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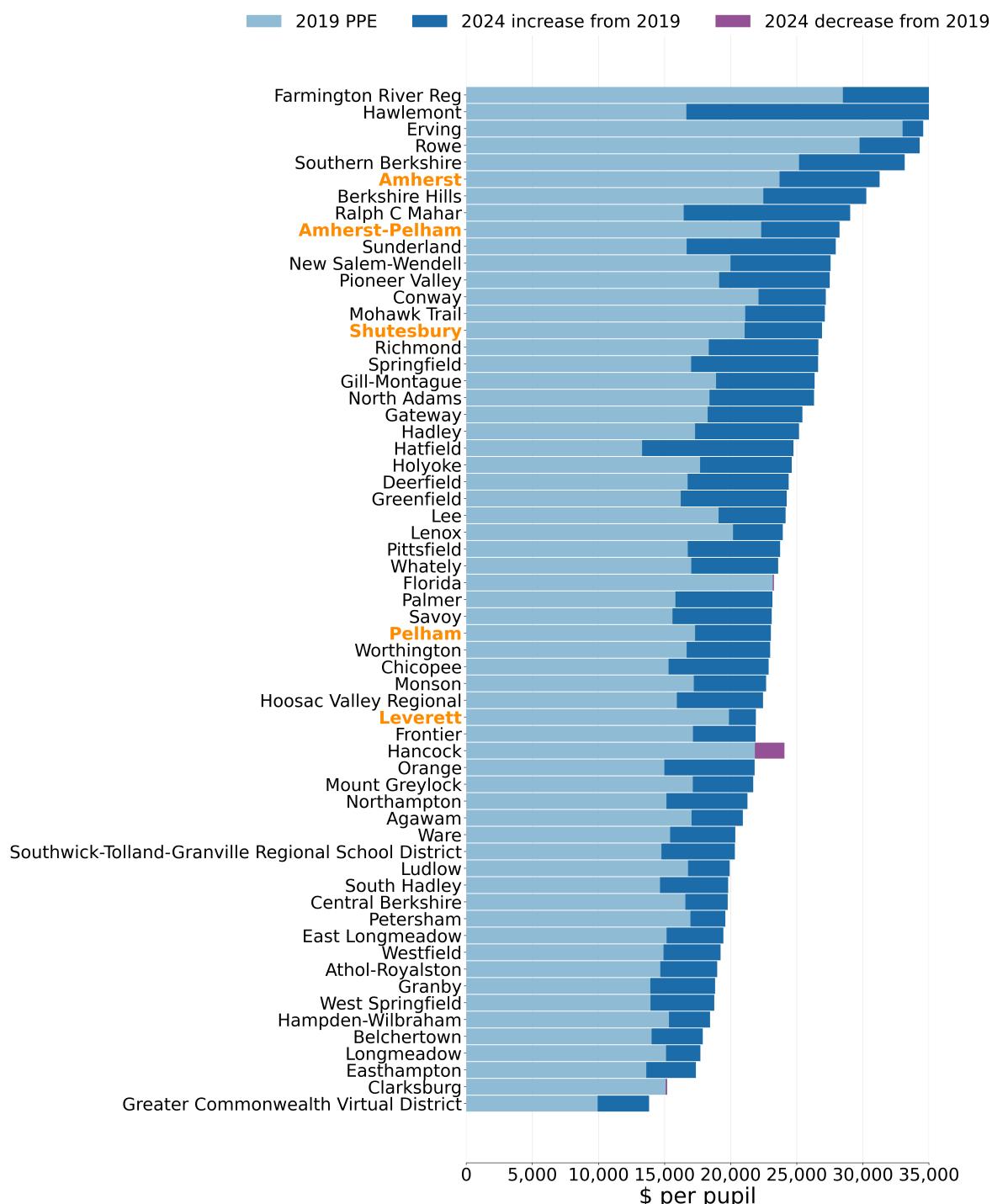
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## All Western MA Traditional Districts

Per-pupil expenditure overview: 2019 PPE (lighter) to 2024 PPE (darker segment)

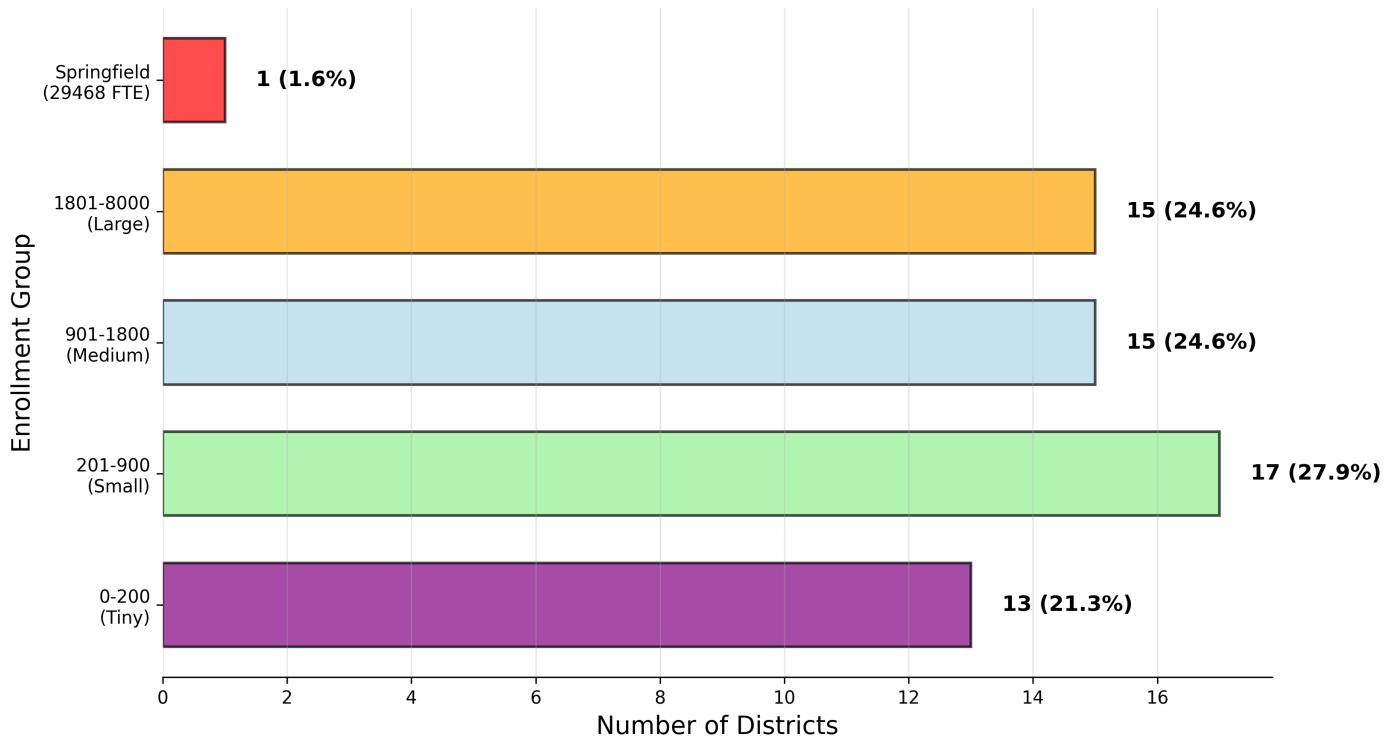
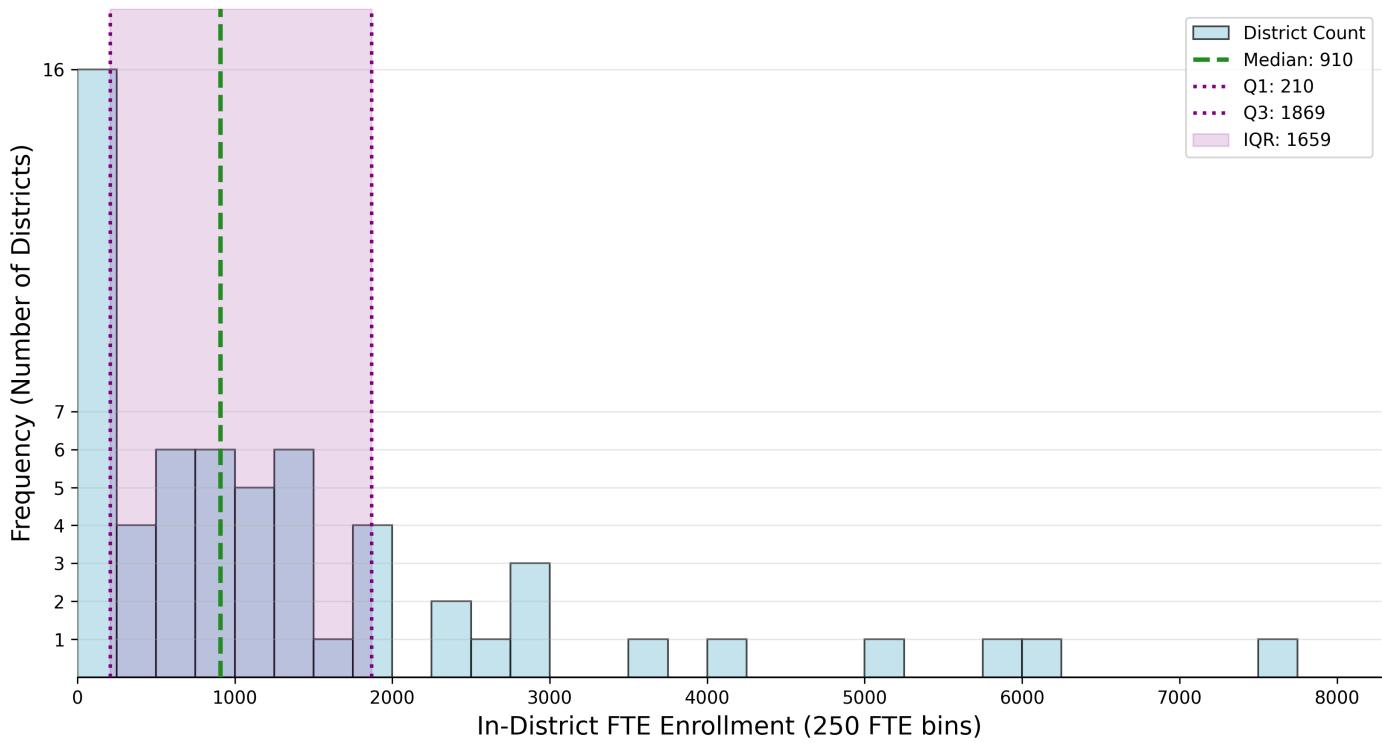


Each bar represents one district's per-pupil expenditures (PPE). Districts are sorted by 2024 PPE (lowest to highest).

Note: The following districts are omitted from this analysis: Chesterfield-Goshen (missing expenditure data), Hampshire (missing expenditure data), Southampton (missing expenditure data), Warwick (no enrollment data), Westhampton (missing expenditure data), Williamsburg (missing expenditure data).

## All Western MA Traditional Districts

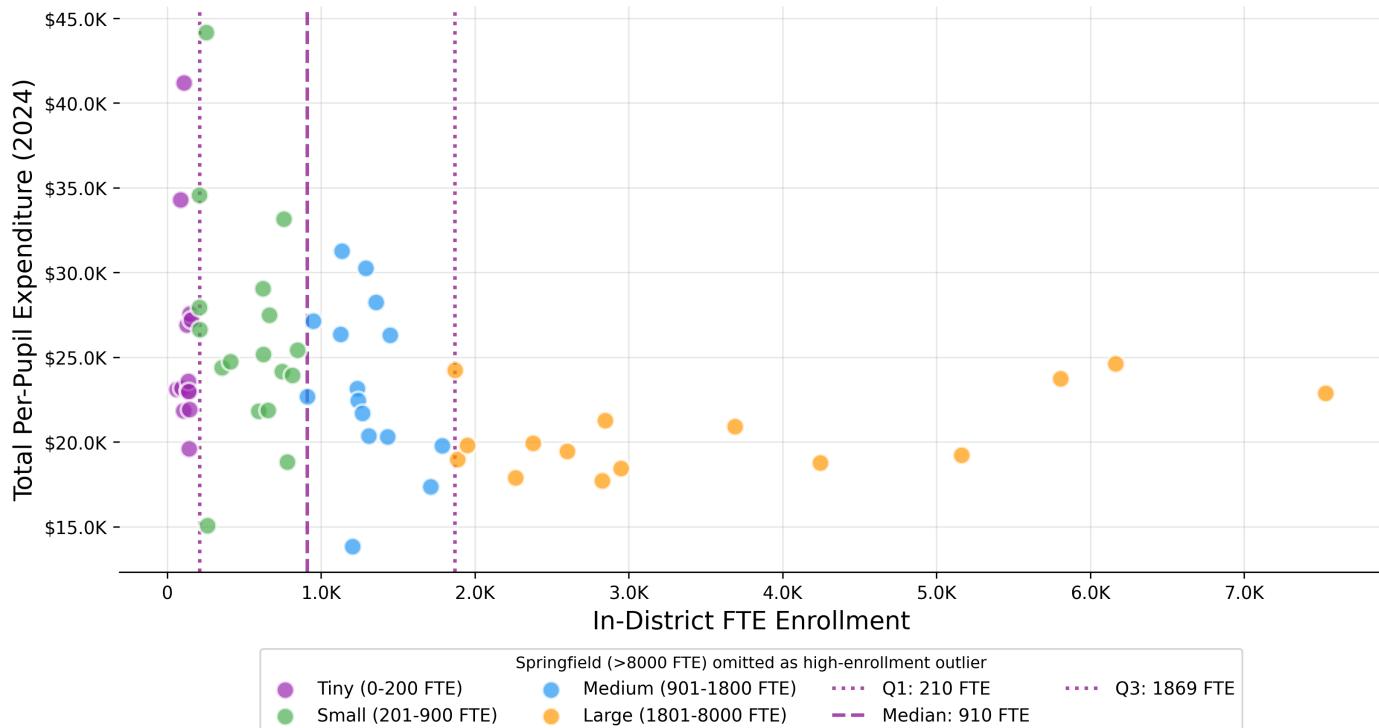
Enrollment distribution and proposed four-tier grouping



The histogram (top) shows right-skewed enrollment distribution using 250 FTE bins, with a long right tail and sparse districts at higher enrollments. Based on IQR analysis, districts are grouped into four enrollment-based cohorts (bottom): Small (201-900 FTE), Medium (901-1800 FTE), Large (1801-8000 FTE), and Springfield (>8000 FTE, statistical outlier). These cohorts enable meaningful comparisons between districts facing similar scale-related challenges in staffing, facilities, and programming.

# All Western MA Traditional Districts

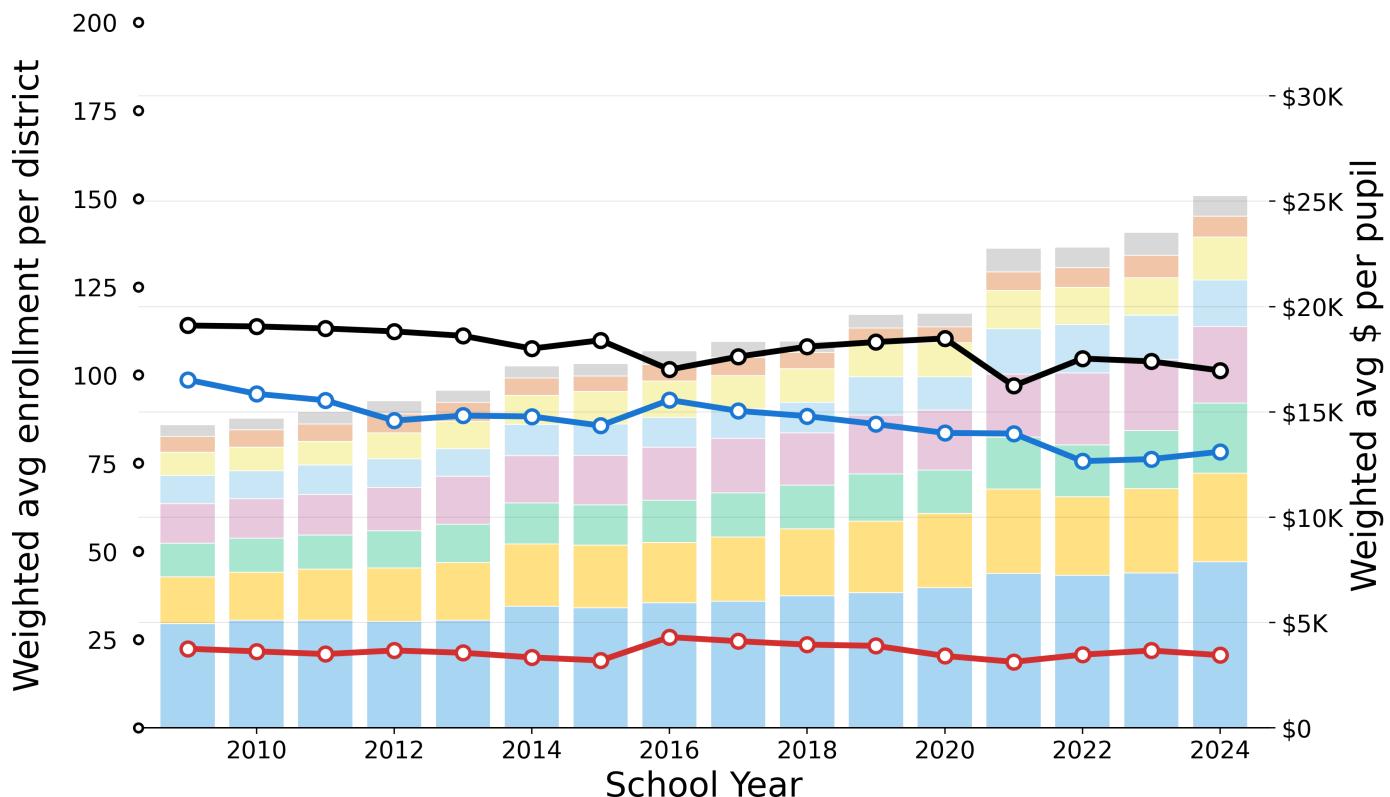
Scatterplot of enrollment vs. per-pupil expenditure with quartile boundaries



District	2024 In-district FTE	2024 PPE ▼	District	2024 In-district FTE	2024 PPE ▼
Hawlemont	108	\$41,189	Amherst	1,135	\$31,267
Rowe	86	\$34,297	Berkshire Hills	1,291	\$30,257
New Salem-Wendell	148	\$27,553	Amherst-Pelham	1,356	\$28,233
Conway	155	\$27,200	Mohawk Trail	951	\$27,124
Shutesbury	129	\$26,908	Gill-Montague	1,127	\$26,345
Whately	136	\$23,593	North Adams	1,447	\$26,300
Florida	94	\$23,175	Palmer	1,234	\$23,154
Savoy	62	\$23,099	Monson	910	\$22,675
Pelham	136	\$23,040	Hoosac Valley Regional	1,240	\$22,450
Worthington	140	\$22,985	Mount Greylock	1,269	\$21,705
Leverett	145	\$21,910	Ware	1,310	\$20,348
Hancock	106	\$21,836	Southwick-Tolland-Granville Regional School District	1,432	\$20,311
Petersham	141	\$19,591	Central Berkshire	1,787	\$19,773
Farmington River Reg	254	\$44,178	Easthampton	1,712	\$17,371
Erving	208	\$34,566	Greater Commonwealth Virtual District	1,204	\$13,833
Southern Berkshire	758	\$33,162	Holyoke	6,165	\$24,619
Ralph C Mahar	622	\$29,040	Greenfield	1,869	\$24,237
Sunderland	209	\$27,953	Pittsfield	5,806	\$23,739
Pioneer Valley	664	\$27,490	Chicopee	7,530	\$22,866
Richmond	210	\$26,631	Northampton	2,846	\$21,267
Gateway	847	\$25,430	Agawam	3,691	\$20,920
Hadley	624	\$25,173	Ludlow	2,377	\$19,928
Hatfield	412	\$24,752	South Hadley	1,950	\$19,810
Deerfield	355	\$24,382	East Longmeadow	2,600	\$19,444
Lee	746	\$24,155	Westfield	5,162	\$19,236
Lenox	814	\$23,944	Athol-Royalston	1,887	\$18,981
Frontier	656	\$21,881	West Springfield	4,245	\$18,760
Orange	593	\$21,809	Hampden-Wilbraham	2,950	\$18,436
Granby	781	\$18,824	Belchertown	2,265	\$17,887
Clarksburg	262	\$15,078	Longmeadow	2,826	\$17,710

## All Western MA Traditional Districts: Tiny (0-200 FTE)

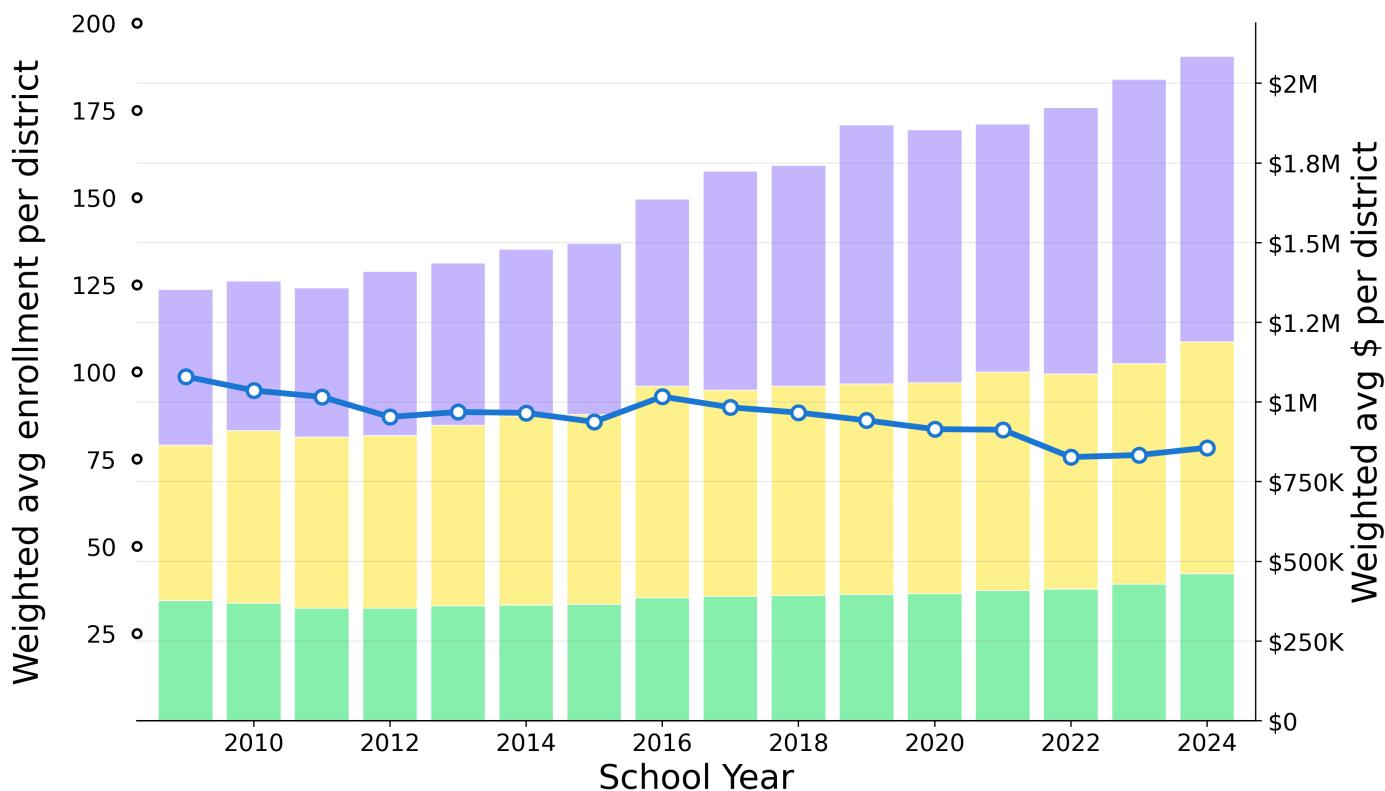
PPE vs Enrollment — Weighted average per district



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$546	+3.9%	+5.6%	+8.4%	\$970
Administration	\$755	+1.9%	+1.9%	+6.5%	\$1,005
Instructional Leadership	\$1,094	+4.3%	+4.1%	+5.3%	\$2,044
Operations and Maintenance	\$1,355	+3.3%	+4.0%	+3.7%	\$2,200
Other Teaching Services	\$1,859	+4.6%	+4.9%	+5.5%	\$3,637
Pupil Services	\$1,611	+4.9%	+5.5%	+8.2%	\$3,324
Insurance, Retirement and Other	\$2,223	+4.3%	+3.5%	+4.3%	\$4,196
Teachers	\$4,939	+3.2%	+3.2%	+4.2%	\$7,892
<b>Total</b>	<b>\$14,382</b>	<b>+3.8%</b>	<b>+3.9%</b>	<b>+5.2%</b>	<b>\$25,269</b>
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	114	-0.8%	-0.6%	-1.5%	101
Foundation Enrollment	99	-1.5%	-1.2%	-1.9%	78
Out-of-District FTE Pupils	22	-0.6%	+0.3%	-2.4%	21

## All Western MA Traditional Districts: Tiny (0-200 FTE)

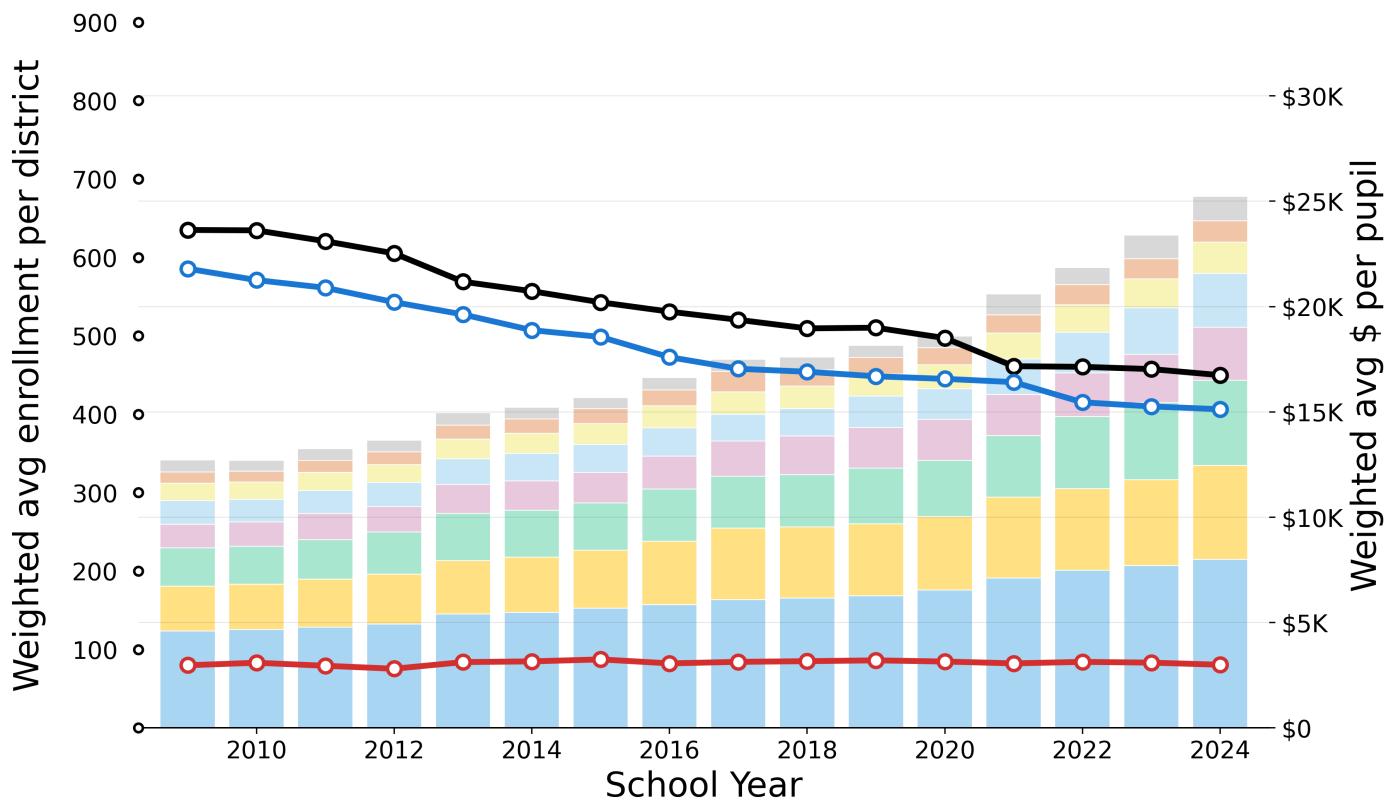
Chapter 70 Aid and Net School Spending (NSS). Weighted avg funding per district: State aid (Ch70), Required local contribution, and Actual spending above requirement



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$491,186	-2.27%	-4.09%	-16.50%	\$347,956
Req NSS (minus Ch70)	\$547,584	2.65%	1.78%	2.14%	\$810,963
Ch70 Aid	\$409,695	1.46%	2.37%	2.99%	\$509,086
<b>Total (Actual NSS)</b>	<b>\$1,448,465</b>	<b>0.95%</b>	<b>0.35%</b>	<b>-3.81%</b>	<b>\$1,668,006</b>
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	103	-1.3%	-1.3%	-1.5%	85

## All Western MA Traditional Districts: Small (201-900 FTE)

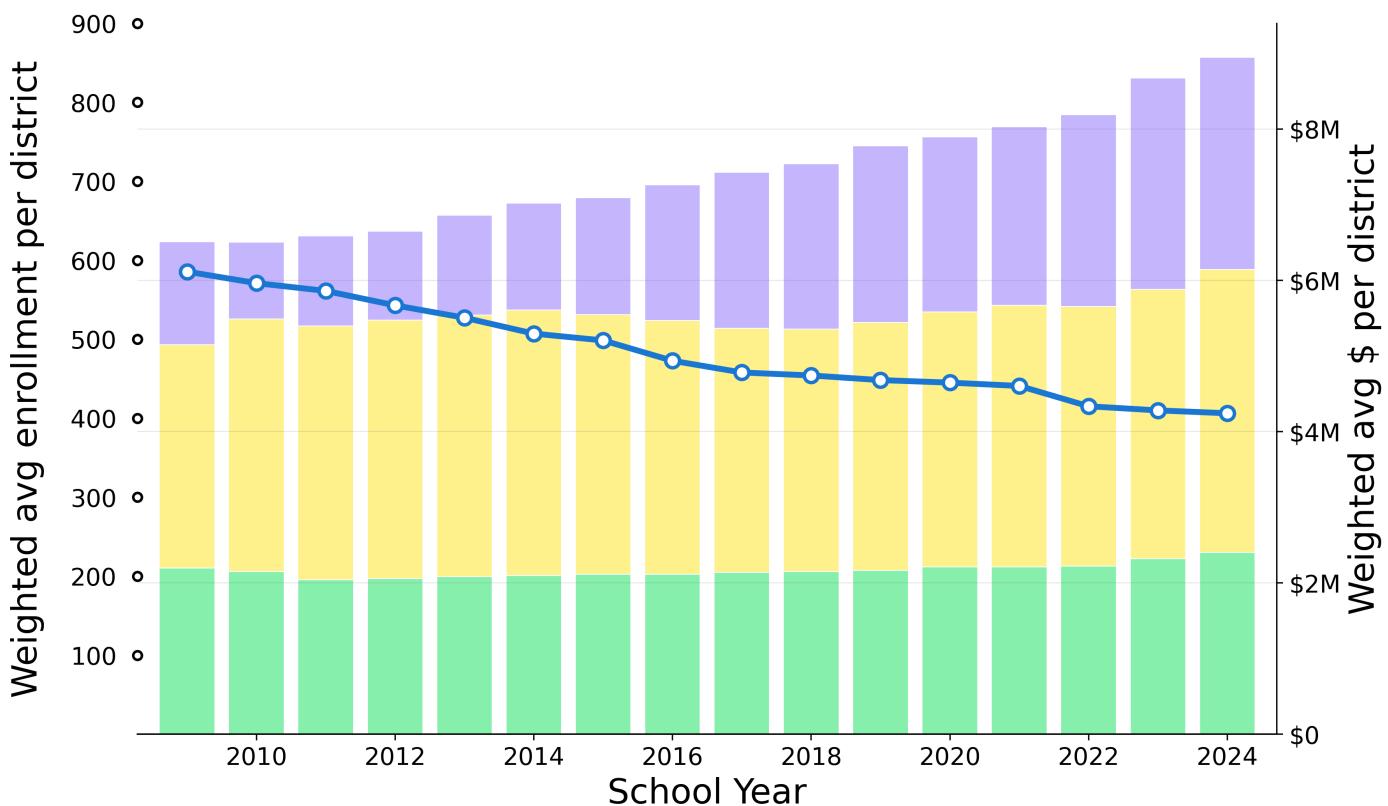
PPE vs Enrollment — Weighted average per district



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$563	+4.9%	+7.9%	+15.2%	\$1,158
Administration	\$541	+4.2%	+4.0%	+4.9%	\$1,009
Instructional Leadership	\$820	+4.1%	+4.5%	+7.3%	\$1,495
Operations and Maintenance	\$1,128	+5.6%	+7.0%	+11.2%	\$2,547
Other Teaching Services	\$1,122	+5.6%	+6.1%	+5.6%	\$2,529
Pupil Services	\$1,811	+5.5%	+6.1%	+8.9%	\$4,045
Insurance, Retirement and Other	\$2,141	+5.0%	+5.4%	+5.4%	\$4,453
Teachers	\$4,590	+3.8%	+3.9%	+5.0%	\$7,997
<b>Total</b>	<b>\$12,716</b>	<b>+4.7%</b>	<b>+5.2%</b>	<b>+6.8%</b>	<b>\$25,233</b>
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	635	-2.3%	-2.1%	-2.5%	450
Foundation Enrollment	586	-2.4%	-2.2%	-1.9%	406
Out-of-District FTE Pupils	80	+0.1%	-0.5%	-1.3%	80

## All Western MA Traditional Districts: Small (201-900 FTE)

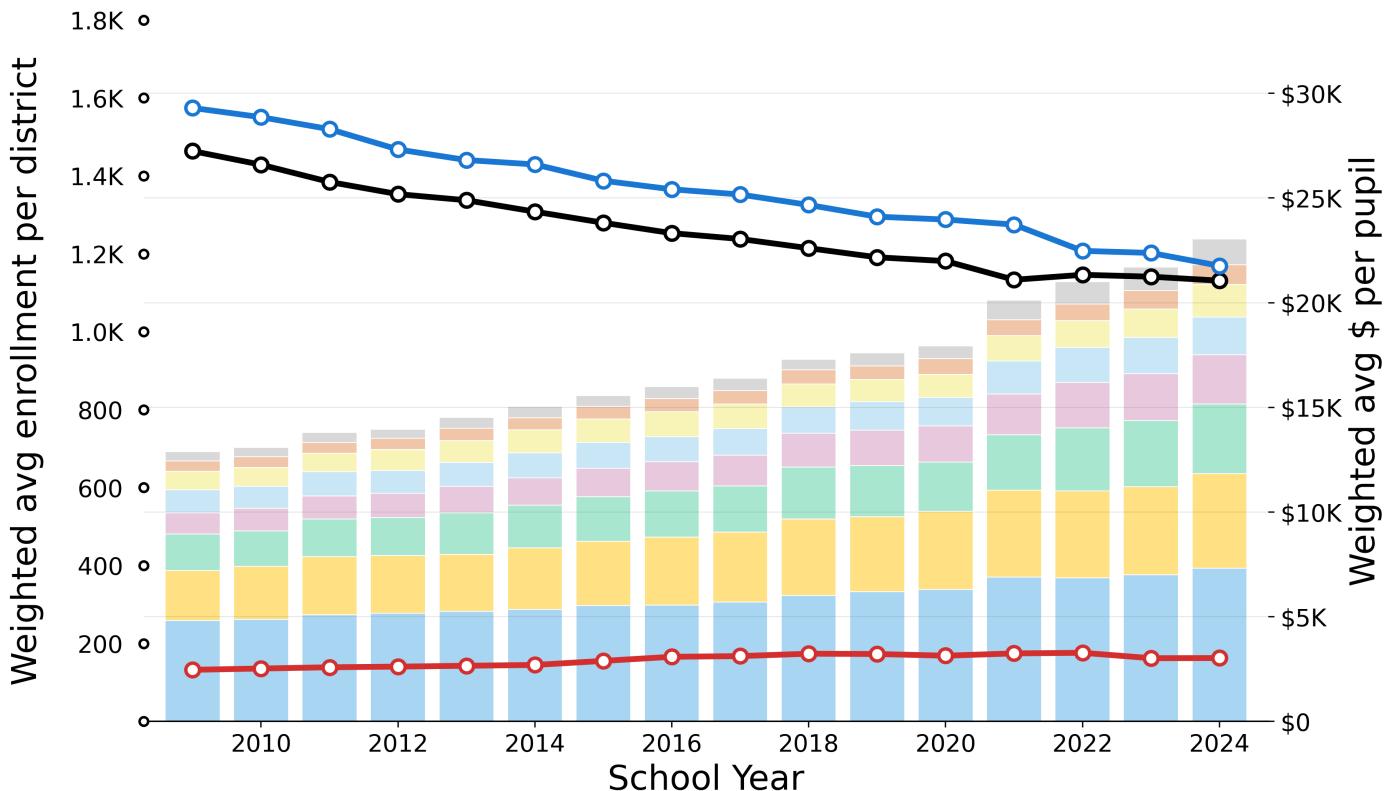
Chapter 70 Aid and Net School Spending (NSS). Weighted avg funding per district: State aid (Ch70), Required local contribution, and Actual spending above requirement



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$1,349,010	0.22%	-0.10%	-10.01%	\$1,393,589
Req NSS (minus Ch70)	\$2,961,052	1.82%	0.95%	2.80%	\$3,880,849
Ch70 Aid	\$2,280,765	0.56%	1.26%	1.86%	\$2,481,152
Total (Actual NSS)	\$6,590,827	1.09%	0.85%	-0.63%	\$7,755,591
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	600	-2.3%	-2.1%	-1.9%	424

## All Western MA Traditional Districts: Medium (901-1800 FTE)

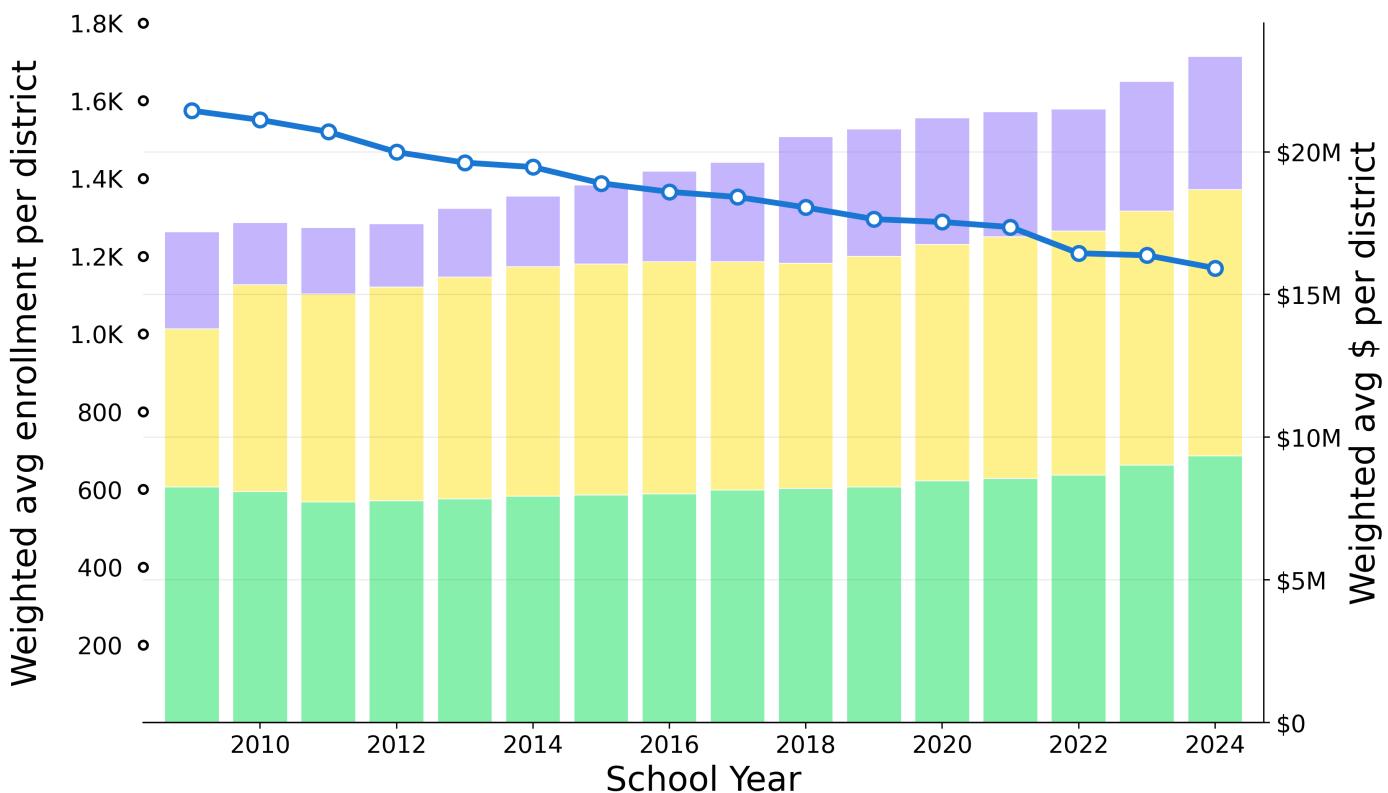
PPE vs Enrollment — Weighted average per district



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$450	+6.9%	+8.5%	+14.2%	\$1,223
Administration	\$491	+4.5%	+5.3%	+8.2%	\$952
Instructional Leadership	\$892	+3.8%	+3.5%	+8.0%	\$1,553
Operations and Maintenance	\$1,100	+3.4%	+4.2%	+5.9%	\$1,810
Other Teaching Services	\$1,013	+5.7%	+5.9%	+6.6%	\$2,334
Pupil Services	\$1,740	+4.4%	+5.1%	+6.3%	\$3,327
Insurance, Retirement and Other	\$2,387	+4.4%	+4.4%	+4.8%	\$4,532
Teachers	\$4,816	+2.8%	+3.2%	+3.4%	\$7,309
<b>Total</b>	<b>\$12,890</b>	<b>+3.9%</b>	<b>+4.4%</b>	<b>+5.5%</b>	<b>\$23,041</b>
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	1,464	-1.7%	-1.4%	-1.0%	1,131
Foundation Enrollment	1,574	-2.0%	-2.0%	-2.0%	1,169
Out-of-District FTE Pupils	132	+1.4%	+1.2%	-1.2%	163

## All Western MA Traditional Districts: Medium (901-1800 FTE)

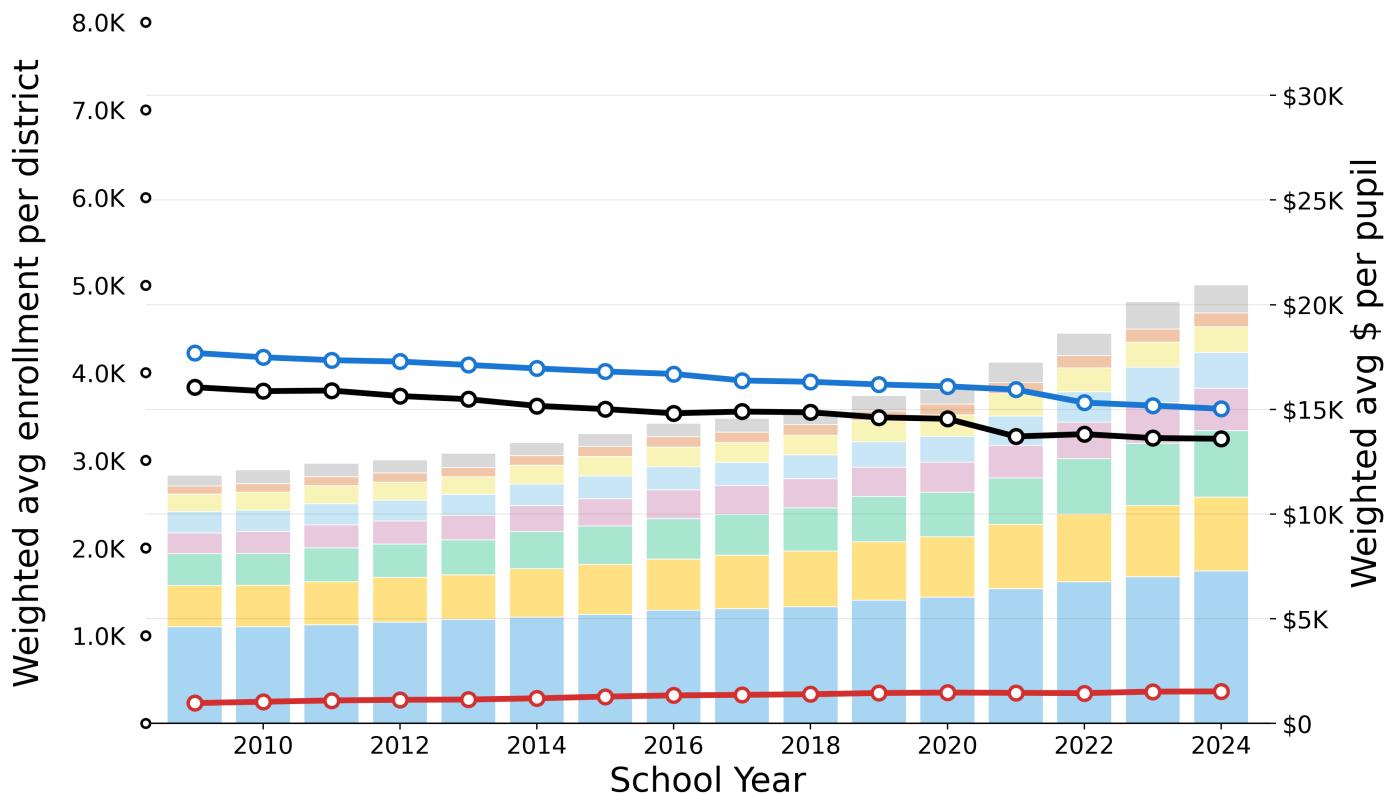
Chapter 70 Aid and Net School Spending (NSS). Weighted avg funding per district: State aid (Ch70), Required local contribution, and Actual spending above requirement



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$3,401,802	2.14%	6.58%	0.92%	\$4,674,942
Req NSS (minus Ch70)	\$5,535,969	3.54%	1.50%	2.91%	\$9,322,879
Ch70 Aid	\$8,263,241	0.83%	1.66%	2.53%	\$9,350,247
Total (Actual NSS)	\$17,201,012	2.06%	2.39%	2.34%	\$23,348,069
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	1,574	-2.0%	-2.0%	-2.0%	1,169

## All Western MA Traditional Districts: Large (1801-8000 FTE)

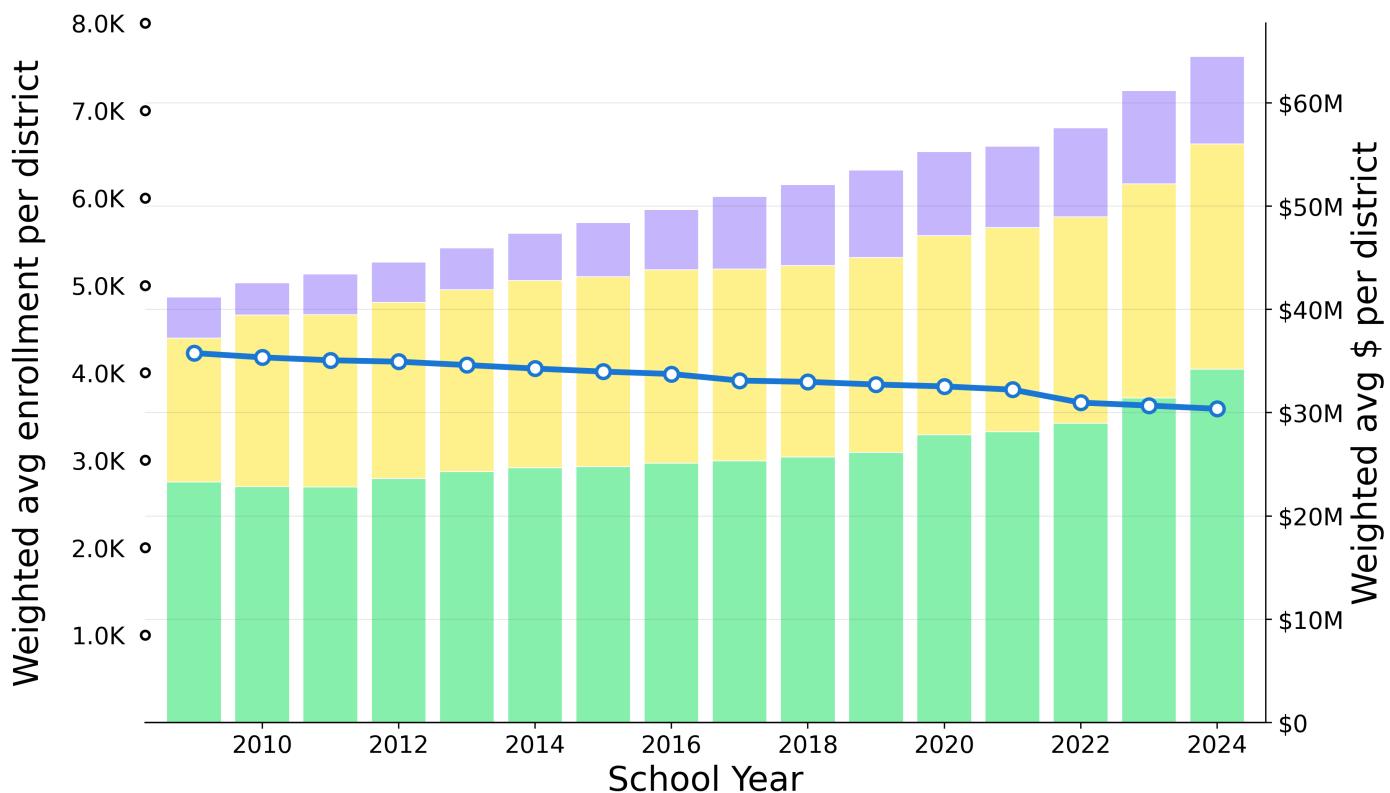
PPE vs Enrollment — Weighted average per district



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$516	+6.6%	+7.8%	+13.0%	\$1,337
Administration	\$396	+3.5%	+3.5%	+7.1%	\$659
Instructional Leadership	\$813	+2.8%	+3.3%	+4.3%	\$1,233
Operations and Maintenance	\$1,035	+3.3%	+5.1%	+6.8%	\$1,695
Other Teaching Services	\$990	+4.9%	+5.2%	+7.8%	\$2,035
Pupil Services	\$1,531	+5.0%	+5.9%	+8.0%	\$3,177
Insurance, Retirement and Other	\$1,960	+4.0%	+4.3%	+4.7%	\$3,522
Teachers	\$4,617	+3.1%	+3.7%	+4.4%	\$7,280
Total	\$11,858	+3.9%	+4.5%	+6.0%	\$20,938
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	3,835	-1.1%	-1.1%	-1.4%	3,247
Foundation Enrollment	4,226	-1.1%	-1.2%	-1.5%	3,588
Out-of-District FTE Pupils	232	+3.1%	+2.5%	+1.0%	364

## All Western MA Traditional Districts: Large (1801-8000 FTE)

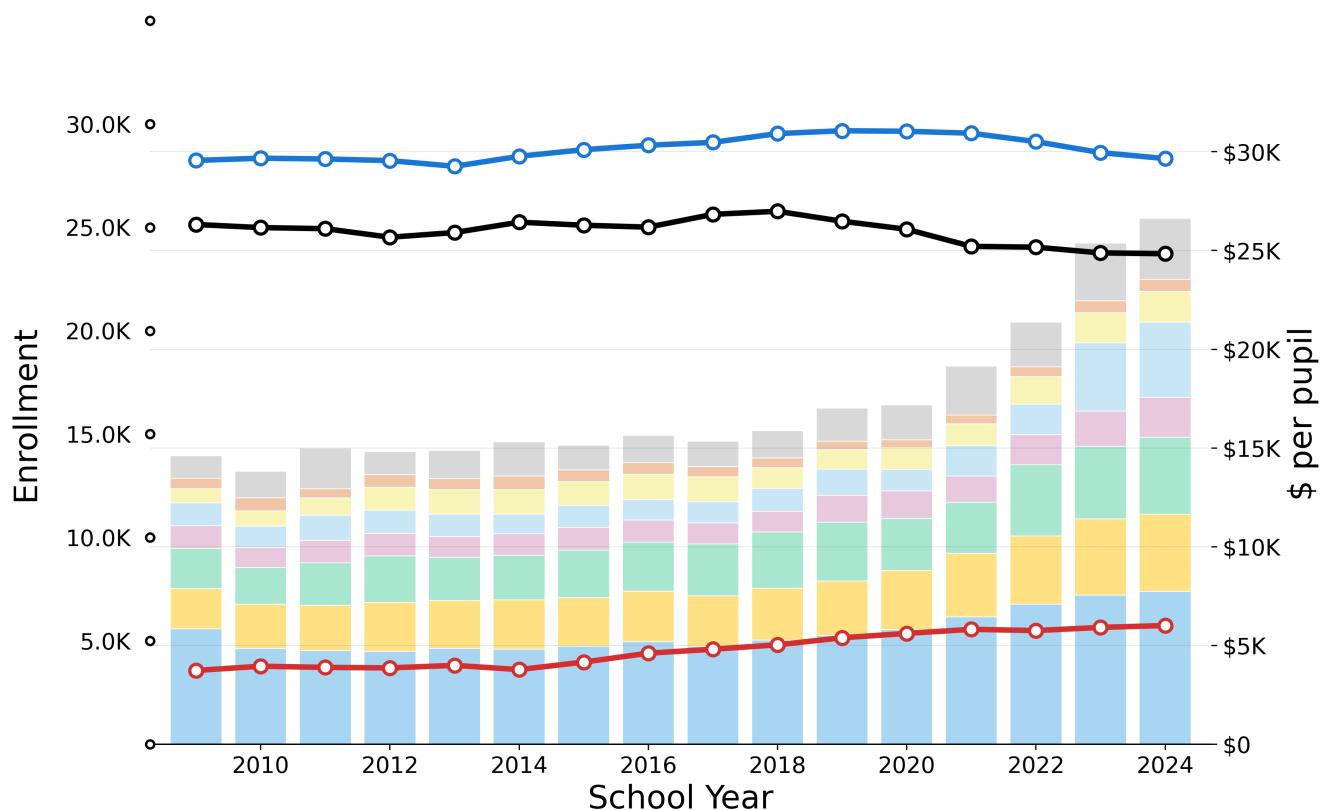
Chapter 70 Aid and Net School Spending (NSS). Weighted avg funding per district: State aid (Ch70), Required local contribution, and Actual spending above requirement



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$3,962,764	5.20%	6.45%	-0.01%	\$8,472,756
Req NSS (minus Ch70)	\$13,924,565	3.04%	1.86%	2.98%	\$21,830,731
Ch70 Aid	\$23,298,621	2.59%	3.33%	5.50%	\$34,192,767
Total (Actual NSS)	\$41,185,951	3.04%	3.14%	3.82%	\$64,496,255
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	4,226	-1.1%	-1.2%	-1.5%	3,588

## All Western MA Traditional Districts: Springfield (29,468 FTE)

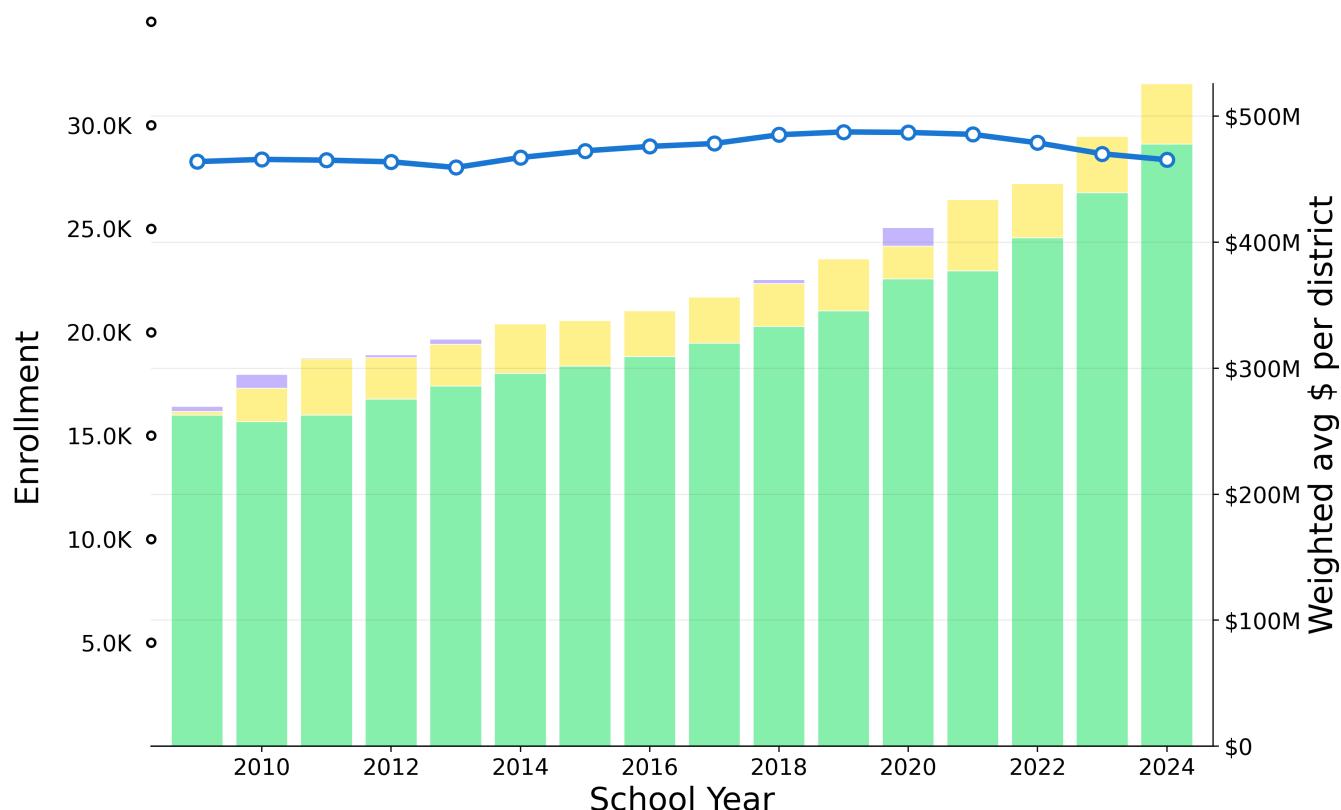
PPE vs Enrollment — Weighted average per district



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$1,143	+6.8%	+5.9%	+12.9%	\$3,071
Administration	\$533	+0.9%	-1.1%	+7.9%	\$609
Instructional Leadership	\$719	+5.3%	+2.4%	+9.8%	\$1,571
Operations and Maintenance	\$1,150	+8.3%	+14.3%	+23.3%	\$3,806
Other Teaching Services	\$1,143	+3.8%	+6.4%	+8.2%	\$2,014
Pupil Services	\$2,031	+4.4%	+5.6%	+5.6%	\$3,901
Insurance, Retirement and Other	\$2,050	+4.4%	+4.6%	+7.2%	\$3,906
Teachers	\$5,839	+1.9%	+4.8%	+7.0%	\$7,737
Total	\$14,608	+4.1%	+5.7%	+9.4%	\$26,615
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	25,137	-0.4%	-0.6%	-1.3%	23,723
Foundation Enrollment	28,235	+0.0%	-0.0%	-0.9%	28,326
Out-of-District FTE Pupils	3,571	+3.2%	+4.7%	+2.2%	5,745

## All Western MA Traditional Districts: Springfield (29,468 FTE)

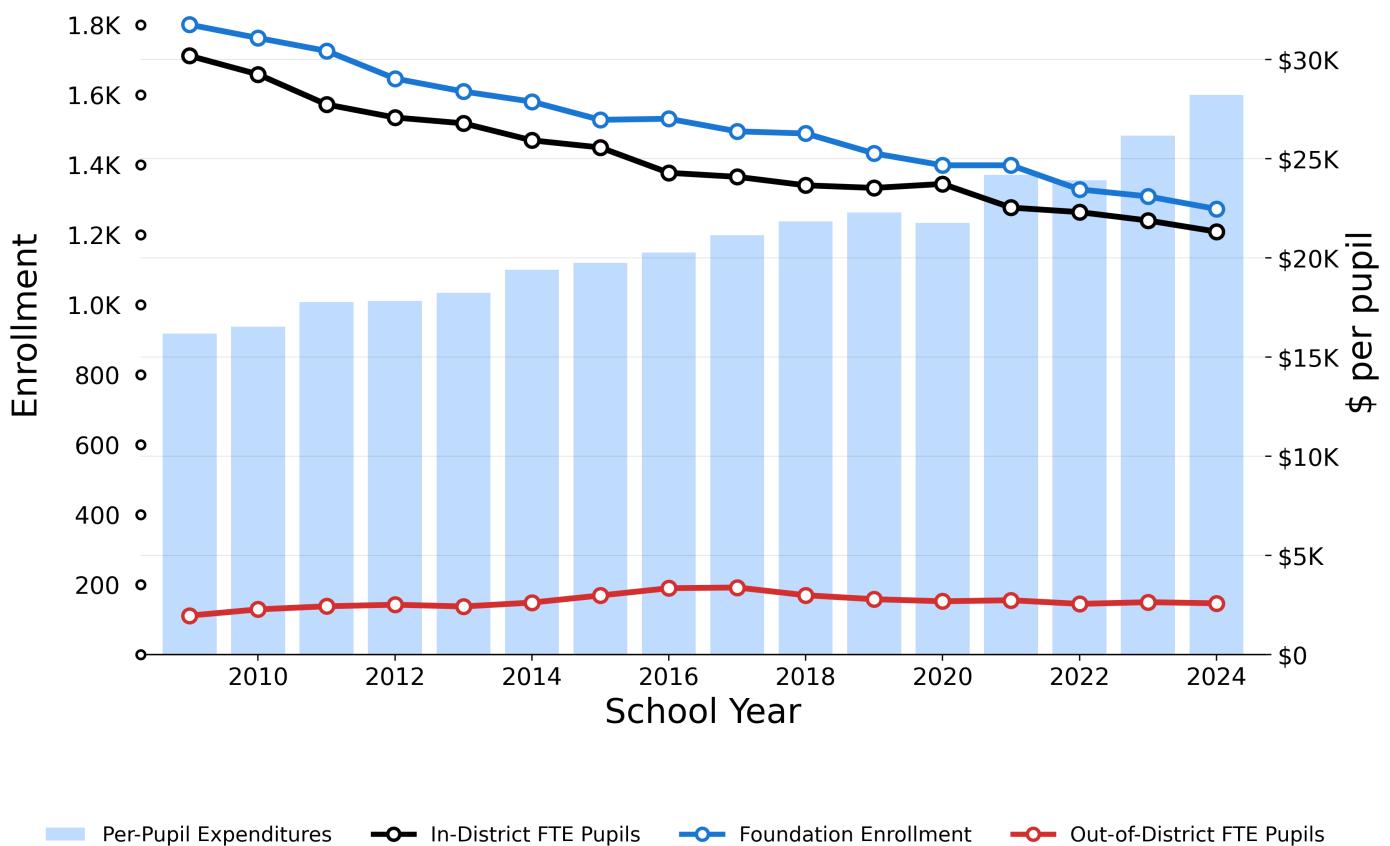
Chapter 70 Aid and Net School Spending (NSS). Weighted avg funding per district: State aid (Ch70), Required local contribution, and Actual spending above requirement



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$-4,240,600	-59.67%	-49.84%	22.43%	\$-5
Req NSS (minus Ch70)	\$6,986,338	13.71%	2.05%	3.02%	\$48,026,087
Ch70 Aid	\$262,734,913	4.07%	4.91%	6.70%	\$477,737,768
Total (Actual NSS)	\$265,480,651	4.66%	4.61%	6.33%	\$525,763,850
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	28,235	+0.0%	-0.0%	-0.9%	28,326

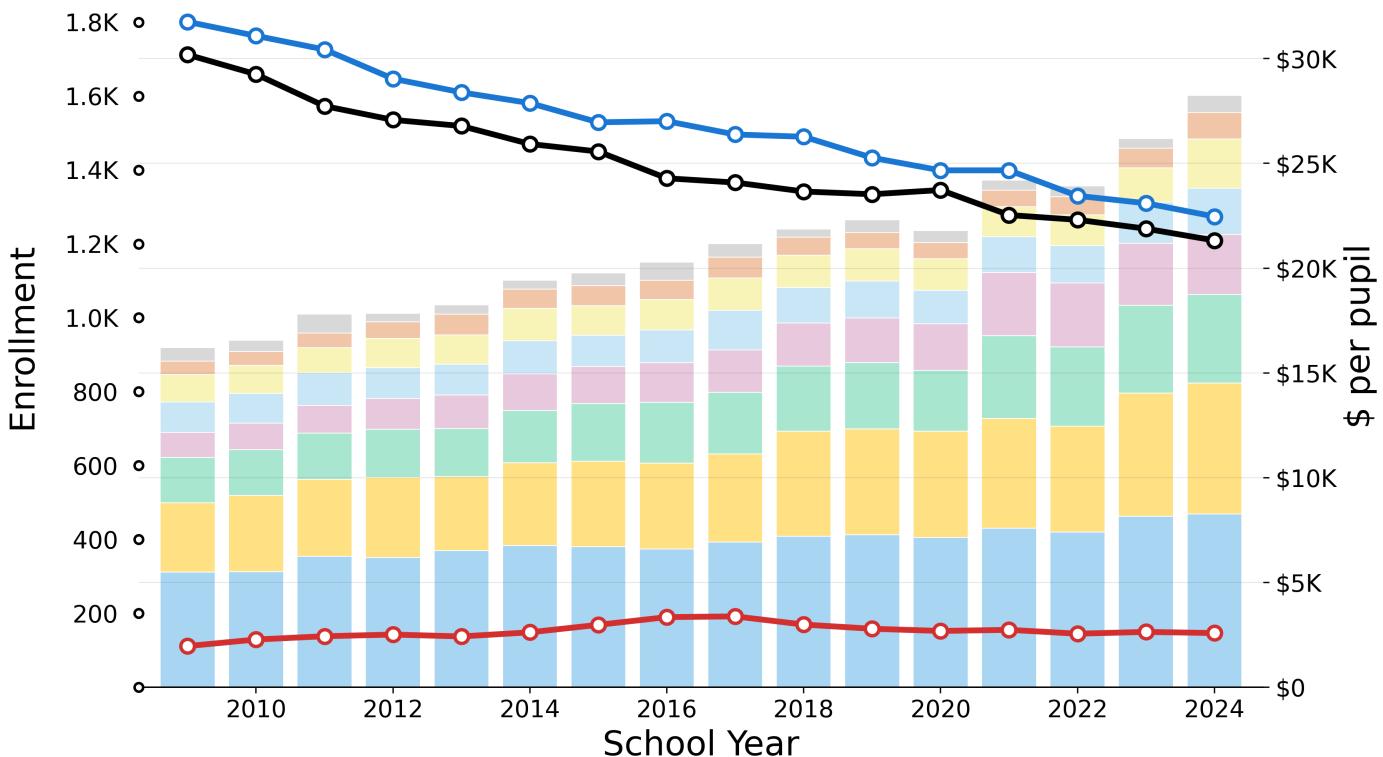
## Amherst-Pelham Regional

### PPE vs Enrollment



## Amherst-Pelham Regional

PPE vs Enrollment. Per-pupil expenditures stacked by expense category, expense category table shaded by comparison to weighted average of Western MA Medium (901-1800 FTE)



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$646	+1.4%	+6.5%	+5.5%	\$799
Administration	\$652	+4.6%	+3.5%	+11.0%	\$1,277
Instructional Leadership	\$1,289	+4.0%	+4.2%	+8.6%	\$2,336
Operations and Maintenance	\$1,459	+2.8%	+3.4%	+4.6%	\$2,221
Other Teaching Services	\$1,199	+5.9%	+5.1%	+6.1%	\$2,851
Pupil Services	\$2,170	+4.6%	+5.4%	+6.0%	\$4,231
Insurance, Retirement and Other	\$3,305	+4.3%	+4.7%	+4.4%	\$6,248
Teachers	\$5,491	+2.8%	+2.0%	+2.6%	\$8,270
<b>Total</b>	<b>\$16,211</b>	<b>+3.8%</b>	<b>+3.8%</b>	<b>+4.8%</b>	<b>\$28,233</b>

Shading vs Western:  $|\Delta \$/\text{pupil}| \geq 2.0\% \text{ or } |\Delta \text{CAGR}| \geq 2.0\text{pp}$

CAGR =  $(\text{End}/\text{Start})^{(1/\text{years})} - 1$

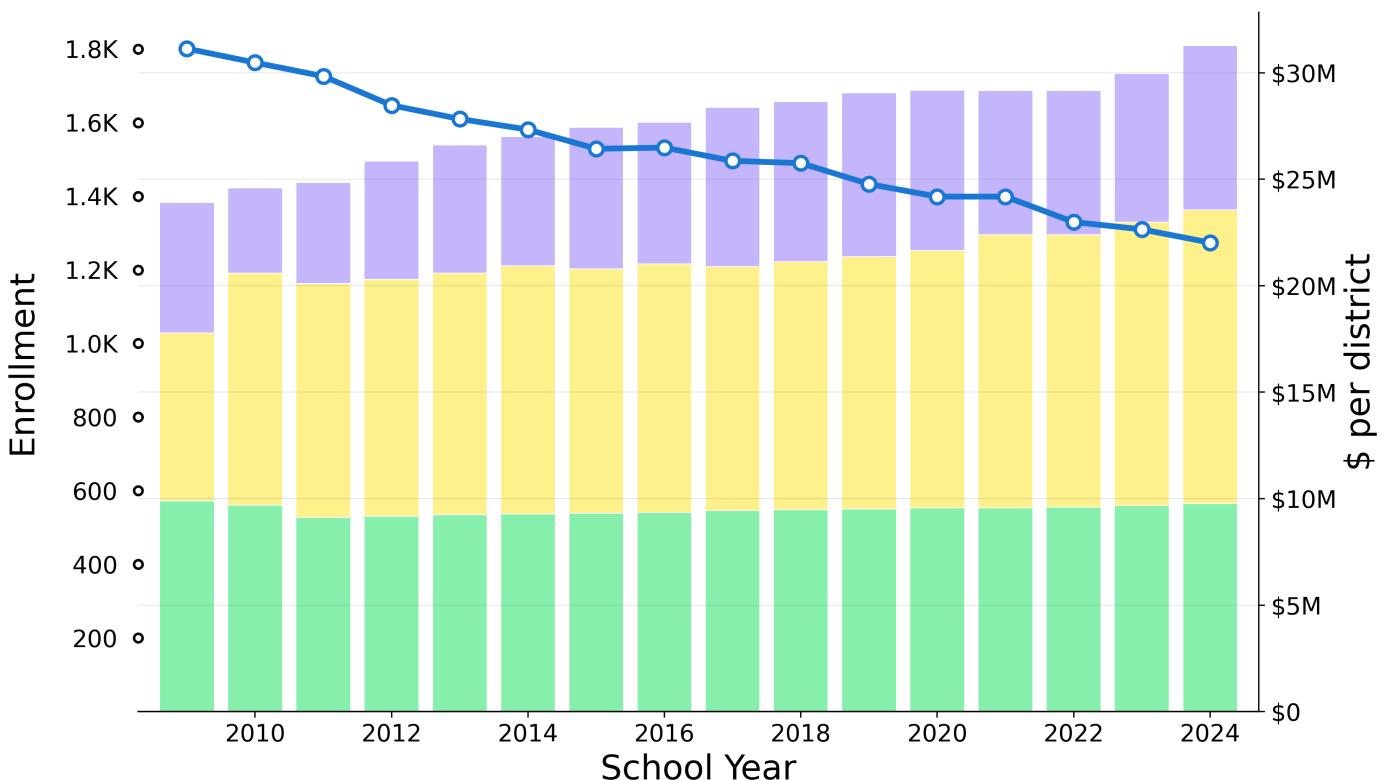
Above Western (Medium (901-1800 FTE))

Below Western (Medium (901-1800 FTE))

Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	1,712	-2.3%	-1.9%	-1.9%	1,209
Foundation Enrollment	1,801	-2.3%	-2.1%	-2.3%	1,274
Out-of-District FTE Pupils	112	+1.8%	-0.1%	-1.5%	147

## Amherst-Pelham Regional

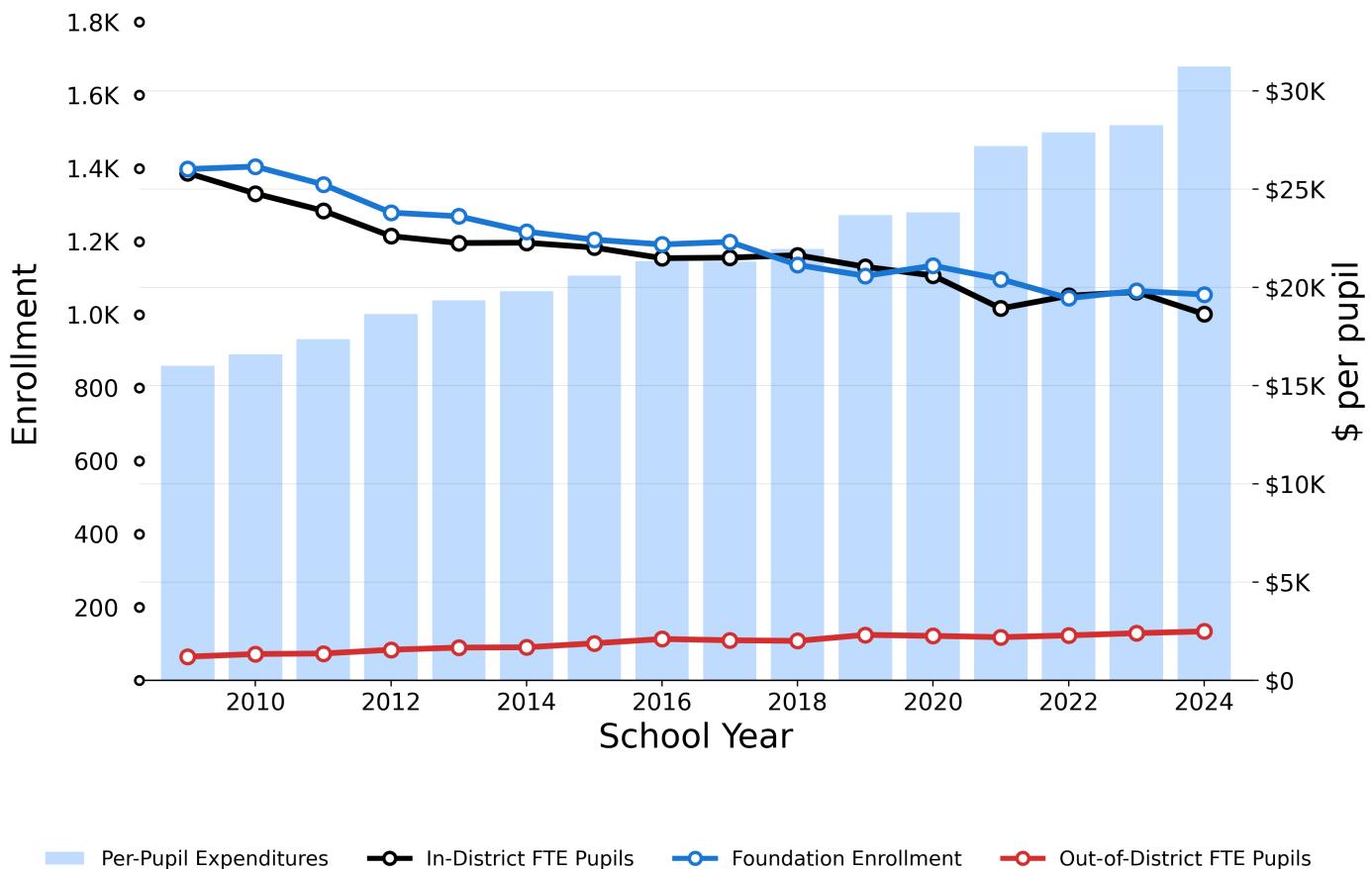
Chapter 70 Aid, Net School Spending (NSS), and Foundation Enrollment. Funding component table shaded by comparison to weighted average of Western MA Medium (901-1800 FTE)



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$6,135,991	1.54%	2.44%	0.08%	\$7,719,079
Req NSS (minus Ch70)	\$7,893,198	3.80%	1.70%	3.09%	\$13,803,543
Ch70 Aid	\$9,883,632	-0.09%	0.51%	0.49%	\$9,756,397
Total (Actual NSS)	\$23,912,821	1.81%	1.48%	1.48%	\$31,279,019
Shading vs Western: $ \Delta\$/pupil  \geq 2.0\%$ or $ \Delta\text{CAGR}  \geq 2.0\text{pp}$			Above Western (Medium (901-1800 FTE))		
CAGR = $(\text{End}/\text{Start})^{(1/\text{years})} - 1$			Below Western (Medium (901-1800 FTE))		
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	1,801	-2.3%	-2.1%	-2.3%	1,274

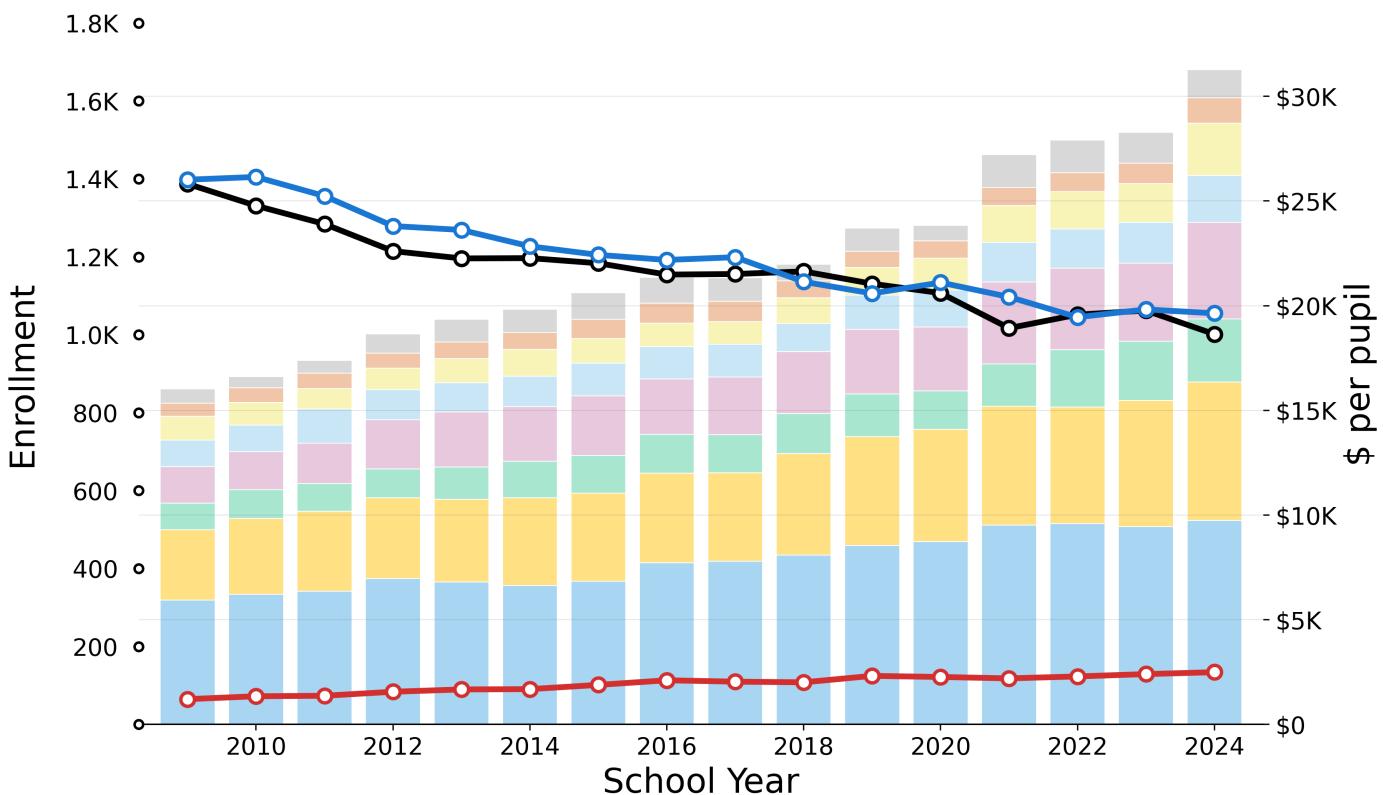
# Amherst

## PPE vs Enrollment



## Amherst

PPE vs Enrollment. Per-pupil expenditures stacked by expense category, expense category table shaded by comparison to weighted average of Western MA Medium (901-1800 FTE)



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$684	+4.5%	+1.9%	+4.0%	\$1,328
Administration	\$627	+4.5%	+4.1%	+9.6%	\$1,213
Instructional Leadership	\$1,134	+5.4%	+7.0%	+13.5%	\$2,498
Operations and Maintenance	\$1,264	+3.9%	+4.5%	+6.4%	\$2,248
Other Teaching Services	\$1,762	+6.6%	+5.9%	+8.4%	\$4,612
Pupil Services	\$1,261	+6.0%	+5.5%	+8.3%	\$3,018
Insurance, Retirement and Other	\$3,353	+4.6%	+4.7%	+4.9%	\$6,605
Teachers	\$5,944	+3.4%	+3.9%	+2.7%	\$9,745
Total	\$16,029	+4.6%	+4.7%	+5.7%	\$31,267

Shading vs Western:  $|\Delta \$/\text{pupil}| \geq 2.0\%$  or  $|\Delta \text{CAGR}| \geq 2.0\text{pp}$

Above Western (Medium (901-1800 FTE))

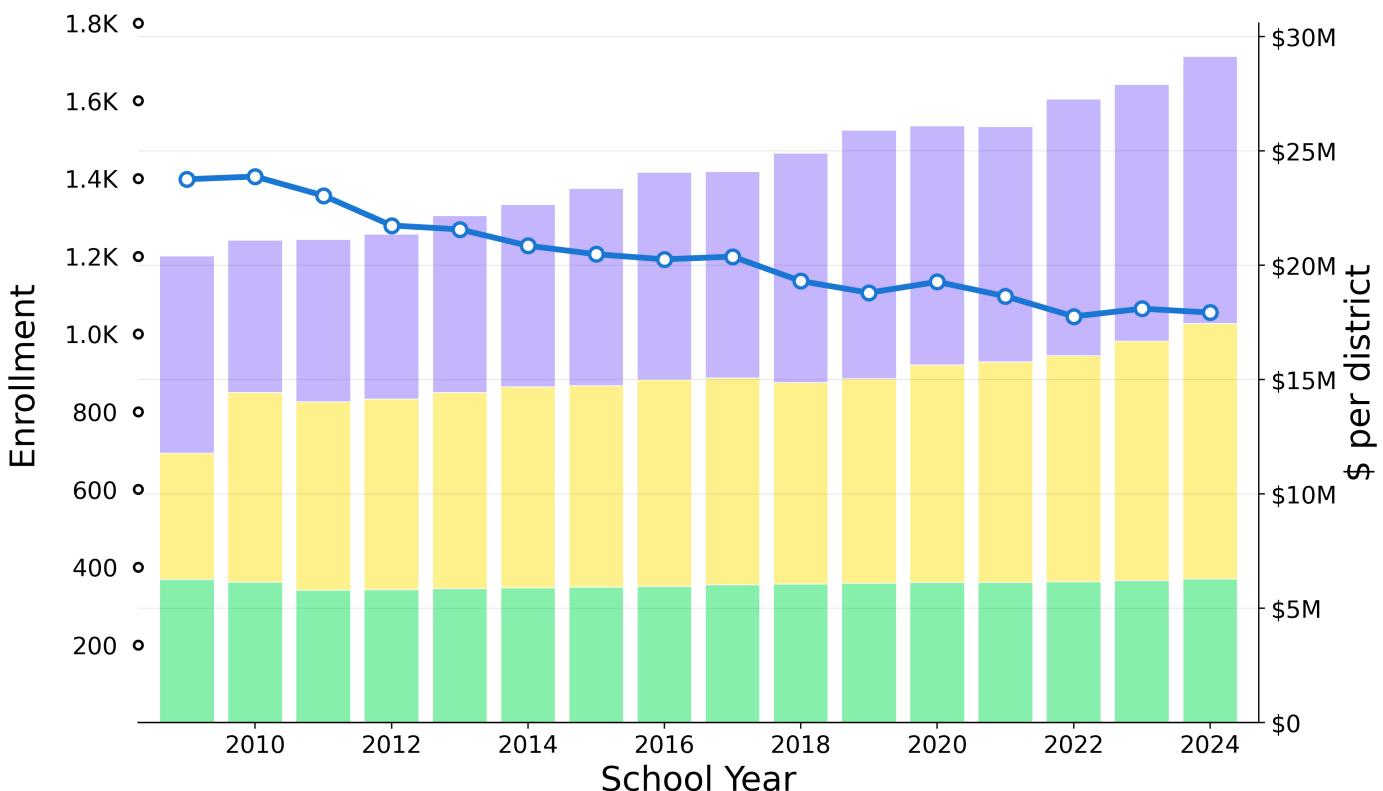
$\text{CAGR} = (\text{End}/\text{Start})^{(1/\text{years})} - 1$

Below Western (Medium (901-1800 FTE))

Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	1,387	-2.1%	-1.8%	-2.4%	1,002
Foundation Enrollment	1,398	-1.9%	-1.5%	-0.9%	1,055
Out-of-District FTE Pupils	65	+5.0%	+4.0%	+1.5%	134

## Amherst

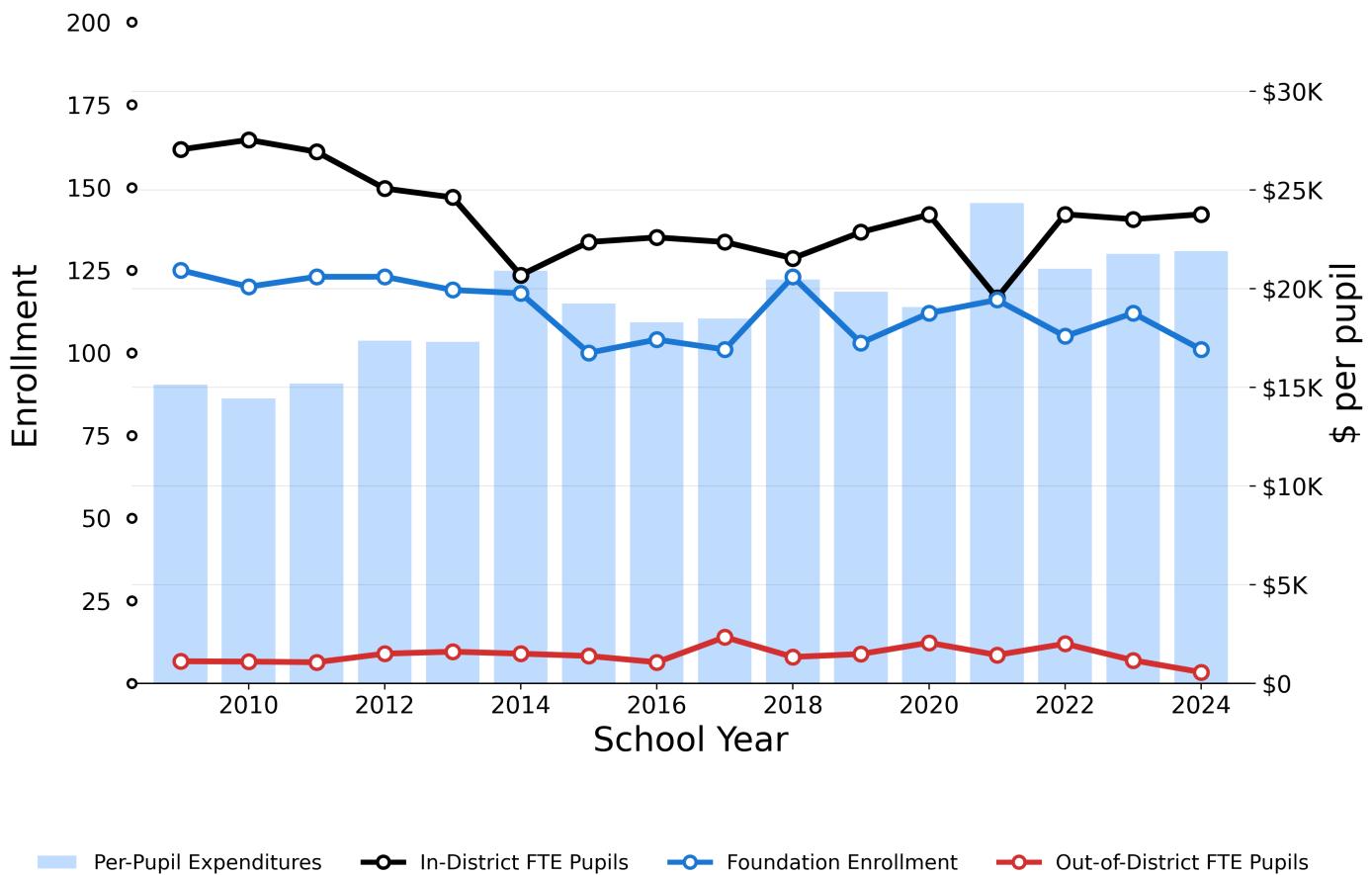
Chapter 70 Aid, Net School Spending (NSS), and Foundation Enrollment. Funding component table shaded by comparison to weighted average of Western MA Medium (901-1800 FTE)



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$8,624,390	2.05%	3.90%	1.45%	\$11,687,238
Req NSS (minus Ch70)	\$5,517,195	4.81%	2.43%	4.54%	\$11,168,148
Ch70 Aid	\$6,266,707	0.01%	0.64%	0.62%	\$6,280,773
Total (Actual NSS)	\$20,408,292	2.40%	2.55%	2.37%	\$29,136,159
Shading vs Western: $ \Delta \$/\text{pupil}  \geq 2.0\% \text{ or }  \Delta \text{CAGR}  \geq 2.0\text{pp}$			Above Western (Medium (901-1800 FTE))		
CAGR = $(\text{End}/\text{Start})^{(1/\text{years})} - 1$			Below Western (Medium (901-1800 FTE))		
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	1,398	-1.9%	-1.5%	-0.9%	1,055

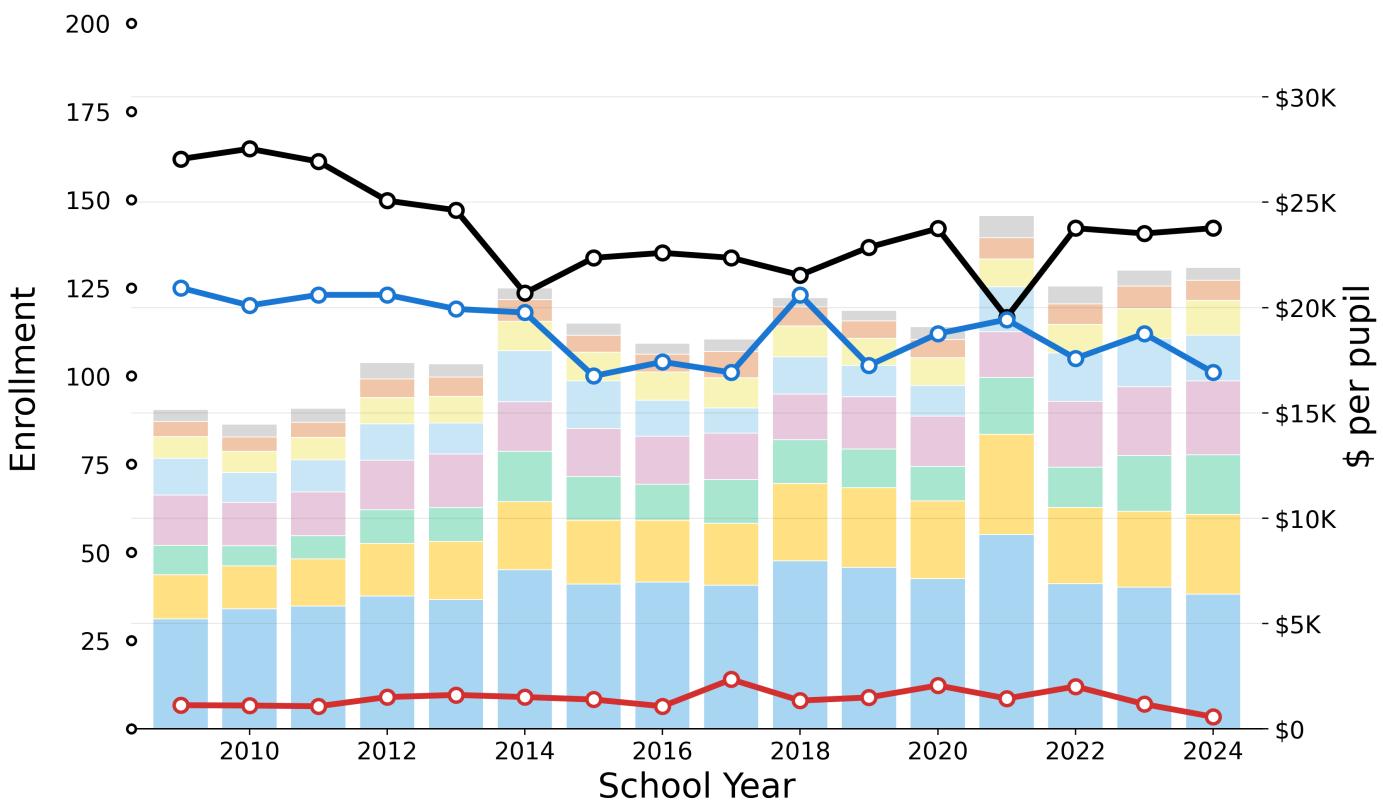
## Leverett

### PPE vs Enrollment



## Leverett

PPE vs Enrollment. Per-pupil expenditures stacked by expense category, expense category table shaded by comparison to weighted average of Western MA Tiny (0-200 FTE)



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$575	+0.4%	+0.9%	+3.9%	\$608
Administration	\$715	+1.9%	-0.8%	+2.9%	\$953
Instructional Leadership	\$1,015	+3.3%	+1.8%	+5.4%	\$1,663
Operations and Maintenance	\$1,755	+1.4%	-1.1%	+7.7%	\$2,158
Other Teaching Services	\$2,385	+2.6%	+4.1%	+7.3%	\$3,526
Pupil Services	\$1,395	+4.8%	+1.6%	+8.8%	\$2,814
Insurance, Retirement and Other	\$2,098	+4.0%	+1.6%	+0.1%	\$3,793
Teachers	\$5,218	+1.4%	-1.6%	-3.6%	\$6,395
Total	\$15,156	+2.5%	+0.5%	+2.0%	\$21,910

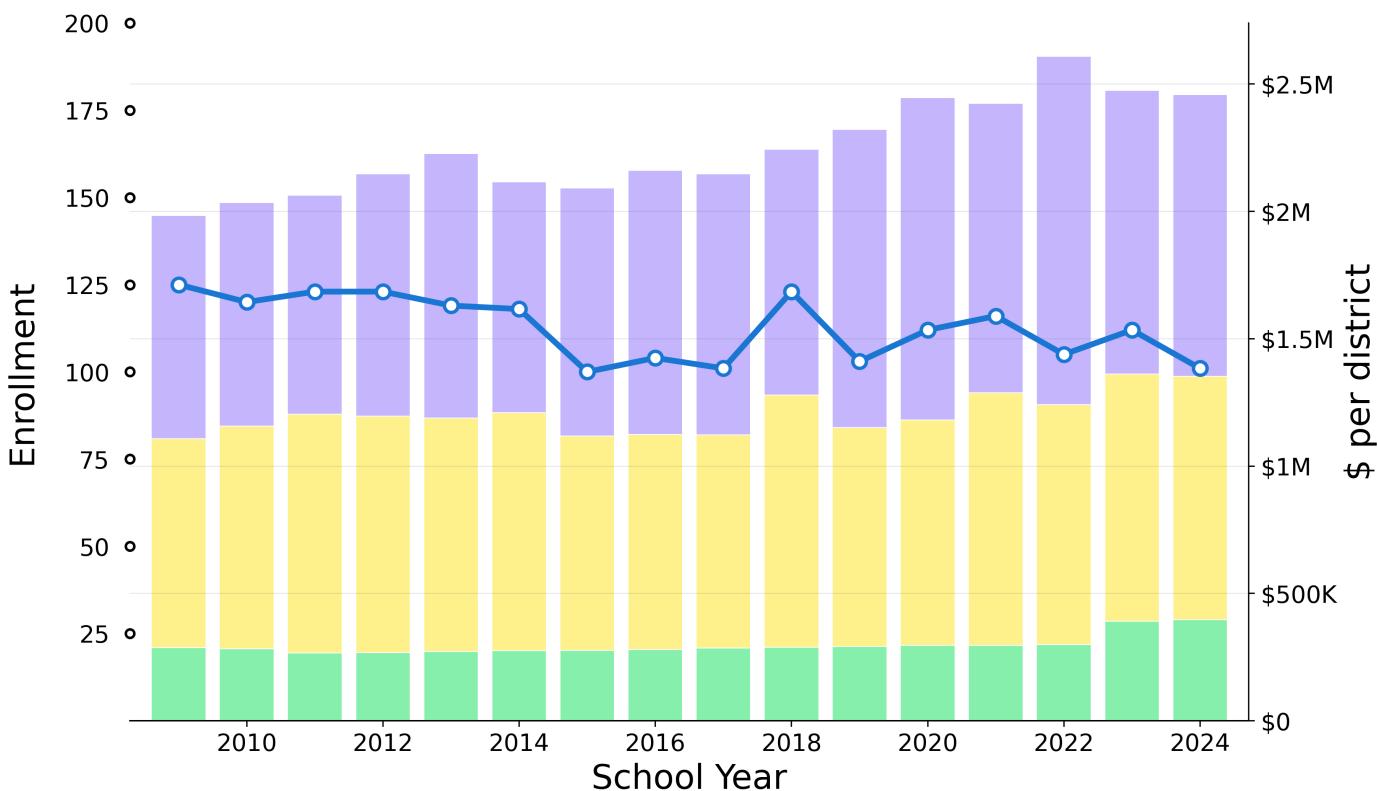
Shading vs Western:  $|\Delta \$/\text{pupil}| \geq 2.0\% \text{ or } |\Delta \text{CAGR}| \geq 2.0\text{pp}$

CAGR =  $(\text{End}/\text{Start})^{(1/\text{years})} - 1$

Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	162	-0.9%	+1.4%	+0.8%	142
Foundation Enrollment	125	-1.4%	-1.5%	-0.4%	101
Out-of-District FTE Pupils	7	-4.4%	-9.3%	-17.5%	3

## Leverett

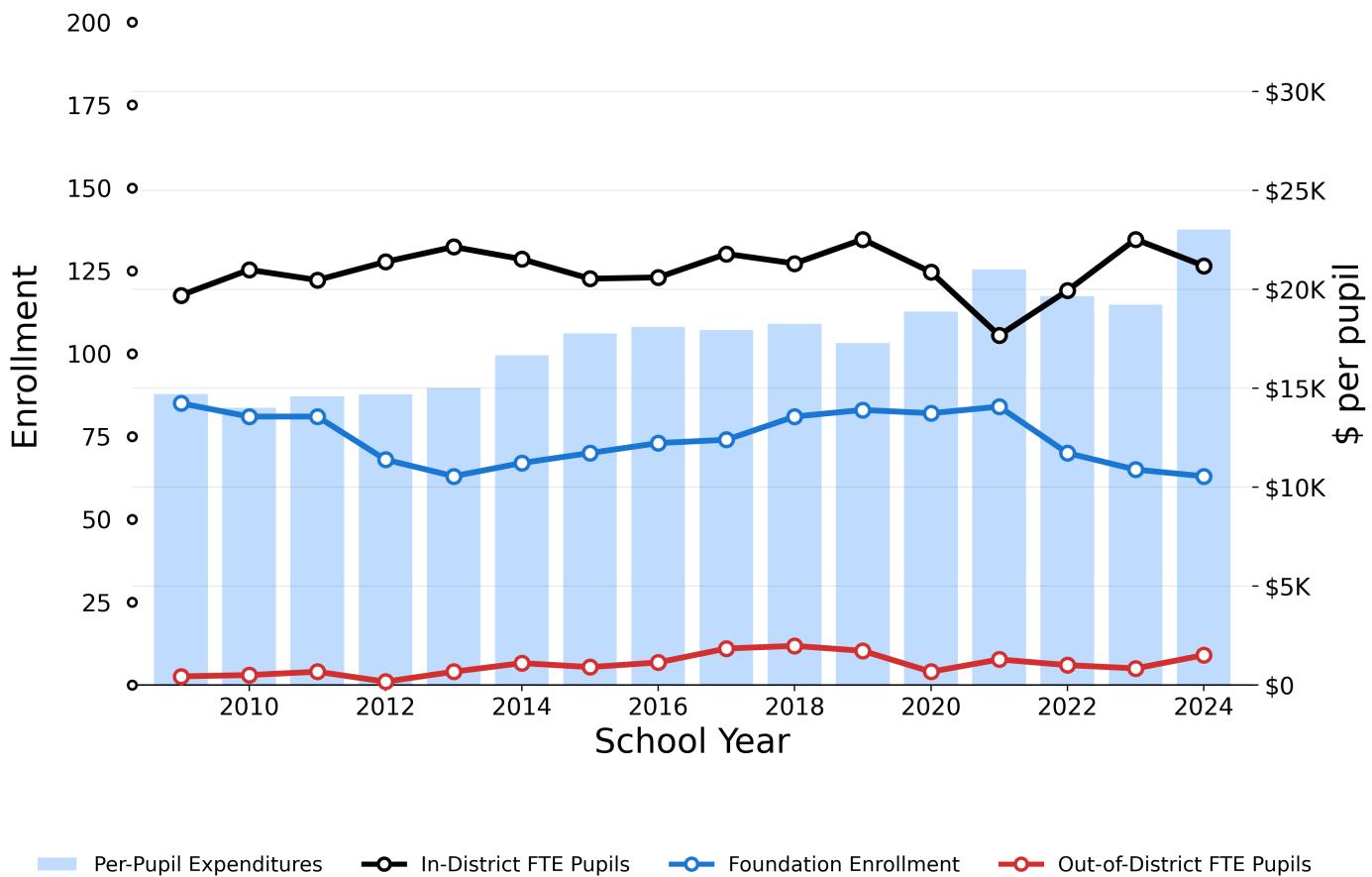
Chapter 70 Aid, Net School Spending (NSS), and Foundation Enrollment. Funding component table shaded by comparison to weighted average of Western MA Tiny (0-200 FTE)



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$876,790	1.56%	2.03%	-1.13%	\$1,106,701
Req NSS (minus Ch70)	\$819,372	1.02%	0.21%	2.15%	\$954,740
Ch70 Aid	\$287,813	2.17%	3.75%	6.32%	\$396,968
Total (Actual NSS)	\$1,983,975	1.44%	1.52%	1.15%	\$2,458,409
Shading vs Western: $ \Delta\$/pupil  \geq 2.0\% \text{ or }  \Delta\text{CAGR}  \geq 2.0\text{pp}$			Above Western (Tiny (0-200 FTE))		
CAGR = $(\text{End}/\text{Start})^{(1/\text{years})} - 1$			Below Western (Tiny (0-200 FTE))		
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	125	-1.4%	-1.5%	-0.4%	101

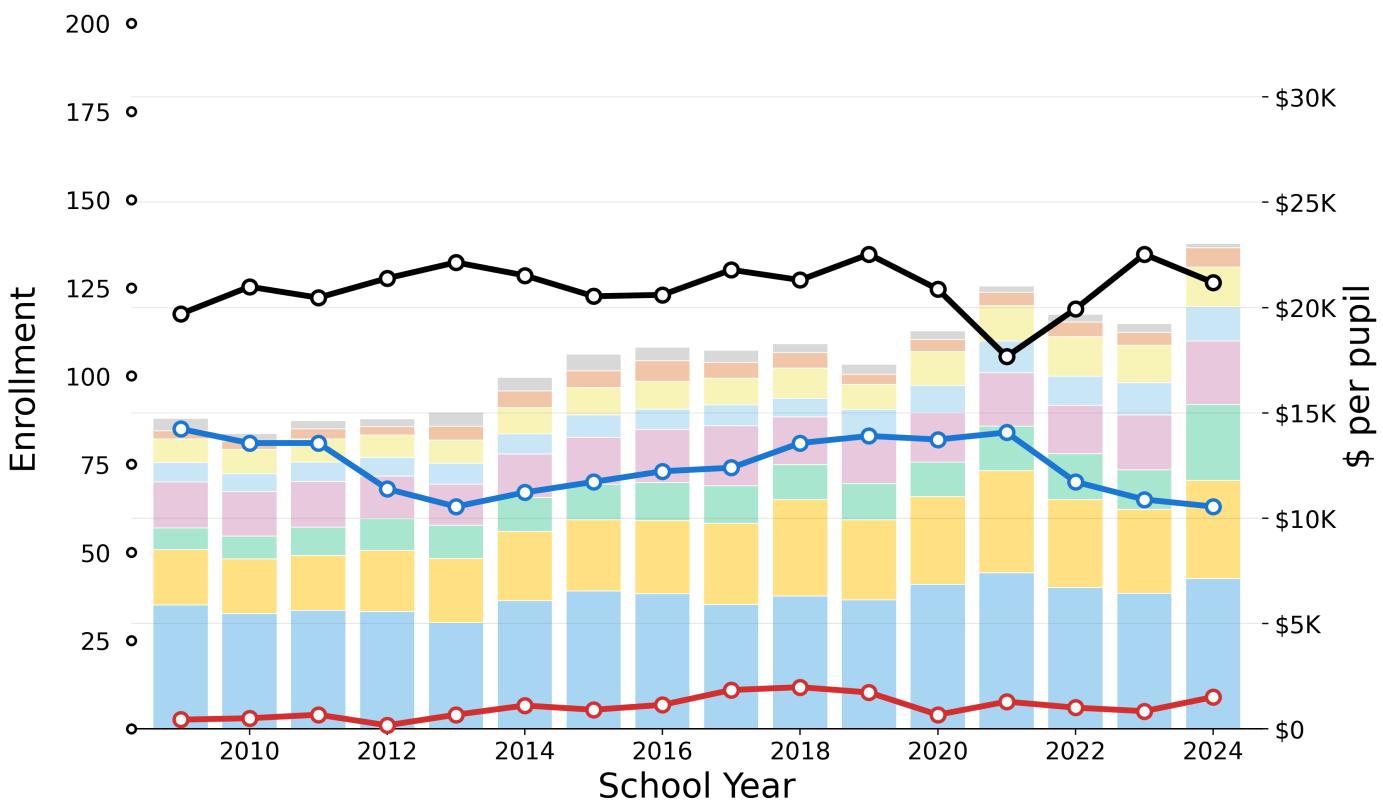
## Pelham

### PPE vs Enrollment



## Pelham

PPE vs Enrollment. Per-pupil expenditures stacked by expense category, expense category table shaded by comparison to weighted average of Western MA Tiny (0-200 FTE)



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$580	-6.6%	-10.7%	-15.0%	\$207
Administration	\$390	+5.9%	+1.4%	+13.4%	\$917
Instructional Leadership	\$1,123	+3.5%	+4.2%	+9.6%	\$1,885
Operations and Maintenance	\$920	+3.8%	+5.5%	+5.6%	\$1,614
Other Teaching Services	\$2,184	+2.2%	+3.9%	+5.8%	\$3,010
Pupil Services	\$1,032	+8.7%	+8.4%	+15.8%	\$3,610
Insurance, Retirement and Other	\$2,615	+3.9%	+3.6%	+4.3%	\$4,670
Teachers	\$5,889	+1.3%	+1.6%	+3.1%	\$7,127
Total	\$14,733	+3.0%	+3.3%	+5.9%	\$23,040

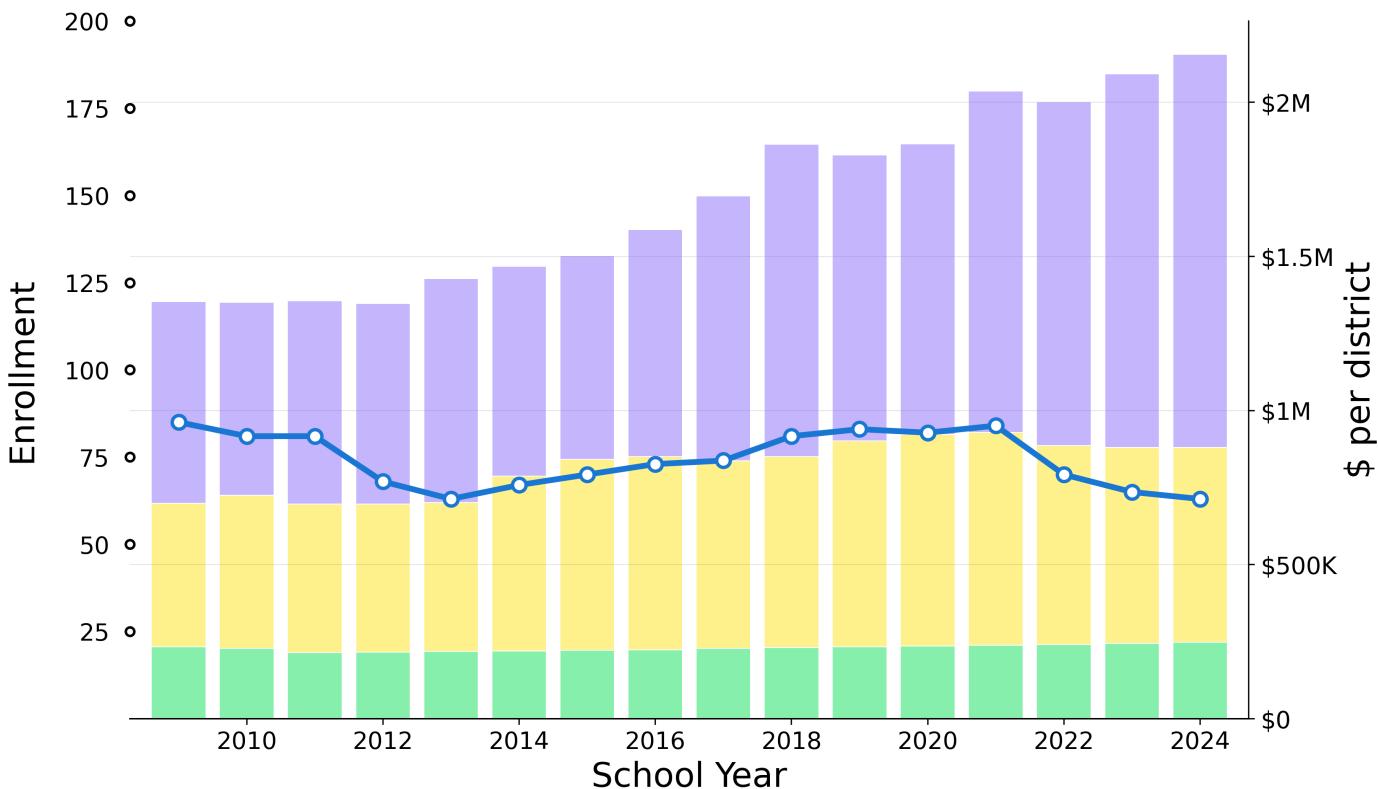
Shading vs Western:  $|\Delta \$/\text{pupil}| \geq 2.0\% \text{ or } |\Delta \text{CAGR}| \geq 2.0\text{pp}$

CAGR =  $(\text{End}/\text{Start})^{(1/\text{years})} - 1$

Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	118	+0.5%	-0.2%	-1.2%	126
Foundation Enrollment	85	-2.0%	-0.6%	-5.4%	63
Out-of-District FTE Pupils	3	+8.6%	+3.2%	-2.7%	9

## Pelham

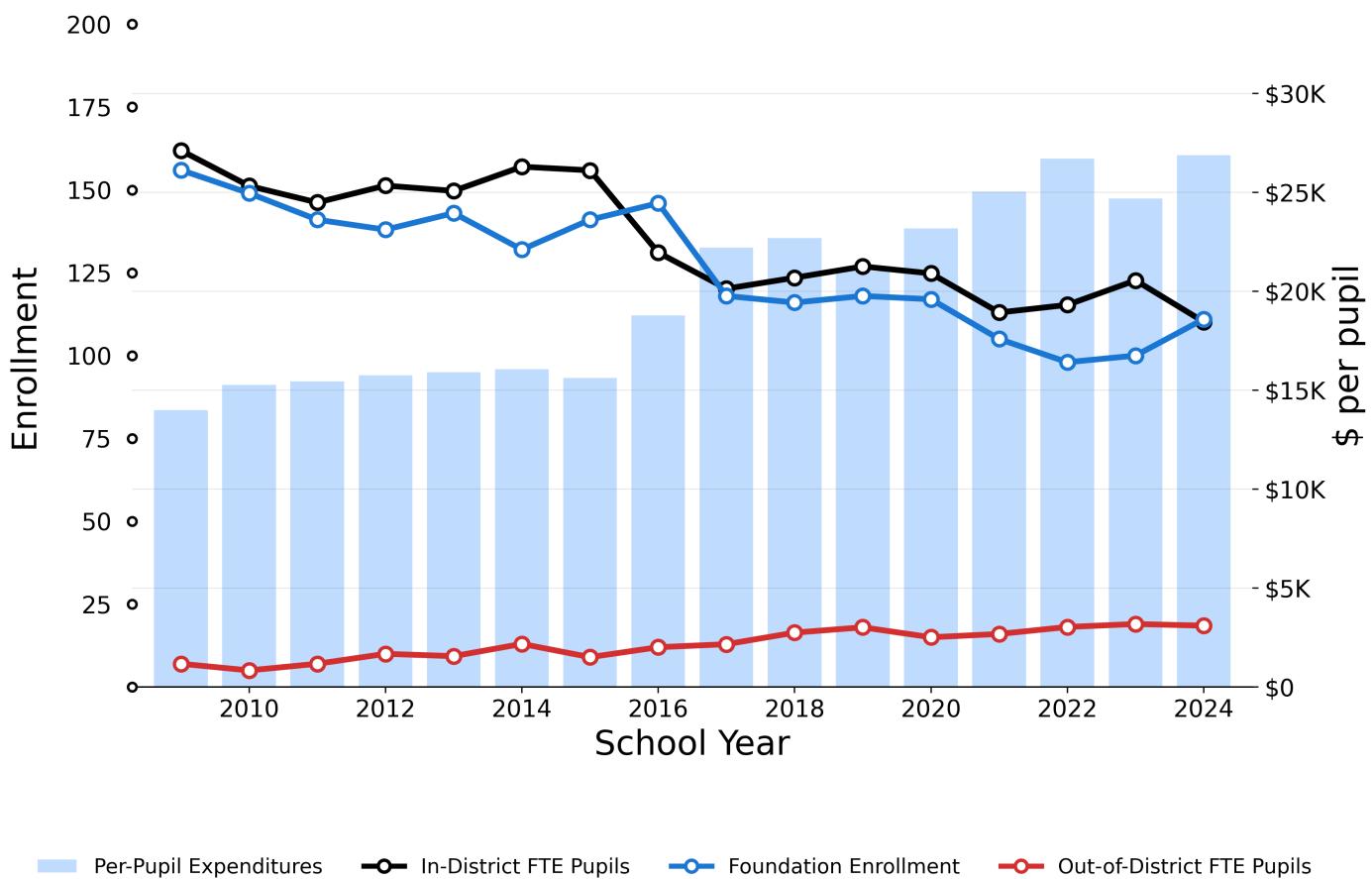
Chapter 70 Aid, Net School Spending (NSS), and Foundation Enrollment. Funding component table shaded by comparison to weighted average of Western MA Tiny (0-200 FTE)



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$654,027	4.56%	6.48%	6.59%	\$1,275,888
Req NSS (minus Ch70)	\$466,026	2.05%	1.10%	-1.12%	\$631,932
Ch70 Aid	\$233,169	0.42%	1.19%	1.27%	\$248,263
Total (Actual NSS)	\$1,353,222	3.15%	3.92%	3.35%	\$2,156,083
Shading vs Western: $ \Delta\$/pupil  \geq 2.0\% \text{ or }  \Delta\text{CAGR}  \geq 2.0\text{pp}$			Above Western (Tiny (0-200 FTE))		
CAGR = $(\text{End}/\text{Start})^{(1/\text{years})} - 1$			Below Western (Tiny (0-200 FTE))		
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	85	-2.0%	-0.6%	-5.4%	63

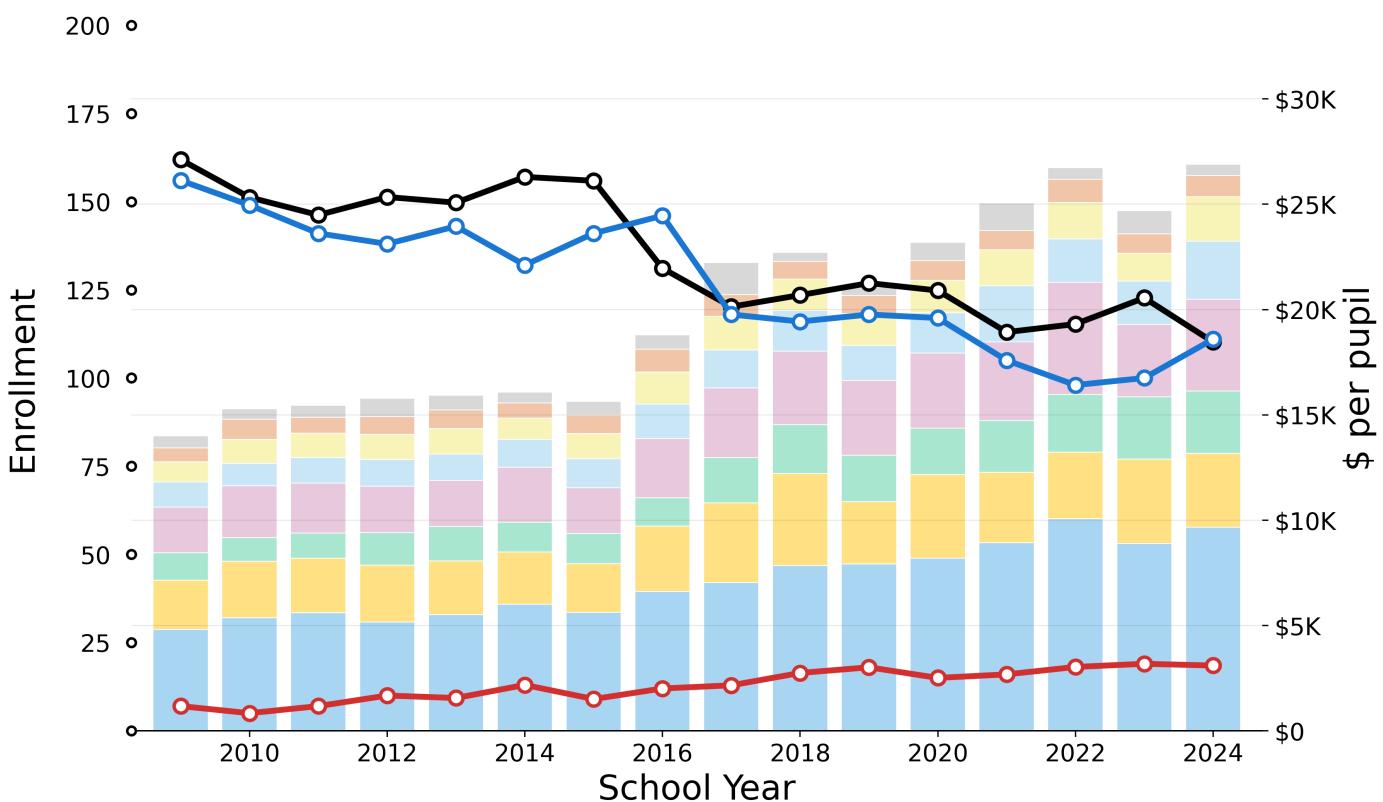
## Shutesbury

### PPE vs Enrollment



## Shutesbury

PPE vs Enrollment. Per-pupil expenditures stacked by expense category, expense category table shaded by comparison to weighted average of Western MA Tiny (0-200 FTE)



Category	2009 \$/pupil	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$/pupil
Other	\$580	-0.4%	+0.6%	+7.2%	\$545
Administration	\$652	+3.0%	+3.4%	+3.5%	\$1,015
Instructional Leadership	\$969	+5.3%	+7.7%	+6.8%	\$2,103
Operations and Maintenance	\$1,180	+5.8%	+7.5%	+10.6%	\$2,754
Other Teaching Services	\$2,185	+4.7%	+5.3%	+4.2%	\$4,359
Pupil Services	\$1,292	+5.7%	+7.6%	+6.1%	\$2,962
Insurance, Retirement and Other	\$2,332	+2.7%	+3.5%	+3.3%	\$3,501
Teachers	\$4,821	+4.7%	+4.9%	+4.1%	\$9,669
Total	\$14,011	+4.4%	+5.3%	+5.0%	\$26,908

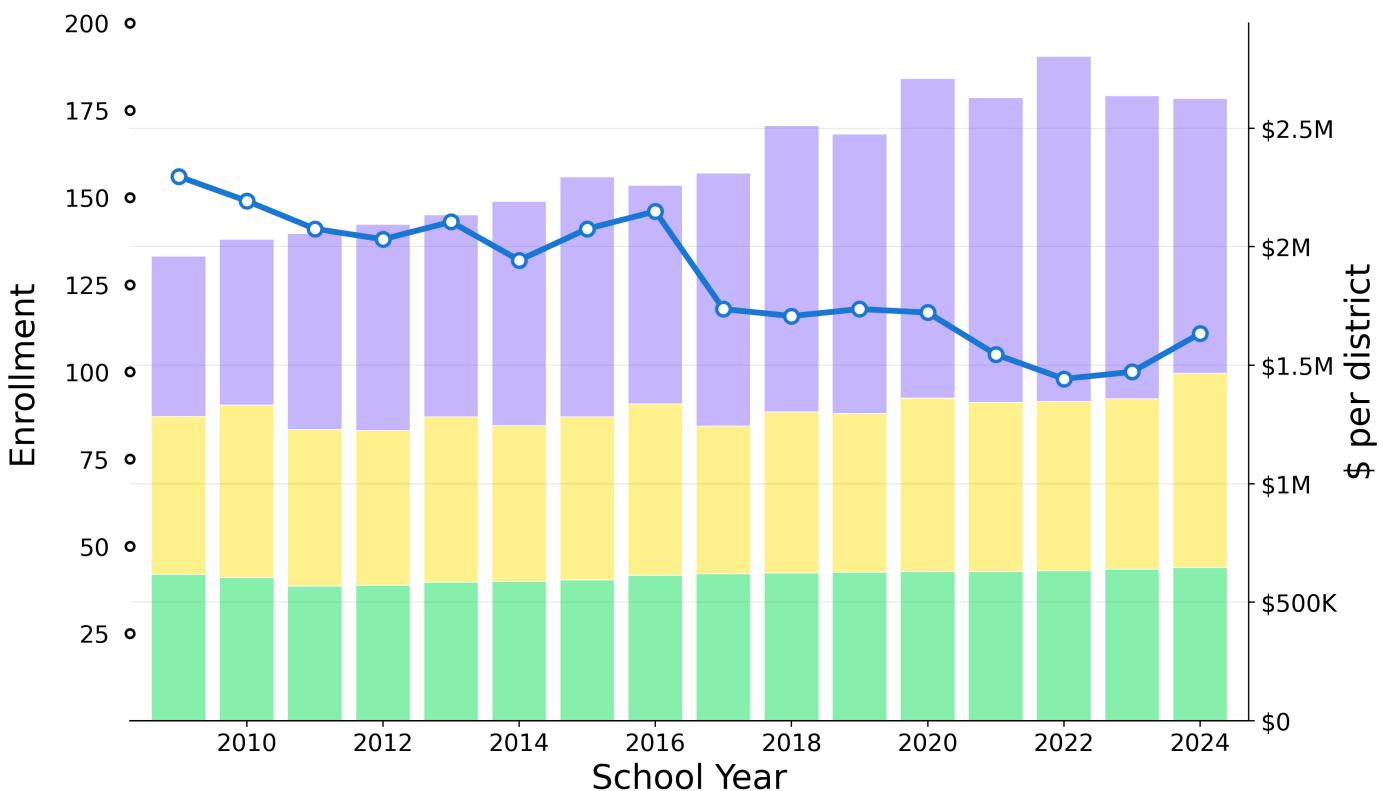
Shading vs Western:  $|\Delta \$/\text{pupil}| \geq 2.0\% \text{ or } |\Delta \text{CAGR}| \geq 2.0\text{pp}$

CAGR =  $(\text{End}/\text{Start})^{(1/\text{years})} - 1$

Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
In-District FTE Pupils	162	-2.5%	-3.5%	-2.8%	110
Foundation Enrollment	156	-2.2%	-1.7%	-1.2%	111
Out-of-District FTE Pupils	7	+6.7%	+3.6%	+0.5%	18

## Shutesbury

Chapter 70 Aid, Net School Spending (NSS), and Foundation Enrollment. Funding component table shaded by comparison to weighted average of Western MA Tiny (0-200 FTE)



Component	2009 \$	CAGR 15y	CAGR 10y	CAGR 5y	2024 \$
Actual NSS (minus Req NSS)	\$675,633	3.67%	2.06%	-0.35%	\$1,159,959
Req NSS (minus Ch70)	\$667,645	1.38%	2.24%	4.16%	\$820,401
Ch70 Aid	\$616,453	0.31%	0.94%	0.60%	\$645,986
Total (Actual NSS)	\$1,959,731	1.97%	1.83%	1.18%	\$2,626,346
Shading vs Western: $ \Delta\$/pupil  \geq 2.0\% \text{ or }  \Delta\text{CAGR}  \geq 2.0\text{pp}$			Above Western (Tiny (0-200 FTE))		
CAGR = $(\text{End}/\text{Start})^{(1/\text{years})} - 1$			Below Western (Tiny (0-200 FTE))		
Enrollment	2009	CAGR 15y	CAGR 10y	CAGR 5y	2024
Foundation Enrollment	156	-2.2%	-1.7%	-1.2%	111

## Appendix A. Data Tables

All data values used in plots

This appendix contains the underlying data tables for all districts and regions shown in the report. Each table shows PPE by category (in \$/pupil), FTE enrollment counts, and NSS/Ch70 funding components (in absolute dollars) across all available years.

### Data: All Western MA Traditional Districts: Tiny (0-200 FTE)

PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

#### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$546	\$556	\$581	\$616	\$568	\$563	\$603	\$634	\$752	\$533	\$647	\$654	\$1,131	\$975	\$1,084	\$970
Administration	\$755	\$826	\$829	\$902	\$915	\$833	\$729	\$797	\$860	\$768	\$732	\$755	\$869	\$930	\$1,074	\$1,005
Instructional Leadership	\$1,094	\$1,117	\$1,133	\$1,230	\$1,306	\$1,374	\$1,535	\$1,723	\$1,575	\$1,601	\$1,581	\$1,620	\$1,829	\$1,760	\$1,786	\$2,044
Operations and Maintenance	\$1,355	\$1,327	\$1,384	\$1,358	\$1,286	\$1,487	\$1,499	\$1,422	\$1,400	\$1,460	\$1,832	\$1,569	\$2,144	\$2,296	\$2,097	\$2,200
Other Teaching Services	\$1,859	\$1,883	\$1,933	\$2,065	\$2,283	\$2,245	\$2,343	\$2,520	\$2,600	\$2,471	\$2,785	\$2,858	\$2,997	\$3,433	\$3,375	\$3,637
Pupil Services	\$1,611	\$1,613	\$1,623	\$1,757	\$1,827	\$1,939	\$1,923	\$1,986	\$2,081	\$2,080	\$2,242	\$2,058	\$2,466	\$2,461	\$2,759	\$3,324
Insurance, Retirement and Other	\$2,223	\$2,282	\$2,426	\$2,534	\$2,736	\$2,965	\$2,976	\$2,876	\$3,065	\$3,183	\$3,402	\$3,518	\$4,001	\$3,723	\$4,008	\$4,196
Teachers	\$4,939	\$5,101	\$5,102	\$5,058	\$5,107	\$5,767	\$5,691	\$5,935	\$6,001	\$6,260	\$6,413	\$6,653	\$7,330	\$7,242	\$7,344	\$7,892
Total	\$14,382	\$14,706	\$15,011	\$15,520	\$16,029	\$17,173	\$17,300	\$17,893	\$18,335	\$18,356	\$19,632	\$19,687	\$22,767	\$22,820	\$23,527	\$25,269

#### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	114	114	113	112	111	107	110	102	105	108	109	110	97	105	104	101
Foundation Enrollment	99	95	93	87	88	88	86	93	90	88	86	84	83	76	76	78
Out-of-District FTE Pupils	22	22	21	22	21	20	19	26	25	24	23	20	19	21	22	21

#### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$410K	\$402K	\$386K	\$388K	\$395K	\$403K	\$405K	\$422K	\$428K	\$431K	\$439K	\$446K	\$456K	\$466K	\$482K	\$509K
Req NSS (minus Ch70)	\$548K	\$610K	\$612K	\$619K	\$649K	\$680K	\$685K	\$743K	\$720K	\$718K	\$729K	\$727K	\$751K	\$744K	\$777K	\$811K
Actual NSS (minus Req NSS)	\$491K	\$468K	\$474K	\$510K	\$513K	\$528K	\$551K	\$613K	\$705K	\$760K	\$857K	\$853K	\$839K	\$904K	\$891K	\$348K
Total NSS	\$1.4M	\$1.5M	\$1.5M	\$1.5M	\$1.6M	\$1.6M	\$1.6M	\$1.8M	\$1.9M	\$1.9M	\$2.0M	\$2.0M	\$2.0M	\$2.1M	\$2.2M	\$1.7M

## Data: All Western MA Traditional Districts: Small (201-900 FTE)

PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$563	\$511	\$551	\$544	\$600	\$539	\$526	\$603	\$562	\$602	\$571	\$544	\$989	\$809	\$1,120	\$1,158
Administration	\$541	\$531	\$580	\$610	\$665	\$680	\$713	\$747	\$989	\$777	\$793	\$817	\$874	\$960	\$968	\$1,009
Instructional Leadership	\$820	\$820	\$855	\$848	\$928	\$964	\$997	\$1,044	\$1,055	\$1,067	\$1,050	\$1,129	\$1,232	\$1,292	\$1,367	\$1,495
Operations and Maintenance	\$1,128	\$1,070	\$1,078	\$1,128	\$1,219	\$1,293	\$1,320	\$1,350	\$1,273	\$1,301	\$1,495	\$1,457	\$1,691	\$1,933	\$2,204	\$2,547
Other Teaching Services	\$1,122	\$1,146	\$1,248	\$1,217	\$1,379	\$1,400	\$1,452	\$1,549	\$1,671	\$1,835	\$1,926	\$1,948	\$1,943	\$2,077	\$2,308	\$2,529
Pupil Services	\$1,811	\$1,811	\$1,878	\$2,006	\$2,231	\$2,227	\$2,243	\$2,492	\$2,462	\$2,483	\$2,636	\$2,662	\$2,929	\$3,412	\$3,642	\$4,045
Insurance, Retirement and Other	\$2,141	\$2,141	\$2,274	\$2,369	\$2,540	\$2,631	\$2,760	\$3,008	\$3,402	\$3,382	\$3,428	\$3,489	\$3,834	\$3,876	\$4,096	\$4,453
Teachers	\$4,590	\$4,673	\$4,788	\$4,924	\$5,402	\$5,474	\$5,671	\$5,845	\$6,080	\$6,152	\$6,263	\$6,546	\$7,111	\$7,485	\$7,692	\$7,997
Total	\$12,716	\$12,702	\$13,250	\$13,646	\$14,965	\$15,208	\$15,681	\$16,638	\$17,493	\$17,600	\$18,162	\$18,593	\$20,603	\$21,844	\$23,398	\$25,233

### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	635	634	621	605	569	557	543	531	520	509	510	497	461	460	458	450
Foundation Enrollment	586	571	561	543	527	507	499	473	458	454	448	445	441	415	410	406
Out-of-District FTE Pupils	80	83	79	75	84	85	87	82	84	85	86	85	82	84	83	80

### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$2.3M	\$2.2M	\$2.1M	\$2.1M	\$2.2M	\$2.2M	\$2.2M	\$2.2M	\$2.2M	\$2.2M	\$2.3M	\$2.3M	\$2.3M	\$2.4M	\$2.5M	
Req NSS (minus Ch70)	\$3.0M	\$3.3M	\$3.4M	\$3.4M	\$3.5M	\$3.5M	\$3.5M	\$3.4M	\$3.3M	\$3.3M	\$3.4M	\$3.5M	\$3.6M	\$3.6M	\$3.7M	\$3.9M
Actual NSS (minus Req NSS)	\$1.3M	\$1.0M	\$1.2M	\$1.2M	\$1.3M	\$1.4M	\$1.5M	\$1.7M	\$2.0M	\$2.2M	\$2.4M	\$2.3M	\$2.5M	\$2.6M	\$2.8M	\$1.4M
Total NSS	\$6.6M	\$6.6M	\$6.7M	\$6.7M	\$7.0M	\$7.1M	\$7.2M	\$7.4M	\$7.6M	\$7.8M	\$8.0M	\$8.1M	\$8.3M	\$8.5M	\$8.9M	\$7.8M

## Data: All Western MA Traditional Districts: Medium (901-1800 FTE)

PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$450	\$440	\$478	\$430	\$517	\$542	\$524	\$561	\$581	\$499	\$629	\$602	\$939	\$1,069	\$1,134	\$1,223
Administration	\$491	\$518	\$518	\$540	\$578	\$568	\$611	\$639	\$656	\$686	\$643	\$747	\$739	\$775	\$865	\$952
Instructional Leadership	\$892	\$896	\$886	\$1,004	\$1,056	\$1,100	\$1,112	\$1,184	\$1,174	\$1,086	\$1,055	\$1,109	\$1,214	\$1,291	\$1,360	\$1,553
Operations and Maintenance	\$1,100	\$1,052	\$1,150	\$1,090	\$1,144	\$1,194	\$1,234	\$1,201	\$1,271	\$1,251	\$1,360	\$1,365	\$1,588	\$1,667	\$1,727	\$1,810
Other Teaching Services	\$1,013	\$1,079	\$1,104	\$1,146	\$1,262	\$1,318	\$1,362	\$1,392	\$1,458	\$1,620	\$1,692	\$1,728	\$1,946	\$2,170	\$2,243	\$2,334
Pupil Services	\$1,740	\$1,698	\$1,811	\$1,831	\$1,974	\$2,024	\$2,119	\$2,212	\$2,217	\$2,481	\$2,449	\$2,346	\$2,646	\$3,015	\$3,175	\$3,327
Insurance, Retirement and Other	\$2,387	\$2,537	\$2,769	\$2,751	\$2,735	\$2,938	\$3,078	\$3,253	\$3,339	\$3,664	\$3,590	\$3,731	\$4,153	\$4,159	\$4,191	\$4,532
Teachers	\$4,816	\$4,867	\$5,091	\$5,162	\$5,248	\$5,356	\$5,529	\$5,543	\$5,693	\$6,007	\$6,188	\$6,300	\$6,889	\$6,851	\$7,010	\$7,309
Total	\$12,890	\$13,088	\$13,807	\$13,953	\$14,513	\$15,041	\$15,569	\$15,986	\$16,389	\$17,294	\$17,605	\$17,929	\$20,113	\$20,998	\$21,705	\$23,041

### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	1,464	1,429	1,384	1,353	1,338	1,308	1,280	1,253	1,238	1,215	1,191	1,181	1,133	1,146	1,141	1,131
Foundation Enrollment	1,574	1,551	1,520	1,468	1,441	1,429	1,388	1,366	1,352	1,325	1,295	1,288	1,275	1,208	1,202	1,169
Out-of-District FTE Pupils	132	136	139	140	143	145	155	166	167	174	173	169	174	176	162	163

### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$8.3M	\$8.1M	\$7.7M	\$7.8M	\$7.8M	\$7.9M	\$8.0M	\$8.0M	\$8.2M	\$8.2M	\$8.3M	\$8.5M	\$8.6M	\$8.7M	\$9.0M	\$9.4M
Req NSS (minus Ch70)	\$5.5M	\$7.2M	\$7.3M	\$7.5M	\$7.8M	\$8.0M	\$8.1M	\$8.1M	\$8.0M	\$7.9M	\$8.1M	\$8.3M	\$8.5M	\$8.6M	\$8.9M	\$9.3M
Actual NSS (minus Req NSS)	\$3.4M	\$2.2M	\$2.3M	\$2.2M	\$2.4M	\$2.5M	\$2.8M	\$3.2M	\$3.5M	\$4.4M	\$4.5M	\$4.4M	\$4.4M	\$4.3M	\$4.5M	\$4.7M
Total NSS	\$17.2M	\$17.5M	\$17.4M	\$17.5M	\$18.0M	\$18.4M	\$18.8M	\$19.3M	\$19.6M	\$20.5M	\$20.8M	\$21.2M	\$21.4M	\$21.5M	\$22.5M	\$23.3M

## Data: All Western MA Traditional Districts: Large (1801-8000 FTE)

PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$516	\$659	\$640	\$629	\$665	\$631	\$607	\$646	\$663	\$674	\$724	\$711	\$968	\$1,073	\$1,312	\$1,337
Administration	\$396	\$418	\$427	\$438	\$446	\$468	\$489	\$505	\$494	\$509	\$468	\$518	\$547	\$581	\$622	\$659
Instructional Leadership	\$813	\$862	\$865	\$875	\$848	\$889	\$922	\$934	\$954	\$939	\$998	\$1,024	\$1,057	\$1,148	\$1,197	\$1,233
Operations and Maintenance	\$1,035	\$1,007	\$1,015	\$992	\$990	\$1,034	\$1,097	\$1,107	\$1,101	\$1,138	\$1,221	\$1,231	\$1,399	\$1,456	\$1,683	\$1,695
Other Teaching Services	\$990	\$1,038	\$1,102	\$1,102	\$1,171	\$1,230	\$1,293	\$1,369	\$1,380	\$1,393	\$1,401	\$1,428	\$1,570	\$1,734	\$1,964	\$2,035
Pupil Services	\$1,531	\$1,538	\$1,608	\$1,594	\$1,680	\$1,789	\$1,848	\$1,924	\$1,954	\$2,056	\$2,164	\$2,129	\$2,209	\$2,648	\$2,960	\$3,177
Insurance, Retirement and Other	\$1,960	\$1,972	\$2,059	\$2,130	\$2,128	\$2,305	\$2,387	\$2,444	\$2,542	\$2,669	\$2,797	\$2,885	\$3,078	\$3,245	\$3,409	\$3,522
Teachers	\$4,617	\$4,620	\$4,706	\$4,836	\$4,963	\$5,077	\$5,198	\$5,410	\$5,482	\$5,567	\$5,877	\$6,033	\$6,428	\$6,755	\$6,999	\$7,280
Total	\$11,858	\$12,115	\$12,422	\$12,596	\$12,891	\$13,423	\$13,841	\$14,339	\$14,570	\$14,946	\$15,649	\$15,958	\$17,255	\$18,639	\$20,147	\$20,938

### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	3,835	3,790	3,797	3,734	3,698	3,622	3,585	3,537	3,557	3,548	3,490	3,474	3,273	3,299	3,255	3,247
Foundation Enrollment	4,226	4,176	4,143	4,127	4,088	4,048	4,014	3,986	3,911	3,896	3,866	3,844	3,807	3,659	3,625	3,588
Out-of-District FTE Pupils	232	247	262	269	272	286	305	319	325	332	346	351	348	345	362	364

### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$23.3M	\$22.8M	\$22.8M	\$23.6M	\$24.3M	\$24.7M	\$24.8M	\$25.1M	\$25.3M	\$25.7M	\$26.2M	\$27.8M	\$28.2M	\$29.0M	\$31.4M	\$34.2M
Req NSS (minus Ch70)	\$13.9M	\$16.6M	\$16.7M	\$17.0M	\$17.6M	\$18.2M	\$18.4M	\$18.7M	\$18.6M	\$18.5M	\$18.8M	\$19.3M	\$19.8M	\$20.0M	\$20.7M	\$21.8M
Actual NSS (minus Req NSS)	\$4.0M	\$3.1M	\$3.9M	\$3.9M	\$4.1M	\$4.5M	\$5.3M	\$5.8M	\$7.0M	\$7.9M	\$8.5M	\$8.1M	\$7.9M	\$8.6M	\$9.0M	\$8.5M
Total NSS	\$41.2M	\$42.6M	\$43.4M	\$44.6M	\$46.0M	\$47.3M	\$48.4M	\$49.6M	\$50.9M	\$52.1M	\$53.5M	\$55.3M	\$55.8M	\$57.6M	\$61.2M	\$64.5M

## Data: All Western MA Traditional Districts: Springfield (29,468 FTE)

PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$1,143	\$1,337	\$2,068	\$1,143	\$1,424	\$1,734	\$1,241	\$1,376	\$1,286	\$1,371	\$1,673	\$1,765	\$2,487	\$2,260	\$2,923	\$3,071
Administration	\$533	\$654	\$446	\$645	\$550	\$677	\$596	\$580	\$507	\$490	\$416	\$407	\$441	\$501	\$599	\$609
Instructional Leadership	\$719	\$778	\$892	\$1,173	\$1,257	\$1,245	\$1,208	\$1,282	\$1,280	\$1,060	\$983	\$1,090	\$1,103	\$1,402	\$1,534	\$1,571
Operations and Maintenance	\$1,150	\$1,081	\$1,262	\$1,176	\$1,132	\$997	\$1,121	\$1,027	\$1,063	\$1,156	\$1,337	\$1,093	\$1,534	\$1,536	\$3,453	\$3,806
Other Teaching Services	\$1,143	\$1,002	\$1,146	\$1,130	\$1,051	\$1,086	\$1,150	\$1,135	\$1,070	\$1,036	\$1,357	\$1,390	\$1,337	\$1,518	\$1,776	\$2,014
Pupil Services	\$2,031	\$1,873	\$2,156	\$2,353	\$2,183	\$2,257	\$2,393	\$2,467	\$2,613	\$2,845	\$2,968	\$2,631	\$2,590	\$3,602	\$3,675	\$3,901
Insurance, Retirement and Other	\$2,050	\$2,226	\$2,280	\$2,474	\$2,437	\$2,496	\$2,467	\$2,566	\$2,562	\$2,635	\$2,765	\$3,001	\$3,217	\$3,461	\$3,852	\$3,906
Teachers	\$5,839	\$4,859	\$4,750	\$4,711	\$4,848	\$4,823	\$4,963	\$5,196	\$4,962	\$5,274	\$5,510	\$5,800	\$6,442	\$7,095	\$7,561	\$7,737
Total	\$14,608	\$13,810	\$15,000	\$14,805	\$14,882	\$15,315	\$15,139	\$15,629	\$15,343	\$15,867	\$17,009	\$17,177	\$19,151	\$21,375	\$25,373	\$26,615

### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	25,137	24,987	24,935	24,521	24,747	25,249	25,101	25,009	25,629	25,776	25,294	24,906	24,079	24,040	23,763	23,723
Foundation Enrollment	28,235	28,343	28,305	28,226	27,951	28,434	28,755	28,970	29,109	29,533	29,670	29,645	29,551	29,144	28,613	28,326
Out-of-District FTE Pupils	3,571	3,775	3,719	3,695	3,817	3,613	3,974	4,406	4,596	4,812	5,150	5,363	5,559	5,500	5,652	5,745

### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$262.7M	\$257.5M	\$262.7M	\$275.4M	\$285.9M	\$295.8M	\$301.6M	\$309.2M	\$319.9M	\$333.0M	\$345.4M	\$370.7M	\$377.2M	\$403.3M	\$439.2M	\$477.7M
Req NSS (minus Ch70)	\$7.0M	\$37.5M	\$45.6M	\$35.2M	\$37.1M	\$39.2M	\$36.1M	\$36.4M	\$36.7M	\$37.4M	\$41.4M	\$40.8M	\$56.7M	\$43.2M	\$44.7M	\$48.0M
Actual NSS (minus Req NSS)	\$-4.2M	\$-10.9M	\$-985K	\$-2.4M	\$-4.0M	\$1	\$50K	\$59K	\$-1	\$-3.1M	\$-2	\$-14.8M	\$3	\$7	\$-2	\$-5
Total NSS	\$265.5M	\$284.1M	\$307.3M	\$308.2M	\$319.0M	\$335.0M	\$337.7M	\$345.7M	\$356.6M	\$367.2M	\$386.8M	\$396.8M	\$433.8M	\$446.5M	\$483.9M	\$525.8M

## Data: Amherst-Pelham

PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$646	\$534	\$900	\$417	\$459	\$424	\$599	\$860	\$635	\$384	\$610	\$559	\$477	\$527	\$457	\$799
Administration	\$652	\$664	\$687	\$789	\$987	\$907	\$953	\$926	\$996	\$857	\$759	\$780	\$788	\$859	\$928	\$1,277
Instructional Leadership	\$1,289	\$1,337	\$1,209	\$1,397	\$1,390	\$1,545	\$1,429	\$1,437	\$1,541	\$1,555	\$1,544	\$1,501	\$1,436	\$1,472	\$1,644	\$2,336
Operations and Maintenance	\$1,459	\$1,416	\$1,559	\$1,468	\$1,481	\$1,585	\$1,473	\$1,577	\$1,904	\$1,678	\$1,776	\$1,601	\$1,705	\$1,778	\$1,957	\$2,221
Other Teaching Services	\$1,199	\$1,264	\$1,313	\$1,468	\$1,588	\$1,739	\$1,770	\$1,883	\$2,014	\$2,066	\$2,122	\$2,214	\$3,010	\$3,050	\$2,968	\$2,851
Pupil Services	\$2,170	\$2,196	\$2,205	\$2,302	\$2,291	\$2,497	\$2,753	\$2,908	\$2,931	\$3,109	\$3,161	\$2,902	\$3,951	\$3,780	\$4,177	\$4,231
Insurance, Retirement and Other	\$3,305	\$3,636	\$3,673	\$3,811	\$3,526	\$3,954	\$4,086	\$4,103	\$4,218	\$5,006	\$5,047	\$5,074	\$5,237	\$5,062	\$5,887	\$6,248
Teachers	\$5,491	\$5,511	\$6,254	\$6,199	\$6,533	\$6,765	\$6,704	\$6,590	\$6,927	\$7,208	\$7,285	\$7,155	\$7,592	\$7,404	\$8,158	\$8,270
Total	\$16,211	\$16,558	\$17,800	\$17,851	\$18,255	\$19,416	\$19,767	\$20,284	\$21,166	\$21,863	\$22,304	\$21,786	\$24,196	\$23,932	\$26,176	\$28,233

### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	1,712	1,659	1,573	1,536	1,519	1,470	1,450	1,378	1,366	1,342	1,334	1,346	1,278	1,265	1,241	1,209
Foundation Enrollment	1,801	1,763	1,726	1,647	1,610	1,581	1,529	1,532	1,496	1,490	1,433	1,399	1,399	1,330	1,310	1,274
Out-of-District FTE Pupils	112	129	138	143	138	149	169	190	192	170	158	152	155	145	150	147

### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$9.9M	\$9.7M	\$9.1M	\$9.2M	\$9.2M	\$9.3M	\$9.3M	\$9.3M	\$9.4M	\$9.5M	\$9.5M	\$9.6M	\$9.6M	\$9.6M	\$9.7M	\$9.8M
Req NSS (minus Ch70)	\$7.9M	\$10.9M	\$11.0M	\$11.1M	\$11.4M	\$11.7M	\$11.5M	\$11.7M	\$11.5M	\$11.6M	\$11.9M	\$12.1M	\$12.8M	\$12.8M	\$13.3M	\$13.8M
Actual NSS (minus Req NSS)	\$6.1M	\$4.0M	\$4.7M	\$5.5M	\$6.0M	\$6.1M	\$6.6M	\$6.7M	\$7.5M	\$7.5M	\$7.7M	\$7.5M	\$6.8M	\$6.8M	\$7.0M	\$7.7M
Total NSS	\$23.9M	\$24.6M	\$24.8M	\$25.8M	\$26.6M	\$27.0M	\$27.4M	\$27.7M	\$28.4M	\$28.6M	\$29.1M	\$29.2M	\$29.2M	\$30.0M	\$31.3M	

## Data: Amherst

PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$684	\$547	\$606	\$931	\$1,098	\$1,098	\$1,265	\$1,242	\$1,119	\$798	\$1,092	\$733	\$1,563	\$1,561	\$1,475	\$1,328
Administration	\$627	\$698	\$735	\$709	\$787	\$809	\$919	\$944	\$981	\$799	\$767	\$827	\$874	\$896	\$981	\$1,213
Instructional Leadership	\$1,134	\$1,079	\$965	\$1,032	\$1,153	\$1,275	\$1,175	\$1,131	\$1,087	\$1,231	\$1,325	\$1,527	\$1,750	\$1,783	\$1,847	\$2,498
Operations and Maintenance	\$1,264	\$1,271	\$1,636	\$1,436	\$1,399	\$1,451	\$1,577	\$1,530	\$1,555	\$1,340	\$1,646	\$1,764	\$1,897	\$1,874	\$1,941	\$2,248
Other Teaching Services	\$1,762	\$1,813	\$1,923	\$2,345	\$2,621	\$2,610	\$2,840	\$2,652	\$2,751	\$2,973	\$3,084	\$3,053	\$3,908	\$3,898	\$3,746	\$4,612
Pupil Services	\$1,261	\$1,386	\$1,335	\$1,386	\$1,553	\$1,761	\$1,802	\$1,850	\$1,818	\$1,909	\$2,030	\$1,844	\$2,035	\$2,740	\$2,821	\$3,018
Insurance, Retirement and Other	\$3,353	\$3,610	\$3,821	\$3,852	\$3,941	\$4,189	\$4,201	\$4,295	\$4,231	\$4,840	\$5,212	\$5,363	\$5,661	\$5,561	\$6,022	\$6,605
Teachers	\$5,944	\$6,213	\$6,355	\$6,963	\$6,804	\$6,627	\$6,841	\$7,712	\$7,792	\$8,091	\$8,538	\$8,725	\$9,528	\$9,598	\$9,451	\$9,745
Total	\$16,029	\$16,617	\$17,376	\$18,654	\$19,356	\$19,820	\$20,620	\$21,356	\$21,334	\$21,981	\$23,694	\$23,836	\$27,216	\$27,911	\$28,284	\$31,267

### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	1,387	1,331	1,284	1,215	1,196	1,197	1,184	1,154	1,156	1,163	1,131	1,107	1,017	1,052	1,062	1,002
Foundation Enrollment	1,398	1,405	1,356	1,279	1,269	1,227	1,205	1,192	1,199	1,136	1,106	1,134	1,097	1,045	1,065	1,055
Out-of-District FTE Pupils	65	72	73	84	90	90	101	113	110	108	124	122	118	123	129	134

### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$6.3M	\$6.1M	\$5.8M	\$5.8M	\$5.9M	\$5.9M	\$5.9M	\$6.0M	\$6.0M	\$6.1M	\$6.1M	\$6.1M	\$6.1M	\$6.2M	\$6.2M	\$6.3M
Req NSS (minus Ch70)	\$5.5M	\$8.3M	\$8.2M	\$8.3M	\$8.6M	\$8.8M	\$8.8M	\$9.0M	\$9.1M	\$8.8M	\$8.9M	\$9.5M	\$9.6M	\$9.9M	\$10.5M	\$11.2M
Actual NSS (minus Req NSS)	\$8.6M	\$6.7M	\$7.1M	\$7.2M	\$7.7M	\$8.0M	\$8.6M	\$9.1M	\$9.0M	\$10.0M	\$10.9M	\$10.5M	\$10.3M	\$11.2M	\$11.2M	\$11.7M
Total NSS	\$20.4M	\$21.1M	\$21.1M	\$21.4M	\$22.2M	\$22.6M	\$23.4M	\$24.1M	\$24.1M	\$24.9M	\$25.9M	\$26.1M	\$26.1M	\$27.3M	\$27.9M	\$29.1M

## Data: Leverett

PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$575	\$602	\$651	\$766	\$616	\$556	\$563	\$529	\$596	\$453	\$503	\$606	\$1,041	\$840	\$756	\$608
Administration	\$715	\$676	\$710	\$888	\$925	\$1,029	\$809	\$842	\$1,244	\$899	\$826	\$857	\$1,010	\$987	\$1,061	\$953
Instructional Leadership	\$1,015	\$1,008	\$1,072	\$1,244	\$1,257	\$1,393	\$1,357	\$1,344	\$1,431	\$1,461	\$1,278	\$1,317	\$1,318	\$1,354	\$1,430	\$1,663
Operations and Maintenance	\$1,755	\$1,427	\$1,532	\$1,741	\$1,479	\$2,421	\$2,272	\$1,707	\$1,209	\$1,765	\$1,491	\$1,458	\$2,131	\$2,296	\$2,292	\$2,158
Other Teaching Services	\$2,385	\$2,040	\$2,074	\$2,346	\$2,540	\$2,352	\$2,274	\$2,281	\$2,193	\$2,175	\$2,477	\$2,386	\$2,178	\$3,119	\$3,266	\$3,526
Pupil Services	\$1,395	\$970	\$1,096	\$1,599	\$1,613	\$2,392	\$2,073	\$1,701	\$2,082	\$2,081	\$1,845	\$1,641	\$2,690	\$1,910	\$2,635	\$2,814
Insurance, Retirement and Other	\$2,098	\$2,041	\$2,253	\$2,499	\$2,753	\$3,245	\$3,041	\$2,937	\$2,943	\$3,677	\$3,781	\$3,686	\$4,766	\$3,630	\$3,611	\$3,793
Teachers	\$5,218	\$5,690	\$5,818	\$6,301	\$6,138	\$7,547	\$6,868	\$6,967	\$6,814	\$7,967	\$7,665	\$7,134	\$9,224	\$6,888	\$6,724	\$6,395
Total	\$15,156	\$14,454	\$15,206	\$17,384	\$17,321	\$20,935	\$19,257	\$18,308	\$18,512	\$20,478	\$19,866	\$19,085	\$24,358	\$21,024	\$21,775	\$21,910

### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	162	164	161	150	147	124	134	135	134	129	136	142	117	142	140	142
Foundation Enrollment	125	120	123	123	119	118	100	104	101	123	103	112	116	105	112	101
Out-of-District FTE Pupils	7	7	6	9	10	9	8	6	14	8	9	12	9	12	7	3

### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$288K	\$282K	\$266K	\$267K	\$272K	\$275K	\$277K	\$280K	\$285K	\$289K	\$292K	\$296K	\$296K	\$299K	\$391K	\$397K
Req NSS (minus Ch70)	\$819K	\$875K	\$938K	\$929K	\$916K	\$935K	\$841K	\$844K	\$837K	\$990K	\$858K	\$885K	\$993K	\$943K	\$971K	\$955K
Actual NSS (minus Req NSS)	\$877K	\$878K	\$860K	\$952K	\$1.0M	\$905K	\$974K	\$1.0M	\$1.0M	\$963K	\$1.2M	\$1.3M	\$1.1M	\$1.4M	\$1.1M	\$1.1M
Total NSS	\$2.0M	\$2.0M	\$2.1M	\$2.1M	\$2.2M	\$2.1M	\$2.1M	\$2.2M	\$2.1M	\$2.2M	\$2.3M	\$2.4M	\$2.4M	\$2.6M	\$2.5M	\$2.5M

## Data: Pelham

### PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

#### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$580	\$361	\$384	\$366	\$658	\$639	\$780	\$652	\$569	\$414	\$466	\$407	\$292	\$365	\$422	\$207
Administration	\$390	\$398	\$478	\$391	\$664	\$796	\$806	\$980	\$739	\$731	\$489	\$574	\$656	\$688	\$614	\$917
Instructional Leadership	\$1,123	\$1,159	\$1,089	\$1,064	\$1,113	\$1,252	\$1,288	\$1,322	\$1,278	\$1,431	\$1,194	\$1,609	\$1,670	\$1,873	\$1,782	\$1,885
Operations and Maintenance	\$920	\$847	\$925	\$884	\$992	\$947	\$1,080	\$942	\$987	\$889	\$1,229	\$1,304	\$1,498	\$1,380	\$1,524	\$1,614
Other Teaching Services	\$2,184	\$2,109	\$2,166	\$2,026	\$1,937	\$2,063	\$2,218	\$2,541	\$2,850	\$2,269	\$2,273	\$2,324	\$2,540	\$2,292	\$2,594	\$3,010
Pupil Services	\$1,032	\$1,090	\$1,347	\$1,507	\$1,584	\$1,615	\$1,696	\$1,797	\$1,774	\$1,672	\$1,732	\$1,642	\$2,112	\$2,203	\$1,888	\$3,610
Insurance, Retirement and Other	\$2,615	\$2,585	\$2,602	\$2,897	\$3,052	\$3,283	\$3,376	\$3,473	\$3,863	\$4,561	\$3,791	\$4,168	\$4,850	\$4,157	\$3,983	\$4,670
Teachers	\$5,889	\$5,474	\$5,627	\$5,576	\$5,035	\$6,090	\$6,540	\$6,418	\$5,904	\$6,310	\$6,129	\$6,860	\$7,406	\$6,714	\$6,430	\$7,127
Total	\$14,733	\$14,023	\$14,618	\$14,711	\$15,035	\$16,685	\$17,784	\$18,125	\$17,964	\$18,277	\$17,303	\$18,888	\$21,024	\$19,672	\$19,237	\$23,040

#### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	118	125	122	128	132	128	123	123	130	127	134	125	106	119	134	126
Foundation Enrollment	85	81	81	68	63	67	70	73	74	81	83	82	84	70	65	63
Out-of-District FTE Pupils	3	3	4	1	4	7	5	7	11	12	10	4	8	6	5	9

#### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$233K	\$229K	\$215K	\$216K	\$219K	\$221K	\$222K	\$224K	\$228K	\$231K	\$233K	\$236K	\$238K	\$241K	\$244K	\$248K
Req NSS (minus Ch70)	\$466K	\$497K	\$482K	\$480K	\$483K	\$566K	\$620K	\$627K	\$609K	\$620K	\$668K	\$688K	\$690K	\$646K	\$636K	\$632K
Actual NSS (minus Req NSS)	\$654K	\$626K	\$660K	\$651K	\$726K	\$681K	\$660K	\$736K	\$859K	\$1.0M	\$927K	\$942K	\$1.1M	\$1.1M	\$1.2M	\$1.3M
Total NSS	\$1.4M	\$1.4M	\$1.4M	\$1.3M	\$1.4M	\$1.5M	\$1.5M	\$1.6M	\$1.7M	\$1.9M	\$1.8M	\$1.9M	\$2.0M	\$2.0M	\$2.1M	\$2.2M

## Data: Shutesbury

PPE (\$/pupil), FTE Enrollment, and NSS/Ch70 Funding (\$)

### PPE by Category (\$/pupil)

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Other	\$580	\$498	\$564	\$865	\$704	\$515	\$636	\$684	\$1,510	\$420	\$385	\$873	\$1,296	\$551	\$1,102	\$545
Administration	\$652	\$943	\$767	\$836	\$877	\$726	\$884	\$1,084	\$1,040	\$846	\$856	\$938	\$925	\$1,100	\$934	\$1,015
Instructional Leadership	\$969	\$1,138	\$1,149	\$1,198	\$1,227	\$1,003	\$1,192	\$1,517	\$1,604	\$1,481	\$1,517	\$1,541	\$1,707	\$1,736	\$1,323	\$2,103
Operations and Maintenance	\$1,180	\$1,079	\$1,221	\$1,276	\$1,251	\$1,338	\$1,384	\$1,637	\$1,791	\$1,941	\$1,663	\$1,916	\$2,665	\$2,048	\$2,051	\$2,754
Other Teaching Services	\$2,185	\$2,447	\$2,361	\$2,193	\$2,179	\$2,591	\$2,164	\$2,817	\$3,301	\$3,491	\$3,545	\$3,560	\$3,722	\$5,320	\$3,441	\$4,359
Pupil Services	\$1,292	\$1,128	\$1,195	\$1,556	\$1,628	\$1,418	\$1,427	\$1,340	\$2,165	\$2,301	\$2,206	\$2,198	\$2,456	\$2,748	\$2,946	\$2,962
Insurance, Retirement and Other	\$2,332	\$2,687	\$2,596	\$2,690	\$2,564	\$2,484	\$2,328	\$3,107	\$3,773	\$4,388	\$2,970	\$3,963	\$3,350	\$3,154	\$4,007	\$3,501
Teachers	\$4,821	\$5,363	\$5,603	\$5,169	\$5,509	\$6,012	\$5,620	\$6,612	\$7,043	\$7,838	\$7,914	\$8,204	\$8,933	\$10,075	\$8,898	\$9,669
Total	\$14,011	\$15,283	\$15,456	\$15,783	\$15,939	\$16,087	\$15,635	\$18,798	\$22,227	\$22,706	\$21,056	\$23,193	\$25,054	\$26,732	\$24,702	\$26,908

### FTE Enrollment

FTE Series	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In-District FTE Pupils	162	151	146	151	150	157	156	131	120	124	127	125	113	115	123	110
Foundation Enrollment	156	149	141	138	143	132	141	146	118	116	118	117	105	98	100	111
Out-of-District FTE Pupils	7	5	7	10	9	13	9	12	13	16	18	15	16	18	19	18

### NSS/Ch70 Funding Components (\$)

Component	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Ch70 Aid	\$616K	\$604K	\$569K	\$572K	\$585K	\$588K	\$594K	\$613K	\$620K	\$623K	\$627K	\$630K	\$630K	\$633K	\$639K	\$646K
Req NSS (minus Ch70)	\$668K	\$728K	\$660K	\$653K	\$697K	\$658K	\$689K	\$723K	\$624K	\$680K	\$669K	\$730K	\$712K	\$713K	\$719K	\$820K
Actual NSS (minus Req NSS)	\$676K	\$700K	\$826K	\$870K	\$854K	\$946K	\$1.0M	\$923K	\$1.1M	\$1.2M	\$1.2M	\$1.3M	\$1.3M	\$1.5M	\$1.3M	\$1.2M
Total NSS	\$2.0M	\$2.0M	\$2.1M	\$2.1M	\$2.1M	\$2.2M	\$2.3M	\$2.3M	\$2.3M	\$2.5M	\$2.5M	\$2.7M	\$2.6M	\$2.8M	\$2.6M	\$2.6M

## **Appendix B. Calculation Methodology**

### Data Sources

#### **1. Data Sources**

##### **District Expenditures by Spending Category:**

Source: Massachusetts Department of Elementary and Secondary Education (DESE)

Last updated: August 12, 2025

URL: <https://educationontocareer.data.mass.gov/Finance-and-Budget/District-Expenditures-by-Spending-Category/er3w-dtyi/>

This dataset provides detailed expenditure data by category for all Massachusetts school districts, including:

- Expenditures per pupil (EPP) by spending category
- Student enrollment (In-District FTE, Out-of-District FTE, Total FTE)
- Annual data from FY1993 to present

##### **Chapter 70 District Profiles:**

Source: Massachusetts Department of Elementary and Secondary Education (DESE)

URL: Various sources compiled in profile\_DataC70 spreadsheet tab

From the Ch70 website:

"Chapter 70 District Profiles: The on-line Chapter 70 database shows, for each school district, yearly spending and state aid totals in comparison to the foundation budget. Trend data is available for each year going back to FY1993."

This dataset provides:

- Chapter 70 Aid (c70aid): State aid received by each district
- Required Net School Spending (rqnss2): Minimum spending required by state law
- Actual Net School Spending (actualNSS): Total district spending on education
- Foundation Enrollment (distfoundenro): District foundation enrollment used for Ch70 funding calculations

##### **Regional Classifications:**

Source: DESE district profiles and regional service mappings

- Districts classified as Western MA based on EOHHS regional designations
- School type classifications (Traditional, Regional, Charter, etc.)

## Appendix B. Calculation Methodology (continued)

### 2. Per-Pupil Expenditure (PPE) Definition

Per-pupil expenditure (PPE) is reported in the End of Year Report (EOYR) for municipal and regional districts, and is calculated by in-district FTE.

Per the DESE's Researcher's Guide, section XV. Using financial data:

*"The out-of-district total cannot be properly reported as a per-pupil expenditure because the cost of tuitions varies greatly depending on the reason for going out of district."*

### 3. Compound Annual Growth Rate (CAGR)

CAGR measures the mean annual growth rate over a specified time period, assuming constant growth.

**Formula:**  $\text{CAGR} = (\text{End\_Value} / \text{Start\_Value})^{(1 / \text{Years})} - 1$

**Example:** If expenditures grow from \$10,000 to \$12,000 over 5 years:

$$\text{CAGR} = (\$12,000 / \$10,000)^{(1/5)} - 1 = 1.2^{0.2} - 1 = 0.0371 = 3.71\% \text{ per year}$$

Note: CAGR requires positive values at both endpoints and is undefined if data is missing.

### 4. Enrollment-Based Peer Groups

Districts are grouped by total in-district FTE enrollment into five cohorts (based on IQR analysis) for meaningful peer comparison:

**Tiny (0-200 FTE):** 17 districts (Cohort 1: below Q1)

**Member districts:** Conway, Erving, Farmington River Reg, Florida, Hancock, Hawlemont, Leverett, New Salem-Wendell, Pelham, Petersham, Richmond, Rowe, Savoy, Shutesbury, Sunderland, and 2 others

**Small (201-900 FTE):** 16 districts (Cohort 2: Q1 to median)

**Member districts:** Clarksburg, Deerfield, Frontier, Gateway, Gill-Montague, Granby, Hadley, Hatfield, Lee, Lenox, Mohawk Trail, Monson, Orange, Pioneer Valley, Ralph C Mahar, and 1 others

**Medium (901-1800 FTE):** 15 districts (Cohort 3: median to Q3)

**Member districts:** Amherst, Amherst-Pelham, Athol-Royalston, Berkshire Hills, Central Berkshire, Easthampton, Greater Commonwealth Virtual District, Greenfield, Hoosac Valley Regional, Mount Greylock, North Adams, Palmer, South Hadley, Southwick-Tolland-Granville Regional School District, Ware

**Large (1801-8000 FTE):** 12 districts (Cohort 4: above Q3)

**Member districts:** Agawam, Belchertown, Chicopee, East Longmeadow, Hampden-Wilbraham, Holyoke, Longmeadow, Ludlow, Northampton, Pittsfield, West Springfield, Westfield

**Springfield (>8000 FTE):** 1 district (Cohort 5: statistical outlier, analyzed separately)

**Member districts:** Springfield

**Weighted EPP Formula (for aggregate calculations):**

For each category and year:  $\text{Weighted\_EPP} = \sum(\text{District\_EPP} \times \text{District\_In-District\_FTE}) / \sum(\text{District\_In-District\_FTE})$

**Example:** District A spends \$5,000/pupil (500 students), District B spends \$6,000/pupil (300 students)

Weighted average =  $(\$5,000 \times 500 + \$6,000 \times 300) / (500 + 300) = \$5,375/\text{pupil}$

**Enrollment Calculation:** For each series (In-District FTE, Out-of-District FTE) and year: Sum across all member districts in the enrollment group.

## Appendix B. Calculation Methodology (continued)

### 5. Red/Green Shading Logic (District Comparison Tables)

District pages include tables comparing each district's per-pupil expenditures (PPE) and growth rates (CAGR) to their enrollment-based peer group aggregate (Small, Medium, Large, or Springfield).

**Two independent tests determine shading:**

#### Test 1 - Dollar Amount (2024 \$/pupil column):

Compares the district's 2024 PPE to the baseline's 2024 PPE using relative difference: (District – Baseline) / Baseline

- **Red shading:** District spending is  $\geq 2.0\%$  higher than baseline
- **Green shading:** District spending is  $\geq 2.0\%$  lower than baseline
- **No shading:** Difference is less than 2.0%

#### Test 2 - CAGR (5y, 10y, 15y columns):

Compares the district's CAGR to the baseline's CAGR using absolute percentage point difference: District\_CAGR – Baseline\_CAGR

- **Red shading:** District CAGR is  $\geq 2.0$  percentage points higher than baseline
- **Green shading:** District CAGR is  $\geq 2.0$  percentage points lower than baseline
- **No shading:** Difference is less than 2.0 percentage points

**Key insight:** The tests are independent. A red 2024 \$/pupil with unshaded CAGRs typically means:

- The district started at a higher baseline 15 years ago, AND
- The district has been growing at roughly the same rate as peers
- Therefore it remains higher in absolute dollars but isn't growing faster

## Appendix B. Calculation Methodology (continued)

### 6. Chapter 70 Aid and Net School Spending (NSS) Calculations

Chapter 70 is Massachusetts' primary state aid program for K-12 education. Net School Spending (NSS) is the total amount a district spends on education from local and state sources.

#### Data Sources:

- **Chapter 70 Aid (c70aid):** State aid received by the district (DESE profile\_DataC70 sheet)
- **Required NSS (rqnss2):** Minimum spending required by state law, adjusted (DESE profile\_DataC70 sheet)
- **Actual NSS (actualNSS):** Total district spending on education (DESE profile\_DataC70 sheet)

#### Important Note:

NSS/Ch70 values are reported in **absolute dollars**, NOT per-pupil. Unlike PPE (which divides by in-district FTE), NSS/Ch70 values represent total district funding amounts.

#### Stacked Components (bottom to top in plots):

1. **Ch70 Aid (\$):** c70aid
  - Green bar in plots • State funding received by district
2. **Req NSS (adj) (\$):** max(0, rqnss2 – c70aid)
  - Amber bar in plots • Required local contribution (after subtracting Ch70)
  - Uses max(0, ...) to handle rare cases where Ch70 > Required NSS
3. **Actual NSS (adj) (\$):** actualNSS – rqnss2
  - Purple bar in plots • Spending above minimum requirement
  - Represents discretionary local spending beyond state mandates

**Total NSS (\$):** Sum of all three components = actualNSS

#### Example Calculation (Amherst, FY2024):

- Ch70 Aid: \$6,791,000
- Required NSS: \$18,859,000; Req NSS (adj): \$18,859,000 – \$6,791,000 = \$12,068,000
- Actual NSS: \$31,511,000; Actual NSS (adj): \$31,511,000 – \$18,859,000 = \$12,652,000
- Total NSS: \$6,791,000 + \$12,068,000 + \$12,652,000 = \$31,511,000

#### Aggregate Calculation:

For aggregate enrollment groups (Small, Medium, Large, Springfield), sum dollar amounts across all member districts by year:

- Ch70 Aid (\$) =  $\Sigma(\text{District\_Ch70})$
- Same calculation method for Req NSS (adj) and Actual NSS (adj)

#### Shading:

NSS/Ch70 comparison tables use the same red/green shading logic as PPE tables (2% dollar threshold, 2pp CAGR threshold).