

Saving Costs through Regional Consolidation: Public Safety Answering Points in Massachusetts

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Local governments are key providers of public services in the United States. In 2007, local governments spent a total of \$1.5 trillion nationally on services such as education, public safety, and public health.¹ However, the Great Recession and its aftermath have caused significant strain on cities and towns. Local governments are likely to face continued financial challenges in the future, as federal deficit-reducing measures trigger cuts in state and local aid and as all levels of government struggle to fund their medical and retirement obligations. In an effort to maintain service provision without significant tax increases, many cities and towns will be forced to consider a variety of cost-cutting measures, including joint service provision with other localities.

Driven by a strong tradition of home rule, New England governments are relatively fragmented in their provision of public services. This fragmentation allows governments to respond to the specific needs of residents, but can entail costly duplication of capital, technology, or labor. In recent years, regional service-sharing agreements have gained popularity as a means for towns to reduce service costs while maintaining separate identities. These consolidation agreements can be particularly cost-effective for capital and technology-intensive services, or for those that require specialized expertise.²

Although many New England localities have embraced service-sharing initiatives, these are often undertaken on a small scale, with only two or three towns engaged in each agreement. Statewide policy that encourages larger-scale consolidation in a given region could yield more significant savings. This policy brief considers the potential cost savings from large-scale service-sharing arrangements, using the specific example of Public Safety Answering Point (PSAP) consolidation in Massachusetts. It builds on the Center's 2013 research report, "The Quest for Cost-Efficient Local Government in New England: What Role for Regional Consolidation?," which shows that other services, such as public health and pension administration, and other states, such as Connecticut, could also achieve significant savings through regional consolidation.³

Public Safety Answering Point Consolidation in Massachusetts

Public Safety Answering Points (PSAPs) receive 9-1-1 calls and in many cases dispatch police, fire, or emergency medical services. In the past, effective call-taking and dispatch required call-taker knowledge of the local area. Today, PSAPs increasingly use automatic location identification and GPS

1 U.S. Census Bureau, 2007 Census of Governments.

2 See Marc Holzer and John Fry, *Shared Services and Municipal Consolidation: A Critical Analysis*, Public Technology Institute, Alexandria, VA, 2011.

3 See Yolanda K. Kodrzycki, "The Quest for Cost Efficient Local Government: What Role for Regional Consolidation?" (New England Public Policy Center Research Report 13-1, Federal Reserve Bank of Boston, February 2013).

Table 1. Fragmentation of New England's Public Safety Answering Point (PSAP) System

	Total PSAPs	Per 1,000 Square Miles (1=Most Fragmented)		Per 100K Population (1=Most Fragmented)	
		Number	Rank	Number	Rank
Connecticut	111	22.9	4	3.1	19
Maine	26	0.8	39	2	32
Massachusetts	268	34.2	2	4.1	12
New Hampshire ¹	4	0.4	46	0.3	50
Rhode Island ²	72	68.9	1	6.8	3
Vermont	8	0.9	38	1.3	41
New England	489	7.8		3.4	
United States	6,863	1.9		2.2	

Source: Authors' calculations based on FCC Master Registry as of December 2011, 2007 Census of Governments, and 2010 Decennial Census.

Note: PSAP counts include state police. Massachusetts savings estimates exclude state police PSAPs.

¹ The New Hampshire Bureau of Emergency Communications currently reports having only one primary PSAP, while the FCC registry reports four primary PSAPs.

² The Rhode Island 9-1-1 system currently reports having only one primary PSAP, while the FCC registry reports 72 primary PSAPs.

to pinpoint a caller's location. The decrease in the need for local knowledge, as well as the demand for increasingly expensive technology, has yielded aggressive regional consolidation in some states.⁴ Massachusetts PSAPs, however, remain among the most fragmented in the nation (Table 1), placing the Commonwealth among the states with the most PSAPs per 1,000 square miles and per 100,000 people. Connecticut also hosts many more PSAPs relative to its land area and population than the national average. This decentralized PSAP structure leaves significant room for consolidation.

To estimate the savings from Massachusetts consolidation, we first examined the relationship between PSAP size and cost. In the absence of publicly available PSAP expenditure data from Massachusetts, we used data from Michigan's 9-1-1 centers. (PSAP services are relatively uniform across states, so the cost patterns in Michigan are likely to be similar to those in Massachusetts.⁵)

⁴ It appears that this consolidation has not been associated with a reduction in service quality. See our full research report for further discussion of the impact of PSAP consolidation on quality.

⁵ Our full research report also uses data from Maryland and Pennsylvania, which yield similar results.

These data indicate that small PSAPs are highly costly relative to large PSAPs (Figure 1, Panel A). Expenditure per call decreases sharply with size (call volume) to about 50 calls per day, and then falls more modestly beyond this threshold. Most current Massachusetts PSAPs are very small. In 2010, 236 of the state's 255 PSAPs (over 90 percent) received fewer than 50 calls per day and all but three (Boston, Worcester, and Springfield) received fewer than 150 calls per day.⁶

To provide specific estimates of savings from regionalization, we developed two consolidation scenarios, one based on five-city-and-town groupings and the other based on Massachusetts' 14 counties. In the first scenario, named the "five-town model," we estimated the total, statewide, PSAP costs if the individual PSAPs in five neighboring cities and towns were consolidated into one center.⁷ Many of the state's current PSAPs serve two or three towns at most, so this analysis envisions a level of regionalization above that achieved by current policies. In this model, consolidated PSAPs would be bigger and thus have lower expenditures per call than their nonconsolidated components (Figure 1, Panel B). On a statewide level, the "five-town" model could cut current PSAP expenditures by \$76 million, or 42 percent. These savings would not be uniform across the state. The largest savings would be in Hampshire, Plymouth, and Norfolk counties, which currently have relatively small PSAPs. There would be limited savings in Berkshire, Dukes, Nantucket, and Suffolk counties, which already have a high degree of consolidation.

The second scenario, consolidating on a county basis, yields even greater savings. In this model, we reduced the number of PSAPs to 14, or one in each county (Figure 1, Panel C).⁸ This produces savings of \$111 million,

⁶ State police PSAPs were excluded from our analysis and are not reflected in PSAP counts.

⁷ Any PSAP already serving two or more cities and towns was excluded from consolidation. The Boston, Worcester, and Springfield PSAPs were also excluded from the consolidation.

⁸ Based on the national structure, 14 seems to be a reasonable target number of consolidated PSAPs. If Massachusetts had the national average number of PSAPs per square mile (1.9 PSAPs per 1,000 square miles), there would be 15 PSAPs in the state. Similarly, the state of Maryland has 24 PSAPs with a population that is one-tenth smaller than that of Massachusetts and a land area one-quarter larger. In our consolidation analysis, if a current PSAP crossed county lines, we allocated its call volumes to the hypothetical county PSAPs based on population share.

or 61 percent. The largest savings would be in Middlesex and Worcester counties, which currently have high overall populations (and therefore potential for a large PSAP) but low current levels of consolidation. As in the “five-town” model, the lowest potential savings would be in counties that are already highly consolidated, specifically in Dukes, Franklin, Nantucket, and Suffolk counties.

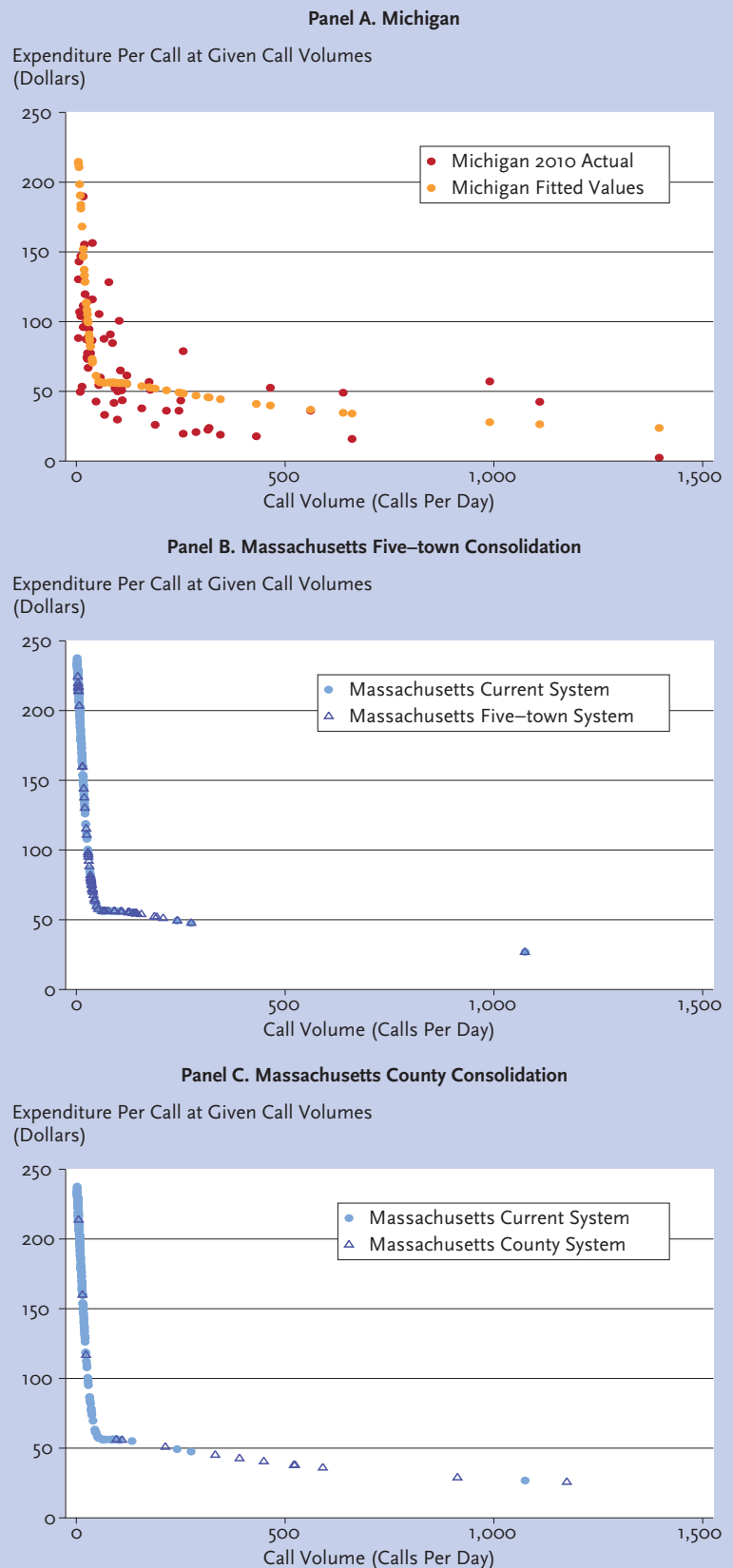
These estimates pertain to long-term savings, and do not account for the significant upfront costs of new equipment or facilities that may be required for consolidation. Additionally, these consolidation scenarios employ existing geographic boundaries, and were adopted for the purpose of convenience in our analysis. Based on the technological and operational considerations, other consolidation configurations may be more desirable. Still, as demonstrated here and in our full research report, there is potential for significant savings through greater regional consolidation, not just of PSAPs but of other services such as pension administration and local health services as well.

How Can States Encourage Regional Consolidation?

Considering the substantial potential savings, state governments may want to use a variety of policy levers to encourage consolidation of PSAPs and other local government services. The most effective state actions for achieving large-scale consolidation thus far have included instituting quality standards and establishing financial incentives.

By introducing quality standards, states can effectively promote consolidation of PSAPs and other services. Over the past decade, many states have issued specific PSAP requirements, mandating that PSAPs be compatible with enhanced 9-1-1 technology (to be able to pinpoint the location of a call) or requiring that there be at least two call-takers on duty at a given time.⁹ Predominantly enacted to improve service quality, these requirements have also increased costs for small PSAPs because states have not fully funded the required upgrades. As a result, many small PSAPs have consolidated. Although Massachusetts recently instituted rules concerning dispatch capabilities

Figure 1. Projected Potential Savings from Public Safety Answering Point (PSAP) Consolidation in Massachusetts
Scenarios Based on 2010 Michigan Data



Source: Authors' calculations based on data from 2011 Annual Report to the State Legislature produced by the Michigan State 9-1-1 Committee.

⁹ State funding was contingent upon compliance with these requirements.

and telecommunicator training, the state provides substantial grants for training. While offering grants to comply with state standards can be justified on the basis of fairness to localities, this policy can reduce incentives for consolidation.

Additionally, states can direct their PSAP funding to create financial incentives for consolidation. States such as Washington have promoted consolidation by limiting funding to small, nonconsolidated PSAPs. Massachusetts does provide “incentive” funds to regional PSAPs, but the state could further stimulate consolidation by reducing operational funding for nonconsolidated PSAPs.

While funding reductions may provide incentives for consolidation, the feasibility of large-scale mergers can be hindered by upfront capital costs. States can dramatically increase the pace and scope of consolidation by targeting PSAP funds to facilitate local mergers. For example, North Carolina accelerated the process of consolidation by providing grants that significantly aided the creation of new regional centers. Although Massachusetts provides some funding for consolidation, more significant grants could better advance the process.

When crafting legislation to encourage consolidation, it is important for states to focus broadly on the entire call-taking and dispatch process, and to exercise caution before instituting mandatory (as opposed to voluntary) regionalization. In 2003, legislation in Maine

set a maximum number of “primary” PSAPs (initial 9-1-1 caller contact points) in the state. Driven by state law rather than cost pressures, many towns in Maine utilized these “primary” PSAPs for initial calls, but retained their own centers to dispatch police, fire, or EMS services. Few savings were realized, and the addition of a transfer process between the primary PSAP and the dispatch center increased response time and potential for error.¹⁰ By more closely tying dispatch and primary PSAPs in the legislation or by using cost pressures to encourage voluntary consolidation of both primary PSAPs and dispatch operations, the state might have achieved more significant savings and better service quality.

Conclusion

As local governments continue to experience financial strain, many will seek ways to reduce costs while maintaining the quality and quantity of service provision. As demonstrated in the case of Massachusetts PSAPs, regional service-sharing can be an effective means to achieve savings, particularly for services that rely on high levels of technology, capital, or specialized expertise. This consolidation is most effective when done on a large scale and shared across multiple, rather than just two or three, localities. State governments can play an important role in encouraging local regionalization by instituting quality standards and using funding to incentivize and facilitate consolidation.

¹⁰ “States Eye Consolidations of Dispatch Centers.” *State Telephone Regulation Report*. Volume 28, Issue 20, October 1, 2010.