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ities and towns in Massachusetts rely on state aid to offset the expenditures of providing basic local services. According to the Massachusetts Department of Revenue, in fiscal year 2010, state aid accounted for more than 22 percent of municipal budgeted revenue for local governments in Massachusetts.¹

Although many cities and towns have been facing significant fiscal difficulties since the onset of the recent economic recession, the degree to which those municipalities need state aid actually varies widely. This variation is due to fundamental differences in the ability of municipalities to provide local public services with locally raised revenues.

A recent publication from the Federal Reserve Bank of Boston's New England Public Policy Center (NEPPC) explored a possible measure of this disparity, dubbed the "municipal gap."² The paper uses the municipal gap to estimate the relative need for nonschool state aid among Massachusetts cities and towns. The gap measure is defined as the difference between the costs of providing municipal services (municipal costs) and the ability to raise revenue locally to pay for those services (municipal capacity).

It is important to note that these costs are not actual spending and that capacity is not actual revenues. Instead, cost and capacity calculations are based on local economic and social characteristics that are outside the control of local officials. This avoids any likelihood of rewarding poor management and wasteful local spending with state aid that is needed more elsewhere.

Municipal Costs and Capacity

Per capita municipal costs vary across cities and

Municipal Gaps of Prototype Massachusetts Communities (per capita, FY 2007)



Municipal Cost Factors of Prototype Massachusetts Communities (FY 2007)

	Population density (thousands per square mile)	Poverty rate (%)	Unemployment rate (%)	Jobs per capita	Municipal costs (\$ per capita)
Large city	8.84	22.82	6.87	0.35	1,921.39
Rural town	0.08	5.39	4.68	0.29	1,135.96
Job-center suburb	1.55	3.84	3.54	0.99	1,245.32
Higher-income residential suburb	1.42	2.84	2.60	0.21	933.67
Resort town	0.25	7.16	5.32	0.54	1,296.72
Average MA community	4.02	9.93	4.90	0.49	1,410.86

Note: Per capita municipal costs = $28.0 \times \text{population density} + 19.8 \times \text{poverty rate} + 81.0 \times \text{unemployment rate} + 272 \times \text{jobs}$ per capita + 570.2.

towns, reflecting variation in fundamental factors that determine how costly it is for a city or town to provide municipal services. Such cost factors include population density, the poverty rate, the unemployment rate, and the number of per capita jobs located in the municipality. In places where density, poverty, joblessness, and local job counts are higher, per capita municipal costs are understandably greater. For example, a community with a higher number of per capita jobs also has a higher number of commuters visiting the community on a frequent basis. The commuters consume local services, including public roads, fire protection, and police protection, driving up municipal costs.

As a result, cities and towns with jobs and a relatively high percentage of lowand moderate-income families often face significantly higher costs than the average Massachusetts community. Large cities are already likely to have high municipal costs resulting from their higher population density and higher poverty rates.

Looking at Massachusetts cities and towns through the medium of prototypes can be instructive. A large-city prototype—based on several actual Massachusetts cities-experienced per capita costs 36 percent higher than the average Massachusetts community in fiscal year 2007.3 (See "Municipal Cost Factors of Prototype Massachusetts Communities.") Higherincome residential suburbs,

however, have much lower municipal costs, since they experience lower poverty rates and unemployment rates, and are home to fewer jobs per capita. A prototypical community of that sort has per capita costs 34 percent lower than the average Massachusetts community, and less than half of the costs estimated for the large-city prototype.

Per capita municipal capacity also varies

Municipal Capacity Factors of Prototype Massachusetts Communities (dollars per capita, FY 2007)

	Property tax capacity factors						
	Taxable residential property value	Taxable nonresiden- tial property value	Income	Property tax capacity	Other local revenue capacity	Required reductions in capacity	Municipal revenue capacity
Large city	62,526.93	10,841.84	16,372.30	704.05	69.07	311.69	461.43
Rural town	99,425.94	11,874.37	23,656.71	1,022.68	126.94	696.32	453.29
Job-center suburb	147,735.92	47,778.98	45,762.15	2,019.94	162.01	1,192.55	989.41
Higher-income residential suburb	283,207.24	8,715.80	123,235.25	3,144.90	166.95	1,476.37	1,835.47
Resort town	805,425.12	61,880.11	35,629.81	4,657.66	296.16	1,063.26	3,890.56
Average MA community	128,549.00	23,314.87	33,240.16	1,457.51	124.64	784.32	797.84

Note: Property tax capacity = $0.0142 \times (\text{taxable residential property value})2/3 \times (\text{income})1/3 + 0.0126 \times \text{taxable nonresidential property value} (all in per capita terms). Municipal revenue capacity = property tax capacity + other local revenue capacity - required reductions in capacity.$

Comparing Municipal Aid with the Municipal Gap in Massachusetts (per capita)



across cities and towns. The biggest drivers of municipal capacity are taxable residential and nonresidential property values and the income of local residents. Because some capacity is not available to fund municipal services, the state-required local contributions to public schools are subtracted, as are payments for services provided by regional planning agencies, regional transit, and so on.

Given their lower taxable property values and income per capita, rural towns tend to suffer from lower municipal capacity. Resort towns enjoy greater municipal capacity, as they are home to many valuable residential and nonresidential properties. A prototypical rural town has per capita municipal capacity that is 43 percent smaller than the average Massachusetts community's, whereas a prototypical resort town enjoys per capita capacity that is almost four times larger than that of the average Massachusetts community. (See "Municipal Capacity Factors of Prototype Massachusetts Communities," p. 24.)

Municipal Gap and Municipal Aid

Measures of costs and capacity help in identifying the sources of—and quantifying the extent of—statewide disparities in the ability to provide municipal services. Municipalities with higher capacity and lower costs (and therefore lower gaps) will have an easier time providing their municipal services than those with lower capacity and higher costs (and thus higher gaps). In Massachusetts, large cities and rural towns tend to have higher municipal gaps, indicating that they have greater need for state assistance in providing municipal services. (See "Municipal Gap of Prototype Massachusetts Communities," p. 23.)

Since the current aid distribution is not determined by need for aid, cities and towns do not receive municipal aid in direct proportion to their municipal gaps. In fact, communities with similar gaps can experience a wide variation in municipal aid receipts. For example, among several towns with a per capita municipal gap very close to \$650 per capita, one town is slated to receive \$189 per capita in fiscal year 2011 municipal aid, while another expects to receive only \$63 per capita. There are also several outliers in the state that experience either high municipal gaps while receiving relatively low municipal aid, or low municipal gaps while receiving a substantial amount of municipal aid. (See "Comparing Municipal Aid with the Municipal Gap.")

A municipal aid formula developed at the NEPPC offers a new way to address municipal gaps by calculating aid payments on the basis of the relative need of each community. Also, in order to avoid disrupting local budgets, the state could preserve existing aid receipts for each community and use the new formula to distribute only new aid money. How much new aid each community receives would depend partly on other policy considerations, such as a potential basic level of per capita new aid that all communities would receive regardless of the size of the municipal gap. Incorporating a gap measure into the municipal aid allocation process could help to equalize the ability of Massachusetts cities and towns to provide municipal services.

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Endnotes

¹ See Massachusetts Department of Revenue, Division of Local Services, Municipal Data Bank, www.mass.gov.

² Bo Zhao with Marques Benson, Lynn Browne, Prabal Chakrabarti, DeAnna Green, Yolanda Kodrzycki, Ana Patricia Muñoz, and Richard Walker, "Does Springfield Receive its Fair Share of Municipal Aid? Implications for Aid Formula Reform in Massachusetts" (New England Public Policy Center working paper 10-4, Federal Reserve Bank of Boston, July 2010).

- The *large city* prototype is based on Lawrence, Lowell, Lynn, New Bedford, Springfield, and Somerville. The *resort town* prototype is based on Eastham, Edgartown, Nantucket, Orleans, Stockbridge, and Williamstown. The *job-center suburb* prototype is based on Andover, Braintree, Canton, Natick, and Westborough. The *rural town* prototype is based on Ashby, Ashfield, Blandford, Clarksburg, Huntington, Lanesborough, Oakham, and Whately. The *higher-income residential suburb* prototype is based on Belmont, Carlisle, Dover, Lincoln, and Wayland.
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