



**PRESENTATION TO THE E-911 BOARD
FINDINGS AND RECOMMENDATIONS REGARDING
OPERATIONS AND MANAGEMENT**

Mike Smith
September 4, 2015



INTRODUCTION

Mr. Roger Marcoux, Jr. , Chair
E-911 Board
100 State Street
Montpelier, VT 05620

Dear Mr. Marcoux:

I appreciate the opportunity to work with the team at E-911 to review the operations and management of the E-911 Board.

The State of Vermont, and in particular the E-911 Board, is fortunate to have a dedicated, professional, and highly motivated board and employees guiding the operations and managing the functions of the department. Their work product, individually and collectively, is highly professional. I was especially pleased to see the successful transition to a new and more sophisticated IT system. That is a rarity for IT projects.

The team was generous with their time and tremendously helpful providing information for this report. Their priority—let the conclusions of the report be driven by the data—are completely aligned with the boards. Incorporated in this presentation are the summary findings from my review of E-911 operations followed by recommendations to address opportunities for improvement.

Thank you again for the opportunity to work on this important project.

Sincerely,



Michael K. Smith
Consultant

Primary Day-to-Day E-911 Board Responsibilities

- Training and Quality Control
 - Maintain and lead comprehensive training program for call takers (call takers are employed by local PSAPs and Public Safety for the state PSAPs). Ensure that all adopted standards are met.
- Data Base Management
 - Manage, verify, and update critical information to ensure call takers have the most precise information and location of caller.
- IT
 - Installation, maintenance, and monitoring of the IT system, including the call taker station and telecommunications equipment needed to successfully operate a sophisticated E-911 system.



PSAP CALL VOLUME AND STAFFING

Year-Over-Year Call Volume

Calls by PSAP July 7 2014 - July 7 2015

PSAP	Incoming and Abandoned calls
Derby	23,199
Hartford	11,330
Lamoille	11,826
No Value	504
Rockingham	26,098
Rutland	37,268
Shelburne	12,619
St Albans	17,471
Williston	70,118
System Total	210,433

Projected Year-Over-Year Calls With Consolidation

PSAP	Calls
Hartford	11,330
Lamoille	11,826
No Value	504
Rockingham	63,366
Shelburne	12,619
St Albans	17,471
Williston	93,317
System Total	210,433

Average Busiest Hour

• PSAP	Avg. Busiest Hour	Avg. Busy Hour calls
• Derby	1700-1800	4.17
• Hartford	1500-1600	1.94
• Lamoille	1500-1600	1.78
• Rockingham	1700-1800	4.65
• Rutland	1600-1700	6.92
• Shelburne	1600-1700	2.07
• St Albans	1700-1800	3.07
• Williston	1600-1700	13.58

Average Avail/Logon by PSAP (December 2014 to May 2015)

PSAP	Total Live Positions at PSAP	Average Call-Taker Availability	Average Call-Taker Logon	Total Calls
Derby	4	1.71	3.15	10,993
Hartford	2	1.07	1.65	5,534
Lamoille	2	1.77	2.01	5,530
Rockingham	4	1.75	3.50	12,765
Rutland	4	1.81	3.61	17,676
Shelburne	2	1.29	1.61	6,039
St Albans	2	1.48	1.95	7,812
Williston	6	2.39	2.99	33,279
System Wide	26	12.63	20.47	99,896

The system wide total includes an additional 268 calls which are "no values."

"No value" calls are abandoned calls that are handled but are not tagged in the system in relation to a PSAP/Position for MIS purposes.

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Staffing Sampling By Shift

Average Number of Positions Available/Logged in by Shift/ by PSAP								
January 4-10 2015								
	Day Shift 07-15		Evening Shift 15-23		Night Shift 23-03		Night Shift 03-07	
Williston	2.44	2.96	3.06	4.05	1.83	2.42	1.80	2.41
Rockingham	1.69	3.81	1.78	3.76	1.89	2.98	1.83	2.95
St. Albans	1.58	1.88	1.81	2.00	1.25	2.01	1.14	1.98
Shelburne	1.29	1.99	1.28	1.63	1.03	1.18	0.93	1.02
Hartford	0.93	1.97	0.91	1.94	0.94	1.00	0.90	1.22
Lamoille	1.80	1.95	2.13	2.47	1.93	2.06	1.44	1.53
Derby	1.80	2.96	1.73	3.04	1.74	2.70	1.73	2.41
Rutland	1.83	3.87	1.85	3.91	1.83	3.10	1.72	2.83
Total	13.36	21.39	14.55	22.80	12.44	17.45	11.49	16.35

Staffing Sampling by Shift

March 15-21 2015								
	Day Shift 07-15		Evening Shift 15-23		Night Shift 23-03		Night Shift 03-07	
Williston	2.43	2.98	2.92	3.79	2.04	2.42	1.91	2.16
Rockingham	1.55	3.81	1.86	3.80	1.84	2.97	1.84	2.96
St. Albans	1.24	1.71	1.77	1.98	1.19	1.98	1.17	1.99
Shelburne	1.44	1.96	1.57	1.97	1.21	1.32	0.93	1.01
Hartford	0.97	1.95	0.96	1.93	0.92	0.98	0.83	1.10
Lamoille	1.82	2.10	2.04	2.50	1.99	2.28	1.42	1.68
Derby	1.78	3.13	1.71	3.11	1.81	2.44	1.64	2.39
Rutland	1.85	3.93	1.81	3.94	1.89	3.25	1.80	2.99
Total	13.08	21.57	14.64	23.02	12.89	17.64	11.54	16.28

Staffing Sampling By Shift

June 7-13 2015								
	Day Shift 07-15		Evening Shift 15-23		Night Shift 23-03		Night Shift 03-07	
Williston	2.39	2.92	2.77	3.62	1.87	2.18	1.79	1.95
Rockingham	1.48	3.51	1.68	3.49	1.88	2.67	1.86	2.66
St. Albans	1.52	1.83	1.75	1.97	1.10	1.99	1.13	1.99
Shelburne	1.52	2.00	1.47	1.80	1.00	1.21	0.85	1.03
Hartford	1.58	1.91	1.67	1.94	0.95	0.98	0.94	1.06
Lamoille	1.85	2.14	1.88	2.33	1.38	1.45	1.22	1.31
Derby	1.72	3.13	1.55	3.18	1.76	2.27	1.53	2.30
Rutland	1.81	3.79	1.84	3.94	1.83	3.22	1.25	2.43
Total	13.87	21.23	14.61	22.27	11.77	15.97	10.57	14.73

Currently Available PSAP Call Takers

PSAP	Day Shift	Evening Shift	Night	Night
Williston	4	4	3	2
Rockingham*	2	2	1	1
St. Albans	2	2	2	2
Shelburne	2	2	2	2
Hartford	2	2	1	1
Lamoille**	3	3	2	2
TOTAL	15	15	11	10

*Primary call takers; calls go to them first; others available to take overflow

**Lamoille's third dispatcher is paid solely from own funds

National Model Per PSAP (Call-Takers only)

PSAP	Pre-Consolidation Equipment Positions	Pre-Consolidation Personnel National Standard	Post-Consolidation Equipment Positions	Post-Consolidation Personnel National Standard
Derby	2	10.2	0	0
Hartford	2	10.2	2	10.2
Lamoille	2	10.2	2	10.2
No Value	2	10.2	2	10.2
Rockingham	2	10.2	3	15.3
Rutland	3	15.3	0	0
Shelburne	2	10.2	2	10.2
St Albans	2	10.2	2	10.2
Williston	4	20.4	4	20.4
System Total	21	107.1	17	86.5

Key Findings--PSAP Staffing

- Historically, approximately 14 call takers (some have a combination of call taking and dispatching duties) are available during busy shifts and approximately 20 people (call takers, other dispatchers, etc.) are logged on to the system during busy hours.
- A national model indicates that, based on the state's call volume, Vermont should have 17 call takers.

Key Findings: PSAP Staffing

- Current staffing levels for available call takers are at the average historic trends but below recommended the national model for strictly call taking positions.
- Aside from call takers during high call volume times (3 PM to 7 PM) at least 6 state dispatchers will have to be logged in and be on standby should they be needed to maintain historic logged in levels.

Key Findings: PSAP Staffing

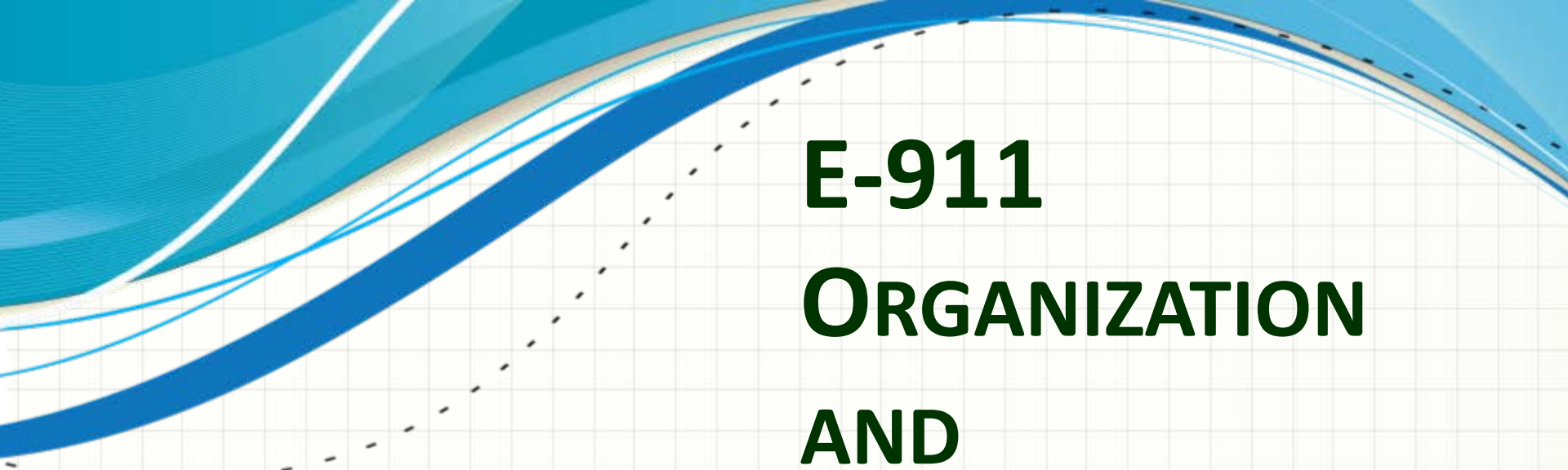
- In FY 2016 the E-911 Board will reimburse the state public safety department and local PSAPS through the USF fund for 24 call-taker seats. Currently there aren't 24 call-taker seats that are readily available to take calls.
- As a general observation the system is operating as designed and everyone takes their responsibilities very seriously.
- There is a need to overcome lingering parochial call taking attitudes which can lead to a few of the call takers resenting taking calls outside of one's own area.
 - In fact, the system is designed as a statewide system with call-takers having statewide responsibilities during busy times. The E-911 Board pays for equipment upgrades and call taking positions to ensure a collaborative protocol is in place.

Recommendation: PSAP Staffing

- Staffing for call takers should remain at FY16 level to meet call volume demands.
 - Savings through further reductions in the number of call-takers (past the number already reduced in the recent Dept. of Public Safety reorganization) is not recommended until there is substantially more experience and data in the reconfigured structure.

Recommendation: Reimbursement

- Beginning in FY 17 examine changing the reimbursement structure from \$45,000 per call taker position to reimbursing PSAPs on a per call basis.
 - This will align incentives with desired outcomes by compensating local and state PSAPS for calls taken.



**E-911
ORGANIZATION
AND
MANAGEMENT**

Background

- Previous Secretary of Administration produced a report calling for the merger of the E-911 Board into the Department of Public Safety. Report stated that 3 to 5 positions could be eliminated and resulting savings could be achieved.
- Legislature did not mandate consolidation but required the elimination of one position and \$300K in savings.
- As a result, the E-911 Board asked for an independent examination to assess organizational effectiveness and identify potential efficiencies and savings.

Current E-911 Staffing

Position	# of Employees
Executive Director	1
IT Manager	1
IT Specialist	1
GIS Manager	1
GIS Specialists	2
Data Integrity Analyst	1
Trainers	3
Admin Assistant	1
Part-time (Temp) Admin	.5
Total	11.5

Findings: Merging E-911 into DPS

- Potential to eliminate 2.5 positions by merging E-911 operations with the Department of Public Safety.
- Resulting savings based on salary and benefits are estimated to be approximately \$207,000 annually.
- Secretary of Administration report appears overly optimistic in the amount of savings in a merger scenario.

Findings: Merging E-911 Board into DPS

- A merger model would not benefit the state or local governments.
 - In a merger model the state would assume all call taking responsibility and cost.
 - Any savings in position reductions are wiped out by extra PSAP personnel costs at the state level because currently local PSAPs are paying personnel costs to the tune of approximately \$1,141,500 (\$71,500 estimate average cost of fully loaded full-time PSAP call-taker/dispatcher X 21 people minus \$360K in state reimbursement). This cost does not take into consideration any part-time PSAP call takers or the costs of additional call station costs of at either Rockingham or Williston.
 - Even with efficiencies, the cost to the state of a merger is substantial. It also wouldn't save the local PSAP substantial monies either. Still have to dispatch.
 - It would eliminate a highly effective and functional board that is cohesive in mission and direction, with perhaps something less effective.

Findings: Merger Downside

- Merger will lead to:
 - Higher Cost to DPS/State
 - Loss of focus
 - Limited local and county control
 - Will not result in needed savings for either the state or locals
 - A lose/lose scenario for stakeholders

Findings: Merger Upside

- Merger could lead to:
 - Consolidated control of decision making at the state level
 - Increased nimbleness with fewer decision makers involved.
 - Less staff/ less bureaucracy

Recommendation: DPS Merger

- Recommend not pursuing the merger model. Findings show that the merger model does not substantially benefit state or local PSAPs.
 - Although merger may not be the model to pursue, this doesn't mean that DPS shouldn't pursue other avenues to off-set the cost of dispatching.
 - Currently there is an inequity in the state in the area of dispatching where some towns pay and others do not.
 - Dispatching is a costly endeavor and DPS should recoup costs to provide service

Sample dispatching revenues collected using 3 dispatch centers as reference (this chart is solely for illustrative purposes and does not draw on the costs of dispatching.)

Population	Low	High
1,000-1,500	\$11,607	\$30,862
1500-2,000	\$14,855	\$38,391
2,500-3,500	\$31,037	\$68,774
4,000-5,500	\$37,622	\$130,561
6,000-10,000	\$304,260	\$537,698*

*Please note that revenues in the section 6K to 10K population are tax revenues that are collected for operating a city dispatching center and are not revenues collected outside of the city for third party services. However, they do illustrate the type of revenues that are potentially available for this population grouping.

Recommendation: E-911 Board Reorganization

- Promote Barb Neal to Executive Director
- Eliminate one of the three Emergency Communications Training Coordinator positions and assign public education responsibilities to the remaining two positions.
- Resulted savings of approximately \$85K and reduces staffing levels from 11.5 to 10.5

Recommendation: Savings Reductions

Strategy	Savings
Position elimination (see previous slide)	\$85,000
Reimbursement Reduction*	\$90,000
Budget reduction in vendor line item	\$75,000
Budget reduction in software upgrade	\$50,000
TOTAL Savings**	\$300,000

*Reimbursement is reduced to public safety because number of call-taking seats were reduced by 2 (2 X \$45K =\$90K)

**This represents a 6.5% reduction in E-911 Board's FY 16 budget

Findings: Ongoing Financial Viability

- The E-911 board is funded exclusively from monies collected from the Universal Service Fund (USF). The USF is funded by a surcharge that is placed on the monthly bills of landline and cellular phone companies.
- With the recent addition of cellular companies paying into the USF to offset decreased revenues caused by the reduction in landline use, the fund will likely remain stable for the short term and see marginal growth in the near future.
- Funding of the E-911 board should remain stable in the short term as growth is expected to be slow and tracking with available revenue.
- However, any additional funding requirements such as higher reimbursements for PSAPs will require an increase in the USF surcharge.
 - NOTE: A half of a percent increase in the USF surcharge should generate approximately \$1.4 million. Currently it is at the statutory maximum of 2%.

Recommendation: Ongoing Financial Viability

- There is no need to raise the USF surcharge past the current 2% statutory maximum in the near term.