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## The Regional economic impact of Cleveland's Maritime Operation: An Update

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Cleveland State University

Prepared for:  
**THE CLEVELAND-CUYAHOGA COUNTY  
PORT AUTHORITY**

Prepared by:  
Dr. Ziona Austrian  
Charlie Post  
Adina Wolf

November 3, 1999

**THE REGIONAL  
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CLEVELAND'S  
MARITIME  
OPERATION:  
AN UPDATE**

**Center for  
Economic  
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AN UPDATE**

Prepared for:  
**THE CLEVELAND-CUYAHOGA COUNTY PORT AUTHORITY**

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The Maxine Goodman Levin College of Urban Affairs  
Cleveland State University

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## EXECUTIVE SUMMARY

### INTRODUCTION

This report describes the economic impact of the Port of Cleveland on the Northeast Ohio economy during the year 1998. The Port includes the facilities of the Cleveland-Cuyahoga County Port Authority and nearby private waterborne cargo handling facilities. This report updates an earlier study released in March 1997. The earlier report, *Measuring the Regional Economic Impact of the Port of Cleveland's Maritime Operation*, provides a detailed description of the Port's history and the methodology used to estimate its economic impact. This report only includes a discussion on the Port's economic impacts, which are measured in terms of employment, spending, personal income, and tax revenues.

### MAJOR FINDINGS

#### ECONOMIC IMPACT OF THE PORT

- In 1998, the Cleveland port industry generated a total of 4,813 jobs in Northeast Ohio, 6.5 percent more than in 1995 and almost one percent more than in 1996. 2,615 of these jobs are attributed to direct impacts and 2,198 are created by indirect and induced impacts.

The transportation and public utility industries accounted for 76 percent of these direct employment impacts, with shipping company headquarters and trucking and warehousing constituting the largest sources.

Service and retail jobs accounted for 57 percent of the indirect and induced impact.

- The Cleveland port industry generated \$440.9 million of goods and services as a result of maritime operations of the Port of Cleveland in 1998. Of this spending, \$272.9 million was due to the direct impact and \$168.0 million reflected the indirect and induced impacts.

The transportation and public utilities sector was the largest sector impacted by both direct and indirect spending, accounting for 85 percent and 59 percent respectively.



- The Cleveland port industry generated \$156.0 million of personal income in Northeast Ohio in 1998, with \$98.1 million due to the direct impact and \$57.9 million as a result of the indirect and induced impacts.

Again, the direct impacts were concentrated in the transportation and public utilities industries (82 percent). While indirect and induced impacts were more evenly distributed, transportation and public utilities industries still accounted for 56 percent, followed by services with 18 percent.

#### **TAX IMPACT**

- Maritime operations at the Port resulted in additional tax revenues of \$65.9 million. These include \$9.7 million in local taxes, \$11.3 million in state taxes, and \$44.9 million in federal taxes.

#### **CONCLUSIONS**

The estimates of economic impact indicate that the maritime operations of the Cleveland-Cuyahoga Port Authority and the various private shipping docks located nearby make a significant ongoing contribution to the regional economy.

## STATEMENT OF PURPOSE

This report describes the economic impact of the Port of Cleveland on the Northeast Ohio economy. More specifically, the report discusses the economic impact of the Port's maritime operation during the year 1998. The Port includes the facilities of the Cleveland-Cuyahoga County Port Authority and nearby private waterborne cargo handling facilities.

This report updates an earlier study released in March 1997 that measured the Port's economic impact in 1996. The earlier report, *Measuring the Regional Economic Impact of the Port of Cleveland's Maritime Operation*, provides a detailed description of the Port's history and the methodology used to estimate its economic impact. This report only includes a discussion on the Port's economic impacts, which are measured in terms of employment, spending, personal income, and tax revenues.

This study, as well as the earlier one, was conducted for the Cleveland-Cuyahoga County Port Authority by the Urban Center in the Levin College of Urban Affairs, Cleveland State University. The Urban Center's researchers have conducted economic impact studies for several institutions in Northeast Ohio as well as for a statewide technology and economic development organization and tax incentive programs.

## ECONOMIC IMPACTS

Total economic impact is divided into direct impact and indirect and induced impact.<sup>1</sup> Total impacts are measured in terms of employment, spending, jobs, and taxes. The main input used in the model to estimate the economic impacts is number of tons shipped through the port by commodity (Table 1).

Table 1: Number of Shipped Tons by Industry

| Commodity                              | 1995 Tonnage | 1998 Tonnage |
|--|--------------|--------------|
| Steel                                  | 739,259      | 1,172,792    |
| General                                | 6,294        | 10,000       |
| Containers                             | 1,563        | 176          |
| Bulk: International                    | 32,198       | 0            |
| Bulk: Interlake                        | 14,050,985   | 15,750,024   |
| Number of Shipping Companies Employees | 714          | 726          |

## EMPLOYMENT IMPACT

The Cleveland port industry generated a total of 4,813 jobs in Northeast Ohio in 1998, 6.5 percent more than the port industry's job impact in 1995 and almost one percent higher than in 1996. Of the total job impact, 2,615 jobs reflected direct impact, while the other 2,198 jobs were created by the indirect and induced impacts.

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<sup>1</sup> Direct impacts are defined as the first-round impacts of the waterborne cargo-handling industry, including spending and jobs created by companies directly related to that industry. Indirect impacts include the spending and jobs created by companies that supply the direct activities, creating second-round activities, and the spending and jobs created by companies that supply the second-round activities, and so on. Induced impacts include the spending and jobs created by additional households' earnings resulting from the activities created by the direct and indirect impact.

Table 2 shows the employment direct and indirect impacts for all major industries and selected detailed industries. The direct employment impacts were primarily concentrated in the transportation and public utilities industries, which accounted for over three-fourths (76 percent) of all direct employment impacts. Shipping company headquarters employment constituted the largest source of direct employment (799 jobs), followed closely by trucking and warehousing (713 jobs). The only other industry that benefited significantly from the port in terms of jobs is business services (396 jobs), which accounted for 15 percent of the direct job impact.

The indirect and induced effects, as expected, are more evenly distributed among the industries. Service and retail jobs accounted for more than half (57 percent) of the indirect and induced jobs created due to maritime activities in the port industry.

Of the total employment impact of 4,813 jobs, the transportation and public utilities industry accounted for 45 percent, followed by services, which accounted for one-fourth of the total employment impact. The other two large sectors that benefited from port activities, although mostly through indirect and induced effects, are retail trade and finance, insurance, and real estate.

**Table 2: Employment Impact of the Port of Cleveland on Northeast Ohio, 1998**

| (Number of Jobs)                                    | Indirect & |         |        |
|---|------------|---------|--------|
|   | Direct     | Induced | Impact |
| <b><u>Transportation &amp; Public Utilities</u></b> | 1,995      | 155     | 2,150  |
| Railroad transportation                             | 256        | 5       | 261    |
| Trucking & warehousing                              | 713        | 47      | 760    |
| Water transportation                                | 166        | 21      | 187    |
| Shipping company headquarters                       | 799        | 0       | 799    |
| Transportation services                             | 57         | 28      | 86     |
| <b><u>Agriculture &amp; Mining</u></b>              | 0          | 10      | 10     |
| <b><u>Construction</u></b>                          | 0          | 155     | 155    |
| Special trade contractors                           | 0          | 109     | 109    |
| <b><u>Manufacturing</u></b>                         | 26         | 151     | 177    |
| Printing & publishing                               | 0          | 44      | 44     |
| Transportation equipment                            | 17         | 12      | 29     |
| <b><u>Wholesale</u></b>                             | 7          | 76      | 83     |
| Wholesale: durable goods                            | 0          | 25      | 25     |
| Wholesale: nondurable goods                         | 7          | 50      | 58     |
| <b><u>Retail Trade</u></b>                          | 28         | 535     | 563    |
| General merchandise stores                          | 2          | 66      | 67     |
| Food stores   | 7          | 58      | 65     |
| Auto dealers & service stations                     | 1          | 42      | 43     |
| Eating & drinking places                            | 15         | 252     | 266    |
| Miscellaneous retail                                | 3          | 84      | 88     |
| <b><u>Finance, Insurance &amp; Real Estate</u></b>  | 12         | 353     | 365    |
| Banking   | 6          | 70      | 76     |
| Insurance carriers                                  | 5          | 30      | 34     |
| Insurance agents & carriers                         | 1          | 87      | 88     |
| Real estate   | 0          | 137     | 137    |
| <b><u>Services</u></b>                              | 483        | 717     | 1,199  |
| Hotels & other lodging                              | 7          | 42      | 49     |
| Personal services                                   | 16         | 49      | 65     |
| Business services                                   | 396        | 213     | 609    |
| Auto repair, services, & parking                    | 45         | 58      | 103    |
| Amusement & recreation                              | 0          | 50      | 50     |
| Health services                                     | 4          | 42      | 46     |
| Legal services                                      | 5          | 38      | 43     |
| Social services                                     | 0          | 41      | 41     |
| Membership organizations                            | 0          | 61      | 62     |
| Engineering   | 0          | 58      | 58     |
| <b><u>Government</u></b>                            | 65         | 46      | 111    |
| <b>TOTAL*</b>                                       | 2,615      | 2,198   | 4,813  |

## **SPENDING IMPACT**

The Cleveland port industry generated \$440.9 million of spending in Northeast Ohio in 1998. Of that amount, direct impact contributed \$272.9 million while indirect and induced impacts contributed \$168.0 million. Thus, in Northeast Ohio, about \$440 million of goods and services were produced as a result of the maritime operations of the Port of Cleveland.

Table 3 shows the total, direct, and indirect and induced impacts on spending for all major industries and selected detailed industries. As with employment impacts, the direct spending impacts are heavily concentrated in the transportation and public utilities sector (85 percent), including \$81 million by shipping company headquarters. Within the transportation sector, direct spending impact was also strong in trucking and warehousing, railroad transportation, and water transportation, reflecting the complementary relationship among all modes of transportation.

Analyzing total spending impacts reveals that the transportation and public utilities sector was still the largest sector affected, but it accounted for only 59 percent of total spending impact. The other sectors that showed significant spending impacts are services (accounting for 13 percent of total) and finance, insurance, and real estate (9 percent). These two sectors mainly benefited through indirect and induced effects.

**Port of Cleveland's Economic Impact: Update**

**Table 3: Spending Impact of the Port of Cleveland on Northeast Ohio, 1998 (\$000)**

|   | Direct  | Indirect &<br>Induced | Impact  |
|---|---------|-----------------------|---------|
| <b><u>Transportation &amp; Public Utilities</u></b> | 233,180 | 24,801                | 257,981 |
| Railroad transportation                             | 48,799  | 942                   | 49,741  |
| Trucking & warehousing                              | 55,849  | 3,681                 | 59,529  |
| Water transportation                                | 42,645  | 5,350                 | 47,995  |
| Shipping company headquarters                       | 80,586  | 0                     | 80,586  |
| Transportation services                             | 5,121   | 2,252                 | 7,373   |
| Communication                                       | 45      | 6,184                 | 6,229   |
| Electric, gas & sanitary services                   | 0       | 4,980                 | 4,980   |
| <b><u>Agriculture &amp; Mining</u></b>              | 0       | 785                   | 785     |
| <b><u>Construction</u></b>                          | 0       | 6,419                 | 6,419   |
| Special trade contractors                           | 0       | 4,287                 | 4,287   |
| <b><u>Manufacturing</u></b>                         | 4,041   | 28,047                | 32,087  |
| Food & kindred products                             | 375     | 3,147                 | 3,522   |
| Printing & publishing                               | 20      | 5,176                 | 5,196   |
| Transportation equipment                            | 2,842   | 3,883                 | 6,725   |
| <b><u>Wholesale</u></b>                             | 703     | 9,036                 | 9,738   |
| Wholesale: durable goods                            | 4       | 4,219                 | 4,223   |
| Wholesale: nondurable goods                         | 699     | 4,817                 | 5,516   |
| <b><u>Retail Trade</u></b>                          | 1,085   | 22,130                | 23,215  |
| General merchandise stores                          | 95      | 3,707                 | 3,802   |
| Food stores   | 325     | 2,744                 | 3,069   |
| Auto dealers & service stations                     | 76      | 3,078                 | 3,155   |
| Eating & drinking places                            | 443     | 7,425                 | 7,868   |
| Miscellaneous retail                                | 121     | 2,969                 | 3,090   |
| <b><u>Finance, Insurance &amp; Real Estate</u></b>  | 1,451   | 37,657                | 39,109  |
| Banking   | 720     | 8,299                 | 9,020   |
| Insurance carriers                                  | 647     | 4,002                 | 4,649   |
| Insurance agents & carriers                         | 72      | 5,564                 | 5,636   |
| Real estate   | 12      | 15,740                | 15,752  |
| <b><u>Services</u></b>                              | 19,942  | 35,547                | 55,489  |
| Business services                                   | 14,890  | 7,041                 | 21,931  |
| Auto repair, services, & parking                    | 2,965   | 4,980                 | 7,945   |
| Health services                                     | 367     | 2,853                 | 3,220   |
| Legal services                                      | 419     | 3,224                 | 3,643   |
| Engineering   | 1       | 5,408                 | 5,408   |
| <b><u>Government</u></b>                            | 12,520  | 3,561                 | 16,081  |
| <b>TOTAL*</b>                                       | 272,922 | 167,982               | 440,904 |

\*Total is equal to the summation of major (underlined) industries

## **PERSONAL INCOME IMPACT**

The Cleveland port industry generated \$156 million of personal income in Northeast Ohio in 1998, with \$98 million of direct impact and \$58 of indirect and induced impact. Thus, Northeast Ohio's workers earned \$156 million in 1998 as a result of the Port of Cleveland's maritime operations.

Table 4 describes the direct, indirect and induced, and total income impacts for major industries and selected detailed industries. Again, as expected, the direct impacts are concentrated in the transportation and public utilities industries (82 percent). Analyzing the indirect and induced income impacts reveals that impacts are more evenly distributed among the major sectors, with services accounting for \$16 million of the total \$58 million (27 percent).

Because of the strong influence of direct effects, analyzing total income impacts shows that transportation and public utilities industries accounted for 56 percent, while services accounted 18 percent of total income impact. Within services, business service was the largest detailed industry impacted by port activities. Other major industries that benefited most from the port's activities were finance, insurance, and real estate; manufacturing; and retail trade.



Table 4: Income Impact of the Port of Cleveland on Northeast Ohio, 1998 (\$000)

|   | Direct | Indirect & Induced | Impact  |
|---|--------|--------------------|---------|
| <b><u>Transportation &amp; Public Utilities</u></b> | 80,356 | 6,740              | 87,095  |
| Railroad transportation                             | 10,543 | 204                | 10,747  |
| Trucking & warehousing                              | 23,345 | 1,539              | 24,884  |
| Water transportation                                | 9,731  | 1,221              | 10,952  |
| Shipping company headquarters                       | 34,192 | 0                  | 34,192  |
| Transportation services                             | 2,476  | 1,117              | 3,593   |
| Communication                                       | 10     | 1,447              | 1,457   |
| <b><u>Agriculture &amp; Mining</u></b>              | 0      | 150                | 150     |
| <b><u>Construction</u></b>                          | 0      | 4,410              | 4,410   |
| Special trade contractors                           | 0      | 3,159              | 3,159   |
| <b><u>Manufacturing</u></b>                         | 1,525  | 7,638              | 9,163   |
| Food & kindred products                             | 61     | 535                | 597     |
| Printing & publishing                               | 6      | 1,972              | 1,978   |
| Transportation equipment                            | 1,145  | 887                | 2,032   |
| <b><u>Wholesale</u></b>                             | 236    | 2,594              | 2,830   |
| Wholesale: durable goods                            | 1      | 978                | 979     |
| Wholesale: nondurable goods                         | 235    | 1,616              | 1,851   |
| <b><u>Retail Trade</u></b>                          | 417    | 8,213              | 8,630   |
| General merchandise stores                          | 35     | 1,217              | 1,252   |
| Food stores   | 118    | 962                | 1,079   |
| Auto dealers & service stations                     | 31     | 1,244              | 1,275   |
| Eating & drinking places                            | 177    | 2,938              | 3,114   |
| Miscellaneous retail                                | 51     | 1,228              | 1,279   |
| <b><u>Finance, Insurance &amp; Real Estate</u></b>  | 587    | 10,686             | 11,273  |
| Banking   | 344    | 3,815              | 4,159   |
| Security & commodity brokers                        | 0      | 1,584              | 1,584   |
| Insurance carriers                                  | 211    | 1,313              | 1,524   |
| Insurance agents & carriers                         | 32     | 2,475              | 2,507   |
| Real estate   | 1      | 1,107              | 1,108   |
| <b><u>Services</u></b>                              | 12,843 | 15,719             | 28,562  |
| Business services                                   | 10,814 | 3,876              | 14,690  |
| Auto repair, services, & parking                    | 990    | 1,233              | 2,224   |
| Health services                                     | 209    | 1,592              | 1,801   |
| Legal services                                      | 259    | 1,993              | 2,253   |
| Engineering   | 0      | 1,931              | 1,931   |
| <b><u>Government</u></b>                            | 2,205  | 1,720              | 3,925   |
| <b>TOTAL*</b>                                       | 98,169 | 57,869             | 156,038 |

\*Total is equal to the summation of major (underlined) industries

## **TAX IMPACT**

Maritime operations at the Port of Cleveland also resulted in additional revenues to local, state, and federal governments. As a whole, the Port of Cleveland's maritime operations resulted in total taxes of \$66.7 million. Table 5 displays the local, state, and federal tax impacts resulting from Port of Cleveland shipments in 1998.

**Table 5: Tax Impact of the Port of Cleveland in 1998 (\$000)**

| <b>Type of Tax</b> | <b>Impact</b> |
|--------------------|---------------|
| Local              | \$9,738.0     |
| State              | \$11,271.3    |
| Federal            | \$44,875.4    |
| Total              | \$65,844.7    |

## **SUMMARY OF IMPACTS**

This section summarizes the economic impact of the Port of Cleveland's maritime operations in 1998. Table 6 reports on total employment, spending, and income impacts for the selected detailed and major industries that were displayed in Tables 3, 4 and 5.

The total impact in 1998 was:

- 4,813 jobs
- \$440.9 million in spending
- \$156.0 million in personal income
- \$65.9 million in tax revenues, including \$9.7 million to local governments, \$11.3 million to the State of Ohio, and \$44.9 million to the federal government.

Table 6: Summary Table of Impacts of the Port of Cleveland on Northeast Ohio, 1998

|   | Employment<br>(Jobs) | Spending<br>(\$000) | Income<br>(\$000) |
|---|----------------------|---------------------|-------------------|
| <b><u>Transportation &amp; Public Utilities</u></b> | 2,150                | 257,981             | 87,095            |
| Railroad transportation                             | 261                  | 49,741              | 10,747            |
| Trucking & warehousing                              | 760                  | 59,529              | 24,884            |
| Water transportation                                | 187                  | 47,995              | 10,952            |
| Shipping company headquarters                       | 799                  | 80,586              | 34,192            |
| Transportation services                             | 86                   | 7,373               | 3,593             |
| Communication                                       | 23                   | 6,229               | 1,457             |
| Electric, gas & sanitary services                   | 13                   | 4,980               | 713               |
| <b><u>Agriculture &amp; Mining</u></b>              | 10                   | 785                 | 150               |
| <b><u>Construction</u></b>                          | 155                  | 6,419               | 4,410             |
| Special trade contractors                           | 109                  | 4,287               | 3,159             |
| <b><u>Manufacturing</u></b>                         | 177                  | 32,087              | 9,163             |
| Food & kindred products                             | 13                   | 3,522               | 597               |
| Printing & publishing                               | 44                   | 5,196               | 1,978             |
| Transportation equipment                            | 29                   | 6,725               | 2,032             |
| <b><u>Wholesale</u></b>                             | 83                   | 9,738               | 2,830             |
| Wholesale: durable goods                            | 25                   | 4,223               | 979               |
| Wholesale: nondurable goods                         | 58                   | 5,516               | 1,851             |
| <b><u>Retail Trade</u></b>                          | 563                  | 23,215              | 8,630             |
| General merchandise stores                          | 67                   | 3,802               | 1,252             |
| Food stores   | 65                   | 3,069               | 1,079             |
| Auto dealers & service stations                     | 43                   | 3,155               | 1,275             |
| Eating & drinking places                            | 266                  | 7,868               | 3,114             |
| Miscellaneous retail                                | 88                   | 3,090               | 1,279             |
| <b><u>Finance, Insurance &amp; Real Estate</u></b>  | 365                  | 39,109              | 11,273            |
| Banking   | 76                   | 9,020               | 4,159             |
| Security & commodity brokers                        | 18                   | 2,636               | 1,584             |
| Insurance carriers                                  | 34                   | 4,649               | 1,524             |
| Insurance agents & carriers                         | 88                   | 5,636               | 2,507             |
| Real estate   | 137                  | 15,752              | 1,108             |
| <b><u>Services</u></b>                              | 1,199                | 55,489              | 28,562            |
| Hotels & other lodging                              | 49                   | 1,827               | 688               |
| Personal services                                   | 65                   | 1,826               | 814               |
| Business services                                   | 609                  | 21,931              | 14,690            |
| Auto repair, services, & parking                    | 103                  | 7,945               | 2,224             |
| Amusement & recreation                              | 50                   | 1,556               | 800               |
| Health services                                     | 46                   | 3,220               | 1,801             |
| Legal services                                      | 43                   | 3,643               | 2,253             |
| Social services                                     | 41                   | 2,047               | 758               |
| Membership organizations                            | 62                   | 2,329               | 897               |
| Engineering   | 58                   | 5,408               | 1,931             |
| <b><u>Government</u></b>                            | 111                  | 16,081              | 3,925             |
| <b>TOTAL*</b>                                       | 4,813                | 440,852             | 156,038           |

\*Total is equal to the summation of major (underlined) industries

## **CONCLUSIONS**

Benefits from local port activities can be understood to accrue to their regions in three phases. In the first phase, benefits are enjoyed by businesses that are using water transportation services, who additionally gain a competitive advantage by having the port facilities in the region. The second phase refers to benefits gained by industries that purchase from or sell to businesses that are linked directly to the port. Finally, in the third phase, the general community, including local households, benefit from the jobs, income, and taxes generated by the port industry activities.

The estimates of economic impact indicate that the maritime operations of the Cleveland-Cuyahoga Port Authority and the various private-shipping docs located nearby make a significant ongoing contribution to the regional economy. Local port facilities have historically played a strategic role in fostering the growth of local manufacturing industries. As the importance of global markets increases, the port facilities will become even more critical to the growth of local manufacturers.

