

STATE OF VERMONT

Report: E-911 and Emergency Dispatch

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Introduction - The Legislature charged the Department of Information & Innovation (DII), together with the Vermont E911 Board and the Department of Public Safety (DPS), with preparing a Report analyzing the current state of public safety and dispatch systems and making recommendations regarding efficient and cost-effective integration of these systems.

Over the past year, we have met on several occasions to discuss the current situation with both E-911 and Emergency Dispatch. Our efforts were delayed and we were granted an extension at the beginning of the Legislative session in order to more fully develop this report and our recommendations.

This report represents the consensus of the E-911 organization, the Department of Public Safety and the Commissioner of the Department of Information and Innovation.

Executive Summary – Over the past decade, several studies were commissioned to look at the way that Emergency Dispatch services are provided in Vermont. These studies have been conducted both by state and outside organizations.

Findings from the earlier studies include:

- 1) There is a lack of a consistent and fair funding scheme for Emergency Dispatch, as evidenced by the fact that some towns pay for Emergency Dispatch while others do not;
- 2) While it is proper for the State Police to be the default entity to provide Emergency Dispatch, there is a limit to their ability to continue to do so given the lack of adequate funding;
- 3) Some towns that used to pay for Emergency Dispatch have stopped paying, which has shifted more of the cost for Emergency Dispatch to the State Police;
- 4) Some towns pay the State Police for Emergency Dispatch services while others do not;

We agree with the findings from the earlier studies and adopt them as our own. In addition to those findings, we find:

- 1) The cost of providing Emergency Dispatch services in the State is significant and difficult to cover especially during times of tight budgets;
- 2) Emergency Dispatch is not the same type of service as is E-911 call taking, even though there is a great deal of interaction between the two in the normal course of business;
- 3) E-911 services are adequately funded through the Universal Fund, while Emergency Dispatch is not adequately funded;
- 4) The funding from the Universal Fund is not sufficient to pay for both types of services;
- 5) While there exist workable funding models that ensure that each town not providing its own Emergency Dispatch services pays their fair share of the costs, those funding models have not been adopted statewide;
- 6) A fair and equitable funding system for Emergency Dispatch requires towns to pay their fair share of those costs;
- 7) As time goes by, more and more towns are beginning to question why they should pay for something that other towns are not, and some are dropping their current arrangements, increasing the pressure on the State Police to pick up the slack;

- 8) Earlier attempts to introduce a funding model in certain parts of the state have been unsuccessful;
- 9) A funding scheme that allocates the cost of Emergency Dispatch to each of the towns not providing the service for themselves creates more of a level playing field for all towns in the state;
- 10) There may be a number of organizational changes that could consolidate Emergency Dispatch and E-911 call taking, possibly reducing the overall cost of both services. Making those changes absent a resolution of the Emergency Dispatch funding situation could create problems that do not now exist with the E-911 system; and,
- 11) In order to realize the goal of having an equitable funding scheme for Emergency Dispatch Services, the Legislature will need to decide on an approach that will be applicable to all towns that do not provide this service for themselves.

Current Vermont State Police Dispatching Service

Dispatch is usually the first, and sometimes the only, contact that people have with the Vermont State Police. Dispatch centers are staffed 24 hours a day 7 days a week to provide emergency and non-emergency support to the citizens of Vermont.

Vermont State Police dispatchers provide dispatch service for the Vermont State Police, the Vermont Department of Fish & Wildlife (Game Wardens), the Department of Motor Vehicles, Vtrans, several county sheriff departments, numerous municipal police departments, town constables, along with many, many fire and rescue agencies. Centers also interact regularly with other agencies including, Probation and Parole, Social Services, Judges, Federal Agencies including Border Patrol, ATF and others in the law enforcement community.

Currently the Vermont Department of Public Safety operates four consolidated Communication Centers located at State Police Barracks in Rockingham, Rutland, Williston, and Derby. Each maintains its own communication services.

Each center is responsible for dealing with most emergencies that occur within their geographical area. They are most often the initial point of contact for motor vehicle accidents and complaints, fires, domestic situations, burglaries, missing persons, juvenile problems, suspicious activity and numerous other complaints. They receive this information via standard phone service or from E911. They are the public safety answering point (PSAP) for all E911 calls related to their areas and serve as backups for other areas of the state.

Once information is received, the centers are responsible for making sure that the correct responders are dispatched and provide various information and monitoring services for those units for the duration of the incident. The responders depend on the dispatch centers for updated information that may be critical for their response and safety.

The centers are also considered to be, by the public, the source of information for nearly everything from road conditions to the location of the nearest church.

The Vermont State Police will be operating these four Communication Centers in Fiscal Year 2011 with an operating budget of approximately \$6.2 Million. Of this amount approximately

\$228,170 is in operating expense and the balance, \$6,016,454 is in personnel salary and benefits. The centers operate with approximately \$768,515 in overtime which is part of the overall personnel and operating expense. The centers operate with approximately 81 staff.

Again, dispatching is a complex task that has different meanings to different people. Generally, dispatching is the gathering of information and the use of radio and other forms of communications to coordinate and direct the police, fire or EMS responders. There are several levels of dispatching services being performed by the Vermont State Police. Dispatch services range from the most basic lifeline which makes available an assurance that any unit with radio capability can reach someone in an emergency to full service which provides agencies with complete emergency and non emergency dispatch and messaging services.

Current E-911 Call Taking Service

There is one, statewide E911 telephone system in Vermont. The E911 mission involves telecommunications companies, town government, data collection and management, and specialized equipment. It connects callers in distress with specially-trained call-takers.

There are currently 8 E911 call-centers (Public Safety Answering Points – PSAPs) in the State. The State Police operate 4 of the PSAP’s, in which they provide both E-911 call taking and Emergency Dispatch services. Some of the efficiencies currently in place include:

- Co-locating its mission with allied 24/7 dispatch efforts. Even though missions may be different, the E9-1-1 strives to minimize existing personnel, real estate, and other overhead costs.
- Seeking cooperative arrangements with the Department of Public Safety (DPS) on ensuring redundant, multi-use communications between PSAPs.
- Coordinating and ensuring a GIS platform that will be seamlessly compatible with CAD
- Reduction of PSAPs, and equitable redistribution of call load, enlarging calling areas of those that were under-utilized, and reducing the size of those that are over-burdened.
- 25% reduction of trunk lines feeding the system, which is a major cost-driver.

The E911 Board provides the following benefits to DPS in return for hosting four PSAPs, paid for out of the E911 Special Fund (Universal Service Fund – USF):

- An annual financial subsidy to help defray the personnel costs of hosting a PSAP.
- All the technical equipment necessary to take 9-1-1 calls.
- All maintenance services for the same technical equipment.
- All the training and certification necessary to take calls, as well as the continuing education necessary to maintain certification, pursuant to national standards.
- All software necessary for call-handling, mapping and database functions, and access to the daily updated databases that merge with every 9-1-1 call.
- All dedicated telephone and data trunk lines necessary for the 9-1-1 operation.
- Administrative services for subpoena requests.
- Liaison with all 9-1-1 coordinators and town administrators in all 261 political subdivisions of the State. We provide all responders with real-time E911 map access.

E911 does not directly employ its own call-takers, or carry the overhead costs for its own venues. E911 establishes the training and standards that have to met by call takers but the services are delivered by other agencies.

As noted above, E911 is funded by the Universal Service Fund (USF) tax on telephone service, but it is not the only service paid for through the Universal Fund. By statute, the USF funds are distributed in the following order: Fund Administration, Telecommunications Relay Service, Lifeline and E-911. The USF is capped by statute at a rate not to exceed 2%, and the current rate is at the 2% cap. Federally mandated changes in the Relay Service funding which took effect in 2010 are going to impact the already strained USF. The funding draw of the E-911 program is the highest, but because it is the last program to draw from the fund it would be the one most impacted should the fund fail to raise sufficient funding for all of its programs. During calendar year 2009, the E-911 system handled over 282,000 calls.

How does Statewide E911 service differ from local dispatch functions? E911 and dispatch missions touch each other when a 911 call is transferred to one of the many fire, EMS or police agencies in the State. Their respective technical functions touch each other in the area of computer-aided dispatch (CAD), where E911 information is provided to responders. They physically touch each other in the 4 PSAP's operated by the State Police. From there, the similarities end.

- **Enhanced 9-1-1 is a tariffed, regulated telephone service.** Vermont's enhanced 9-1-1 system was designed to support whatever local dispatching arrangements exist. The E 9-1-1 system provides a statewide level of service to the public that is efficient, uniform and based on national best practices and standards.
- **Dispatching is the use of radio communications to coordinate and direct the police, fire and EMS responders.** Dispatching is also much more than that as illustrated by the input output model (figure 1). Dispatching also involves non-emergency calls, administrative calls and other types of requests for support or information from emergency service providers. Historically, dispatching services have focused on the police. Local fire departments and Emergency Medical Services generally receive dispatching services from a variety of ad hoc means.
- **E911 service is not a free-market enterprise.** There is no free market competition for 911 services. Statewide E911 service is provided by state government to all citizens and visitors via a user fee that is in most cases mandatory and is computed as a percentage of a phone bill. This is paid into the Universal Service Fund (USF), and the E911 budget is funded annually by legislative appropriation from that fund. E911 is labor-intensive on the local level (mapping; data gathering & management; regulatory), and involves close coordination with phone companies. E911 recovers its costs via the USF through the customer's phone bill. If it could be said that E911 has a customer, that person would be the caller with the emergency on the other end of the dedicated 911 trunk line. These customers, of course, also pay General Fund taxes.

- **Dispatch is currently a free market enterprise.** There are over 70 radio dispatch agencies in Vermont scattered among town, city, county and state (DPS) agencies. In addition, Keene, New Hampshire operates a dispatch service that some Vermont towns currently pay to use. The State Police are currently dispatching for 128 agencies (police, fire and emergency response) and have fee agreements with only 5 of those agencies. (NOTE: The seventy dispatch agencies dispatch the majority of first responder agencies throughout the state.) Likewise, various city, town or county agencies have dispatch fee agreements with most of the remaining political subdivisions in Vermont. In theory, any of the 70+ dispatch agencies in the State could enter this market, as there are few barriers to entry. If dispatch could be said to have a customer, it is the police officers, firefighters and emergency medical personnel that receive the dispatch center's radio signal and respond to the emergency. Fee-for-service dispatch is actually being done today for many Vermonters through a fee or tax levied by town, city, county or state dispatch agencies.
- **E911 is a telephone system primarily focused on the needs of a caller in distress.** E911 is a telephone-based call-center system connecting a caller in distress with a trained and certified call-taker, utilizing specialized technology, equipment, and databases. The caller accesses an emergency number that is dedicated solely for that purpose, unlike a standard administrative phone line which can be busy with non-emergency calls. The call-taker accesses information that ensures the quickest response in an emergency. This response often involves advice covering any contingency that is given over the phone while the call is routed to the appropriate emergency responder. The system, as it exists today, can reside in a physically separate facility from a dispatch facility, as long as that facility has access to a broadband connection.
- **Dispatch is a radio system primarily on the needs of an emergency responder in the field.** Dispatch is mainly focused on radio communication with emergency responders who are engaged with their duties. It uses different equipment than the E911 function. It uses different data. Notwithstanding the fact that the E911 Board co-locates its mission alongside a handful of the dispatch agencies in the State, dispatch facilities can exist independently of E911 facilities. As will be seen further on in this Section, E911 service is not a cost-center to the dispatch business model, but rather a value-added profit center in most cases. The presence of E911 in Vermont does not create emergency situations. Instead, it ensures immediate response over dedicated lines reserved exclusively for 911, freeing up dispatch administrative lines, and thus enabling dispatch to focus on its primary mission.

Can consolidation of E-911 and Emergency Dispatch help? In an ideal world, where adequate funding existed for both services, there may be opportunities to further combine Emergency Dispatch and E-911 call taking, similar to how it is currently done by the State Police, who operate 4 of the 8 PSAPS. In those 4 PSAP's, the work of the two distinct services has been successfully consolidated. Done properly, additional consolidation could lead to lower costs for both services.

But consolidation of services without an infusion of funds to adequately fund the cost of Emergency Dispatch would not by itself resolve the problem. In some respects, it could even make the situation worse, because without enough funding to pay for Emergency Dispatch throughout the state, additional budgetary pressure on the already strained Universal Service Fund would be created that could result in a negative impact on the E-911 call taking service.

We think that the funding issue needs to be resolved before considering additional consolidation. Consistent with the many reports that have been prepared over the years on this subject, we find that the lack of adequate funding for Emergency Dispatch services has caused a cost-shift from at least some, and a growing number of local communities to the State Police. The State Police cannot continue to absorb additional towns into their Emergency Dispatch service., three of the four PSAPs are at or very near maximum capacity. We think the better approach is to address the Emergency Dispatch funding issue at the Legislative level, either by adoption of one or more funding schemes that require all towns to pay their fair share of Emergency Dispatch services, or by the Legislature agreeing to address the funding issue on behalf of the towns.

We don't make the preceding statement lightly. This is a difficult situation for the State of Vermont. Given the current budget situation in the State, it may not be easy to find the additional funds needed in order for the State to assume full responsibility for Emergency Dispatch. Although there are existing relationships in some counties, notably Lamoille, where all towns pay something for Emergency Dispatch, there is resistance in many parts of the state by towns who do not wish to pay for this service at all. In those towns, the view is generally that the State of Vermont should bear the burden of funding Emergency Dispatch. That contributes to the current inequitable situation where some towns pay and others do not.

An example of a successful funding model is the methodology used in Lamoille County, where each town pays some of the cost of Emergency Dispatch based on two factors. 50% of the cost is allocated based on each town's population and the other 50% of the cost is allocated based on each town's grand list. This approach assumes that towns with larger populations and a larger grand list will require more dispatch services than a town with a small population and lower grand list. In practice, this approach appears to fairly allocate the costs of Emergency Dispatch in a way that is acceptable to the participating towns. The example, on the next page, shows how the allocation formula works for the fiscal year 2010-2011, starting with a budget of \$721,755.58:

Lamoille County Emergency Dispatch Service
2010-2011 Budget Year

Town	Population	Share Based on Pop.	Grand List	Grand List %	Share Based on G.List	Total Allocation
Belvidere	294	\$4,567	\$284,420.00	0.63%	\$2,263.92	\$6,830.62
Cambridge	3186	\$49,488	\$5,377,220.00	11.86%	\$42,801.52	\$92,289.60
Eden	1152	\$17,894	\$1,355,150.00	2.99%	\$10,786.70	\$28,680.70
Elmore	849	\$13,188	\$1,544,480.00	3.41%	\$12,293.73	\$25,481.23
Hyde Park	2847	\$44,222	\$2,673,420.00	5.90%	\$21,279.85	\$65,502.25
Johnson	3274	\$50,855	\$2,064,020.00	4.55%	\$16,429.16	\$67,284.14
Morristown	5139	\$79,824	\$5,986,690.00	13.20%	\$47,652.77	\$127,476.76
Stowe	4339	\$67,398	\$23,964,400.00	52.86%	\$190,751.47	\$258,149.09
Waterville	697	\$10,826	\$661,870.00	1.46%	\$5,268.34	\$16,094.83
Wolcott	1456	\$22,616	\$1,425,960.00	3.15%	\$11,350.34	\$33,966.36
Totals	23233	\$360,878	\$45,337,630.00	100.00%	\$360,877.79	\$721,755.58

The above is an example of how this can be done when the towns in a county work together. It isn't meant to suggest that the only solution is to address Emergency Dispatching on a county by county basis. In fact, Lamoille County actually already provides dispatching for the towns of Hardwick and Greensboro, and may soon begin to dispatch for Barre Town. What it does suggest, however, is that starting with some type of logically based allocation formula can be a good approach. Towns that receive Emergency Dispatch services from Lamoille County not only know their own costs but the costs that their neighbors pay. The Lamoille Sheriff's Advisory Board, which consists of Selectboard members from each town, participates in the budget development process for Emergency Dispatch center which helps ensure the needs of the member towns are met. It is then up to the Lamoille County Sheriff to manage the service in a way that is satisfactory to the member communities.

The establishment of a common methodology of allocating the cost of Emergency Dispatching will enable towns to participate based on the level and degree of service received. Towns would be able to choose from a variety of options, which they currently do now, but it would eliminate the choice of avoiding paying for this critical public safety service altogether.

There are certainly other formulas that can be developed and implemented. Regardless, we think that it is important to keep the allocation process both transparent and simple to both understand and calculate.

Vermont Communications (VCOMM) has also looked into Dispatch costs and payment schedules. A survey is being circulated to Vermont's First Responders to determine Dispatch costs around the State. VCOMM has also set some short-term and long-term goals on how to ease the burden on the PSAPs. Some of the short-term goals have been for Homeland Security grants to be allocated for the purchase of MDTs (mobile data terminals) for Police cruisers. Local agencies have been asked to provide voice mail access to DPS PSAPs for administrative calls. Both of these steps have eased the burden on State PSAP personnel. Some of the long-term goals are to determine dispatch costs for Vermont and to find some formulas that would equitably share costs among agencies that currently do not pay for State dispatch services. VCOMM has also formed a dispatch study group to work through some of these issues and continue forward with the findings of past studies that were conducted about dispatch services. The VCOMM dispatch study group has made progress with law enforcement in Vermont. The plan is to continue the study group and begin the discussion with Fire and EMS groups. The goal is to be able to make some additional recommendations to the Legislature on possible solutions.

Summary – Emergency Dispatch and E-911 call taking are two of the most important public safety services, offering the public the first point of contact. When individuals call 911, they expect to have their calls answered promptly and professionally, and to receive the assistance they need in a timely manner. The two services overlap to the extent that many E-911 calls require the call taker to contact Emergency Dispatch services to get police, fire or an ambulance to the location of the caller. While that may make it appear on the surface that the roles are the same, or at least similar enough to suggest they should be combined, the work performed is actually quite different.

The Legislature could consider setting up regional Emergency Dispatch centers, with all towns participating in the service and sharing the costs based on a formula, and those districts could then serve as the basis for later consideration of combining the two services into the regional centers. The current model used by E-911 that includes 8 PSAP's could serve as the starting point for discussion and planning. It is critical to have services available in multiple geographic locations for disaster planning purposes and in order to help balance the workload when one or more area is over utilized. The State should not consider a single center because of the problems that would arise should that one center not be available due to natural disaster, telecommunication failure or even as the result of a terrorist incident, either here in Vermont or elsewhere.

Whatever approach is taken will require significant planning and execution. Not all current PSAP locations are large enough to accommodate growth were the services to be combined, and whatever sites are finally selected should be selected taking into account the availability of telecommunication facilities, including both voice and data networks.

In closing, we note that the solution to this issue is not of itself technology related, and while technology can and should play an important role in planning for a solution, technology in and of itself cannot solve this problem. If a method is arrived at to equitably distribute the cost of Emergency Dispatch, or if the Legislature decides that funding Emergency Dispatch is a state responsibility, work can begin to implement the required changes, and those changes may lead to a combining of Emergency Dispatch and E-911 call taking should that approach make sense from a budgetary and operational stance. The Department of Information and Innovation has a number of technology experts in networks and other aspects of telecommunications that can be utilized in the planning process to help ensure that any solution arrived at will best meet the needs of the citizens of the State of Vermont.