Annual Technology Survey Results 2017

The Annual Technology Survey, administered statewide each year in June, gathers information about schools' technology programs and provides vital data for the legislative season, ongoing media requests, various reporting within school systems and general information for schools and the public on the current state of technology in schools in Vermont. Data are collected via a simple survey tool and collected from June to July each year.   While the collection has garnered good results through the years, the past two years have had almost complete sets of data from all schools and CTE centers. This year, 98% of targeted entities reported, with only a small handful of entities not submitting data. The survey results here represent all public schools, and most all of the CTE centers. For this year, 11 CTE centers and 295 schools reported. This report summarizes the data for those 306 schools and CTE centers in Vermont who responded. Typically, this survey is completed by either a Principal at the school or a Technology Director/Coordinator at the school or SU level.

Please refer to Appendix for the actual survey deployed.

The results are reported in the order they occur in the survey. The areas of the survey have been broken down into sections; Broadband Connectivity, One to One Program Status, Overall Devices for Student Use, and Other.

The results in this report are aggregate results. Individuals and schools may request the individual school data results in spreadsheet format. Personal data from the persons entering the data in the survey is not included in this report. That data is kept within the Agency for reference purposes only.

The Vermont Agency of Education considers the SETDA standards, released in 2012, and updated in 2016, the goal for available broadband we are hoping all schools can reach. The SETDA standards (2016) are as follows:

Broadband Access for Teaching, Learning and School Operations	2014-15 School Year Target	2017-18 School Year Target
An external Internet connection to the Internet Service Provider (ISP)	At least 100 Mbps per 1,000 students/staff	At least 1 Gbps per 1,000 students/staff
Internal wide area network (WAN) connections from the district to each school and among schools within the district	At least 1 Gbps per 1,000 students/staff	At least 10 Gbps per 1,000 students/staff

This year's survey results indicate we are making good progress towards meeting the SETDA standards. The standards are nationally based and we find that for some of our very small schools, the standards seem over and above what is necessary or needed in those environments. We must continue to promote the acquisition of high quality connectivity at least to the 100Mbps standard for small schools. Even in some small schools, the reliance on streaming video, real-time data, and other cloud-based information continues to grow. We encourage schools to look out ahead to avoid limits on instructional activities and ultimately student success.

The Vermont Agency of Education, observing recent national trends and reflecting on the data within this report, urges all schools in Vermont to focus their energies on the acquisition of the highest speed broadband data that is possible in their region or community. We continually see more services and software moving to a "cloud-based" environment and technology will continue to see a trend of moving away from the reliance on powerful desktop machines, to relying on powerful Internet connections to access software, tools, resources and services.

Questions about information contained in the other sections of this report should be directed to Peter Drescher, Education Technology Coordinator, at the Vermont Agency of Education. His email is peter.drescher@vermont.gov, and his phone contact is 802-479-1169.

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Broadband Connectivity

This first section of results refer to questions asked regarding school broadband connectivity.

1. Survey Question: What is the primary Internet Service Provider (ISP) for this school?

   Results: The most prevalent ISP's for Vermont are Fairpoint, VTeL, FirstLight (formerly Sovernet), and Education Networks of America
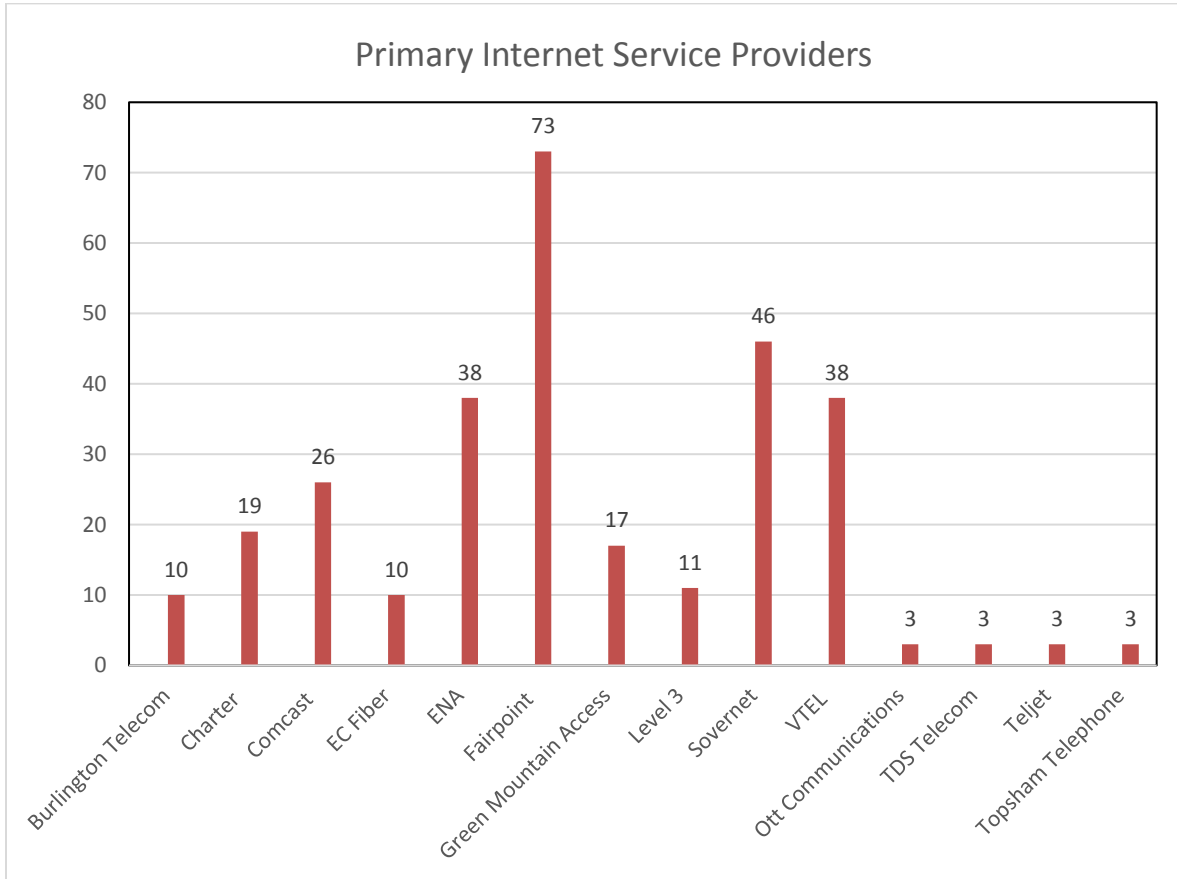
Notes: Chart represents ISP categories with 3 or more responses.
Total number of responses = 300

1. Survey Question: What is the primary connection type this school uses to connect to the Internet?

   We ask this question because Fiber connections represent the highest quality for connection for schools nationwide.

   Results:
   252 schools report Fiber as their primary connection type.
   30 schools report Cable as their primary connection type.
   **13 schools report DSL (or Digital Subscriber Line) as their primary connection type.**
   9 schools reported "Other"

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Further analysis shows the Fiber category breaks down in this manner:
136 schools report Direct Fiber to the building
116 schools report Shared Fiber indicating a shared connection between buildings.

As more Fiber becomes available in more rural locations, we anticipate the number of Fiber connections to increase.
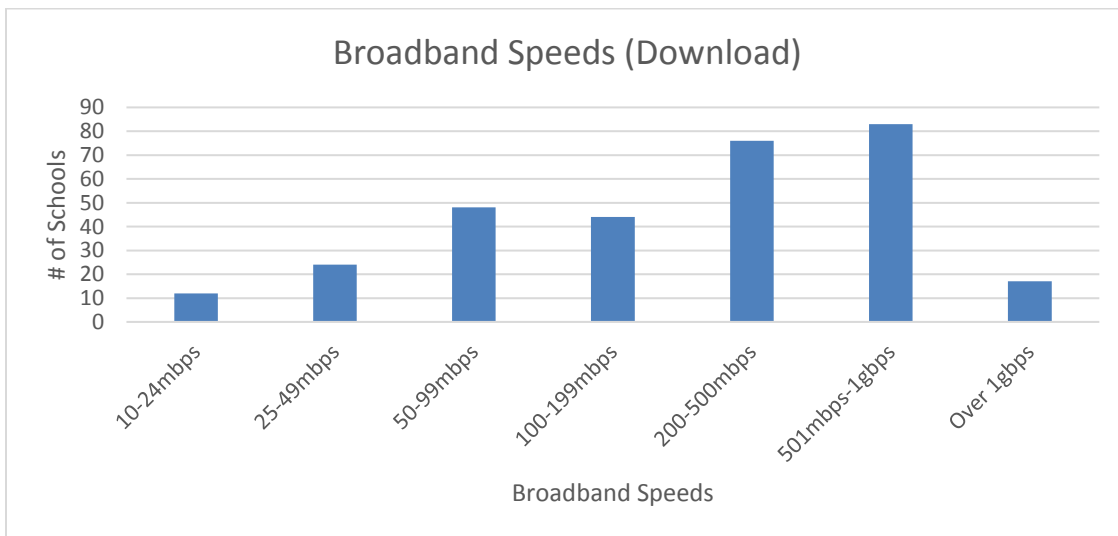
2. Survey Question: What is your current upload speed (as advertised by your provider?)
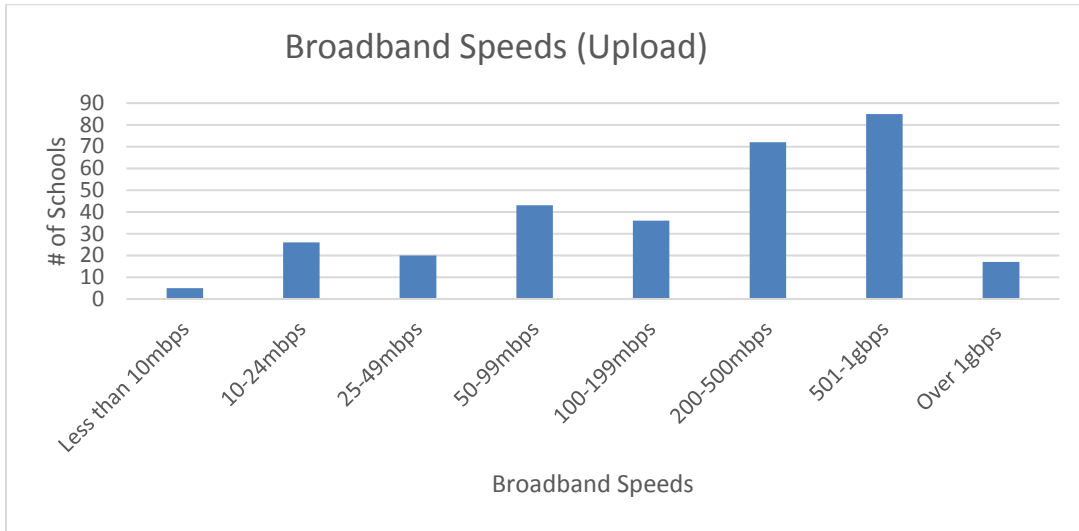
Result:

3. Survey Question: What is your current download speed (as advertised by your provider)?

Result:

4. Survey Question: Is your connection shared?

Results: 157 schools report a shared connection with multiple schools (at least the reporting school and one other).
2 schools reported Unknown—as most likely the survey taker did not know the answer.
The rest of the schools have a dedicated connection to the building.

5. Survey Question: Does your school provide "Guest" or "Public" WiFi access?(As of 2016 we know that all VT schools have WiFi access for students)

Results:
No Guest or Public Wifi Access: **35**
Yes, but only in selected parts of the building: **22**
Yes, throughout the building: **246**

6. Survey Question: What is the typical cell phone coverage at the school?

Results broken down by Choices available:
Cell phone coverage is "spotty" at the school.--- **87** schools reported Yes
Various networks have accessibility but throughout the school are "dead spots".

Cell phone coverage is available but consistently poor.--- **21** schools reported Yes
Coverage is there, but not relied upon. May mean there are days when it is completely unavailable.

Cell phone coverage is good for certain networks only.--- **68** schools reported Yes
AT&T, Verizon or Sprint may exclusively be the most reliable.

Cell phone coverage is good throughout the building. ---**74** schools reported Yes
Can be relied upon.

Cell phone coverage is regularly unavailable. --- **53** schools reported Yes
For the most part cell coverage is not viable in these schools.

This question is asked to ascertain the viability in the future of phones being used as instructional tools or resources. It also gives a sense of the viability of using cell towers as access to the Internet for schools. This in turn relates to addressing the "homework gap" whereby students can gain access to the Internet from home on school devices via a local cell tower signal.
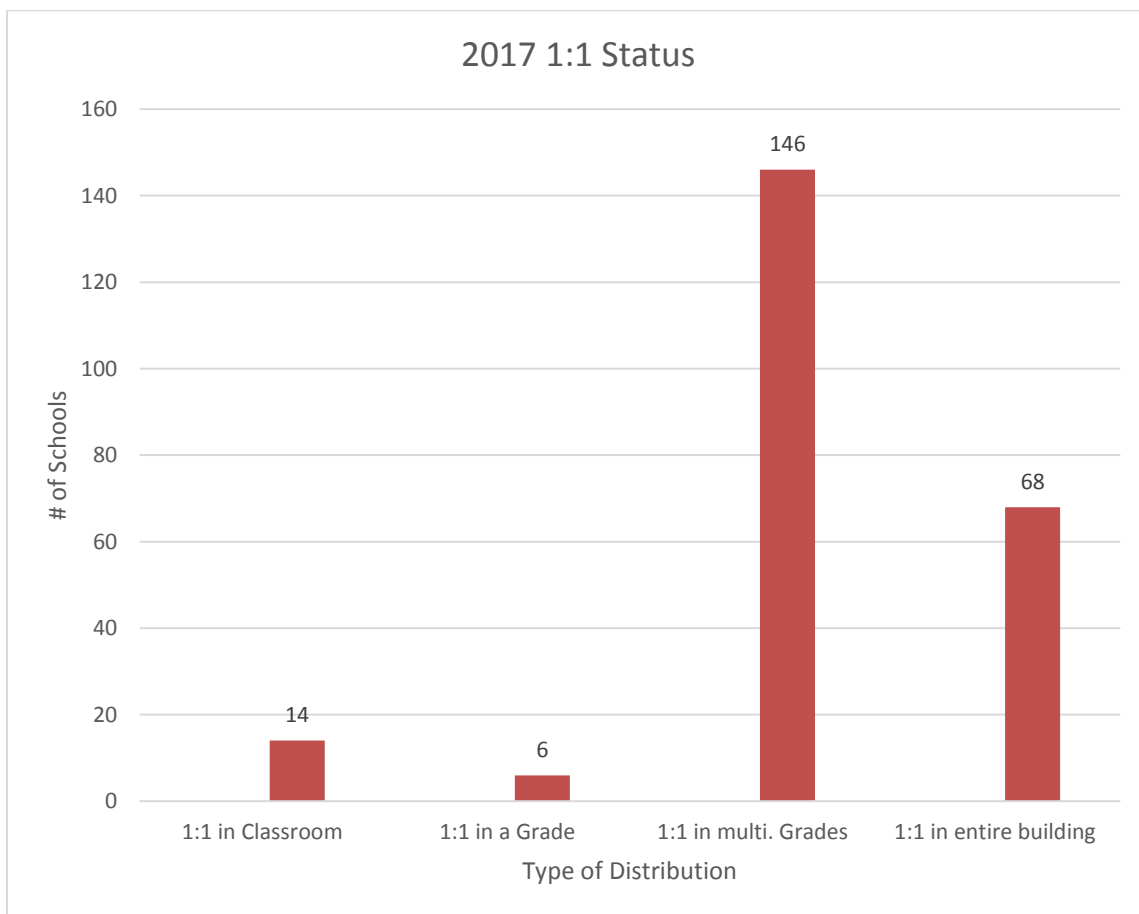
One to One Program Status

One to one computing is defined as a program where each student has a computing device dedicated to them over the course of a year, or multiple years at their school. This device may or may not go home with the students depending on the individual school policy.

7. Survey Question: Please select all grade levels where one-to-one activities are in place. Within this question there was a breakdown for participants to indicate the extent to which this was present in their school. That data is represented in the graph below.

   A further question had respondents indicate in which individual grade levels one-to-one was taking place. Those data are represented further along in this report.

Note: The advent of Chromebooks, fairly inexpensive, cloud-based machines, that are easily managed, has helped to expand one to one computing at schools.
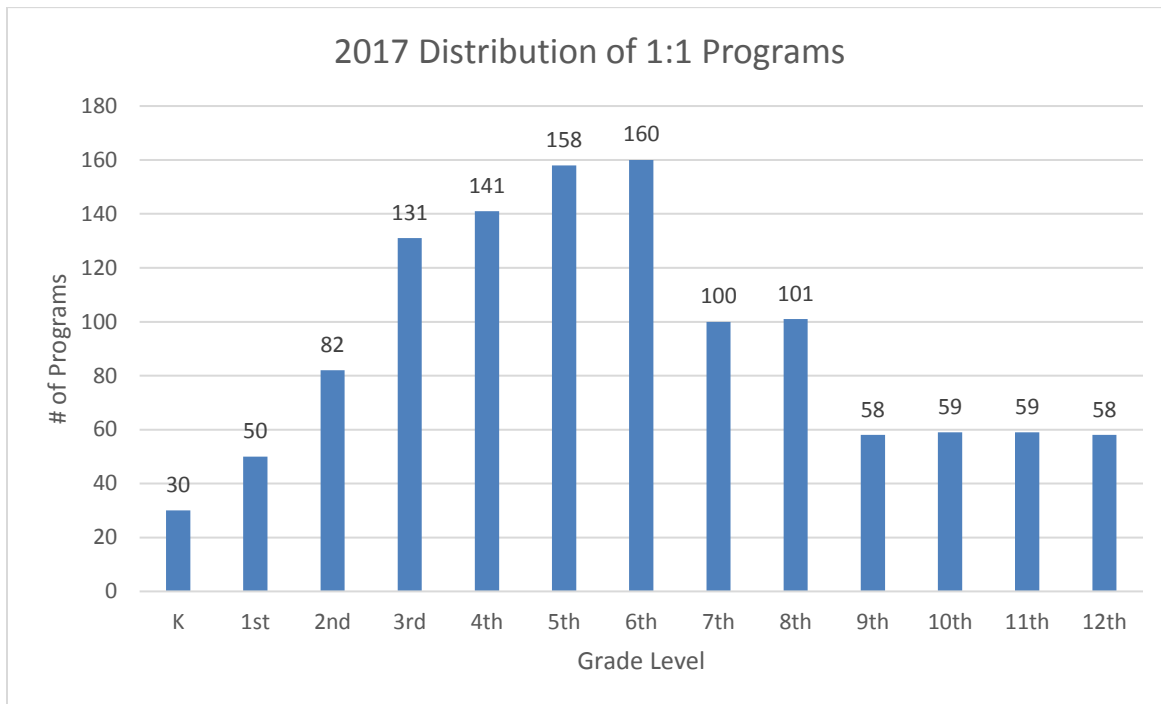

2017 1:1 Status
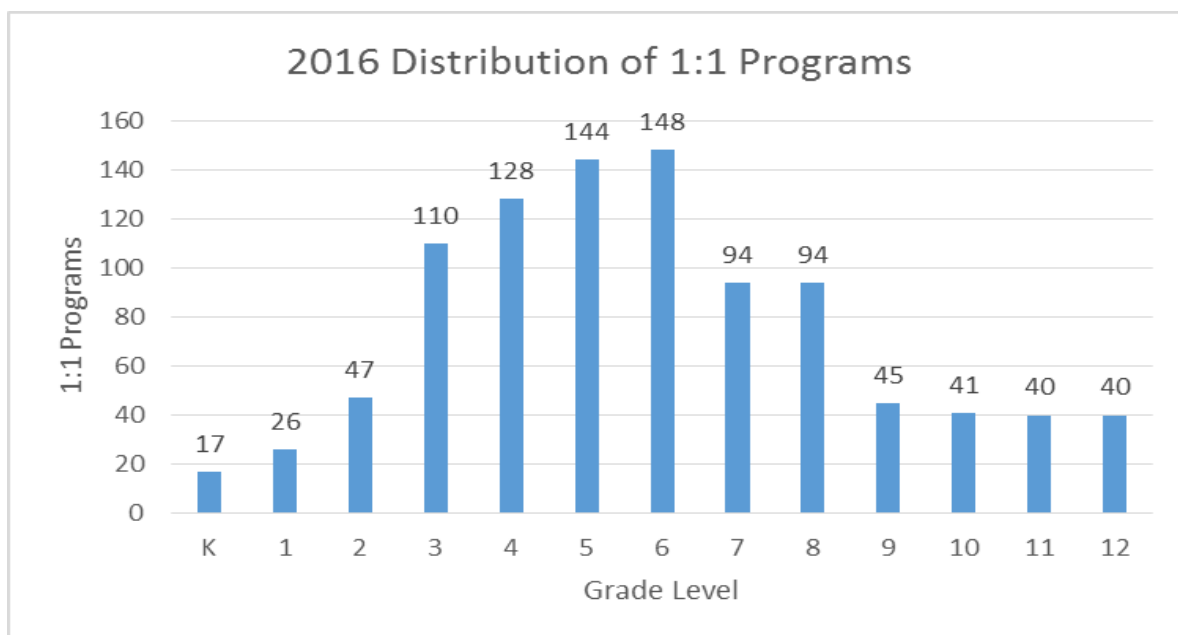
1 to 1 Growth '16-'17
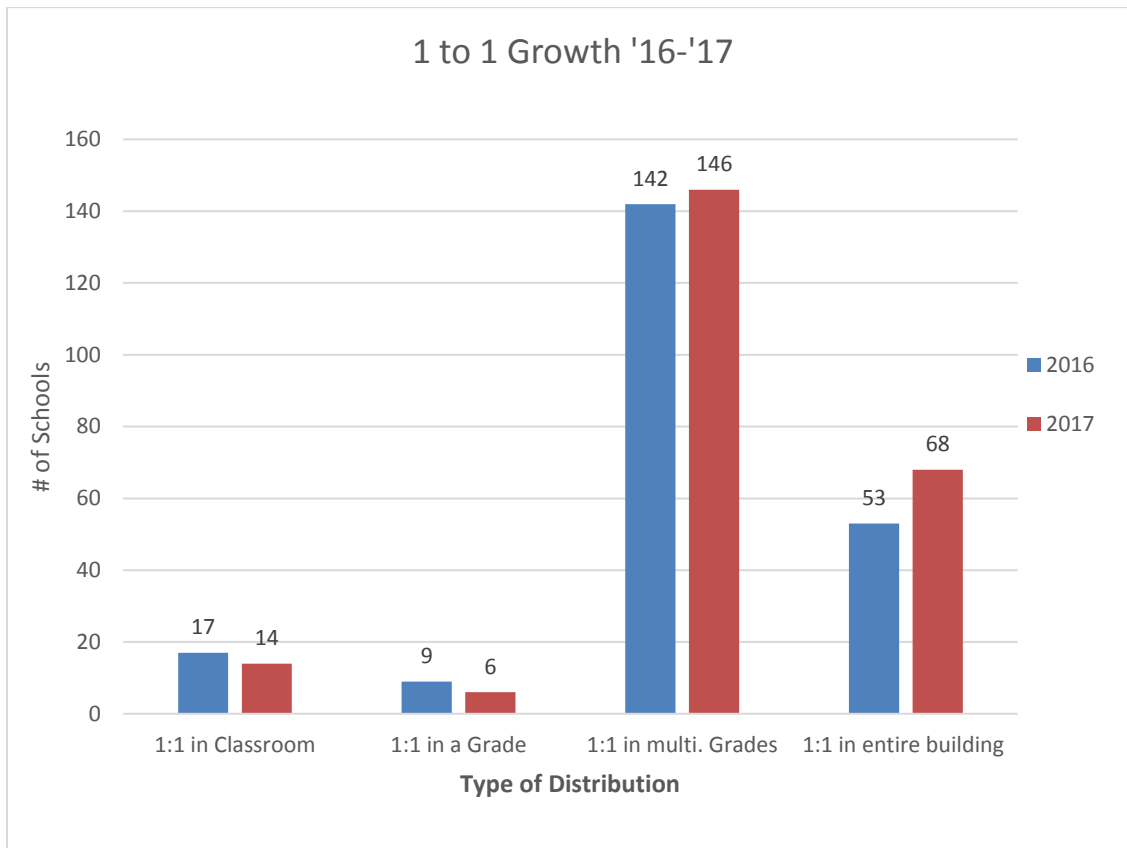
Growth of one-to-one programs remained consistent from '16-'17 with nominal growth in situations where the entire building was impacted. This could indicate that growth of one-to-one programs is leveling off to a degree or that we are seeing saturation of devices (see overall device count)

Grade Distribution of 1:1 programs

2017 Distribution of 1:1 Programs

Grade Level	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
# of Programs	30	50	82	131	141	158	160	100	101	58	59	59	58

Not surprisingly, most of the 1:1 programs fall in the Middle grades, a segment of schooling that often allows for flexibility in scheduling and overall program scope. A rise in 1:1 programming at lower grades (i.e., K-2) for 2017 is also indicated. Overall, a consistent pattern of more 1:1 programs being added is evident.
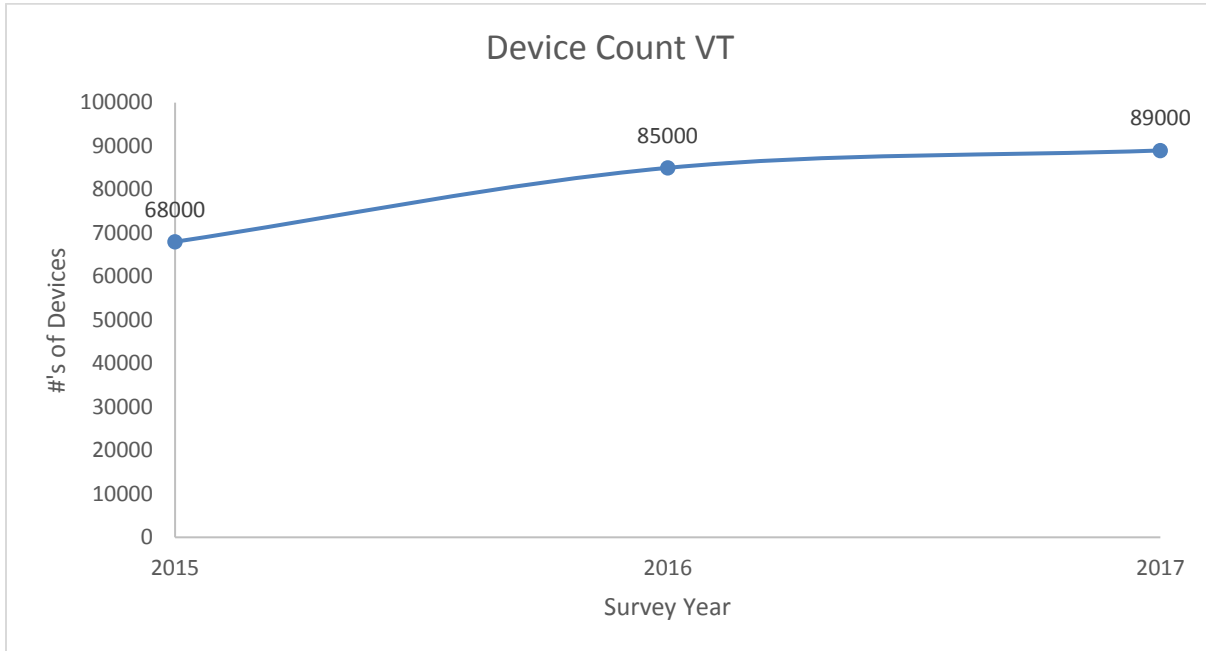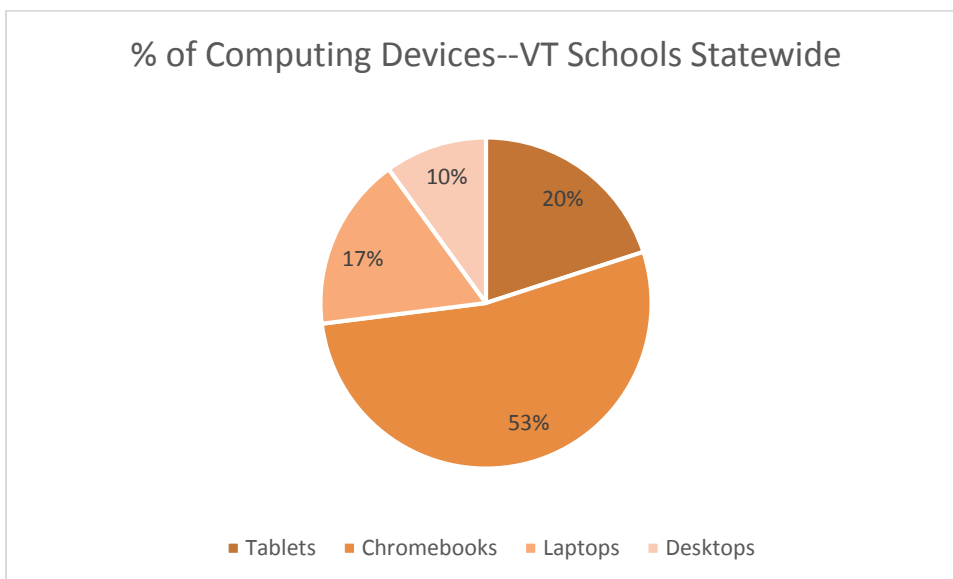
Comparison to 2016:

2016 Distribution of 1:1 Programs

Grade Level	K	1	2	3	4	5	6	7	8	9	10	11	12
1:1 Programs	17	26	47	110	128	144	148	94	94	45	41	40	40

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8. Survey Question: How many TOTAL devices are currently in place at the school for student use?
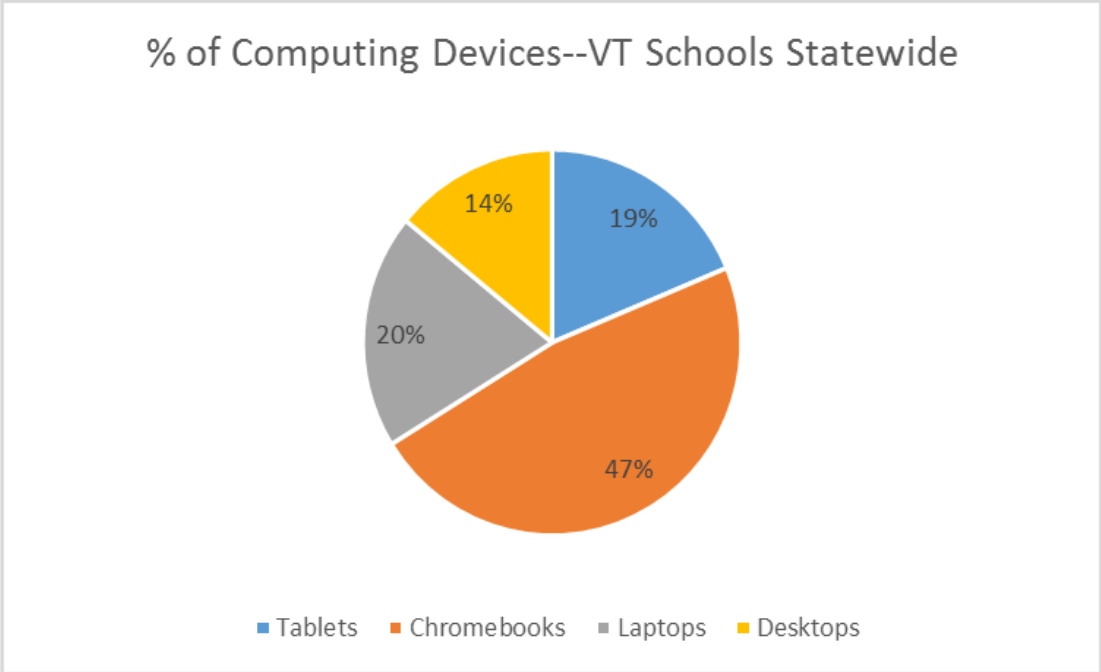
   Results:

Device Count VT

2016 marked the point where our device count exceeded the student population in K-12 public schools. Our public school population for 2017 is approximately 77,000 students.

9. Survey Question: Please estimate the total percentage (%) of devices your school has for student use in each category.

% of Computing Devices--VT Schools Statewide

Tablets 20% · Chromebooks 53% · Laptops 17% · Desktops 10%

Note that over half of the computing devices available to students are Chromebooks. Since the advent of these devices, their steady increase in numbers has been remarkable. In essence, a "perfect storm" contributed: broadband access steadily has increased in speed and quality, Chromebook management allows ed tech staff to streamline updates and repairs and the price point is highly affordable for schools. Note the change from 2016:

% of Computing Devices--VT Schools Statewide

- Tablets
- Chromebooks
- Laptops
- Desktops

10. Survey Question: Does your school currently have a Bring Your Own Device (BYOD) policy?

    Results:
    216 Schools report No
    85 Schools report Yes
    2 Schools report Unknown

11. Survey Question: Approximately what percentage (%) of your IT services are currently situated in the cloud?

    Results:
    120 schools report between 50 and 75% of IT services reside in the cloud
    125 schools report between 75 and 100% of IT service reside in the cloud
    5 of the 125 reporting above say they are at 100%

12. Survey Question: Are you a Google Apps for Education (GAFE) school?
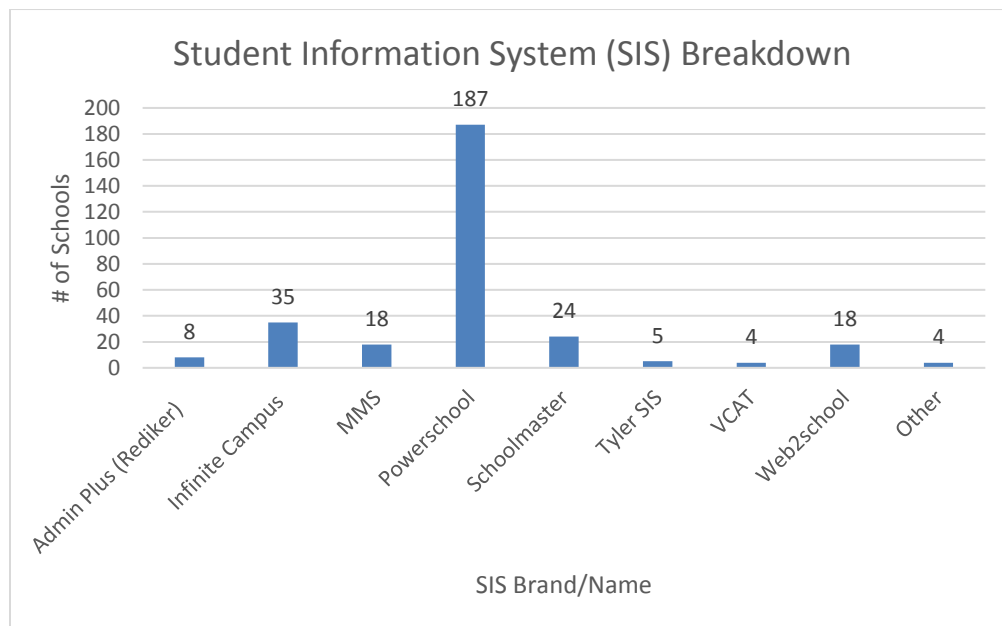
    Results:
    282 Schools indicate Yes
    21 Schools indicate No

13. Survey Question: What Student Information System (SIS) does your school currently use?
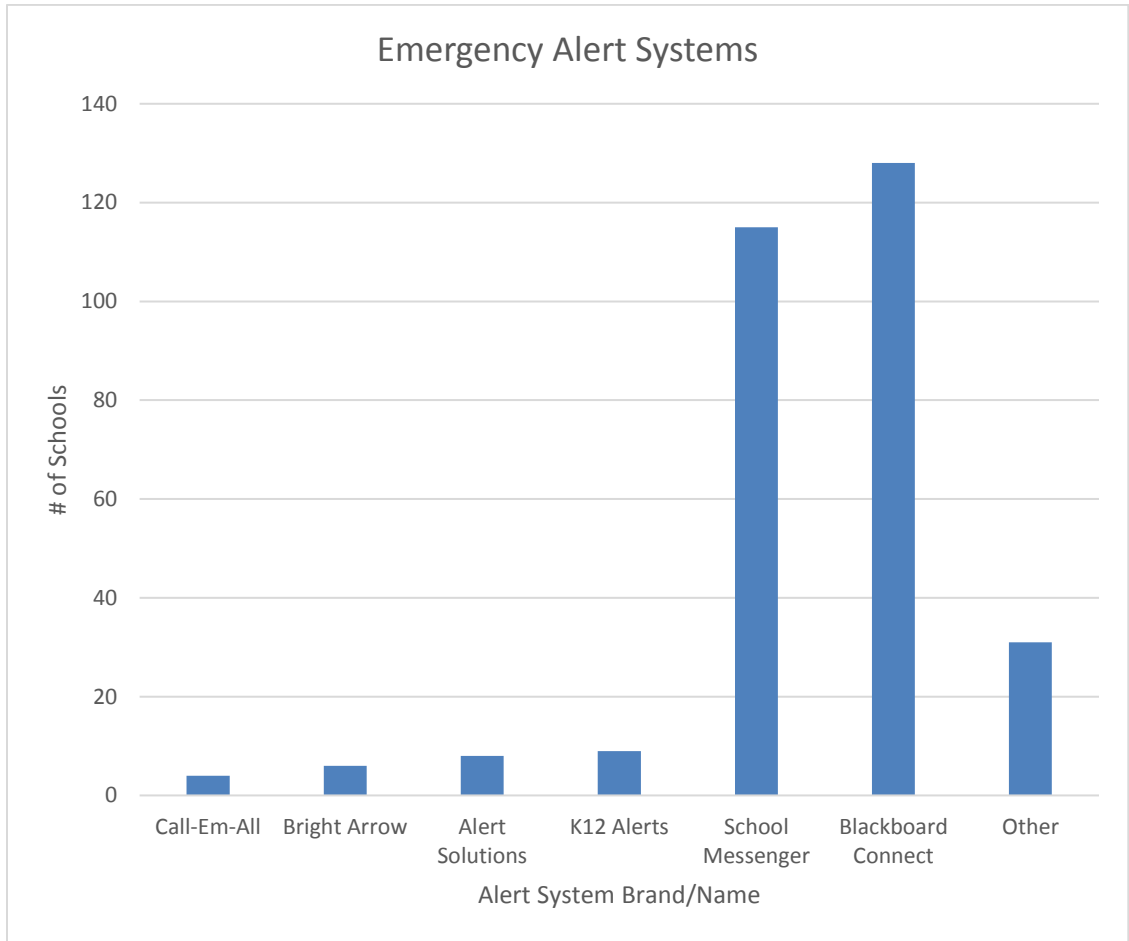
    Results:

The largest share of SIS in Vermont is served by Powerschool at 187 schools.

14. Survey Question: Do you anticipate upgrading your SIS in the next year?
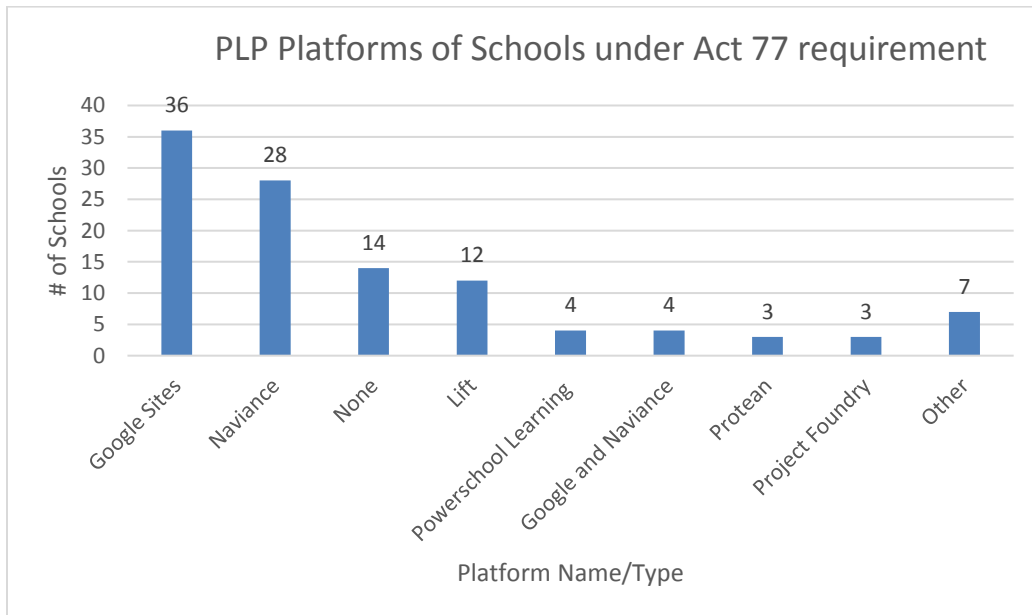   Results: 67 schools indicated Yes as to upgrading or changing their SIS in the coming year.
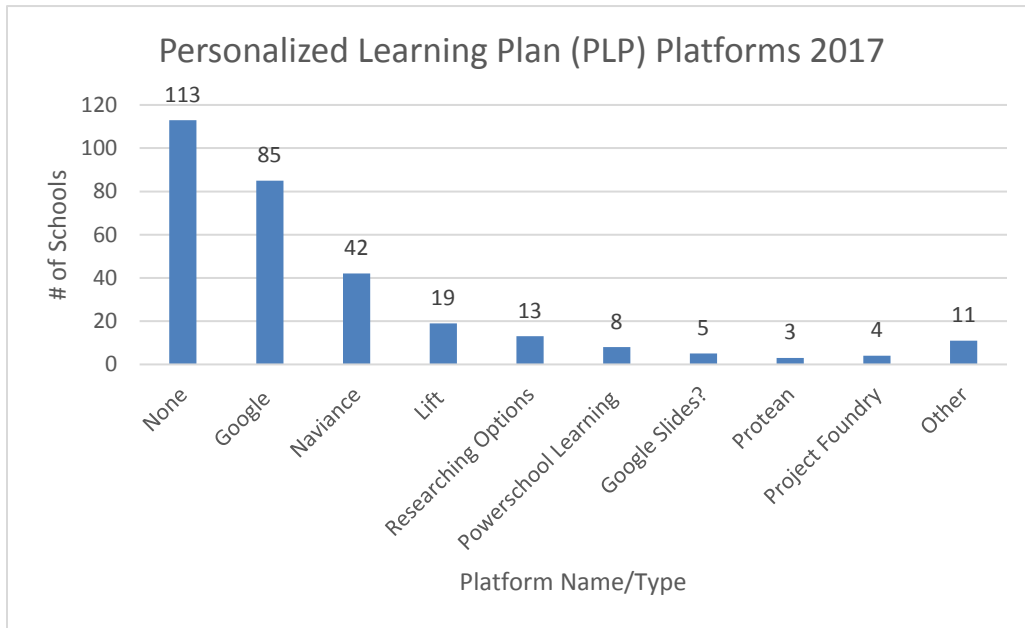
15. What commercial tool, if any, do you use for communication with your community in the event of an emergency?
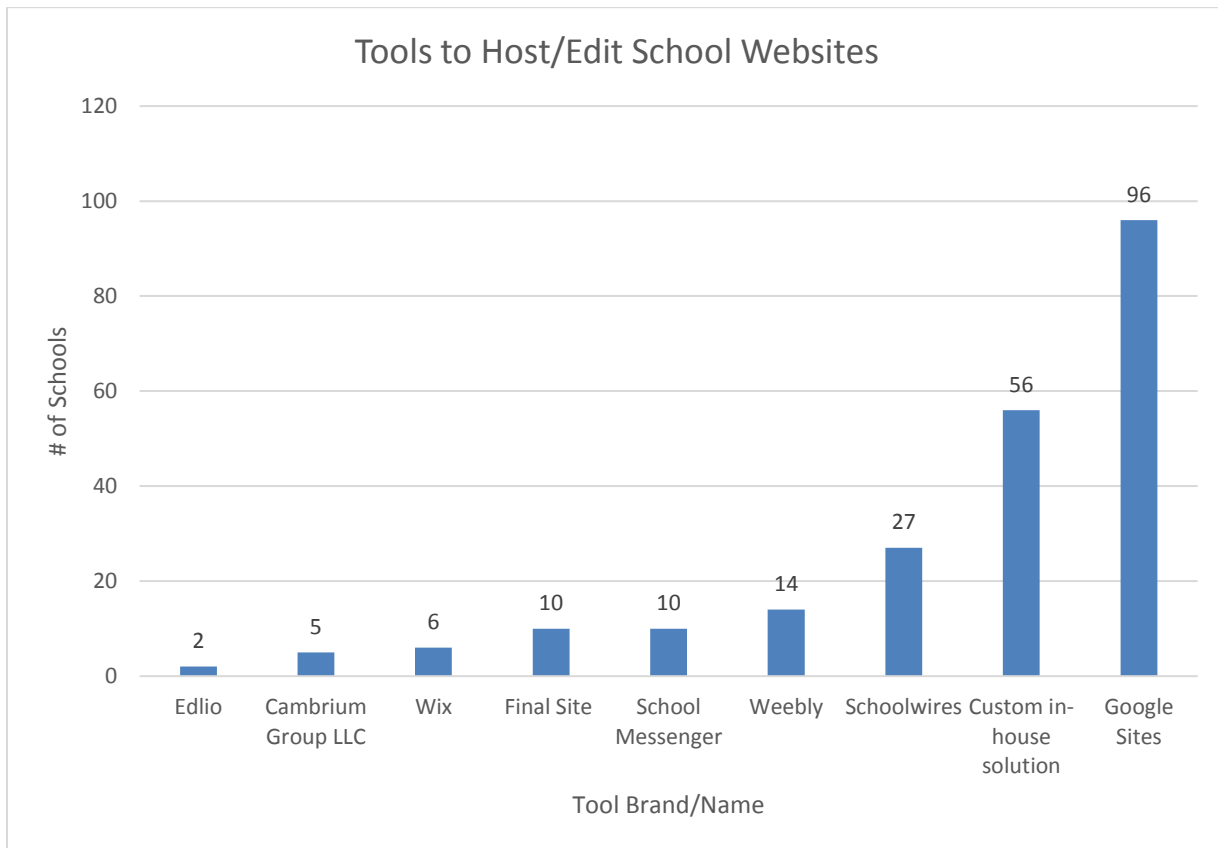

Emergency Alert Systems

16. Survey Question: What technology platform is your school using to support your work with Personalized Learning Plans?

Results:

"Researching Options" allows that a school is still seeking a solution to how they approach their PLP work.

Personalized Learning Plan (PLP) Platforms 2017

PLP Platforms of Schools under Act 77 requirement

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17. Survey Question: What commercial tool do you use to host/edit your school website?

Tools to Host/Edit School Websites

Chart: Bar graph showing # of Schools by Tool Brand/Name:
- Edlio: 2
- Cambrium Group LLC: 5
- Wix: 6
- Final Site: 10
- School Messenger: 10
- Weebly: 14
- Schoolwires: 27
- Custom in-house solution: 56
- Google Sites: 96

18. Survey Question: How many students take online courses through a provider other than Vermont Virtual Learning Cooperative?

Approximately 870 students take online courses outside of the Vermont Virtual Learning Cooperative.
Most of those take courses through Virtual High School, based in Maynard, MA

Other online providers indicated include the following:
Edgenuity
Keystone
Lynda.com
Brigham Young University (BYU Online)
University of Vermont
Middlebury Interactive Languages
Virtual Learning Academy Charter School

Questions pertaining to the questions on the preceding pages should be addressed to Peter Drescher at the VT Agency of Education: peter.drescher@vermont.gov or (802) 479-1169.

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Phone Systems

In 2016, the Agency of Education partnered with the E9-1-1 Board and provided a survey vehicle to ascertain the current status of phone systems across the state in our public schools. The purpose of doing this was to catalog those schools that were currently up to date with E9-1-1 compliant phone systems. In 2017, the partnership was reduced to one simplified question seeking to deduce if compliance was being sought and if so, when it would be accomplished. The question asked was:

What are your school's plans for pursuing E9-1-1 compliance? Note: E9-1-1 "compliance" is a term from the E9-1-1 Board indicating that the school has reached a status where emergency phone calls from the location indicate an accurate physical address. To our knowledge, there is no penalty for non-compliance.

Possible answers were:
1. My school tested compliant according to the VT E9-1-1 Board in Fall of 2016
2. We are looking to pursue compliance within one year
3. We are looking to pursue compliance within two years
4. We are not planning to pursue at this time

Results:
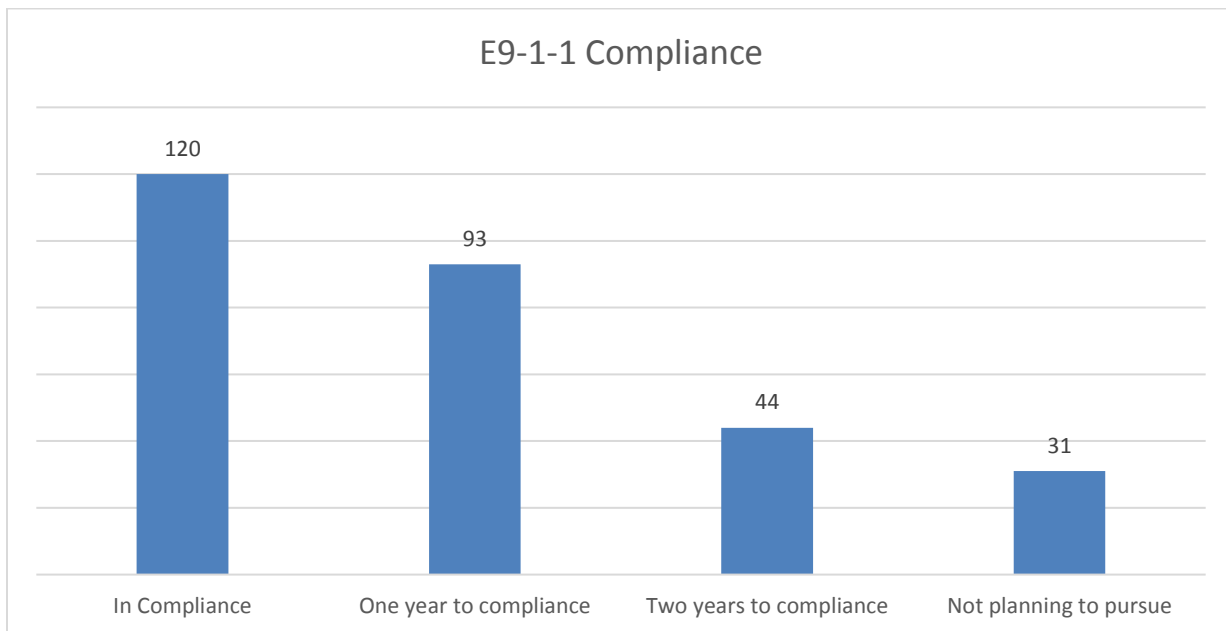
Questions about E9-1-1 compliance should be directed to the E9-1-1 Board, currently directed by Barb Neal. She can be reached at (802) 828-4911. Email: barb.neal@vermont.gov