Construction Cost Survey 2005

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Introduction

In January 2005, the thirteenth survey of building supply, concrete, and shipping companies was conducted to determine the cost of a market basket of construction materials in communities throughout Alaska. This survey simulates contractor pricing for a model single-family home by tracking a basket of items representing approximately 30 percent of the home's total cost. It does not represent the home's total construction cost. Figure 6-1 shows the floor plan of the model house used in this survey.

The market basket provides a benchmark for comparing costs between the urban communities of Anchorage, Fairbanks, Juneau, Kenai, Ketchikan, Kodiak, Sitka, and Wasilla, as well as the rural communities of Barrow, Bethel, and Nome. In addition to the materials included in the market basket, suppliers also report the cost of doors and windows for the model home, while shipping companies provide the cost of transporting the market basket materials from Seattle to each community. A complete list of the market basket items and their specifications is included in Table 1.

Construction techniques, building requirements, and styles vary greatly from region to region, so not all of the materials surveyed may be used in every area. Beginning in 2003, Barrow, Bethel, and Nome included metal roofing, which is more common in rural areas, in their respective market baskets instead of the asphalt shingles used in urban areas. Costs for the three rural areas surveyed, Barrow, Bethel, and Nome, exclude concrete and rebar since pilings support houses above permafrost in these locations instead of slab foundations. Unless specified, the market basket prices quoted exclude concrete, rebar, doors, and windows.

Comparing 2005 to 2004

Alaska Market Baskets

- Nine of the 11 communities experienced increases in the overall cost of the market basket materials. The percentage increases ranged from two percent (Barrow) to 15 percent (Anchorage). The cost of the market basket decreased one percent in both Juneau and Kenai.

Seattle Market Basket

- The Seattle market basket increased $1,666 in 2005 to $18,602. Large price increases occurred with the costs of T-111 siding ($489), 2x6 studs ($240), and asphalt shingles ($240). A package of "Single Pole Breakers" exhibited the greatest percentage increase (111 percent) in price; however, the overall impact of this dramatic rise is not statistically significant since the weighted-average price ($95) makes up only one-half of one percent of the market basket's total price. Underlay and plywood were the only two items to decrease in price.

Concrete
The price of concrete in Ketchikan remained unchanged in 2005 ($4,350). Otherwise, the cost of concrete increased in the remaining seven urban locations. Percentage increases ranged from one percent (Kodiak) to 21 percent (Juneau). Wasilla also experienced a double-digit percentage increase in the price of concrete (14 percent).

Rebar
The price of rebar increased for all of the urban locations. Percentage increases ranged from 19 percent (Fairbanks) to 104 percent (Sitka). Wasilla and Juneau also experienced significant percentage increases, 64 percent and 57 percent, respectively. The price of rebar increased 64 percent in Seattle.

Doors and Windows
Seven Alaska locations experienced decreases in the total cost of doors and windows. The percentage decreases ranged from four percent (Juneau) to 41 percent (Nome). The remaining four locations experienced price increases. The percentage increases ranged from eight percent (Wasilla) to 37 percent (Kodiak).

Shipping Costs from Seattle
The cost of transporting the building materials from Seattle increased in all areas but one. The percentage increases ranged from two percent (Ketchikan) to 23 percent (Nome). The only community to experience a drop in shipping costs was Juneau, as the price decreased two percent to $2,975.

Construction Costs Around the State

- The weighted-average cost of the market basket (excluding concrete and rebar) ranged from a low of $16,994 in Sitka to a high of $38,666 in Barrow.

- The disparity between the most expensive urban location and the least expensive rural location is now greater than $10,000. In 2005, Fairbanks became the most expensive urban location with a cost of $21,822. Bethel remained the least expensive rural location for the second consecutive year with a cost of $33,676.

- Building materials cost more in rural areas than urban areas, and more in northern Alaska than in Southcentral and Southeast Alaska. The main reason for this cost differential is the added expenditure of transportation – the further a community is from Seattle, the more expensive the price of building materials. The lack of infrastructure in rural areas requires materials to be barged or flown to the different areas and contributes to higher prices.

- Kodiak became the most expensive location, urban or rural, for doors and windows in 2005. The total cost of $4,840 represents a 37 percent increase over last year's total cost of $3,545, which was 2004's median value for the 11 communities. With a 20 percent decrease to $2,524, Anchorage became the least expensive location for doors and windows. Sitka, last year's least expensive community, now ranks second at $2,734.

- The Anchorage market basket cost $20,317 in 2005. All fifteen market basket items increased in price in 2005. In fact, only five items experienced single-digit percentage increases. Overall, the percentage increases ranged from three percent (single breakers) to 36 percent (2x6 studs).

- Fairbanks reported a market basket cost of $21,822. Prices were higher for two-thirds of the market basket items. Percentage increases ranged from one percent (asphalt shingles) to 29 percent (T-111 siding). The prices of three items (trusses, electric wire, and ABS pipe) remained unchanged since 2004, while the prices of R-38 insulation and single breakers decreased.

- Juneau's market basket decreased $144 in 2005 to $20,568. Price changes to the individual market basket items were evenly split between increases and decreases. Percentage increases ranged from five percent (plain sheetrock) to 33 percent (electric wire). Percentage decreases ranged from four percent (T-111 siding) to 15 percent (plywood).

- Barrow saw decreases to only three market basket items. However, it was the substantial decrease in the price of trusses that nearly offset the increases in the remaining 11 market basket items (the price of electric wire remained the same). The cost of trusses decreased 68 percent from $6,400 in 2004 to $2,080 in 2005. The prices of underlay and ABS pipe also decreased in 2005. Otherwise, percentage increases ranged from six percent (plain sheetrock) to 78 percent (R-21 insulation).

- Three items (2x4 studs, 2x6 studs, and copper pipe) did not experience a price decrease in any of the surveyed areas. Furthermore, all 11 Alaska communities experienced double-digit percentage increases in the cost of 2x4 studs, ranging from 13 percent (Nome) to 43 percent (Kodiak and Bethel).

- Juneau reported the smallest percentage increases in the prices of 2x6 studs and copper pipe, six percent and eight percent, respectively. However, like 2x4 studs, the remaining 10 locations all experienced double-digit percentage increases in the prices of these two items.

- Only three items (underlay, R-38 insulation, and single breakers) experienced price decreases in a majority of the 11 Alaska communities. The price of R-38 insulation decreased in seven communities, while the prices of underlay and single breakers each fell in six communities.

- Anchorage, with a cost of $2,926, remained in the top position in 2005 as the area with the least expensive price for concrete. Kodiak remained the most expensive area for concrete with a cost of $5,250. In fact, the price difference between Kodiak and the second most-expensive area for concrete (Ketchikan) widened from $840 in 2004 to $900 in 2005.

- Anchorage is also the least expensive location for rebar, although the cost increased 39 percent in 2005 to $559. In the remaining seven communities (rebar is not surveyed in the rural areas), prices fell into a tight range, varying between $606 (Juneau) and $660 (Fairbanks).

Alaska Suppliers Comparison Index

Fluctuations in cost can best be examined in terms of the yearly change each area experiences in relation to a point of reference. One way to do this is to establish an index comparing each community's market basket cost to a benchmark. The Alaska Suppliers Comparison Index uses the largest city in Alaska, Anchorage, as its benchmark. To create this index, Anchorage's market basket cost is given an index value of 100. Dividing the average cost for a survey area by the Anchorage value ($20,317) produces the index value for that community.

- The Anchorage market basket cost increased $2,650, or 15 percent, in 2005. Since the remaining 10 communities all experienced percentage changes of less than 15 percent, a reduction occurred in each area's Alaska Suppliers Comparison Index.

- The price of the market basket increased 14 percent in Kodiak, Bethel, and Nome. Kodiak's Alaska Suppliers Comparison Index decreased two points, while the index values for Bethel and Nome fell one point each.

- Since Juneau and Kenai were the only two communities that experienced overall market basket price decreases in 2005, they saw the largest percentage decreases in their respective indices. Juneau's index value fell from 117 to 101, while Kenai's fell from 118 to 101.

- Barrow had the largest numeric decrease in its index value, dropping exactly 24 points for the second consecutive year. Seven points separate Barrow from the community with the second highest index value (Nome).

- Ketchikan and Sitka continue to have market basket costs less than that of Anchorage. Thus, their respective index values remain below 100. Wasilla's index value was exactly 100 in 2005 since its market basket total was only a fraction of a percentage point less than Anchorage's.

- Three communities have experienced decreases in their respective index values in each of the last four years. Since 2001, Fairbanks' value has dropped from 120 to 107, Ketchikan's has fallen from 94 to 86, and Kodiak's has decreased from 125 to 107.

Construction Costs in Alaska vs. Seattle

Suppliers from Seattle, Washington, and the surrounding metropolitan area are included in the Alaska Construction Cost Survey since some contractors acquire their materials from outside Alaska. For Alaska suppliers, the market basket price already includes the cost of shipping the goods to the worksite in their community. Transportation costs are added to Seattle's market basket total to estimate what local contractors would pay if they bought directly from Seattle suppliers and shipped their materials north to Alaska. Seattle prices cannot be compared directly to prices in the three rural areas because the Seattle market basket includes asphalt shingles rather than metal roofing.

- For comparison purposes, the respective weighted-average transportation costs to ship the materials to each of the 11 Alaska communities have each been added to Seattle's market basket total.

- The Seattle market basket increased 10 percent in 2005 to $18,602. Last year, Juneau was the only urban area to have higher local prices than Seattle prices. However, in 2005, despite a small decrease in shipping costs to Juneau, Seattle's market basket price increase erased the cost savings previously obtained by Juneau contractors when purchasing their items in Seattle instead of Alaska.

- The greatest disparity between local and Seattle prices occurred in Sitka, where local prices beat Seattle prices by $6,636. Juneau's price difference was the smallest at $1,009.

- In 2004, Kenai's local savings were the smallest. The combination of Kenai's market basket price decrease, Seattle's market basket price increase, and a 13 percent increase in shipping costs from Seattle increased Kenai's cost difference between local and Seattle prices from $1,727 in 2004 to $4,425 in 2005.

- Seattle prices continue to offer savings to contractors in the three rural areas. Although Seattle and the rural communities cannot be compared directly, the difference in costs still indicates that rural homebuilders can save money buying construction materials in Seattle. The highest savings can be found in Nome, where buying and shipping from Seattle can save a contractor $6,128. Wide margins between local and Seattle prices were also found in Barrow ($4,360) and Bethel ($3,457).

Transportation Index for Market Basket from Seattle

One of the primary factors determining differences in building costs in Alaska is transportation. The cost of transporting materials from Seattle is directly related to the distance from Seattle to the surveyed communities. The Transportation Index uses basic market basket items rather than substituted items to compare the different communities. Metal roofing is lighter than asphalt shingles and, unlike shingles, can be shipped inside or outside a container. In areas where metal roofing is substituted, the cost of shipping the roofing materials could be as much as two-thirds less than asphalt shingles.

Like the Alaska Suppliers Comparison Index, the Transportation Index assigns Anchorage an index value of 100. Dividing the average value for a survey area by the Anchorage shipping cost ($5,411) produces the index value for that community.

- Shipping costs to Anchorage increased $857, or 19 percent, in 2005. Areas with cost increases of greater than 19 percent experienced increases in their indices. Areas with cost decreases or increases of less than 19 percent experienced decreases in their indices.

- Juneau was the only community that experienced a decrease in its shipping price. The cost fell $53, or two percent, from $3,028 to $2,975. Juneau's index value dropped from 66 in 2004 to 55 in 2005.

- Anchorage had the third highest percentage increase in shipping costs in 2005. Thus, only two communities (Nome and Bethel) experienced increases in their respective index values. Nome's 23 percent increase equated to an eight point index value increase (221 to 229). Bethel's 19 percent increase, just a fraction of a point higher than Anchorage's, equated to a one point index value increase.

- All of the urban areas experienced decreases in their respective index values. Decreases ranged from three points (Sitka) to 15 points (Kodiak). Barrow was the only rural area to have its index value decrease in 2005, falling from 330 in 2004 to 291 in 2005.

- Ketchikan is the closest city in proximity to Seattle of the 11 communities surveyed. Therefore, shipping costs to Alaska's "First City" remain the lowest. Ketchikan's shipping costs of $1,792, and corresponding index value of 33, are only one-third of Anchorage's. On the opposite end of the scale, shipping costs to Barrow, the furthest city from Seattle, are $15,758. This figure is almost three times the cost of shipping to Anchorage and over eight times the cost of shipping to Ketchikan.

Alaska Construction Cost Survey Methodology

The Alaska Department of Labor and Workforce Development's Research and Analysis Section conducts the Alaska Construction Cost Survey annually on behalf of Alaska Housing Finance Corporation. This survey simulates contractor pricing for a model single-family home by tracking a basket of items representing approximately 30 percent of the home's total cost.

- Eleven communities in Alaska are surveyed. These include the urban areas of Anchorage, Fairbanks, Juneau, Kenai, Ketchikan, Kodiak, Sitka, and Wasilla. The three rural cities of Barrow, Bethel, and Nome are also represented. In addition, the largest Seattle suppliers are surveyed.

- Twenty-seven local suppliers in Alaska and 10 in Washington responded to this year's survey. The Alaska respondents represent 15 unique firms, as some companies have stores in multiple locations. In addition, 18 concrete suppliers and six shipping companies participated in this year's survey.

- All companies are given an itemized list of building materials with specific quantities to price. The complete list of materials in the market basket and the quantities used to calculate the items' extended prices are detailed in Table 6-1. The market basket includes selected construction materials comprising approximately 30 percent of the materials used for the model house. It does not represent the total construction cost. Prices of concrete, rebar, doors and windows are also collected but are not included in the market basket total.

- Figure 6-1 shows the floor plan of the model house used in this survey.

- Transportation costs are added to Seattle's market basket total to simulate what local contractors would pay if they bought directly from Seattle suppliers and shipped their materials to Alaska. To determine the cost of transportation, carriers are given the weight (approximately 49,000 pounds) and the volume (about 2,000 cubic feet) of the materials. These measurements generally require a 20-foot platform and a 20-foot container for all of the materials. Another assumption is that all of the fees for required services are included in the reported cost of the shipment. These services include loading/unloading, protection and fastening of goods, and delivery to the building site. The shippers' market basket includes asphalt shingles rather than metal roofing.

- It is expected that larger building supply firms get volume discounts that are then passed on to the contractor. To reflect the vendors' respective market shares, respondents' values are weighted by the size of the respective firms. For Alaska businesses, size is based on the reported number of employees from the Alaska Department of Labor and Workforce Development's employment security tax wage database for the second quarter of 2004. America's Labor Market Information System provides 2005 employee counts for Seattle suppliers.

- Two comparison indices are used – one for the building material market basket and the other for the transportation costs from Seattle. These indices allow communities to measure changes to the cost of construction materials in relation to a fixed value. The benchmark values are the costs for Anchorage, the largest community in Alaska. Dividing the average cost of a survey area by the Anchorage value produces both indices. This creates an Anchorage benchmark of 100. In this way, communities can be gauged in relation to Anchorage for a particular year.

- Changes in the makeup of the market basket make year-to-year comparisons difficult. In 2001, cedar bevel siding was replaced with T-111 siding. This lowered not only the cost of the market basket, but also the transportation costs. In 2002, Barrow did not report prices for asphalt shingles because most new construction on the North Slope incorporates metal roofing materials instead. This affected both the transportation costs and the market basket total. In 2003, metal roofing was substituted for asphalt shingles in the three rural areas.

Appendix A
Construction Cost Survey Tables and Charts

Average Price for Construction Materials

Table 1

Alaska Suppliers
2005

				Urban								Rural *		
Market Basket Items	**Quantity**	**Units**	**Size**	**Length**	**Anchorage**	**Fairbanks**	**Juneau**	**Kenai**	**Ketchikan**	**Kodiak**	**Sitka**	**Wasilla**	**Barrow**	**Bethel**	**Nome**
BCI 60 Series	768	ft	14"		$2,369	$2,021	$2,804	$2,361	$2,534	$2,949	$2,046	$2,294	$2,080	$1,956	$3,866
2-4-1 T&G FF Underlay 4' x 8'	62	pcs	1 1/8"		3,062	3,460	2,841	3,044	2,135	2,874	2,302	2,975	5,357	4,414	5,105
T-111 8" Center Groove 4' x 10' Siding	60	pcs	5/8"		2,775	3,268	2,823	2,929	2,837	3,174	2,679	3,310	4,500	4,181	4,751
CDX 4' x 8' #53	106	pcs	5/8"		2,805	3,103	2,190	2,811	1,872	2,650	1,941	2,685	5,695	4,296	4,780
Studs #2 & btr Kiln-dried	164	pcs	2" x 4"	92 5/8"	562	604	557	561	415	612	373	562	1,154	889	923
Studs #2 & btr #14 Kiln-dried	263	pcs	2" x 6"	92 5/8"	1,357	1,550	1,236	1,387	1,175	1,320	753	1,367	2,376	2,112	2,206
4' x 12' Plain Sheetrock #84	95	pcs	1/2"		1,250	1,374	1,437	1,265	1,104	1,470	945	1,115	2,728	3,071	2,333
4' x 12' Type X Sheetrock #109	68	pcs	5/8"		983	1,146	1,181	1,031	937	1,207	793	930	3,400	2,198	2,472
Fiberglass Bat Insulation (2,560 sq ft)	40	bags	R-38" x 24"	64 sq ft	2,153	2,085	2,116	2,055	1,623	1,901	1,800	2,034	3,508	4,092	4,009
Fiberglass Bat Insulation (2,034 sq ft)	30	bags	R-21" x 15"	68 sq ft	1,288	1,263	1,280	1,201	958	1,233	1,261	1,230	2,400	2,552	1,666
NMB Electric Wire	3	boxes		250'	95	102	128	101	126	105	94	96	240	183	159
Single Pole Breaker	15	pcs	15 Amp		64	84	94	88	180	67	134	51	106	144	101
Copper Pipe Type 'M'	150	ft	3/4"		124	137	125	174	194	209	182	142	271	260	263
ABS Pipe	100	ft	3"		122	121	143	127	155	207	186	124	186	238	158
3 Tab Shingles Brown	102	bundles			1,308	1,504	1,613	1,482	1,156	1,785	1,505	1,344	N/A	N/A	N/A
Metal Roofing	3,215	sq ft	3' x 20'		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,665	3,090	4,340
Total (Without Concrete & Rebar)					**$20,317**	**$21,822**	**$20,568**	**$20,617**	**$17,401**	**$21,763**	**$16,994**	**$20,259**	**$38,666**	**$33,676**	**$37,132**
Concrete	30	yds			2,926	3,102	4,050	3,162	4,350	5,250	4,170	3,176			
#4 Rebar	93	pcs	1/2"	20'	559	660	606	614	650	650	639	608			
Total (With Concrete & Rebar)					**$23,802**	**$25,584**	**$25,224**	**$24,393**	**$22,401**	**$27,663**	**$21,803**	**$24,043**			

* Rural areas exclude concrete & rebar

Weighted average using 2004 Q2 ODB202 number of employees where applicable
Totals may not sum due to rounding
N/A = Not Applicable

Average Price for Doors & Windows

Alaska Suppliers
2005

				Urban								Rural	
Market Basket Items	**Quantity**	**Units**	**Size**	**Anchorage**	**Fairbanks**	**Juneau**	**Kenai**	**Ketchikan**	**Kodiak**	**Sitka**	**Wasilla**	**Barrow**	**Bethel**
R7 Metal Insulated Doors with 6" Jamb	2	pcs	3'	$375	$349	$432	$380	$420	$467	$516	$399	$700	$369
Low E Argon Windows with R > 2.8 Vinyl Casements	3	pcs	2.6' x 3'	467	646	580	566	618	953	382	573	900	868
Low E Argon Windows with R > 2.8 Vinyl Casements, 5.7 E-Gress	6	pcs	2.6' x 4'	1,061	1,413	1,330	1,328	1,356	1,920	1,220	1,310	2,100	1,845
Low E Argon Windows with R > 2.8 Vinyl Casements, 5.7 E-Gress	2	pcs	8.0' x 4'	621	1,095	1,327	821	1,316	1,500	616	1,177	1,100	553
Total Cost of Doors & Windows				**$2,524**	**$3,503**	**$3,669**	**$3,095**	**$3,710**	**$4,840**	**$2,734**	**$3,459**	**$4,800**	**$3,635**

Weighted average using 2004 Q2 ODB202 number of employees
Totals may not sui

Average Price for Construction Materials

Table 3

Seattle Suppliers (without Concrete, Doors & Windows)
2005

Market Basket Items	**Quantity**	**Units**	**Size**	**Length**	**Seattle Area**
BCI 60 Series	768	ft	14"		$2,294
2-4-1 T&G FF Underlay 4' x 8'	62	pcs	1 1/8"		2,744
T-111 8" Center Groove 4' x 10' Siding	60	pcs	5/8"		3,143
CDX 4' x 8' #53	106	pcs	5/8"		2,193
Studs #2 & btr Kiln-dried	164	pcs	2" x 4"	92 5/8"	451
Studs #2 & btr #14 Kiln-dried	263	pcs	2" x 6"	92 5/8"	1,145
4' x 12' Plain Sheetrock #84	95	pcs	1/2"		793
4' x 12' Type X Sheetrock #109	68	pcs	5/8"		793
3 Tab Shingles Brown	102	bundles			1,210
Fiberglass Bat Insulation (2,560 sq ft)	40	bags	R-38" x 24"	64 sq ft	2,212
Fiberglass Bat Insulation (2,034 sq ft)	30	bags	R-21" x 15"	68 sq ft	1,191
NMB Electric Wire	3	boxes		250'	105
Single Breaker	15	pcs	15 Amp		95
Copper Pipe Type 'M'	150	ft	3/4"		122
ABS Pipe	100	ft	3"		111
Total (Without Rebar)					**$18,602**
#4 Rebar	93	pcs	1/2"	20'	584
Total (With Rebar)					**$19,186**

Weighted average using 2005 ALMIS Employer Database (1st Edition) number of employees where applicable
Totals may not sum due to rounding

Transportation Cost of Market Basket

Table 4

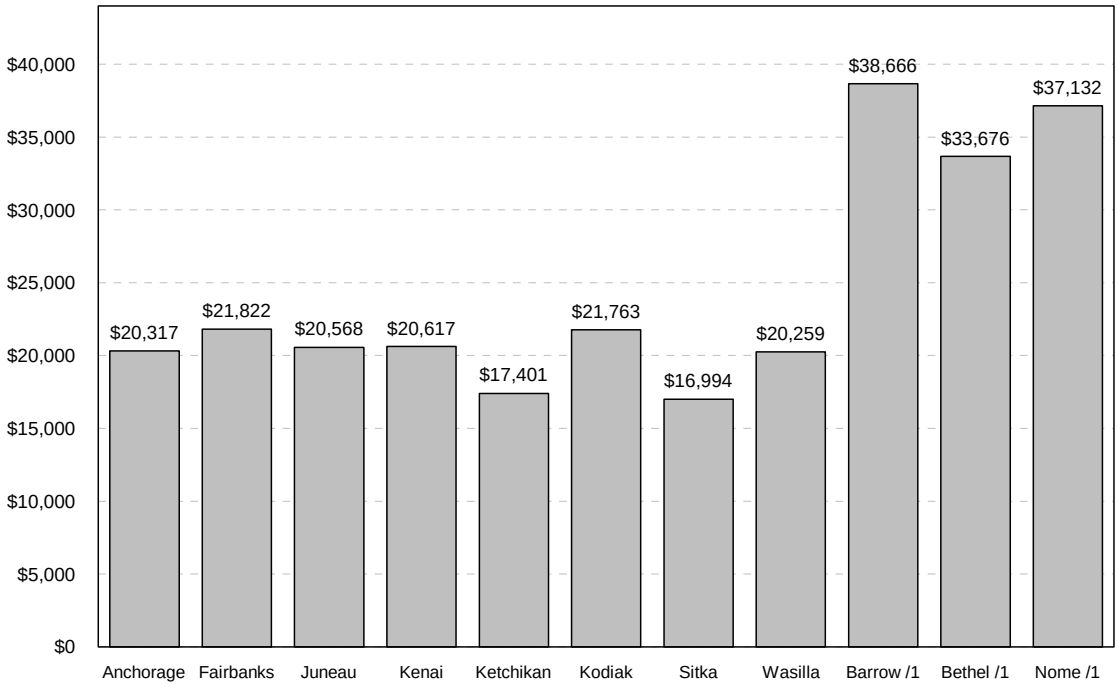
Shipping & Handling (Without Concrete, Rebar, Doors, & Windows)
2005

Destination	**Seattle**
Ketchikan	$1,792
Juneau	2,975
Sitka	5,028
Anchorage	5,411
Wasilla	5,678
Kenai	6,440
Kodiak	6,650
Fairbanks	7,113
Bethel	11,617
Nome	12,402
Barrow	15,758

Weighted average using 2004 Q2 ODB202 or 2005 ALMIS Employer Database (1st Edition) number of employees where applicable

Average Cost of Market Basket 2005

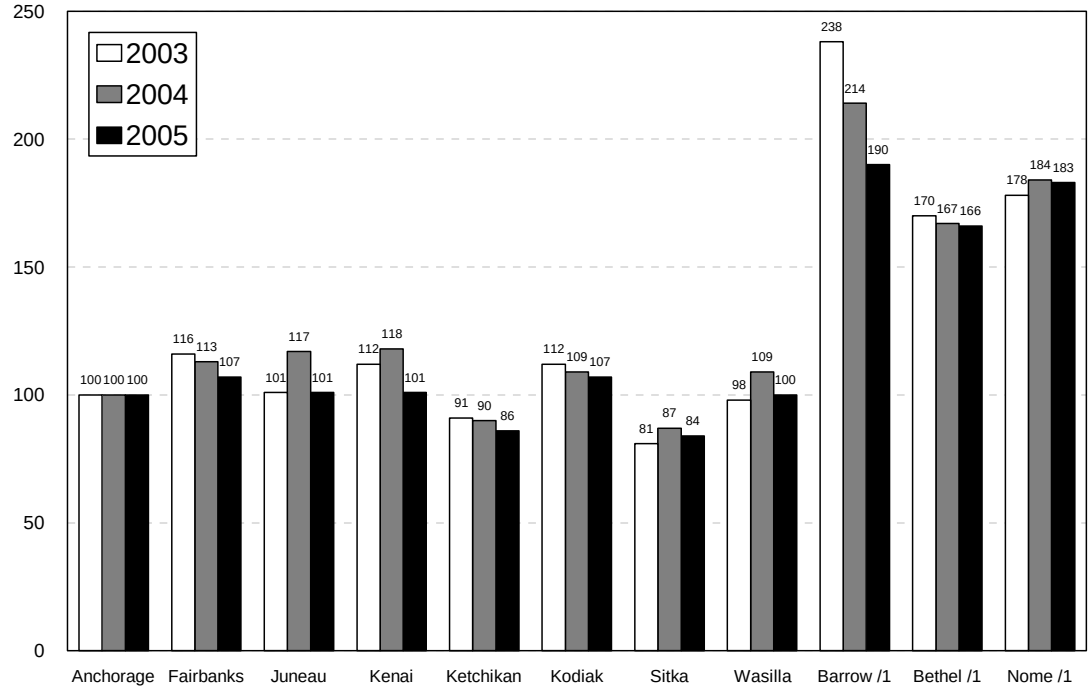
Urban & Rural Residential Construction (Without Concrete, Rebar, Doors, & Windows
Alaska Suppliers



Note: 1/ Rural areas include metal roofing instead of asphalt shingles.

Alaska Suppliers Comparison Index

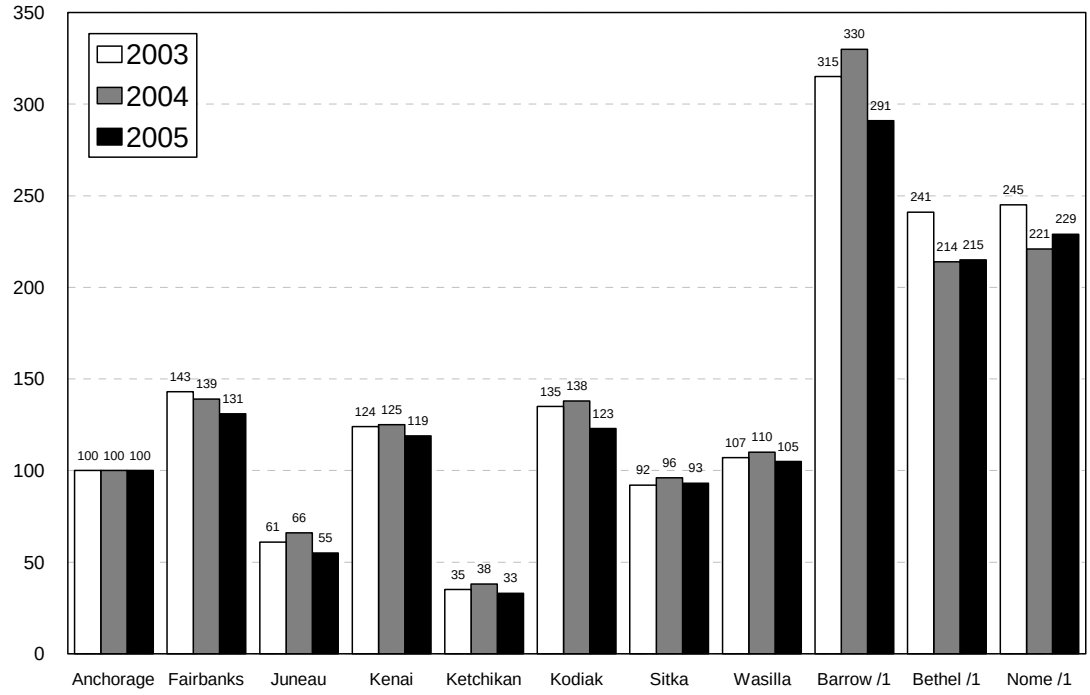
Urban & Rural Residential Construction (Without Concrete, Rebar, Doors, & Windows
Index by Community with Anchorage as Baseline



Note: 1/ Rural areas include metal roofing instead of asphalt shingles.

Transportation Index for Market Basket from Seattle

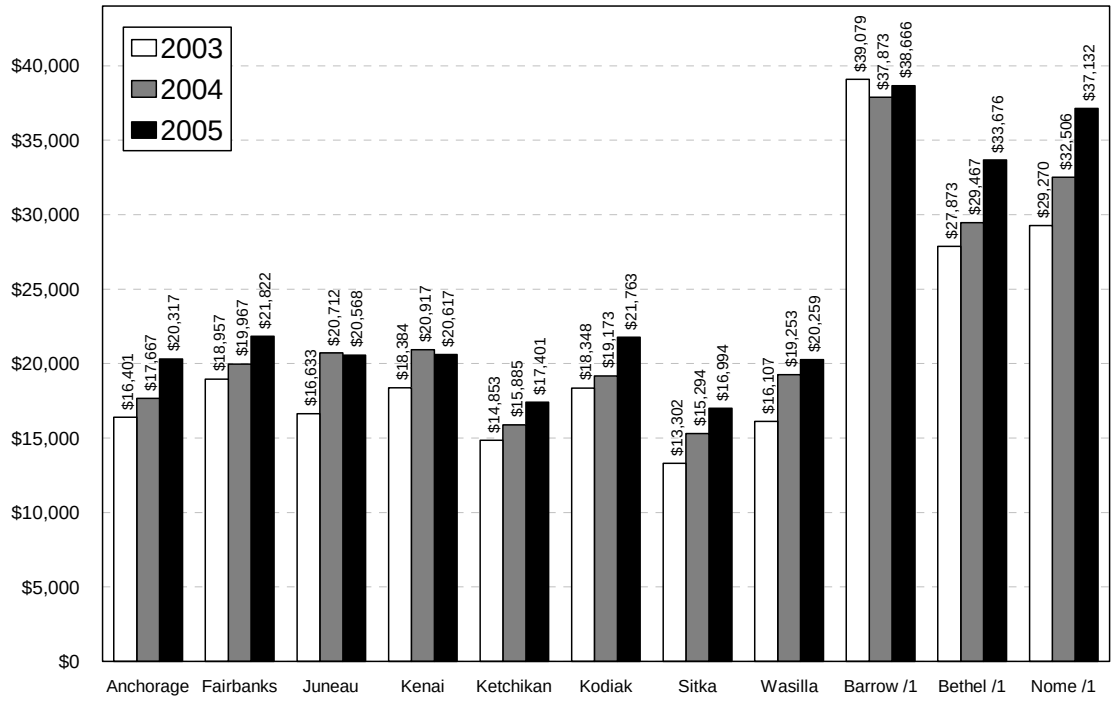
Urban & Rural Residential Construction (Without Concrete, Rebar, Doors, & Windows
Index by Community with Anchorage as Baseline



Note: 1/ Rural areas include metal roofing instead of asphalt shingles.

Average Cost of Market Basket 2003-2005

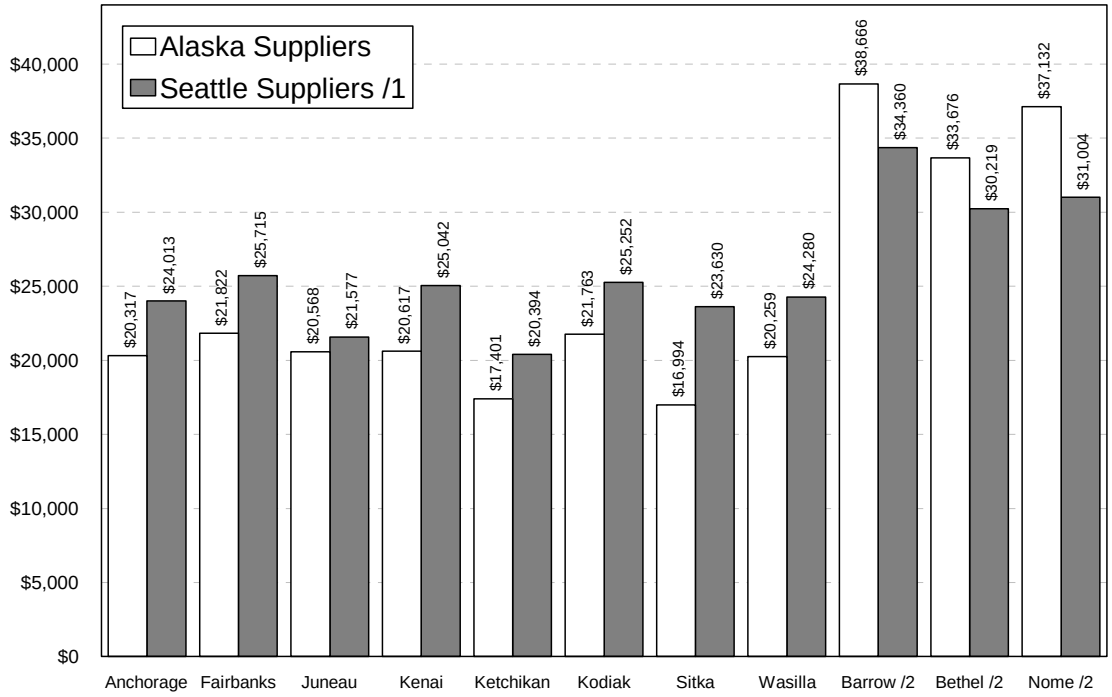
Urban & Rural Residential Construction (Without Concrete, Rebar, Doors, & Windows
Alaska Suppliers



Note: 1/ Rural areas include metal roofing instead of asphalt shingles.

Average Cost of Market Basket 2005

Alaska & Seattle Suppliers (Without Concrete, Rebar, Doors, & Windows)



Note: 1/ Seattle prices include asphalt shingles. 2/ Rural areas include metal roofing instead of asphalt shingles.