

# Senate Education Committee

January 22, 2015

Sec. Rebecca Holcombe

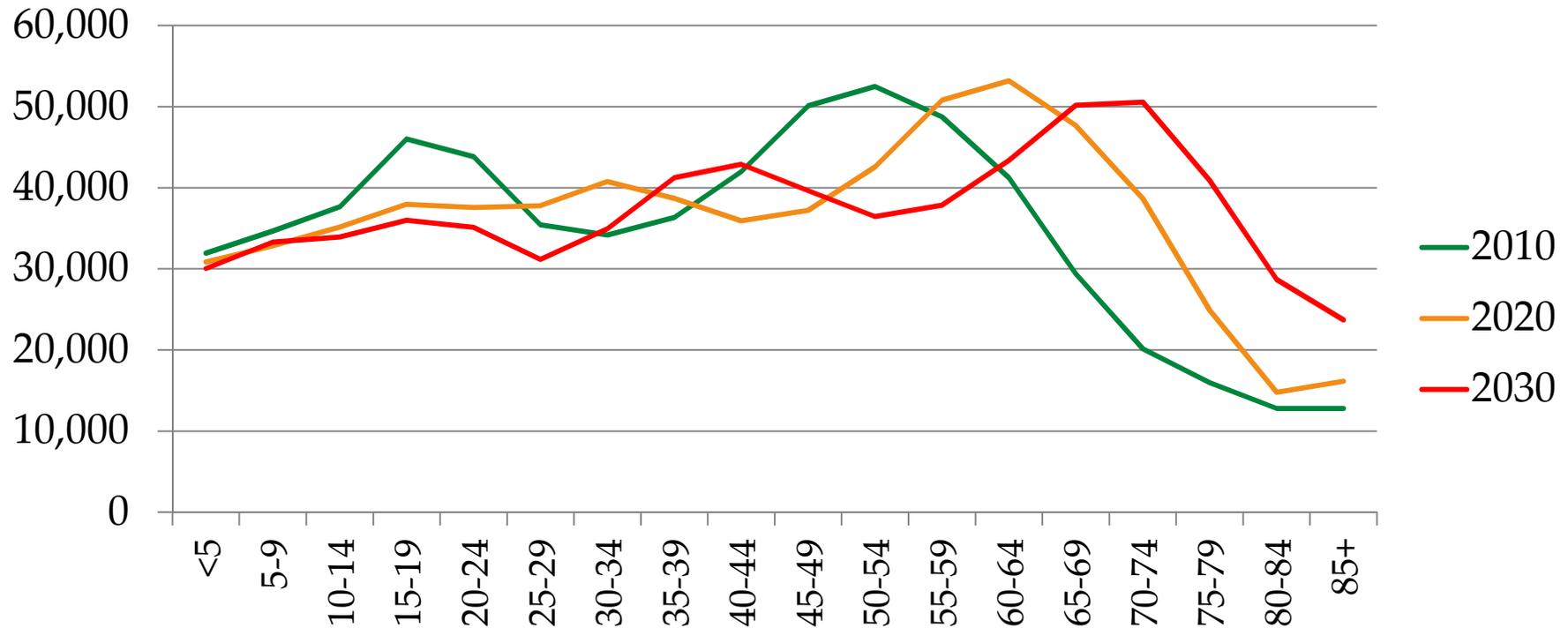
Demographic Projections  
(not predictions, but we need to pay attention)

# We are not just losing students.

Vermont Population Projections. 2010 Census, 2020, 2030

Ken Jones, Ph.D., Economic Research Analyst

Vermont Agency of Commerce and Community Development

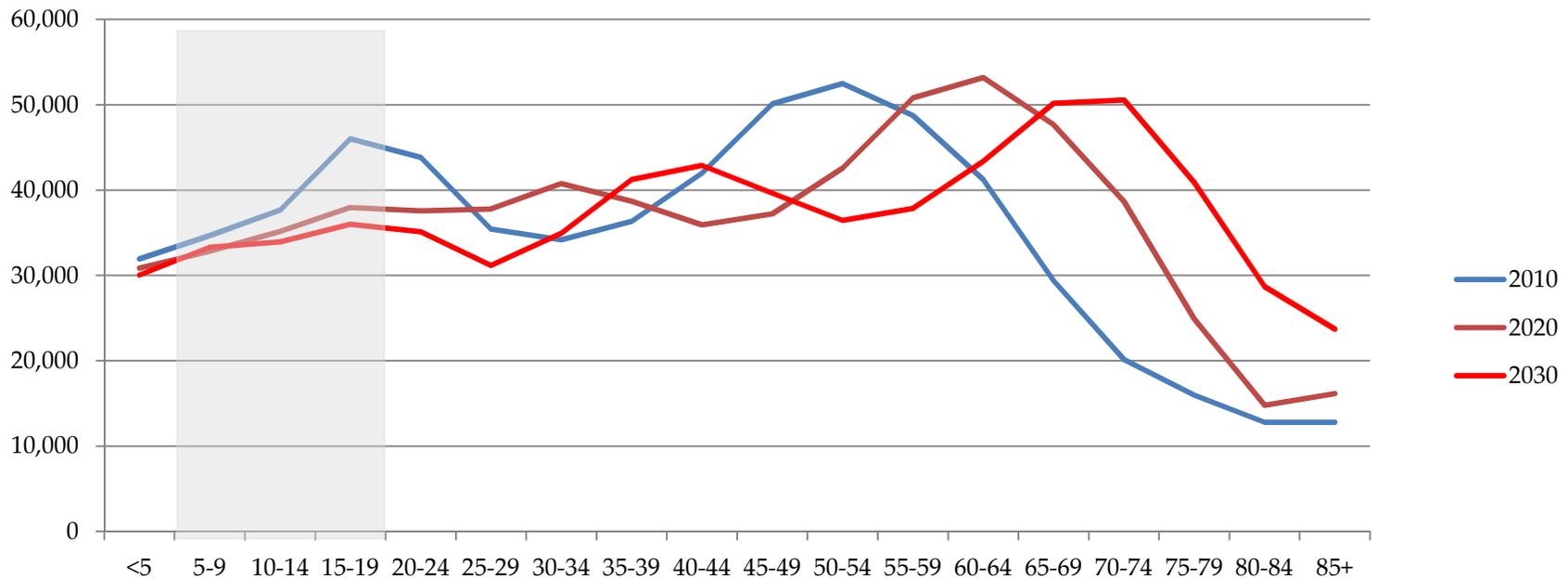


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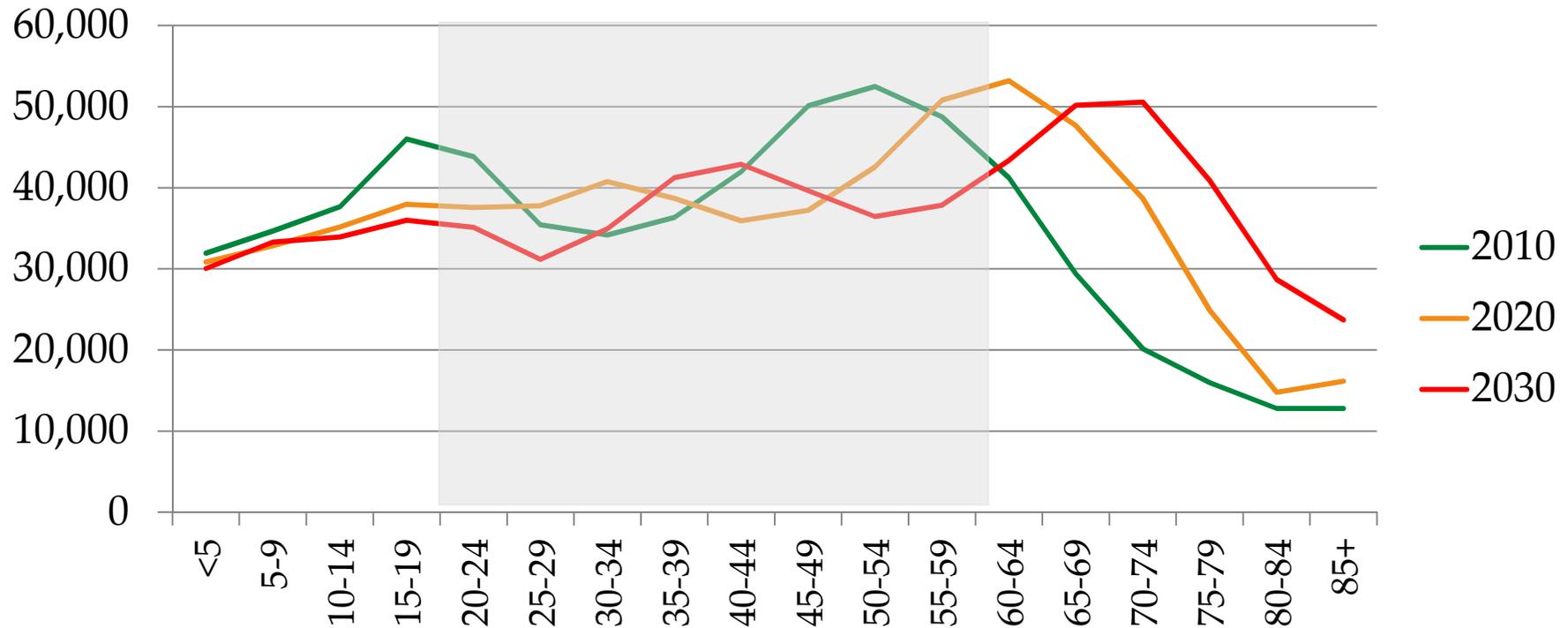


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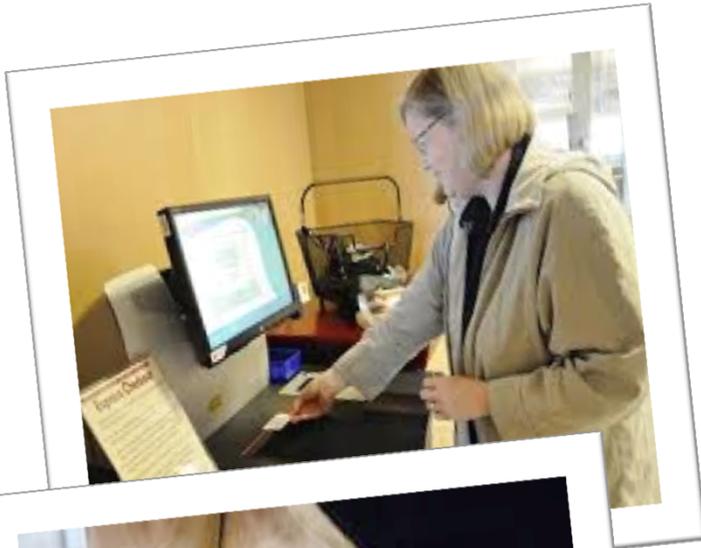
# People are the driver of economic vitality:

Our job:

- Getting people to come
- Getting people to stay
- Educating the people we have
  - All of them
  - To much higher levels

# The New Basic Skills

a.k.a. what computers can't do [yet]



- Solve unstructured problems
- Work with new information and reason from evidence
- Complete non-routine tasks
- Communicate and persuade
- Collaborate on complex tasks
- Exercise judgment

# Flexible pathways, project-based learning and a focus on application:

[Mechatronics at North Country CTE](#)



“I realized people used to do the work machines like this do. Now people write programs that make the machines do the work people used to do.”

-boy at North Country Career and Technical Center

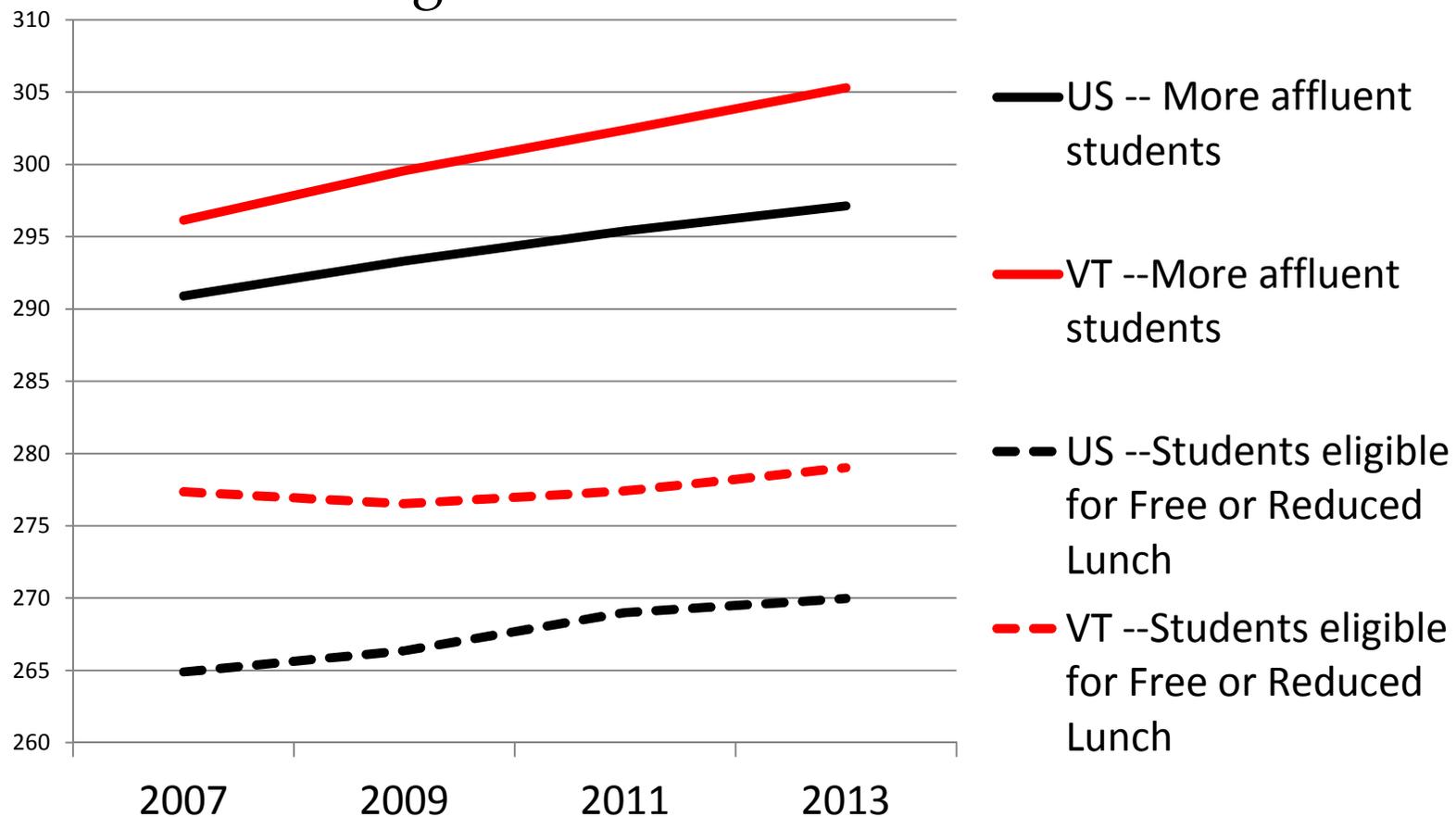
<http://vimeo.com/100144145>

# Education Quality Standards

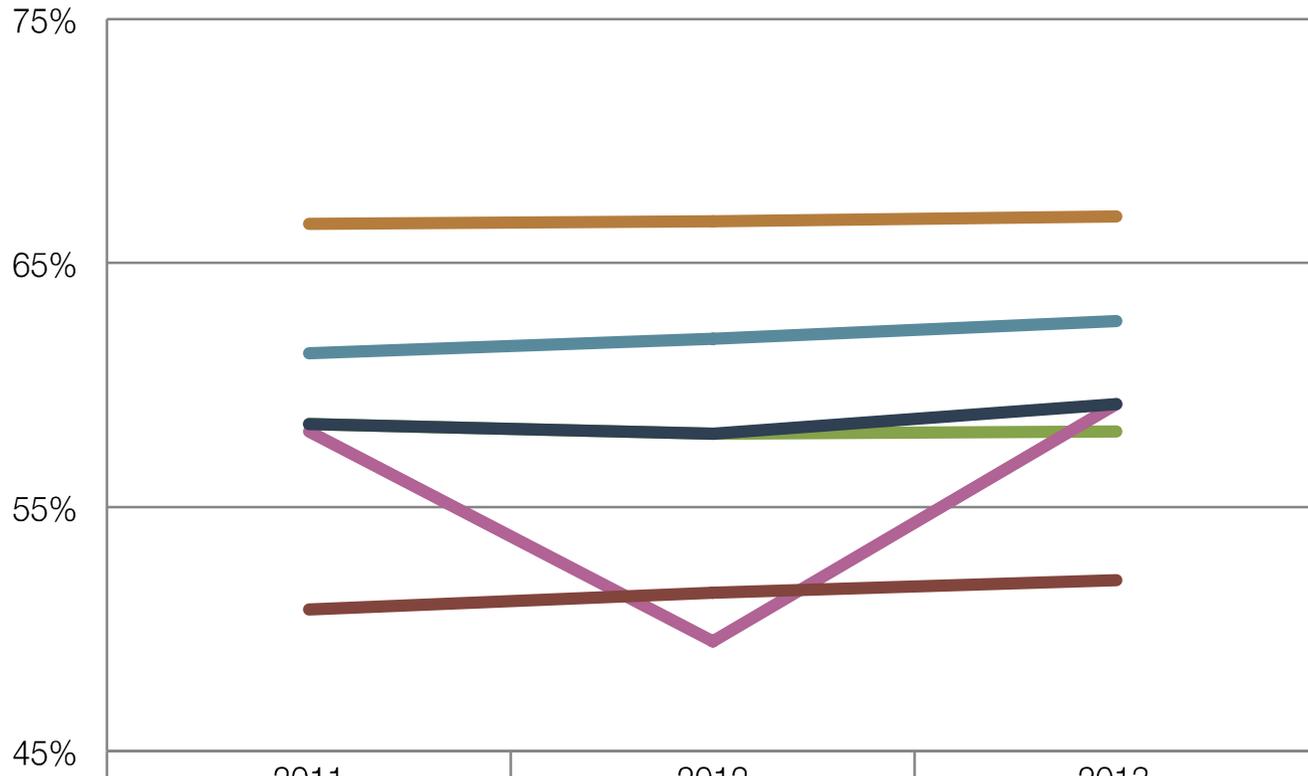
- Focus on **proficiency** (not seat time)
- Emphasis on **personalization and purpose**
- Emphasis on **transferable skills**
- Systems to **support continuous professional growth and learning** of educators

# How are Vermont students doing?

NAEP 8<sup>th</sup> grade math scores for students eligible and ineligible for free or reduced lunch



### 2013 College Enrollment: Three-Year Trend



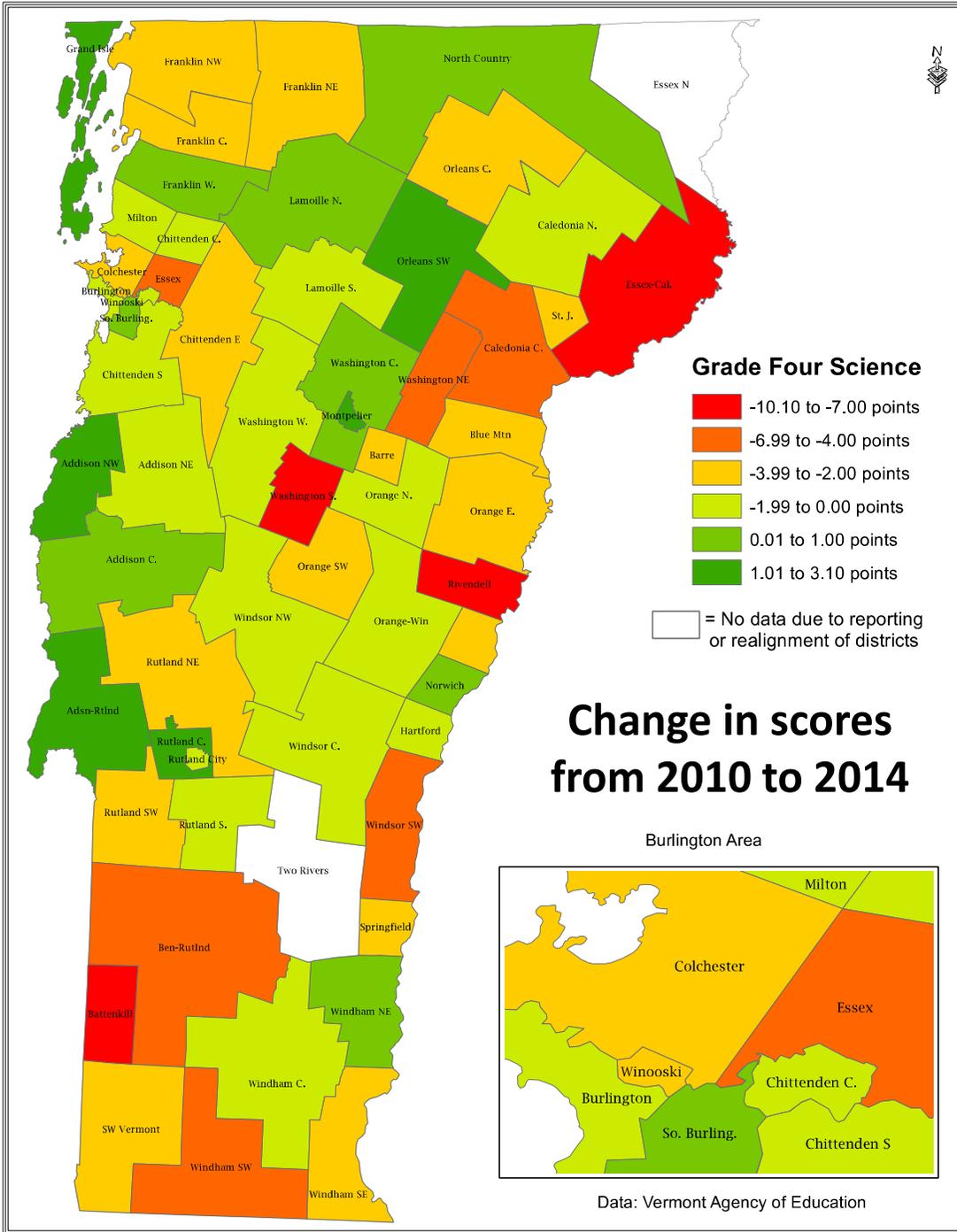
	2011	2012	2013
CT	66.6%	66.7%	66.9%
ME	61.3%	61.9%	62.6%
NH	58.4%	58.0%	58.1%
RI	58.1%	49.5%	59.2%
VT	50.8%	51.5%	52.0%
NESSC	58.4%	58.0%	59.2%

# Education is no longer just grades K-12

*Act 77 –  
provides HS  
students with  
college credits to  
encourage post  
secondary success.*



Indicator	Low	High
Class of 2012 post secondary enrollment (includes students from historical academies)	36.7%	77.3%

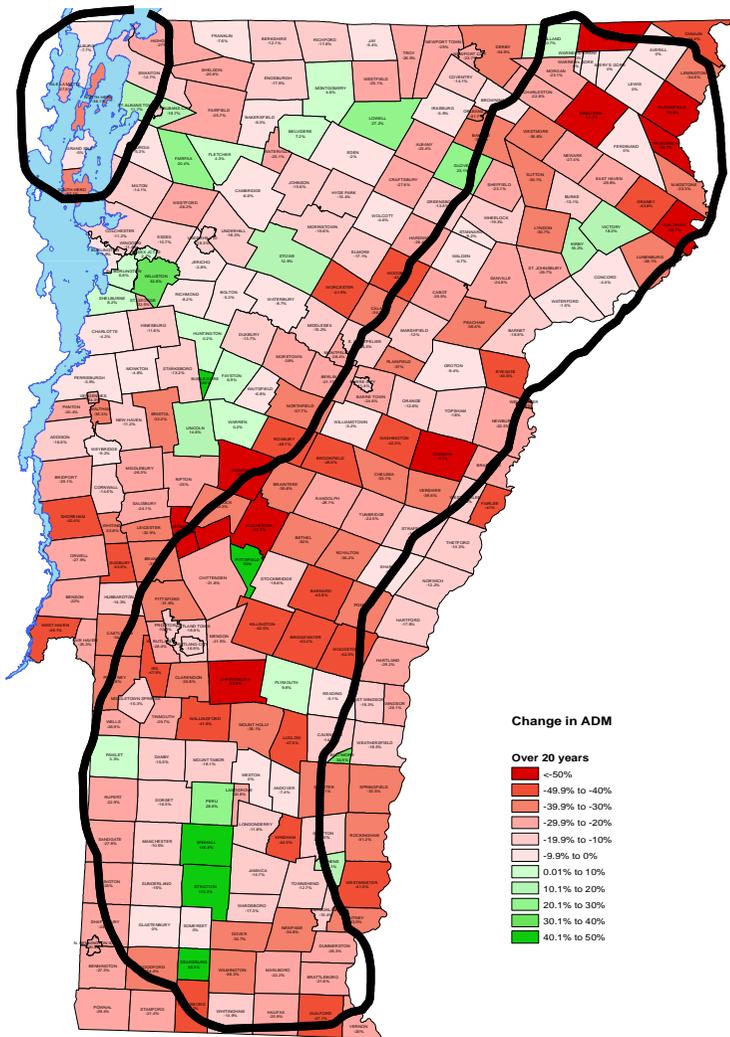


# Variability statewide in ability to support improvement statewide

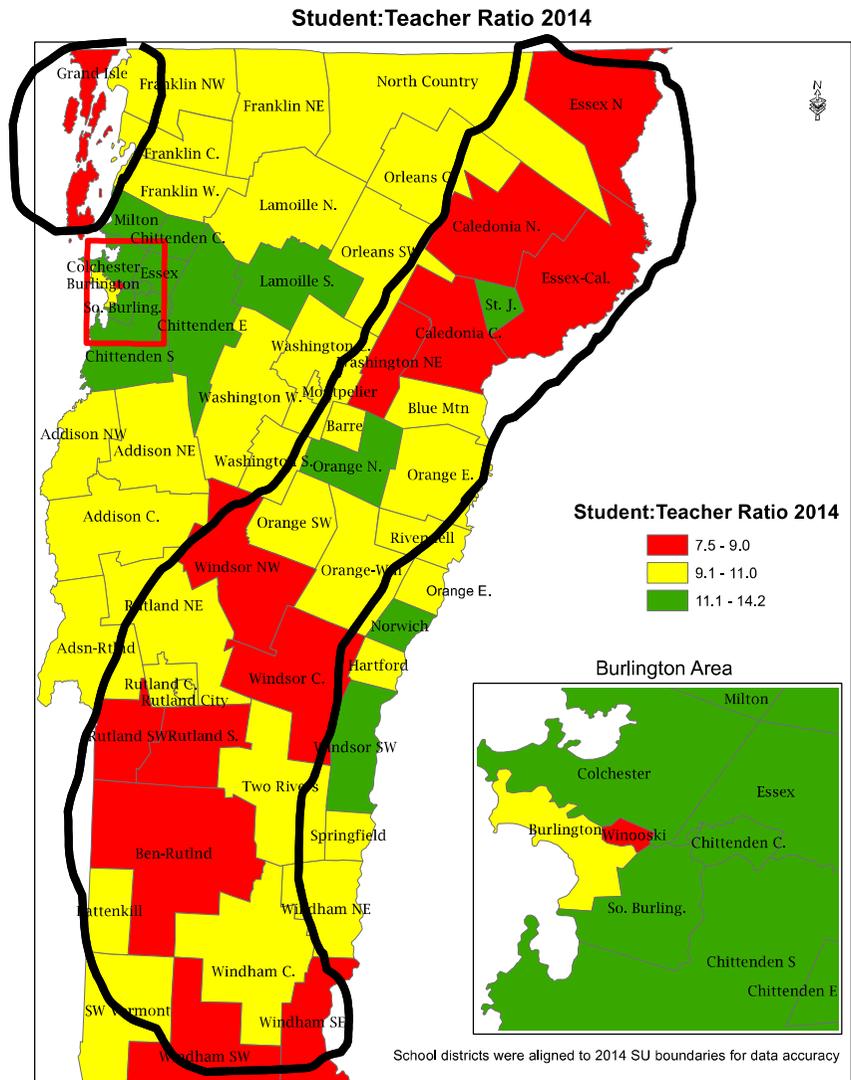
RED = scores DOWN a lot

GREEN = scores UP slightly

**Student DECLINE >50%**

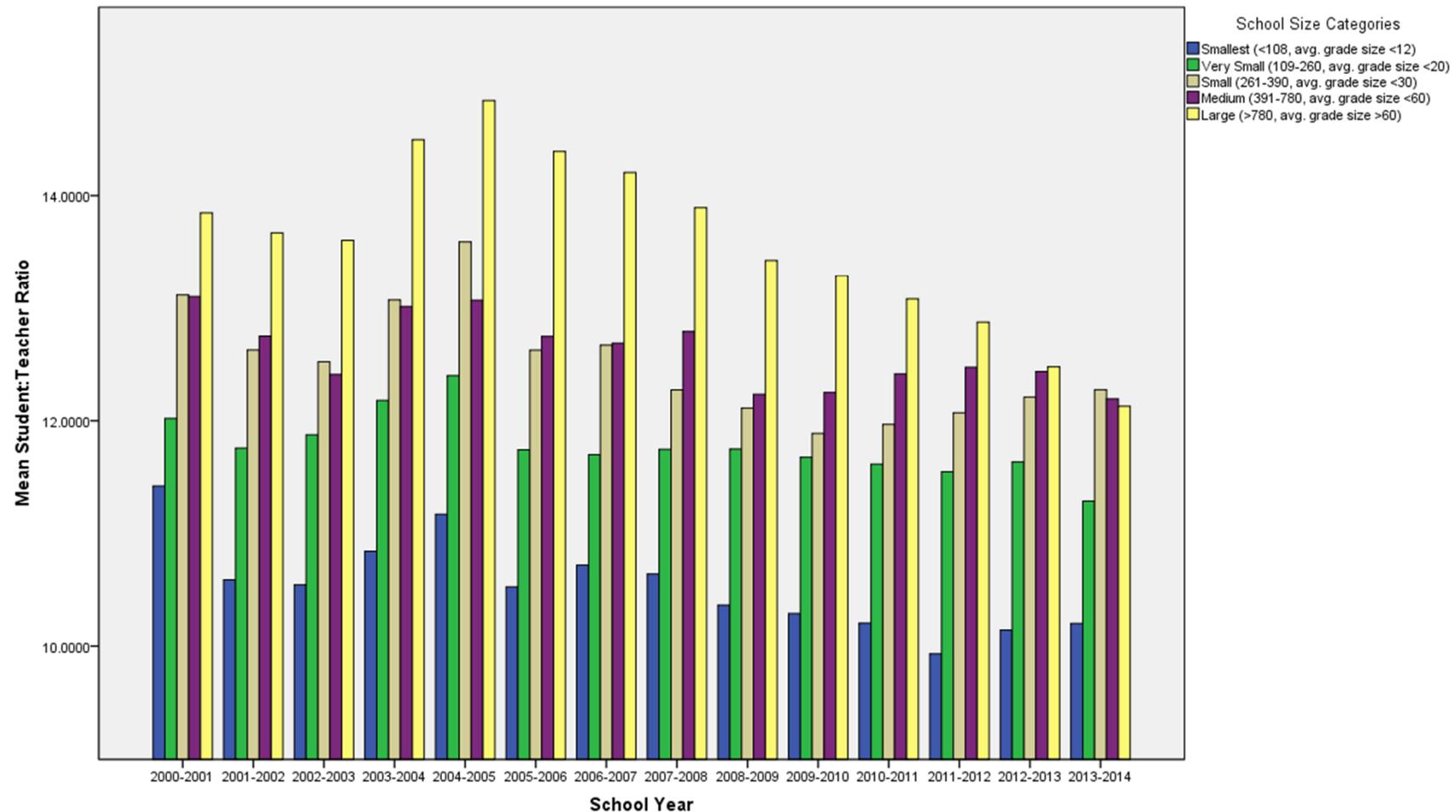


**Student-to-Teacher Ratio 7.5-9.0**



# Teacher : student ratios are lower in smaller schools, on average

Note: Teacher:student ratios are not the same as class sizes



# Opportunity Cost to Equity: Which do we want?

## Classes of 2-9 students or summer learning?

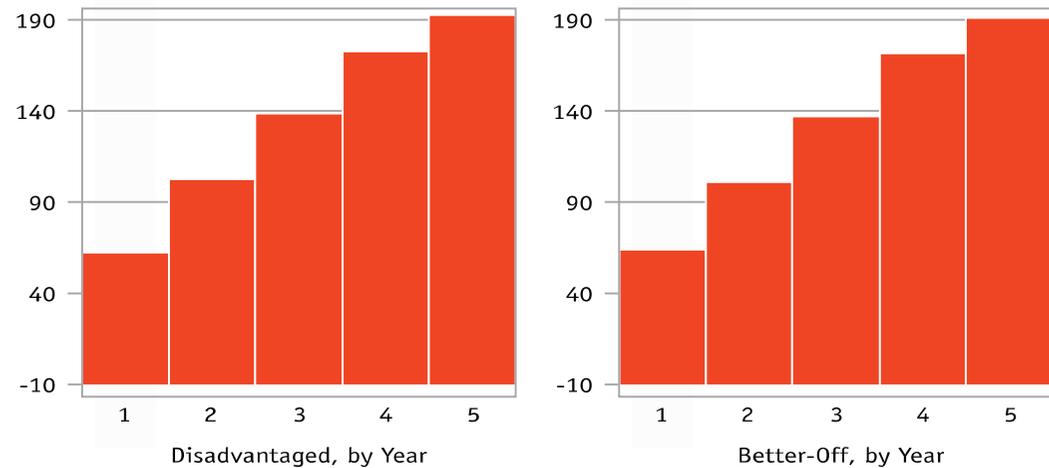
Cumulative gains on California Achievement Test in reading:

- During the school year, children in poverty learn as much as their affluent peers.
- Over the summer, the skills of children in poverty do not improve, but the skills of more affluent students do.

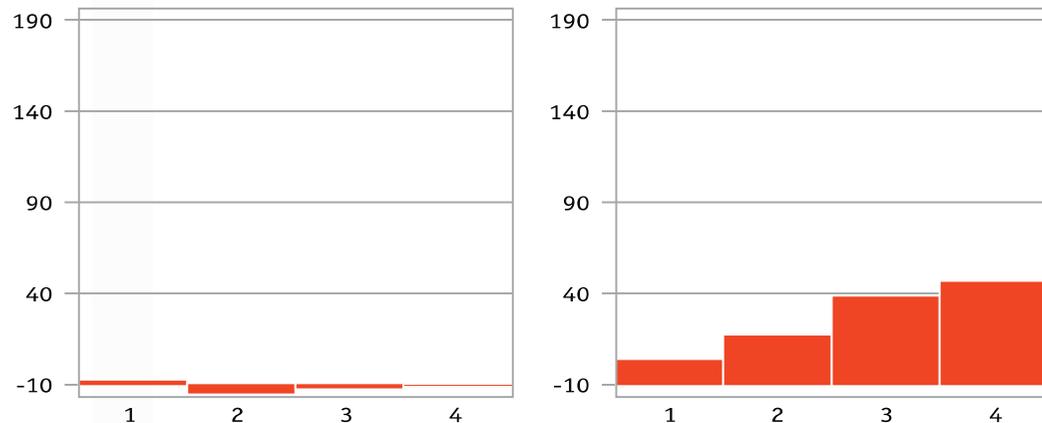
Source: Entwisle, Alexander, and Olson (1997), Table 3.1

Note: From "Summer learning and its implications: Insights from the Beginning School Study," by K. L. Alexander, D. R. Entwisle, and L. S. Olson, 2007b, *New Directions for Youth Development*, 114, p. 18. Copyright 2007. Reprinted with permission of John Wiley & Sons, Inc.

**School Year Cumulative Gains**



**Summer Cumulative Gains**

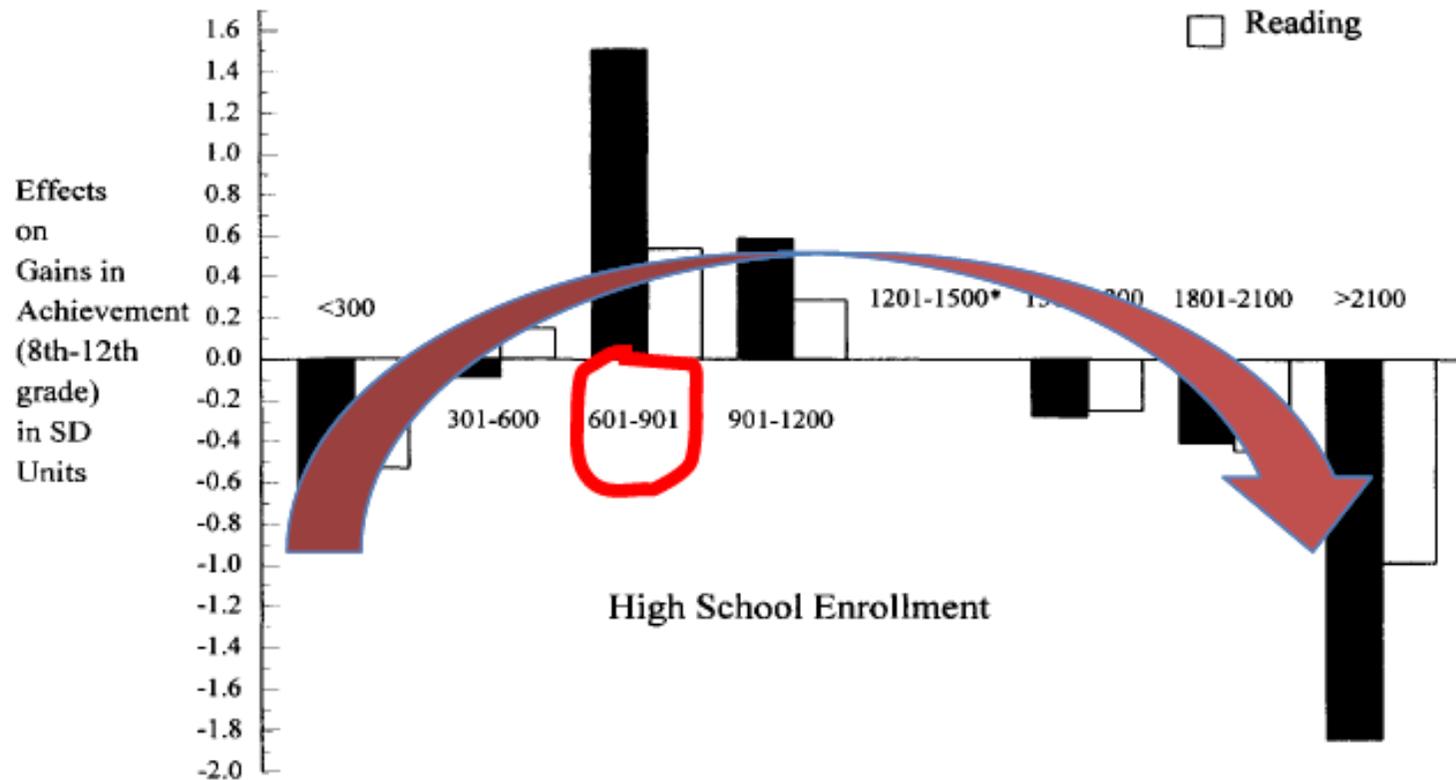


How do we provide high quality opportunities to learn in the most **equitable** and **affordable** way possible, given our current structure and demographic challenges?

# How small is VT?

- Almost 70% of our districts have an average daily membership smaller than 300 students.
- 30% of our districts have ADM of 100 or less.
- 21% of our schools have enrollments of 100 or less.
- 25% of our high schools have enrollments of 300 or less.

# Effects of School Size on Achievement Gains in High Schools?



\*1201-1500 students was used as the comparison group; thus by definition effect sizes are zero.

FIGURE 2. *Effects of high school size on achievement gains in mathematics and reading.*

# Effect of School Size on Gains in High School?

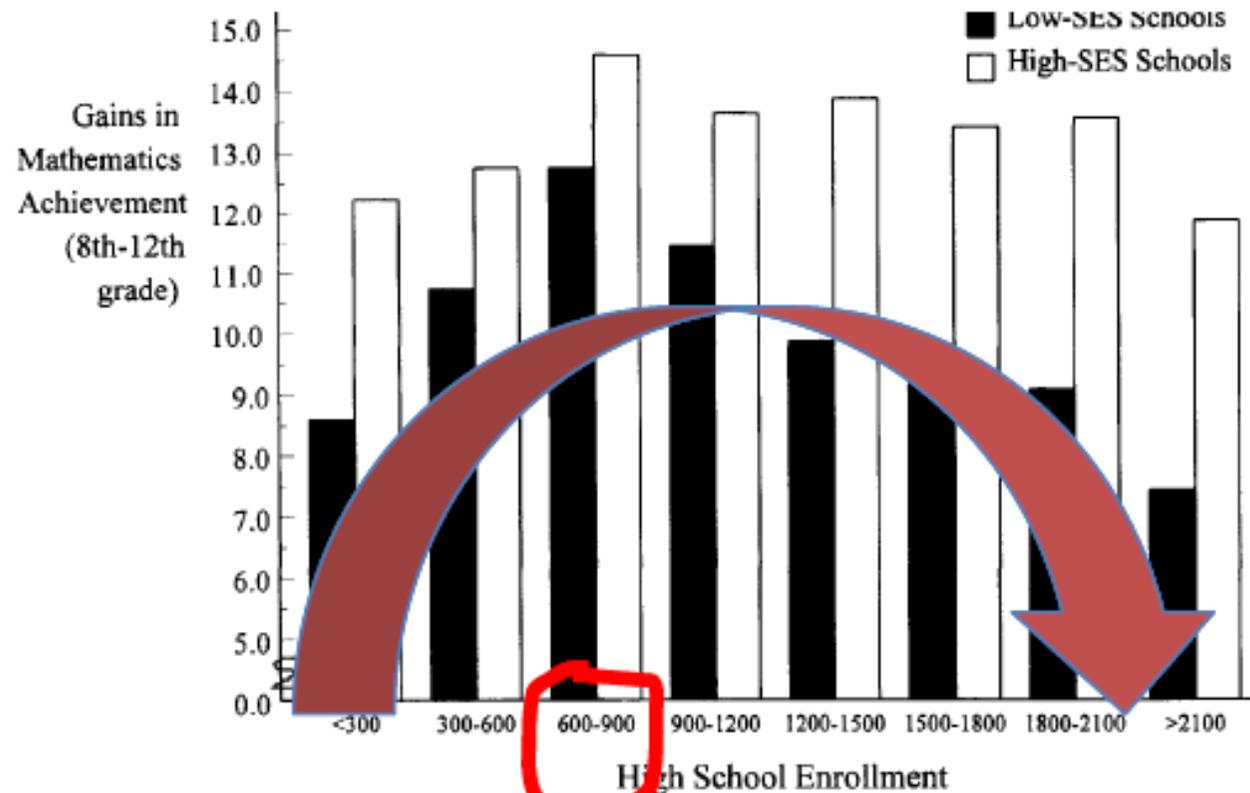


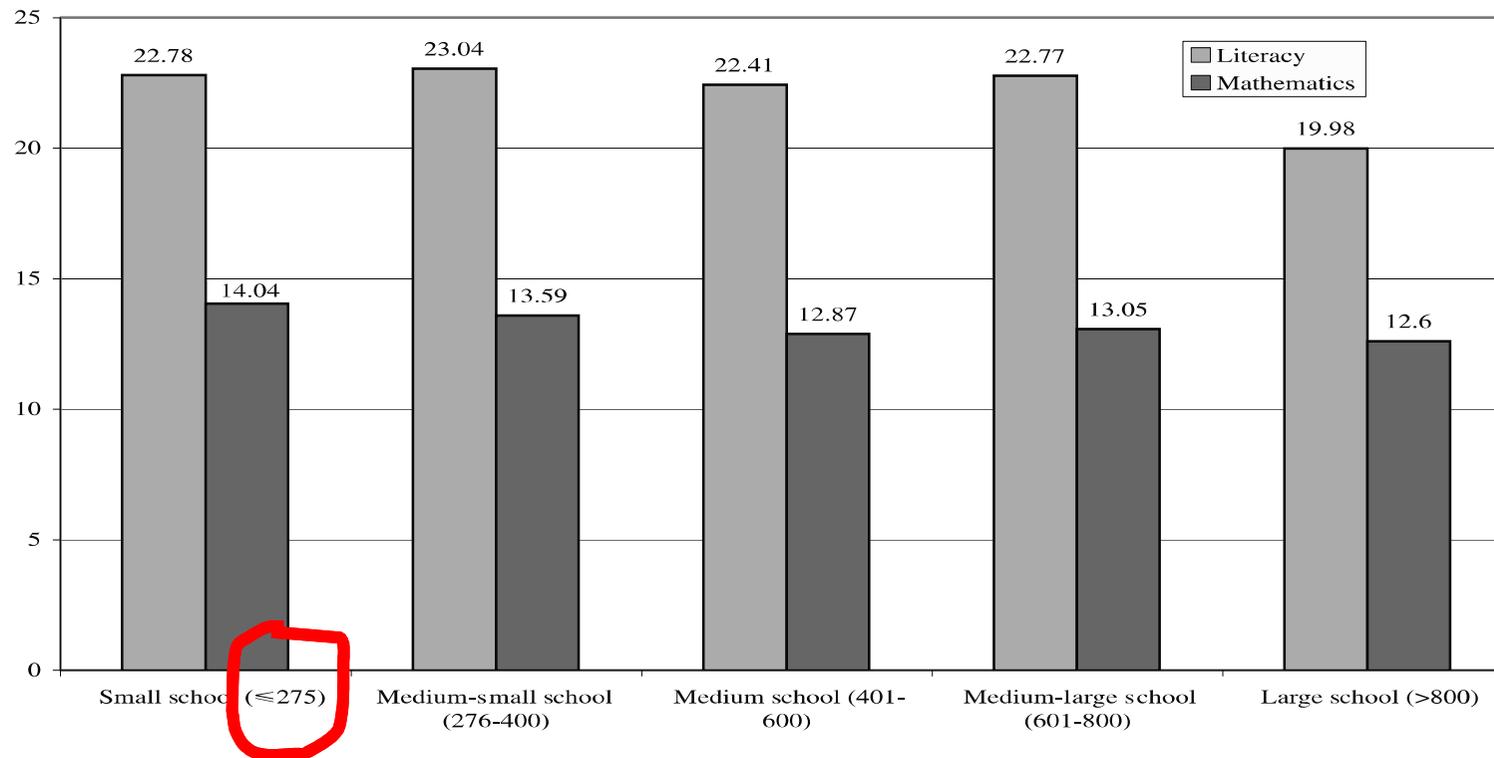
FIGURE 4. Average gains in mathematics achievement by high school size in low-SES and high-SES high schools.

Lee, Valerie E.; Smith, Julia B. **High School Size: Which Works Best and for Whom?** Educational Evaluation and Policy Analysis, v19 n3 p205-27 Fall 1997.

# Effect of School Size on Learning in Elementary Schools?

**Figure 5. Annual First-Grade Learning Rates, by School Size and Subject**

Points of learning per academic year



DOUGLAS D. READY AND VALERIE E. LEE . *Optimal Context Size in Elementary Schools: Disentangling the Effects of Class Size and School Size. Brookings Papers on Education Policy: 2006/2007*

# Effect of scale on the breadth of opportunities you can provide onsite?

Course offerings in two middle schools which feed into the same high school:

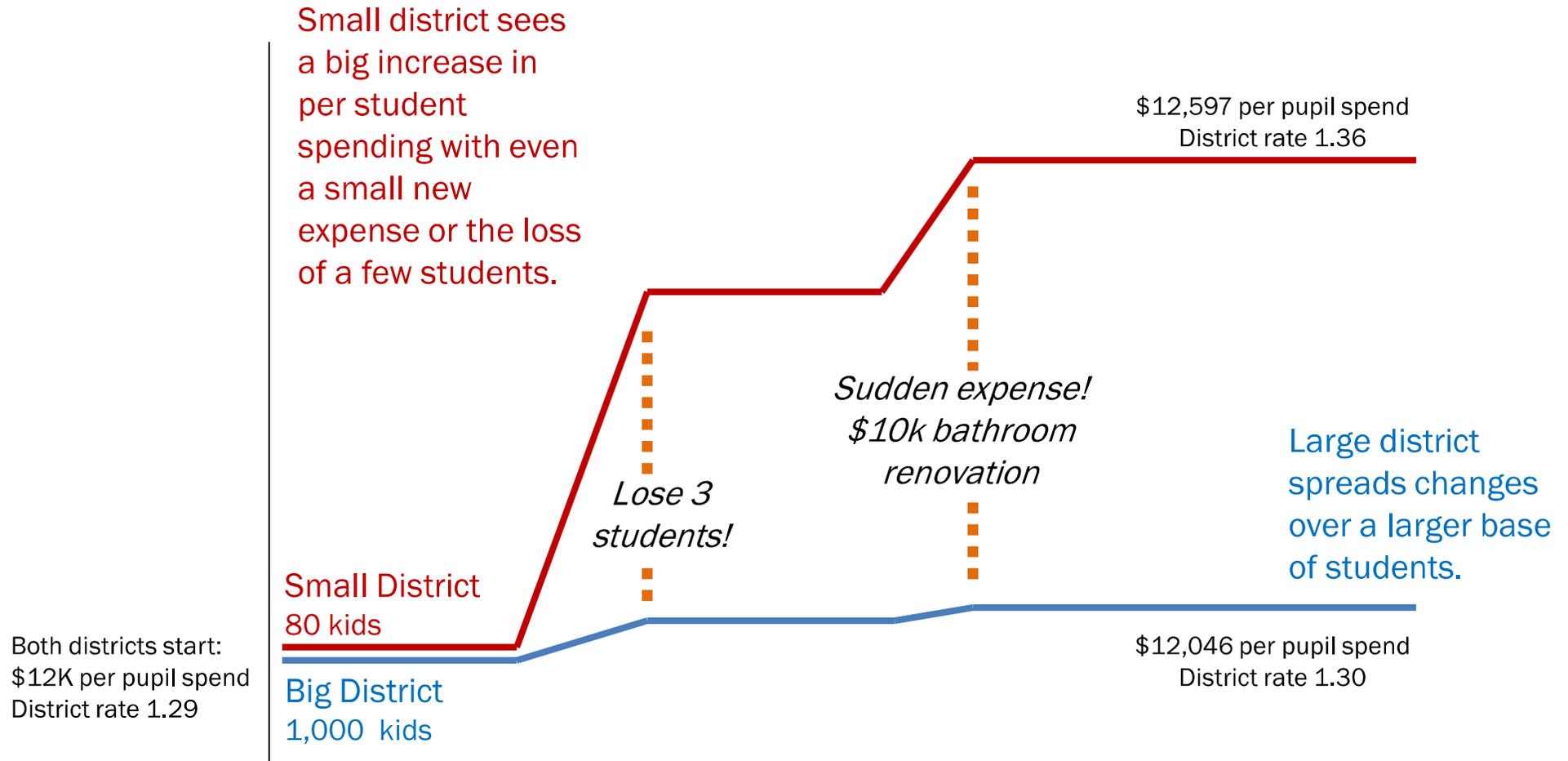
## School A:

Language Arts (grade 7)	3 sections
Language Arts (grade 8)	3 sections
Mathematics (grade 7)	3 sections
Mathematics (grade 8)	3 sections
Algebra I	1 section
Science	6 sections
Social Studies	6 sections
Art	20 sections
Physical Education	
French	19 sections
Concert Band	2 sections
Chorus	2 sections
Music	20 sections
Health Education	20 sections
Industrial Arts	20 sections
Family and Consumer Science	20 sections

## School B:

Language Arts (grade 7)	1 section
Language Arts (grade 8)	1 section
Mathematics (grade 7)	1 section
Mathematics (grade 8)	1 section
Science	1 section per grade
Social Studies	1 section per grade
Art	
Physical Education	

# Effect of Size on System Response



Per pupil spending is at the heart of the funding formula. This is a challenge for small districts.

# NY experience: merging districts can yield substantial cost savings for very small districts

Two districts,  
300 pupils each

= **31%** cost savings

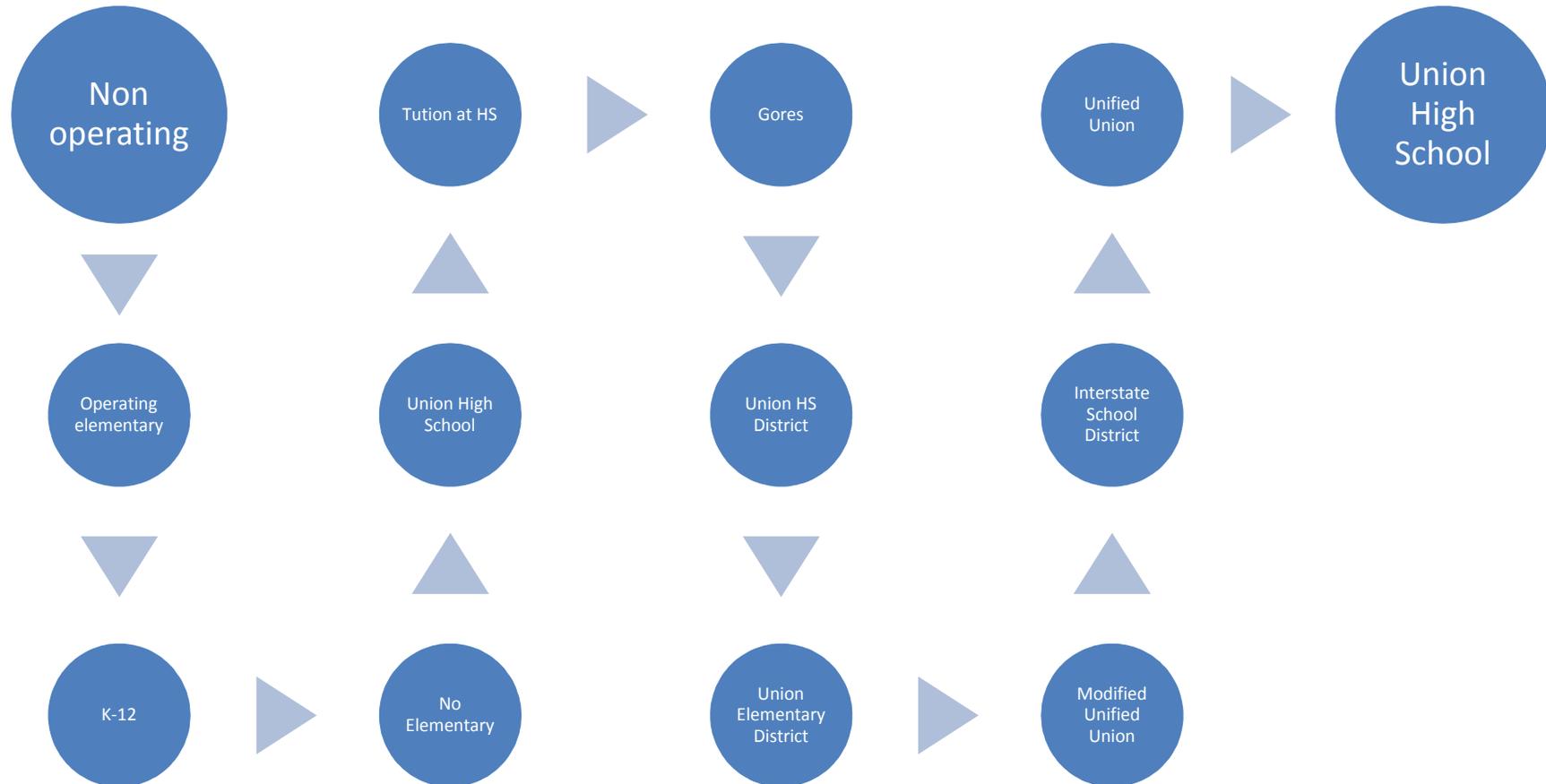


Two districts,  
1500 pupils each  
= **14%** cost savings



Duncombe, W., & Yinger, J. (2007). *Does school district consolidation cut costs?* Education, 2(4), 341-375.

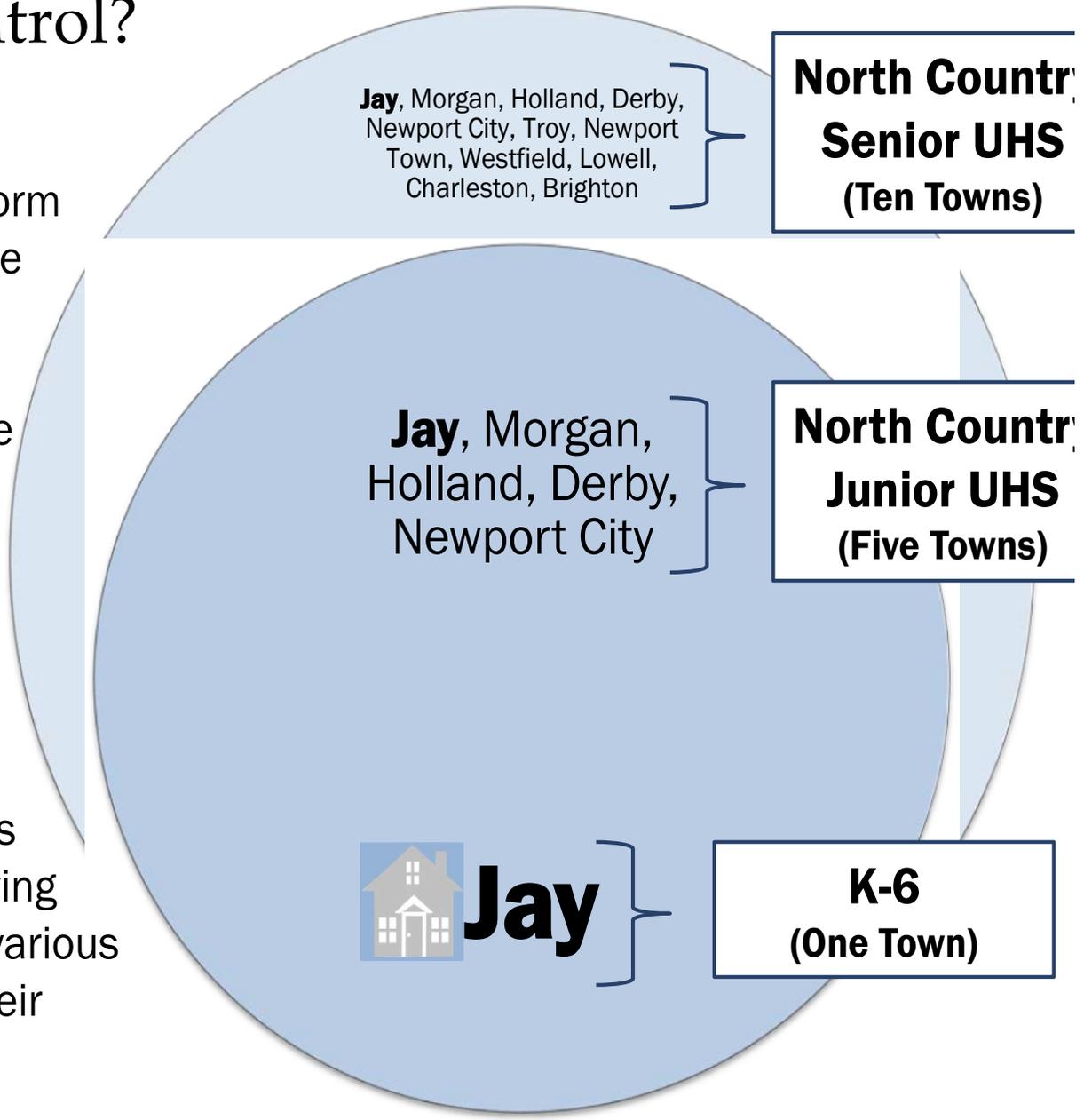
# 13 Current Forms of School Governance in VT



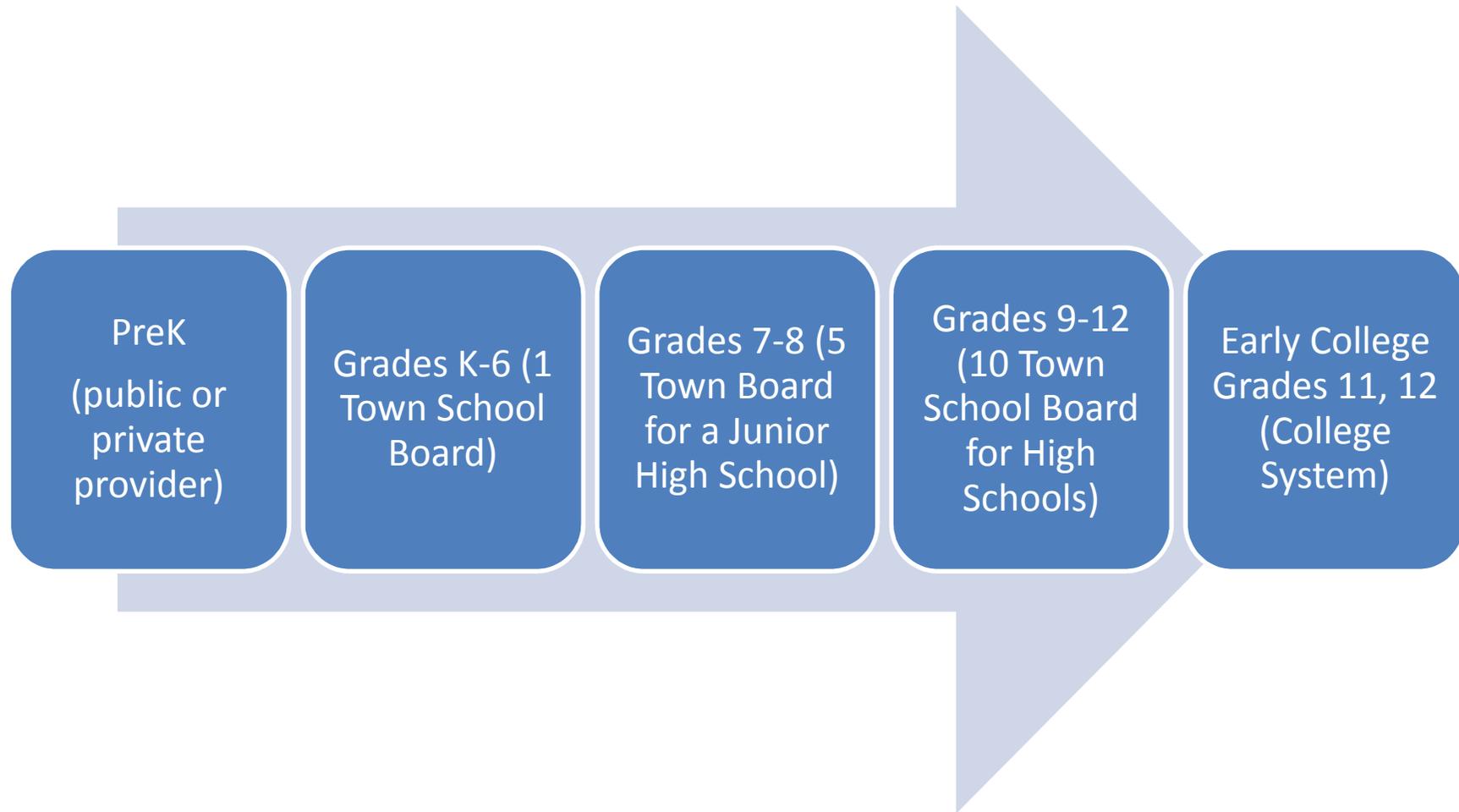
# What is Local Control?

Vermont does not have uniform preK-12 districts. Instead, we have a large number of configurations that include small preK-12 districts, large preK-12 districts, distinct lower school districts, union districts, etc.

One home can belong to a number of districts, all of which contribute to a home's local tax rate. It can be dizzying for a voter to decipher how various budget choices add up in their rates.



# Incoherence of Governance?



This is our delivery system.





**'Culture eats  
strategy for  
breakfast'**  
- Peter Drucker