

Cost Modeling Case Studies: Massachusetts and Adirondacks

Cost Model Technical Network
March 21, 2024



Introductions

- Your name
- Your organization
- What is your experience with cost modeling?



Agenda

Updates

Today's Goal

Case Studies

Closing



Updates

- PCQC Updates
- Mailing List
ECE-Cost-Modeling@groups.io
- New Quarterly Times
May 30th
August 29th
November 14th





CASE STUDIES

Today's Goal

This session will dig deeper into two case studies from the field in Massachusetts and Adirondacks, where we hope to have an insightful, collaborative conversation around **strategies, experiences, and helpful resources** that we could all utilize and learn from for future work.

Local Level Model: Adirondacks, NY



Adirondacks : Comprehensive Fiscal Analysis

Comprehensive Fiscal Analysis and Cost Modeling occurring at state level

Adirondacks engaged in parallel process to identify unique needs and costs specific to their region

Fiscal modeling for Child Care, Home Visiting and Parent Education, Early Intervention, and System Cost Estimation for Adirondack region.

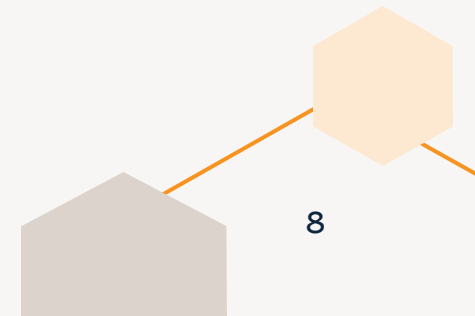
Cost Model Variations

State model uses regional approach- counties are designated under different regions

Salaries: used Bureau of Labor Statistics with a cost of living adjustment

Community level model uses the 5 counties that make up the Adirondack region for more specific data.

Salaries: includes MIT Living Wage (specific county level data)



CC Cost Model Variations

Table 7: Monthly cost per child, Licensing, Centers

	BLS	MIT Living Wage				
	Capital-Northern Region	Clinton County	Essex County	Franklin County	Hamilton County	Warren County
Infants	\$1,882	\$2,599	\$2,591	\$2,555	\$2,602	\$2,742
Toddlers	\$1,486	\$2,027	\$2,021	\$1,995	\$2,029	\$2,134
Three-year-olds	\$1,222	\$1,646	\$1,642	\$1,621	\$1,648	\$1,729
Four-year-olds	\$1,147	\$1,537	\$1,533	\$1,514	\$1,539	\$1,614
School age ³	\$640	\$863	\$861	\$850	\$864	\$907

FCC Cost Model Variations

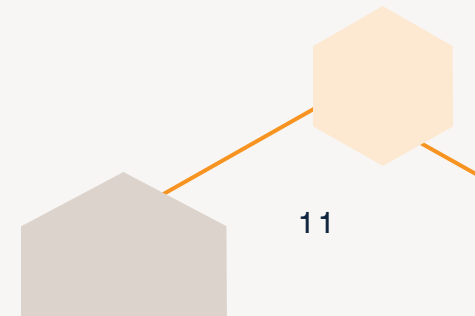
Table 9: Monthly cost per child, Licensing, Home-based Child Care

	BLS	MIT Living Wage				
	Capital-Northern Region	Clinton County	Essex County	Franklin County	Hamilton County	Warren County
Family Child Care Home						
Infant/Toddlers/Preschoolers	\$1,587	\$2,189	\$2,167	\$2,196	\$2,283	\$2,206
School age	\$843	\$1,159	\$1,147	\$1,163	\$1,209	\$1,168
Group Family Child Care Home						
Infant/Toddlers/Preschoolers	\$1,100	\$1,565	\$1,563	\$1,552	\$1,566	\$1,609
School age	\$582	\$829	\$827	\$821	\$829	\$852

Home Visiting Cost Model

Table 7: Current Models by Service Intensity

COST MODEL OUTPUTS, Current Caseloads (annual cost per child/family)			
Salary Point	Low Intensity	Medium Intensity	High Intensity
Statewide BLS	\$2,448	\$5,172	\$8,414
Statewide MIT Living Wage	\$2,778	\$5,933	\$9,800



System Cost Estimation

Table 17: System-wide Cost Estimate

	Phase 1	Phase 2	Phase 3
Child Care	\$7,216,057	\$88,273,084	\$193,167,729
Home Visiting	\$3,143,470	\$6,632,033	\$7,442,543
Infrastructure	\$891,632	\$7,725,050	\$16,197,672
TOTAL	\$11,251,158	\$102,630,166	\$216,807,944

State Level Model: Massachusetts





Massachusetts

A case study in regionality in cost modeling

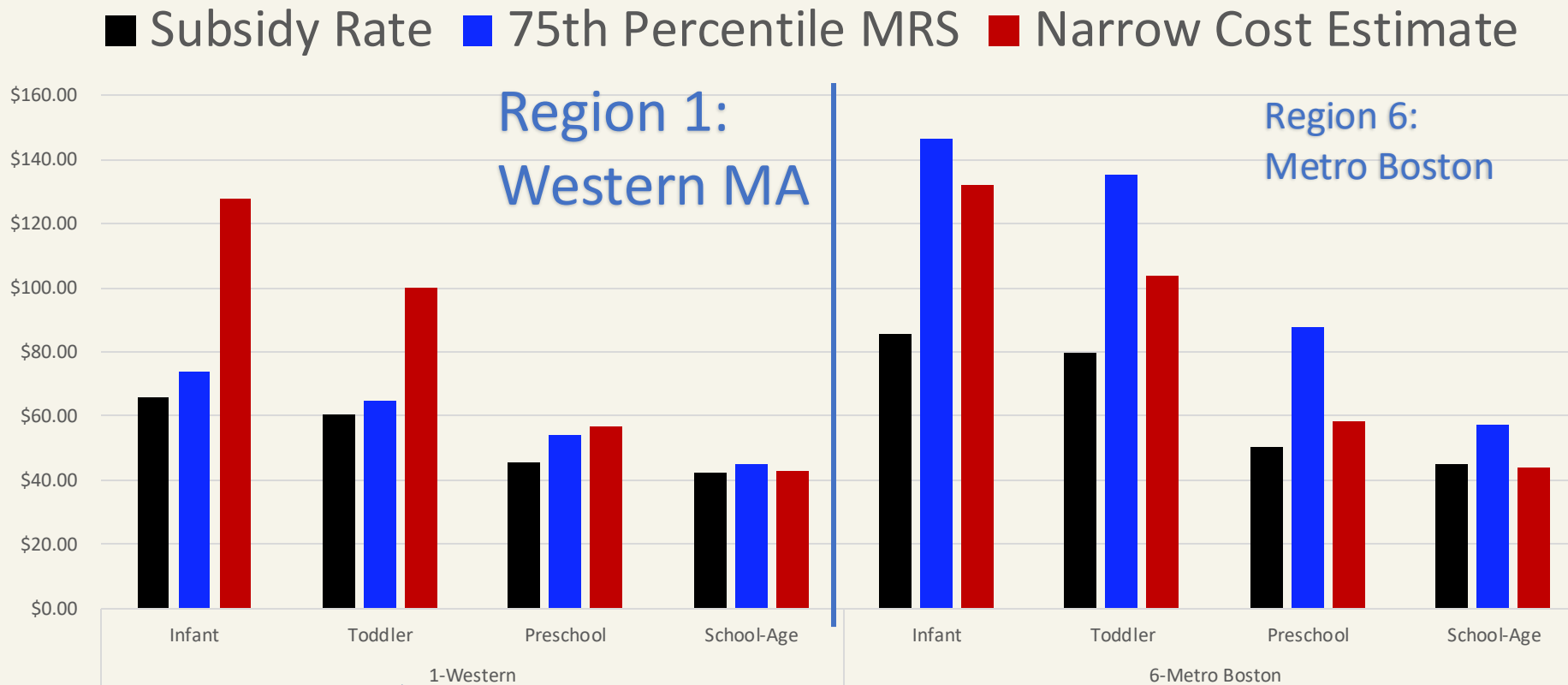
CELFE completed a cost model for Massachusetts in 2023

The clear challenge that emerged early in the project was how to capture and account for regional difference in cost

Our work led the state to rethink how it was dividing up the state into reimbursement rate regions

Looking at price and cost data together shows different stories in different parts of MA

GSA Subsidy Rates, Market Rates (75th Percentile of full market) and Estimated Cost



Prices do not meet cost of care:
Market failure

Prices (taken as a whole across age groups) largely cover cost:
Functioning market

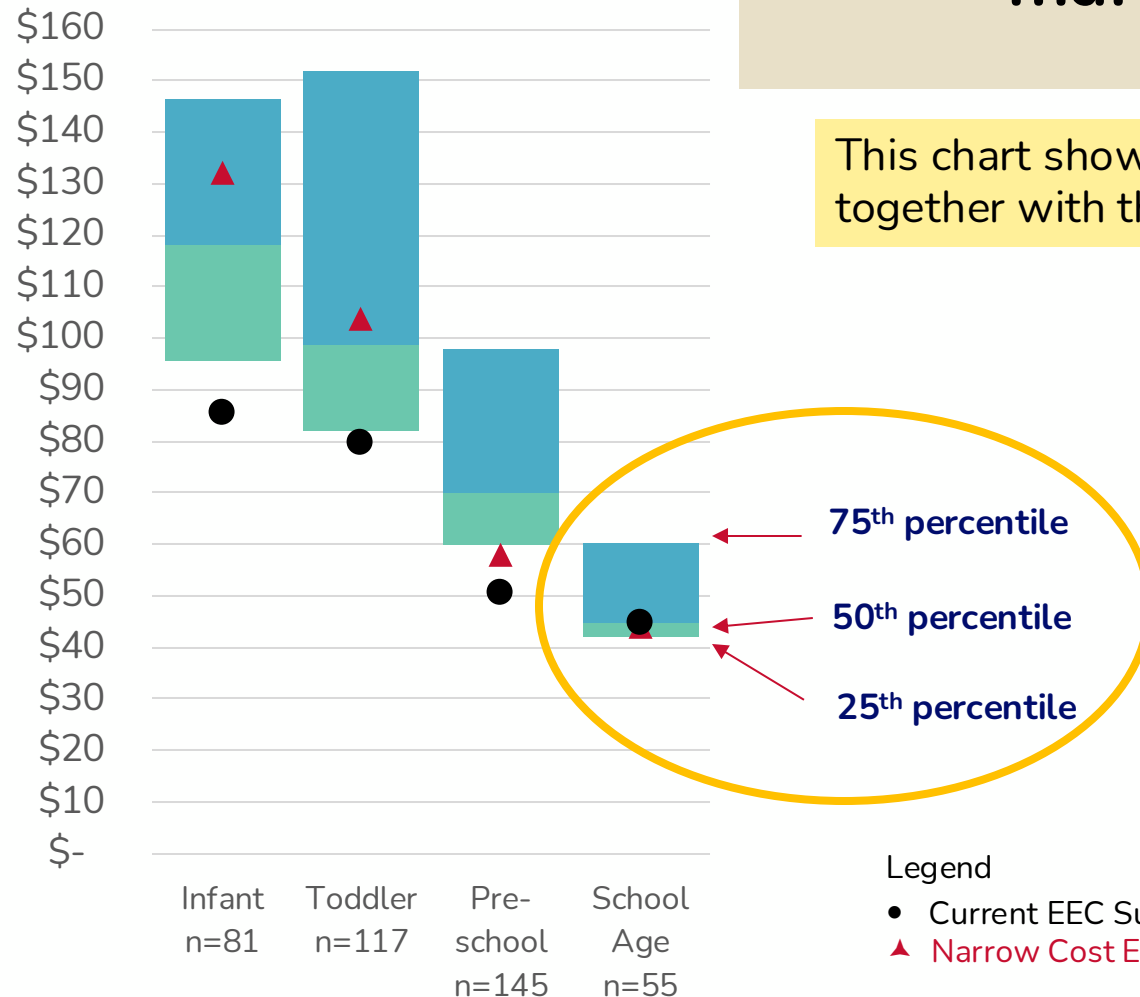
In **Western MA** (and also in Central & Southeast), the **market prices (75th percentile) are not enough** to cover the cost of operating the program.

In contrast, in **Metro Boston** (and also largely in Metro and Northeast MA), the **top prices in the market do cover the estimated cost** of operating the program.

In both cases, however, the **subsidy rate is substantially lower than the cost** to operate the program.

Diving deeper into Metro Boston data, we can see that there are market challenges here, too

Region 6 - Metro Boston



This chart shows the 25th, 50th, and 75th percentile of the market rate together with the Narrow Cost Estimate and the current subsidy rate.

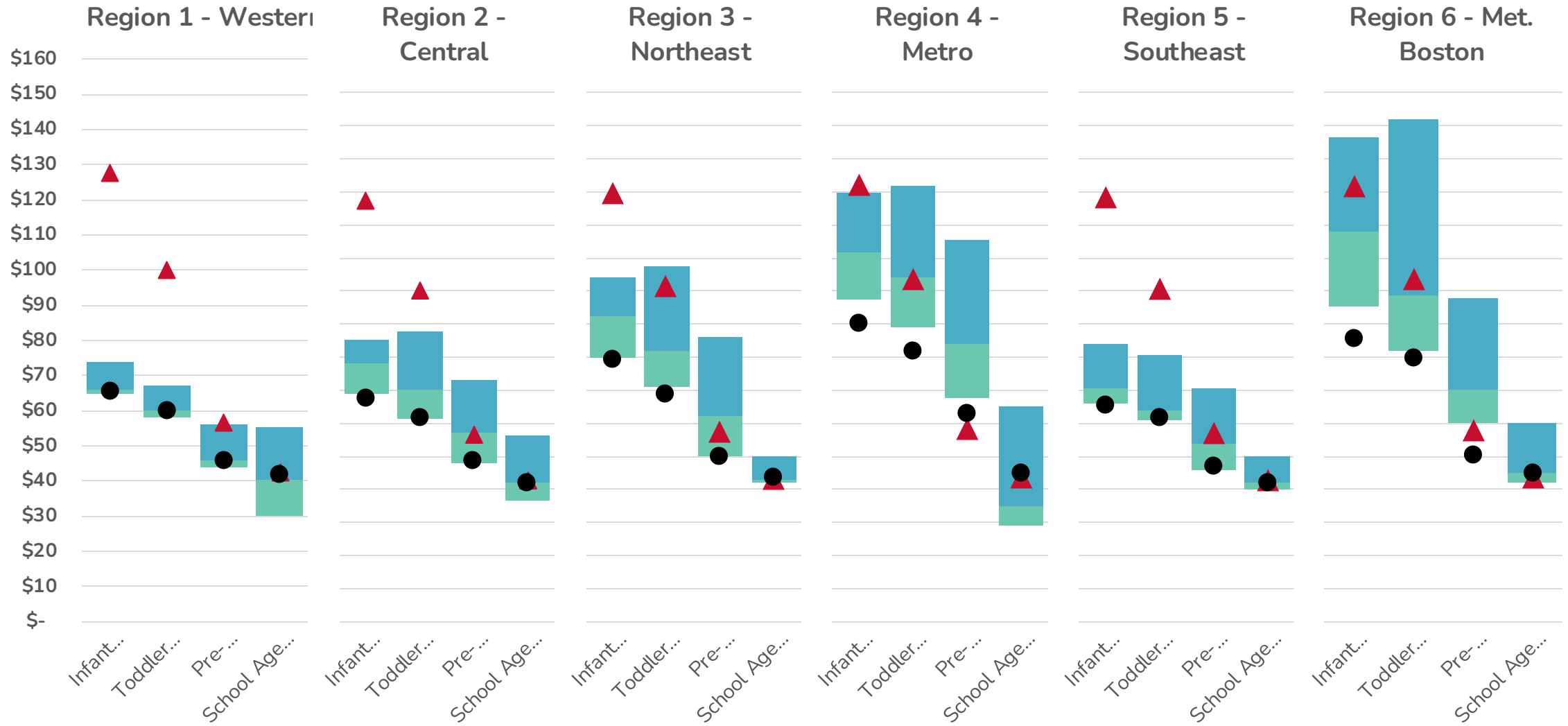
- Looking at the black dots ● together with the red triangles ▲ : Reimbursement rates (black dot: ●) are not high enough to cover the cost for the program as a whole (red triangles ▲)
- Looking at the green boxes ■ together with the red triangles ▲ : the rates charged by the bottom 50% of providers (green boxes ■) are not high enough to sustainably cover estimated costs (red triangles ▲)

Legend
 ● Current EEC Subsidy Rate
 ▲ Narrow Cost Estimate

Legend

- Current EEC Subsidy Rate
- ▲ Narrow Cost Estimate

25th to 75th Percentile Range - GSA



Legend

- Current EEC Subsidy Rate
- ▲ Narrow Cost Estimate

25th to 75th Percentile Range - GSA

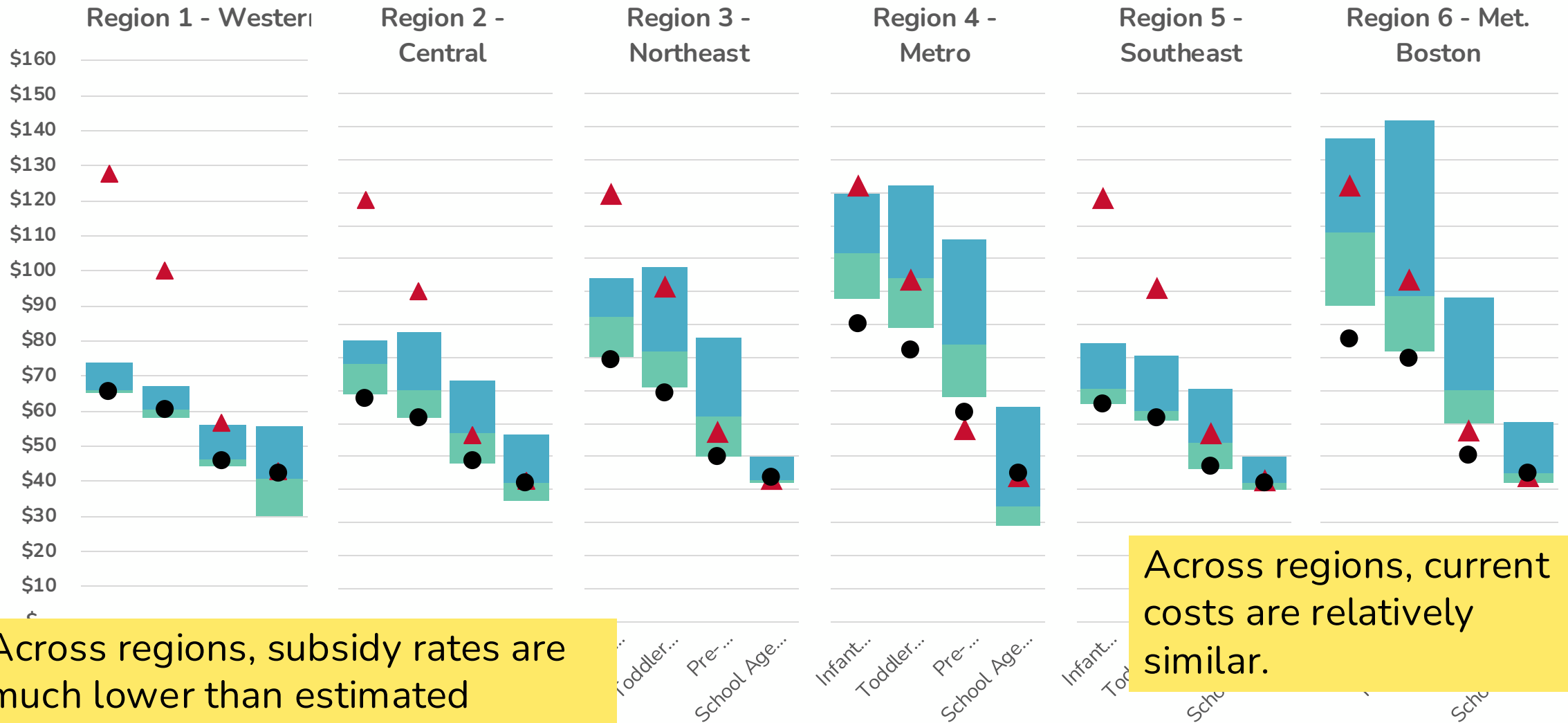


In Regions 1, 2 & 5, there is a much smaller range of prices, suggesting that the prices families can afford are limited. Programs aren't able to charge what it is costing to provide care, likely resulting in child care shortages.

Legend

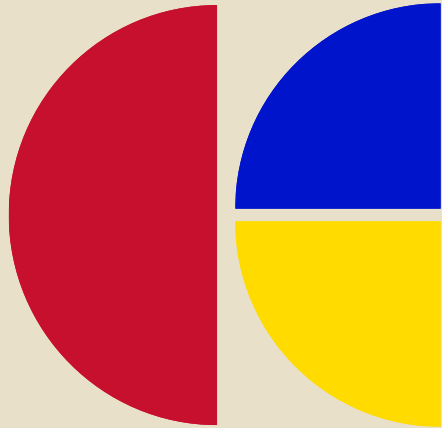
- Current EEC Subsidy Rate
- ▲ Narrow Cost Estimate

25th to 75th Percentile Range - GSA



Across regions, subsidy rates are much lower than estimated current costs.

Across regions, current costs are relatively similar.



Recommendations

CELFE's Recommendations for Consideration

Shared with Dept of Early Education & Care Board

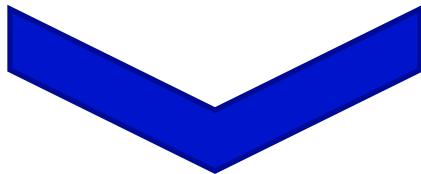
Opportunity to Simplify the Reimbursement Rate Structure

Currently, Massachusetts has 6 subsidy rate regions, with a **wide range of subsidy rates**

- Highest region is 38% higher than lowest region

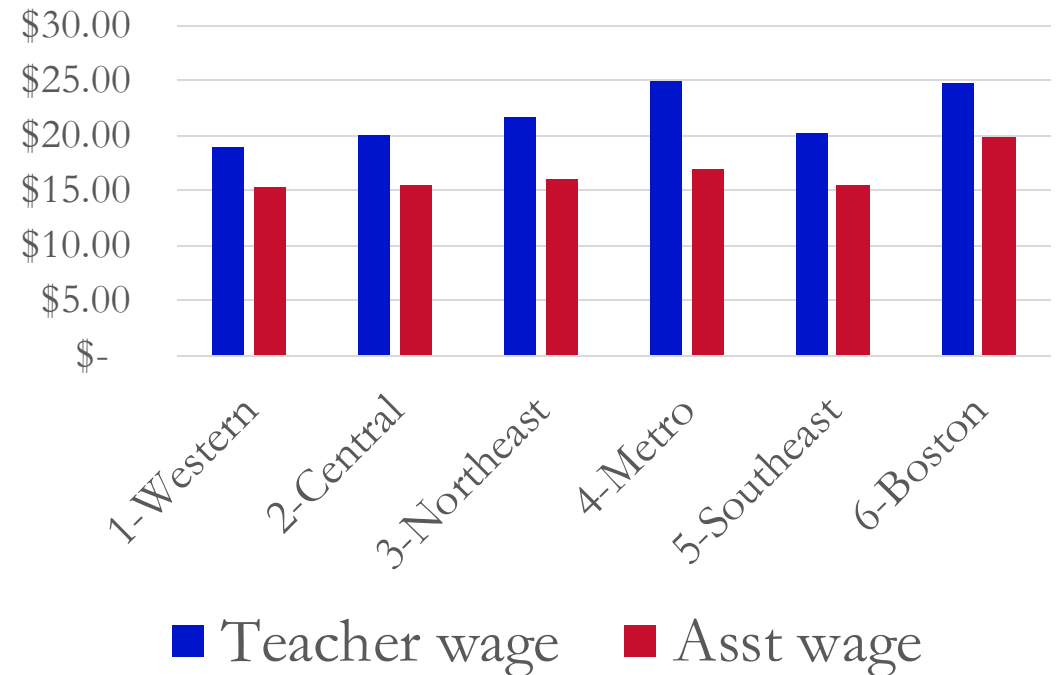
Data on the cost of care is showing a much **narrower range of costs**, despite economic variation across the state

- Statewide minimum wage of \$15/hr appears to have had a significant impact on reducing range of costs
- Cost model shows range of about 20%



Opportunity to simplify the rate structure, including reducing the number of overall rates.

Wage Data from C3



Rate Region Analysis Research

- Per discussions with EEC and the Commissioner, CELFE examined three indicators by geography to provide potential options for revised rate region groupings.
- CELFE used a 3-group and 5-group mapping analysis for the following indicators:
 - Fair Market Housing
 - Area Median Income
 - Social Vulnerability Index
- The indicators *yield similar regional differentiation* and therefore, it is a question of how many regions as opposed to what indicator
- **Recommendation:** Use a 2 or 3 rate region structure – using counties as the unit of geography
 - Given the minimum wage law, MA will experience less cost difference across regions over the next few years

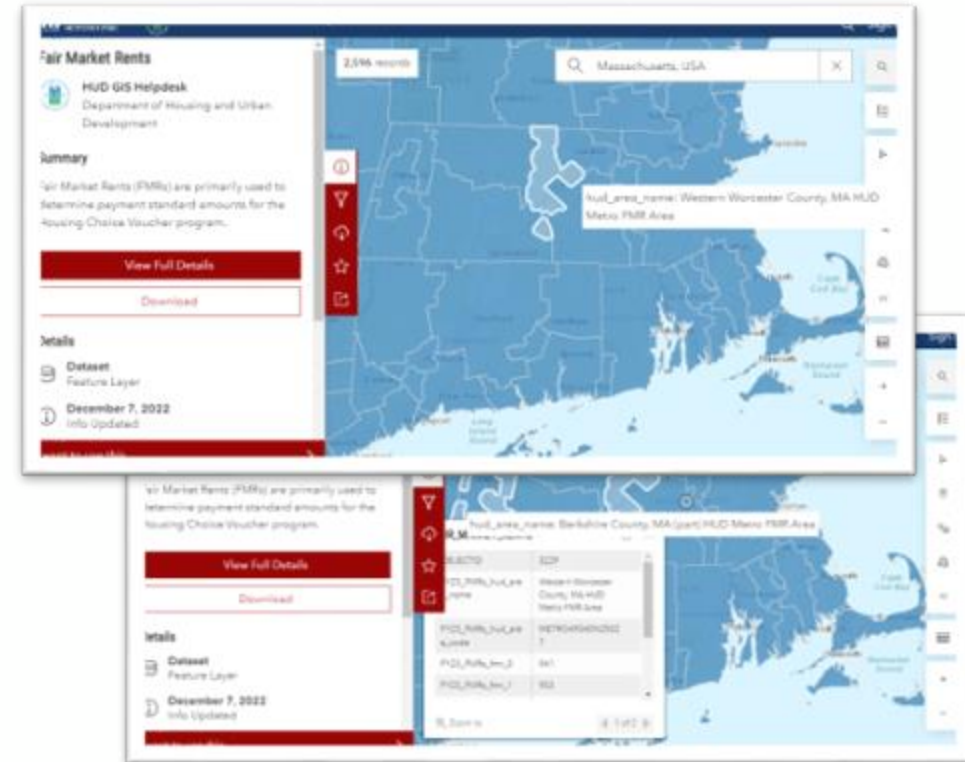


How we analyzed coherence across regions

We found that **HUD-Fair Market Rent (FMR)** – for a 3-bedroom unit was a very robust economic indicator—highly correlated to Average Median Income and Cost of Living—and was available at the township level. Thus, we used FMR as our primary indicator for analyzing region structure.

We used FMR to check for any outliers that might emerge if MA simplified to a 2- or 3-level rate structure tied to licensing regions.

An outlier was defined as a township having a FMR 40% higher than the average FMR for the proposed region.



How have you helped a state rethink the issue of regionality in developing a cost model?

What data do you use to define regions?

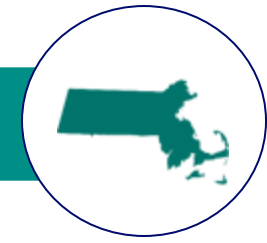




Considerations for Rate Structure

Potential Approaches

Geographic Coherence



- Align rate regions with licensing regions

Economic Differentiation



- Based on key economic indicators (e.g., HUD data on rent, median household income, Social Vulnerability Index), simplifying to either two or three regions makes sense

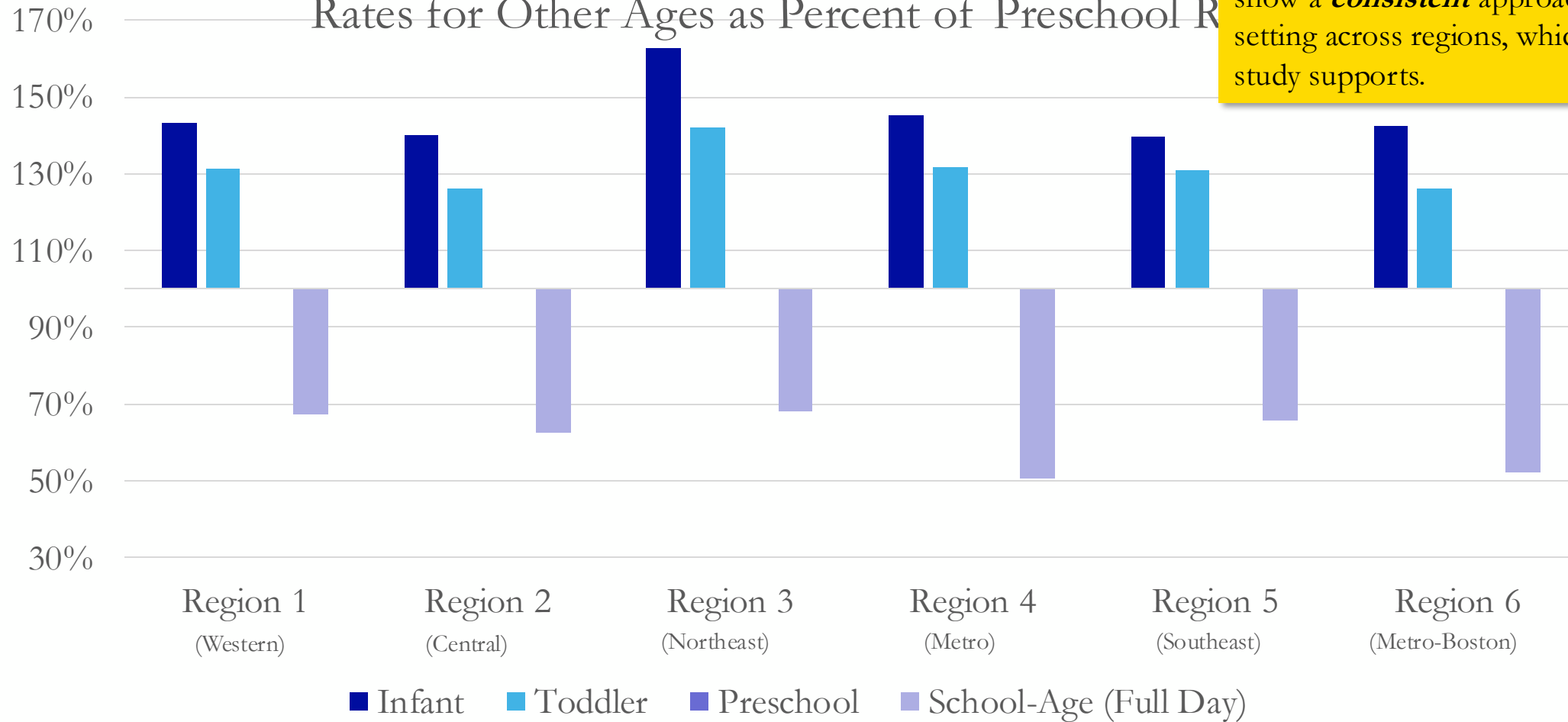
Simplicity & Equity



- Use cost research to inform more equitable rates by age, region and type of care, and simplify rate structure

Opportunity for Greater Consistency in Rates Across Regions

Current Child Care Financial Assistance Rates
Rates for Other Ages as Percent of Preschool Rates



We would want to see each set of bars here look the same—that would show a **consistent** approach to rate setting across regions, which the cost study supports.

Subsidy rates are only one part of a child care funding strategy

Providers need to have enough stable revenue to **support whole classrooms and programs**, which is difficult with current per-child funding approaches.

Increasing subsidy rates is critical but will not generate the total revenue needed for stable financing.

Strategies like the **C3 Grants** will be needed to address the gap between the prices the market will bear and the true costs of operating high quality child care programs.

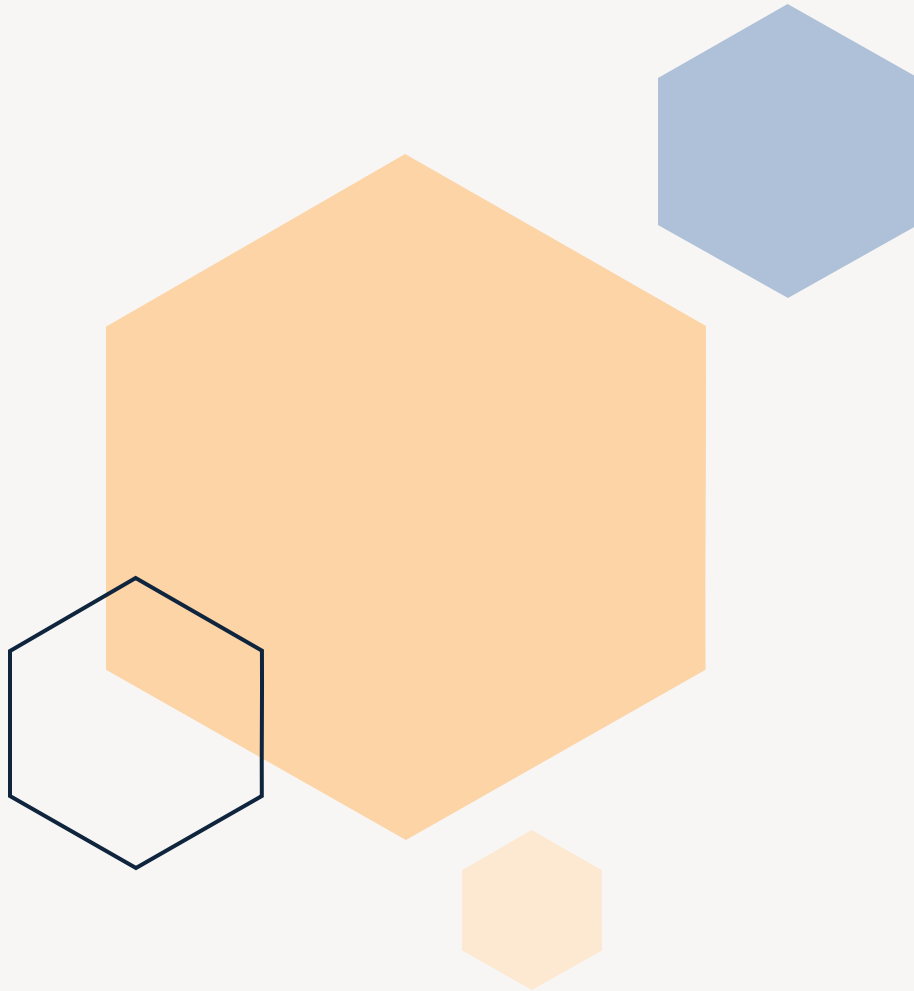


You can't fix a market failure just by raising subsidy rates

Where to next?

What are you interested in learning more about in upcoming sessions?





Resources

Posted Materials –

<https://celfe.org/cost-modeling-technical-network/cost-modeling-webinar-series/>

Questions or Ideas?

Email the group at:

ECE-Cost-Modeling@groups.io

Next Session:

Thursday, May 30th, 12:00pm CST

Thank you!

