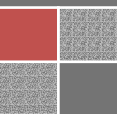




**COMPARATIVE  
PLASTICS INDUSTRY  
MANUFACTURING COSTS**

**BizCosts®....*The Cost of Doing Business***

**BizCosts.com**  
Princeton, NJ



**SUMMARY OF CONTENTS**

**COMPARATIVE OPERATING COST ANALYSIS: EXECUTIVE SUMMARY AND NOTES .....1**  
 INTRODUCTION ..... 2  
 COMPARATIVE PLANT LOCATIONS ..... 3  
     NEW ENGLAND REGION ..... 4  
     MID-ATLANTIC REGION ..... 4  
     SOUTHEAST REGION ..... 4  
     FLORIDA REGION..... 5  
     MID-SOUTH REGION..... 5  
     EAST NORTH CENTRAL REGION ..... 5  
     SOUTH CENTRAL REGION..... 6  
     WEST NORTH CENTRAL REGION ..... 6  
     WESTERN REGION ..... 6  
     CALIFORNIA REGION..... 7  
     NAFTA REGION ..... 7  
 LABOR COSTS ..... 7  
 COMPARATIVE ELECTRIC POWER AND NATURAL GAS COSTS ..... 8  
 COMPARATIVE LAND ACQUISITION AND CONSTRUCTION COSTS ..... 8  
 COMPARATIVE AD VALOREM AND SALES TAX COSTS ..... 8  
 COMPARATIVE SHIPPING COSTS..... 8  
 TOTAL ANNUAL OPERATING COST RANKING..... 9  
 ABOUT BIZCOSTS ABOUT BOYD..... 11  
 WARRANTY ..... 11  
 DISCLAIMER AND COPYRIGHT..... 12

**COMPARATIVE OPERATING COST ANALYSIS I: NEW ENGLAND REGION .....13**  
 EXHIBIT I: A COMPARATIVE ANNUAL OPERATING COST  
 SIMULATION SUMMARY ..... 14  
 EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS ..... 15  
 EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST  
 COMPARISONS..... 18  
 EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS ..... 19  
 EXHIBIT V: AD VALOREM & SALES TAX COSTS ..... 20  
 EXHIBIT VI: OUTBOUND SHIPPING COSTS ..... 21

**COMPARATIVE OPERATING COST ANALYSIS II: MID-ATLANTIC  
 REGION.....22**  
 EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION  
 SUMMARY..... 23  
 EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS ..... 24  
 EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST  
 COMPARISONS..... 27  
 EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS ..... 28  
 EXHIBIT V: AD VALOREM & SALES TAX COSTS ..... 29  
 EXHIBIT VI: OUTBOUND SHIPPING COSTS ..... 30

**COMPARATIVE OPERATING COST ANALYSIS III: SOUTHEAST REGION .....31**  
 EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION  
 SUMMARY..... 32

EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS .....	33
EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST COMPARISONS .....	36
EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS .....	37
EXHIBIT V: AD VALOREM & SALES TAX COSTS .....	38
EXHIBIT VI: OUTBOUND SHIPPING COSTS .....	39
<b>COMPARATIVE OPERATING COST ANALYSIS IV: FLORIDA REGION.....</b>	<b>40</b>
EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION SUMMARY.....	41
EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS .....	42
EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST COMPARISONS .....	45
EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS .....	46
EXHIBIT V: AD VALOREM & SALES TAX COSTS .....	47
EXHIBIT VI: OUTBOUND SHIPPING COSTS .....	48
<b>COMPARATIVE OPERATING COST ANALYSIS V: MID-SOUTH REGION .....</b>	<b>49</b>
EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION SUMMARY.....	50
EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS .....	51
EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST COMPARISONS .....	54
EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS .....	55
EXHIBIT V: AD VALOREM & SALES TAX COSTS .....	56
EXHIBIT VI: OUTBOUND SHIPPING COSTS .....	57
<b>COMPARATIVE OPERATING COST ANALYSIS VI: EAST NORTH CENTRAL REGION .....</b>	<b>58</b>
EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION SUMMARY.....	59
EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS .....	60
EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST COMPARISONS .....	63
EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS .....	64
EXHIBIT V: AD VALOREM & SALES TAX COSTS .....	65
EXHIBIT VI: OUTBOUND SHIPPING COSTS .....	66
<b>COMPARATIVE OPERATING COST ANALYSIS VII: WEST NORTH CENTRAL REGION.....</b>	<b>67</b>
EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION SUMMARY.....	68
EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS .....	69
EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST COMPARISONS .....	72
EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS .....	73
EXHIBIT V: AD VALOREM & SALES TAX COSTS .....	74
EXHIBIT VI: OUTBOUND SHIPPING COSTS .....	75
<b>COMPARATIVE OPERATING COST ANALYSIS VIII: SOUTH CENTRAL REGION .....</b>	<b>76</b>
EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION SUMMARY.....	77
EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS .....	78

EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST  
COMPARISONS..... 81

EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS ..... 82

EXHIBIT V: AD VALOREM & SALES TAX COSTS ..... 83

EXHIBIT VI: OUTBOUND SHIPPING COSTS ..... 84

**COMPARATIVE OPERATING COST ANALYSIS IX: WESTERN REGION .....85**

EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION  
SUMMARY..... 86

EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS ..... 87

EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST  
COMPARISONS..... 90

EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS ..... 91

EXHIBIT V: AD VALOREM & SALES TAX COSTS ..... 92

EXHIBIT VI: OUTBOUND SHIPPING COSTS ..... 93

**COMPARATIVE OPERATING COST ANALYSIS X: CALIFORNIA REGION .....94**

EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION  
SUMMARY..... 95

EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS ..... 96

EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST  
COMPARISONS..... 99

EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS ..... 100

EXHIBIT V: AD VALOREM & SALES TAX COSTS ..... 101

EXHIBIT VI: OUTBOUND SHIPPING COSTS ..... 102

**COMPARATIVE OPERATING COST ANALYSIS XI: NAFTA REGION ..... 103**

EXHIBIT I: COMPARATIVE ANNUAL OPERATING COST SIMULATION  
SUMMARY..... 104

EXHIBIT II: COMPARATIVE ANNUAL LABOR COSTS ..... 105

EXHIBIT III: ANNUAL ELECTRIC POWER & NATURAL GAS COST  
COMPARISONS..... 108

EXHIBIT IV: PLANT CONSTRUCTION & AMORTIZATION COSTS ..... 109

EXHIBIT V: AD VALOREM & SALES TAX COSTS ..... 110

EXHIBIT VI: OUTBOUND SHIPPING COSTS ..... 111

**EXECUTIVE SUMMARY AND NOTES*****Introduction***

In the following **BizCosts®** analysis, major operating costs scaled to a representative 175-worker plastic products manufacturing plant are presented for a series of 74 comparative production sites in the U.S., Canada and Mexico. In the full **BizCosts® Report's** summary Exhibit I, annual costs are itemized and totaled and the full study ranks the 74 locations from the highest cost site to the lowest.

Annual operating costs were projected solely for comparative purposes, with only major geographically-variable factors being considered. Those costs not varying significantly with geography, including relocation and start-up expenses, were not considered. The full **BizCosts®** analysis focuses on those key geographically-variable cost elements considered to be most pivotal within the corporate site selection process and overall plastics industry competitiveness. Geographically-variable operating cost differentials are current for **2010 and 2011**.

Operating costs in the full **BizCosts® Report** are scaled to a hypothetical 150,000 sq. ft. production plant employing 175 nonexempt workers and shipping over-the-road to a national U.S. market. The detailed, factor-by-factor analysis provides an independent and authoritative point of reference for the corporate planner's assessment of comparative operating cost levels in each of the surveyed manufacturing sites.

The format of the cost exhibits will allow the corporate planner to further tailor the cost data, plant specifications, shipping patterns and exchange rate assumptions to reflect alternate scales of operation, staffing needs and market expectations. The format of Exhibit II (Comparative Nonexempt Labor Costs) and its breadth of job classifications make the full **BizCosts® Report** a relevant costing tool for a

variety of plastics industry manufacturing sectors, including the:

- » **Injection and Blow Molding Sector**
  
- » **Extrusion Sector**
  
- » **Thermoforming Sector**
  
- » **Reinforced Plastics/Composites Sector**
  
- » **EPS Foam Sector**

### ***Comparative Plant Site Locations***

For purposes of comparative economic analysis, major geographically-variable operating costs have been projected in the full ***BizCosts® Report*** for a series of 74 manufacturing sites in the U.S., Canada, and Mexico. The comparative plant sites in the ***BizCosts®*** analysis all house significant concentrations of plastics industry manufacturing operations. Major regional benchmark cost centers such as Boston, Atlanta, Chicago, Dallas, Denver, Los Angeles and Seattle are included along with a series of second and third tier metropolitan areas housing smaller concentrations of plastics industry production facilities.

Nafta locations include Toronto, Montreal, and Vancouver in Canada and a Maquiladora plant in Mexico representative of industrial park sites in border cities such as Tijuana, Mexicali, Nogales and Juarez. All Canadian costs are in U.S. dollars at parity. Costs in Mexico are based on an exchange rate of .0916.

The 74 comparative North American plastics industry manufacturing locations included in the full ***BizCosts® Report*** are detailed below by region.

***New England Region***

- Bridgeport/Stamford/Norwalk/Danbury, Connecticut
- Hartford, Connecticut
- New Haven/Milford, Connecticut
- Boston/Cambridge, Massachusetts
- Worcester/Marlborough, Massachusetts
- Springfield, Massachusetts
- Manchester/Nashua/Salem, New Hampshire

***Mid-Atlantic Region***

- Nassau/Suffolk, New York
- Rochester, New York
- Albany/Schenectady/Troy, New York
- Middlesex/Somerset/Hunterdon, New Jersey
- Princeton, New Jersey
- Philadelphia, Pennsylvania
- Pittsburgh, Pennsylvania

***Southeast Region***

- Baltimore/Hunt Valley, Maryland
- Bethesda/Rockville/Gaithersburg, Maryland
- Richmond, Virginia
- Raleigh/Durham, North Carolina
- Greenville/Spartanburg, South Carolina
- Atlanta, Georgia
- Athens, Georgia

***Florida Region***

- Jacksonville, Florida
- Orlando, Florida
- Palm Beach County, Florida
- Miami, Florida
- Tampa/St. Petersburg, Florida
- Ft. Myers/Cape Coral, Florida
- Pensacola, Florida

***Mid-South Region***

- Nashville, Tennessee
- Memphis, Tennessee
- Birmingham, Alabama
- Huntsville, Alabama
- Louisville, Kentucky
- New Orleans, Louisiana
- Jackson, Mississippi

***East North Central Region***

- Cleveland, Ohio
- Columbus, Ohio
- Cincinnati, Ohio
- Indianapolis, Indiana
- Fort Wayne, Indiana
- Grand Rapids, Michigan
- Ann Arbor, Michigan

***South Central Region***

- Houston, Texas
- San Antonio, Texas
- Dallas/Ft. Worth, Texas
- Austin, Texas
- El Paso, Texas
- Oklahoma City, Oklahoma
- Tulsa, Oklahoma

***West North Central Region***

- Chicago, Illinois
- Milwaukee, Wisconsin
- Minneapolis/St. Paul, Minnesota
- Rochester, Minnesota
- Kansas City, Missouri
- St. Louis, Missouri
- Lincoln, Nebraska

***Western Region***

- Phoenix/Scottsdale, Arizona
- Tucson, Arizona
- Denver/Boulder, Colorado
- Salt Lake City, Utah
- Provo/Orem, Utah
- Seattle/Bellevue, Washington
- Portland, Oregon

***California Region***

- San Jose/Sunnyvale, California
- San Francisco, California
- Sacramento/Davis, California
- Los Angeles/Long Beach, California
- Orange County, California
- San Diego, California
- Riverside/San Bernardino, California

***NAFTA Region***

- Toronto, Ontario
- Montreal, Quebec
- Vancouver, British Columbia
- Maquiladora, Mexico

***Comparative Nonexempt Labor Costs***

Annual costs for labor, including direct and indirect production workers, are presented in the full **BizCosts® Report's** Exhibit II. Costs are based on a representative mix of 41 different nonexempt job descriptions for the model plant covering several key industry sectors. Comparative labor costs for management and technical staff were not included as these costs would tend not to vary as significantly by geography, but rather by individual company compensation practices. Fringe benefit costs are included as a percent of annual base payroll costs and are assumed to include all statutory benefits, pay for time not worked, and company-sponsored benefits.

***Comparative Electric Power and Natural Gas Costs***

Comparative annual electric power and natural gas costs are presented in the full ***BizCosts® Report's*** Exhibit III. Annual costs reflect industrial rate schedules of the respective local electric and gas utilities serving each surveyed city.

***Comparative Land Acquisition and Construction Costs***

Exhibit IV of the full study presents comparative costs for the purchase of industrially-zoned land and the construction of new plastics manufacturing space in each of the 74 surveyed U.S., Canadian and Mexican locations.

***Comparative Ad Valorem and Sales Tax Costs***

Exhibit V presents comparative ad valorem (property) tax costs in each of the 74 surveyed U.S., Canadian and Mexican locations scaled to the land and building specifications of the model plastics manufacturing plant. Also presented in this exhibit are comparative local and state sales tax costs based on a fixed annual purchase of supplies, furnishings, equipment, and other taxable goods.

***Comparative Shipping Costs***

Transportation costs from each of the 74 surveyed plastics manufacturing sites to a designated national U.S. market are detailed in the full ***BizCosts® Report's*** Exhibit VI. Comparative costs reflect over-the-road finished product shipments in truckload lots.

***About BizCosts® About Boyd***

***BizCosts®*** is a registered trademark of The Boyd Company, Inc., of Princeton, NJ, and represents the firm's proprietary operating cost data bank used to shape its domestic and international corporate site selection recommendations. Founded in 1975, Boyd ([www.theboydcompany.com](http://www.theboydcompany.com)) provides independent location counsel to leading U.S. and overseas corporations. Devoted exclusively to corporate mobility, The Boyd Company is recognized as the

nation's premier authority in comparative business cost analysis.

### ***Warranty and Limitation of Liability***

***BizCosts***® ***Reports*** are provided on an "as is" basis without any warranties of any kind. The Boyd Company, Inc., to the fullest extent permitted by law, disclaims all warranties, whether expressed or implied, including the warranty of merchantability, fitness for a particular purpose and non-infringement. While data is deemed reputable, the Company makes no warranties about the accuracy, reliability, completeness, or timeliness of the information.

### ***Disclaimer of Consequential Damages***

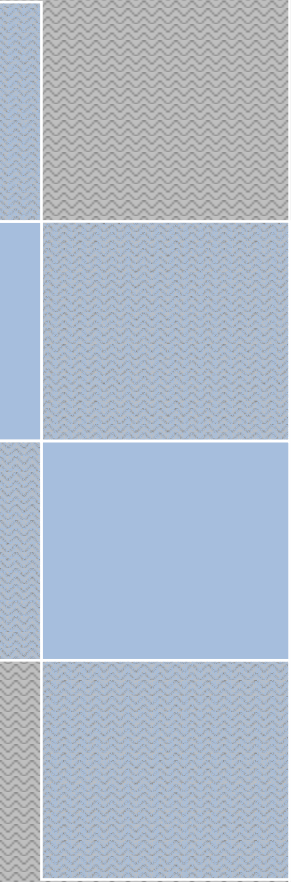
To the fullest extent permitted by applicable law, in no event shall The Boyd Company, Inc., be liable for any indirect, incidental, consequential, exemplary, special, or punitive damages arising from the use of ***BizCosts***®, whether based on warranty, contract, tort, or any other legal theory, and whether or not the Company is advised of the possibility of such damages.

### ***Copyright and Terms of Use***

The ensuing ***BizCosts***® ***Report*** is protected by copyright and other intellectual property laws, both state and federal. You may not modify, publish, sell, transfer, create, make derivative works from, display, copy or in any way commercially exploit any of the ***BizCosts***® ***Report*** or infringe upon its trademark without the express, written consent of The Boyd Company, Inc. Copyright 2010, The Boyd Company, Inc. All rights reserved.

### ***To Purchase the Full BizCosts***® ***Report***

The full ***BizCosts***® ***Report*** is available for downloading at the ***BizCosts***® website: [www.BizCosts.com](http://www.BizCosts.com).



**BizCosts®....*The Cost of Doing Business***

**BizCosts.com**  
Princeton, NJ

