

**NORTHWEST PENNSYLVANIA
AS A LOCATION FOR THE
PLASTICS INDUSTRY**



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Introduction

This report, **Northwest Pennsylvania as a Location for the Plastics Industry**, identifies business costs and conditions associated with the development of a new plastics manufacturing facility in Northwest Pennsylvania (NW PA). Plastics is long standing, dominant and traditional industry in the region.

The report compares cost in Northwest Pennsylvania versus select global locations, including:

- Newark, NJ
- Lowell, MA (Boston Area)
- Philadelphia, PA
- Cleveland, OH
- Buffalo, NY

Costs are drawn from a hypothetical plastics project (see model description on page 4), which was based on actual site selection experience. Key site location cost factors are examined in this report including:

- Salary and wages
- Fringe benefits
- Build-to-suit
- Select taxes
- Electric power, and
- Cost of living

The cost comparison spreadsheet follows on pages 5-7. Costs were derived from actual field research in Northwest Pennsylvania and telephone research on competitor communities. The latest available data was used for all cost comparisons.

In addition, other regional conditions related to the plastics industry are examined.

Carter & Burgess, Inc. is a world-renowned architecture/engineering, real estate and site selection firm based in Fort Worth, Texas and with offices nation-wide. The firm has located and designed over 100,000,000 square feet of commercial/industrial space over the last seven years.

Project Model
Plastics Molding Project

Purpose: The molding of plastic parts for the automotive, medical and consumer products markets.

Hours of Operation: 3 shift; 5 days per week

Estimated Labor: 80 total
5-managerial/engineering
5-clerical
10-technical; CAD design
15-skilled; mold makers and maintenance mechanics
30-semiskilled: injection molding machine operators
15 – unskilled: machine helpers; material handlers

Utilities: Electric Power- Demand: 600 KW;
Energy: 300,000 Kwh/month (average)

Building: 60,000 square feet, 50,000 of manufacturing space; 10,000 square feet of office space.

Land: 8 level acres in a fully improved industrial park with rail.

Investment: Land/Building: \$3-\$4 million; M&E: \$4 million; Inventory: \$3 million; Estimated sales (first year): \$8 million.

Other Critical Factors: Good access to reasonably priced skilled workforce; reliable and economic electric power supply; access to good supplier and customer network; good technical college with flexibility in training, good quality of life.

PLASTICS MOLDING PROJECT

FIRST YEAR OPERATING COSTS

Labor Costs	NW PA	Newark, NJ	Lowell, MA	Philadelphia	Cleveland	Buffalo, NY
<i>Managers</i>						
Number	2	2	2	2	2	2
Annual Salary	\$79,025	\$96,905	\$90,235	\$90,773	\$86,203	\$87,502
<i>Engineering</i>						
Number	3	3	3	3	3	3
Annual Salary	\$37,501	\$46,386	\$43,922	\$44,123	\$41,874	\$41,902
Total Managerial/Engineering Salary	\$270,553	\$332,968	\$312,236	\$313,915	\$298,028	\$300,710
<i>Sales</i>						
Number	2	2	2	2	2	2
Annual Salary	\$33,591	\$42,593	\$40,400	\$40,510	\$38,266	\$38,029
<i>Clerical</i>						
Number	3	3	3	3	3	3
Annual Salary	\$18,495	\$22,965	\$21,942	\$21,993	\$20,822	\$20,828
Total Sales/Clerical Salary	\$122,667	\$154,081	\$146,626	\$146,999	\$138,998	\$138,542
<i>Skilled CAD Design</i>						
Number	10	10	10	10	10	10
Annual Salary	\$32,984	\$41,457	\$39,231	\$39,443	\$37,286	\$37,223
Number	15	15	15	15	15	15
Annual Salary	\$28,432	\$34,857	\$33,247	\$33,605	\$31,906	\$31,877
Total Skilled Technical Salary	\$756,320	\$937,425	\$891,015	\$898,505	\$851,450	\$850,385
<i>Semi-Skilled Injection Molders</i>						
Number	30	30	30	30	30	30
Annual Salary	\$17,732	\$21,596	\$20,753	\$20,956	\$19,919	\$19,898
Total Salary	\$531,960	\$647,880	\$622,590	\$628,680	\$597,570	\$596,940
<i>Unskilled Laborers</i>						
Number	15	15	15	15	15	15
Annual Salary	\$15,994	\$18,971	\$19,450	\$18,345	\$17,437	\$17,453
Total Salary	\$239,910	\$284,565	\$291,750	\$275,175	\$261,555	\$261,795
Total Annual Salary Costs	\$1,688,358	\$2,070,337	\$1,995,903	\$1,993,482	\$1,891,447	\$1,889,564

Fringe Benefits	NW PA	Newark, NJ	Lowell, MA	Philadelphia	Cleveland	Buffalo, NY
Medical @ 15 %	\$288,212	\$353,538	\$339,633	\$339,491	\$322,140	\$322,256
Disability @ .133 %	\$2,555	\$3,135	\$3,011	\$3,010	\$2,856	\$2,857
FICA @ 7.5 %	\$144,106	\$176,769	\$169,816	\$169,746	\$161,070	\$161,128
Life @ .5 %	\$9,607	\$11,785	\$11,321	\$11,316	\$10,738	\$10,742
Unemployment Ins. Rate	3.75%	0.033	2.13%	3.75%	2.70%	4.00%
UI Cost	\$24,013	\$21,120	\$13,600	\$24,013	\$19,440	\$25,600
Workers Comp Rate-Plant (per \$100)	\$3.78	\$20.95	\$1.30	\$3.78	\$4.50	\$4.06
Worker Comp Rate-Office (per \$100)	\$0.47	\$2.24	\$0.17	\$0.47	\$0.50	\$0.35
Workers Compensation Cost	\$50,545	\$343,031	\$20,457	\$59,894	\$67,391	\$60,299
Fringe Benefit Load Factor	30.74%	43.92%	27.95%	30.47%	45.42%	30.13%
Total Annual Fringe Benefits	\$519,038	\$909,377	\$557,838	\$607,470	\$859,040	\$569,282
Costs						

PLASTICS PROJECT (CONT)

Build to Suit Costs	NW PA	Newark, NJ	Lowell, MA	Philadelphia	Cleveland	Buffalo, NY
Square Feet Office	10,000	10,000	10,000	10,000	10,000	10,000
Square Feet Manufacturing	55,000	55,000	55,000	55,000	55,000	55,000
Total Square Feet Required	65,000	65,000	65,000	65,000	65,000	65,000
Cost per Square Foot of Office	\$80.00	\$90.00	\$120.00	\$95.00	\$85.00	\$75.00
Cost per Square Foot of Mfg.	\$45.00	\$40.00	\$65.00	\$45.00	\$35.00	\$40.00
Total Building Cost	\$3,275,000	\$3,100,000	\$4,775,000	\$3,425,000	\$2,775,000	\$2,950,000
Land Costs	NW PA	Newark, NJ	Lowell, MA	Philadelphia	Cleveland	Buffalo, NY
Cost per Acre	\$15,000	\$871,200	\$95,000	\$75,000	\$84,942	\$65,000
Acres Required	8	8	8	8	8	8
Total Land Cost	\$120,000	\$6,969,600	\$760,000	\$600,000	\$679,536	\$520,000
Total Building & Land Cost	\$3,395,000	\$10,069,600	\$5,535,000	\$4,025,000	\$3,454,536	\$3,470,000
Annual Payment (@ 6%, 15 yrs)	\$349,559	\$1,036,794	\$569,899	\$414,425	\$355,689	\$357,281
Property Tax Costs	NW PA	Newark, NJ	Lowell, MA	Philadelphia	Cleveland	Buffalo, NY
Value of Real Estate	\$3,395,000	\$10,069,600	\$5,535,000	\$4,025,000	\$3,454,536	\$3,470,000
Assessment Ratio	100%	100%	100%	100%	35%	100%
Property Tax Rate	41.84	2.19	29.17	3.552	91.90	50.00
Real Estate Taxes	\$142,047	\$220,524	\$161,456	\$142,968	\$111,115	\$135,330
Machinery & Equipment Value	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000
Personal Property Tax Rate	0.00	0.00	29.17	0.00	91.90	0.00
Personal Property Tax	\$0	\$0	\$38,504	\$0	\$80,413	\$0
Value of Inventory	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000
Inventory Tax Rate	0.00	0.00	0.00	0.00	91.90	0.00
Inventory Tax	\$0	\$0	\$0	\$0	\$55,140	\$0
Total Annual Property Taxes	\$142,047	\$220,524	\$199,960	\$142,968	\$246,668	\$135,330
Corporate Income Taxes	NW PA	Newark, NJ	Lowell, MA	Philadelphia	Cleveland	Buffalo, NY
Adjusted State Taxable Income	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
State Tax Rate	9.90%	9.00%	9.50%	9.90%	8.00%	7.50%
Federal Tax Rate	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
Total Corporate Income Taxes	\$2,245,000	\$2,200,000	\$2,225,000	\$2,245,000	\$2,150,000	\$2,125,000
Electric Power Costs	NW PA	Newark, NJ	Lowell, MA	Philadelphia	Cleveland	Buffalo, NY
KW Demand	600	600	600	600	600	600
Kwh/Month Usage	300000	300000	300000	300000	300000	300000
Cost/Kwh	\$0.0510	\$0.073	\$0.0931	\$0.0742	\$0.0842	\$0.1136
Total Annual Electric Power Cost	\$183,600	\$264,240	\$335,160	\$267,120	\$303,120	\$408,960
Potential Incentives	NW PA	Newark, NJ	Lowell, MA	Philadelphia	Cleveland	Buffalo, NY
Tax Credits/Tax Abatements	Part of KOZ				\$200,000	\$135,000
New Worker Tax Rebate (MA)			\$50,000			
KOZ (PA); TIF (MA); EZ (NJ)	\$650,000	\$230,000	\$350,000		\$187,000	
Training	\$360,000	\$325,000	\$100,000	\$360,000	\$150,000	\$192,000
Total Incentives	\$1,010,000	\$555,000	\$500,000	\$360,000	\$537,000	\$327,000

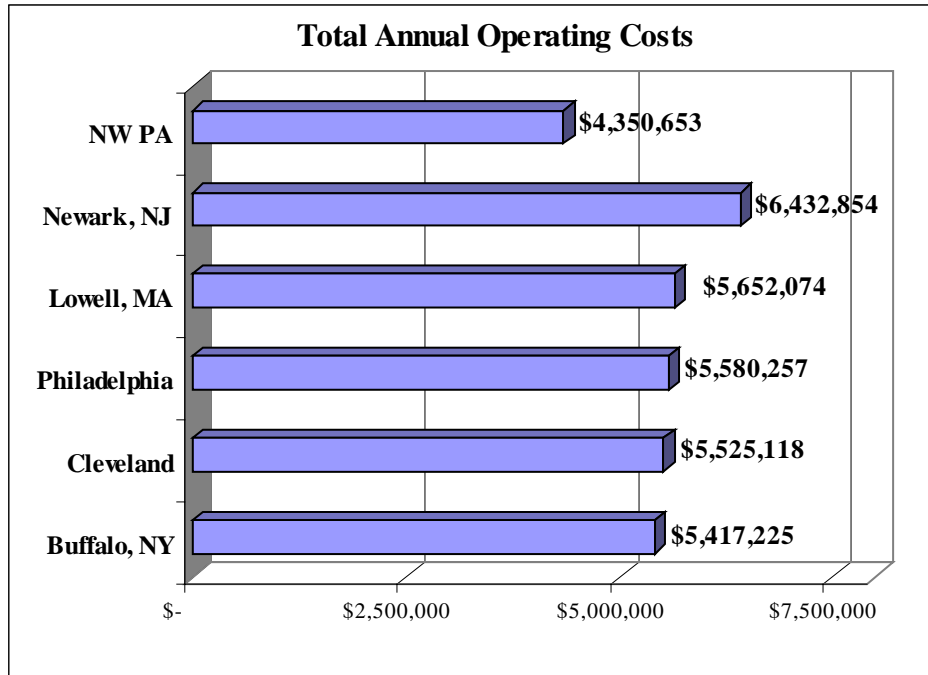
NW PA As A Location for the Plastics Industry

PLASTICS PROJECT (CONT)

TOTALS	NW PA	Newark, NJ	Lowell, MA	Philadelphia	Cleveland	Buffalo, NY
Annual Operating Costs	\$4,350,653	\$6,432,854	\$5,652,074	\$5,580,257	\$5,525,118	\$5,417,225
<i>\$ greater than NW PA</i>		\$2,082,201	\$1,301,421	\$1,229,604	\$1,174,465	\$1,066,572
<i>% greater than NW PA</i>		47.9%	29.9%	28.3%	27.0%	24.5%

Total Project Operating Costs

Northwest Pennsylvania is the low cost locale for this plastics device project. More than \$2 million per year could be saved by locating this project in Northwest Pennsylvania versus the highest cost area, Newark, NJ.

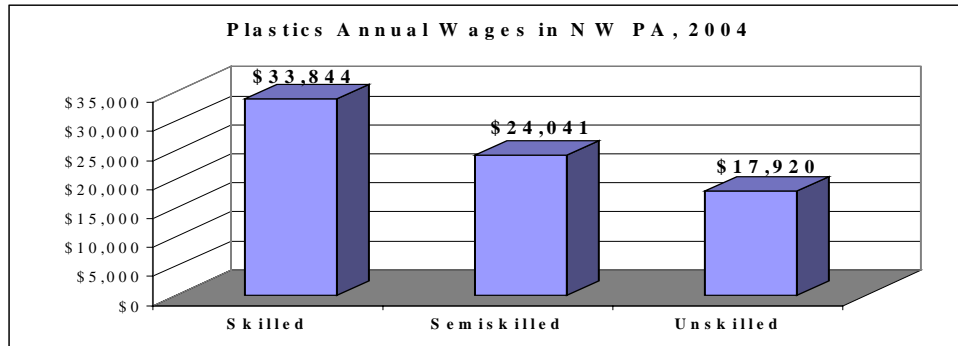


Labor

Wages/Salaries and Fringe Benefits

Wage/salary and fringe benefit costs represent up to 60% of the total operating costs for this project (before incentives), depending on the location. This is the largest single cost factor.

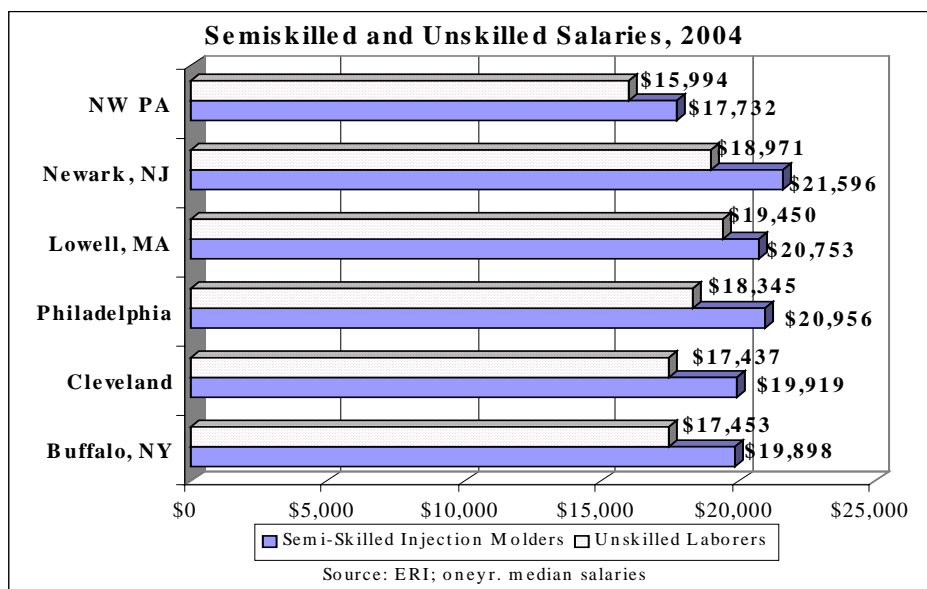
The following depicts general average wages based on employer interviews.



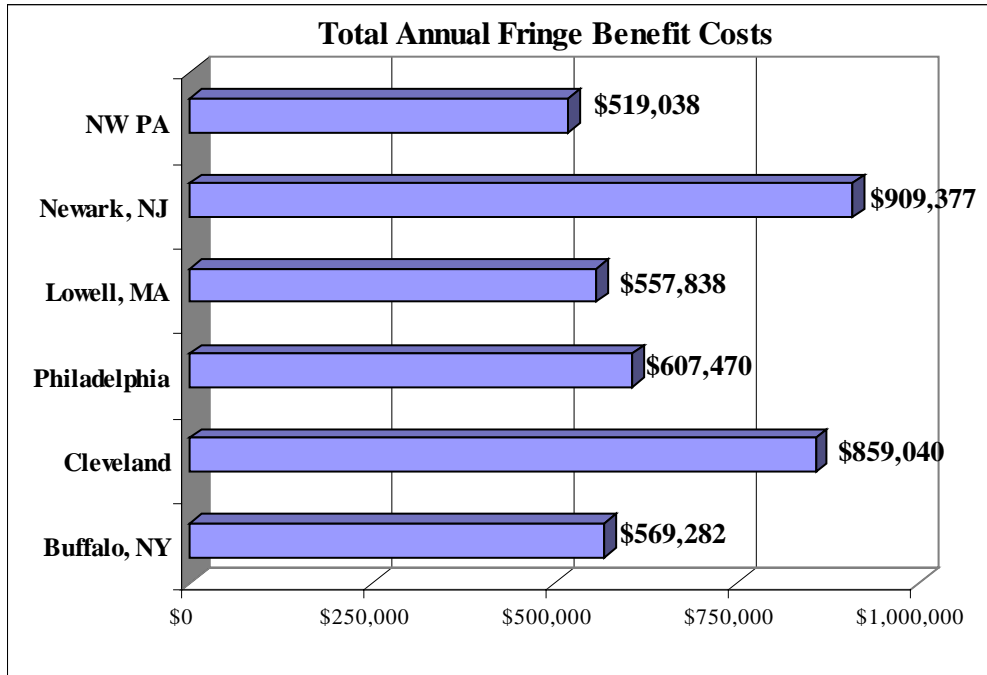
Wages and salaries are used in the model are for median salary range positions with one year experience. All wages come from our national data resource (Economic Research Institute (ERI) and actual on-site fieldwork.

Northwest Pennsylvania has the lowest overall labor costs of the five competing areas. Over \$1.2 million would be saved in wage labor costs annually alone by locating this project in Northwest Pennsylvania instead of the highest cost locale.

NW Pennsylvania has the lowest production wages.



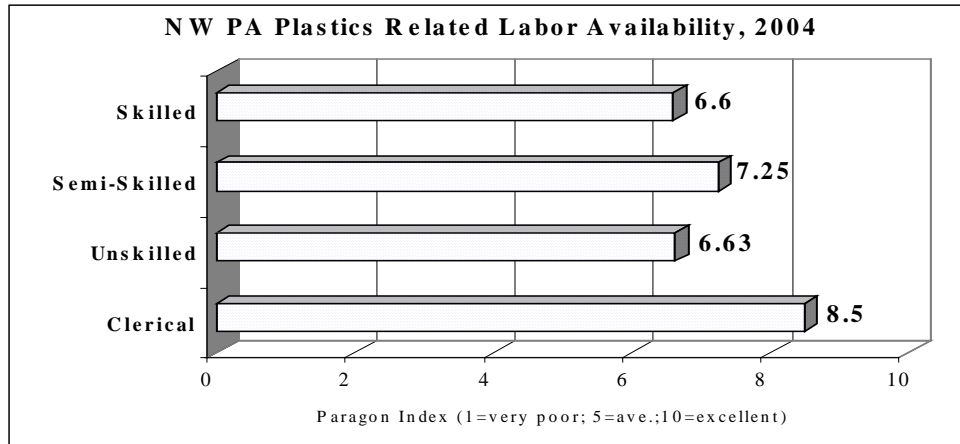
NW Pennsylvania has the lowest fringe benefit load.



Labor Availability & Quality in NW Pennsylvania

Good labor availability and quality are critically important to the success of a project. We have compared both availability and quality in the region using our unique *Paragon Index*. The index factors on a 1 (very poor) to 10 (excellent) point scale (5 is average). The index takes our results of our fieldwork interviews and measures the combined opinions of company decision-makers. The resulting index is a very realistic way of comparing communities on an “apples to apples” basis.

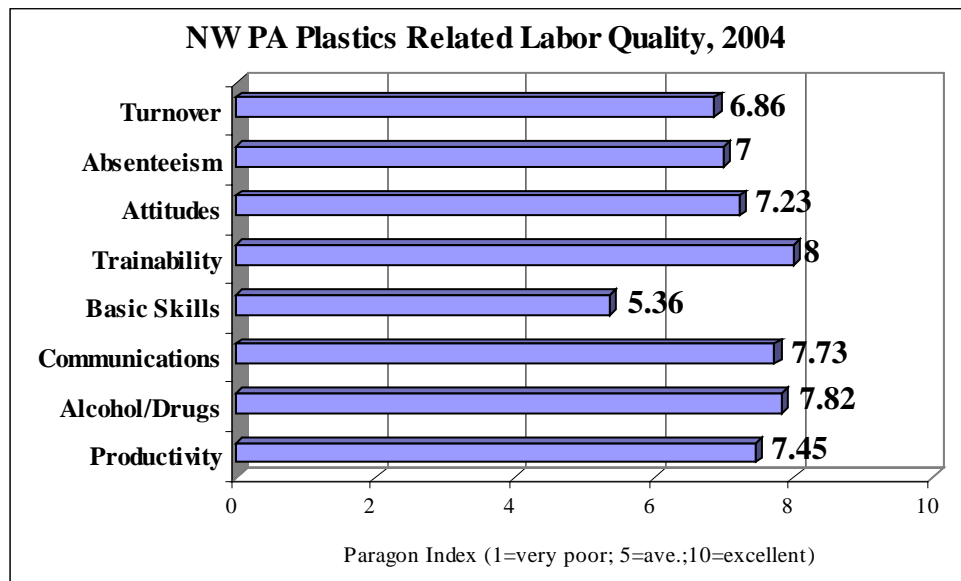
Skilled and unskilled availability is well above average. Semi-skilled availability is good. Clerical availability is excellent.



Here is what regional plastics employers had to say about availability:

- *People are out there.*
- *... better than 3 years ago.*
- *There is a good critical mass in plastics here*
- *“Staggering” (good) skills here; this is the reason that we are here*
- *We put 100 on floor in 6 months, no problem.*
- *Take your time and hire well, there is a great skill base here.*
- *There is a unique plastics network here.*
- *High concentration of injection molders here.*
- *Talent is here and they want to work.*

All labor quality factors are good to very good, except basic skills, which is still above average.



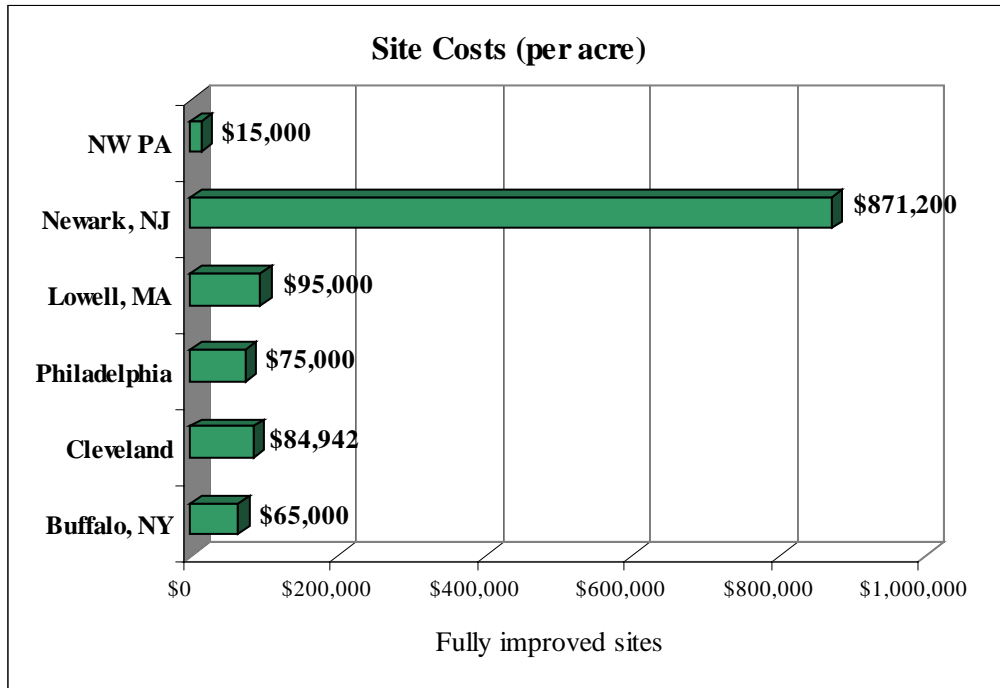
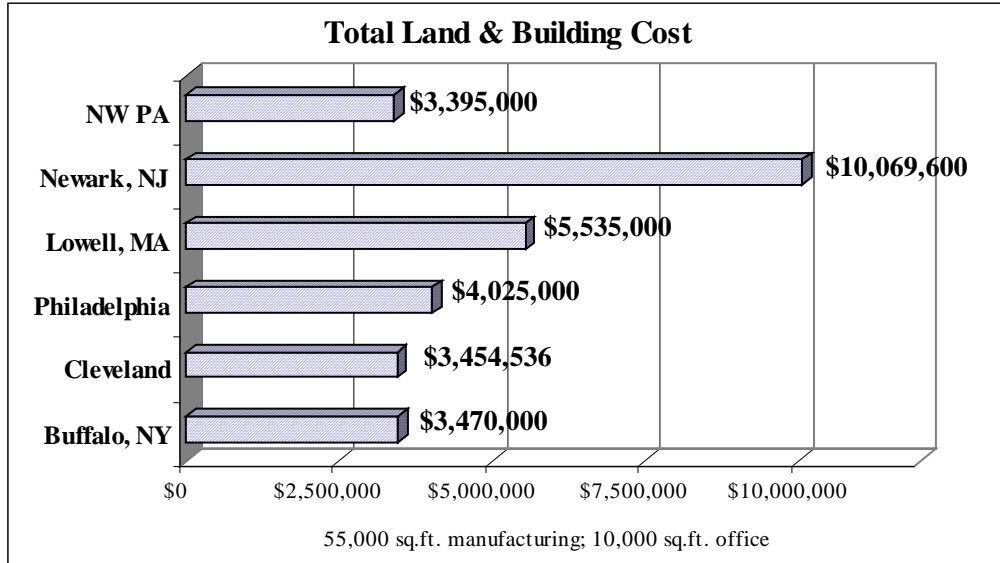
Here is what regional plastics employers had to say about quality:

- *Our productivity is at an all time high.*
- *Good long- term employees...*
- *Turnover is low.*
- *Our productivity here is 50% better than 2 years ago.*
- *Workers are intelligent and dependable; best work force that we've had in years.*
- *Productivity is up to 85-90% from 65% 2 years ago.*
- *Good work ethic here.*

Build-to-Suit Costs

Annual building and site costs represent approximately 10% of total annual operating costs in the model (this cost is amortized).

Northwest Pennsylvania building related costs are low primarily due to the low cost of prime industrial sites and lower construction costs.



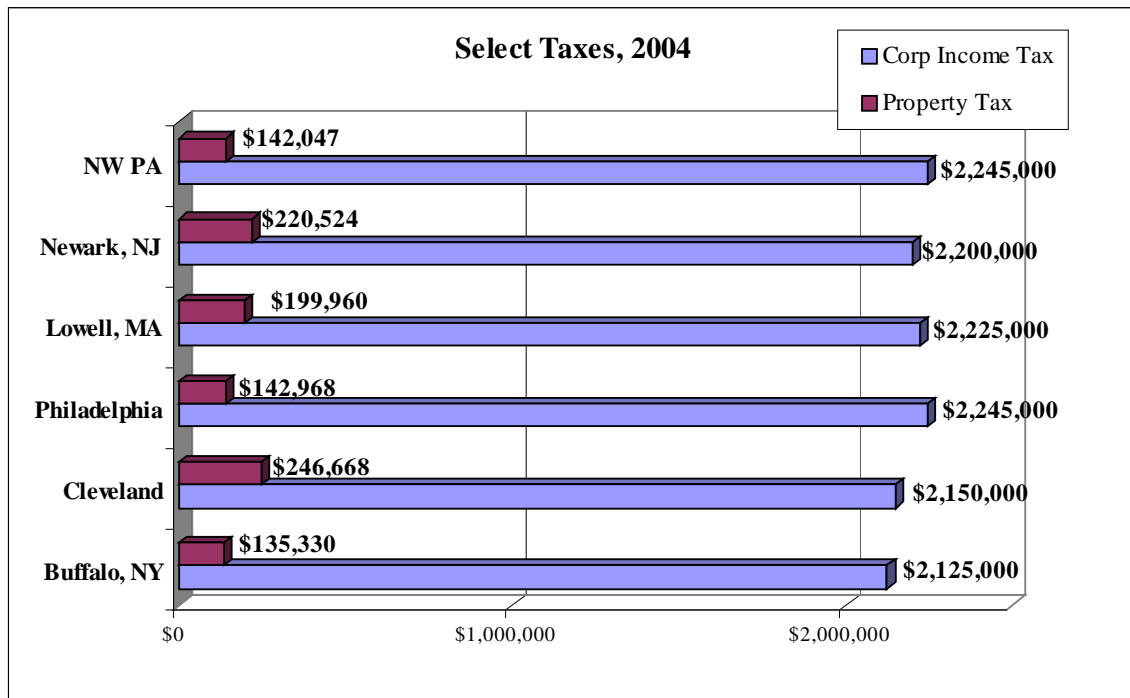
Taxes

Property Taxes

Property taxes consist of real estate and personal property taxes, which may include taxes on machinery and equipment. Northwest Pennsylvania property taxes are modest compared to the other cities and will be zeroed out since this project will be located in a Keystone Opportunity Zone (KOZ).

Corporate Income Taxes

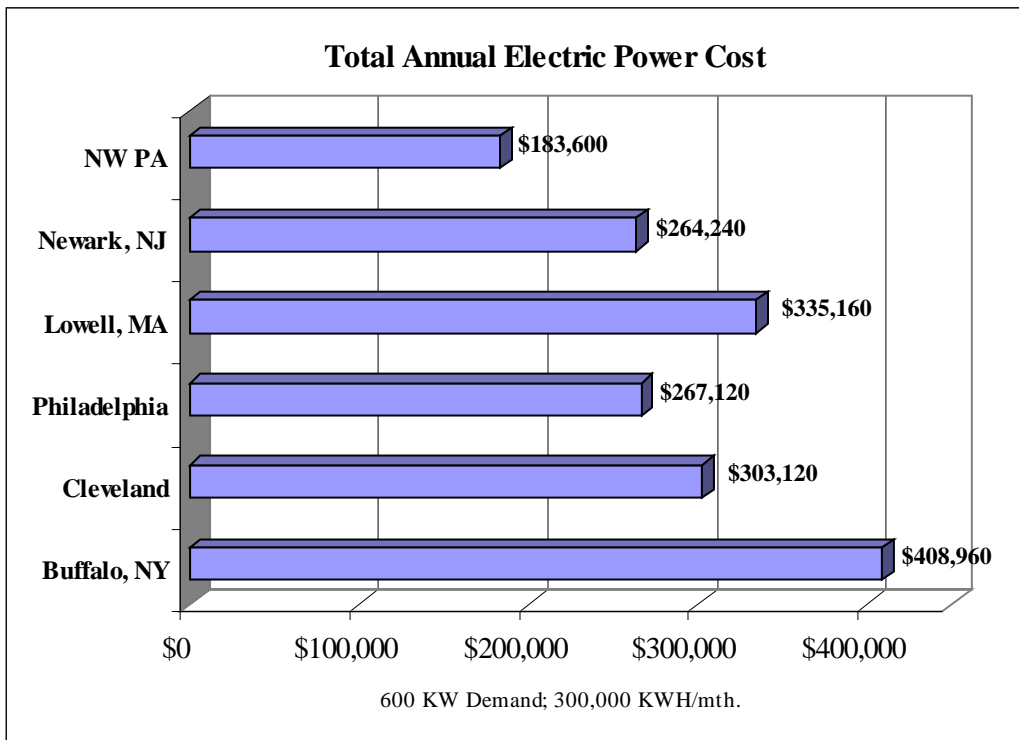
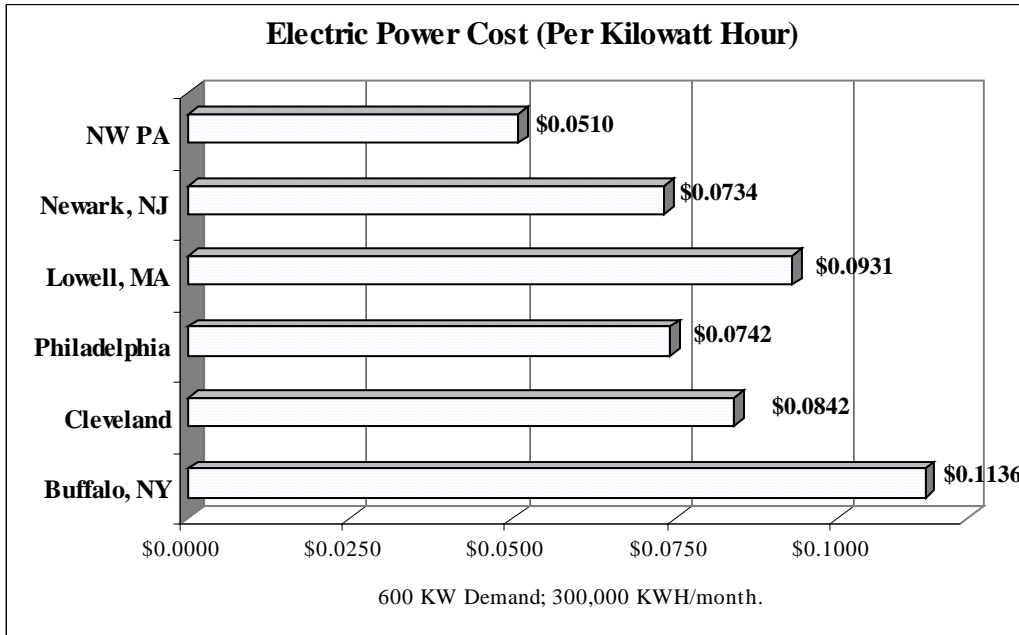
Pennsylvania's state income tax rate is 9.90%, the highest of the domestic cities. However, the NW PA rate will be zeroed out since this project will be located in a Keystone Opportunity Zone (KOZ).



Utilities

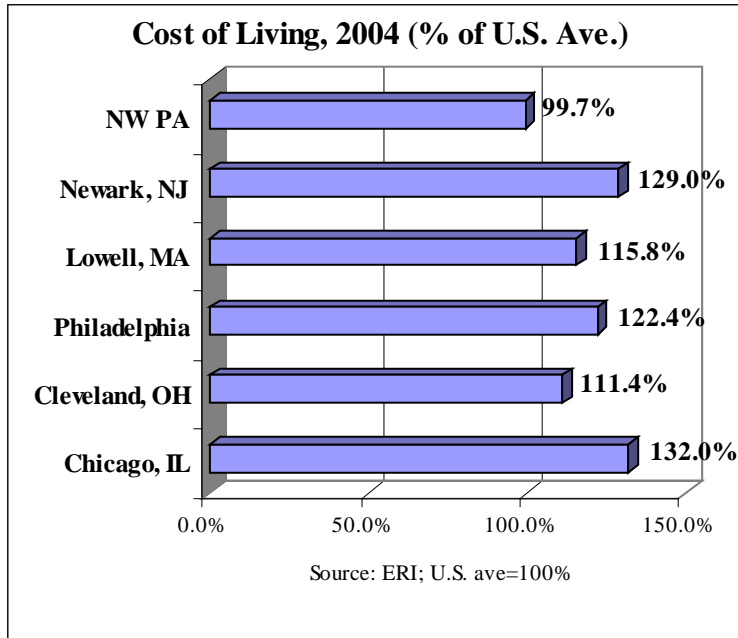
Electric Power

Power costs are a relatively minor cost in this model, anywhere from 2-5% of total operating costs. NW PA has the lowest electric power rates due to attractive incentive rates.

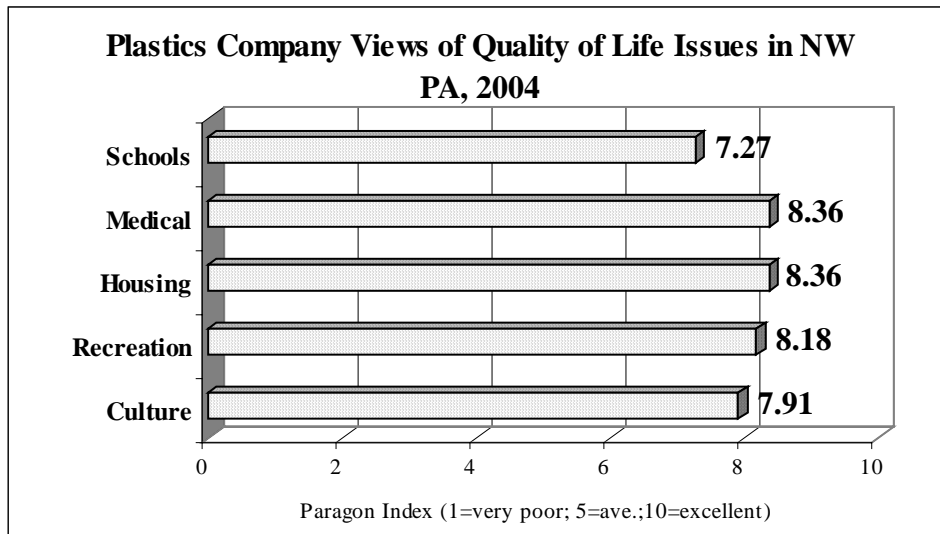


Cost of Living, Quality of Life & Service Issues

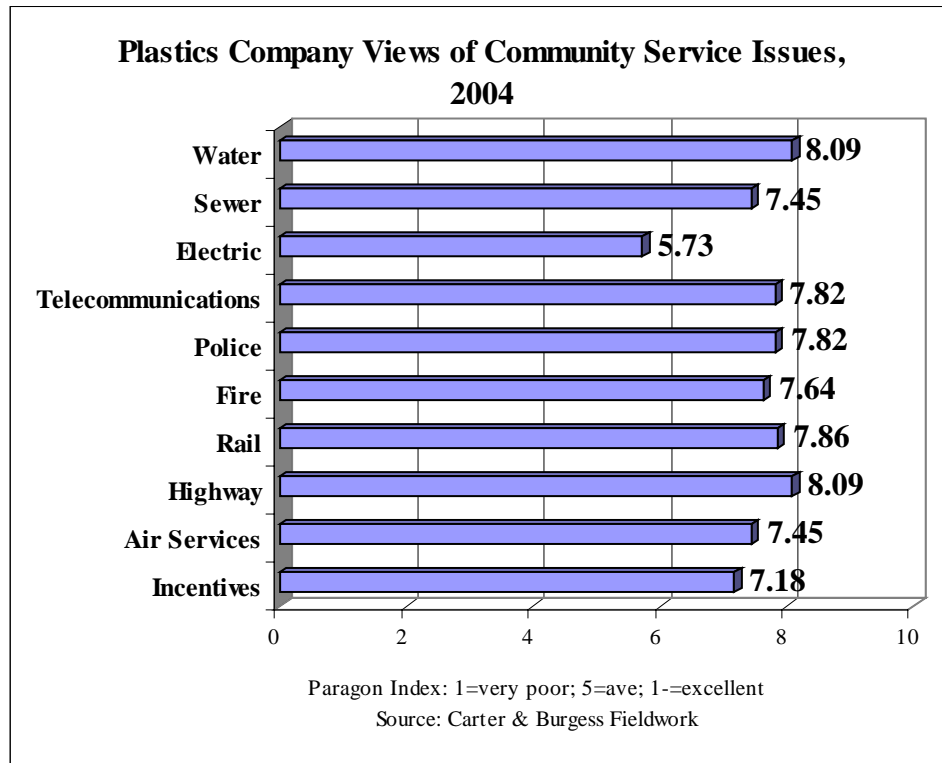
The cost of living will influence relocation of key personal to the project city. It should be relatively easy to sell employees on NW PA's lower costs, the only comparison area under the U.S. average.



Local companies feel that quality of life factors are good to very good in NW Pennsylvania.



Local companies feel that most community services rate good to very good.



The Plastics Industry in Northwest Pennsylvania

Positive Trends

According to the Deloitte manufacturing study conducted for the Commonwealth of Pennsylvania, plastics manufacturing is a strong growth industry for the NW region.

Total regional industry output in 2003 was \$465 million. During the 2000-2003-period, this output grew 5.7% per year on a CAGR basis. The industry's location quotient (LQ) value for the region was 6.87, which saw a change of 2.56 over the 1993-2003-period, indicating the region has increased its specialization and competitiveness in this sector. 91 plastics related companies are located in the region currently, according to the Deloitte analysis.¹

Quite importantly, the sector has increased productivity in the region, going from an average annual output per employee of \$36,828 in 1993 to \$67,559 in 2003. This represents annual growth of 5.7% during the period.

Leading NW Pennsylvania Plastics Resources

There are valuable resources supporting future plastics sector development in NW Pennsylvania:

1. Historic foundations of innovative plastics manufacturing in the Erie area.
2. Favorable access to both raw material and equipment suppliers to the industry in Pennsylvania, Ohio, Michigan, and other states.
3. **Knowledge Park at Penn State, Erie** is a major asset for developing plastics businesses: <http://www.pserie.psu.edu/kpark/>
4. **Plastics Computer-Aided Engineering Center**: (Penn State, Erie) The center serves as a plastics industry resource for the development and deployment of computer-aided engineering and design technologies. The center's mission is to justify the implementation of flow analysis software technologies in companies that develop, design, or manufacture plastic products and tooling.
5. **Plastics Technology Center**: (Penn State, Erie) The center's mission is to assist plastic-related companies in becoming more competitive. The center is an operating unit of the Northwest Pennsylvania Industrial Resource Center. Selected services include product and part design, process improvement, rapid prototyping and tooling, materials testing and analysis, and metal to plastic conversion.

¹ Deloitte Consulting, *Manufacturing Pennsylvania's Future*, 2004.

6. Many other technology resources are available throughout Penn State's extensive statewide network, including the Plastics Manufacturing Center, located on the Williamsport campus. (<http://www.pct.edu/pmc/>)

Incentives

The Northwest Commission can facilitate excellent incentive packages to qualified plastics businesses. Major programs include:

- **Keystone Opportunity Zones (KOZ):** Keystone Opportunity Zones represent the boldest, most forward-thinking economic development program in the nation. Through credits, waivers, and comprehensive deductions, total taxes on economic activity in Keystone Opportunity Zones are reduced to almost zero. And these tax abatements remain in effect through 2013. The Northwest Pennsylvania region has numerous designated zones.
- **Customized Training Programs:** The third largest program in the nation, the Customized Job Training program is responsive to employer needs by providing grant funds for specialized job training to existing or newly-hired employers
- **Guaranteed Free Training Program:** Through the Workforce and Economic Development Network of Pennsylvania (WEDnetPA), qualified companies may receive free job training for basic entry-level skills and advanced information technology skills for their employees. Pennsylvania is the first state to offer advanced technology and business training online.
- **R&D Tax Credits** – Corporate income tax reductions for firms investing in research and development.

Northwest Pennsylvania's Strengths for Plastics Firms

- **The low cost area versus all comparison cities.**
- Excellent proximity to regional plastics centers.
- Growing presence of plastics operations.
- Outstanding educational and training resources.
- Good site and build-to-suit opportunities
- Great financial and training incentives to help firms with startup and expansion.
- Outstanding professional resources that are ready, willing and able to assist firms.
- Reasonable cost of living.

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