Synapse
Energy Economics, Inc.

Commercial & Industrial Customer Perspectives on Massachusetts Energy Efficiency Programs

Massachusetts Energy Efficiency Advisory Council Meeting

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Background

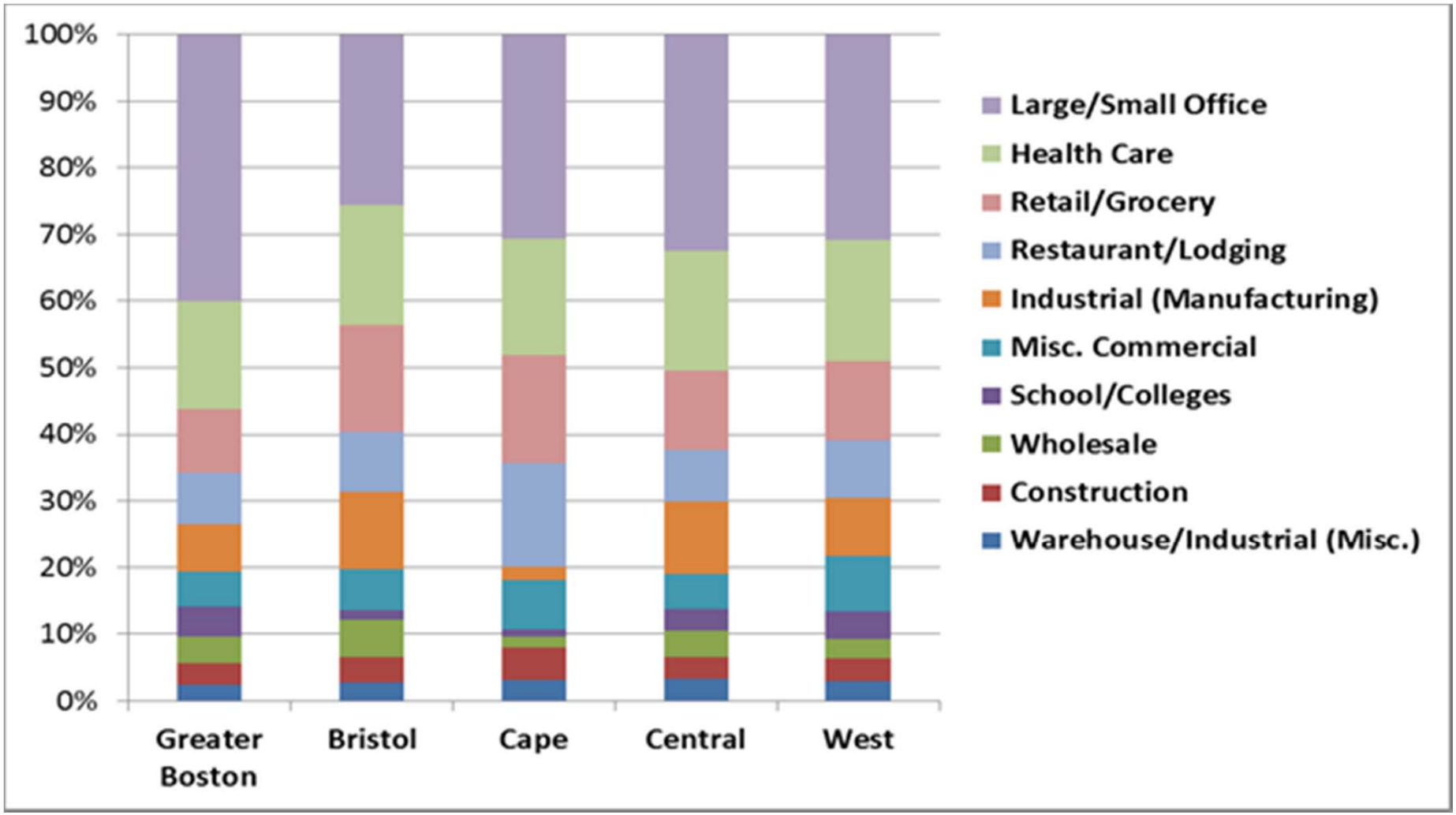
- Primary purpose: assess the extent to which C&I customers are likely to participate in the MA EE programs over the next few years.
- Economic forecast: provide an indication of the extent to which economic conditions might create barriers to C&I customer participation in the energy efficiency programs.
- Survey: assess the variety of barriers that C&I customers face with regard to EE program participation.

Economic Forecast

Economic Forecast: Methodology

- Forecast relies upon historic and forecast data from Moody's Analytics.
- Five regions of the state based on county borders: 1) Bristol County, 2) Greater Boston, 3) Central Massachusetts, 4) Cape Cod and the Islands, and 5) Western Massachusetts.
- Several industry types: construction, health care, industrial, large/small office, miscellaneous commercial, restaurant/lodging, retail/grocery, schools/colleges, warehouse industrial, and wholesale.

MA 2011 Industry Employment, by Region



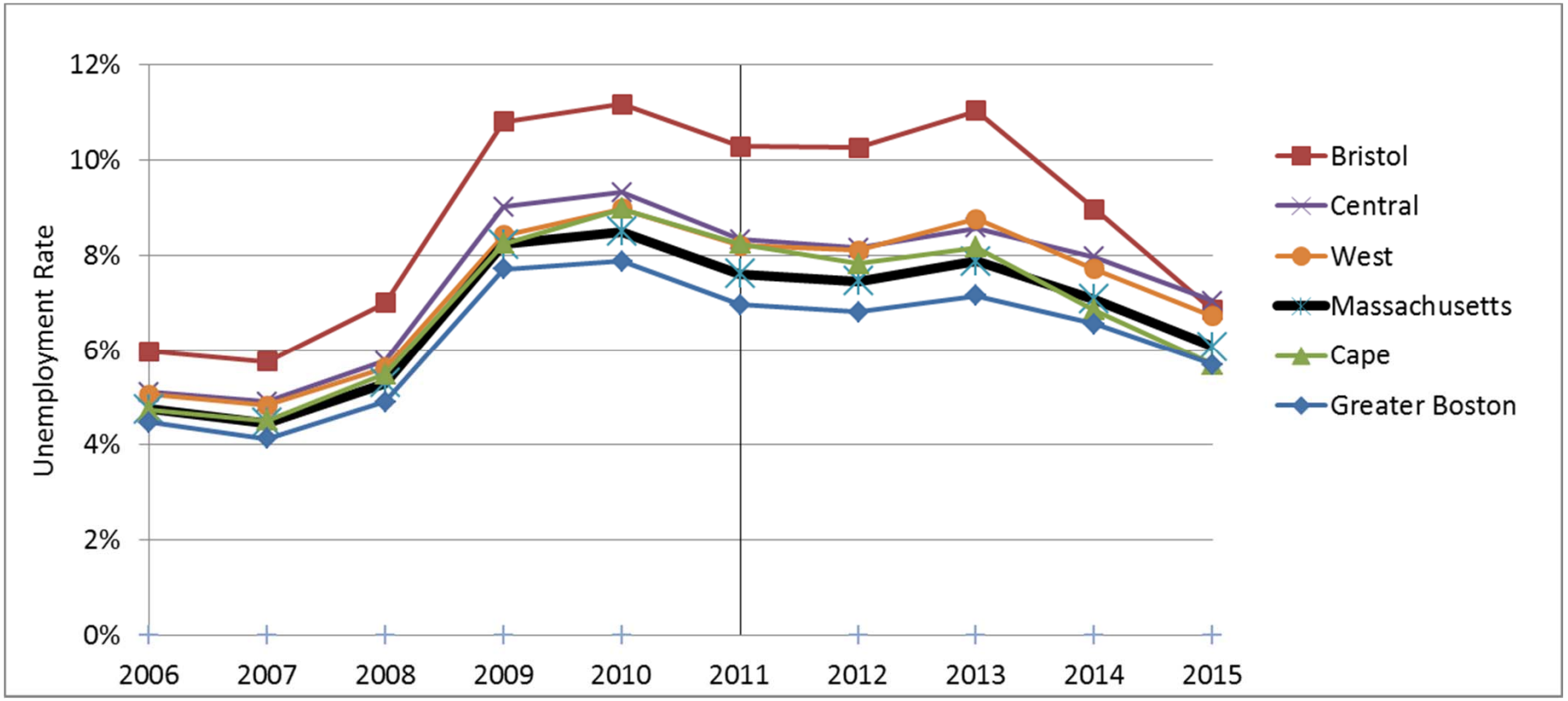
Economic Forecast: Statewide Results

- In general, the state's economy is expected to improve over the next several years.
- On a statewide basis, all the key indicators are expected to improve:
  - gross state product,
  - retail sales,
  - construction activity,
  - residential construction permits,
  - unemployment rates,
  - business bankruptcies,
  - commercial rental vacancy rates.

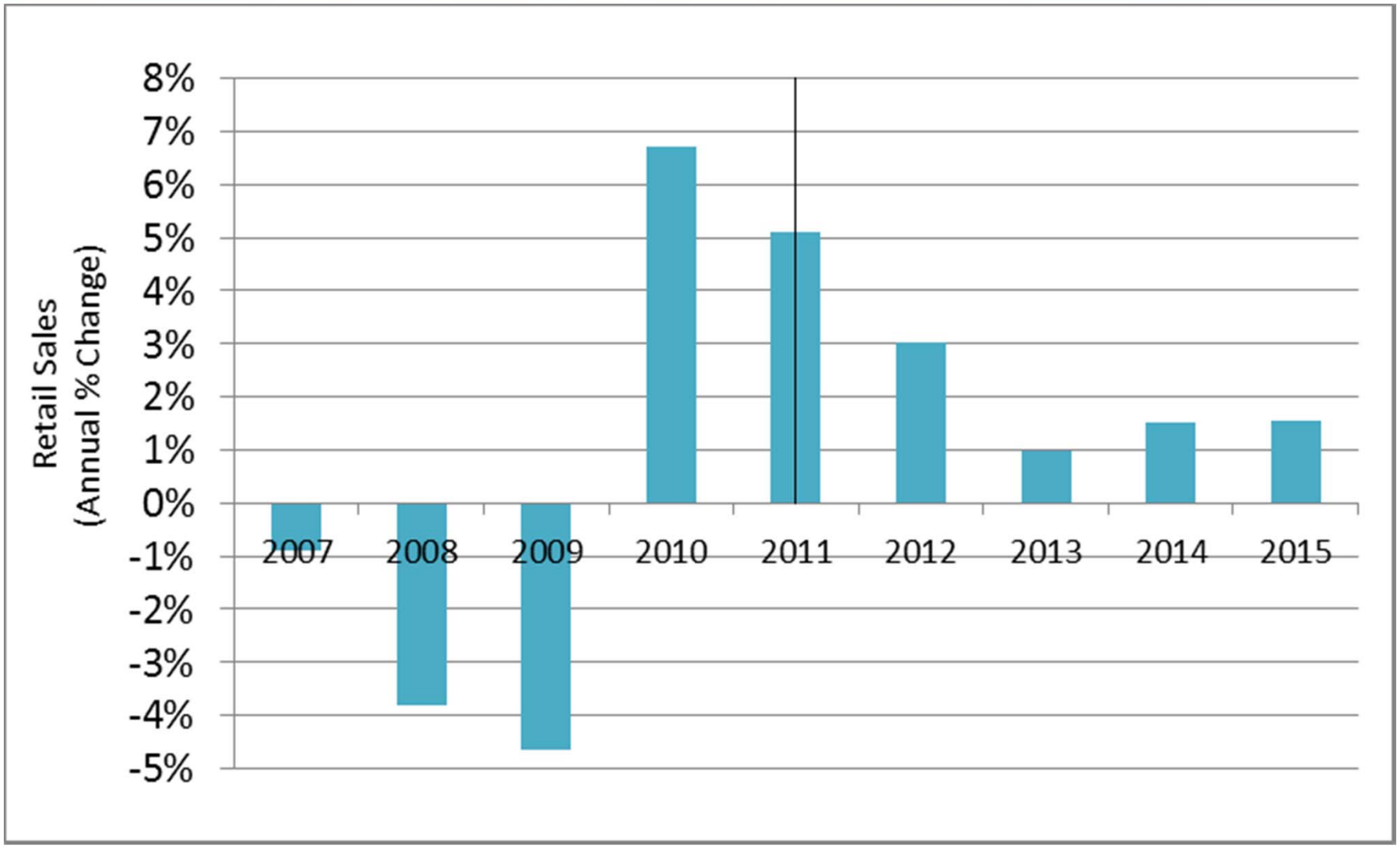
Economic Forecasts: Regional Differences

- Cape Cod & Islands:
  - Gross state product and retail sales will see little growth.
  - Declining employment expected for restaurants, misc. commercial, construction, industrial, and retail/grocery.
- Central Massachusetts:
  - Declining employment expected for misc. commercial, construction and retail/grocery.
- Western Massachusetts:
  - Declining employment expected for warehouse, and retail/grocery.

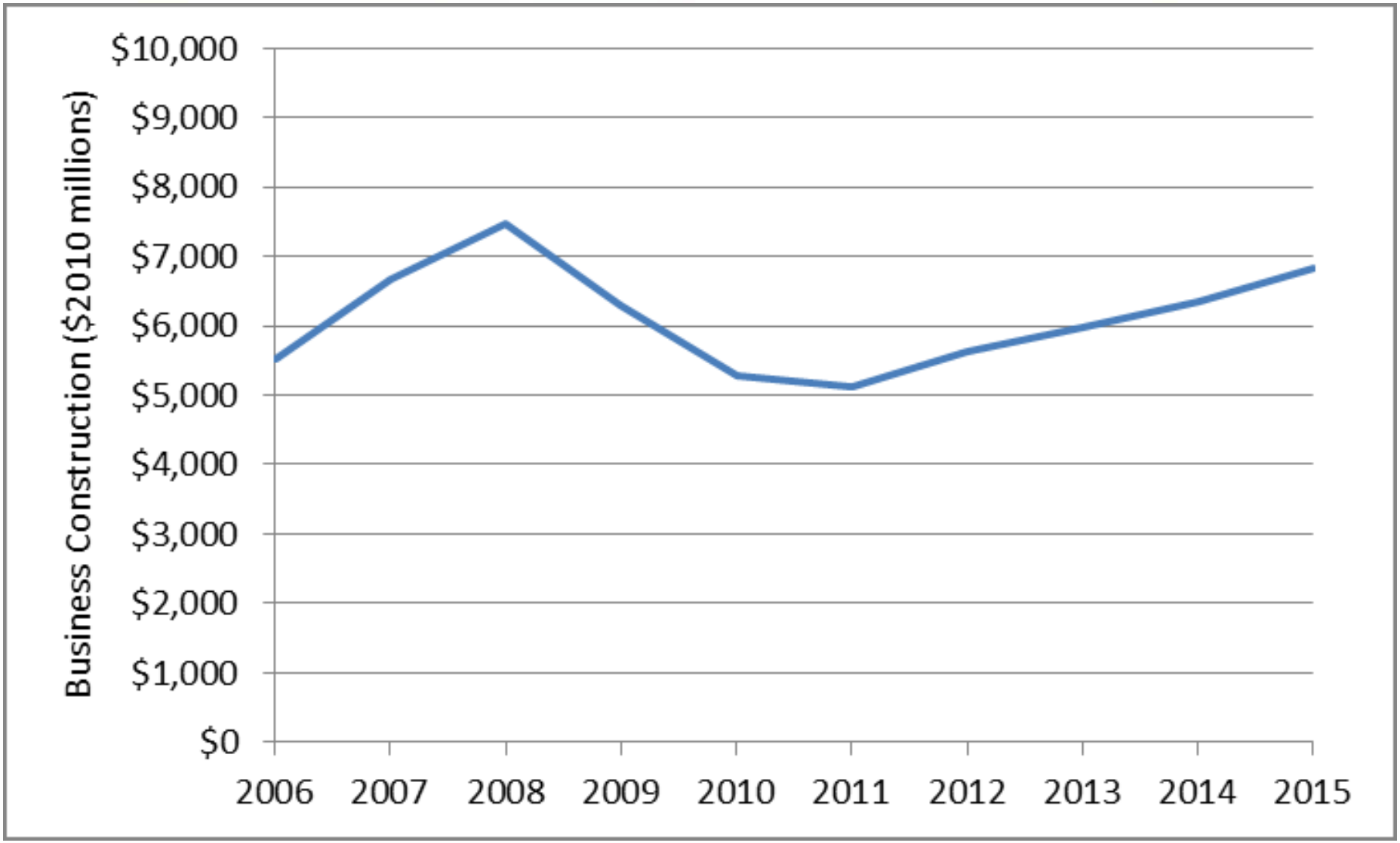
Unemployment Rates by Region



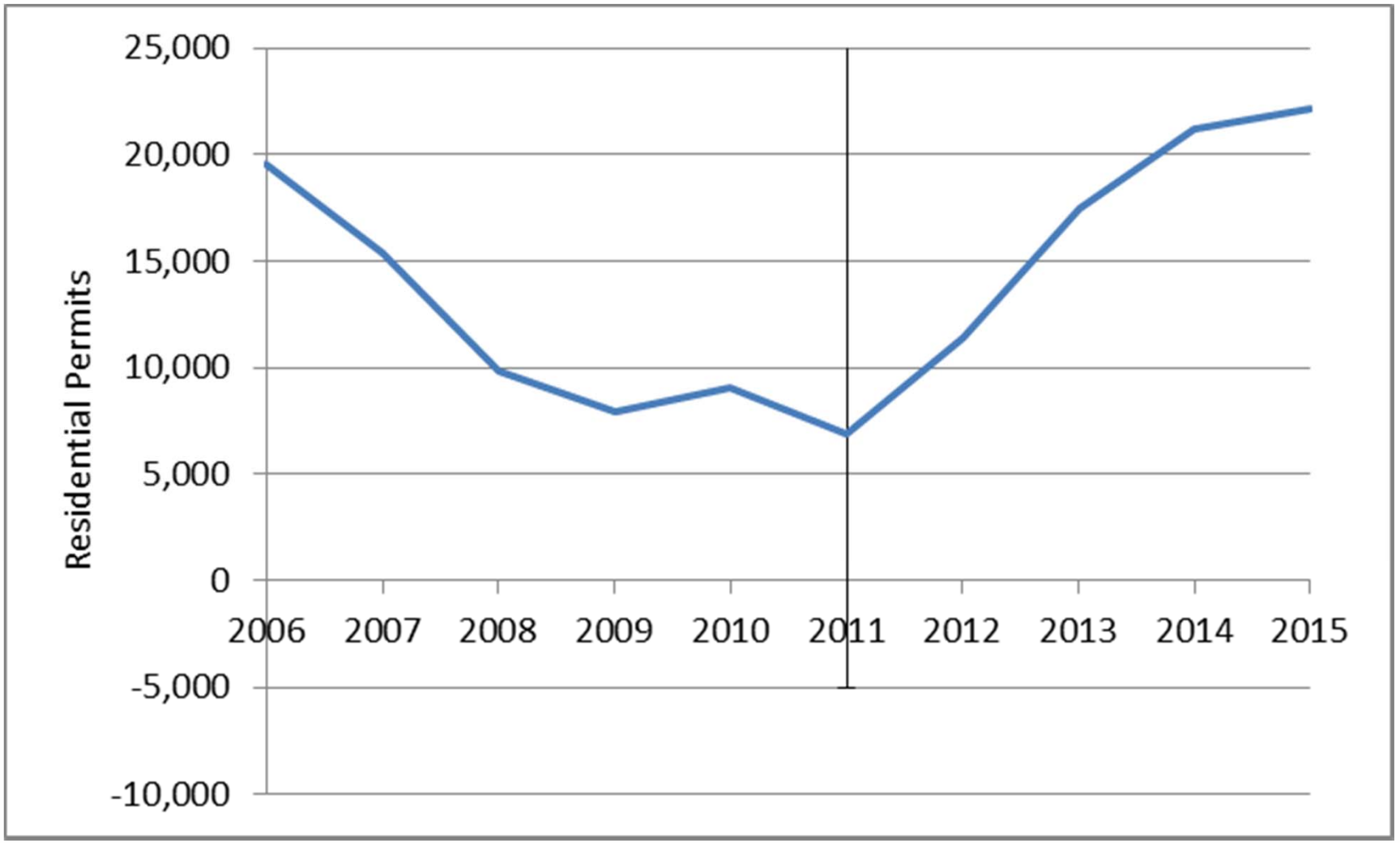
Annual Percentage Change in Real Retail Sales



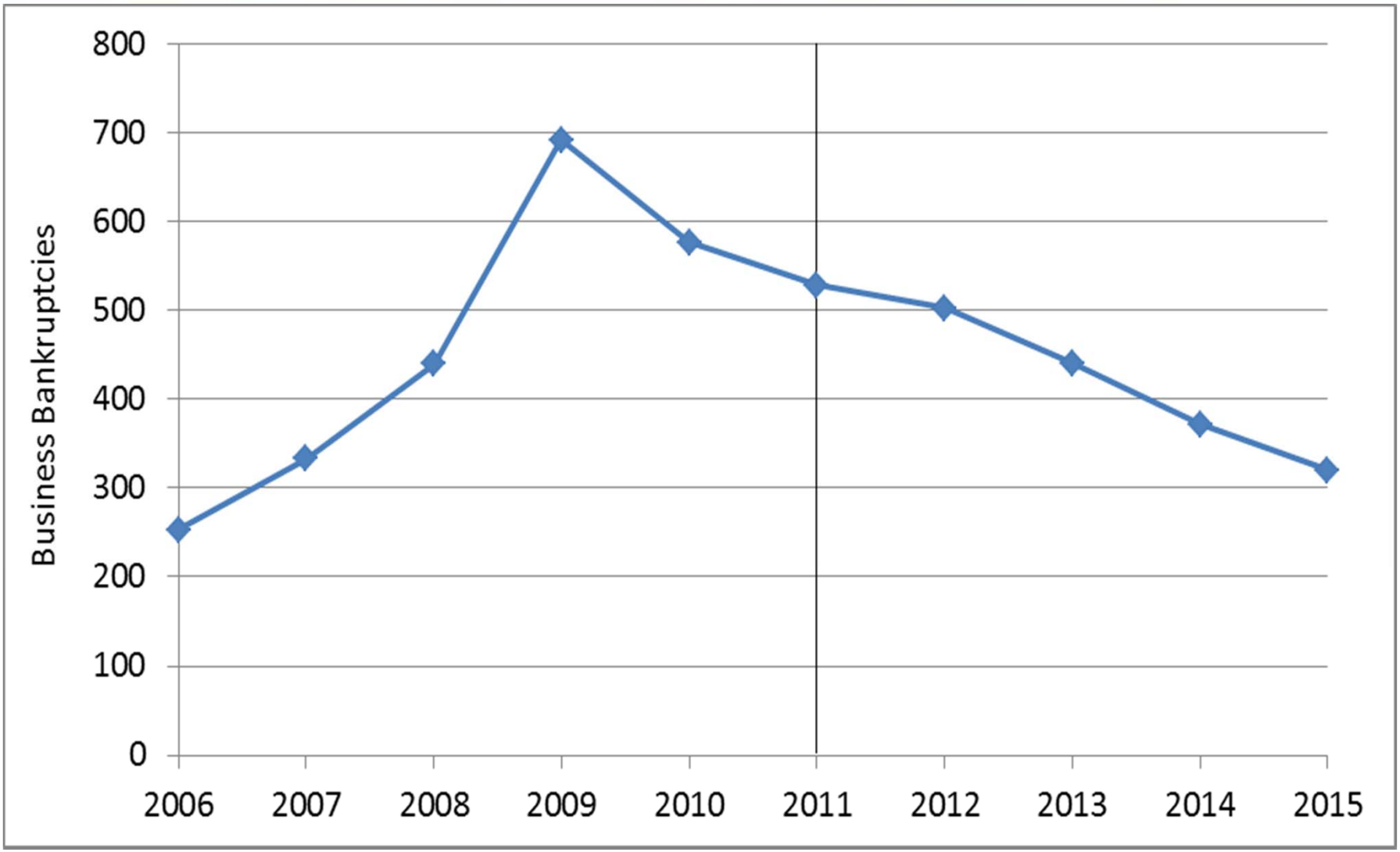
Business Construction Activity



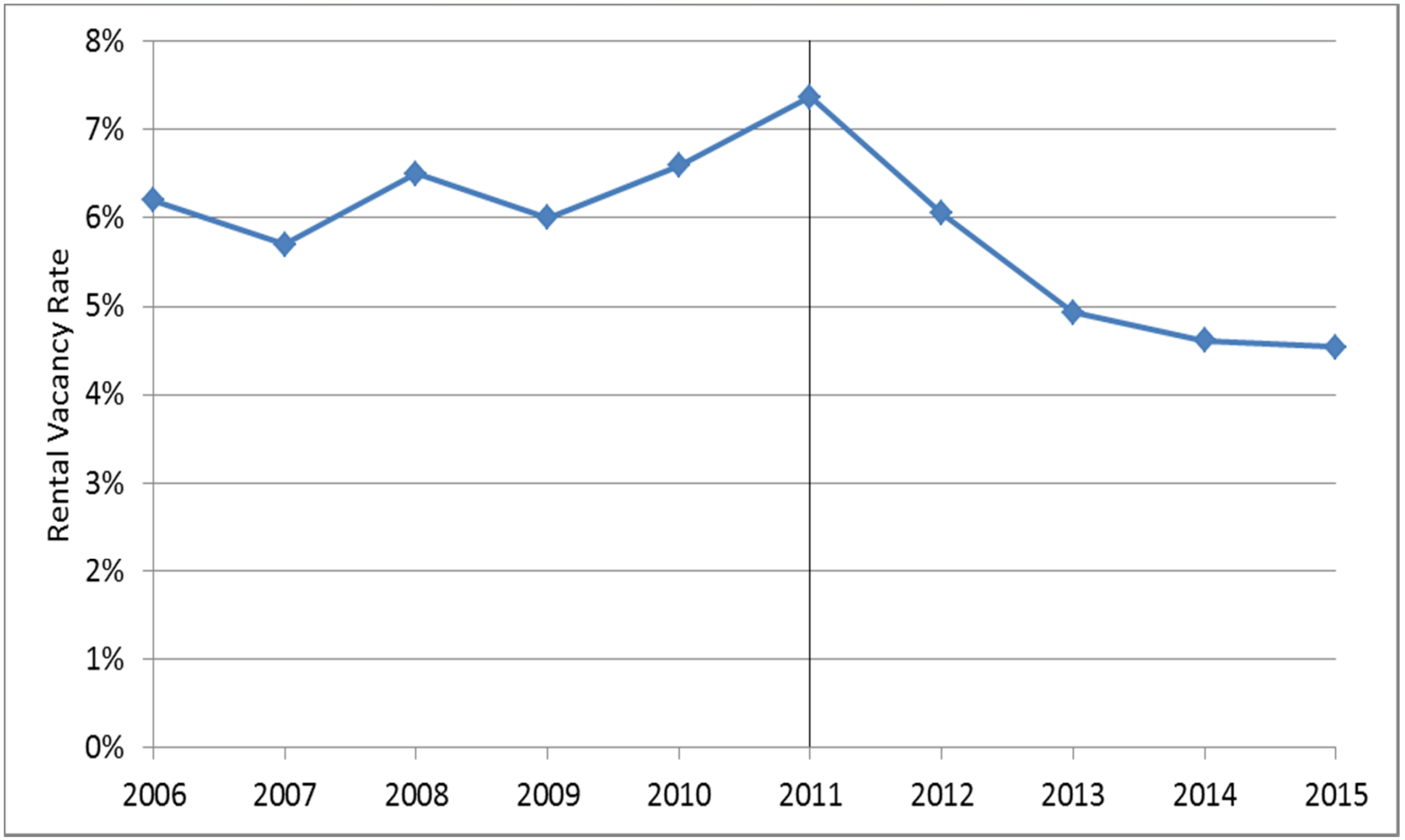
Residential Building Permits



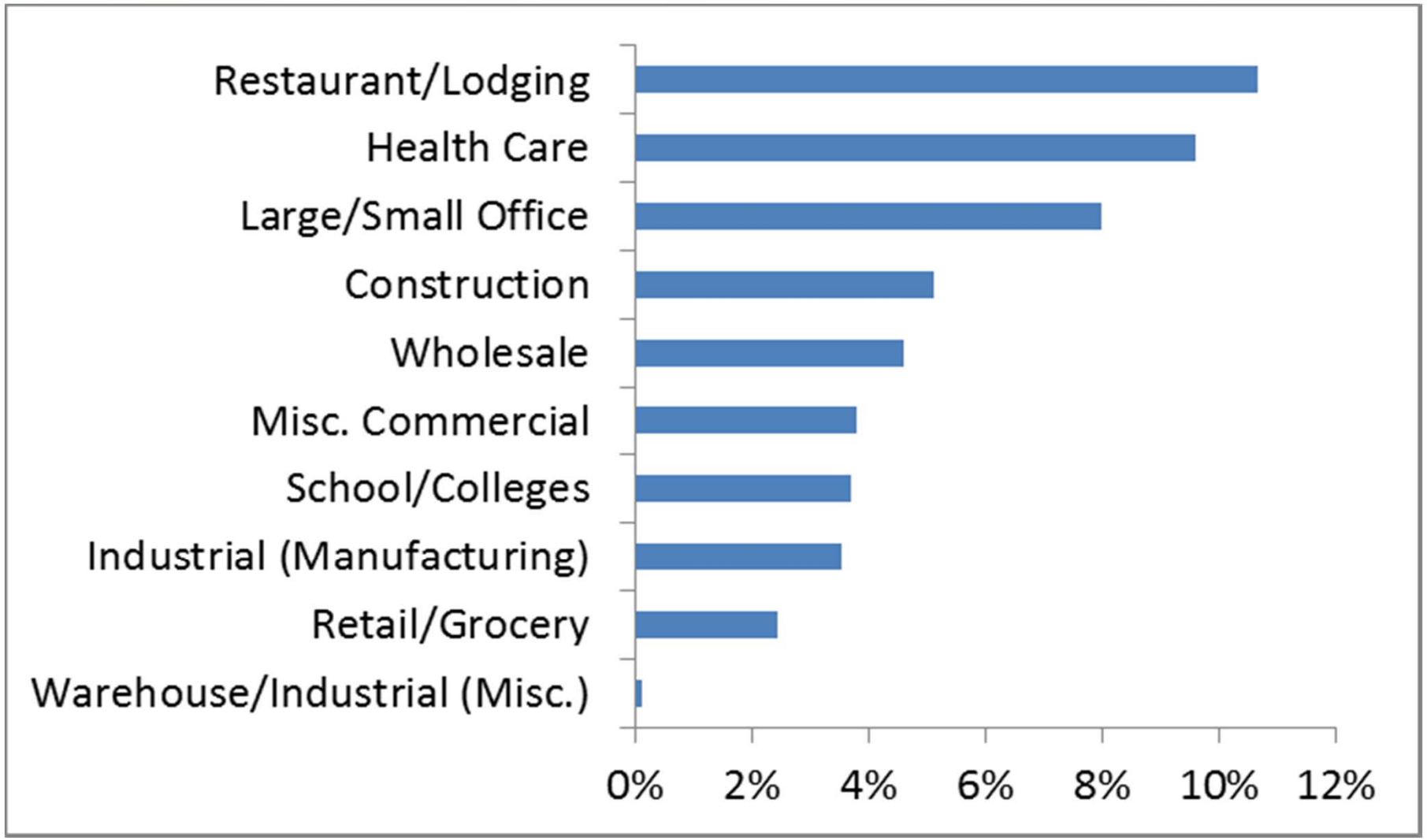
Business Bankruptcies



Commercial Rental Vacancy Rate



Percentage Growth in MA by Industry



Customer Survey

Customer Survey: Methodology

- We planned to interview 40 customers across the five state regions and across eight the industry types.
- Focus on medium and large C&I customers.
- Focus on customers that have not participated in the MA EE programs for the past 5 years.
- We collected customer contact information from most of the PAs and a few other stakeholders.
- We sent invitations to all 137 of the customer contacts that we received, that were eligible and that included contact information.

Customer Survey: Invitations and Interviews

- Many customers declined or did not respond to our invitation.
- To conducted a total of 36 interviews.
- The customer types we interviewed were determined primarily by customer interest and availability.
- Nonetheless, the interviews we conducted provide a reasonable amount of geographic and industry diversity.
- Biggest limitation: majority of interviews (83%) were with customers that have participated in the MA EE programs.

Completed Interviews

Industry Type	Boston	Central Mass	Cape Cod	Western Mass	Bristol County	**Total**
Heavy industry	2	1	0	5	1	**9**
Warehouses & Distribution	0	0	0	1	0	**1**
Retail	1	1	0	1	2	**5**
Office	5	1	0	3	0	**9**
Schools & Colleges	4	0	0	0	0	**4**
Healthcare	3	1	1	0	0	**5**
Restaurants & Lodging	1	1	0	0	0	**2**
Miscellaneous	0	0	0	0	1	**2**
Total	**16**	**5**	**1**	**10**	**4**	**36**

Positive Feedback

- Many companies were grateful for the sustained incentives and technical assistance provided by the PAs over the years.
- Several companies appreciated the level of outreach they receive from the PAs.
- Some companies recognized the variety of efforts and approaches (upstream lighting; MOU) that the PAs are leveraging.
- Several companies recognized the positive impacts of the PAs efforts over time; i.e., ability to accelerate EE product development and make EE solutions affordable.

Common Themes

- The capital constraints is a key barrier to moving forward with EE projects.
- The impact of the economic climate varies by customer. Some customers did not consider it a barrier to participation, while others did. Some note that the competition for capital is exacerbated by the tight economy. Still others note that the economic climate increases the value of EE, as a means of cutting costs.
- Payback period is the main criteria for evaluating EE investments; often must be two years or less.
- Most customers consider EE regularly when making purchasing decisions, and either will participate or are considering participating in the next few years.

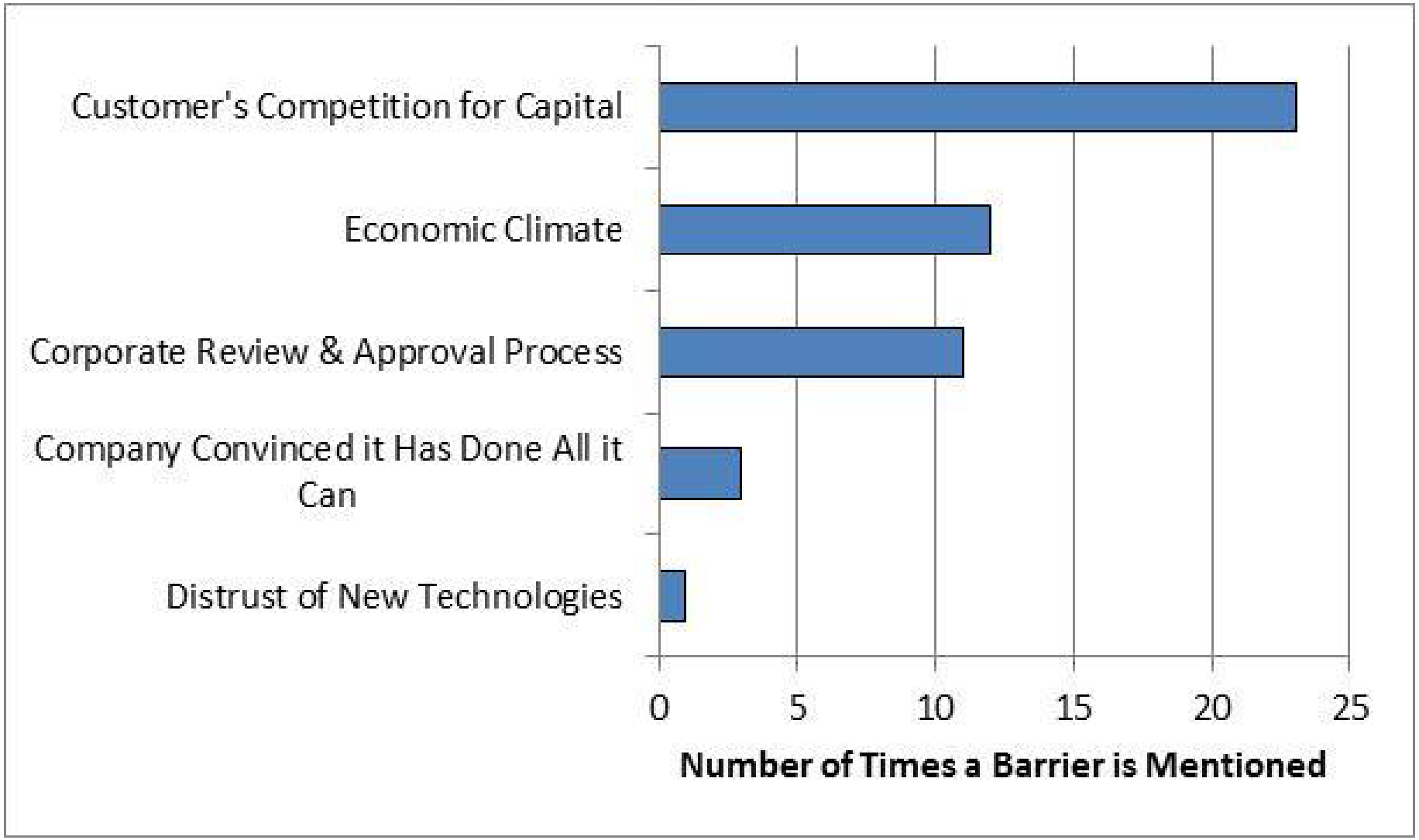
Different Types of Customers

- There are many different types of customers with different needs and barriers to participating in energy efficiency programs.
- This creates a significant challenge for PAs.
- Reaching additional customers and achieving deeper levels of savings per customer will likely require offering program technical and financial support that is more tailored to the unique needs of the many different types of electric and gas customers.

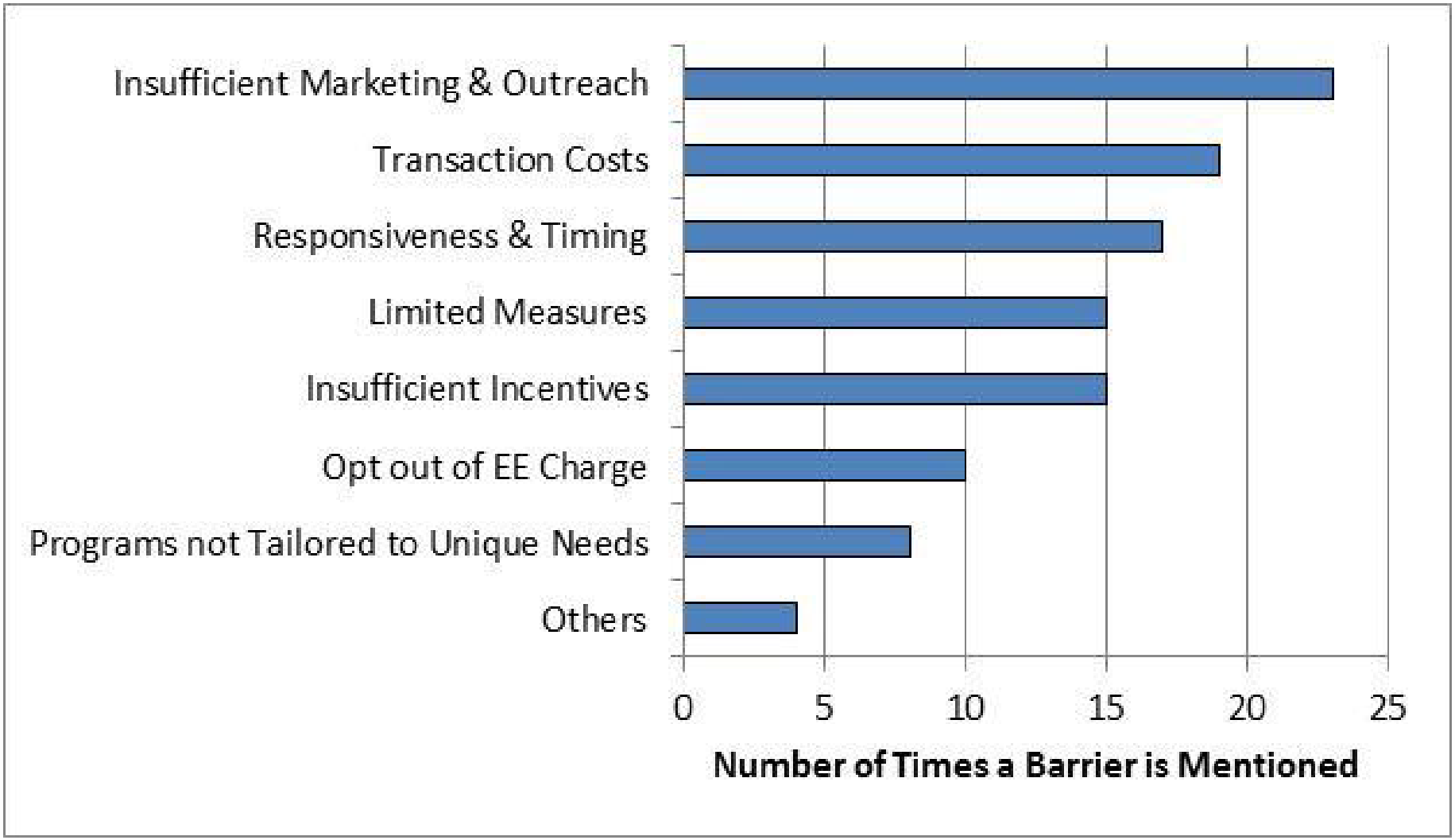
Barriers Identified by Customers

- The barriers to participation that have emerged from the interviews can be categorized in two ways:
  - Customer Barriers: customers identified participation barriers that stem from their own decision-making processes.
  - Program Barriers: customers identified participation barriers that stem from the way the programs are designed or administered.

Customer Barriers Mentioned in Interviews



Program Barriers Mentioned in the Interviews



Implications for EE Programs

- Three-Year Plans should recognize that:
  - the Massachusetts economy is forecasted to improve steadily over the next few years;
  - many customers do not see the state of the economy as a barrier to participation in the energy efficiency programs;
  - many customers have additional efficiency opportunities in their facilities;
  - many customers have an interest in participating in the programs again;
  - the C&I New Construction program has potential for savings, given that the economic forecast indicates that business construction activity is expected to steadily increase over the next few years; and
  - additional outreach and support from gas PAs is likely to lead to increased gas efficiency savings.

Implications for EE Programs (continued)

- Encouraging customers to adopt a deeper level of efficiency measures will likely require additional efforts to overcome some of the key barriers.
- Encouraging customers to adopt a deeper level of efficiency measures will require increased engagement from the PA's staff.
- PAs should collect and report more complete data regarding the customers who participate in their EE programs.
- A better understanding of customer participation types would provide the PAs with useful information about where the untapped efficiency opportunities lie and how to pursue them.

Recommendations for Further Research

- Research to better assess the perspectives of the C&I customers who have not participated in EE programs.
- Statewide research into opportunities for reducing the transaction costs associated with participation.
- Statewide training of PA staff to increase understanding of the needs of different customer types and industries; gathering best practices from MA and elsewhere.
- Statewide review to expand the types of efficiency measures offered, and the process for making new measures eligible.
- Research opportunities for the gas PAs to better coordinate their outreach and support services with electric PAs.
- Research practices for spending the efficiency budgets more evenly over the course of a year.