems.

HAWAII COUNTY		
Type of Layer	VSE (formerly Akimeka) GIS Server	Other/Remarks
	Date Created/ Edits Performed	
CRITICAL 9-1-1 PUBLIC SAFETY LAYERS FOR DISPATCH & RESPONSE (Listed Alphabetically)		
Street Centerlines	8/22/2023 To 8/31/2023	Flipped and updated range for one (1) record in Hilo
		Edited segment one (1) record in Volcano
		Updated street name and updated range for one (1) record in Volcano
		Delivered 8/22/2023
	8/8/2023 To 8/21/2023	Updated range for one (1) record in Mountain View
		Updated MSAG for one (1) record in Kamuela
		Split segment for and updated range for two (2) records in Captain Cook
		Updated MSAG community right and updated postalcommunityleft for two (2) records in Mountain View
		Delivered 8/8/2023
	8/1/2023 To 8/7/2023	Split segment for and updated range for one (1) record in Holualoa
		Split segment for and updated range for one (1) record in Keauhou
	Subdivisions	
Tow Jurisdictions		
Tsunami Evacuation Zones		
Tsunami Heights		
Waste Water Plants		
WSP Cell Sectors		
WSP Cell Towers		

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GEOGRAPHIC INFORMATION SYSTEM (GIS) NARRATIVES

GIS KEY ACTIVITIES/UPDATES

GIS Key activities include the events such as GIS deliverables, meetings, agreements, etc.

Date	Key Activities/Updates
8/22/2023	Delivered Address Points, City, Common Names Alt Table, Display Streets, Fire EMS Zone, First In, Points of Interest, POI Alt Names, Police Zones, Street Centerlines, Street Alt Names, and Street Routes for Hawaii County Spillman
8/22/2023	Delivered Address Points, Cell Sectors, Cell Towers, Points of Interest, Street Centerlines, ESN, MSAG Communities, MedicResponseAreas, and FireResponseAreas for Hawaii County Mapflex
8/8/2023	Delivered Address Points, City, Common Names Alt Table, Display Streets, Fire EMS Zone, First In, Points of Interest, POI Alt Names, Police Zones, Street Centerlines, Street Alt Names, and Street Routes for Hawaii County Spillman
8/8/2023	Delivered Address Points, Cell Sectors, Cell Towers, Points of Interest, Street Centerlines, ESN, MSAG Communities, MedicResponseAreas, and FireResponseAreas for Hawaii County Mapflex
8/8/2023	Delivered Final Police Beat Maps/Districts to Police Dispatch for Training purposes.

GIS FOR 911

As part of ensuring GIS data compatibility with 911 CAD systems, VSE (formerly Akimeka) removed certain spatial characteristics of street centerlines known as “true curves”. True, or geometric, curves are sometimes used in the street centerline layer to depict a road that curves in a circular (or semi-circular) fashion, like a round-about or a cul-de-sac. These features can cause processing issues in CAD and GIS software, and therefore were replaced with a series of points that depict the same geometry without the use of a geometric, or true curve.

LAVA FLOW AND ALTERNATE ROUTES

Historical events are archived in the 2018 Monthly Status Reports. VSE (formerly Akimeka) will resume to deliver updates should the event start up again.

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FIRE DEPARTMENT IMT (INCIDENT MANAGEMENT TEAM) MAP

Historical events are archived in the 2018 Monthly Status Reports.

VSE (formerly Akimeka) will update these GIS layers upon request by the Hilo Fire Department.

ADDRESS POINTS AND STREET CENTERLINES UPDATE COMPARISON

On a routine basis, upon receipt of Hawai'i County Planning Department's Address Points and Street Centerlines layer updates, VSE (formerly Akimeka) compares and incorporates any of the County's additions, changes, and deletions into the VSE (formerly Akimeka) Address Points and Street Centerlines layers that appear necessary for the dispatch and response of 911 personnel.

The new Address Points and Street Centerlines geodatabase comparative analysis was received from the Hawai'i County Planning Department on **August 31, 2023**. A new compare process was developed by VSE (formerly Akimeka) to perform this analysis.

HAWAII COUNTY	Address Points Layer	Street Centerlines Layer
New Addresses Added	204	
Addresses Removed	0	
Address Street Name Changes	1	
Address Street Number Changes	1	
New Street Segments Added		4
Street Segments Removed		0
Street Segment Range Changes		2
Street Segment Name Changes		1

NOTE:

Some Address Points have multiple updates that are required, including Street Name and Street Number. These updates are counted as separate actions since the changes are required in order to make the GIS layers "9-1-1 capable" for CAD system recommendations affecting public safety dispatch and response operations.

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MAPFLEX SYSTEM

VSE (formerly Akimeka) delivered GIS data to the MapFlex system on the following dates in August 2023

Hawaii County – August 8, 2023, and August 22, 2023

Maui County – August 9, 2023, and August 23, 2023

Kauai County – August 10, 2023, and August 24, 2023

Honolulu – August 11, 2023, and August 25, 2023

MAPFLEX ISSUES

The MapFlex issues are archived in the 2021 Monthly Status Report. Should the existing issues be addressed, this report will be reopened and tracked.

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4. SERVICE REQUESTS TRANSACTIONS

OPEN SERVICE REQUESTS – AUGUST 2023

#	Date	Ticket #	Description	PSAP	Urgency	Comments
5	12/19/2019	1023	Incorrect Address	Hawaii Fire	Normal	Confirmation pending from Inteliquent.com 08/31/2023 JBC

NOTE* THERE IS ONE (1) OPENED SERVICE REQUEST PENDING FOR AUGUST 2023.

SERVICE REQUEST YEAR-TO-DATE (YTD) SUMMARY – 2023

HAWAII COUNTY				MSAG SERVICE REQUEST CATEGORIES					
2023	TOTAL		Open	WIREFLINE		WIRELESS		VoIP	
	Created	Closed		Created	Closed	Created	Closed	Created	Closed
2022 Carryover*			1						
January	0	0	1	0	0	0	0	0	0
February	2	2	1	1	1	0	0	1	1
March	0	0	1	0	0	0	0	0	0
April	0	0	1	0	0	0	0	0	0
May	0	0	1	0	0	0	0	0	0
June	0	0	1	0	0	0	0	0	0
July	0	0	1	0	0	0	0	0	0
August	0	0	1	0	0	0	0	0	0
September									
October									
November									
December									
TOTAL	2	2	1	1	1	0	0	1	1

Note:	* The 2022 Carryover row indicated the number of Service Requests that were opened in 2022 and brought forward into 2023 in an effort to track the service request until completion. Detailed information on service tickets are available upon request.
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Definitions:	Category	Description
	Wireline	Telephone Number (ALI) Discrepancies from land line phones that have been submitted to Intrado via 9-1-1 Net for correction.
	Wireless	Telephone Number (ALI) Discrepancies from phones that were land lines at one time, and were ported out to a wireless carrier. However, the phone number was never removed from the MSAG database.
	VoIP	Telephone Number (ALI) Discrepancies from VoIP phones that have been submitted to Time Warner Cable (TWCBL) or other VoIP providers for correction

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5. E9-1-1 DATABASE SYNCHRONIZATION

(Reference: NENA 71-501, Version 1.1 – NENA Information Document for Synchronizing Geographic Information System databases with MSAG & ALI)

The database synchronization process is an essential ongoing and continuous process to ensure the E9-1-1 databases used in the Selective Router (SR), and the Hawaii Police Department (HPD) 9-1-1 GIS layers used for location determination are exactly matched. This process ensures that the 9-1-1 databases and the GIS data remain current, exactly matched, and are synchronized and useful for 9-1-1 purposes. This process also prepares the GIS data for use in Next Generation 9-1-1 (NG911) systems, operations, and applications.

In 9-1-1, Public Safety Agencies (PSAs) are allocated and assigned Emergency Service Zones (ESZs) identified by their respective Emergency Service Numbers. These ESZs and ESNs are maintained by the Primary PSAP for Selective Router (SR) programming use. The entire County Jurisdiction Zones is referred to as an Administrative ESZ. Each PSA is required by Tariff to assign their Response Areas (RAs) based on their operational requirements and assignments within the ESZ. Smaller and more accurate ESZs are created for the geographic areas that have the same PSAs and assigned an Emergency Service Number (ESZs) which are known as a Routing ESNs, or ESNs.

The street names and associated addresses within the ESNs must be translated into a data format that is useful to the Selective Router (SR), the public safety agencies, and their 9-1-1 systems. Translated addresses for 9-1-1 must include the house numbers, street names, street name suffixes, MSAG Communities and are assigned to each of the PSA response areas. These translated addresses are referred to as “valid MSAG addresses” and are applied to both the MSAG and GIS databases. The data must be formatted to traverse throughout 9-1-1 networks & systems. This must also be done for the Public Safety Agencies to ensure there is no loss of data characters or data truncation for their internal and external 9-1-1 systems.

These MSAG street names and MSAG Communities might not be recognized in the County’s authoritative addressing Agency and are intended for Public Safety Agency use only. Since neither database is static in nature, the synchronization process will never remain at a 100 percent match rate. It can be expected that the match rate percentage will fluctuate by a small degree each month. As such, NENA's recommended match rate between these critical databases is minimum 98%.

As part of Akimeka’s value added services, Akimeka conducts four quarterly, in-depth 9-1-1 Database Synchronization audits per year for the Hawaii County Police Department. They are conducted in February, May, August, and November of each Calendar Year (CY) while under contract with Akimeka.

The results of the August 30, 2023, database synchronization audits are presented as follows

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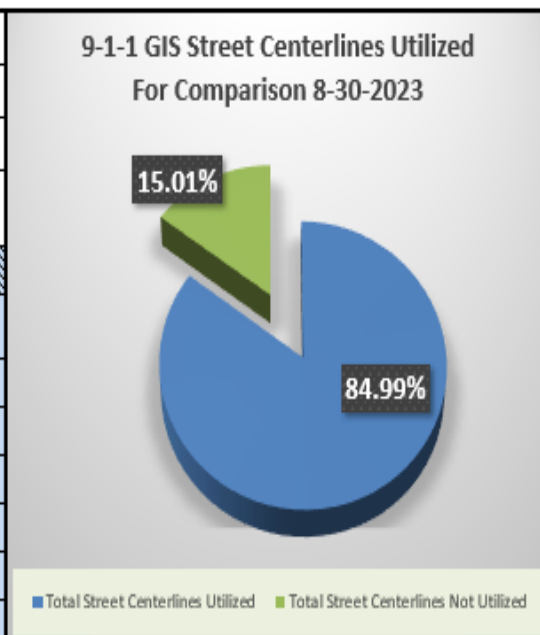
TWO-WAY (2-WAY) COMPARISON – AUGUST 2023

Akimeka’s two-way database comparison service provides for comparing the Local Exchange Carriers (LECs) MSAG Database to the Hawaii Police Department’s 9-1-1 GIS Street Centerline layer. This ensures the Telephone or VoIP Telephone Company device information is accurate and correct. This information is utilized to route the 9-1-1 call to the PSAP, and the associated location information delivered ALI Datastream is used to dispatch appropriate emergency responders. This also ensures the necessary data elements for 9-1-1 caller location based on street name, MSAG Community, and Emergency Service Numbers (ESNs) are delivered to the PSAP, in the exact format that matches the HPD 9-1-1 GIS layers.

9-1-1 GIS Street Centerlines Utilized For Comparison

A total of **5,658 9-1-1 GIS Records** are maintained for the Hawaii Police Department’s 9-1-1 GIS database by Akimeka. For this comparison, **849** GIS street records were excluded. Akimeka excludes GIS Street Centerlines records from the comparison that do not have the possibility of generating a telephone company 9-1-1 wireline call. Those would include roadways that do not have an MSAG address such as, Freeways, Ramps, and alleys. The remaining **4,809 9-1-1 GIS Records** called “Valid 9-1-1 GIS Street Centerline records” and are compared against the Valid MSAG Records. The results of the 9-1-1 GIS Street Centerline Records comparison analysis are provided below:

9-1-1 GIS STREET CENTERLINE Records AUDIT COMPARISON RESULTS	As of August 30, 2023	
	GIS Update 7-31-2023	
	9-1-1 MSAG Dated 8-01-23	
	# of Records	Exact Match Rate %
Total 9-1-1 GIS Records Reviewed	5,658	
9-1-1 GIS Records Exempt for Comparison (Subtract 9-1-1 MSAG Exempt and GIS number 1 Exempt)	849	15.01%
Subtotal 9-1-1 GIS Records Eligible for Comparison	4,809	84.99%
Subtotal 9-1-1 GIS Records Utilized for Comparison	4,809	100%
Total 9-1-1 GIS Records That Do Not Match MSAG Records	0	0%
9-1-1 GIS Records with No Matching MSAG Record	0	0%
Total 9-1-1 GIS Records Requiring Minor Correction	0	0%
Total 9-1-1 GIS Street Centerline Match Rate Percentage	4,809	100%



NENA Recommended Match Rate = 98%

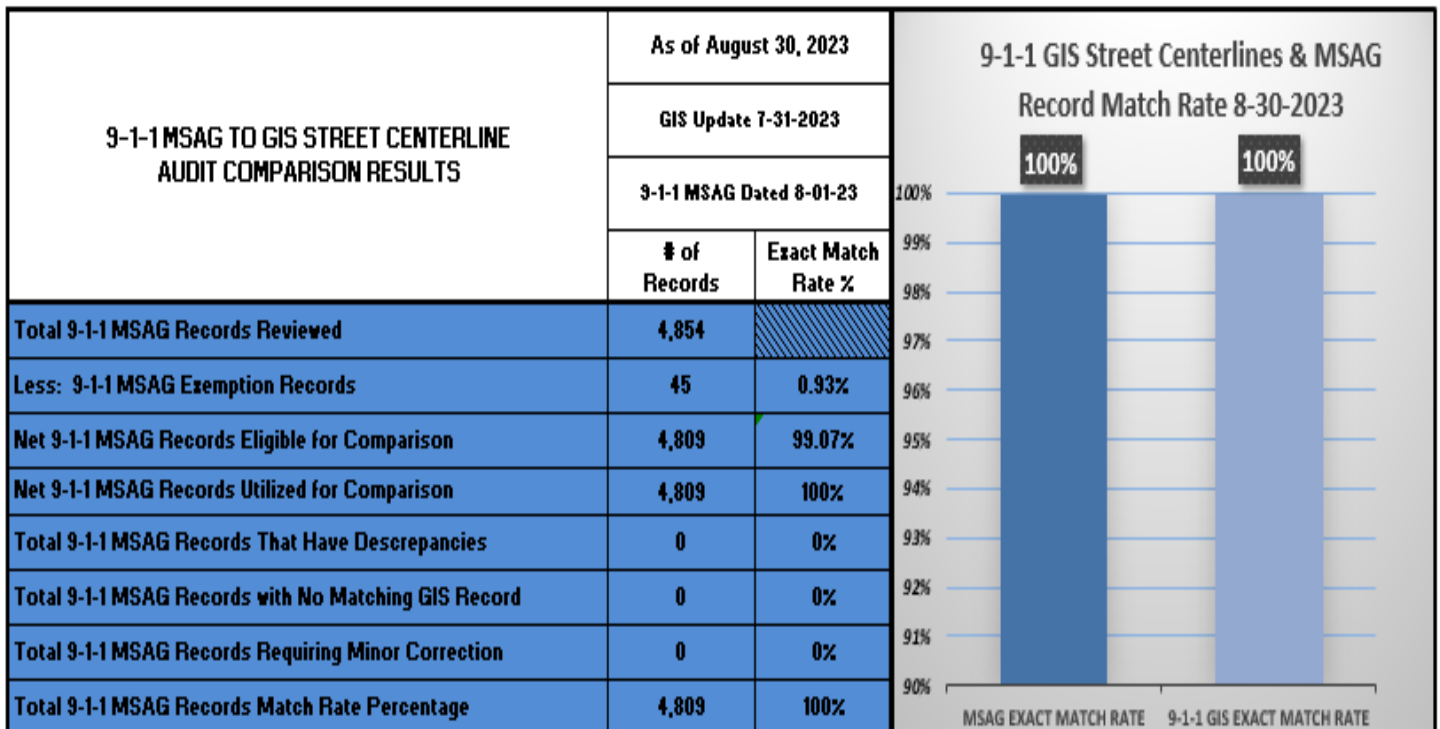
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9-1-1 GIS Street Centerline to MSAG Record Comparison

A total of **4,854 9-1-1 MSAG Records** are maintained for the Hawaii Police Department’s 9-1-1 GIS database by Akimeka. Akimeka removed **45 9-1-1 MSAG records** from the comparison as exemptions. These exemptions are the MSAG Records utilized for wireless 9-1-1 Call routing, 9-1-1 VoIP Call Routing, and 9-1-1 GIS Street Centerline record that are known and approved exemptions such as Freeways or Roadways with no chance of generating a 9-1-1 call. These remaining MSAG Records are known as “Valid MSAG records”. The remaining valid MSAG Records are Street Names that have undergone a 9-1-1 Street translation process to ensure they can be utilized in the 9-1-1 system. These translated street names, MSAG Communities, and their assigned Emergency Service Numbers (ESNs) are provided to the telephone company and other 9-1-1 Service Provider for Public Safety Agencies 9-1-1 addressing use. The total number of MSAG matched records for this comparison audit was **4,809 MSAG records**.

The street name and MSAG Community translation process ensures that the full data characters within the delivered ALI datastream can transverse between the different systems in the 9-1-1 network without loss of data characters. The results of the MSAG comparison analysis are provided below:



NENA Recommended Match Rate = 98%

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THREE-WAY (3-WAY) COMPARISON – AUGUST 2023

(Reference: NENA 71-501, Version 1.1 – NENA Information Document for Synchronizing Geographic Information System databases with MSAG & ALI)

The three-way database comparison services compare the Local Exchange Carriers (LECs) Automatic Location Identification (ALI) Database to the HPD's 9-1-1 GIS Site Structure Points layer and the 9-1-1 Road Network (or 9-1-1 Street Centerline) layers.

This process ensures PSAP's internal 9-1-1 equipment (i.e... the Computer Aided Dispatch systems (CADs), Records Management Systems (RMS), Automatic Vehicle Location (AVL) systems, and the Voice Recording Systems) will be able to display an accurate location on their GIS enabled systems. The internal PSAP 9-1-1 equipment will also log-in the delivered location data information as either a civic address or in a Geodetic (Lat/Long) format for 9-1-1 Dispatch and Response. It can be expected that the match rate percentage will fluctuate by a small degree. As such, NENA's recommended minimum exact match rate is 98%.

9-1-1 GIS Street Centerline To ALI Record Attribute Match Rate

The 9-1-1 GIS Street Centerline to ALI records attribute comparison is used to identify the "course location", or main MSAG valid address that will geocode to the street centerline data. Geocoding is the process of assigning a geographic coordinate for a location and converting it to a valid address utilizing the tabular address information to geographic reference information. This is a proactive way to identify any inconsistencies and enhance the accuracy of all associated 9-1-1 databases, and to ensure the proper operation of the PSAP 9-1-1 systems such as Automatic Vehicle Location (AVL). There are seven (7) GIS and ALI Record attributes that are compared for an exact match.

Items from the Databases that will be compared and audited will include these attributes:

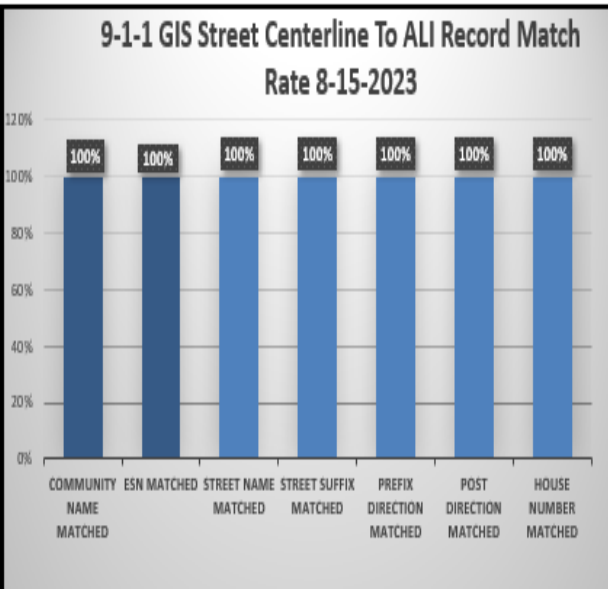
- MSAG Community Name
- ESNs
- Street Names
- Street Name Suffix
- Prefix Direction
- Post Direction
- House Number

See next page:

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9-1-1 Street Centerline to ALI Records AUDIT COMPARISON RESULTS	As of August 15, 2023	
	9-1-1 ALI Records pulled Dated 8-01-2023	
	# of Records Discrepancies	GIS to ALI Exact Match Rate %
GIS Street Centerlines to ALI Records Comparison		
Community Name Matched	0	100%
ESN Matched	0	100%
Street Name Matched	0	100%
Street Suffix Matched	0	100%
Prefix Direction Matched	0	100%
Post Direction Matched	0	100%
House Number Matched	0	100%

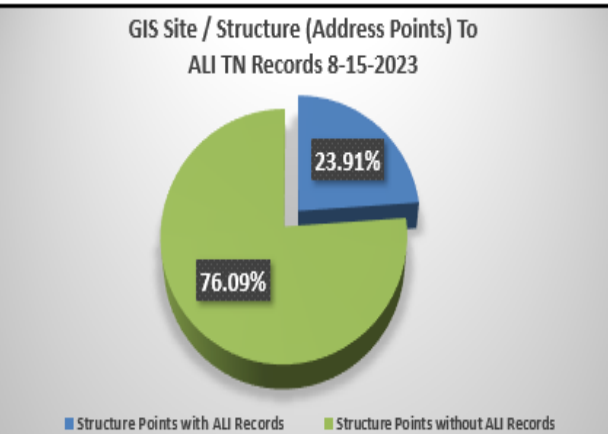


NENA Recommended Match Rate = 98%

Total GIS Site/Structure (Address) Points and those with Matching ALI Records

The 9-1-1 Site/Structure Points (Address Points) GIS records with Matching ALI Records comparison identifies the total number of Site/Structure Points (Address Points) that reside within the jurisdiction against the Wireline or VoIP Telephone Company’s ALI records. The Hawaii County Jurisdiction has approximately **104,101** total **Site Structure Points** with approximately **24,894** **Site Structure Points** that have exact matching ALI telephone records. See chart below:

9-1-1 ALI RECORDS TO GIS RECORDS AUDIT COMPARISON RESULTS	As of August 15, 2023	
	9-1-1 GIS Records pulled Dated 8-01-2023	
	# of Records	Exact Match Rate %
GIS Structure Points to ALI Records Comparison		
9-1-1 GIS Structure Points Reviewed	104,101	
9-1-1 GIS Structure Points With Matching ALI Record	24,894	23.91%
9-1-1 GIS Structure Points Without Matching ALI Record	79,207	76.09%



NENA Recommended Match Rate = 98%

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9-1-1 Site/Structure (Address) Points with Exact Matching ALI Records

The **9-1-1 Site/Structure (Address Points) GIS records with ALI Records** comparison represents the total number of Site/Structure (Address Points) GIS records that have exact matching ALI records at that location. The matching 9-1-1 GIS Site Structure (Address) Points with Exact Matching ALI Database comparison is used to identify the “dispatchable Location” that can be utilized to send 9-1-1 responders to locate a 9-1-1 caller’s exact location, or at least to the front of the property until a Dispatchable Location can be determined. The objective is to ensure that attributes between the ALI Records and the 9-1-1 Site /Structure Points are exactly matched and accurate.

There are **65,516 total Automatic Location Identification (ALI) Records** with the Wireline Provider. There are **65,363 Valid ALI records** that have an exact match with a GIS Site Structure Point. There are a total of **9 Valid ALI Records** that require reviewed and/or correction to achieve an exact match. This does not mean the Valid ALI Records and Site Structure Point do not possess sufficient information that will impact a 9-1-1 call. It indicates that these records require additional research and update to exactly match the two different database records. There are **108 ESN 299 Invalid ALI Records** remaining that are in the process of determining a verified valid address. ESN 299 ALI records are records that the 9-1-1 Database Maintenance Service Provider (DBMSP) could not determine an actual address for the Telephone Company.

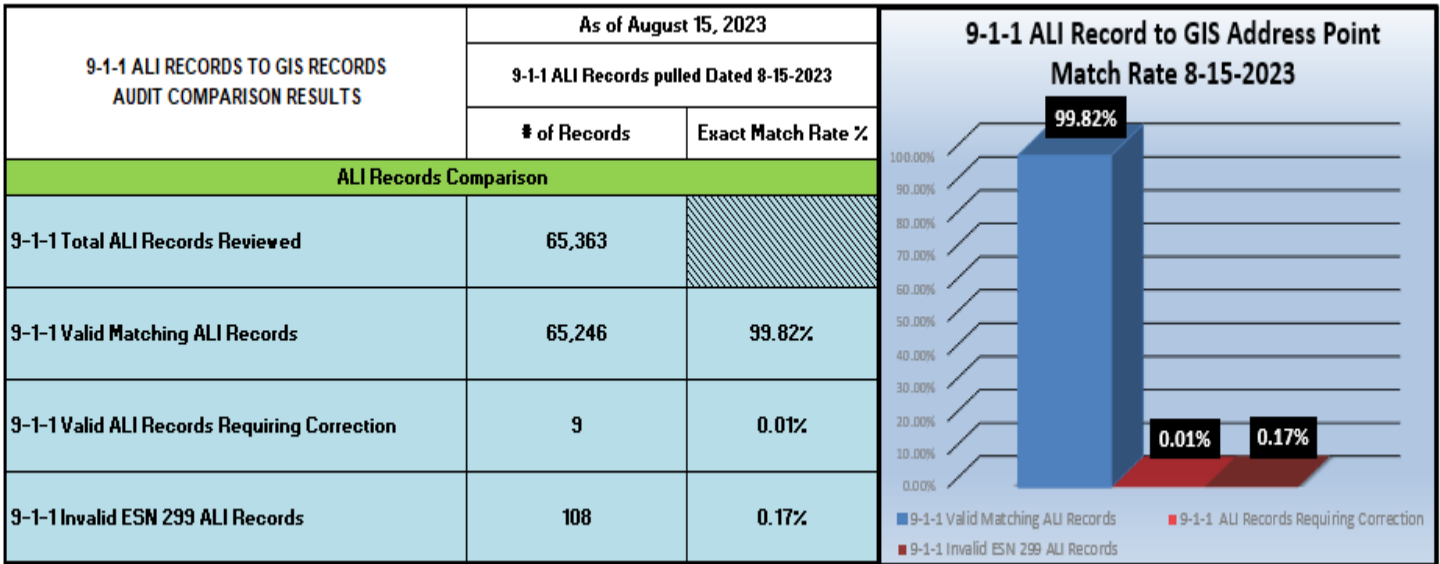
Attributes from the two Databases that were compared during this audit include these attributes:

- House Number
- House Number Suffix
- Prefix Direction
- Street Name
- Street Name Suffix
- Post Direction
- MSAG Community Name
- Postal Community Name
- ESNs
- Zip Codes

See chart next page:

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NEHA Recommended Match Rate = 98%

INVALID MSAG STREETS AND ADDRESS RANGES – ESN 299 MSAG & ALI RECORDS

At the request of the Hawaii Police Department Chief of Police, Hawaiian Telcom, Inc. (HTI) provided Akimeka LLC, with access to the Hawaii County ESN 299 MSAG and ALI records. The ESN 299 MSAG Street Records represent and identify all “known” invalid streets in the MSAG Database on file with Hawaiian TelCom.

The ESN 299 ALI Records represent all “known” invalid telephone device/home or office addresses in the ALI Database that are associated and subordinate to the invalid MSAG Street Records. These ALI records are required to be corrected to avoid dispatching 9-1-1 resources to erroneous address/locations.

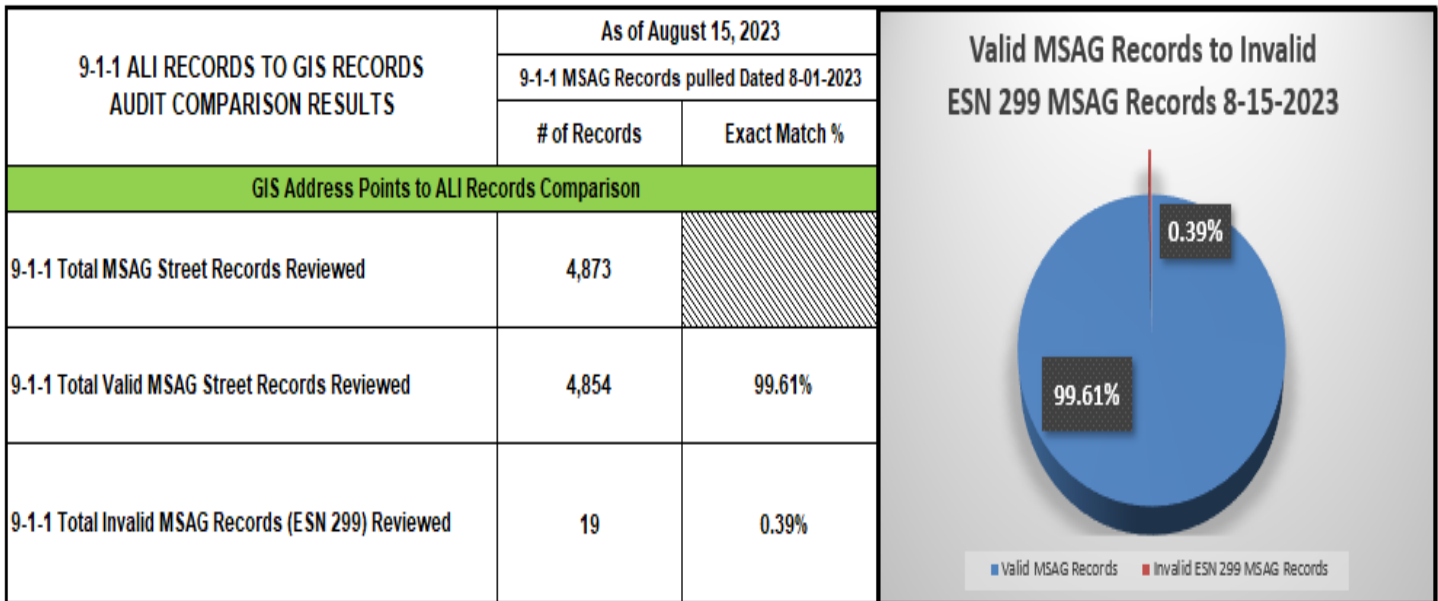
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Akimeka LLC has completed the necessary investigation and required correction of the **2,089** MSAG Street Records identified at the start of the project. This service was provided without interruption of 9-1-1 service to the owners of the telephone devices while simultaneously producing temporary locations until the records were investigated and corrected accurately.

Valid MSAG Records to Invalid ESN 299 MSAG Records

The ESN 299 MSAG Street Records represented the number of invalid MSAG Streets Records in Hawaii County that were on file with Hawaiian Telcom and their Database Maintenance Service Provider. The ESN 299 MSAG Records represented invalid MSAG Street Records that still had a valid telephone number that needs to be reassigned to a valid address. Akimeka conducted the research and corrected the MSAG Street Records to a valid location. This may have included moving any or all associated Automatic Location Identification (ALI) Records to an MSAG valid location. There are **19** remaining ESN 299 MSAG Street Records of the original **2,089** MSAG Records that require attention in Hawaii County. There are currently **4,854 valid MSAG Records**. Please see the chart below:



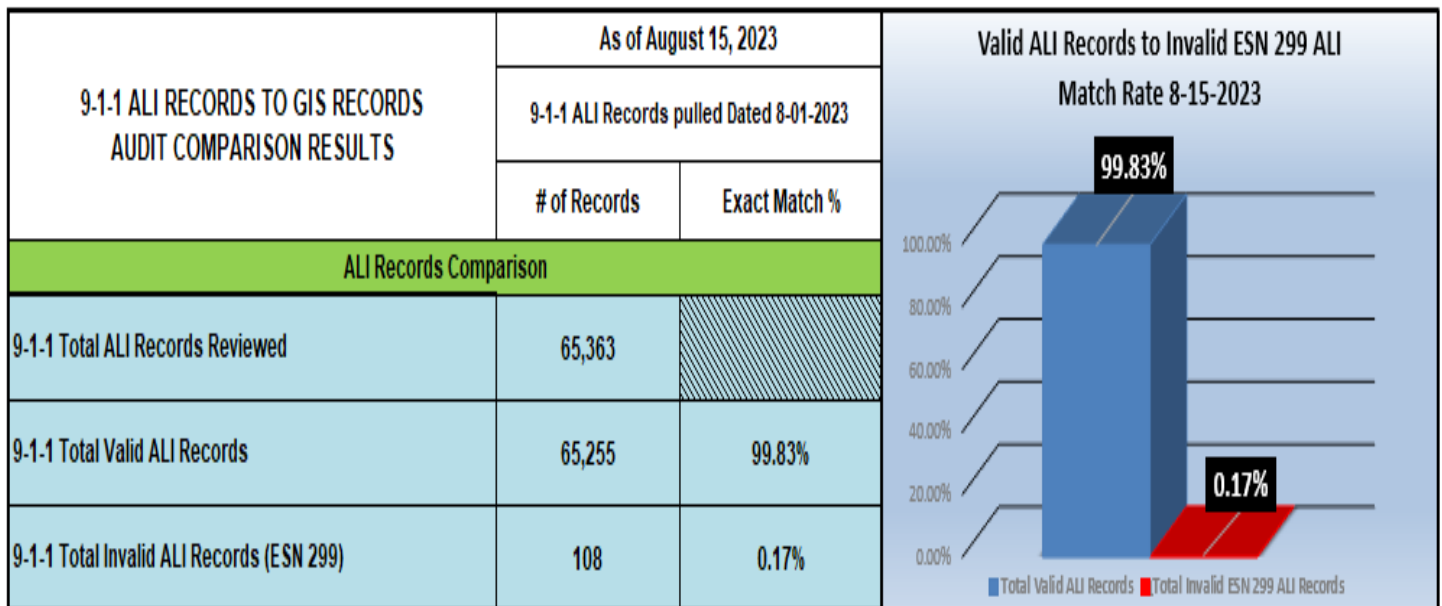
NENA Recommended Match Rate = 98%

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Valid ALI Records to Invalid ESN 299 ALI Records

The ESN 299 Automatic Location Identification (ALI) Records represent the number of invalid TNs associated with the invalid ESN 299 MSAG Records. There are **108** ESN 299 ALI Records which represent **0.17%** of the Total ALI records for Hawaii County. The 108 remaining ESN 299 ALI Records are in the process of address determination and verification. ESN 299 ALI records are records that the 9-1-1 Database Maintenance Service Provider (DBMSP) could not determine an actual address for the Telephone Company. Akimeka is performing the investigation and correction to these records



NENA Recommended Match Rate = 98%