

Memo

Date: November 12, 2014
To: Kevin Stewart
From: Markus Ritsch
Subject: October 2014 ALERT Data Analysis

I. ALERT Data Source

Raw ALERT data records extracted from the Urban Drainage and Flood Control District's NovaStar 5 base station were analyzed for the period October 1 through October 31, 2014.

II. General System Analysis Summary

In 2014 data will be received at the District through both the legacy ALERT channel and through the ALERT2 (concentrator plus A2 self-reports) channel. The following (Table 1) quantifies the data reception through each telemetry source. The West Creek repeater in Douglas County processes both incoming legacy and ALERT2 but passes on only concentrator ALERT2 format messages to Diamond Hill. All other repeaters in the system send data on both legacy and ALERT2 channels.

Table 1. Reception of A1/A2 Data at Diamond Hill

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Legacy	320,303	214,698	279,782	293,137	351,946	318,434	308,775	282,598	271,188	276,732		
Concentrator	508,306	370,222	495,874	515,526	537,996	430,118	475,605	453,331	440,796	431,441		
ALERT2	129,855	86,506	110,086	107,478	113,674	109,244	130,087	354,119	354,822	218,687		
TOTAL	958,464	671,426	885,742	916,141	1,003,616	857,796	914,467	1,090,048	1,066,806	926,860	0	0
Conc+A2	638,161	456,728	605,960	623,004	651,670	539,362	605,692	807,450	795,618	650,120		
Conc/Leg	1.59	1.72	1.77	1.76	1.53	1.35	1.54	1.60	1.63	1.56		
DataChron	498,846	444,211	599,923	630,962	663,576	583,568	654,910	705,565	694,923	610,674		

The District operates two redundant NovaStar5 base stations: a primary base station (ns5a) at Diamond Hill and a redundant base (ns5b) at Greenhouse Data. Additional analyses are conducted on the data received by these two base stations (Table 2). The data received by both base stations for short periods this month are shown below.

Table 2. Comparison of Data Reception by ns5a and ns5b

NS5A (Diamond Hill)	Oct 13	Oct 14	Oct 15	Oct 16	Oct 17	Oct 27	Oct 28	Oct 29	Oct 30	Oct 31	Nov 1
Legacy	8,823	8,787	9,000	8,988	8,256	9,261	8,353	8,864	7,788	8,092	8,083
Concentrator	13,071	13,423	14,425	13,766	13,028	14,603	13,603	14,430	13,172	14,920	12,641
ALERT2	11,634	11,414	8,193	1,608	1,734	2,778	7,185	7,485	7,788	7,595	5,924
NS5B (Greenhouse)											
Legacy	8,823	8,714	8,106	8,952	8,256	9,262	8,354	8,864	7,791	8,094	8,082
Concentrator	13,134	13,499	13,586	13,652	13,047	14,658	13,690	14,501	13,241	14,953	12,653
ALERT2	11,741	11,596	8,212	1,595	1,742	2,787	7,225	7,509	7,796	7,656	5,940
Diff (NS5a-NS5b)											
Legacy	0.00	73.00	894.00	36.00	0.00	-1.00	-1.00	0.00	-3.00	-2.00	1.00
Concentrator	-63.00	-76.00	839.00	114.00	-19.00	-55.00	-87.00	-71.00	-69.00	-33.00	-12.00
ALERT2	-107.00	-182.00	-19.00	13.00	-8.00	-9.00	-40.00	-24.00	-8.00	-61.00	-16.00

On October 15th the Greenhouse (ns5b) server receives 894 fewer legacy ALERT reports and 839 fewer concentrator reports. However the Greenhouse server receives 19 more ALERT2. An explanation for this difference is not known however it could indicate a failing Digil serial to IP device on the output of the legacy decoder.

Beginning October 16th the number of ALERT2 reports received at both the Diamond Hill (ns5a) and Greenhouse (ns5b) server decreases significantly. The decreased reception continues until October 28th. A problem with the Magnolia weather station is the likely cause as it was down for several days and it accounts for a majority of ALERT2 reports in the system.

The daily ratio of total concentrator reports received versus total legacy ALERT reports received is shown (Figure 1 and Figure 3). In addition the ratio of concentrator reports versus legacy ALERT reports received at Diamond Hill for a select group of sensors is summarized (Table 3). It is not known why these sensors have significantly fewer legacy reports relative to the concentrator reports but this difference is the reason the daily ratio (Figure 3) is larger than 1.5 in the months of August, September and October.

Table 3. Difference in Total Concentrator and Legacy Reports received at Diamond Hill in October

Sensor ID	Concentrator Reports	Legacy Reports	Fraction (Legacy/Concentrator)	Station Description
919	733	646	1.1	Aurora Town Hall Weather Station (6503 – Blue Mt.)
921	733	152	4.8	
922	734	135	5.4	
923	734	244	3.0	
924	731	380	1.9	
925	727	510	1.4	
926	731	595	1.2	
927	732	634	1.2	
1523	75	3	25.0	Marston Lake North (6503 – Blue Mt.)
1525	2497	2164	1.2	
1526	2615	2192	1.2	
1527	2705	2179	1.2	
1530	92	76	1.2	Bear Creek @ Lowell (6503 – Blue Mt.)
1533	99	86	1.2	
1535	70	59	1.2	
1565	151	115	1.3	Lakewood Gulch @ 10 th (6503 – Blue Mt.)
1703	170	118	1.4	Cherry Creek @ Champ (6503 – Blue Mt.)
1705	124	6	20.7	
1710	68	35	1.9	Shop Creek (6502 – Smoky Hill)
1714	33	14	2.4	

The number of legacy reports should equal the number concentrator reports for these sensors. Indeed, prior to mid-August, 2014 this was the case. Specifically the ratio of concentrator reports to legacy reports is shown for sensors 921 and 1525 along with the system-wide daily ratio (Figure 1). In general the period prior to August 14 shows a one-to-one ratio of concentrator reports received vs legacy reports. The periods where the ratio differs from one prior to August 14 are known periods of equipment failure (June 12 antenna was down on the roof and July 30 ALERT2 decoder latency). After August 14 the ratio for both sensors is significantly greater than one.

Sensor 921 (Aurora Town Hall Weather Station Relative Humidity) reports once per hour for a total of twenty four reports each day (Figure 2). The number of concentrator reports received each day has remained constant for the entire year. The ratio is high due to a significant reduction in the number of received legacy reports. A deterioration in the legacy receive channel occurred sometime around August 12-14, 2014.

Sensor 1525 (Marston Lake North Wind) reports every 15 minutes for a total of ninety-six reports each day (Figure 2). The number of concentrator reports has NOT remained constant throughout the year. A reduction in concentrator reports occurred beginning on September 14th. The ratio is high due to a reduction in the number of received legacy reports. The number of received concentrator reports however has also deteriorated.

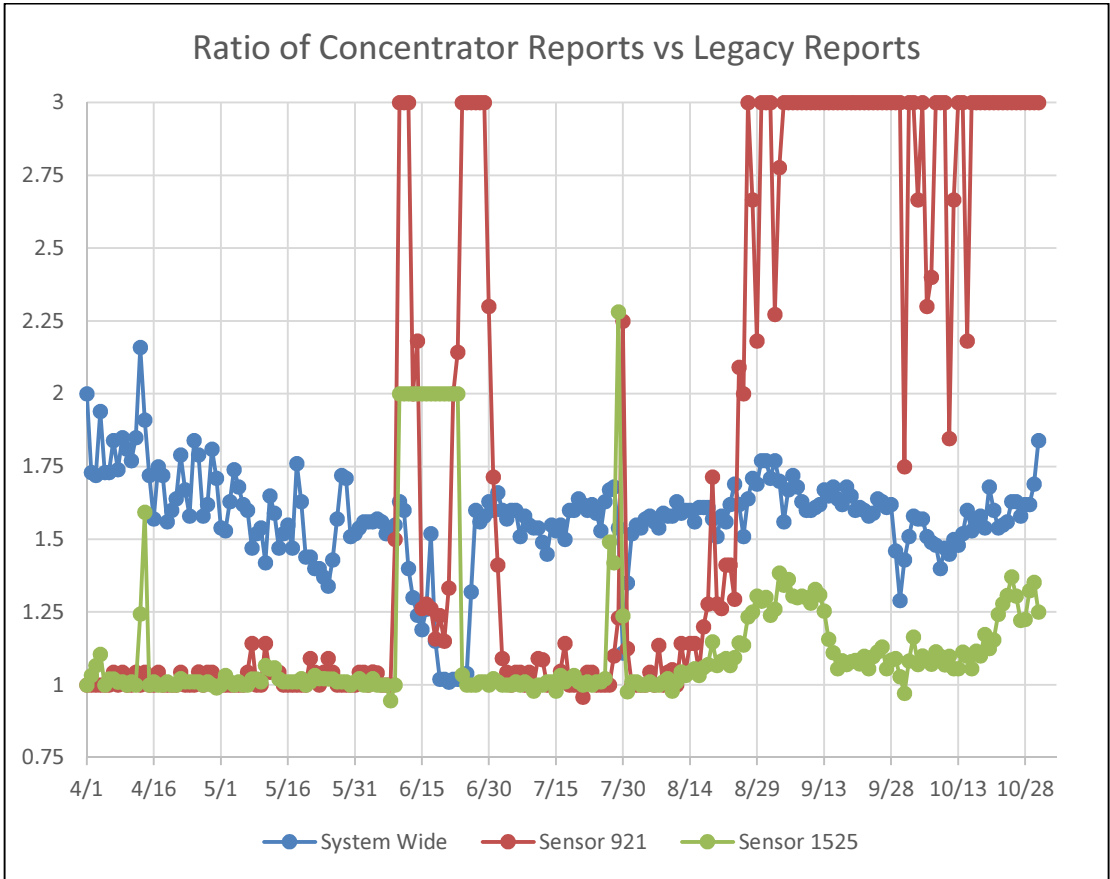


Figure 1. Daily Ratio of Concentrator Reports to Legacy Reports

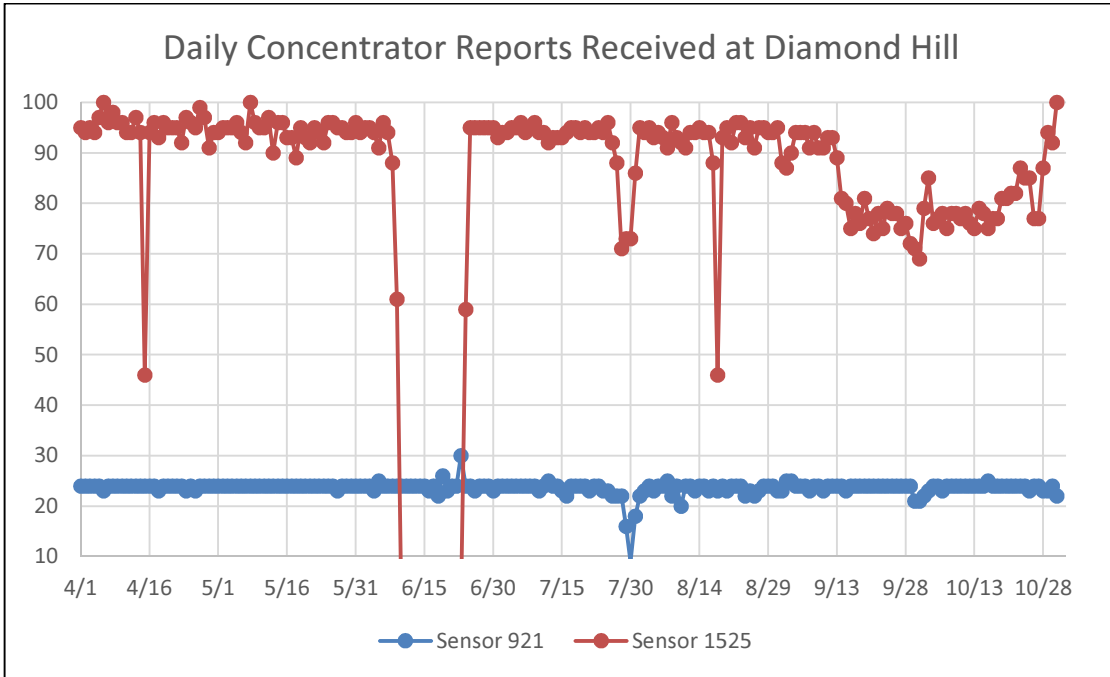


Figure 2. Daily Concentrator Reports Received at Diamond Hill

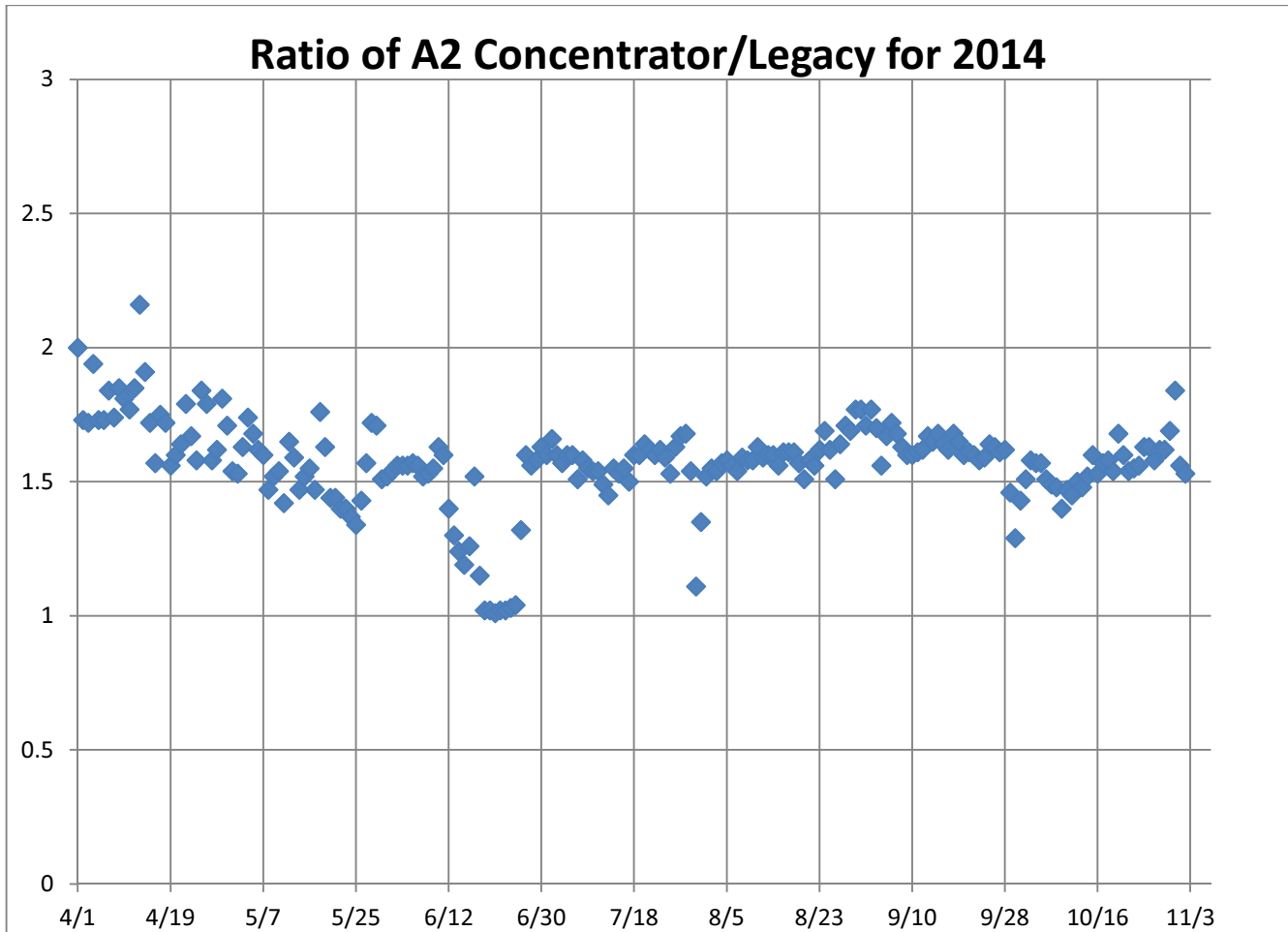


Figure 3. Daily Ratio of Concentrator to Legacy Reports (system-wide)

On September 30th the ratio of concentrator to legacy reports decreases significantly. Intermittent latency from the ALERT2 decoder was identified as the problem. On October 1, the following email was received from OneRain.

“We have isolated the problem to the B2010 receiver/decoder. The B2010 is getting hung up with writing logs to the internal SD card and outputting data to our servers. We have been in contact with BWD and they will be further looking into the situation and possibly applying diagnostic tools.”

On November 10th, OneRain updated the status of this issue. *“BWD has been taking lead on this. They implemented some monitoring software in the B2010. We have not heard back of what they have discovered or the next course of action.”*

Several sensors were identified in October that had fewer concentrator reports than ALERT legacy. It seems this situation is remedied by the end of October (Figure 4).

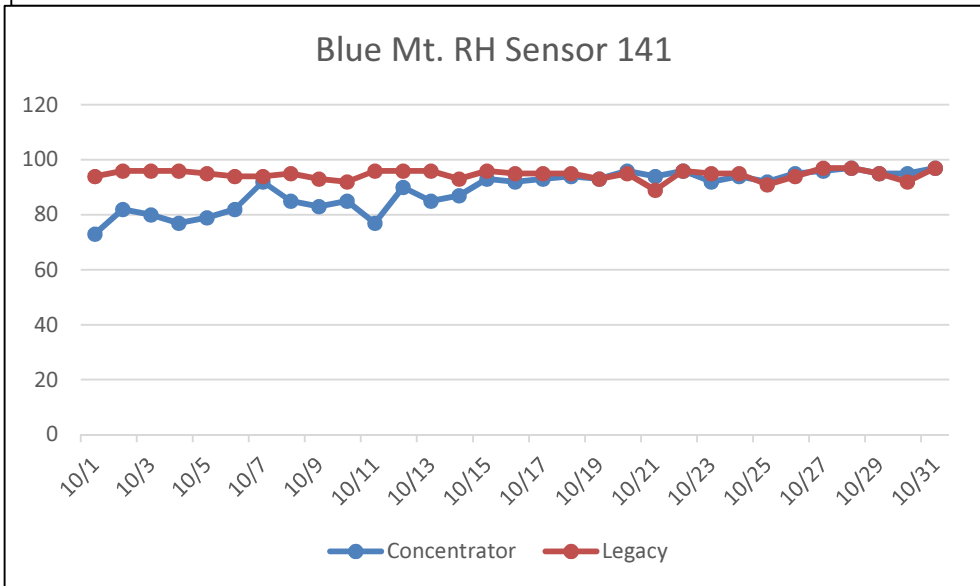
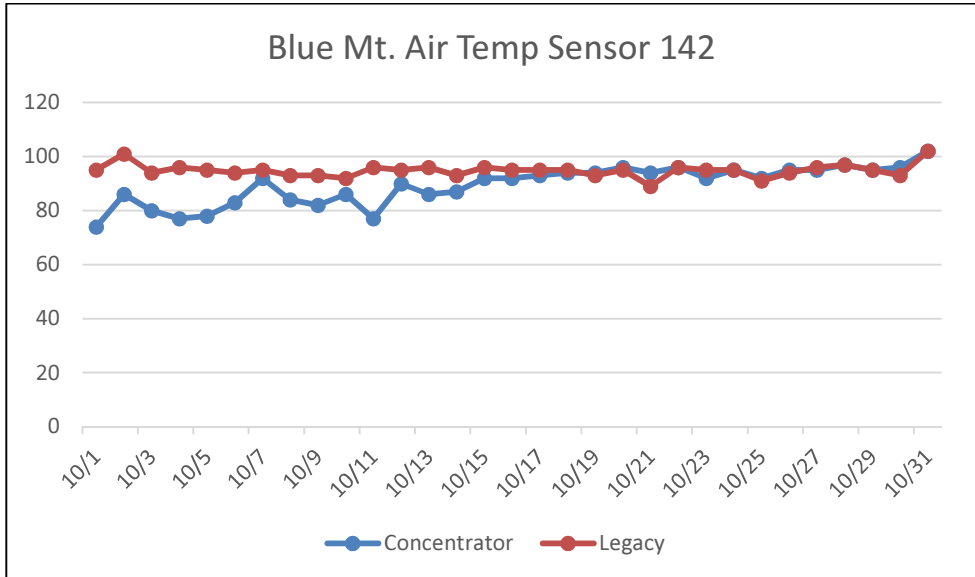


Figure 4. Comparison of Concentrator Reports to Legacy Reports for Blue Mt.

A. Continuous Operation of Base Receiver/Decoder

The NS5 base stations were NOT in continuous operation for the entire month. Intermittent reception of concentrator and A2 reports was identified on October 16 at 00:28:42. The intermittent data is linked to an issue with the A2 decoder and the network IP feed to both District base stations as well as the OneRain base station in Longmont. According to OneRain, the source of the problem is likely the linux board on the A2 decoder. Both OneRain and WET have implemented alarm criteria to notify when the latency issues are again observed.

B. Specific Issues Identified this Month

Performance of the following sensors (Table 4) was questionable this month.

Table 4. Sensors with Poor Performance Characteristics

Sensor ID	Description	Timer	Event	Comments
4220	Fling's	13	100	Out of service for much of the month
4850	Porphory Mt	37	79	Poor performance
2710	Highlands Ranch WTP – WX	45	n/a	No rain tips reported
2750	Castle Rock – WX	48	100	Out of service toward the end of the month

C. Performance of New A2 Sites

Currently there are only a handful of remote sites operating on the new A2 protocol. The “event” performance of these sites is tracked throughout the 2014 flood season below (Table 5).

Table 5. Event Performance of New A2 Sites (percent)

Description	ID	Install Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Heritage Regional Park	3090	03/14/2013	n/a	n/a	100	100	100	100	80	62	94	100		
ETG @ Hampden	100110	05/01/2013	n/a	n/a	83	97	100	100	96	92	100	100		
Blackstone	100100	05/03/2013	n/a	n/a	100	100	100	100	94	100	100	100		
Newlin Gulch	3070	05/24/2013	100	83	100	100	100	74	99	98	98	97		
Carr Street	100	05/31/2013	n/a	n/a	100	100	100	100	96	100	100	100		
Maple Grove	1000	05/20/2013	100	90	97	100	100	100	89	96	100	95		
Upper Sellers	100140	05/22/2014	n/a	n/a	n/a	n/a	75	93	97	100	97	100		
Haystack Road	100150	02/26/2014	n/a	n/a	100	79	79	94	91	100	97	100		
Sand Cr at Colfax	100160	05/01/2014	n/a	n/a	n/a	n/a	n/a	100	91	96	100	100		
Murphy Creek	870	06/30/2014	n/a	n/a	n/a	n/a	n/a	n/a	97	100	100	100		

D. Rain Sensor Timer Reporting Summary

The following analysis assumes that each rain sensor has a 12-hour timer-reporting interval. The worst performing rain sensors for the month are summarized (Table 6).

Table 6. Monthly Summary of Sensors with Poor Timer Performance (Sensor ID)

Jan*	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct*	Nov*	Dec*
4470	2710	2790	2810	1700	2810	4330	4330	4770	4220		
2710	4470	2710	2330	4330	100150	2360	2360	2360	4850		
2330	2730	4470	2360	2330	100140	1660	1660	4330	2710		
4870	4550	4870	420	1710	2750	2330	3090	2330	2750		
920	3010	3010	1700	940	4330	2280	540	2790	4330		
3010	4330	4330	1710	100150	2330	100150	2330	1710	2790		

*- Only sensors that operate year-round (weather stations and stations in Boulder County) are included for the analysis in these months.

Sensors identified as having poor timer performance in multiple months are shaded with unique colors. A developing trend can thus be identified from the color shading as the year progresses.

III. Rain Sensor Event Reporting Summary

A. District-Wide Total Tip/Count Statistics

The incrementing reports from all 1-mm rain sensors were analyzed to quantify the District-wide statistical total monthly tip summary (Table 7). For the months of January, February, March, October, November and December only the stations that operate year-round are included in the rain event analysis. These stations include all weather stations and the stations in Boulder County.

Table 7. District-Wide Total Tip/Count Statistical Summary

Statistical Parameter	Value	Comments
Mean	29.26	Only the 1-mm rain sensors were included in the analysis
Median	30	Only the 1-mm rain sensors were included in the analysis
Standard deviation	8.89	Only the 1-mm rain sensors were included in the analysis
Mean plus three standard deviations	55.9	Only the 1-mm rain sensors were included in the analysis
Mean minus two standard deviations	11.49	Only the 1-mm rain sensors were included in the analysis
Minimum total count	3	Fling's (4220) – gage was down for part of the month
Maximum total count	55	SBC@S Boulder Ditch (4840)
Sensors showing NO rain for the month		Highlands Ranch WTP (2710)
Sensors greater than 3 SD (over reporting)		None
Sensors less than 2 SD (under reporting)		Wx-Brighton (1570), Wx-Castle Rock (2750), Fling's (4220)

B. Monthly Average Tip/Count Summary

A monthly summary of the District-wide mean total tip/count is presented (Table 8).

Table 8. Monthly Summary of District-Wide Mean Total 1-mm Tip/Count

Year	Jan*	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct*	Nov*	Dec*	Ave
2006	4.62	5.92	18.39	20.47	19.44	13.75	74.03	46.89	24.17	41.13	5.04	16.45	24.19
2007	11.56	5.40	29.75	65.03	68.30	15.87	36.20	46.38	22.13	29.50	6.54	11.29	29.00
2008	4.05	7.38	12.26	20.57	54.82	26.06	16.43	90.20	37.54	19.59	2.82	9.24	25.08
2009	6.33	3.11	11.37	59.26	63.45	68.00	65.00	20.00	27.29	30.24	11.00	5.60	30.89
2010	5.97	11.90	32.54	70.57	39.63	56.04	50.23	31.01	4.18	18.31	8.30	3.31	27.67
2011	6.78	7.45	7.54	33.94	92.68	39.42	90.87	18.25	37.67	25.73	10.41	13.59	32.03
2012	4.89	13.57	2.35	30.17	38.97	19.35	73.03	11.31	48.81	22.32	2.98	4.18	22.66
2013	2.96	14.31	21.86	35.96	45.87	16.39	52.33	50.63	229.74	29.64	5.86	4.00	42.46
2014	6.88	11.86	25.91	29.30	77.30	29.16	99.73	43.59	50.96	29.26			

*- Only sensors that operate year-round (weather stations and stations in Boulder County) are included for the analysis in these months.

C. Sensors with a Jump of Six or More in the Sequential Count

Several sensors experienced a large jump in the sequential tip count (Table 9).

Table 9. Sensors with a Jump of 6 or More in Sequential Count

Sensor Description	Sensor ID	Comment
Taylor Mountain	4260	Large jump during an event leading to a new base set/rollover.....lightning?

D. Sensor-by-Sensor Incrementing Count Summary

The system-wide reception rate of incrementing, 1-mm tip reports for the month was approximately 93 percent. A total of 1,985 incrementing reports were received and a total of 2,136 reports were expected. The total loss of incrementing reports for the month was approximately 7 percent. Those sensors with the worst event transmission performance are summarized (Table 10).

Table 10. Monthly Summary of Sensors with the Worst Performance

Jan*	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct*	Nov*	Dec*
4520	2730	2790	2980	4330	5940	650	3090	2330	4470		
4010	4330	4790	2230	100150	310	4470	2360	2360	4520		
4170	4200	4530	4510	4470	2980	2320	2980	4470	4570		
3030	4240	4510	3050	2980	1620	2970	2800	2970	4840		
1460	4870	4240	2330	2330	2790	2360	310	1660	4870		
1700	4470	4870	100150	5900	4470	2980	2330	4330	4490		

*-Only sensors that are operational year-round (weather stations and stations in Boulder County) are included for the analysis in these months.

Sensors identified as having poor event performance in multiple months are shaded with unique colors. A developing trend can thus be identified from the color shading as the year progresses.

IV. Heavy Radio Traffic Analysis

Periods exceeding 1,000 messages per hour are analyzed independently in an attempt to quantify data loss rates from rain sensors using their sequential tip count series.

A. The Heaviest Hourly Traffic Periods This Month

The hourly periods of highest radio traffic this month are shown (Table 11). The five heaviest hours of radio traffic are analyzed to quantify the number of missing rain reports for that hour.

Table 11. Periods of Heavy Radio Traffic (total load includes Concentrator and A2 and Legacy reports)

Day	Hour	Expected	Received	Total Load	Loss
9	17	588	571	3,201	2.89%
9	16	513	501	2,724	2.34%
9	18	337	329	2,575	2.37%
9	19	136	136	2,115	0.00%
12	12	114	114	2,074	0.00%

V. Unknown Device Analysis – Received Data Log

The ALERT IDs present in the audio signal received by the decoder are compared against a list of “active” device IDs that are defined within NovaStar. Those IDs received by the decoder that are not defined within NovaStar are considered to be “unknown” and may be the result of radio noise or problems with the telemetry system. The reception of “unknown” device reports for the month is summarized (Table 12).

Table 12. Summary of Unknown IDs

Description	Conc & A2	Legacy
Total number of unknown IDs (IDs without a device definition)	232	278
Total reports from unknown IDs	448	408
Unknown IDs with only a single received report (potential noise)	153	209
Total reports from all IDs – RecData Log entire month	650,120	276,732
Unknown reports as a fraction of total reports	0.07%	0.15%

The total number of reports from unknown sensors is very small relative to the total reports received for the month. Shown below (Table 13) are the total reports received from unknown sensor IDs for each month of the year.

Table 13. Monthly Summary of Total Reports from Unknown IDs (Conc & A2)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	1,220	1,474	1,276	1,174	721	5,707	610	1,738	442	533	2,857	6,396
2011	1,231	2,165	3,065	1,254	2,051	439	489	456	191	683	747	861
2012	692	750	1,575	977	5,469	11,016	453	683	774	2,657	3,854	5,466
2013	4,265	994	1,100	2,589	3,623	6,973	5,230	1,070	4,429	781	13,459	1,213
2014	870	4,284	2,399	2,104	25,746	1,832	3,983	268	369	448		

The fraction of reports from unknown sensors relative to the total number of reports is shown below (Table 14).

Table 14. Monthly Percent of Unknown Sensor Reports (Conc & A2)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	0.42%	0.56%	0.38%	0.32%	0.20%	1.61%	0.17%	0.49%	0.13%	0.16%	0.93%	1.88%
2011	0.39%	0.73%	0.90%	0.37%	0.58%	0.12%	0.12%	0.05%	0.12%	0.18%	0.22%	0.26%
2012	0.30%	0.25%	0.43%	0.26%	1.37%	2.74%	0.11%	0.18%	0.20%	0.72%	1.15%	1.62%
2013	1.40%	0.31%	0.29%	0.60%	0.37%	0.61%	0.82%	0.21%	0.96%	0.31%	5.37%	0.23%
2014	0.14%	0.94%	0.40%	0.34%	3.95%	0.34%	0.66%	0.03%	0.03%	0.07%		

Any month shaded in yellow has an excessive number of reports from unknown sensors.

A number of “unknown” sensors had multiple reports, which may indicate the existence of a transmitter that is sending information on an ID that is not currently defined within NovaStar. The unknown IDs with multiple reports including the number of reports received by each are shown (Table 15).

Table 15. Reports Received by Unknown IDs

Conc + A2		Legacy ALERT		Comment
Unknown ID	Reports	Unknown ID	Reports	
1529	18	1529	2	Bear Creek @ Lowell
1531	14	1531	1	Bear Creek @ Lowell
1534	13	1534	3	Bear Creek @ Lowell
1470	13	1470	13	
1495	12	1495	12	
2239	9	2239	9	
4031	7	4031	7	

VI. Sensors with Invalid Reports

The following sensors had a large number of invalid reports (bit flip/contention errors/random decode):

Sensor ID	Description	Invalid Reports	Comments
1530	Bear Creek @ Lowell	18	Bad path.....
920	WX-Aurora Town Hall	8	Random bad data values
2810	Pine Cliff	5	Random bad data values
1383	Ferril Lake	752	Bubbler that has failed...OneRain to address with Denver
1523	Marston Lake North	54	Data is all over the place
953	Piney at Liverpool	146	Failed PT on June 13
1023	Lena @ Nolte Pond	73	Out of service

VII. Rainfall Alarms and Intensity Analysis

The following rainfall rate alarms from the Urban Drainage and Flood Control District NovaStar 5.0 Web Server were identified this month.

ID	Description	Alarm Description	Date/Time	Threshold (in)	Total Rain (in)
4140	Logan Mill Precipitation-BO	FMC-BA 0.25" in 10 Min Rainfall	10/20/2014 14:12	0.25	0.2755907

General System Analysis

Database Name

P:\A207-UDFCD-Data-Analysis\2014\10-2014\Novastar_extract_2014Oct.mdb

First Date in Database
Last Date in Database

10/1/14 12:00 AM
10/31/14 11:59 PM

Total Days
Total Hours

31.0
744.0

Total Records Analyzed

650,124

Records by Group	Concentrator + A2	Percent	Legacy ALERT	Percent
Wind Data	227,811	35.04%	101,707	36.75%
Temperature	91,619	14.09%	39,812	14.39%
Relative Humidity	82,682	12.72%	40,187	14.52%
Battery Voltage	55,732	8.57%	13,025	4.71%
Water Level	37,970	5.84%	18,563	6.71%
Barometric Pressure	36,544	5.62%	21,808	7.88%
Precipitation	27,202	4.18%	11,523	4.16%
Peak Wind	20,648	3.18%	0	0.00%
Dew Point Temperature	17,697	2.72%	0	0.00%
Wind Chill	17,683	2.72%	0	0.00%
Solar Radiation	10,919	1.68%	10,572	3.82%
Fuel Moisture	5,948	0.91%	5,933	2.14%
Fuel Temperature	5,849	0.90%	5,942	2.15%
Wind Direction	4,063	0.62%	0	0.00%
Soil Moisture	2,933	0.45%	2,945	1.06%
Repeater Status Report	1,875	0.29%	2,593	0.94%
ET-Hourly	733	0.11%	646	0.23%
12Hr Status Report	606	0.09%	343	0.12%
GPS Lock	460	0.07%	4	0.00%
Unknown	448	0.07%	408	0.15%
Flasher Status	254	0.04%	0	0.00%
Hayman Battery	219	0.03%	0	0.00%
Not Used	72	0.01%	75	0.03%
Repeater Pass List	62	0.01%	552	0.20%
Handar 585 ALARM Status	54	0.01%	53	0.02%
ET-Daily	30	0.00%	32	0.01%
Solar Power	7	0.00%	8	0.00%
ALERT/A2 Testing	3	0.00%	0	0.00%
Evapotranspiration	1	0.00%	1	0.00%
Total	650,124	100.00%	276,732	100.00%

Traffic Loading Summary

Concentrator + A2

Legacy

Alert Reports	650,124		276,732
Average Daily Traffic	20,972		8,927
Average Hourly Traffic	874		372
Median Hourly Traffic	919	hour beginning	364 hour beginning
Peak Hourly Traffic	2,051	Oct 9, 17:00	1,150 Oct-09, 17:00
2nd Max	1,821	Oct 9, 16:00	903 Oct-09, 16:00
3rd Max	1,688	Oct 9, 18:00	887 Oct-09, 18:00
4th Max	1,493	Oct 1, 15:00	714 Oct-09, 19:00
5th Max	1,479	Oct 12, 12:00	614 Oct-02, 00:00

Rain Timer Performance

Analyze Rain Sensors

Rain Sensors	Description	Rcv	Timer	Exp	Performance
4220	Fling's	8	11:58	62	13%
4850	Porphory Mtn	23	14:40	62	37%
2710	Wx-Highlands Ranch WTP	28	15:34	62	45%
2750	Wx-Castle Rock	30	1:20	62	48%
4330	Hansen Rain	34	20:50	62	55%
2790	Wx-W. Cherry Creek	51	14:08	62	82%
4470	Little Narrows	53	13:29	62	85%
4770	Wx-Cal-Wood Ranch	53	13:13	62	85%
3030	WX-Bingham Lake Park	55	12:44	62	89%
4490	Apple Valley	55	13:21	62	89%
4870	SBC @ SB Road	55	13:13	62	89%
4350	Conifer Hill	56	12:40	62	90%
4040	Martin Gulch	57	12:55	62	92%
4260	Taylor Mountain	57	12:53	62	92%
4510	Pinewood Springs	57	12:36	62	92%
4570	St. Antons	57	12:25	62	92%
2930	Wx-Spring Valley Rd-DougCnty	58	12:41	62	94%
4030	Red Garden	58	12:11	62	94%
4180	Gold Lake	58	12:37	62	94%
4340	Riverside	58	12:39	62	94%
4790	Wx-Button Rock	58	12:27	62	94%
900	Wx-Aurora Reservoir	59	12:26	62	95%
920	Wx-Aurora Town Hall	59	12:13	62	95%
1420	Wx-Diamond Hill	59	12:26	62	95%
1520	Wx-Marston Lake North	59	12:26	62	95%
2990	Wx-Tomah Rd-DougCnty	59	12:27	62	95%
4020	Rio Grande	59	11:57	62	95%
4070	Bear Peak	59	12:24	62	95%
4110	Betasso	59	12:12	62	95%
4160	Sunshine	59	11:57	62	95%
4290	Red Hill	59	12:24	62	95%
4310	Johnny Park	59	12:25	62	95%
4520	Eagle Ridge	59	12:24	62	95%
4550	Boulder Jail	59	12:10	62	95%
4810	Shanahan Ridge	59	12:10	62	95%
4820	Doudy Draw	59	11:47	62	95%
4830	SBC @ San Souci	59	12:10	62	95%
750	Wx-Quincy Reservoir	60	12:10	62	97%
1460	Wx-Urban Farm	60	12:13	62	97%
1570	Wx-Brighton Ditch	60	12:12	62	97%
1920	Wx-Brighton	60	12:00	62	97%
4010	Cresent	60	12:24	62	97%
4090	Magnolia	60	12:11	62	97%
4140	Logan Mill	60	11:57	62	97%
4170	Pine Brook	60	12:11	62	97%
4190	Slaughterhouse	60	12:10	62	97%
4240	Sunset	60	11:58	62	97%
4270	Cannon Mountain	60	12:10	62	97%
4840	SBC@S Boulder Ditch	60	11:57	62	97%
140	Wx-Blue Mountain	61	12:03	62	98%
1440	Wx-Elbert	61	12:00	62	98%
2210	Wx-Hiwan G.C.	61	12:00	62	98%
2730	Wx-Salisbury Park	61	12:00	62	98%
3010	WX-EPC at Hwy 105	61	12:00	62	98%

3020	Wx-West Creek WX	61	12:00	62	98%
4050	Walker Ranch	61	12:11	62	98%
4100	Filter Plant	61	11:59	62	98%
4150	Gold Hill	61	11:58	62	98%
4200	Lazy Acres	61	12:08	62	98%
4230	Golden Age	61	11:57	62	98%
4250	Geer Canyon	61	11:58	62	98%
4320	Lee Hill Rain 2012	61	11:57	62	98%
4360	Justice Center	61	12:23	62	98%
4530	Winiger Ridge	61	11:58	62	98%
1000	A2-Maple Grove Resv.	739		744	99%
4130	Swiss Peaks	62	11:52	62	100%
4710	Wx-Ward C-1	62	12:14	62	100%
4880	Whispering Pines	62	11:57	62	100%
4060	Lakeshore	63	11:46	62	102%
4080	Twin Sisters	63	11:31	62	102%
4300	Big Elk Park	63	11:43	62	102%
4750	Wx-Louisville Lake	63	11:28	62	102%
4860	Fairview Peak	63	12:00	62	102%
4730	Wx-Sugarloaf	65	11:42	62	105%
100100	A2-Blackstone Precip	61	12:00	62	98%
100110	A2-ETG @ Hampden Precip	42	12:00	62	68%
100140	A2-Upper Sellers Gulch Precip	36	14:00	62	58%
100150	A2-Sellers Gulch at Haystack Precip	41	12:20	62	66%
100160	A2-Sand Creek at Colfax Precip	739		744	99%
3090	A2-Highland Heritage Park	41	12:20	62	66%
3080	Tallman Gulch	43	12:00	62	69%
3070	A2-Newlin Gulch Precip	86	6:09	124	69%
3060	Fire Sta 47	43	12:00	62	69%
3050	East/West Trailhead	40	12:00	62	65%
3040	CC @ Russelville Road Precip	41	12:21	62	66%
2980	Dakan Rd	58	12:13	62	94%
2970	Rampart Range Rd-Satellite	156		62	
2960	Indian Creek	41	12:38	62	66%
2950	DC Public Works	40	12:41	62	65%
2940	Willow Creek - DougCnty	39	13:09	62	63%
2920	West Cherry Head-Douglas Cnty	42	12:00	62	68%
2910	East Cherry Cr-Douglas	40	12:42	62	65%
2900	Russelville Gulch-Douglas	42	12:00	62	68%
2890	Spruce Mt - Douglas	41	12:00	62	66%
2880	Happy Canyon at N Surrey Dr	42	12:00	62	68%
2870	Cottonwood (Apache)	44	12:00	62	71%
2860	CC at Stroh Rd	42	12:37	62	68%
2850	Cherry Cr bl Bayou Glch	42	12:20	62	68%
2840	Sulphur Gulch	41	12:19	62	66%
2820	Haskins Gulch Conf	40	12:41	62	65%
2810	Pine Cliff Road	38	12:46	62	61%
2800	Columbine Open Space	35	12:24	62	56%
2370	Red Rocks Park	49	13:03	62	79%
2360	Indian Hills	34	20:42	62	55%
2350	Idledale	59	11:56	62	95%
2340	El Rancho	56	13:06	62	90%
2330	Morrison	42	15:36	62	68%
2320	Choke Cherry Resvr	56	12:40	62	90%
2310	Genesee Village	61	11:56	62	98%

2280	Kinney Peak	53	14:17	62	85%
2270	Cub Cr below Blue	9	11:57	62	15%
2260	Brook Forest	58	12:38	62	94%
2250	Rosedale	9	11:57	62	15%
2240	Cold Sprg Glch conf	9	11:58	62	15%
2230	Bear Cr below Cub	9	11:58	62	15%
1900	Niver Detention	56	11:58	62	90%
1800	Sand Creek Park	7	2:52	62	11%
1720	Cherry Cr @ Steele	60	12:10	62	97%
1710	Shop Creek	36	13:56	62	58%
1700	Cherry Cr @ Champa	63	11:25	62	102%
1660	SPR at Henderson	54	13:40	62	87%
1640	SPR at Union Ave.	60	12:10	62	97%
1620	Slaughterhouse Glch	56	12:10	62	90%
1600	Englewood Dam	60	11:57	62	97%
1550	Lakewood CC	56	11:56	62	90%
1530	Bear Creek @ Lowell	59	11:57	62	95%
1500	Powers Park	60	11:57	62	97%
1480	Third Creek at DIA	60	12:10	62	97%
1400	Upper Sloan Det.	57	11:44	62	92%
1370	West Metro FS13	60	11:57	62	97%
1360	Denver Zoo	56	12:13	62	90%
1350	Chatfield COE	60	12:00	62	97%
1340	Sanderson at Xavier	56	11:58	62	90%
1320	SPR at 3rd Ave	55	11:58	62	89%
1310	LDC at 64th	56	11:57	62	90%
1300	Hidden Lake	53	12:13	62	85%
1200	Broomfield 3207	49	13:03	62	79%
1110	Gunbarrel	52	11:58	62	84%
1100	Louisville Rec Ctr	54	11:57	62	87%
1060	Heritage Square	53	12:11	62	85%
1050	Jeffco Fairgrounds	46	11:56	62	74%
1040	Lena @ U.S. Hwy 6	44	12:35	62	71%
1030	NREL/S. Table Mtn.	52	12:12	62	84%
1010	Denver West	53	12:11	62	85%
1000	A2-Maple Grove Resv.	739		744	99%
970	Pump Sta 3	60	12:00	62	97%
950	Piney at Liverpool	61	11:57	62	98%
940	Aurora Regional Pond	60	12:10	62	97%
870	A2-Murphy Creek GC	624		744	84%
850	Flying J	2		62	3%
840	Fire Station 12	2		62	3%
830	Side Creek Park	2		62	3%
820	ETG @ Buckley	61	11:57	62	98%
810	Granby Ditch @ 6th	2		62	3%
800	Sable Ditch @ 18th	60	12:10	62	97%
760	Mission Viejo Park	41	12:17	62	66%
730	No Name @ Quincy	41	12:19	62	66%
720	Confluence Pond	2		62	3%
710	Horseshoe Park Drop	2		62	3%
700	Toll Gate @ 6th	57	12:13	62	92%
650	Iliff Pond	58	12:27	62	94%
640	Goldsmith @ Eastman	61	11:57	62	98%
630	Temple Pond at DTC	57	11:56	62	92%
620	Quincy/Highline	59	11:57	62	95%
610	Harvard @ Jackson	60	11:57	62	97%
600	Harvard Gulch Park	60	11:57	62	97%
540	Parker/Mississippi	52	14:15	62	84%
530	Fire Station #19	61	11:57	62	98%

520	Jewell Detention	60	12:10	62	97%
510	Virginia Court	60	12:10	62	97%
500	Havana Park	59	12:23	62	95%
430	Utah Park	2		62	3%
420	Expo Park	61	11:57	62	98%
410	Kelly Dam	61	12:09	62	98%
400	Montview Park	57	12:25	62	92%
330	Van Bibber @ Hwy 93	53	11:57	62	85%
320	Sports Complex	45	12:16	62	73%
310	Guy Hill Ranch	53	12:11	62	85%
300	Van Bibber Park	46	11:58	62	74%
220	Upper Leyden	55	11:45	62	89%
210	Leyden Confluence	48	11:41	62	77%
200	Leyden Reservoir	59	12:24	62	95%
150	Nott Creek	60	12:10	62	97%
120	West Woods	54	11:58	62	87%
110	Ralston Reservoir	62	11:57	62	100%
100	A2-Carr Street	659		744	89%
5720	Four Mile Creek	23	15:31	62	37%
5730	West Creek	31	12:00	62	50%
5740	Trail Creek	29	12:00	62	47%
5810	Stump Bump	32	12:00	62	52%
5860	Cedar Mountain	32	12:00	62	52%
5880	Hackett Mountain	32	12:00	62	52%
5900	Horse Creek-Satellite	332		62	
5940	Log Jumper	32	12:00	62	52%

Rain Event Performance							Analyze Rain Sensors											
		Reports Received	1,985															
	Systemwide Avg	Total Tips	2,136															
	92.95%	Data Loss	7.05%															
Description	Sensor	Performance	1-tips	2-tips	3-tips	4-tips	5-tips	6-tips	>6-tips	Rcv	Exp	Miss	Hold	Bucket				
Little Narrows	4470	72%	16	4	0	0	1	0	0	21	29	8	0	0.03937				
Eagle Ridge	4520	74%	10	3	1	0	0	0	0	14	19	5	0	0.03937	Mean			29.257
St. Antons	4570	74%	16	3	0	0	1	0	0	20	27	7	0	0.03937	Median			30
SBC@S Boulder Ditch	4840	75%	36	1	1	2	0	1	0	41	55	14	0	0.03937	St. Dev			8.8862
SBC @ SB Road	4870	79%	20	5	1	0	0	0	0	26	33	7	0	0.03937	Mean plus 3 SD			55.916
Apple Valley	4490	79%	12	2	1	0	0	0	0	15	19	4	0	0.03937	Min			3
Porphory Mtn	4850	79%	88	15	2	3	0	0	0	27	34	28	0	0.01	Max			55
Pinewood Springs	4510	80%	20	2	2	0	0	0	0	24	30	6	0	0.03937				
Logan Mill	4140	81%	22	2	0	0	1	0	0	25	31	6	0	0.03937				
Shanahan Ridge	4810	83%	30	3	2	0	0	0	0	35	42	7	0	0.03937				
Cannon Mountain	4270	84%	21	5	0	0	0	0	0	26	31	5	0	0.03937				
Wx-Button Rock	4790	85%	18	4	0	0	0	0	0	22	26	4	0	0.03937				
Red Hill	4290	85%	18	4	0	0	0	0	0	22	26	4	0	0.03937				
Hansen Rain	4330	86%	21	2	1	0	0	0	0	24	28	4	0	0.03937				
Doudy Draw	4820	88%	26	4	0	0	0	0	0	30	34	4	0	0.03937				
Wx-W. Cherry Creek	2790	89%	27	4	0	0	0	0	0	31	35	4	0	0.03937				
Wx-Brighton Ditch	1570	89%	7	1	0	0	0	0	0	8	9	1	0	0.03937				
Conifer Hill	4350	90%	26	1	1	0	0	0	0	28	31	3	0	0.03937				
Wx-Marston Lake North	1520	91%	18	2	0	0	0	0	0	20	22	2	0	0.03937				
SBC @ San Souci	4830	91%	28	3	0	0	0	0	0	31	34	3	0	0.03937				
Justice Center	4360	92%	20	2	0	0	0	0	0	22	24	2	0	0.03937				
WX-EPC at Hwy 105	3010	93%	135	11	0	0	0	0	0	36.25	39.25	11	0	0.01				
Lakeshore	4060	93%	26	0	1	0	0	0	0	27	29	2	0	0.03937				
Walker Ranch	4050	93%	25	2	0	0	0	0	0	27	29	2	0	0.03937				
Red Garden	4030	93%	25	2	0	0	0	0	0	27	29	2	0	0.03937				
Wx-Sugarloaf	4730	93%	26	2	0	0	0	0	0	28	30	2	0	0.03937				
Wx-Louisville Lake	4750	93%	26	2	0	0	0	0	0	28	30	2	0	0.03937				
Lee Hill Rain 2012	4320	94%	29	2	0	0	0	0	0	31	33	2	0	0.03937				
Crescent	4010	94%	29	2	0	0	0	0	0	31	33	2	1	0.03937				
Riverside	4340	94%	33	0	1	0	0	0	0	34	36	2	0	0.03937				
Wx-Urban Farm	1460	95%	18	1	0	0	0	0	0	19	20	1	0	0.03937				
Wx-Spring Valley Rd-DougCnty	2930	95%	36	2	0	0	0	0	0	38	40	2	0	0.03937				
Wx-Aurora Town Hall	920	95%	36	2	0	0	0	0	0	38	40	2	0	0.03937				
A2-Maple Grove Resv.	1000	95%	19	1	0	0	0	0	0	20	21	1	0	0.03937				
Fairview Peak	4860	95%	118	6	0	0	0	0	0	31	32.5	6	11	0.01				
Wx-Diamond Hill	1420	96%	22	1	0	0	0	0	0	23	24	1	0	0.03937				
WX-Bingham Lake Park	3030	96%	22	1	0	0	0	0	0	23	24	1	0	0.03937				
Wx-Blue Mountain	140	96%	23	1	0	0	0	0	0	24	25	1	2	0.03937				
Geer Canyon	4250	96%	23	1	0	0	0	0	0	24	25	1	0	0.03937				
Golden Age	4230	96%	23	1	0	0	0	0	0	24	25	1	0	0.03937				
Filter Plant	4100	96%	25	1	0	0	0	0	0	26	27	1	0	0.03937				
Winiger Ridge	4530	97%	27	1	0	0	0	0	0	28	29	1	1	0.03937				
Wx-Cal-Wood Ranch	4770	97%	29	1	0	0	0	0	0	30	31	1	0	0.03937				
Sunshine	4160	97%	29	1	0	0	0	0	0	30	31	1	0	0.03937				
Gold Lake	4180	97%	30	1	0	0	0	0	0	31	32	1	0	0.03937				
Bear Peak	4070	97%	31	1	0	0	0	0	0	32	33	1	0	0.03937				
Wx-Elbert	1440	97%	32	1	0	0	0	0	0	33	34	1	0	0.03937				
Slaughterhouse	4190	97%	33	1	0	0	0	0	0	34	35	1	0	0.03937				
Wx-Aurora Reservoir	900	97%	34	1	0	0	0	0	0	35	36	1	0	0.03937				
Rio Grande	4020	97%	36	1	0	0	0	0	0	37	38	1	0	0.03937				
Wx-Quincy Reservoir	750	98%	43	1	0	0	0	0	0	44	45	1	0	0.03937				
Wx-West Creek WX	3020	98%	51	1	0	0	0	0	0	52	53	1	0	0.03937				
Wx-Ward C-1	4710	100%	38	0	0	0	0	0	0	38	38	0	0	0.03937				
Wx-Tomah Rd-DougCnty	2990	100%	33	0	0	0	0	0	0	33	33	0	0	0.03937				

Wx-Salisbury Park	2730	100%	11	0	0	0	0	0	0	0	11	11	0	0	0.03937
Wx-Hiwan G.C.	2210	100%	17	0	0	0	0	0	0	0	17	17	0	0	0.03937
Wx-Castle Rock	2750	100%	4	0	0	0	0	0	0	0	4	4	0	0	0.03937
Wx-Brighton	1920	100%	12	0	0	0	0	0	0	0	12	12	0	0	0.03937
Whispering Pines	4880	100%	30	0	0	0	0	0	0	0	30	30	0	0	0.03937
Boulder Jail	4550	100%	26	0	0	0	0	0	0	0	26	26	0	0	0.03937
Johnny Park	4310	100%	29	0	0	0	0	0	0	0	29	29	0	0	0.03937
Big Elk Park	4300	100%	32	0	0	0	0	0	0	0	32	32	0	0	0.03937
Taylor Mountain	4260	100%	31	0	0	0	0	0	0	1	31	31	0	0	0.03937
Sunset	4240	100%	26	0	0	0	0	0	0	0	26	26	0	0	0.03937
Fling's	4220	100%	3	0	0	0	0	0	0	0	3	3	0	0	0.03937
Lazy Acres	4200	100%	25	0	0	0	0	0	0	0	25	25	0	0	0.03937
Pine Brook	4170	100%	26	0	0	0	0	0	0	0	26	26	0	0	0.03937
Gold Hill	4150	100%	30	0	0	0	0	0	0	0	30	30	0	0	0.03937
Swiss Peaks	4130	100%	27	0	0	0	0	0	0	0	27	27	0	0	0.03937
Betasso	4110	100%	30	0	0	0	0	0	0	0	30	30	0	0	0.03937
Magnolia	4090	100%	31	0	0	0	0	0	0	0	31	31	0	0	0.03937
Twin Sisters	4080	100%	33	0	0	0	0	0	0	0	33	33	0	0	0.03937
Martin Gulch	4040	100%	34	0	0	0	0	0	0	0	34	34	0	0	0.03937
TOTAL			2122	124	14	5	3	1	1	1985.3	2136	184	15		
A2-Highland Heritage Park	3090	100%	33	0	0	0	0	0	0	0	33	33	0	0	0.03937
Tallman Gulch	3080	96%	24	1	0	0	0	0	0	0	25	26	1	0	0.03937
A2-Newlin Gulch Precip	3070	97%	30	1	0	0	0	0	0	0	31	32	1	0	0.03937
Fire Sta 47	3060	97%	28	1	0	0	0	0	0	0	29	30	1	0	0.03937
East/West Trailhead	3050	100%	28	0	0	0	0	0	0	0	28	28	0	0	0.03937
CC @ Russelville Road Precip	3040	97%	32	1	0	0	0	0	0	0	33	34	1	0	0.03937
Dakan Rd	2980	100%	14	0	0	0	0	0	0	0	14	14	0	0	0.03937
Rampart Range Rd-Satellite	2970	93%	37	1	1	0	0	0	0	0	39	42	3	0	0.03937
Indian Creek	2960	100%	29	0	0	0	0	0	0	0	29	29	0	0	0.03937
DC Public Works	2950	100%	23	0	0	0	0	0	0	0	23	23	0	0	0.03937
Willow Creek - DougCnty	2940	100%	30	0	0	0	0	0	0	0	30	30	0	0	0.03937
West Cherry Head-Douglas Cnty	2920	88%	36	6	0	0	0	0	0	0	42	48	6	0	0.03937
East Cherry Cr-Douglas	2910	98%	40	1	0	0	0	0	0	0	41	42	1	0	0.03937
Russelville Gulch-Douglas	2900	93%	24	2	0	0	0	0	0	0	26	28	2	0	0.03937
Spruce Mt - Douglas	2890	90%	31	4	0	0	0	0	0	0	35	39	4	0	0.03937
Happy Canyon at N Surrey Dr	2880	97%	28	1	0	0	0	0	0	0	29	30	1	0	0.03937
Cottonwood (Apache)	2870	97%	30	1	0	0	0	0	0	0	31	32	1	0	0.03937
CC at Stroh Rd	2860	96%	21	1	0	0	0	0	0	0	22	23	1	0	0.03937
Cherry Cr bl Bayou Glch	2850	95%	20	1	0	0	0	0	0	0	21	22	1	0	0.03937
Sulphur Gulch	2840	93%	23	2	0	0	0	0	0	0	25	27	2	0	0.03937
Haskins Gulch Conf	2820	96%	23	1	0	0	0	0	0	0	24	25	1	0	0.03937
Pine Cliff Road	2810	96%	22	1	0	0	0	0	0	2	23	24	1	0	0.03937
Columbine Open Space	2800	81%	17	5	0	0	0	0	0	0	22	27	5	0	0.03937
Red Rocks Park	2370	79%	24	2	0	0	0	0	1	0	27	34	7	0	0.03937
Indian Hills	2360	83%	16	4	0	0	0	0	0	0	20	24	4	0	0.03937
Idledale	2350	86%	15	3	0	0	0	0	0	0	18	21	3	0	0.03937
El Rancho	2340	95%	17	1	0	0	0	0	0	0	18	19	1	0	0.03937
Morrison	2330	72%	14	1	3	0	0	0	0	0	18	25	7	0	0.03937
Choke Cherry Resvr	2320	78%	14	3	1	0	0	0	0	0	18	23	5	0	0.03937
Genesee Village	2310	92%	20	2	0	0	0	0	0	0	22	24	2	0	0.03937
Kinney Peak	2280	93%	24	2	0	0	0	0	0	0	26	28	2	0	0.03937
Cub Cr below Blue	2270	100%	11	0	0	0	0	0	0	0	11	11	0	0	0.03937
Brook Forest	2260	95%	33	2	0	0	0	0	0	0	35	37	2	0	0.03937
Rosedale	2250	100%	6	0	0	0	0	0	0	0	6	6	0	0	0.03937
Cold Sprg Glch conf	2240	100%	5	0	0	0	0	0	0	0	5	5	0	0	0.03937
Bear Cr below Cub	2230	80%	7	0	1	0	0	0	0	0	8	10	2	0	0.03937
Niver Detention	1900	95%	19	1	0	0	0	0	0	1	20	21	1	0	0.03937
Cherry Cr @ Steele	1720	96%	22	1	0	0	0	0	0	0	23	24	1	0	0.03937

Shop Creek	1710	84%	25	6	0	0	0	0	0	0	31	37	6	0	0.03937
Cherry Cr @ Champa	1700	87%	17	3	0	0	0	0	0	0	20	23	3	0	0.03937
SPR at Henderson	1660	85%	18	4	0	0	0	0	0	0	22	26	4	0	0.03937
SPR at Union Ave.	1640	95%	17	1	0	0	0	0	0	0	18	19	1	0	0.03937
Slaughterhouse Glich	1620	100%	3	0	0	0	0	0	0	0	3	3	0	0	0.03937
Englewood Dam	1600	100%	24	0	0	0	0	0	0	0	24	24	0	0	0.03937
Lakewood CC	1550	100%	27	0	0	0	0	0	0	0	27	27	0	0	0.03937
Bear Creek @ Lowell	1530	84%	13	3	0	0	0	0	0	0	16	19	3	0	0.03937
Powers Park	1500	79%	24	2	0	0	0	1	0	0	27	34	7	0	0.03937
Third Creek at DIA	1480	92%	11	1	0	0	0	0	0	0	12	13	1	0	0.03937
Upper Sloan Det.	1400	100%	22	0	0	0	0	0	0	0	22	22	0	0	0.03937
West Metro FS13	1370	53%	6	0	1	0	0	1	0	0	8	15	7	0	0.03937
Denver Zoo	1360	100%	23	0	0	0	0	0	0	0	23	23	0	0	0.03937
Chatfield COE	1350	96%	24	1	0	0	0	0	0	0	25	26	1	0	0.03937
Sanderson at Xavier	1340	82%	15	2	1	0	0	0	0	0	18	22	4	0	0.03937
SPR at 3rd Ave	1320	85%	15	1	1	0	0	0	0	0	17	20	3	0	0.03937
LDC at 64th	1310	94%	27	2	0	0	0	0	0	0	29	31	2	0	0.03937
Hidden Lake	1300	90%	23	3	0	0	0	0	0	0	26	29	3	1	0.03937
Broomfield 3207	1200	88%	33	5	0	0	0	0	0	0	38	43	5	0	0.03937
Gunbarrel	1110	95%	20	1	0	0	0	0	0	0	21	22	1	0	0.03937
Louisville Rec Ctr	1100	100%	29	0	0	0	0	0	0	0	29	29	0	0	0.03937
Heritage Square	1060	100%	30	0	0	0	0	0	0	0	30	30	0	0	0.03937
Jeffco Fairgrounds	1050	100%	19	0	0	0	0	0	0	0	19	19	0	0	0.03937
Lena @ U.S. Hwy 6	1040	91%	19	2	0	0	0	0	0	0	21	23	2	0	0.03937
NREL/S. Table Mtn.	1030	92%	21	2	0	0	0	0	0	0	23	25	2	0	0.03937
Denver West	1010	95%	18	1	0	0	0	0	0	0	19	20	1	0	0.03937
Pump Sta 3	970	96%	22	1	0	0	0	0	0	0	23	24	1	0	0.03937
Piney at Liverpool	950	100%	36	0	0	0	0	0	0	0	36	36	0	0	0.03937
Aurora Regional Pond	940	81%	20	4	1	0	0	0	0	0	25	31	6	0	0.03937
A2-Murphy Creek GC	870	100%	46	0	0	0	0	0	0	0	46	46	0	0	0.03937
Flying J	850	100%	3	0	0	0	0	0	0	0	3	3	0	0	0.03937
Fire Station 12	840	100%	4	0	0	0	0	0	0	0	4	4	0	0	0.03937
Side Creek Park	830	100%	11	0	0	0	0	0	0	0	11	11	0	0	0.03937
ETG @ Buckley	820	97%	32	1	0	0	0	0	0	0	33	34	1	0	0.03937
Granby Ditch @ 6th	810	100%	8	0	0	0	0	0	0	0	8	8	0	0	0.03937
Sable Ditch @ 18th	800	96%	21	1	0	0	0	0	0	0	22	23	1	0	0.03937
Mission Viejo Park	760	94%	28	2	0	0	0	0	0	0	30	32	2	0	0.03937
No Name @ Quincy	730	100%	39	0	0	0	0	0	0	0	39	39	0	0	0.03937
Confluence Pond	720	100%	14	0	0	0	0	0	0	0	14	14	0	0	0.03937
Horseshoe Park Drop	710	100%	10	0	0	0	0	0	0	0	10	10	0	0	0.03937
Toll Gate @ 6th	700	100%	31	0	0	0	0	0	0	0	31	31	0	0	0.03937
Iliff Pond	650	81%	16	5	0	0	0	0	0	0	21	26	5	0	0.03937
Goldsmith @ Eastman	640	100%	28	0	0	0	0	0	0	0	28	28	0	0	0.03937
Temple Pond at DTC	630	96%	42	2	0	0	0	0	0	0	44	46	2	0	0.03937
Quincy/Highline	620	88%	20	3	0	0	0	0	0	0	23	26	3	0	0.03937
Harvard @ Jackson	610	80%	22	1	0	0	0	1	0	0	24	30	6	0	0.03937
Harvard Gulch Park	600	100%	27	0	0	0	0	0	0	0	27	27	0	0	0.03937
Parker/Mississippi	540	84%	18	2	1	0	0	0	0	0	21	25	4	0	0.03937
Fire Station #19	530	92%	20	2	0	0	0	0	0	0	22	24	2	0	0.03937
Jewell Detention	520	97%	29	1	0	0	0	0	0	0	30	31	1	0	0.03937
Virginia Court	510	92%	20	2	0	0	0	0	0	0	22	24	2	0	0.03937
Havana Park	500	96%	21	1	0	0	0	0	0	0	22	23	1	0	0.03937
Fire Station #7	440	91%	9	1	0	0	0	0	0	0	10	11	1	0	0.03937
Utah Park	430	86%	5	1	0	0	0	0	0	0	6	7	1	0	0.03937
Expo Park	420	96%	22	1	0	0	0	0	0	0	23	24	1	0	0.03937
Kelly Dam	410	95%	19	1	0	0	0	0	0	0	20	21	1	0	0.03937
Montview Park	400	100%	20	0	0	0	0	0	0	0	20	20	0	0	0.03937
Van Bibber @ Hwy 93	330	96%	21	1	0	0	0	0	0	0	22	23	1	0	0.03937

Sports Complex	320	100%	31	0	0	0	0	0	0	0	31	31	0	0	0.03937
Guy Hill Ranch	310	64%	5	3	1	0	0	0	0	1	9	14	5	0	0.03937
Van Bibber Park	300	96%	22	1	0	0	0	0	0	0	23	24	1	0	0.03937
Upper Leyden	220	86%	16	3	0	0	0	0	0	0	19	22	3	0	0.03937
Leyden Confluence	210	96%	22	1	0	0	0	0	0	0	23	24	1	0	0.03937
Leyden Reservoir	200	100%	20	0	0	0	0	0	0	0	20	20	0	0	0.03937
Nott Creek	150	100%	21	0	0	0	0	0	0	0	21	21	0	0	0.03937
West Woods	120	83%	23	0	0	0	0	0	1	0	24	29	5	0	0.03937
Ralston Reservoir	110	100%	20	0	0	0	0	0	0	0	20	20	0	0	0.03937
A2-Carr Street	100	100%	32	0	0	0	0	0	0	0	32	32	0	0	0.03937
Four Mile Creek	5720	88%	25	4	0	0	0	0	0	0	29	33	4	0	0.03937
West Creek	5730	100%	23	0	0	0	0	0	0	0	23	23	0	0	0.03937
Trail Creek	5740	100%	39	0	0	0	0	0	0	0	39	39	0	0	0.03937
Stump Bump	5810	100%	35	0	0	0	0	0	0	0	35	35	0	0	0.03937
Cedar Mountain	5860	98%	38	1	0	0	0	0	0	0	39	40	1	0	0.03937
Hackett Mountain	5880	100%	44	0	0	0	0	0	0	0	44	44	0	0	0.03937
Horse Creek-Satellite	5900	89%	15	0	1	0	0	0	0	0	16	18	2	0	0.03937
Log Jumper	5940	92%	22	2	0	0	0	0	0	0	24	26	2	0	0.03937
A2-Blackstone Precip	100100	100%	31	0	0	0	0	0	0	0	31	31	0	0	0.03937
A2-ETG @ Hampden Precip	100110	100%	44	0	0	0	0	0	0	0	44	44	0	0	0.03937
A2-Upper Sellers Gulch Precip	100140	100%	28	0	0	0	0	0	0	0	28	28	0	0	0.03937
A2-Sellers Gulch at Haystack Precip	100150	100%	27	0	0	0	0	0	0	0	27	27	0	0	0.03937
A2-Sand Creek at Colfax Precip	100160	100%	26	0	0	0	0	0	0	0	26	26	0	0	0.03937

2014 Monthly Peak Hour ALERT Radio Traffic Summary

