

Trade Area Analysis of Retail Sales



Ellsworth, Maine

INTRODUCTION

The University of Maine Cooperative Extension in cooperation with the University of Maine School of Economics prepared this report. The main purpose of this study is to inform business people and other citizens of the history and current status of their retail sectors. By knowing the relative strengths and weaknesses of a town's business district compared to those of surrounding towns, it is hoped that business operators will develop more informed business plans and capitalize on areas of opportunity for business development within their trade area. The following paragraphs will attempt to answer some of the most frequently asked questions.

Sources of Data

Most of the data in the analysis comes from the Maine Taxable Retail Sales Report. This report is compiled by the Maine Revenue Services from state sales tax returns. The report is published monthly, with an annual summary. Sales data are reported by calendar year. Data for approximately 500 towns in Maine are reported. For many of these Maine towns, the report also lists sales for broad merchandise categories such as building supplies, food, general merchandise, etc. Sales for counties are also listed for merchandise categories and in total. Although there are some minor quirks in this data base, it is more complete and more reliable than those from most other states.

The data on population comes from the U.S. Bureau of the Census. The income data comes from the U.S. Bureau of Economic Analysis, Regional Economic Information System.

DEFINITION OF TERMS

Taxable Goods and Services

The sales reported in this report are based on goods and services subject to the retail sales tax and for certain services the service provider tax. The sales tax applies to the sale of tangible personal property, transient lodging rentals, the rental or lease of an automobile, transmission and distribution of electricity, extended service contracts on an automobile, and prepaid calling service. The services that are subject to the service provider tax that are included in the taxable sales reports are fabrication services, telecommunications services, extended cable and extended satellite television services, the rental of video media and video equipment and the rental of furniture, audio media and audio equipment pursuant to certain rental-purchase agreements. Taxable utility sales are not included in town reports because these sales cannot be sourced to specific locations. Some notable exemptions are food products for human consumption in the home, prescription medications for humans, oil and gas used for cooking and heating, and gasoline and other motor vehicle fuels subject to the Maine excise tax. It can therefore be seen that the sales reported herein understate total retail sales. However, all towns and counties are compared on the same basis.

Current Dollar Sales

Current dollar sales are sales as reported by the state. In other words, no correction has been made for price inflation. In general, this measure of sales is not very satisfactory since it doesn't take into consideration changes in population, inflation, or the state's economy. Current dollars are also known as "nominal dollars."

Constant Dollar Sales

Constant dollar sales reflect changes in price inflation. The method used in this report uses the Consumer Price Index to adjust current dollar sales. Constant dollar sales indicate the real sales level with respect to some base year. This is a more realistic method of evaluating sales, but still does not take into consideration changes in population in a locality or changes in the state economy. Constant dollars are also known as "real dollars."

Per capita Sales

Per capita sales as used in this report are current dollar sales divided by the population of the locality. In areas where population is subject to substantial changes, this is a more satisfactory measure of sales activity than sales alone. However, it still does not reflect changes in the state economy.

Pull Factor

The pull factor¹ was developed to provide a precise measure of sales activity in a locality. It is derived by dividing the per capita current dollar sales of a town or county by the per capita sales for the state. For example, if a town's per capita sales are \$9,000 per year and the state per capita sales are \$6,000 per year, the pull factor equals \$9,000 divided by \$6,000 = 1.5. The interpretation is that the town is selling to 150 percent of the town population in full-time customer equivalents.

The pull factor is a good measure of overall sales activity for a given locality because it reflects changes in population, inflation, and the state economy. The pull factors in this report are not adjusted for purchasing power; they are simply the ratio of local per capita sales to the state average.

Potential Sales for Towns

The term potential sales is our estimate of the sales level a town should achieve if it were performing on a par with towns of a similar size in Maine. Potential sales are derived by use of the formula $PS = POP \times PCS \times PF \times II$, where PS = potential sales, POP = population of the town, PCS = per capita sales for the state, PF = the average pull factor for other towns of similar size and II = index of income (local per capita income divided by state per capita income). For example, if a town has a population of 5,000, and the state per capita sales are \$6,000, and the average pull factor is 1.5 and the index of income = 1.0; potential sales = 5,000 x \$6,000 x 1.5 x 1.0 = \$4.5 million per year.

Surplus or Leakage

The surplus or leakage for a town is determined by subtracting the potential sales from actual sales. For example, if potential sales were computed to be \$45 million and the actual sales were \$50 million, the town would have a \$5 million surplus (\$50 minus \$45). On the other hand, if a town were expected to have sales of \$45 million, but actual sales were only \$35 million, the town would have a leakage of \$10 million (\$35 minus \$45). It should be kept in mind that potential sales are based on averages for towns of a similar population size. Sometimes, there are

¹The pull factor was developed at Iowa State University by Kenneth E. Stone and James C. McConnon to provide a precise measure of retail sales activity in a locality.

mitigating circumstances such as proximity to larger population centers, proximity to interstate highways, and others that will cause the retail sales of a particular town to deviate substantially from potential sales.

Potential Sales for Counties

Potential sales for counties is the expected amount of money spent on retail sales by county residents. The formula for deriving potential sales for a county is exactly the same as the formula used for potential sales for towns, except that county population is substituted for town population and the pull factor is always 1.0. Accordingly, county retail sales surplus or leakage is determined by subtracting potential sales from actual sales.

DEFINITIONS OF MERCHANDISE GROUPS

The Maine Revenue Services defines its merchandise groupings according to business type rather than product type. As a result, the taxable sales of each business is coded into one of the seven merchandise groups listed below depending on its predominant product. For example, furniture sold through a furniture store will be coded into the general merchandise group, while furniture sold through a hardware store will be coded into the building supply group.

Merchandise Group

Definition

Total Retail Sales

Includes taxable sales to consumers plus special types of sales and rentals to businesses where the tax is paid directly by the buyer (i.e. commercial heating oil purchases).

Consumer Sales

Total taxable sales to consumers.

Building Supply

Business Durable Equipment Sales, Contractors' Sales, Hardware Stores and Lumber Yards.

Food Stores

All food stores from the large supermarkets to the small corner food stores. The sale of grocery staples are not included since they are exempt from tax. Some of the taxable items sold in food stores include alcoholic beverages, candy and confections, soft drinks, water and ice, dietary supplements, non-prescription drugs, prepared foods and any non-food items.

General Merchandise

Sales of products generally carried in large department stores. It includes clothing, furniture, shoes, radio, t.v., household durable goods, home furnishings, etc.

Other Retail

This group includes a wide selection of taxable sales not covered elsewhere. Examples are dry good stores, drug stores, jewelry stores, sporting goods stores, antique dealers, book stores, photo supply stores, gift shops, etc.

Auto/Transportation

Group includes all transportation in which autos are dominant. Included are auto dealers, auto parts, aircraft dealers, motorboat dealers, the leasing of automobiles, etc.

Restaurant and Lodging

All stores selling prepared food for immediate consumption. The Lodging group includes only sales from rentals.

Business Operating

Includes taxable sales of goods supporting the operation of a business. Examples include stationary and office supplies, computer equipment, etc.

PRESENTATION ORDER

The study consists of two general parts. Part 1 is a graphical presentation of retail sales trends for the trade area. Sales are depicted in current dollars, constant dollars, per capital dollars, and by pull factor. The main purpose of this is to allow examination of past retail trade performance of the subject town and surrounding towns.

Part 2 gives an assessment of the current retail strengths and weaknesses for the subject town and surrounding towns. Its main purpose is to provide concerned citizens with the necessary information to identify strengths and weaknesses and to fill marketing voids.

The Trade Area Analysis was prepared by:

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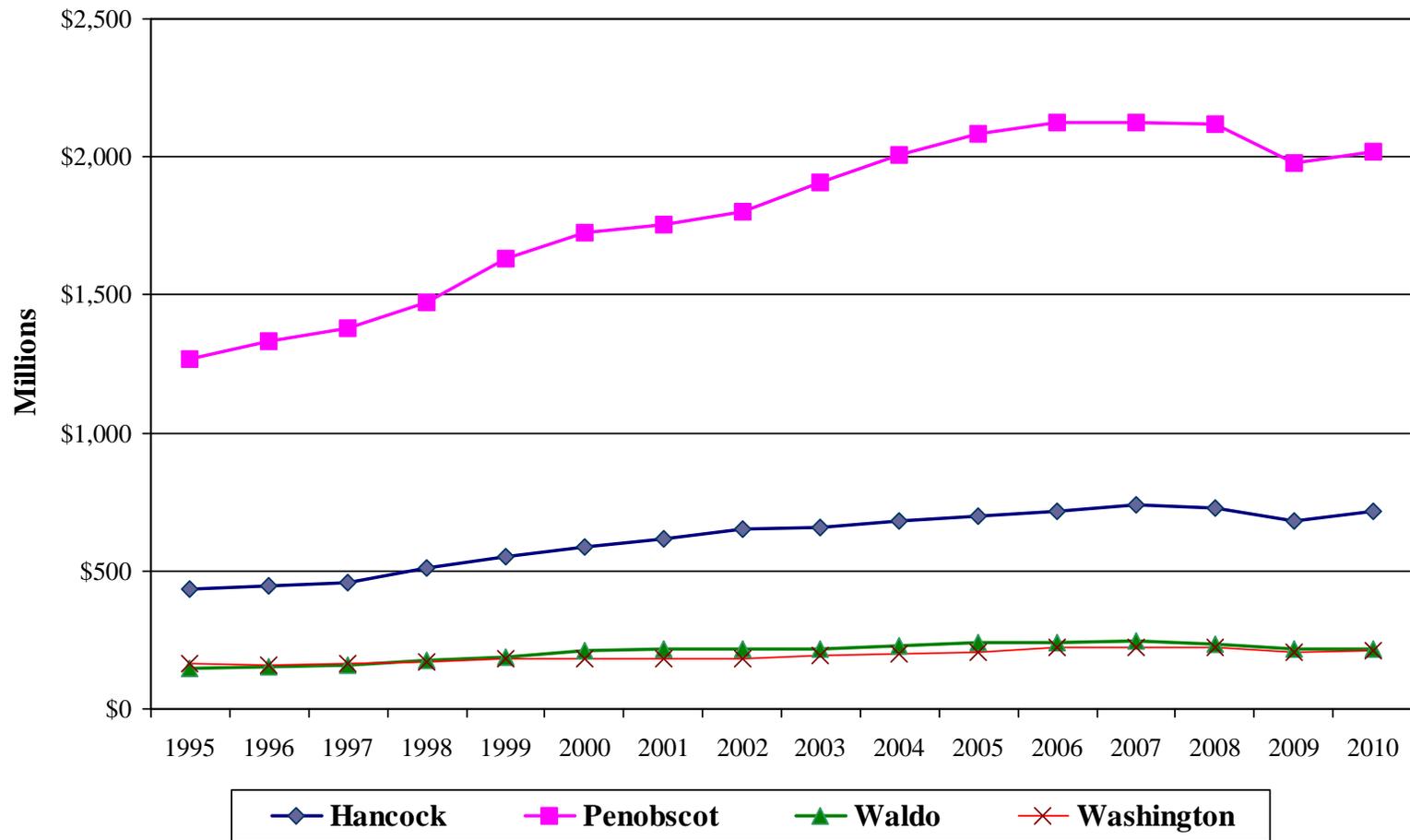
Todd M. Gabe is a Professor of Economics at the University of Maine.

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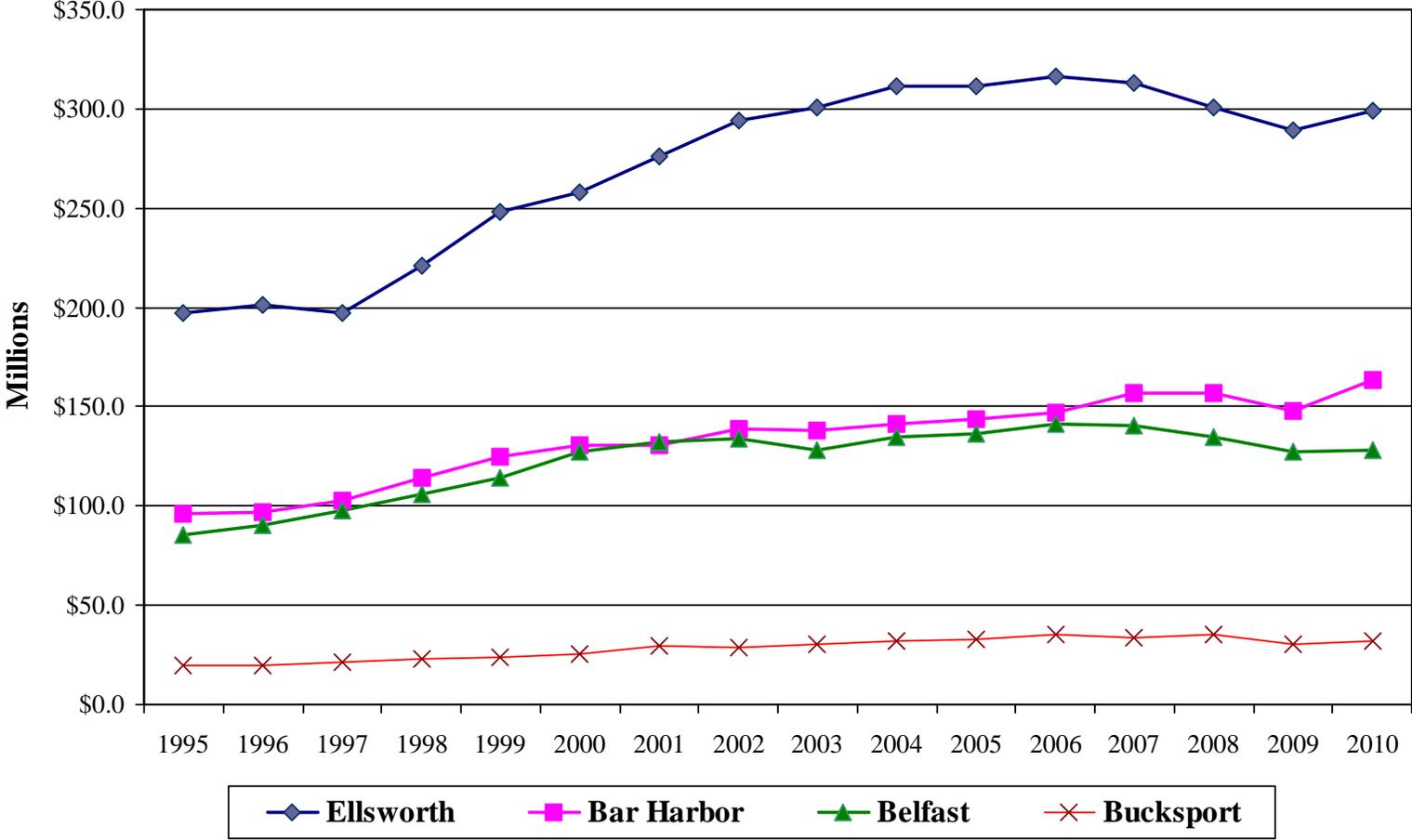
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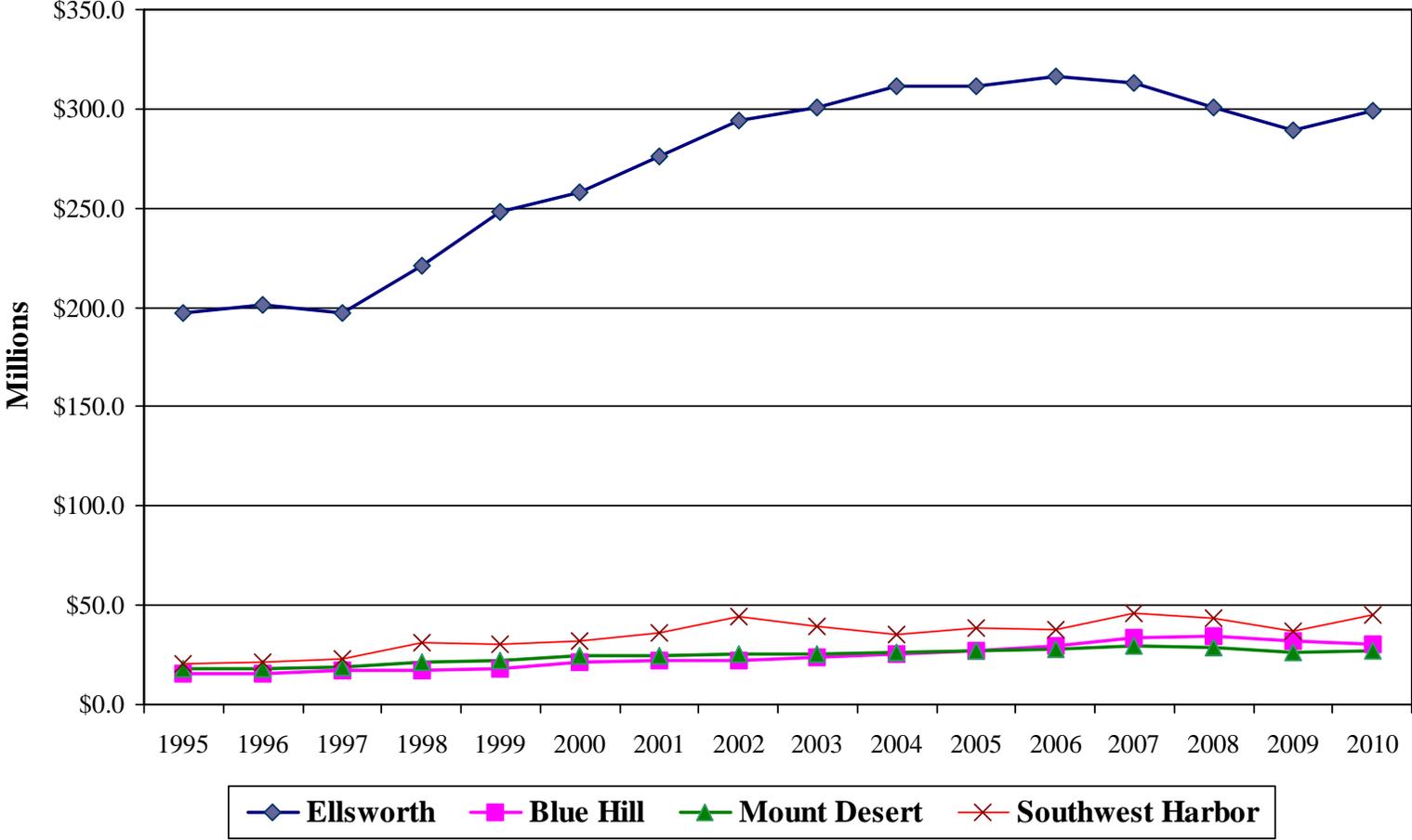
County Retail Sales



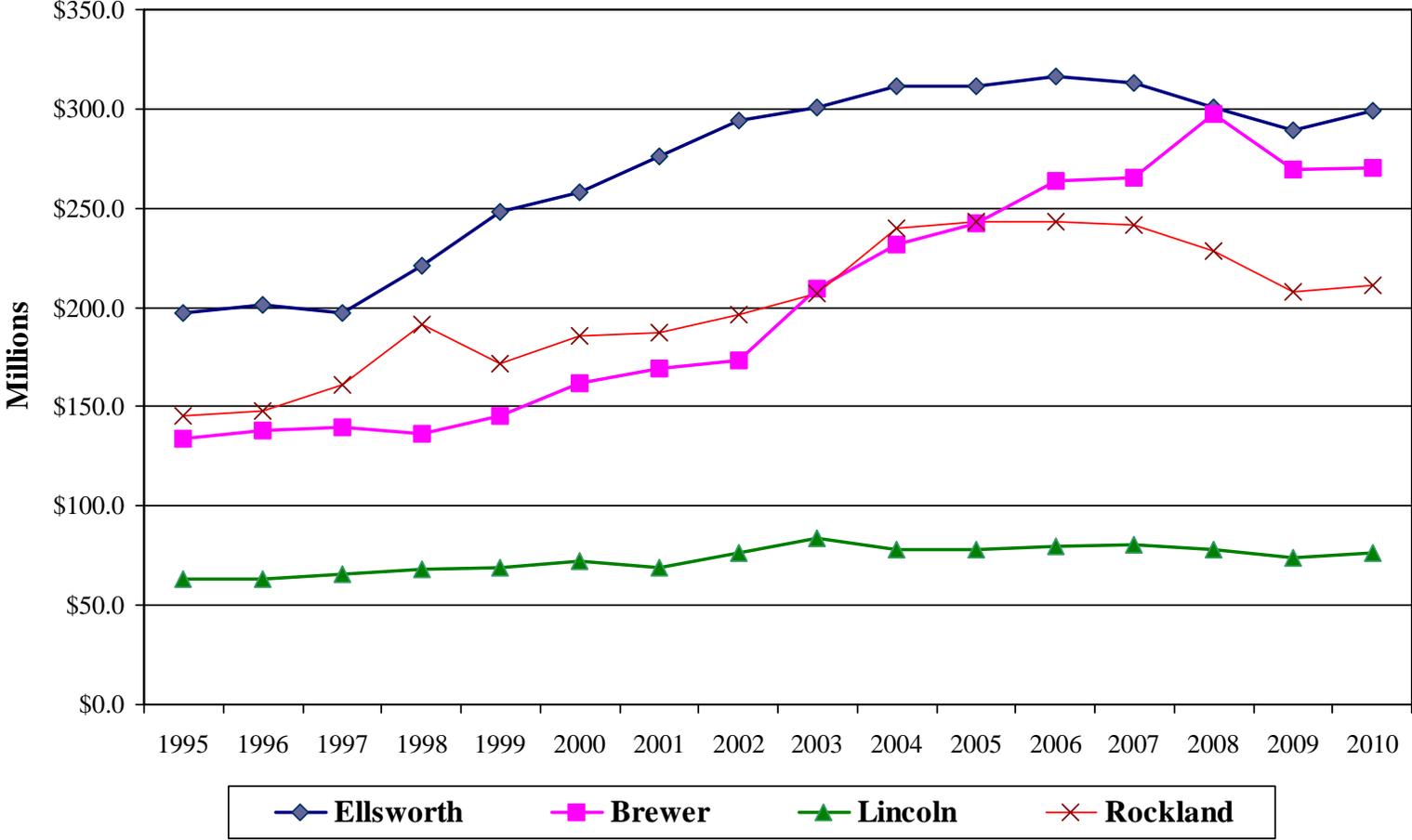
Current \$ Retail Sales



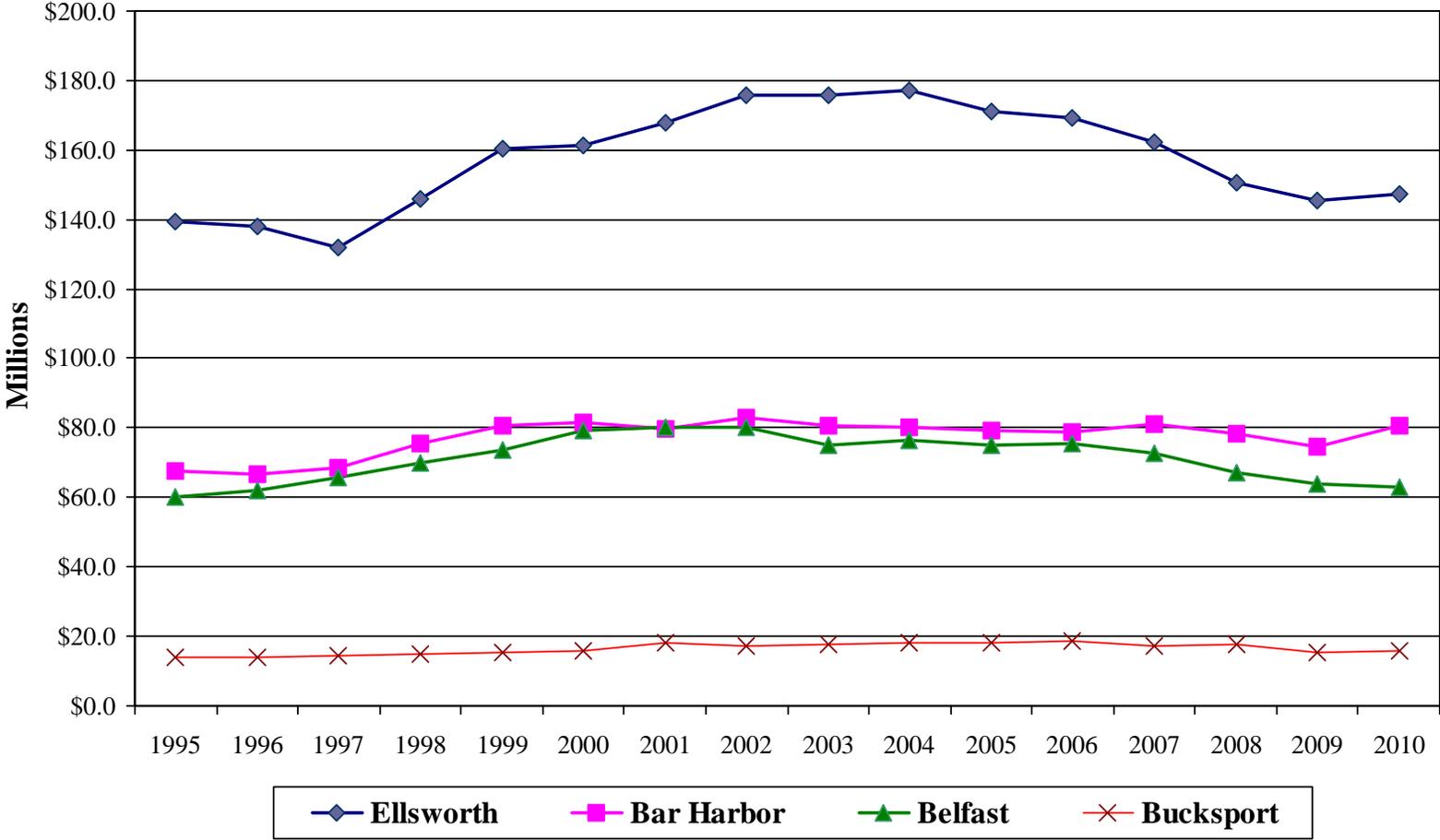
Current \$ Retail Sales



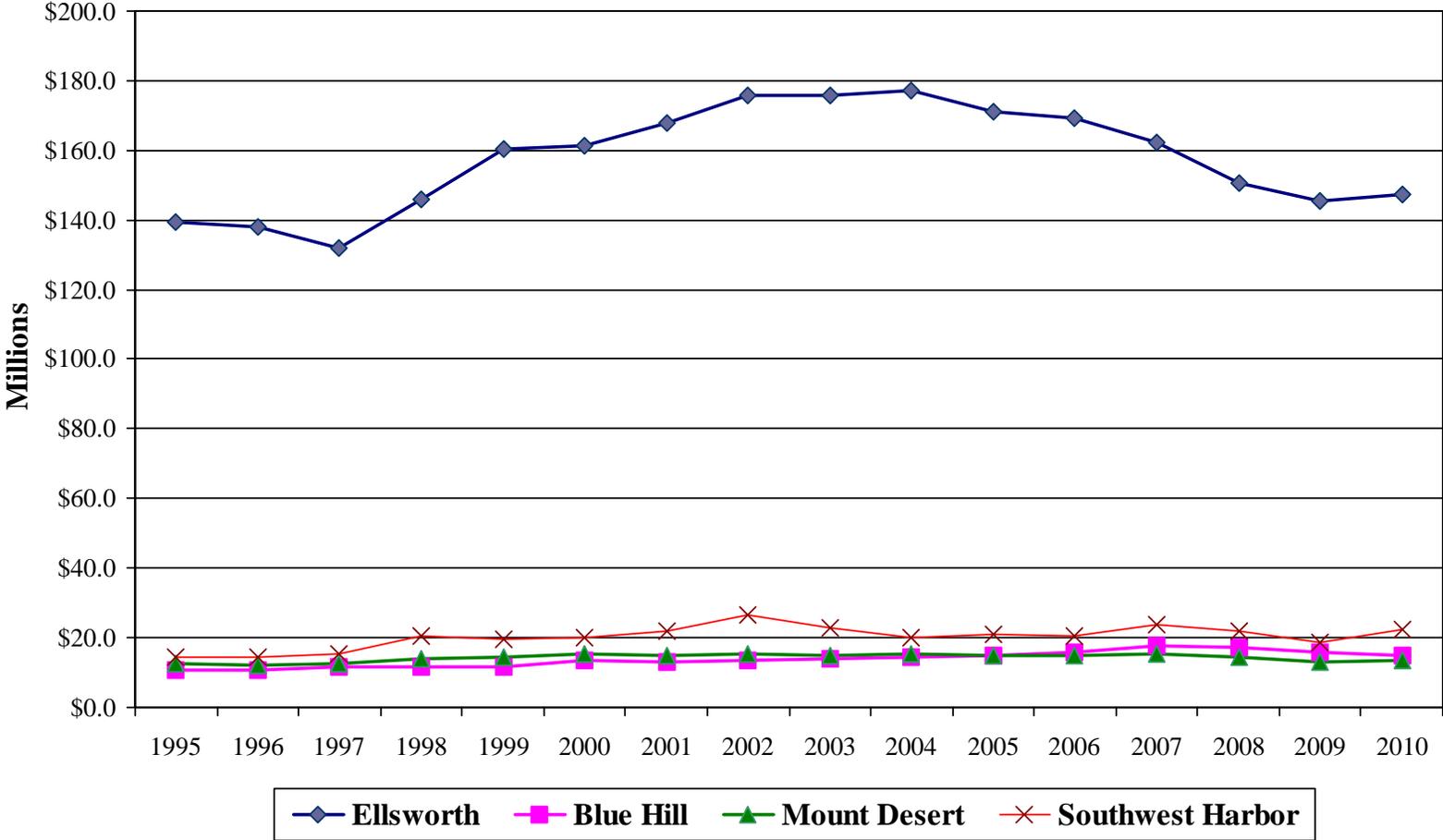
Current \$ Retail Sales



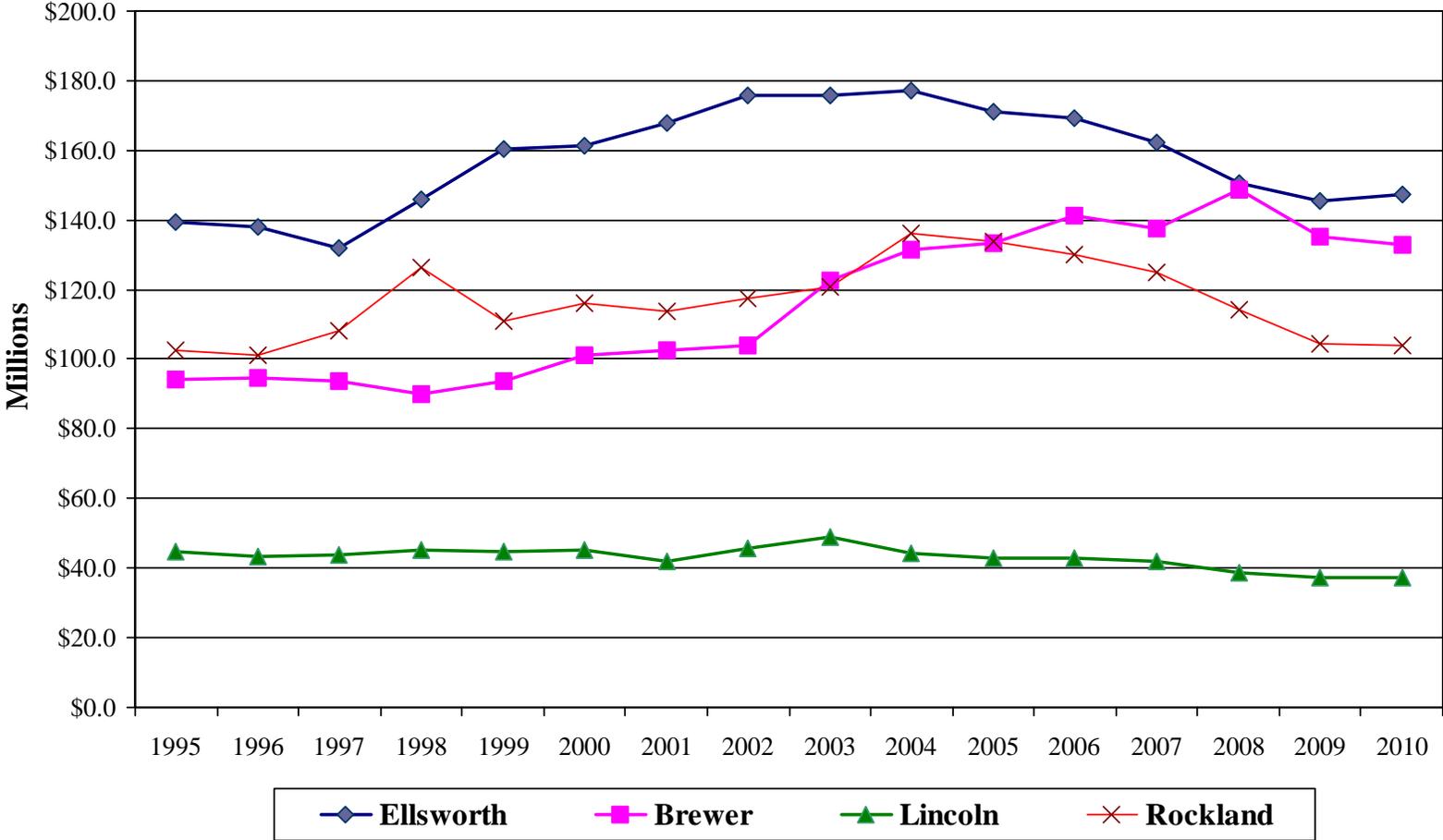
Constant \$ Retail Sales



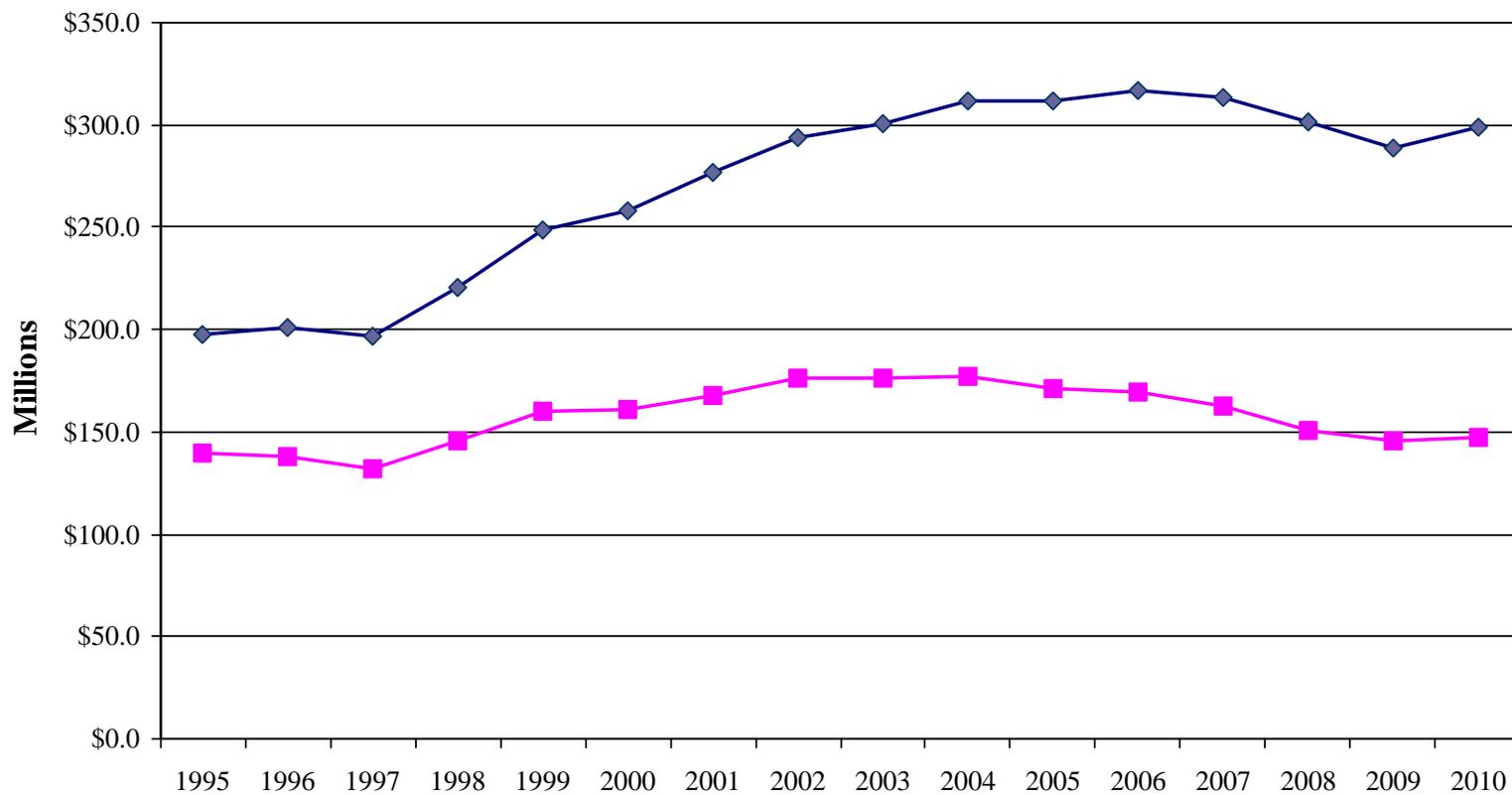
Constant \$ Retail Sales



Constant \$ Retail Sales



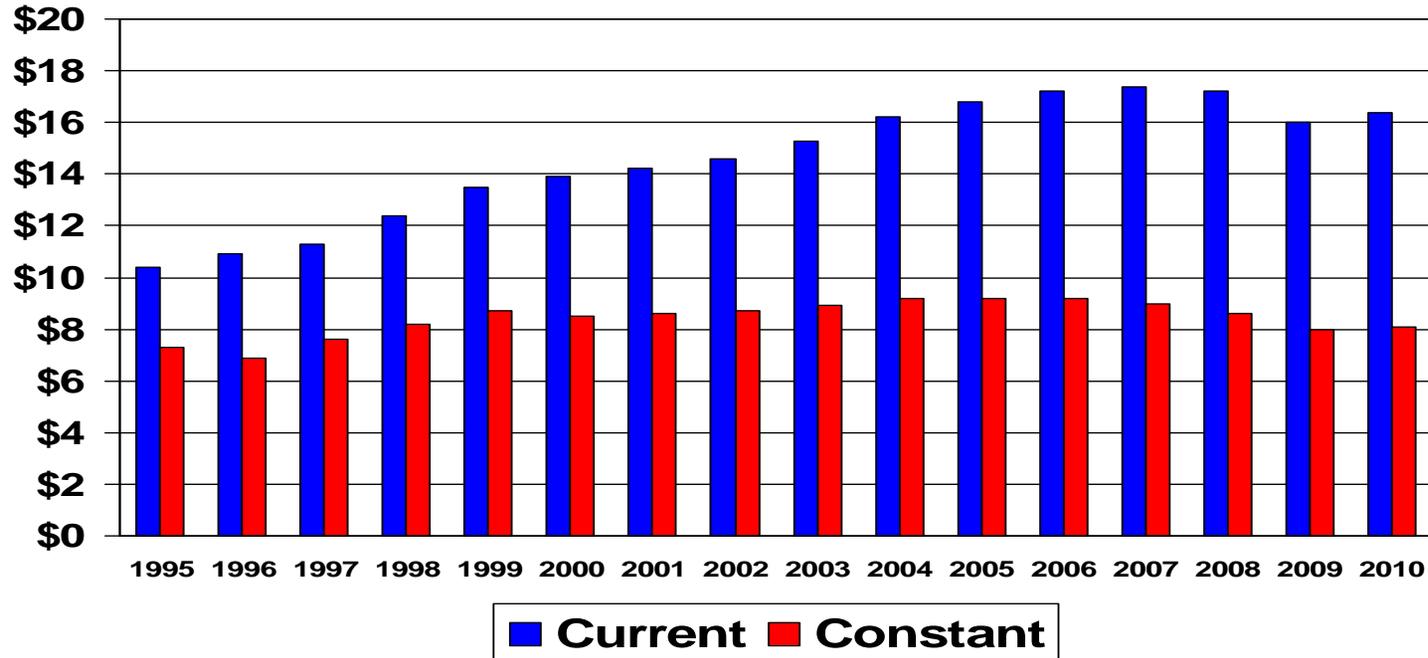
Ellsworth Retail Sales



◆ Current \$ ■ Constant \$

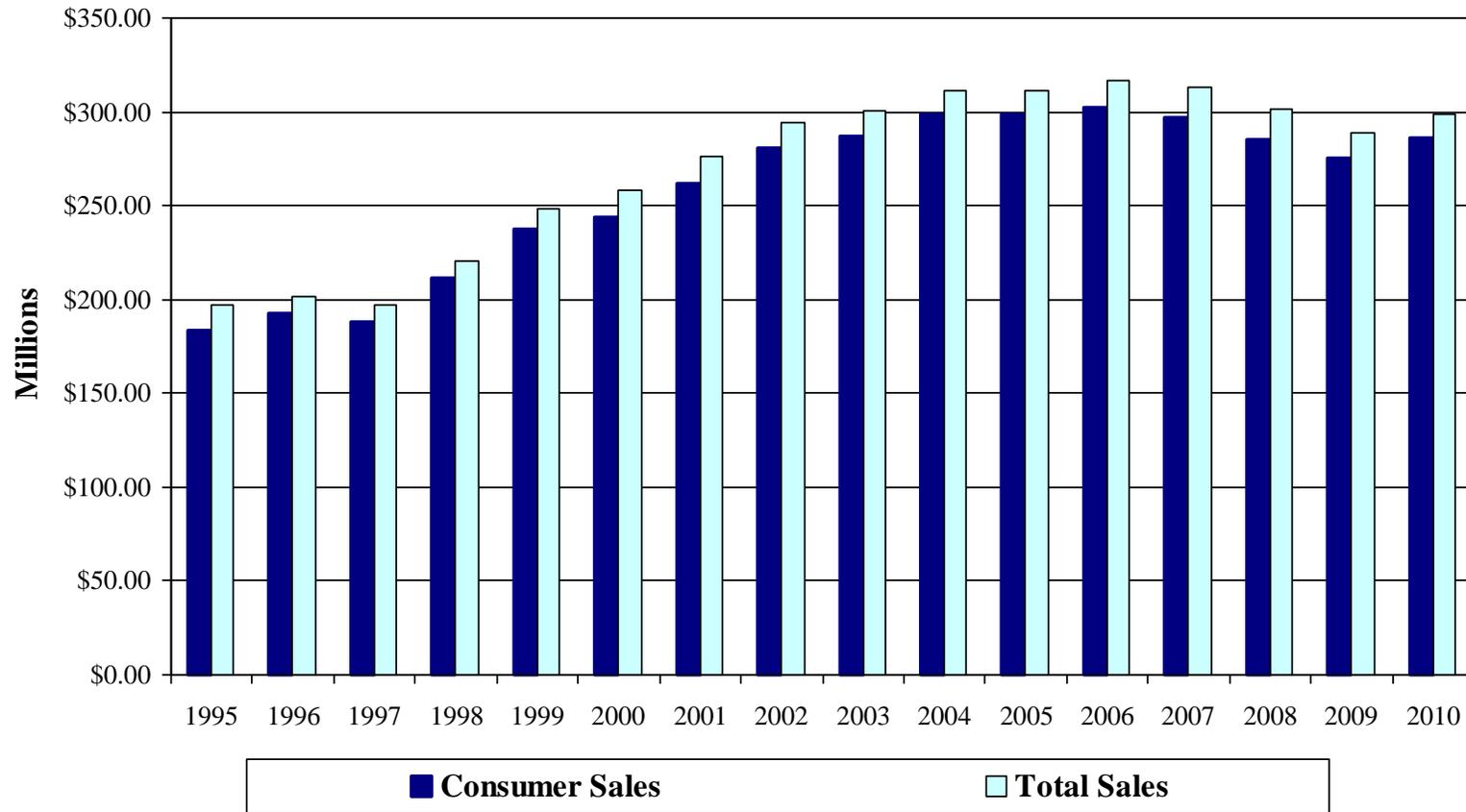
State of Maine Retail Sales

(Billions of Dollars)

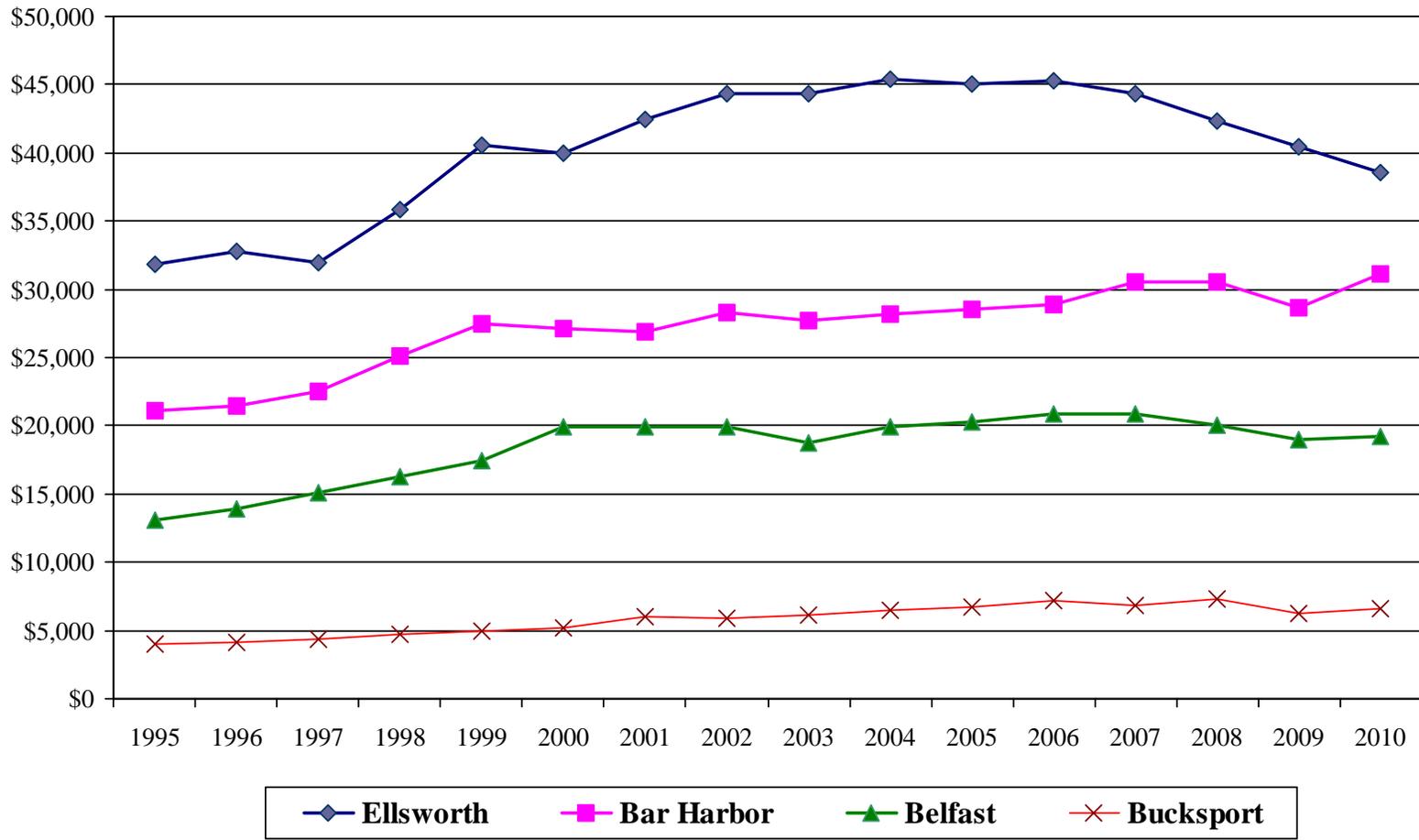


Ellsworth Retail Sales

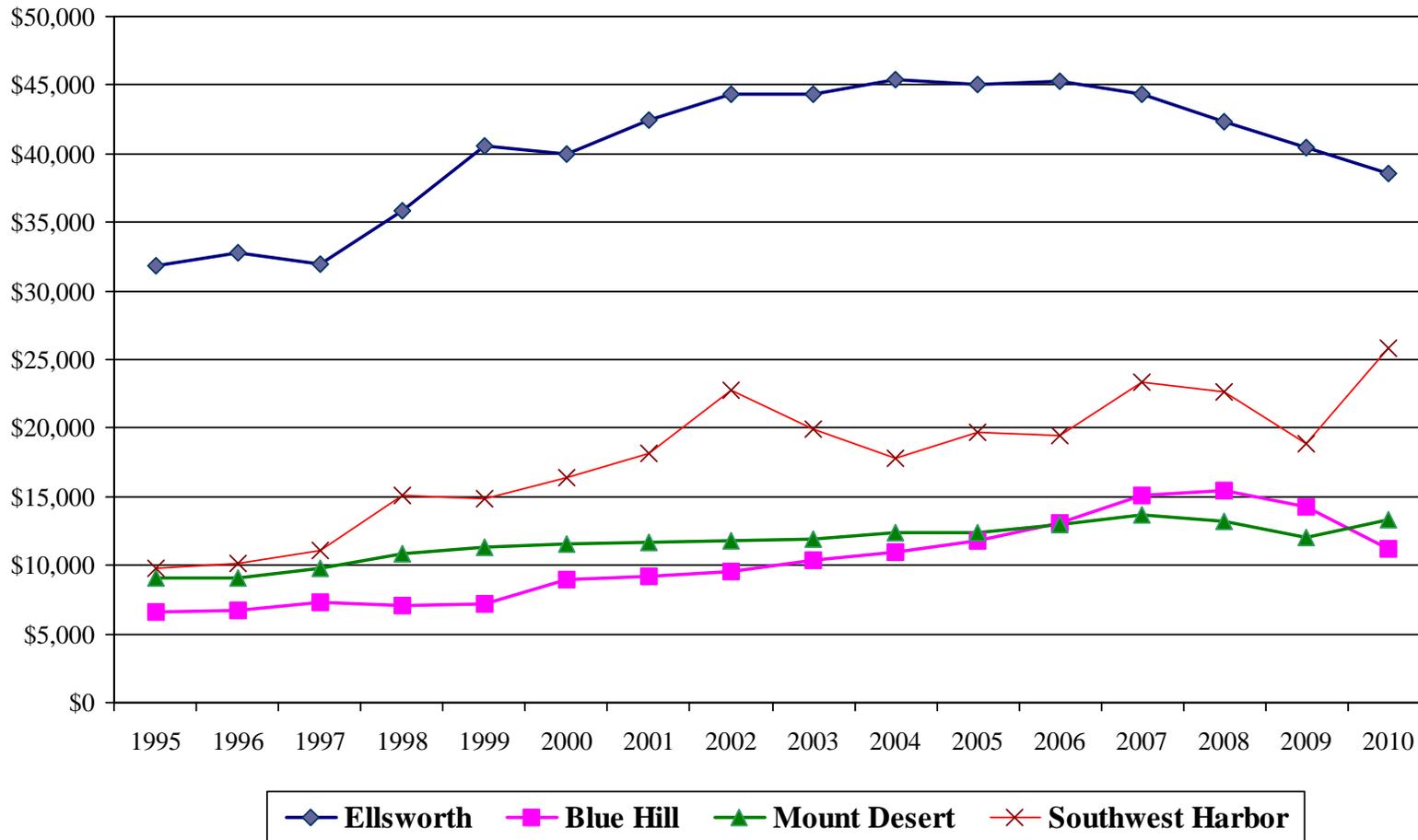
Total versus Consumer Sales



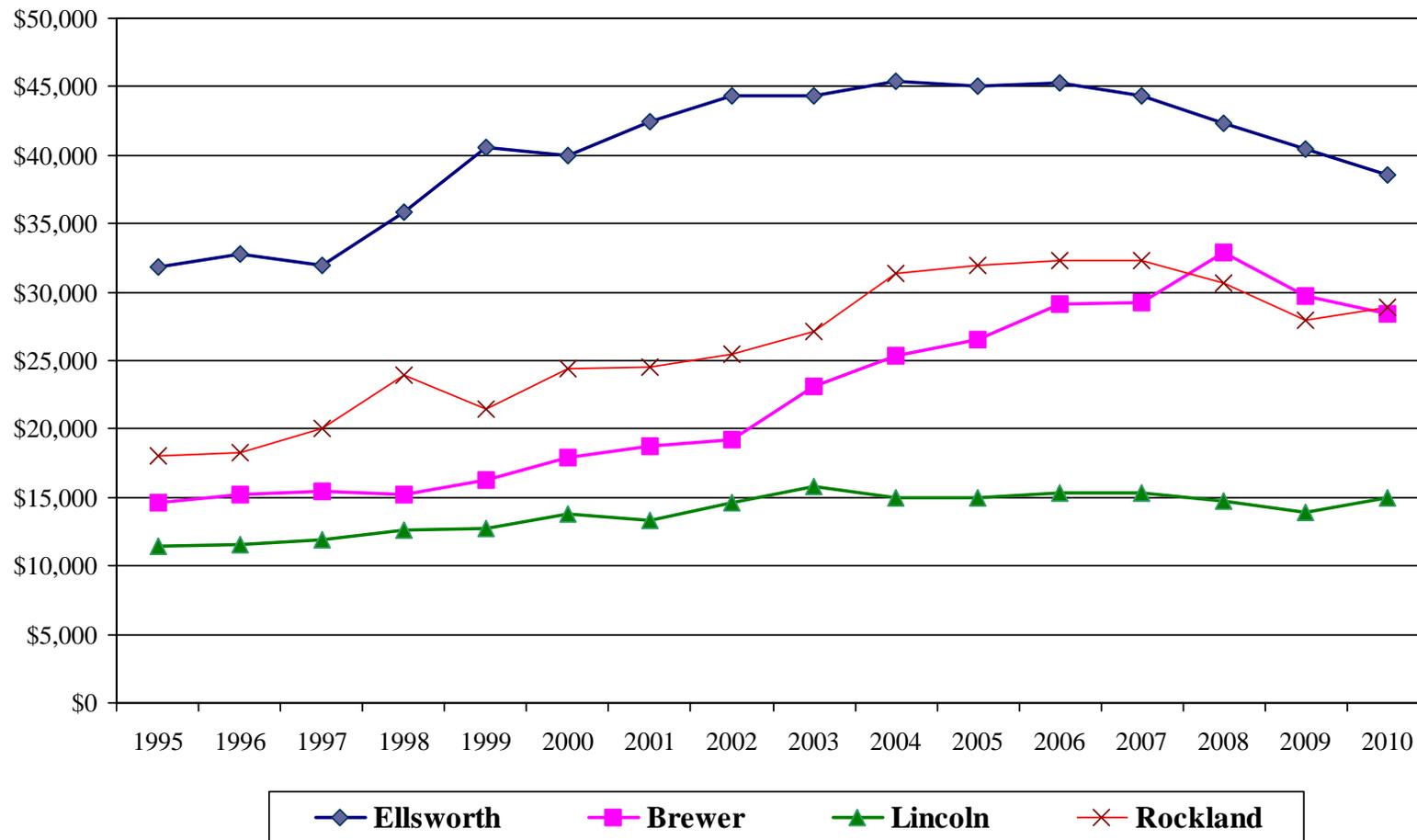
Per Capita Retail Sales



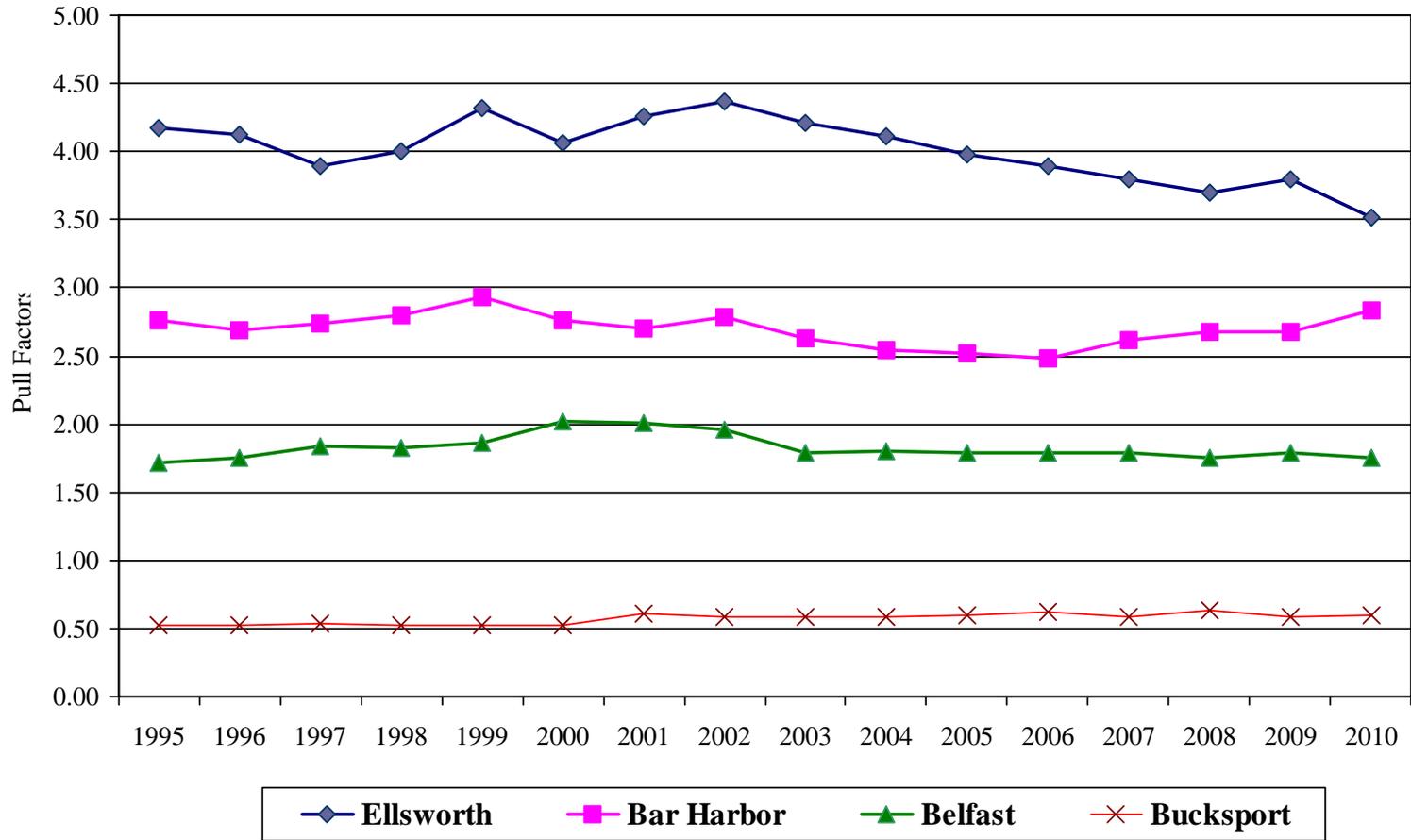
Per Capita Retail Sales



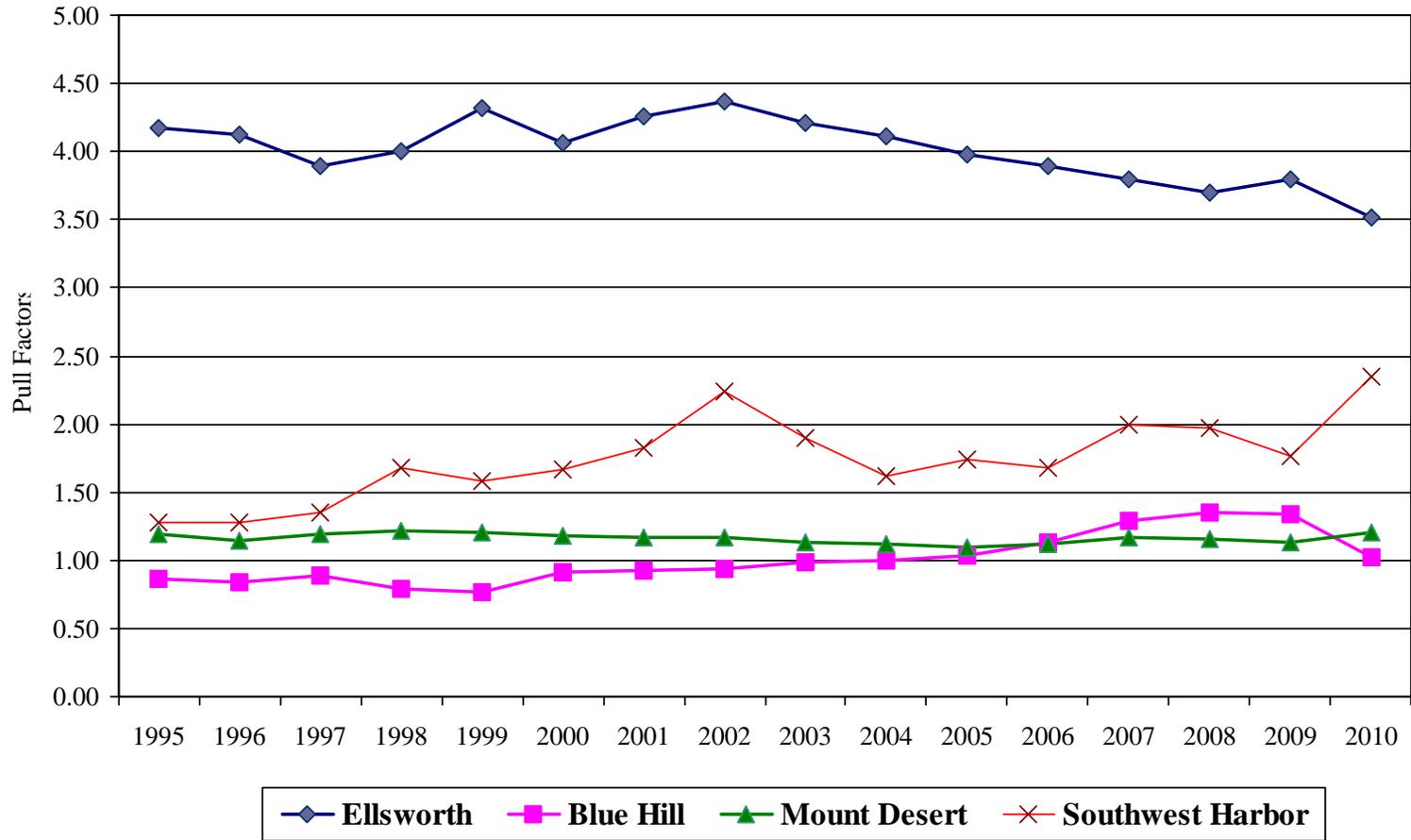
Per Capita Retail Sales



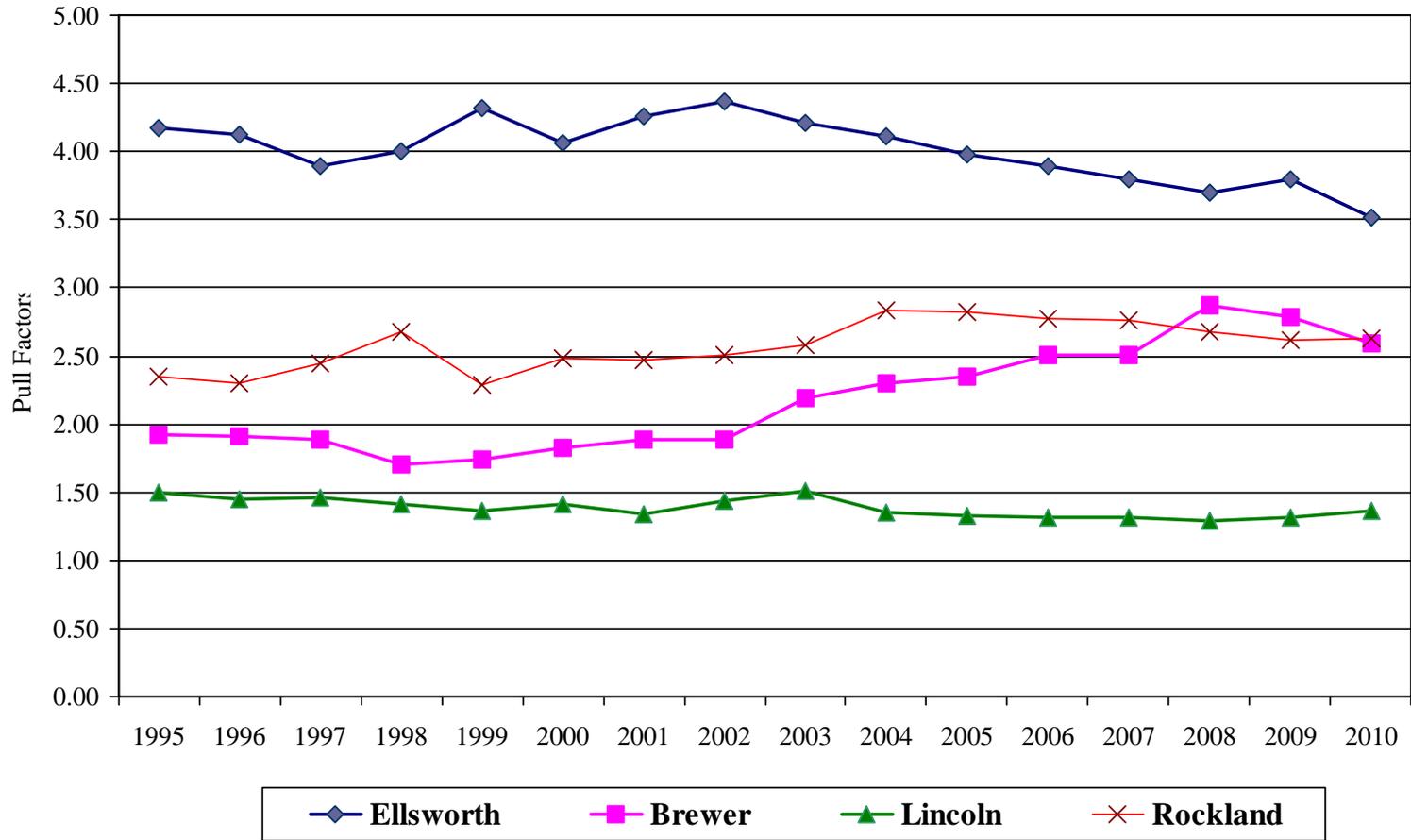
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Index of "Pulling Power"

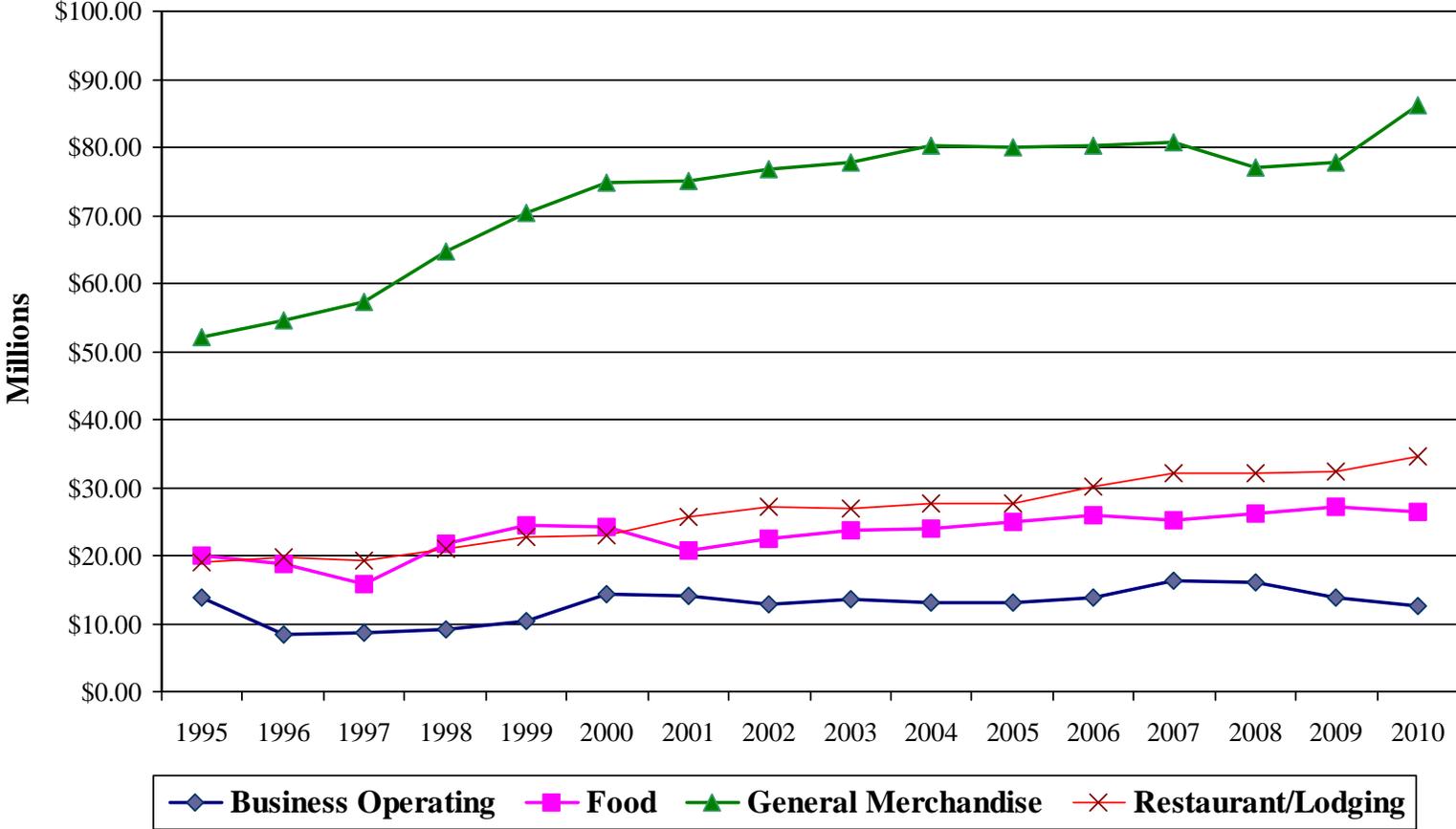


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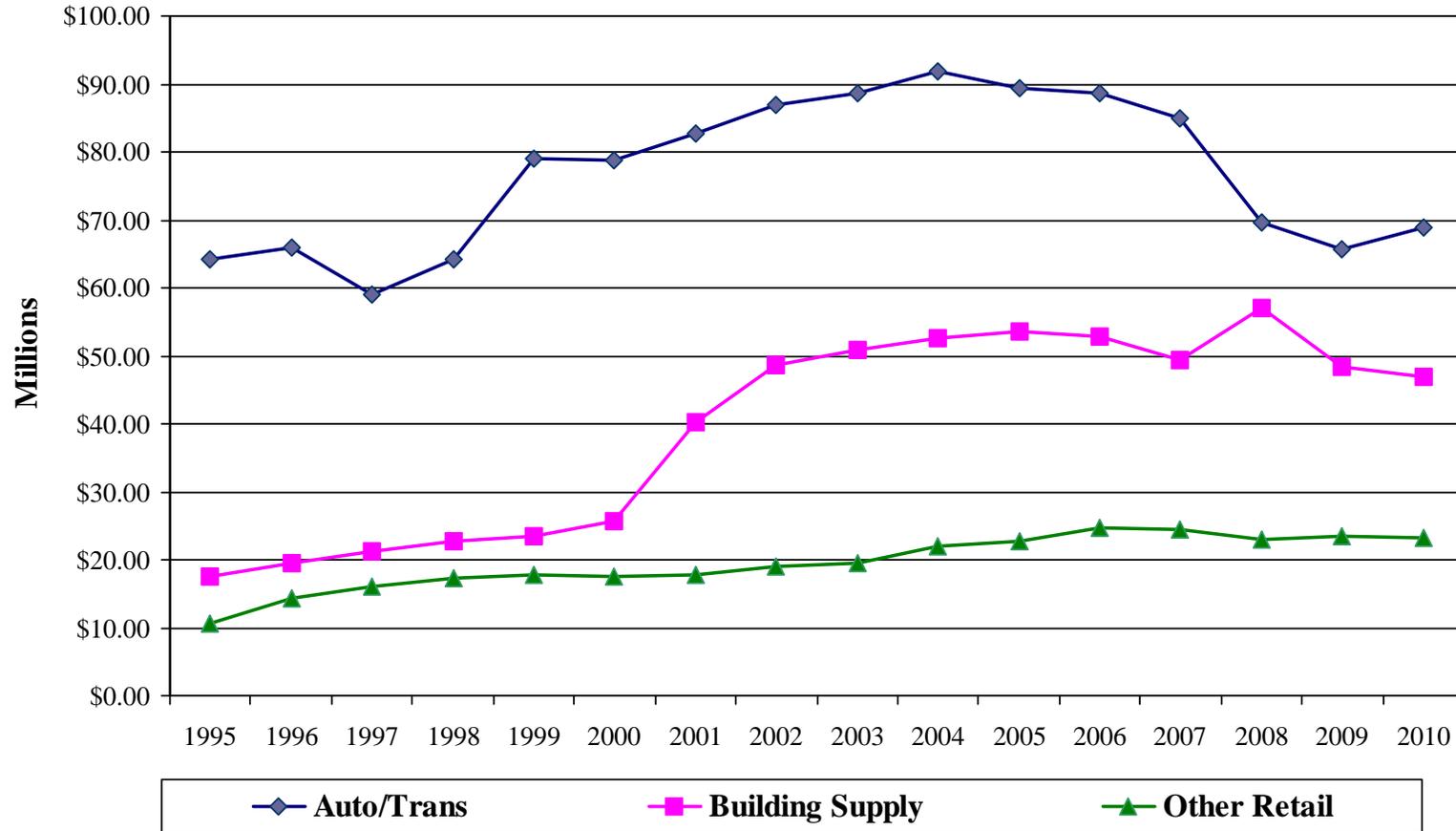
Ellsworth Retail Sales

by Sector



Ellsworth Retail Sales

by Sector



TRADE AREA POTENTIAL

1. Determine population of town or city.
2. Determine pull factor (trade area size in terms of full-time customers).
2. Determine state average per capita expenditure for type of business.
3. Determine index of income (local average income as a percent of state average income) for potential trade area.
4. Multiply 1 x 2 x 3 x 4.

AN ILLUSTRATION

Determine potential sales for an average town of 5,500 population and compare to a real town's actual sales to determine if there is a leakage or a surplus.

- | | | |
|----------------|---|---|
| 1. 5,500 | = | town population |
| 2. 2.05 | = | pull factor (i.e., the average town of 5,500 sells apparel to full time customer equivalents of 2.05 times the town population. |
| 3. \$141 | = | average statewide per capita expenditures for apparel |
| 4. 95% | = | index of income = county average income state average income |
| 5. \$1,510,000 | = | potential sales (1 x 2 x 3 x 4) |
| \$1,200,000 | = | actual sales (from annual sales tax report) |
| -\$310,000 | = | leakage (20.5%) (2,315 full-time equivalent customers lost) |

State of Maine Average Per Capita Expenditure Rates

Merchandise Category	2008	2009	2010
Auto/Trans	\$2,207	\$2,050	\$2,103
Building Supply	\$1,607	\$1,350	\$1,348
Food	\$1,127	\$1,152	\$1,176
General Merchandise	\$2,242	\$2,153	\$2,210
Other Retail	\$1,175	\$1,140	\$1,181
Restaurant/Lodging	\$1,971	\$1,925	\$2,026
Business Operating	\$1,113	\$903	\$938
Consumer Sales	\$10,329	\$9,770	\$10,043
Total Sales	\$11,442	\$10,674	\$10,981

2010 Average Pull Factors for Similar Size Towns

Town	Population	Auto Transportation	Building Supply	Food	General Merchandise	Other Retail	Restaurant Lodging	Business Operating	Consumer Sales	Total Sales
Waterboro	7,693	0.10	0.28	1.56	0.01	0.24	0.33	0.13	0.34	0.32
Ellsworth	7,741	4.23	4.50	2.89	5.04	2.53	2.20	1.74	3.68	3.51
Farmington	7,760	1.37	1.32	1.51	2.63	1.10	0.99	1.50	1.55	1.55
Gray	7,761	0.47	0.60	0.84	0.41	0.66	0.68	0.48	0.58	0.57
Winslow	7,794	0.38	1.43	0.46	0.56	0.46	0.48	0.80	0.60	0.62
Old Town	7,840	0.28	0.44	1.39	0.11	0.60	0.62	1.13	0.50	0.55
Freeport	7,879	0.27	0.16	1.26	4.16	15.12	3.03	1.25	3.53	3.33
Buxton	8,034	0.35	0.14	1.45	0.01	0.50	0.12	0.16	0.35	0.33
Caribou	8,189	1.77	1.06	1.22	0.36	0.82	0.74	1.89	0.98	1.06
Yarmouth	8,349	1.28	1.14	1.57	0.18	1.35	0.90	0.86	0.98	0.97
Bath	8,514	0.27	0.78	1.42	0.48	1.29	1.30	1.09	0.85	0.87
Skowhegan	8,589	1.69	1.21	1.60	1.83	1.23	1.25	1.63	1.50	1.51
Old Orchard	8,624	0.09	0.07	0.72	0.19	0.67	3.23	0.68	0.88	0.87
Topsham	8,784	2.21	2.31	1.38	2.26	1.27	0.77	0.34	1.73	1.62
Lisbon	9,009	0.59	0.17	0.64	0.45	0.41	0.25	0.19	0.42	0.40
Cape Elizabeth	9,015	0.04	0.14	0.21	0.01	0.33	0.64	0.08	0.22	0.21
Brewer	9,482	3.03	3.06	2.54	2.98	1.27	1.31	4.56	2.41	2.59
Kittery	9,490	0.14	0.22	0.65	5.74	5.83	1.94	0.58	2.47	2.31
Wells	9,589	0.16	0.51	1.36	0.44	1.13	3.94	0.27	1.29	1.20
Presque Isle	9,692	2.25	2.49	1.31	3.99	1.51	1.47	3.13	2.31	2.38
Standish	9,874	0.10	0.34	1.18	0.05	0.17	0.27	0.15	0.29	0.28
<i>Average:</i>	8,557	1.00	1.07	1.29	1.52	1.83	1.26	1.08	1.31	1.29

Trade Area Analysis of Retail Sales for Ellsworth, Maine, 2008

Merchandise Category	Potential Sales	Actual Sales	Surplus or (Leakage)	Surplus or (leakage) as a percent of Potential Sales	Equip Population Gain or (Loss)
Auto/Trans	\$16,192,110	\$69,586,700	\$53,394,590	329.8%	24,328
Building Supply	\$12,080,240	\$57,141,100	\$45,060,860	373.0%	28,202
Food	\$10,000,718	\$26,112,400	\$16,111,682	161.1%	14,373
General Merchandise	\$23,878,483	\$77,058,200	\$53,179,717	222.7%	23,855
Other Retail	\$15,186,942	\$23,083,200	\$7,896,258	52.0%	6,757
Restaurant/Lodging	\$17,378,913	\$32,042,600	\$14,663,687	84.4%	7,481
Business Operating	\$8,211,259	\$16,032,600	\$7,821,341	95.3%	7,068
Consumer Sales	\$94,717,406	\$285,024,200	\$190,306,794	200.9%	18,528
Total Sales	\$102,928,665	\$301,056,800	\$198,128,135	192.5%	17,413

Trade Area Analysis of Retail Sales for Ellsworth, Maine, 2009

Merchandise Category	Potential Sales	Actual Sales	Surplus or (Leakage)	Surplus or (leakage) as a percent of Potential Sales	Equip Population Gain or (Loss)
Auto/Trans	\$14,671,552	\$65,801,500	\$51,129,948	348.5%	25,576
Building Supply	\$10,295,572	\$48,453,800	\$38,158,228	370.6%	28,984
Food	\$10,350,005	\$27,265,300	\$16,915,295	163.4%	15,053
General Merchandise	\$22,617,250	\$77,856,600	\$55,239,350	244.2%	26,301
Other Retail	\$14,432,071	\$23,507,700	\$9,075,629	62.9%	8,160
Restaurant/Lodging	\$16,743,937	\$32,422,700	\$15,678,763	93.6%	8,349
Business Operating	\$6,674,855	\$13,763,600	\$7,088,745	106.2%	8,045
Consumer Sales	\$89,110,387	\$275,307,600	\$186,197,213	209.0%	19,538
Total Sales	\$95,785,242	\$289,071,200	\$193,285,958	201.8%	18,566

Trade Area Analysis of Retail Sales for Ellsworth, Maine, 2010

Merchandise Category	Potential Sales	Actual Sales	Surplus or (Leakage)	Surplus or (leakage) as a percent of Potential Sales	Equip Population Gain or (Loss)
Auto/Trans	\$15,924,810	\$68,848,900	\$52,924,090	332.3%	25,805
Building Supply	\$10,845,522	\$46,943,400	\$36,097,878	332.8%	27,456
Food	\$11,479,030	\$26,330,000	\$14,850,970	129.4%	12,949
General Merchandise	\$25,326,907	\$86,248,800	\$60,921,893	240.5%	28,267
Other Retail	\$16,356,269	\$23,175,300	\$6,819,031	41.7%	5,919
Restaurant/Lodging	\$19,271,095	\$34,514,500	\$15,243,405	79.1%	7,714
Business Operating	\$7,633,900	\$12,602,900	\$4,969,000	65.1%	5,433
Consumer Sales	\$99,203,634	\$286,060,900	\$186,857,266	188.4%	19,075
Total Sales	\$106,837,534	\$298,663,800	\$191,826,266	179.5%	17,910

Surplus or (Leakage) Comparison

Merchandise Category	2008	2009	2010
Auto/Trans	\$53,394,590	\$51,129,948	\$52,924,090
Building Supply	\$45,060,860	\$38,158,228	\$36,097,878
Food	\$16,111,682	\$16,915,295	\$14,850,970
General Merchandise	\$53,179,717	\$55,239,350	\$60,921,893
Other Retail	\$7,896,258	\$9,075,629	\$6,819,031
Restaurant/Lodging	\$14,663,687	\$15,678,763	\$15,243,405
Business Operating	\$7,821,341	\$7,088,745	\$4,969,000
Consumer Sales	\$190,306,794	\$186,197,213	\$186,857,266
Total Sales	\$198,128,135	\$193,285,958	\$191,826,266

Trade Area Analysis of Retail Sales for Selected Maine Towns, 2010

Total Retail Sales

Town	Population 2010	Potential Sales	Actual Sales	Surplus or (Leakage)	Surplus or (leakage) as a percent of Potential Sales	Equip Population Gain or (Loss)
Ellsworth	7,741	\$106,837,534	\$298,663,800	\$191,826,266	179.5%	17,910
Bar Harbor	5,235	\$40,945,349	\$163,263,600	\$122,318,251	298.7%	11,421
Belfast	6,668	\$47,702,954	\$127,869,100	\$80,166,146	168.1%	8,541
Bucksport	4,924	\$38,512,874	\$32,270,100	(\$6,242,774)	-16.2%	-583
Blue Hill	2,686	\$13,856,131	\$30,150,700	\$16,294,569	117.6%	1,521
Mount Desert	2,053	\$10,590,706	\$27,254,700	\$16,663,994	157.3%	1,556
Southwest Harbor	1,764	\$9,099,857	\$45,591,000	\$36,491,143	401.0%	3,407
Brewer	9,482	\$123,964,185	\$269,975,600	\$146,011,415	117.8%	14,392
Lincoln	5,085	\$37,674,573	\$76,003,100	\$38,328,527	101.7%	3,778
Rockland	7,297	\$60,841,751	\$210,744,800	\$149,903,049	246.4%	13,702

Trade Area Analysis of Retail Sales for Selected Maine Counties, 2010

Total Retail Sales

County	County Population 2010	Potential Sales	Actual Sales	Surplus or (Leakage)	Surplus or (leakage) as a percent of Potential Sales	Equip Population Gain or (Loss)
Hancock	53,269	\$570,530,441	\$716,310,100	\$145,779,659	25.6%	13,611
Penobscot	148,761	\$1,509,255,816	\$2,016,481,000	\$507,225,184	33.6%	49,995
Waldo	38,359	\$360,058,854	\$218,200,400	(\$141,858,454)	-39.4%	-15,113
Washington	31,932	\$292,046,536	\$213,100,400	(\$78,946,136)	-27.0%	-8,632