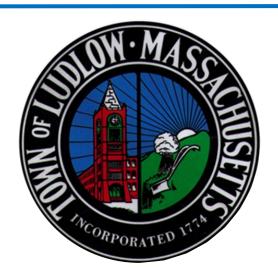
Town of Ludlow



Financial Indicator Analysis

FY2008—FY2018

Introduction

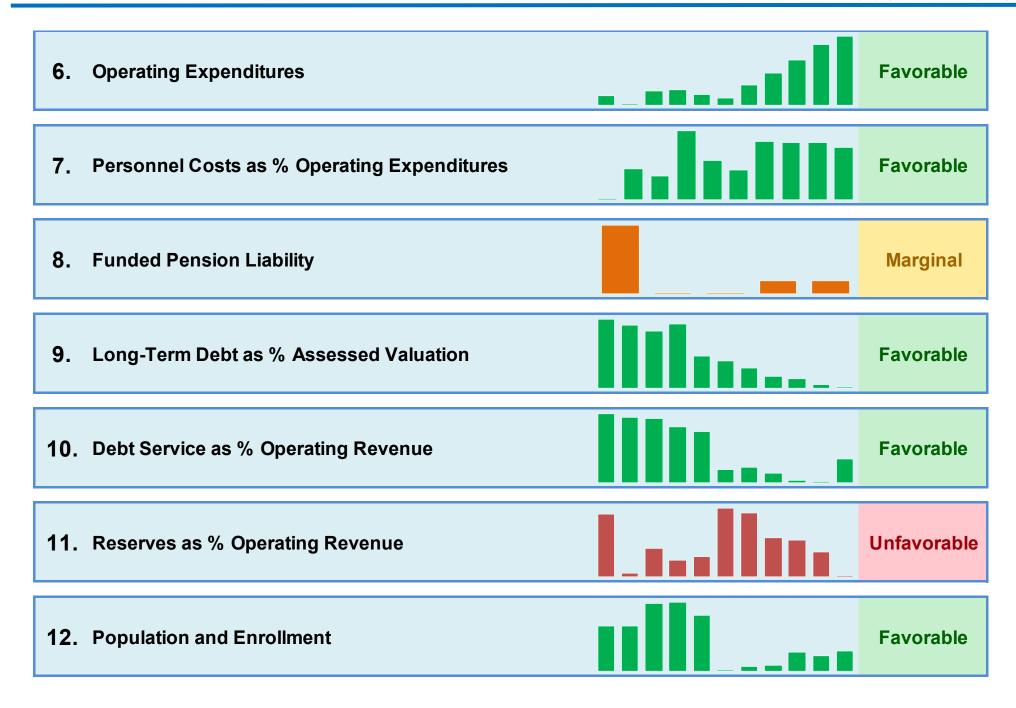


The financial indicators within this report are meant to provide a snapshot of the Town of Ludlow's fiscal health by identifying trends in key revenue, expenditure, and demographic categories. Based on the direction of the trend over time, each indicator is classified as Favorable, Marginal, or Unfavorable. A Favorable rating means that the indicator is a source of fiscal strength. Marginal indicators do not show a clear enough trend over time to be considered Favorable or Unfavorable and could indicate a trend toward Unfavorable. An Unfavorable indicator shows a clear negative trend and is likely a source of fiscal stress. In most cases, an Unfavorable indicator is a starting point for further investigation rather than a blueprint for immediate action. These indicators are monitored carefully by town staff, who will develop a plan to mitigate any negative impacts and reverse the trend. The town will address Unfavorable trends when discussing policy priorities for the upcoming fiscal year.

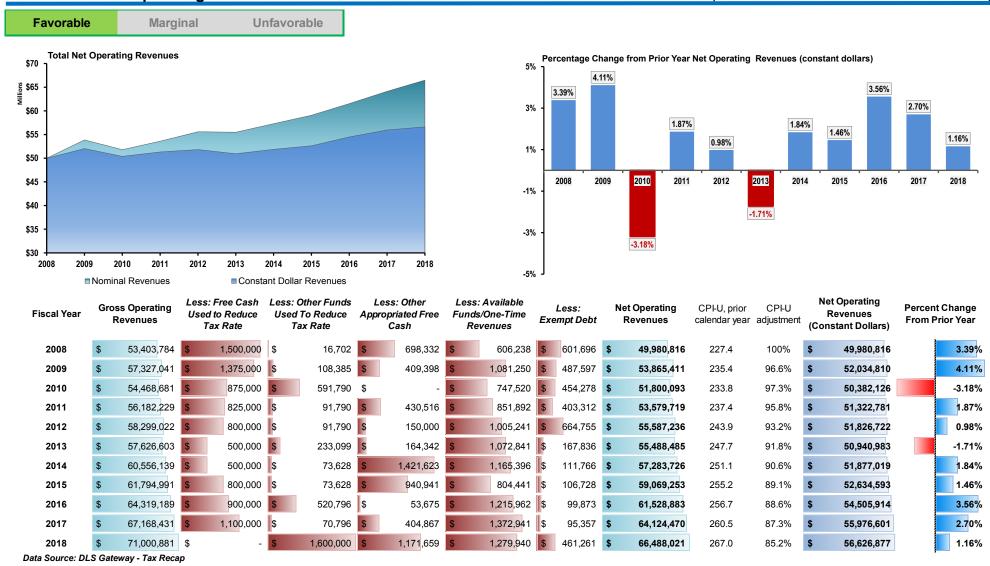
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Consistent revenue growth is one measure of a town's ability to maintain existing service levels in the face of increasing costs. This indicator shows the change in Ludlow's net operating revenues over time. Net operating revenues are calculated by using the total gross revenue available from all sources, less tax revenue raised from a debt exclusion. Revenue raised for the purpose of servicing exempt debt is temporary and tied to a specific use, and so excluding it from this calculation provides a more accurate representation of the revenue available to the town for funding routine public services.

Ideally, the annual percentage increase from prior year revenues should be steady, positive, and predictable. A trend of decreasing net operating revenues, after accounting for the effects of inflation, is a warning indicator; if municipal revenues are decreasing, they may soon be insufficient to maintain a consistent level of service. Likewise, a high degree of volatility in the rate of year-to-year change may also be a warning sign. From FY2008 to FY2013 net operating revenues declined on a constant dollar basis. In FY2010 there was a decrease in nominal revenues exacerbated by inflation, but while FY2011 and FY2013 showed nominal increases, it was not enough to counteract inflation. While percentage increases from prior year revenues have been declining since FY2014, the overall revenue trend shows steady increases.



279,615 \$

\$

188,267

184,608 \$

238,178

375,880

35,866 \$

31,204 \$

41,514 \$

25,427 \$

448,641

1,199,553 \$

450,502 \$

162,683 \$

141,330 \$

216,150 \$

1.515.034 \$ 4.417.387

1,087,410 \$ 3,947,269

378,495 \$ 3,515,663

421,022 \$ 3,675,579

617,457 \$ 3,944,527

Data Source: Town revenue reports, DLS Gateway - Tax Recap, Form LA-13

51,877,019 \$

54,505,914 \$

56,626,877 \$

52,634,593

55,976,601

\$

\$

\$

\$

2014

2015

2016

2017

2018

New growth and certain local receipts are generally responsive to changes in the local economy. Periods of healthy economic activity are often linked to an increase in local economic development, creating new growth for the property tax levy and generating an increase in permit fees related to new construction and an acquisition of business-related personal property. Additionally, periods of prosperity generally affect the meals and rooms taxes, and make it more likely that residents will purchase vehicles. Conversely, a downturn in the economy may lead to a decrease in these revenue-generating factors.

139,953

168,741

370,339

167,181

216,746

310,967

315,537

338,255

365,389

410,324

2,451,433

2,375,581

2,428,574

2,721,987

2,700,000 \$

Maintaining a balance between revenues tied to the economy and other revenues helps mitigate the effects of economic slowdowns or recessions. Even though new growth is part of the property tax, it is included in this analysis since it is a reflection of new value added to the tax rolls as a result of construction. A trend indicating a decline in revenues related to economic growth may indicate that these revenue sources will need to be supplemented or replaced by others in the future.

251.1

255.2

256.7

260.5

267.0

90.6%

89.1%

88.6%

87.3%

85.2%

\$ 4,000,453

\$ 3,517,277

\$ 3,114,381

\$ 3,208,548

\$ 3,359,496

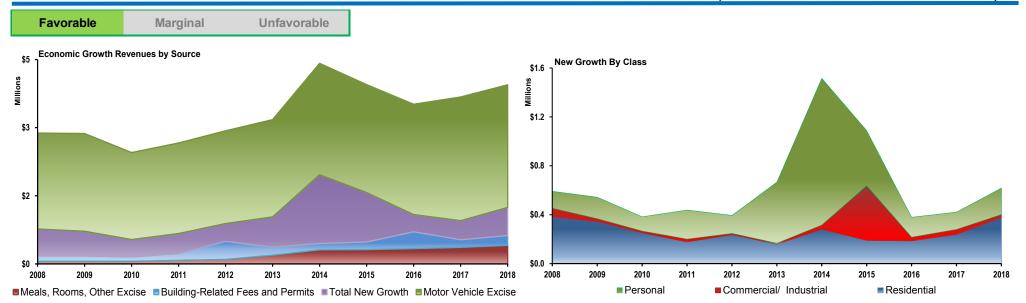
7.71%

6.68%

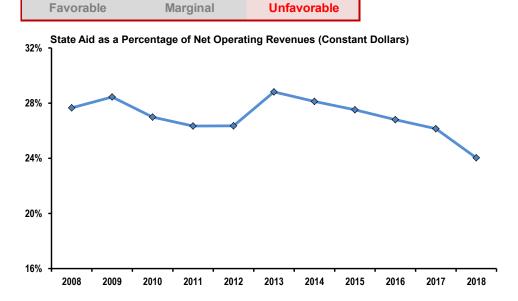
5.71%

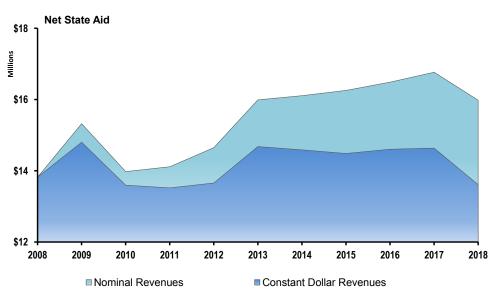
5.73%

5.93%



Overall, Ludlow's economic growth revenues show a positive trend, generally keeping pace with inflation and remaining between 4-6% of total operating revenues. Fiscal 2014 is the recent high point at 7.71% of revenue, owing largely to a spike in new growth from personal property. The trend has moderated significantly since then, although FY2017 and FY2018 have seen modest increases.





Fiscal Year	nerry Sheet venue Less Offsets	F	Less MSBA Reimbursements	Less State Assessments	ı	Net State Aid	CPI-U adjustment	Net S	tate Aid (Constant Dollars)	Re	Net Operating evenues (Constant Dollars)	Net State Aid as % Operating Revenue	
2008	\$ 15,658,424	\$	(1,772,553)	\$ (63,677)	\$	13,822,194	100%	\$	13,822,194	\$	49,980,816	27.7%	
2009	\$ 16,807,669	\$	(1,413,671)	\$ (71,358)	\$	15,322,640	96.6%	\$	14,801,905	\$	52,034,810	28.4%	
2010	\$ 15,509,271	\$	(1,413,671)	\$ (117,481)	\$	13,978,119	97.3%	\$	13,595,484	\$	50,382,126	27.0%	
2011	\$ 15,646,169	\$	(1,413,663)	\$ (120,269)	\$	14,112,237	95.8%	\$	13,517,787	\$	51,322,781	26.3%	
2012	\$ 15,898,385	\$	(1,098,828)	\$ (152,195)	\$	14,647,362	93.2%	\$	13,656,458	\$	51,826,722	26.4%	
2013	\$ 16,112,957	\$	-	\$ (122,976)	\$	15,989,981	91.8%	\$	14,679,538	\$	50,940,983	28.8%	
2014	\$ 16,274,933	\$	-	\$ (166,819)	\$	16,108,114	90.6%	\$	14,587,754	\$	51,877,019	28.1%	
2015	\$ 16,463,231	\$	-	\$ (208,078)	\$	16,255,153	89.1%	\$	14,484,411	\$	52,634,593	27.5%	
2016	\$ 16,745,224	\$	-	\$ (257,849)	\$	16,487,375	88.6%	\$	14,605,489	\$	54,505,914	26.8%	
2017	\$ 16,975,098	\$	-	\$ (209,539)	\$	16,765,559	87.3%	\$	14,635,271	\$	55,976,601	26.1%	
2018	\$ 17,093,414	\$	(876,912)	\$ (235,752)	\$	15,980,750	85.2%	\$	13,610,571	\$	56,626,877	24.0%	

Data Source: DLS Municipal Databank

A trend showing declining state aid as a percentage of total revenue may be considered a warning indicator. At 24% of FY2018 operating revenue, state aid is a significant portion of Ludlow's total budget. The town should make plans to ensure that other revenue sources are available to cover any gaps in funding that may be introduced by declining state aid.

On a constant dollar basis, Ludlow's total state aid has fluctuated between just under \$15 million and just over \$13 million, and when adjusted for inflation its current state aid funding is virtually unchanged from FY2008. Since FY2013, the budget's share of state aid has declined every year before dropping from 26.1% in FY2017 to a low of 24% in FY2018. As a result, this indicator is unfavorable.

Favorable Marginal Unfavorable

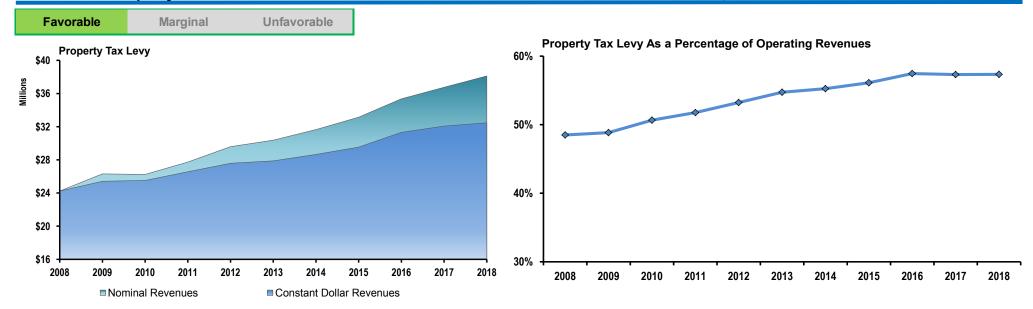
State Aid Rec	eipts	Detail															
Fiscal Year	Ch	apter 70 Aid	r Tuition ursement	hool Lunch (Offset)	chool Choice eiving Tuition (Offset)	nrestricted General ernment Aid	Poli	ce Career Incentive	Ve	eterans' Benefits	Ex	emptions: VBS and Elderly	Sta	ate Owned Land	Public L (Off		tal State Aid Revenues
2008	\$	11,536,063	\$ 28,114	\$ 19,649	\$ 644,723	\$ 3,802,034	\$	120,914	\$	63,677	\$	86,729	\$	20,893	\$	37,964	\$ 16,360,760
2009	\$	12,688,709	\$ 18,957	\$ 19,692	\$ 671,134	\$ 3,802,034	\$	123,516	\$	71,358	\$	80,693	\$	22,402	\$	39,908	\$ 17,538,403
2010	\$	12,434,935	\$ 138,723	\$ 21,913	\$ 696,584	\$ 2,691,527	\$	22,115	\$	117,481	\$	84,308	\$	20,182	\$	27,538	\$ 16,255,306
2011	\$	12,738,623	\$ 66,128	\$ 19,387	\$ 636,613	\$ 2,583,866	\$	11,207	\$	120,269	\$	98,045	\$	28,031	\$	27,996	\$ 16,330,165
2012	\$	13,097,378	\$ 134,056	\$ 21,786	\$ 586,441.0	\$ 2,397,042	\$	-	\$	152,195	\$	88,682	\$	29,032	\$	27,767	\$ 16,534,379
2013	\$	13,211,578	\$ 71,393	\$ 21,943	\$ 566,212	\$ 2,583,866	\$	-	\$	122,976	\$	94,102	\$	29,042	\$	25,891	\$ 16,727,003
2014	\$	13,282,703	\$ 58,645	\$ 21,250	\$ 563,045	\$ 2,644,943	\$	-	\$	166,819	\$	92,206	\$	29,617	\$	25,112	\$ 16,884,340
2015	\$	13,351,728	\$ 61,716	\$ 21,008	\$ 509,783	\$ 2,718,292	\$	-	\$	208,078	\$	92,961	\$	30,456	\$	30,198	\$ 17,024,220
2016	\$	13,418,728	\$ 122,467	\$ -	\$ 499,229.0	\$ 2,816,151	\$	-	\$	257,849	\$	99,573	\$	30,456	\$	30,087	\$ 17,274,540
2017	\$	13,564,533	\$ 127,937	\$ -	\$ 562,404.0	\$ 2,937,246	\$	-	\$	209,539	\$	105,750	\$	30,093	\$	29,132	\$ 17,566,634
2018	\$	13,642,593	\$ 17,860	\$ -	\$ 507,900.0	\$ 3,051,799	\$	-	\$	235,752	\$	115,345	\$	30,065	\$	29,574	\$ 17,630,888

State Assessments Detail

Data Source: DLS Municipal Databank

Fiscal Year	Air Pollution	RMV Non-Renewal Surcharge	Regional Transit	Special Education	School Choice Sending Tuition	Charter School Sending Tuition	Total State Assessments
2008	\$ 4,657	\$ 15,800	\$ 68,581	\$ 7,126	\$ 164,651	\$ 62,104	\$ 63,677
2009	\$ 4,755	\$ 19,600	\$ 74,399	\$ 440	\$ 137,174	\$ 53,838	\$ 71,358
2010	\$ 5,044	\$ 19,580	\$ 79,722	\$ 4,478	\$ 76,740	\$ 186,159	\$ 117,481
2011	\$ 5,149	\$ 25,720	\$ 84,148	\$ 586	\$ 81,044	\$ 138,766	\$ 120,269
2012	\$ 5,217	\$ 21,660	\$ 93,433	\$ 1,677	\$ 106,480	\$ 229,004	\$ 152,195
2013	\$ 5,207	\$ 21,920	\$ 99,155	\$ 1,854	\$ 115,859	\$ 272,385	\$ 122,976
2014	\$ 5,402	\$ 24,100	\$ 108,110	- \$	\$ 132,649	\$ 297,453	\$ 166,819
2015	\$ 5,367	\$ 23,720	\$ 107,662	\$ 6,674	\$ 187,851	\$ 301,321	\$ 208,078
2016	\$ 5,547	\$ 23,720	\$ 96,733	\$ 7,977	\$ 204,660	\$ 434,878	\$ 257,849
2017	\$ 5,685	\$ 23,720	\$ 102,941	\$ -	\$ 232,966	\$ 591,162	\$ 209,539
2018	\$ 5,672	\$ 24,840	\$ 103,853	\$ 2,031	\$ 261,046	\$ 327,018	\$ 235,752

Data Source: DLS Municipal Databank



A decline in property tax revenues, adjusted for inflation, indicates the town may face increasing difficulty funding a consistent level of service into the future.

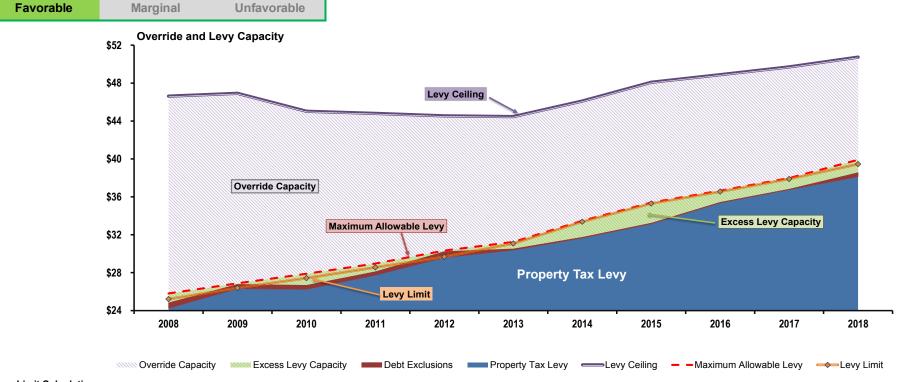
In Ludlow, property tax revenue has grown on both a nominal and constant dollar basis, indicating that it is keeping pace with inflation. Therefore, this indicator is favorable. Note that the tax levy is presented net of any debt exclusions, since those receipts are reserved for payment of exempt debt service and will expire when the debt is paid off.

Fiscal Year	Pı	roperty Tax Levy	ess Debt clusions	Net	Property Tax Levy	CPI-U adjustment	Net Tax Levy Instant dollars)	% Change from prior year	Prop Tax as a % Operating Revenue
2008	\$	24,843,392	\$ (601,696)	\$	24,241,696	100%	\$ 24,241,696	3.39%	48.50%
2009	\$	26,798,971	\$ (487,597)	\$	26,311,374	96.6%	\$ 25,417,190	4.85%	48.85%
2010	\$	26,697,121	\$ (454,278)	\$	26,242,843	97.3%	\$ 25,524,476	0.42%	50.66%
2011	\$	28,137,666	\$ (403,312)	\$	27,734,354	95.8%	\$ 26,566,100	4.08%	51.76%
2012	\$	30,254,227	\$ (664,755)	\$	29,589,472	93.2%	\$ 27,587,724	3.85%	53.23%
2013	\$	30,542,388	\$ (167,836)	\$	30,374,552	91.8%	\$ 27,885,237	1.08%	54.74%
2014	\$	31,763,396	\$ (111,766)	\$	31,651,630	90.6%	\$ 28,664,200	2.79%	55.25%
2015	\$	33,257,548	\$ (106,728)	\$	33,150,820	89.1%	\$ 29,539,563	3.05%	56.12%
2016	\$	35,457,370	\$ (99,873)	\$	35,357,497	88.6%	\$ 31,321,756	6.03%	57.46%
2017	\$	36,846,048	\$ (95,357)	\$	36,750,691	87.3%	\$ 32,081,025	2.42%	57.31%
2018	\$	38,585,108	\$ (461,261)	\$	38,123,847	85.2%	\$ 32,469,524	1.21%	57.34%

Data Source: DLS Gateway - Tax Recap

While Ludlow's property tax shows a healthy growth trend, note that as a percentage of total operating revenues it has increased significantly since FY2008 (from 48.5% to 57.34% in FY2018). This may be an indication that revenue from other sources has been decreasing over time

while the burden on the property tax has increased. Tax levy growth is attributed both to the 2.5% annual increase in the levy limit allowed by Proposition 2.5, as well as any new growth. See indicators **4a - Levy Limit**, and **4b - Assessed Values**, for more detailed information.



Levy	Limit	Calcu	lation
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Fiscal Year	or Year Tax .evy Limit	Amended Pr Growth	ior	2.5% Increase	tified New Growth	Override	L	Levy Limit	Debt Exclusions	L	evy Ceiling	(net of Debt Exclusions)	Max	kimum Allowable Levy	Proj	perty Tax Levy	ess Levy pacity	Override Capacity	Capacity as % Levy Ceiling	
2008	\$ 24,012,386	\$ 2,9	06	\$ 600,382	\$ 591,068	\$ -	\$	25,206,742	\$ 601,696	\$	46,627,989	\$	24,241,696	\$	25,8 08,438	\$	24,843,392	\$ 965,046	\$ 20,819,551	44.65%	l
2009	\$ 25,206,742	\$ 3,8	18	\$ 630,264	\$ 542,401	\$ -	\$	26,383,225	\$ 487,597	\$	46,916,967	\$	26,311,374	\$	26,870,822	\$	26,798,971	\$ 71,851	\$ 20,046,145	42.73%	
2010	\$ 26,383,225	\$ 1,1	60	\$ 659,610	\$ 382,198	\$ -	\$	27,426,193	\$ 454,278	\$	45,035,629	\$	26,242,843	\$	27,880,471	\$	26,697,121	\$ 1,183,350	\$ 17,155,158	38.09%	
2011	\$ 27,426,193	\$ 8,2	71	\$ 685,862	\$ 437,574	\$ -	\$	28,557, 900	\$ 40 <mark>3,312</mark>	\$	44,805,201	\$	27,734,354	\$	28,96 <mark>1,212</mark>	\$	28,137,666	\$ 823,546	\$ 15,843,989	35.36%	
2012	\$ 28,557,900	\$ 3,6	10	\$ 714,038	\$ 393,785	\$ -	\$	29,669,332	\$ 664,755	\$	44,543,914	\$	29,589,472	\$	30,334,087	\$	30,254,227	\$ 79,860	\$ 14,209,827	31.90%	
2013	\$ 29,669,332	\$	-	\$ 741,733	\$ 665,829	\$ -	\$	31,076,8 <mark>95</mark>	\$ 167,836	\$	44,470,570	\$	30,374,552	\$	31,244,731	\$	30,542,388	\$ 702,343	\$ 13,225,839	29.74%	
2014	\$ 31,076,895	\$	-	\$ 776,922	\$ 1,515,034	\$ -	\$	33,368,851	\$ 111,766	\$	46,114,105	\$	31,651,630	\$	33,480,617	\$	31,763,396	\$ 1,717,221	\$ 12,633,488	27.40%	
2015	\$ 33,368,851	\$	-	\$ 834,221	\$ 1,087,410	\$ -	\$	35,290,482	\$ 106,728	\$	48,087,837	\$	33,150,820	\$	35,397,210	\$	33,257,548	\$ 2,139,662	\$ 12,690,627	26.39%	
2016	\$ 35,290,482	\$	-	\$ 882,262	\$ 378,495	\$ -	\$	36,551,239	\$ 99,873	\$	48,893,230	\$	35,357,497	\$	36,651,112	\$	35,457,370	\$ 1,1 <mark>93,742</mark>	\$ 12,242,118	25.04%	
2017	\$ 36,551,239	\$	-	\$ 913,781	\$ 421,022	\$ -	\$	37,886,042	\$ 95,357	\$	49,711,343	\$	36,750,691	\$	37,981,399	\$	36,846,048	\$ 1,135,351	\$ 11,729,944	23.60%	
2018	\$ 37,886,042	\$	-	\$ 947,151	\$ 617,457	\$ -	\$	39,450,650	\$ 461,261	\$	50,743,173	\$	38,123,847	\$	39,911,911	\$	38,585,108	\$ 1,326,803	\$ 10,831,262	21.35%	

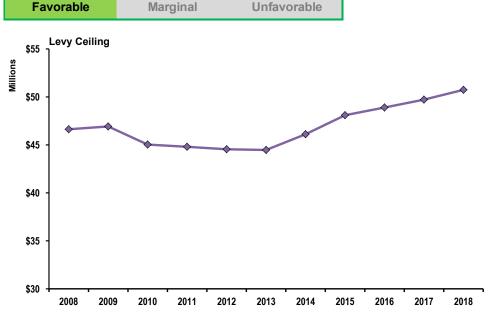
Prop Tax Levy

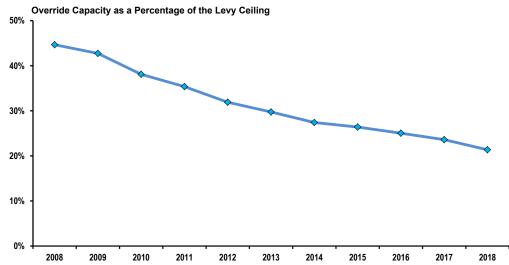
Data Source: DLS Gateway - Levy Limit, DE-1, Tax Recap

The levy ceiling (an amount equal to 2.5% of the community's total assessed value) is a cap on the size of a community's maximum allowable levy. Although a community can pass an override or debt exclusion to exceed its levy limit, the limit cannot exceed the levy ceiling. If the levy limit calculation produces a number greater than

the levy ceiling, the ceiling must be used in its place. If a community cannot increase its levy limit normally, it is said to have reached the "levy cap." Ludlow is not in danger of hitting its levy cap.

Override



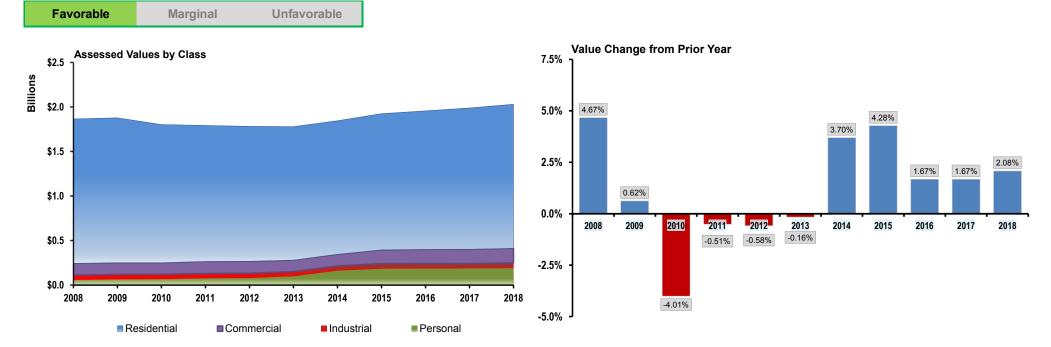


When a community hits the levy cap and its levy ceiling is in decline, it becomes progressively more difficult to raise funds from the property tax. This environment also severely hampers a town's ability to expand services or finance large capital projects through overrides or exclusions, since the levy ceiling is directly tied to a town's override capacity (the difference between the levy limit and the levy ceiling).

Ludlow's trends in this area are generally positive. The town has maintained significant excess levy capacity since FY2008, indicating an ability to raise further tax revenue without the need for an override. Additionally, the town maintains significant override capaci-

ty, although it has declined by about half since FY2008, as has the override capacity as a percentage of the levy ceiling. New growth has generally been steady, with a spike in personal property values in FY2014. A significant increase in commercial/industrial values mitigated a decrease in FY2015, while FY2016-18 saw a return to typical levels of growth on a slightly increasing trend.

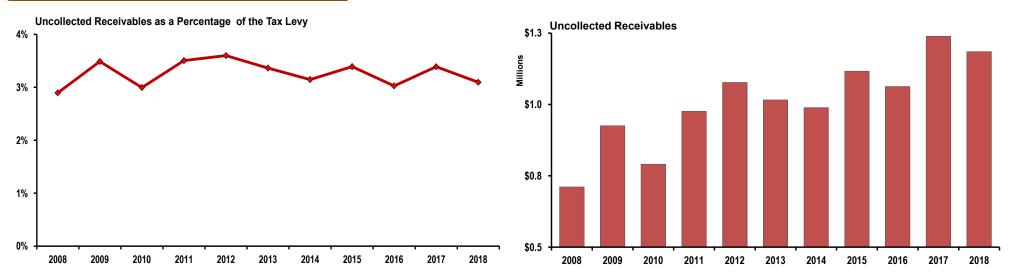
With a healthy override and levy capacity, as well as consistent new growth, Ludlow's property tax revenue is likely to continue growing favorably.



Since FY2008, Ludlow's total assessed values have increased \$164,607,350, or 8.83% and the trend has been largely positive. The town experienced declining values in FY2010-13, likely attributable to the Great Recession, but in FY2014 values started to rebound, primarily driven by increases in the personal property class that continues into the present. However, while the commercial, industrial, and personal property classes have increased in value since FY2008, residential values have decreased by \$3.38 million, or 0.21%. However, despite this overall decrease, residential values have increased since their low point of \$1.498 billion in FY2013, which is a positive trend.

Assessed Values											
Fiscal Year		Residential	Commercial	In	dustrial	Personal	Total Value		nange from er Year	L	evy Ceiling
2008	\$	1,620,828,488	\$ 131,951,192	\$	53,785,980	\$ 58,553,890	\$ 1,865,119,550		4.67%	\$	46,627,989
2009	\$	1,626,268,352	\$ 130,590,008	\$	53,052,520	\$ 66,767,800	\$ 1,876,678,680		0.62%	\$	46,916,967
2010	\$	1,550,378,145	\$ 129,724,865	\$	52,798,620	\$ 68,523,540	\$ 1,801,425,170		-4.01%	\$	45,035,629
2011	\$	1,527,096,827	\$ 135,103,103	\$	51,115,620	\$ 78,892,500	\$ 1,792,208,050		-0.51%	\$	44,805,201
2012	\$	1,515,096,717	\$ 133,975,003	\$	50,833,220	\$ 81,851,630	\$ 1,781,756,570		-0.58%	\$	44,543,914
2013	\$	1,498,444,140	\$ 128,743,200	\$	50,304,720	\$ 101,330,740	\$ 1,778,822,800		-0.16%	\$	44,470,570
2014	\$	1,499,674,752	\$ 129,725,408	\$	50,720,420	\$ 164,443,610	\$ 1,844,564,190		3.70%	\$	46,114,105
2015	\$	1,528,545,717	\$ 153,545,533	\$	54,859,260	\$ 186,562,980	\$ 1,923,513,490		4.28%	\$	48,087,837
2016	\$	1,555,419,409	\$ 157,483,511	\$	53,741,610	\$ 189,084,670	\$ 1,955,729,200		1.67%	\$	48,893,230
2017	\$	1,585,883,576	\$ 161,020,494	\$	50,411,190	\$ 191,138,460	\$ 1,988,453,720		1.67%	\$	49,711,343
2018	\$	1,617,447,510	\$ 162,628,630	\$	57,211,200	\$ 192,439,560	\$ 2,029,726,900		2.08%	\$	50,743,173
									,		
\$ Change Since FY2008	\$	(3,380,978)	\$ 30,677,438	\$	3,425,220	\$ 133,885,670	\$ 164,607,350			\$	4,115,184
% Change Since FY2008		-0.21%	23.25%		6.37%	228.65%	8.83%	,			8.83%
Data Source: DLS Municipal D	Databai	nk									



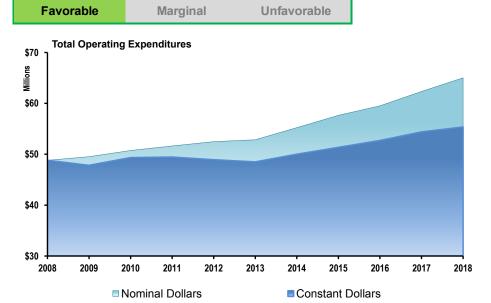


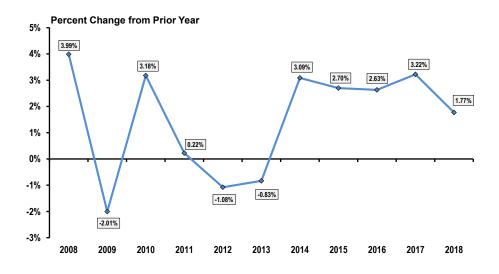
A trend of uncollected property tax receivables greater than 5% of the total annual property tax levy (net of overlay) is a warning indicator. Practically speaking, an increase in uncollected taxes may lead to a decrease in liquidity, introducing some uncertainty as to whether the town will have available revenue to fund its appropriations.

Ludlow's uncollected taxes have consistently remained between 2.5% and 3.5%, which is below the amount considered a warning in this indicator. While this shows that the town's tax collections are consistent, they are not improving, and uncollected taxes increased in FY2015 and FY2017 after decreasing the year prior. Thus this indicator is rated as marginal and should be monitored.

Fiscal Year	Pr	operty Tax Levy	Les	s Overlay	operty Tax Levy Net of Overlay)	mulative Uncollected ceivables as of June 30th	Cumulative Uncollected Receivables as % Tax Levy
2008	\$	24,843,392	\$	(289,894)	\$ 24,553,498	\$ 711,062	2.9%
2009	\$	26,798,971	\$	(264,919)	\$ 26,534,052	\$ 925,423	3.5%
2010	\$	26,697,121	\$	(287,506)	\$ 26,409,615	\$ 790,878	3.0%
2011	\$	28,137,666	\$	(297,822)	\$ 27,839,844	\$ 975,969	3.5%
2012	\$	30,254,227	\$	(322,857)	\$ 29,931,370	\$ 1,077,362	3.6%
2013	\$	30,542,388	\$	(326,463)	\$ 30,215,925	\$ 1,016,207	3.4%
2014	\$	31,763,396	\$	(318,053)	\$ 31,445,343	\$ 988,955	3.1%
2015	\$	33,257,548	\$	(324,358)	\$ 32,933,190	\$ 1,116,818	3.4%
2016	\$	35,457,370	\$	(325,570)	\$ 35,131,800	\$ 1,062,999	3.0%
2017	\$	36,846,048	\$	(276,000)	\$ 36,570,048	\$ 1,239,152	3.4%
2018	\$	38,585,108	\$	(285,067)	\$ 38,300,041	\$ 1,185,385	3.1%

Data Source: DLS Municipal Finance Trend Dashboard





A steep increase in annual operating costs, after accounting for inflation, may indicate that a community's expenses are unsustainable without accompanying revenue increases or budget adjustments.

On a constant dollar basis, Ludlow's annual operating expenditures have increased steadily over time. The rate of increase has remained fairly steady since FY2014, but FY2018 saw the lowest percentage change since then, at a 1.77% increase from the prior year.

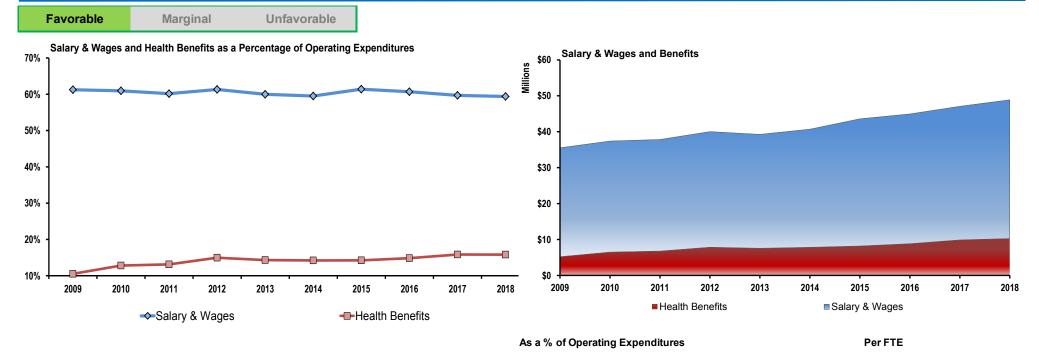
Schedule A Expenditure Categories

Total Operating Expenditures

Fiscal Year	Nom	inal Dollars	CPI-U adjustment	Con	stant Dollars	% (Change
2008	\$	48,801,688	100.00%	\$	48,801,688		3.99%
2009	\$	49,505,406	96.60%	\$	47,822,979		-2.01%
2010	\$	50,730,440	97.26%	\$	49,341,754		3.18%
2011	\$	51,625,500	95.79%	\$	49,450,879		0.22%
2012	\$	52,467,342	93.23%	\$	48,917,891		-1.08%
2013	\$	52,840,902	91.80%	\$	48,510,380		-0.83%
2014	\$	55,219,166	90.56%	\$	50,007,321		3.09%
2015	\$	57,635,462	89.11%	\$	51,356,991		2.70%
2016	\$	59,500,170	88.59%	\$	52,708,760		2.63%
2017	\$	62,325,922	87.29%	\$	54,406,582		3.22%
2018	\$	65,011,681	85.17%	\$	55,369,499		1.77%

Data Source: Schedule A Reports

Fiscal Year	Education	Debt Se	rvice	Fixed Costs	Public Works	Police	Fire	Other Public Safety	Human Services	Culture and Recreation	General Government	Asssessments/Other
2008	\$ 23,809,1	43 \$	3,213,790	\$ 8,840,881	\$ 3,652,037	\$ 2,877,220	\$ 1,924,403	\$ 701,681	\$ 666,012	\$ 549,356	\$ 2,263,649	\$ 303,516
2009	\$ 25,200,1	10 \$	3,330,389	\$ 7,813,252	\$ 3,858,833	\$ 2,838,715	\$ 1,859,964	\$ 831,863	\$ 762,067	\$ 581,848	\$ 2,179,685	\$ 248,680
2010	\$ 25,590,8	52 \$	3,121,734	\$ 9,297,382	\$ 3,417,463	\$ 2,808,112	\$ 1,936,417	\$ 786,651	\$ 700,038	\$ 573,311	\$ 2,202,541	\$ 295,939
2011	\$ 25,135,5	68 \$	2,938,899	\$ 9,929,358	\$ 3,869,120	\$ 3,022,523	\$ 1,919,819	\$ 817,707	\$ 771,231	\$ 626,858	\$ 2,270,956	\$ 323,461
2012	\$ 25,021,8	48 \$	2,837,505	\$ 10,975,864	\$ 3,444,108	\$ 3,081,571	\$ 1,921,355	\$ 945,151	\$ 802,617	\$ 645,095	\$ 2,320,555	\$ 471,673
2013	\$ 25,910,9	81 \$	1,472,192	\$ 11,012,272	\$ 3,716,817	\$ 3,264,769	\$ 2,054,942	\$ 1,018,975	\$ 875,914	\$ 678,591	\$ 2,298,999	\$ 536,450
2014	\$ 26,603,0	02 \$	1,656,500	\$ 11,639,355	\$ 3,946,140	\$ 3,397,364	\$ 2,134,638	\$ 1,147,013	\$ 964,423	\$ 727,024	\$ 2,416,133	\$ 587,574
2015	\$ 27,855,6	17 \$	1,438,077	\$ 12,067,046	\$ 3,971,170	\$ 3,471,920	\$ 2,242,983	\$ 1,141,635	\$ 1,026,914	\$ 732,655	\$ 3,025,099	\$ 662,346
2016	\$ 28,571,5	17 \$	1,212,765	\$ 12,049,662	\$ 3,528,949	\$ 3,784,121	\$ 2,452,119	\$ 1,114,271	\$ 1,005,744	\$ 840,595	\$ 3,625,306	\$ 1,315,121
2017	\$ 30,084,5	19 \$	1,209,488	\$ 13,477,620	\$ 3,642,317	\$ 3,915,604	\$ 2,689,351	\$ 1,149,600	\$ 1,047,734	\$ 792,315	\$ 3,028,520	\$ 1,288,854
2018	\$ 30,661,2	98 \$	2,202,105	\$ 14,500,450	\$ 3,659,348	\$ 4,104,399	\$ 2,617,161	\$ 1,223,741	\$ 1,032,457	\$ 797,905	\$ 2,808,329	\$ 1,404,488
Data Source: Schedule A R	teports											11



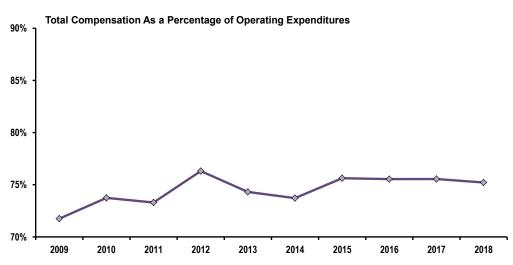
Fiscal Year	Operating penditures	Sal	lary & Wages	Health Benefits	FTE	Salary & Wages	Health Benefits	Total Compensation	Salary	y & Wages	Health B	enefits	Total Compensation
2009	\$ 49,505,406	\$	30,321,189	5,198,929	1,104	61.25%	10.50%	71.75%	\$	27,465	\$	4,709	\$ 32,174
2010	\$ 50,730,440	\$	30,915,819	6,4 <mark>93,360</mark>	1,098	60.94%	12.80%	73.74%	\$	28,156	\$	5,914	\$ 34,070
2011	\$ 51,625,500	\$	31,067,306	6,772,452	1,146	60.18%	13.12%	73.30%	\$	27,109	\$	5,910	\$ 33,019
2012	\$ 52,467,342	\$	32,183,668	7,854 <mark>,</mark> 471	1,161	61.34%	14.97%	76.31%	\$	27,721	\$	6,765	\$ 34,486
2013	\$ 52,840,902	\$	31,699,063	7,565,057	1,163	59.99%	14.32%	74.31%	\$	27,256	\$	6,505	\$ 33,761
2014	\$ 55,219,166	\$	32,859,763	7,843,193	1,169	59.51%	14.20%	73.71%	\$	28,109	\$	6,709	\$ 34,819
2015	\$ 57,635,462	\$	35,390,298	8,195, <mark>8</mark> 61	1,179	61.40%	14.22%	75.62%	\$	30,017	\$	6,952	\$ 36,969
2016	\$ 59,500,170	\$	36,118,051	8,829,4 <mark>8</mark> 4	1,172	60.70%	14.84%	75.54%	\$	30,817	\$	7,534	\$ 38,351
2017	\$ 62,325,922	\$	37,209,234	9,876,216	1,149	59.70%	15.85%	75.55%	\$	32,384	\$	8,595	\$ 40,980
2018	\$ 65,011,681	\$	38,616,267	10,279,027	1,148	59.40%	15.81%	75.21%	\$	33,638	\$	8,954	\$ 42,592

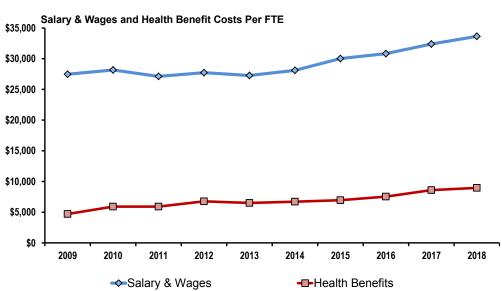
Data Source: Schedule A Reports

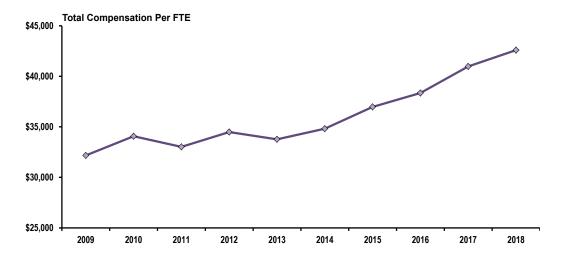
A trend of increasing salaries, wages, and employee health benefits as a percentage of a community's annual operating expenditures may indicate that those costs are rising at an unsustainable rate. As compensation costs grow relative to the total budget they may crowd out departmental spending on other areas, including routine facility maintenance and necessary capital investment.

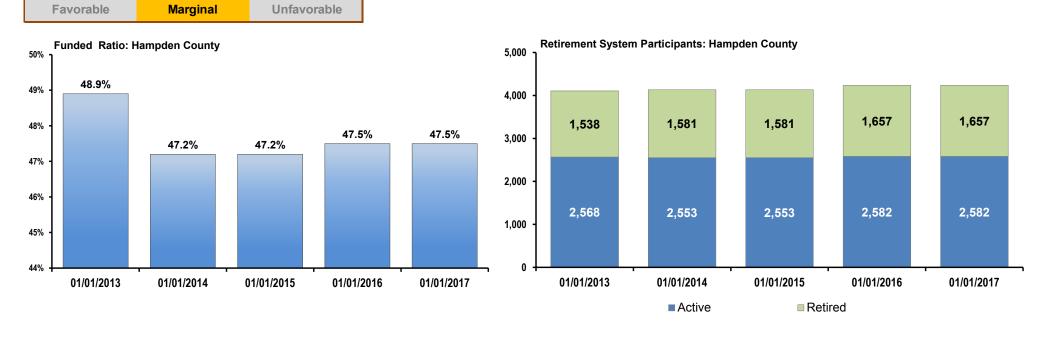
In Ludlow, both the cost of regular compensation and health benefits has remained largely steady over time relative to the town's overall operating budget. However, a clear growth trend in compensation per Full-Time Equivalent (FTE) employee begins in FY2013. This indicates that while the town is managing its compensation costs relative to budget, the cost of compensating an individual employee is increasing over time.

Favorable Marginal Unfavorable









Report Date	Unfunded Liability	% Funded	Assumed Rate of Return	Year Fully Funded	Report Date	Active	Retired	Total Participants	Ratio of Active to Retired
01/01/2013	\$ 255,000,000	48.9%	8.00%	2036	01/01/2013	2,568	1,538	4,106	1.67
01/01/2014	\$ 298,600,000	47.2%	7.88%	2036	01/01/2014	2,553	1,581	4,134	1.61
01/01/2015	\$ 298,600,000	47.2%	7.88%	2036	01/01/2015	2,553	1,581	4,134	1.61
01/01/2016	\$ 344,700,000	47.5%	7.75%	2036	01/01/2016	2,582	1,657	4,239	1.56
01/01/2017	\$ 344,700,000	47.5%	7.75%	2036	01/01/2017	2,582	1,657	4,239	1.56

clear growth trend emerges.

Data Source: PERAC Annual Reports for Hampden County Retirement System

A community's funded ratio is the total value of a pension plan's assets weighed against its accrued liabilities. A trend showing the funded ratio decreasing over time indicates a diminishing ability for the community to cover its accrued liability, which may put pressure on the budget as other items are cut to make pension payments.

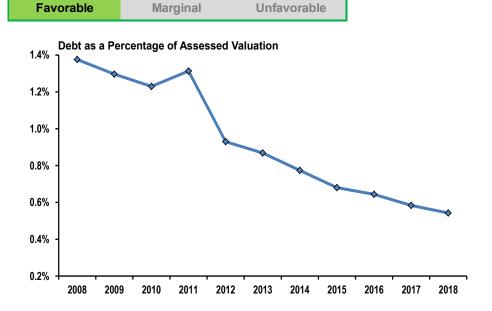
Ludlow is part of the regional Hampden County Retirement System. As of January 1, 2013, the system was 48.9% funded with an 8.00% assumed rate of return and a target date of 2036 for full funding. However, the funded ratio decreased to 47.2% in 2014, coinciding

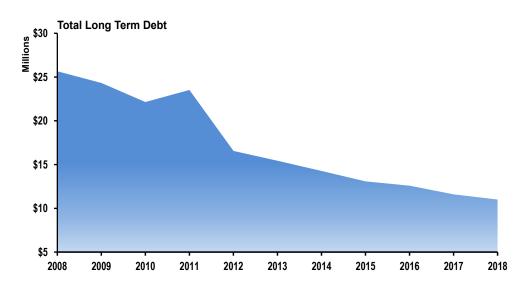
with a reduction in the assumed rate of return to 7.88%. By 2017, Hampden County's funded ratio has improved slightly to 47.5%, with a further adjusted rate of return of 7.75%. However, this is still well below the funded level in 2013, and so this indicator is marginal until a

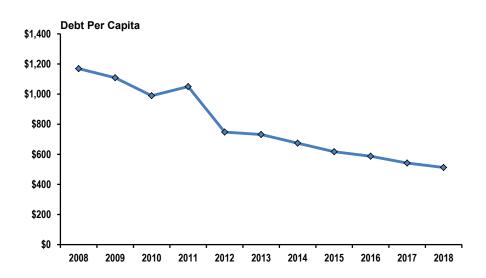
Data Source: PERAC Annual Reports for Hampden County Retirement System

Participants

Throughout the period shown here, the ratio of active to retired employees has remained positive, but has decreased from 1.67 in 2013 to 1.56 in 2018.



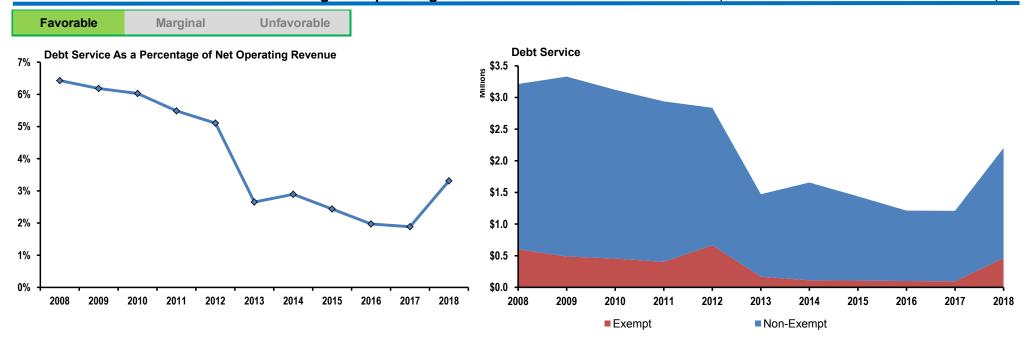




Fiscal Year	Assessed Valuation			Bonds itstanding	Population	Debt as % Assessed Valuation		ebt Per Capita
2008	\$	1,865,119,550	\$	25,659,707	21,946	1.38%	\$	1,169
2009	\$	1,876,678,680	\$	24,329,980	21,951	1.30%	\$	1,108
2010	\$	1,801,425,170	\$	22,145,386	22,382	1.23%	\$	989
2011	\$	1,792,208,050	\$	23,533,063	22,410	1.31%	\$	1,050
2012	\$	1,781,756,570	\$	16,564,109	22,161	0.93%	\$	747
2013	\$	1,778,822,800	\$	15,441,721	21,103	0.87%	\$	732
2014	\$	1,844,564,190	\$	14,269,069	21,176	0.77%	\$	674
2015	\$	1,923,513,490	\$	13,081,964	21,195	0.68%	\$	617
2016	\$	1,955,729,200	\$	12,591,873	21,451	0.64%	\$	587
2017	\$	1,988,453,720	\$	11,598,758	21,395	0.58%	\$	542
2018	\$	2,029,726,900	\$	11,006,145	21,472	0.54%	\$	513
Data Source: Town debt report, Municipal Databank, Statement of Indebtedness								

Total long-term debt in excess of 5% of a community's assessed valuation is generally prohibited under Mass General Law Chapter 44 §10, and approaching this limit is often considered a warning sign by bond rating agencies. Evaluating a community's debt in this way is an indicator of both a community's overall debt burden as well as its effort in consistently investing in its capital assets. While a high debt load may be an indication

of fiscal strain, low and decreasing debt may indicate underinvestment in capital assets and infrastructure. Ludlow's debt burden is well below the 5% threshold and has steadily declined to 0.54% of assessed valuation in FY2018 from a high point of 1.38% in FY2008, indicating that the town's overall debt load is not a source of fiscal stress.



Annual debt service in excess of 10% of net operating revenues may indicate that the town's debt load is too high. A trend of increasing debt load may negatively affect a community's ability to maintain spending on essential services as more revenues must be set aside to service debt. Conversely, a declining trend may indicate that the town is not maintaining investment in its capital assets and is losing the capacity to do so as operating expenses take on a greater proportion of the budget. The town should find a favorable balance between these two extremes, ideally set by policy.

Declining from 6.43% in FY2008 to 3.31% in FY2018, Ludlow's proportion of debt to other costs is well below the 10% threshold and does not present a danger of straining de-

As % of Net Operating Revenue Operating Non-Exempt **Exempt Debt Total Debt**

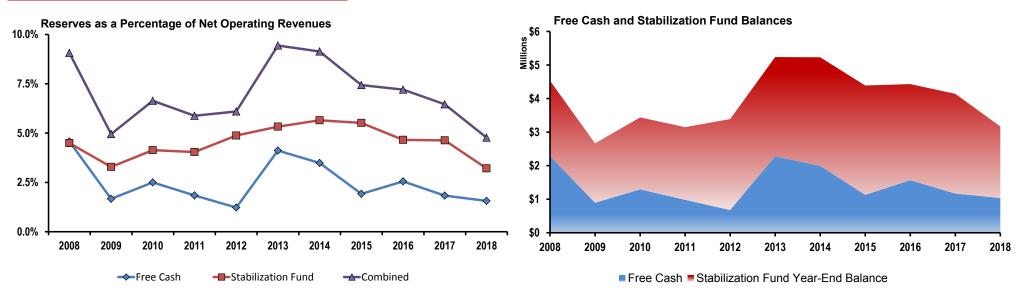
Fiscal Year	De	ebt Service	Service	Service	(No	Revenue ominal Dollars)	Non-Exempt	Exempt	Total
2008	\$	2,612,094	\$ 601,696	\$ 3,213,790	\$	49,980,816	5.23%	1.20%	6.43%
2009	\$	2,842,792	\$ 487,597	\$ 3,330,389	\$	53,865,411	5.28%	0.91%	6.18%
2010	\$	2,667,456	\$ 454,278	\$ 3,121,734	\$	51,800,093	5.15%	0.88%	6.03%
2011	\$	2,535,587	\$ 403,312	\$ 2,938,899	\$	53,579,719	4.73%	0.75%	5.49%
2012	\$	2,172,750	\$ 664,755	\$ 2,837,505	\$	55,587,236	3.91%	1.20%	5.10%
2013	\$	1,304,356	\$ 167,836	\$ 1,472,192	\$	55,488,485	2.35%	0.30%	2.65%
2014	\$	1,544,734	\$ 111,766	\$ 1,656,500	\$	57,283,726	2.70%	0.20%	2.89%
2015	\$	1,331,349	\$ 106,728	\$ 1,438,077	\$	59,069,253	2.25%	0.18%	2.43%
2016	\$	1,112,892	\$ 99,873	\$ 1,212,765	\$	61,528,883	1.81%	0.16%	1.97%
2017	\$	1,114,131	\$ 95,357	\$ 1,209,488	\$	64,124,470	1.74%	0.15%	1.89%
2018	\$	1,740,844	\$ 461,261	\$ 2,202,105	\$	66,488,021	2.62%	0.69%	3.31%

Data Source: Schedule A Reports

partmental spending. However, while steady from FY2008-12, their future capital needs and determine whether increased investishing capacity for capital investment. Officials should examine service in FY2018.

the consistent decrease from FY2013-17 may indicate a dimin- ment will be necessary, as may be suggested by the increase in debt

Favorable Marginal Unfavorable



Maintaining healthy reserve levels allows a town to finance emergencies and other unforeseen needs, hold money for specific future purposes, or in very limited instances, to serve as revenue sources for the annual budget. Reserve balances and policies can also positively impact the town's credit rating and consequently its long-term cost to fund major projects.

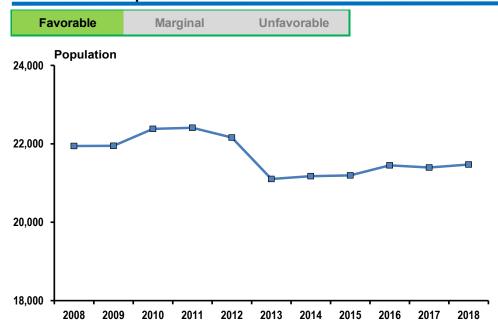
Declining reserves as a percentage of a town's net operating revenue is a warning indicator and may suggest a declining ability to finance town obligations in the face of an emergency. Reserves below 5-7% of revenues may be considered unfavorable. Ideally, town reserve levels should be set by policy.

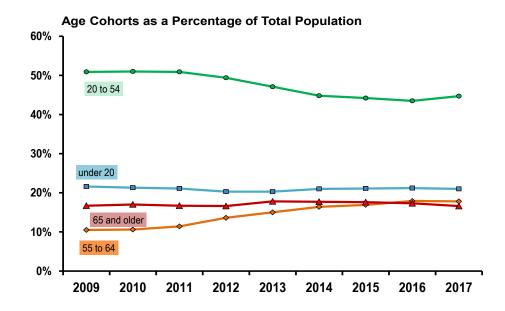
As a Percentage of Net Operating Revenues

Fiscal Year	Fr	ee Cash	Stabilization Fund Year-End Balance		Combined Reserves		Net Operating Revenues		Free Cash	Stabilization Fund	Combined	
2008	\$	2,286,384	\$	2,246,089	\$	4,532,473	\$	49,980,816	4.57%	4.49%	9.07%	
2009	\$	898,228	\$	1,768,963	\$	2,667,191	\$	53,865,411	1.67%	3.28%	4.95%	
2010	\$	1,295,250	\$	2,142,993	\$	3,438,243	\$	51,800,093	2.50%	4.14%	6.64%	
2011	\$	984,493	\$	2,165,291	\$	3,149,784	\$	53,579,719	1.84%	4.04%	5.88%	
2012	\$	679,656	\$	2,709,227	\$	3,388,883	\$	55,587,236	1.22%	4.87%	6.10%	
2013	\$	2,283,970	\$	2,954,969	\$	5,238,939	\$	55,488,485	4.12%	5.33%	9.44%	
2014	\$	1,996,749	\$	3,236,963	\$	5,233,712	\$	57,283,726	3.49%	5.65%	9.14%	
2015	\$	1,133,119	\$	3,259,156	\$	4,392,275	\$	59,069,253	1.92%	5.52%	7.44%	
2016	\$	1,569,736	\$	2,864,069	\$	4,433,805	\$	61,528,883	2.55%	4.65%	7.21%	
2017	\$	1,171,659	\$	2,970,848	\$	4,142,507	\$	64,124,470	1.83%	4.63%	6.46%	
2018	\$	1,038,159	\$	2,133,558	\$	3,171,717	\$	66,488,021	1.56%	3.21 <mark>%</mark>	4.77%	
Data Source:	DI S Mu	nicinal Einance T	rond D)achboard								

Data Source: DLS Municipal Finance Trend Dashboard

In all cases, Ludlow has experienced a loss in free cash and the stabilization fund, its main reserves, since FY2008. In addition, the FY2018 combined reserves as a percent of budget is below 5%, at 4.77%. Due to the negative trend and reserves dipping below 5%, this indicator is unfavorable.





A trend of population growth over time indicates an increased burden on government services and should be monitored to better plan for future expenses. As the number of residents increases, there is a greater need for police and fire protection, trash collection, repairing wear and tear on local roads and infrastructure, and an increased demand for other government services. Additionally, a population increase may also lead to more school-age children and a corresponding uptick in school enrollment, which greatly impacts education costs.

Year	Population
2008	21,946
2009	21,951
2010	22,382
2011	22,410
2012	22,161
2013	21,103
2014	21,176
2015	21,195
2016	21,451
2017	21,395
2018	21,472

Year	under 20	20 to 54	55 to 64	65 +		
2009	21.60%	50.90%	10.50%	16.70%		
2010	21.30%	51.00%	10.60%	17.00%		
2011	21.10%	50.90%	11.40%	16.70%		
2012	20.30%	49.40%	13.60%	16.60%		
2013	20.30%	47.10%	15.00%	17.80%		
2014	21.00%	44.80%	16.40%	17.70%		
2015	21.10%	44.20%	16.90%	17.60%		
2016	21.20%	43.50%	17.90%	17.30%		
2017	21.00%	44.70%	17.80%	16.60%		
Data Source: US Census Community Survey, American FactFinder						

Age Cohort

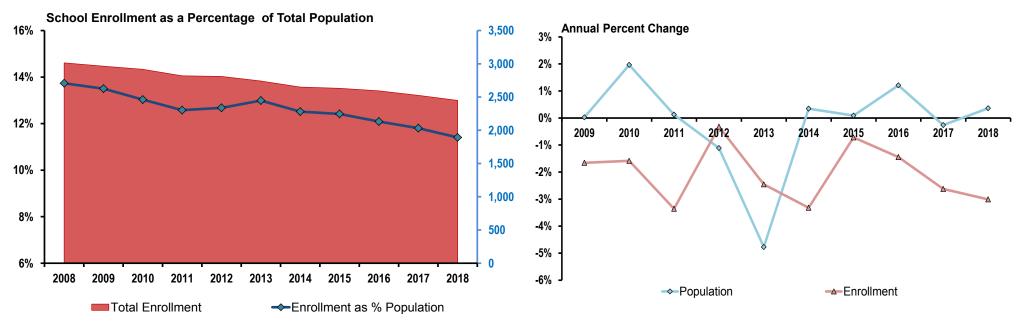
Data Source: DLS Municipal Databank, Socioeconomic Data

Ludlow's population has remained relatively steady since 2008. Since then, the 20 to 54 age cohort has decreased from 50.9% of the population to 44.7%, while

the 55 to 64 cohort has increased from 10.5% to 17.8%. While the 20 to 54 age cohort still represents a significant plurality, these trends indicate an aging population, potentially increasing demand for senior services in the near future as the 55 to 64 year olds age into the 65

and older category. The under 20 cohort has remained steady (with a slight decrease) as a percentage of the population, in line with the trend of decreasing school enrollment (see next page).





Total school enrollment and enrollment as a percentage of the population has decreased since 2008, indicating decreasing demand for the public school system over time.

Year	Population	School Enrollment	Enrollment as % Population
2008	21,946	3,014	13.73%
2009	21,951	2,964	13.50%
2010	22,382	2,917	13.03%
2011	22,410	2,819	12.58%
2012	22,161	2,810	12.68%
2013	21,103	2,741	12.99%
2014	21,176	2,650	12.51%
2015	21,195	2,631	12.41%
2016	21,451	2,593	12.09%
2017	21,395	2,525	11.80%
2018	21,472	2,449	11.41%

Data Source: DLS Municipal Databank, Socioeconomic Data

Annual % Change

Population	on	School Enrollment
0.02%		-1.6 <mark>6%</mark>
1.96%		-1.5 <mark>9%</mark>
0.13%		-3.36%
-1.11 <mark>%</mark>		-0.32%
-4.77%		-2.46%
0.35%		-3.32%
0.09%		-0.72%
1.21%		-1.44 <mark>%</mark>
-0.26%		-2.62%
0.36%		-3.01%