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John Carroll University: Economic Impact on Northeast Ohio


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Prepared for:
JOHN CARROLL UNIVERSITY

Prepared by:
**Jill Taylor
Ziona Austrian, Ph.D.
Afia Yamoah, Ph.D.**

July 2007

**JOHN CARROLL
UNIVERSITY:**

**ECONOMIC
IMPACT ON
NORTHEAST
OHIO**

**Center for
Economic
Development**



The Ohio Urban University Program

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Executive Summary

This study assesses the contributions of John Carroll University to the economy and quality of life in Northeast Ohio. It was conducted by the Center for Economic Development at Cleveland State University's Maxine Goodman Levin College of Urban Affairs at the request of John Carroll University. In addition to educating the future workforce, institutions of higher education provide jobs, offer cultural and recreational amenities, and make continual investments in physical infrastructure. In addition, the presence of the university and its students generates additional demand for products and services, creating an economic stimulus for a region.

The impact of John Carroll University (JCU) on the Cleveland metropolitan area¹ is described in terms of traditional economic development measures and contributions made through community partnerships. It is based on fiscal year 2006 (June 1, 2005 through May 31, 2006), the most recent year for which data was available at the start of this study.

An Overview of John Carroll University

John Carroll University (JCU) is located in University Heights, Ohio, an eastern suburb of the city of Cleveland. It is a private, co-educational Jesuit Catholic university and one of 28 Jesuit universities across the country. JCU was founded in 1886 as St. Ignatius College. It was renamed in 1923 and moved to its present location about a decade later. JCU became a co-educational institution in 1968. By 2006 it had more than \$156 million in endowment.

Approximately 3,800 students were enrolled at JCU in fall 2006, of which 82 percent were undergraduates. Almost all undergraduate students attend full-time (96%) but most graduate students (74%) attend on a part-time basis. Most students are from Ohio (72%) and the surrounding Great Lakes region (24%).² The majority of students (68%) are Catholic, but the university also attracts students of different faiths. The university has a minority student population of nearly nine percent. During the 2006-07 academic year, John Carroll employed 539 individuals in full-time faculty, staff, or administrator positions. The university's total revenues and expenditures in FY06 each amounted to \$102.4 million.

¹ The Cleveland metropolitan area includes Cuyahoga, Geauga, Lake, Lorain, and Medina Counties.

² The Great Lakes region includes Illinois, Indiana, Michigan, New York, Pennsylvania, and Wisconsin.

In FY06, John Carroll's total payroll was more than \$37 million (including part-time and student employees). University Heights income tax remittances from JCU totaled more than half a million dollars in FY06; this number increased significantly in FY07, as the local tax rate increased from 1.5 percent to 2.5 percent. JCU is the single largest income tax generator for the city of University Heights, contributing approximately 10 percent of the city's total income tax revenue.

Over the last several years, John Carroll has made significant investments in its physical infrastructure. Since 1998, the university has invested nearly \$150 million to build or renovate campus facilities, including the construction of a new athletic stadium, a state-of-the-art science center, and significant real estate investments in surrounding communities.

JCU Economic Impact on the Cleveland Metropolitan Area in FY06

The economic impact of JCU on the Cleveland Metropolitan area is measured in terms of output (sales), employment, and household earnings. Economic impact analysis takes into account inter-industry relationships within an economy—that is, the buy-sell relationships among industries. These relationships, estimated by Input-Output (I-O) models, largely determine how an economy responds to changes in economic activity. I-O models estimate inter-industry relationships in a county, region, state, or country by measuring the industrial distribution of inputs purchased and outputs sold by each industry and the household sector. This study utilizes regional I-O multipliers from IMPLAN Professional.

The study measured economic impact from three sources: university expenditures, student spending, and spending by visitors to the campus.

Impact derived from university spending in FY06:

- Output Impact: \$94.3 million
- Employment Impact: 1,283 jobs
- Earnings Impact: \$47.6 million

Impact derived from student spending in FY06:

- Output Impact: \$19.8 million
- Employment Impact: 182 jobs
- Earnings Impact: \$5.9 million

Impact derived from visitor spending in FY06:

- Output Impact: \$1.7 million
- Employment Impact: 21 jobs
- Earnings Impact: \$606,500

The total economic impact on Northeast Ohio generated by JCU based on university, student, and visitor spending (2006 dollars) is:

Total JCU Economic Impact in FY06

- Total Output Impact: \$115.8 million
- Total Employment Impact: 1,486 jobs
- Total Earnings Impact: \$54.1 million

University expenditures account for the largest share, but students and visitors also have a notable impact on the regional economy. University expenditures account for 81 percent of total output impact, 88 percent of total employment impact, and 93 percent of total earnings impact.

Service to the Community

John Carroll places great importance on reaching out to the community through service, applied research, educational programming, and cultural offerings. Students, faculty, and staff are engaged in numerous activities that enhance the lives of individuals who live and work outside the boundaries of the JCU campus.

JCU is involved in a wide range of activities that benefit the larger community. A leadership team at the university selected five programs to be included in this study, which illustrate the types of benefits that John Carroll provides to Greater Cleveland. Information was gathered through personal interviews with program leaders and partners outside the university. Printed materials and online sources provided supplementary data.

The five programs include:

- Center for Community Service. As part of the academic division of the university, the Center's primary responsibility is to support service learning activities by organizing and scheduling service projects and providing transportation. The Center also functions as a community service placement and referral center. There are a number of service opportunities available to JCU students. Specific opportunities described in this report include Cultivating Community Day, Project ¿Que?, Carroll Cleveland Philosophers Program, Labre Project, and the Volunteer Income Tax Assistance Program.
- JCU and Cleveland Heights-University Heights City School District Academic Partnership. The partnership involves the placement of JCU's student teachers and faculty in classrooms at elementary and middle schools in the Cleveland Heights-University Heights district. It is a reciprocal relationship in which participants from the university and school district are both benefactors and beneficiaries. The partnership is designed to promote interaction between

district teachers and JCU's student teachers and faculty. This school partnership is one of many in which JCU is engaged.

- Literacy Specialist Project & Reading First – Ohio Center. JCU has a leadership role in two statewide programs that offer professional development to teachers in order to increase literacy among Ohio's children. The Literacy Specialist Project is a state-funded professional development program focused on improving teaching to increase literacy among students in preschool through grade 12. Reading First – Ohio Center is a federally funded program that channels money to the state, school districts, and other organizations to support the implementation of professional development programs for teachers in kindergarten through 3rd grade classrooms. The Reading First program is a collaborative that involves Cleveland State University and The University of Akron.
- Muldoon Center for Entrepreneurship. The Muldoon Center focuses on developing entrepreneurial skills among students (the academic component) and helping existing entrepreneurs grow their businesses (the business component). The academic element organizes student teams that work with faculty advisors and successful entrepreneurs to develop outreach projects around topics of market economics, success skills, entrepreneurship, financial literacy, and business ethics. The business element works with established businesses to help them grow through mentoring, programming, and relationship building.
- Applied research in environmental biology & chemistry. A few faculty members from John Carroll have been very actively involved in efforts to monitor and preserve Northeast Ohio's watersheds. Through applied research, they have been working to improve water quality and preserve native species within the Doan Brook Watershed, Euclid Creek Watershed, Tinker's Creek Watershed, and other areas.

As a Jesuit institution, John Carroll considers community service as a central part of its mission and encourages all to become involved. This is reflected in the activities described in detail in this report as well as the many activities that could not be covered here.

Introduction

At a time when many businesses are leaving older urban communities, institutions of higher education remain as strong anchors. They not only educate the future workforce, but they also provide jobs, offer cultural amenities, and make continual investments in physical infrastructure. In addition, the mere presence of a university and its students creates additional demand for products and services, creating an economic stimulus for a region.

The objective of this study is to assess the contributions of John Carroll University to the economy and quality of life in Northeast Ohio. The study was conducted by the Center for Economic Development at Cleveland State University's Maxine Goodman Levin College of Urban Affairs at the request of John Carroll University.

The impact of John Carroll University (JCU) on the Cleveland metropolitan area³ is described in terms of traditional economic development measures and contributions made through community partnerships. Two methodologies are employed. One method uses an economic impact model to estimate the effect of money spent by the university, its students, and visitors as it "ripples" through the economy, generating additional expenditure and jobs. The second uses qualitative methods to demonstrate JCU's contributions to the Greater Cleveland area through strategic partnerships and joint activities with residents, schools, businesses, and public agencies.

The study is organized into three major sections. The first provides an overview of John Carroll University. It presents a brief history of the university and information about its students, faculty, staff, and alumni and university revenue sources and expenditures. This section also highlights JCU's contributions to University Heights and surrounding communities, focusing on tax payments and real estate investments.

³ The Cleveland metropolitan area includes Cuyahoga, Geauga, Lake, Lorain, and Medina Counties.

The second section of this report presents the results of the economic impact modeling process. This study uses IMPLAN Professional to calculate the impact of JCU on regional output, employment, and household earnings. Each of these impacts is calculated separately based on university, student, and visitor expenditures in FY06 and then summarized at the end of the section.

The third major section of the study focuses on contributions that John Carroll makes to the Greater Cleveland community that cannot be quantified but are no less important. The university reaches out to the community through service, applied research, educational programming, and cultural offerings. This report highlights five programs that demonstrate the impact of these activities. Information is based on interviews with John Carroll faculty and staff as well as external partners. This section is not intended to provide a comprehensive overview of the programs and activities in which JCU is involved, but to illustrate some ways in which the university works with the larger community.

An Overview of John Carroll University

John Carroll University (JCU) is located in University Heights, Ohio, an eastern suburb of the city of Cleveland. It is a private, co-educational Jesuit Catholic university and one of 28 Jesuit universities across the country. JCU takes pride in “inspiring individuals to excel in learning, leadership, and service”⁴ and provides opportunities for students to learn inside and outside the classroom. Students serve local communities and are also involved in national and international community service programs. In 2006, more than 1,200 members of the JCU community participated in some form of service locally, nationally, or internationally.

JCU was founded in 1886 as St. Ignatius College. The university was renamed in 1923 and moved to its present location about a decade later. In 2006, JCU had more than \$156 million in endowment. JCU became a co-educational institution in 1968.

JCU offers a wide range of courses at both the undergraduate and graduate levels. Students can obtain a bachelor’s degree in Arts, Classics, Science, Business Administration, and Economics and a master’s degree in Arts, Science, Business Administration, Accountancy, and Education. Students have the option of specializing one of 61 majors in the arts and sciences, business, and pre-professional fields at the both the undergraduate and graduate levels. In addition to the above, there are 18 interdisciplinary fields as well as Army ROTC electives from which students can choose. JCU is appealing to students as it offers a wide variety of specializations to meet their educational needs.

The JCU Academic Community

Approximately 3,800 students were enrolled at JCU in fall 2006. This includes more than 3,100 undergraduates (82%) and nearly 700 graduate students (18%). The

⁴ Source: <http://www.jcu.edu>

vast majority of undergraduate students attend full-time (96%); however, most graduate students (74%) attend on a part-time basis. The undergraduate student body is 45 percent male and 55 percent female. The graduate school has less gender balance, with about two-thirds being women.

The undergraduate student body comes largely from Ohio (72%) and the surrounding Great Lakes region (24%).⁵ Most students (68%) are Catholic, but the university also attracts students of different faiths. The university has a minority student population of nearly nine percent. JCU has a very high freshmen retention rate (85% of full-time freshmen in fall 2005 returned for their sophomore year) and a high graduation rate (approximately 75% who enter as freshmen graduate within six years). Retention and graduation rates have been stable for many years.

Over the last five years, total enrollment has declined slightly each year, resulting in a total decline of 11 percent between Fall 2002 and Fall 2006. However, the qualifications of those entering JCU have improved over this period of time — the average grade point average and class rank of incoming freshmen has increased and average SAT scores also increased slightly.

Most of the full-time faculty of JCU have doctoral degrees (94%) and the majority are tenured (72%) or on a tenure track (20%). Of the 377 faculty at JCU, 57 percent are full-time and 43 percent are part-time. On average the university has a 14:1 student faculty ratio. This low ratio is important for effective interaction in class and monitoring of students' learning process.

During the 2006-07 academic year, John Carroll employed 539 individuals in full-time faculty, staff, or administrator positions. A substantial number of these employees live in University Heights and the immediately surrounding communities. Approximately 39 percent live in University Heights, Cleveland Heights, Shaker Heights, South Euclid, or Beachwood. University Heights is home to about 15 percent and Cleveland Heights is home to about 13 percent of full-time employees.

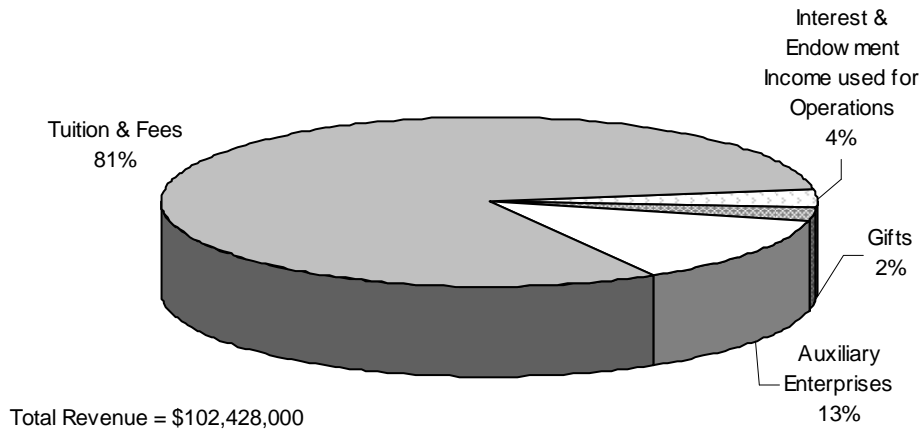
⁵ The Great Lakes region includes Illinois, Indiana, Michigan, New York, Pennsylvania, and Wisconsin.

John Carroll University has more than 37,000 living alumni — the majority of whom (58%) remain in Ohio. Many of these individuals now hold prominent positions in Northeast Ohio as corporate leaders, nonprofit executives, doctors, attorneys, judges, public officials, and teachers. The university alumni office estimates that more than 1,300 JCU graduates serve as teachers in the Greater Cleveland area.

Revenues and Expenditures⁶

As a private institution, the majority (81%) of John Carroll’s revenue is generated by tuition and fees. Auxiliary enterprises contribute 13 percent.

Figure 1. JCU Revenues by Source, FY06

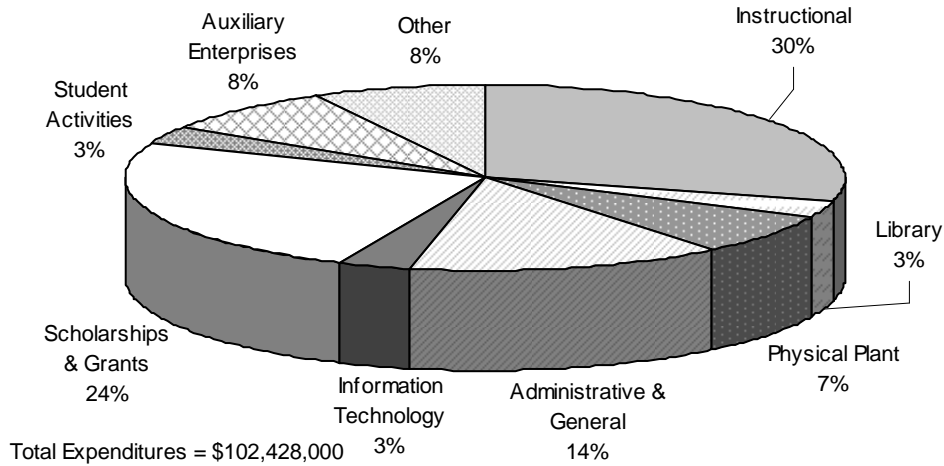


Source: JCU Office of the Vice President for Finance and Administration

Instructional costs account for the largest portion (30%) of university expenditures. Scholarships and grants (24%) also account for a substantial portion of expenditures, followed by administrative costs (14%).

⁶ Source: John Carroll University Fact Book, 2006-07; data provided by the Office of the Vice President for Finance and Administrative Services

Figure 2. JCU Expenditures, FY06

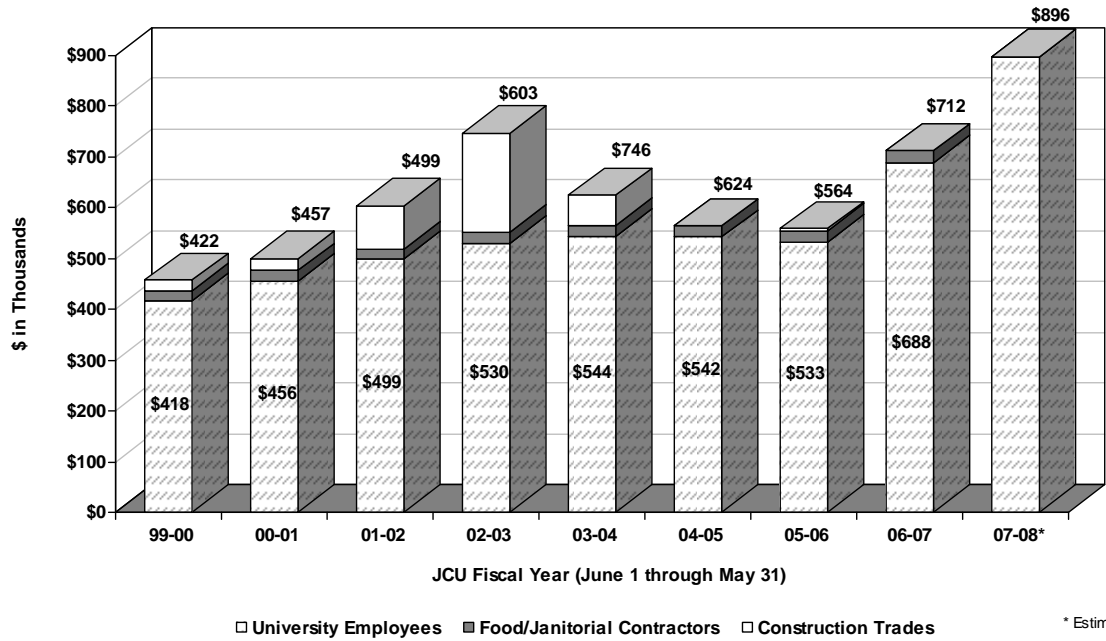


Source: JCU Office of the Vice President for Finance and Administration

JCU Contributions to University Heights and Surrounding Communities

In FY06, the university had a total payroll of more than \$37 million (including student employees). JCU employees and contractors represent a substantial source of tax revenue for the city of University Heights. In FY06, University Heights income tax remittances from JCU totaled more than half a million dollars. This number increased significantly in FY07, as the local tax rate increased from 1.5 percent to 2.5 percent in January 2007. It is estimated that municipal income tax generated by JCU employees in FY08 will reach nearly \$900,000. Figure 3 illustrates tax remittances since FY00. The high tax remittances in FY02 through FY04 are primarily due to construction activity on campus.

Figure 3. Approximate University Heights Income Tax Remittances from All JCU Campus Sources



Source: JCU Office of the Vice President for Finance and Administration

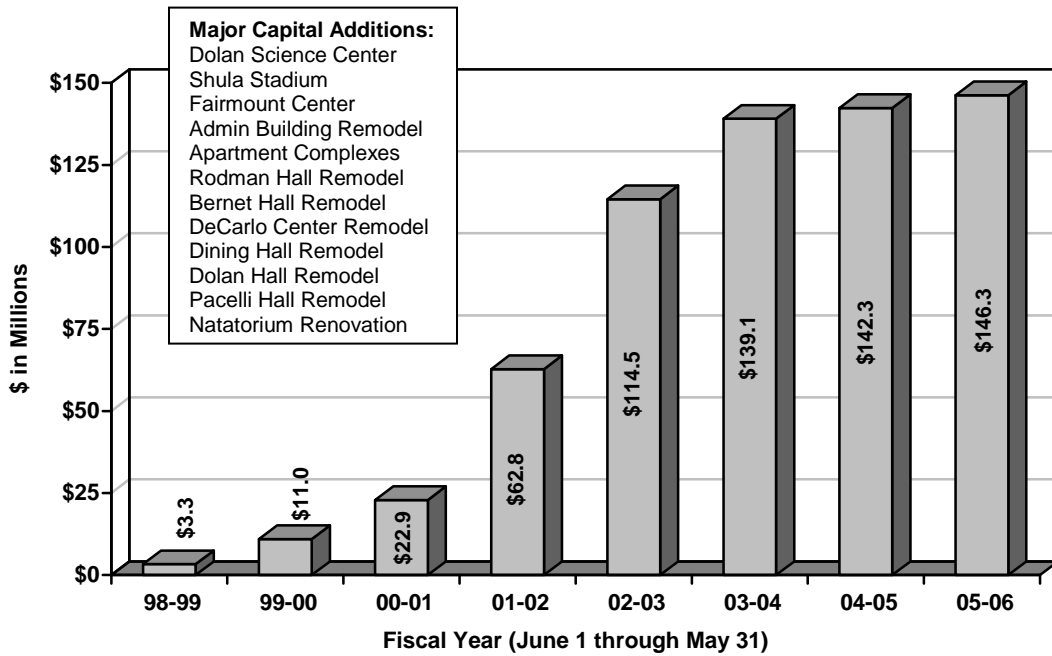
JCU is the single largest income tax generator for the city of University Heights, contributing approximately 10 percent of the city’s total income tax revenue.⁷

University Strategic Plan and Campus Master Plan

Over the last several years, John Carroll has made significant investments in the physical infrastructure of its campus. Since 1998, the university has invested nearly \$150 million to build or renovate campus facilities. This includes the construction of a new athletic stadium and a state-of-the-art science center. The 265,000-square-foot Dolan Center for Science and Technology is the largest single project the university has undertaken since the completion of the original University Heights campus in 1935. JCU has also made strategic investments in property in the neighboring communities. Over the last several years, the university purchased the Fairmount Circle Shopping Center and several apartment buildings.

⁷ Confirmed by the finance director of the City of University Heights, July 2007.

**Figure 4. Cumulative Capital Spending
June 1, 1998 to May 31, 2006**



Source: JCU Office of the Vice President for Finance and Administration

The university's investment in capital projects is connected to broader planning efforts. In 2003, John Carroll updated its strategic plan for endowment and capital projects. The planning group revisited the mission, vision, and goals of the institution and outlined a plan to guide the future direction of the university. The mission statement reads, "As a Jesuit Catholic University, John Carroll inspires individuals to excel in learning, leadership, and service in the region and in the world." The vision statement maintains, "John Carroll University will graduate individuals of intellect and character who lead and serve by engaging the world around them and around the globe."

The plan addresses short-term goals (of three to five years) and sets the context for a longer view that extends into one or more decades. It identifies six priority areas that will help the university achieve its strategic goals: 1) academic programs,

2) research programs, 3) outreach programs, 4) undergraduate admissions, 5) student culture, and 6) infrastructure. Specific initiatives are outlined with respect to each priority area.⁸

The university's strategic plan identifies the capital and endowment projects needed to reach the stated goals. It recognizes that the plans of the university have implications for the "present and future stability of the neighborhood and of the city." The plan further states, "As a landlocked institution, John Carroll University commits to a shared interest in the prosperity of the city of University Heights and pledges open dialogue with its officials and with its citizens, especially our immediate neighbors."⁹

An updated campus plan was a natural outgrowth of the strategic planning process for endowment and capital projects. In February 2007, a master planning process was initiated to evaluate the physical improvement needs of the university. A consulting firm was retained to create a campus plan that will "represent the physical medium for delivering our core programs and pursue our strategic initiatives now and in the coming decade."¹⁰ The consulting team and university worked collaboratively to establish the following set of planning goals: focus on academic quality, strengthen the living/learning environment on campus, organize a series of campus districts, use existing resources wisely, and create shared space with the community. The planning process is expected to take a year to complete. Preliminary ideas are being presented to community members and other stakeholders through public meetings and the university is welcoming comments and suggestions.

⁸ John Carroll University Strategic Plan, November 17, 2003.

⁹ Ibid.

¹⁰ <http://projects.sasaki.com/jcu/index.html>

Economic Impact of John Carroll University

This section discusses the economic impact of John Carroll University (JCU) on Northeast Ohio in FY06.¹¹ Impact is based on university, student, and visitor spending and is measured in terms of output (sales), employment, and household earnings.

Methodology

If we imagine that John Carroll University came into existence in one day, we can assume that the investment it would bring to the Northeast Ohio economy would stimulate activity by creating a demand for goods and services. A value can be placed on this stimulus—known as the change in final demand—and it must be included in any estimate of JCU's economic impact.¹² The effects of a change in final demand can then be traced throughout the Northeast Ohio economy using an input-output model that captures the buy-sell linkages among all industry sectors and the household sector.

In order for JCU to deliver educational services and engage in research, other goods and services are needed as intermediate inputs. This leads to the other components of economic impact—direct, indirect, and induced. Direct impact refers to the initial value of goods and services, including labor, purchased by JCU within Northeast Ohio. These purchases are sometimes referred to as the first-round effect. Indirect impact measures the value of labor, capital, and other inputs of production needed to produce the goods and services required by JCU (second-round effects). Induced impact measures the change in spending by local households due to increased earnings by employees in local industries who produce goods and services for JCU and its suppliers.

As stated earlier, economic impact analysis takes into account inter-industry relationships within an economy—that is, the buy-sell relationships among industries.

¹¹ For purposes of this analysis, Northeast Ohio is limited to the Cleveland metropolitan area which includes Cuyahoga, Geauga, Lake, Lorain, and Medina Counties.

¹² Change in final demand is defined as the purchase of goods and services for final consumption—in this case by John Carroll University.

These relationships largely determine how an economy responds to changes in economic activity. Input-output (I-O) models estimate inter-industry relationships in a county, region, state, or country by measuring the industrial distribution of inputs purchased and outputs sold by each industry and the household sector. Thus, by using I-O models, it is possible to estimate how the impact of one dollar or one job ripples through the local economy, creating additional expenditures and jobs. The economic multiplier measures the ripple effect that an initial expenditure has on the local economy.¹³ This study utilizes regional I-O multipliers from IMPLAN Professional.¹⁴

Two factors are taken into account when estimating economic impact:

1) purchases from companies located outside Northeast Ohio, and 2) share of revenues received from local sources.

For this analysis, economic impact is generated only by JCU purchases from companies located within Northeast Ohio. Therefore, when estimating the impact on Northeast Ohio, goods and services purchased from businesses and other entities located outside the five-county region were excluded from the model.¹⁵

Before entering local expenditures into the IMPLAN model, the amounts must be discounted by the percentage of revenues that are received from local sources. If expenditures were not discounted by the percentage of revenues coming from local sources — sometimes referred to as neutral money (or substitution effect) — then the economic impact values would simply reflect the redistribution of local funds. The

¹³ For example, suppose that company XYZ reports sales of \$1 million. From the revenues, the company pays its suppliers and workers, covers production costs, and takes a profit. Once the suppliers and employees receive their payments, they will spend a portion of their money in the local economy purchasing goods and services, while another portion of the money will be spent outside the local economy (leakage). By evaluating the chain of local purchases that result from the initial infusion of \$1 million, it is possible to estimate a regional economic multiplier.

¹⁴ IMPLAN was originally developed by two federal agencies, the Department of Agriculture and the Department of the Interior, to assist in land and resource management planning. The model was later commercialized by the Minnesota IMPLAN Group, Inc.

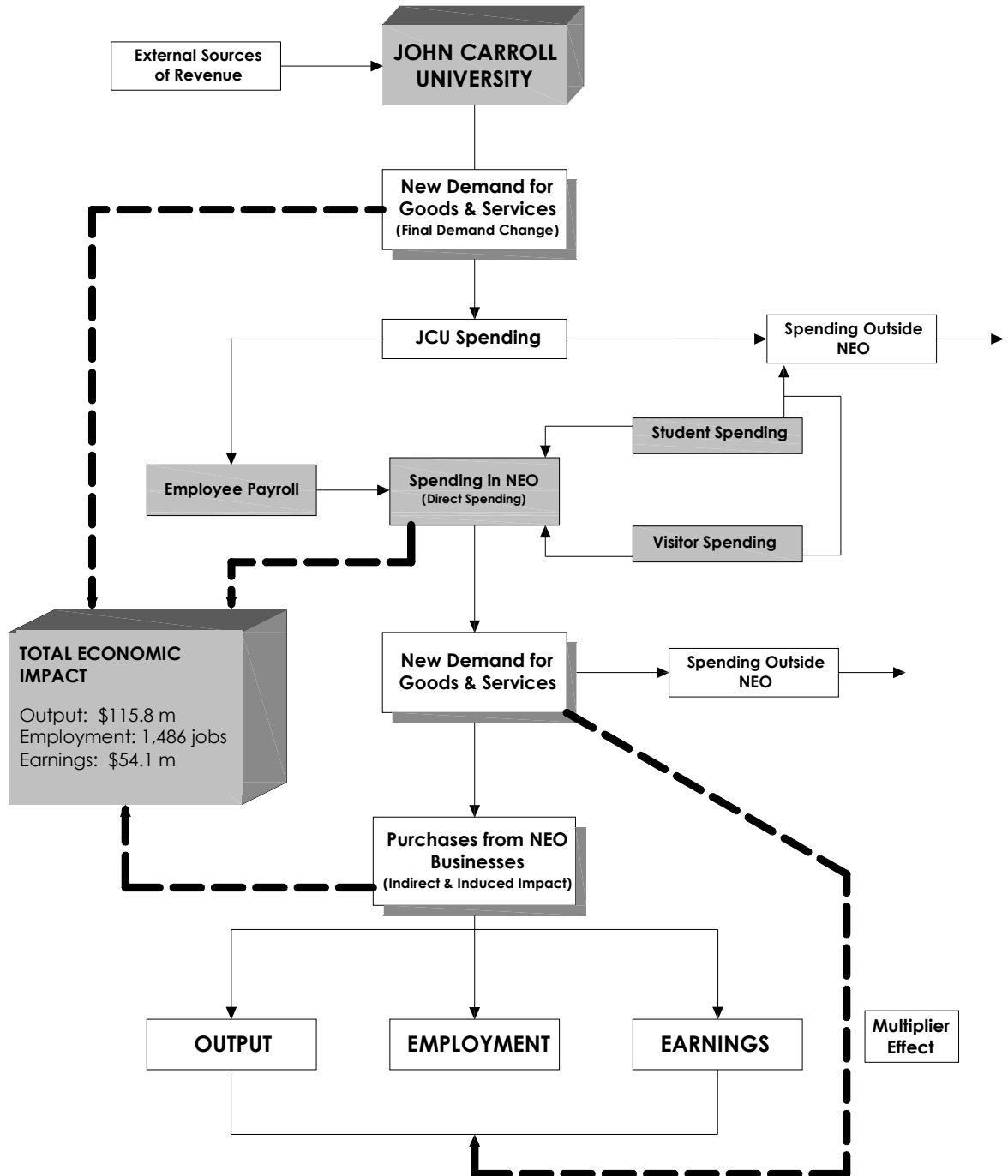
¹⁵ When conducting economic impact analysis, the selection of a geographic region to study is important. IMPLAN multipliers become larger as the geographic area under consideration increases. The result is a larger impact for a larger region. For this study, the goal was to determine JCU's impact on the Cleveland metropolitan area.

objective of impact analysis is to estimate the effect of money coming from outside the studied economy rather than the redistribution of money already existing in that economy. Revenues coming from outside the local economy are sometimes referred to as “good money.” Because the majority of JCU revenues are derived from non-local sources (or money that would likely have left the region if JCU did not exist), total expenditures were discounted by only nine percent.¹⁶

Figure 5 illustrates the process by which John Carroll University impacts the local economy through its spending in the Cleveland metro area. Through its attraction of outside dollars, JCU creates new demand for goods and services (final demand change). Some of this demand is generated for goods and services provided by vendors outside the Cleveland metro area, resulting in dollars leaking out of the local economy. However, many goods and services are purchased locally. Local spending by JCU for goods, services, and labor is the direct impact. As these dollars move through the economy, they result in additional demand for goods and services, creating indirect and induced impact. The total economic impact of JCU is equal to the sum of the change in final demand, direct, indirect, and induced impacts.

¹⁶ Revenue generated by tuition and fees was discounted by the estimated percentage of students who would have attended another university in Northeast Ohio if JCU did not exist. Contributions and revenue from contracts and grants were discounted by the estimated percentage that might have been awarded to other organizations or institutions in Northeast Ohio had they not been awarded to JCU. Other revenue sources were not discounted.

Figure 5. John Carroll University Economic Impact on Northeast Ohio, FY06



Economic Impact of University Spending

This section details the total economic impact that John Carroll University has on Northeast Ohio by purchasing goods and services from local companies. The analysis uses multipliers to estimate the ripple effect that an initial expenditure has on a local economy.¹⁷

Output Impact

Output impact estimates the total change in output produced (sales) by Northeast Ohio industries for each additional final demand dollar expended by JCU. University expenditures for FY06 were divided into spending for goods and services purchased from companies and other entities located in Northeast Ohio (local) and spending for goods and services from businesses and other entities located elsewhere. Local spending is then categorized by industry, based upon an IMPLAN industry classification system that is analogous to the North American Industry Classification System (NAICS).¹⁸

Table 1 presents the total output impact and its components. Local JCU expenditures represent direct output impact.¹⁹ However, total JCU expenditures in Northeast Ohio differ slightly from the direct impact (\$46.8 million vs. \$46.4 million) as a result of adjustments for margins. In cases where goods are purchased locally but produced outside the region, some local economic benefits are still captured via wholesale, retail, and transportation margins.²⁰ Indirect impact is estimated by summing the local purchases of individual industries that provide inputs to the

¹⁷ IMPLAN type SAM multipliers are used in this study. SAM multipliers are based on information in a social account matrix that considers social security and income tax leakage, institutional savings, commuting, and inter-institutional transfers.

¹⁸ JCU's Office of the Vice President for Finance and Administration provided the data on university expenditures and, with assistance from the Center for Economic Development, determined the appropriate industry classification for each expenditure.

¹⁹ IMPLAN estimates impact for detailed industries. The tables presented in this report aggregated these data into broader industry groupings.

²⁰ Margins represent the difference between producer (manufacturing cost) and purchaser prices (money spent by JCU). The end result is that, by using margins, the value of the economic benefit is split into the portion going to retail markup (local), wholesale markup (local), transportation cost (local), and producer price (outside the region).

producers of the goods and services ultimately consumed by JCU. Induced impact is estimated by measuring the spending of workers who are employed as a result of the demand for products and services created by JCU. Total output impact is the sum of change in final demand, direct impact, indirect impact, and induced impact.²¹

Table 1. Output Impact of University ExpendituresJCU Expenditures in Northeast Ohio ^a

\$ 46,796,447

Industry	Direct	Indirect	Induced	Total
Agriculture, Forestry, Fishing and Hunting	\$30,130	\$137,464	\$20,869	\$188,464
Mining, Quarrying & Oil and Gas Extraction	\$79,390	\$590,901	\$30,668	\$700,958
Utilities	\$2,912,629	\$148,323	\$125,948	\$3,186,900
Construction	\$0	\$270,108	\$65,720	\$335,829
Manufacturing	\$2,948,024	\$1,657,618	\$819,962	\$5,385,050
Wholesale Trade	\$273,153	\$75,573	\$57,290	\$446,592
Transportation and Warehousing	\$1,209,829	\$632,812	\$272,099	\$2,114,742
Retail Trade	\$3,348,354	\$697,592	\$1,225,540	\$5,271,490
Information	\$473,481	\$659,206	\$287,948	\$1,420,634
Finance and Insurance	\$1,361,426	\$964,430	\$898,379	\$3,224,236
Real estate	\$1,296,069	\$1,297,997	\$630,662	\$3,224,728
Professional, Scientific, and Technical Services	\$1,838,598	\$1,254,698	\$405,692	\$3,498,986
Management of Companies & Enterprises	\$0	\$393,252	\$98,943	\$492,195
Administrative and Support Services	\$4,034,156	\$806,778	\$215,057	\$5,055,990
Educational Services	\$729,285	\$41,177	\$195,067	\$965,531
Health Care and Social Assistance	\$3,956,932	\$27,847	\$1,719,987	\$5,704,768
Arts, Entertainment, and Recreation	\$394,673	\$89,568	\$169,982	\$654,222
Accommodation and Food Services	\$4,845,464	\$269,033	\$634,760	\$5,749,256
Other Services (except Public Administration)	\$1,901,698	\$304,581	\$547,558	\$2,753,839
Owner-occupied Dwellings	\$2,972,508	\$0	\$1,453,858	\$4,426,365
Government Enterprises	\$1,242,777	\$128,240	\$124,713	\$1,495,732
Foreign and Domestic Trade	\$10,559,678	\$0	\$0	\$10,559,678
Total	\$46,408,261	\$10,447,207	\$10,000,704	\$66,856,171
Change in Final Demand ^b	\$27,475,498			
Direct Impact	\$46,408,261			
Indirect Impact	\$10,447,207			
Induced Impact	\$10,000,704			
Total Output Impact	\$94,331,669			

^a JCU expenditures in Northeast Ohio are equal to the goods & services purchased in the region, discounted by 8.6% to account for students who might have attended another university in Northeast Ohio (substitution effect).

^b Change in final demand is equal to JCU expenditures inside and outside Northeast Ohio (excluding payroll & healthcare benefits), discounted by 8.6% to account for substitution effect.

²¹ Indirect and induced impacts in each industry sector do not result solely from direct expenditures in the same industry; they are generated by multiple industry sectors; therefore, it is possible to have no direct expenditures, yet have a positive value for indirect and induced impact (e.g., indirect and induced impact in the Construction sector result from direct spending in various industries).

The university's total impact on regional output is more than \$94 million. Twenty-nine percent is accounted for by the expenditures of JCU (change in final demand). Direct impact represents more than half (49%) of total output impact; the indirect and induced impacts each account for approximately 11 percent.

As shown in Table 1, JCU spending across Northeast Ohio affects all sectors of the economy. The industries most affected reflect the spending patterns of individuals, which stems from the fact that payroll constitutes a large portion (approximately two-thirds) of JCU's local expenditures. The largest impact is found in foreign and domestic trade, which represents products that are purchased by households but are produced outside Northeast Ohio, either domestically or internationally. The specific industry sectors most affected by JCU are Accommodation & Food Services, Health Care & Social Assistance, Manufacturing, Retail Trade, and Administrative & Support Services.

Employment Impact

John Carroll University's activities in Northeast Ohio affect job creation beyond the hiring of its own employees (change in final demand). JCU spending creates employment in industries from which it purchases goods and services (direct impact) and employment in industries that provide inputs into those goods and services (indirect impact). In addition, money spent by JCU employees and employees of those companies with which JCU does business create jobs in a variety of other industries (induced impact). Total employment impact equals the sum of JCU employment, direct impact, indirect impact, and induced impact. Table 2 shows the number of jobs created by industry sector.

Table 2. Employment Impact of University ExpendituresJCU Expenditures in Northeast Ohio^a \$ 46,796,447

Industry	Direct	Indirect	Induced	Total
Agriculture, Forestry, Fishing and Hunting	0.4	1.9	0.3	2.7
Mining, Quarrying & Oil and Gas Extraction	0.3	2.5	0.1	3.0
Utilities	5.3	0.3	0.3	5.9
Construction	0	2.7	0.6	3.3
Manufacturing	12.3	4.2	1.4	19.2
Wholesale Trade	1.5	0.4	0.3	2.3
Transportation and Warehousing	13.9	6.3	2.5	22.7
Retail Trade	50.2	10.1	17.7	78.1
Information	1.3	2.6	0.8	5.4
Finance and Insurance	5.9	5.6	4.4	15.9
Real estate	10.6	9.3	4.8	24.6
Professional, Scientific, and Technical Services	12.7	10.6	3.7	27.2
Management of Companies & Enterprises	0	1.9	0.5	2.4
Administrative and Support Services	74.8	16.3	3.8	95.0
Educational Services	15.2	0.8	4.0	19.9
Health Care and Social Assistance	48.8	0.2	21.8	70.9
Arts, Entertainment, and Recreation	7.3	1.7	3.1	12.1
Accommodation and Food Services	103.3	5.6	13.3	122.3
Other Services (except Public Administration)	31.4	4.2	10.0	45.4
Government Enterprises	3.2	0.6	0.5	4.3
Total	399.6	88.8	95.4	583.8
Change in Final Demand ^b	699			
Direct Impact	400			
Indirect Impact	89			
Induced Impact	95			
Total Employment Impact	1,283			

^a JCU expenditures in Northeast Ohio are equal to the goods & services purchased in the region, discounted by 8.6% to account for students who might have attended another university in Northeast Ohio (substitution effect).

^b Change in final demand is equal to the number of full-time equivalent employees working at JCU, discounted by 8.6% to account for students who might have attended another university in Northeast Ohio (substitution effect).

JCU's presence leads to the creation of nearly 1,300 jobs in Northeast Ohio. This includes about 700 jobs at the university and 400 jobs needed to meet JCU's direct demand for goods and services. The industries experiencing the greatest employment impact are Accommodation & Food Services, Administrative & Support Services, Retail Trade, and Health Care & Social Assistance (again reflecting the fact that payroll accounts for a large share of JCU's total expenditures).

Earnings Impact

Earnings impact is the estimated total change in money paid to local households due to the spending of John Carroll University for goods and services from businesses and other entities in Northeast Ohio. Money paid to employees of companies and other entities who supply goods and services to JCU represent direct earnings impact. Indirect impact is estimated by summing the money paid to persons who work for companies that provide inputs to the producers of the goods and services ultimately consumed by JCU. Induced impact represents money paid to workers in all industries who are employed as a result of purchases by households whose income is affected by the demand for products and services created by JCU. Adding the direct, indirect, and induced impacts to the disposable income and healthcare benefits received by JCU employees (final demand change) results in total earnings impact.

The total earnings impact of JCU on the Northeast Ohio economy is \$47.6 million. Sixty percent of this amount is due to the earnings of JCU employees (change in final demand). Because households spend money on a wide range of goods and services, the impact is widely distributed across industry sectors. Table 3 shows earnings impact by industry.

Table 3. Earnings Impact of University Expenditures

JCU Expenditures in Northeast Ohio^a \$ 46,796,447

Industry	Direct	Indirect	Induced	Total
Agriculture, Forestry, Fishing and Hunting	\$10,285	\$49,349	\$5,543	\$65,176
Mining, Quarrying & Oil and Gas Extraction	\$16,931	\$124,727	\$6,506	\$148,166
Utilities	\$511,918	\$27,818	\$23,488	\$563,223
Construction	\$0	\$123,093	\$27,572	\$150,665
Manufacturing	\$763,029	\$318,198	\$131,839	\$1,213,063
Wholesale Trade	\$102,650	\$28,400	\$21,529	\$152,579
Transportation and Warehousing	\$558,229	\$289,196	\$112,943	\$960,369
Retail Trade	\$1,380,325	\$261,865	\$487,551	\$2,129,739
Information	\$101,651	\$161,145	\$65,303	\$328,101
Finance and Insurance	\$404,447	\$363,922	\$292,547	\$1,060,915
Real estate	\$320,936	\$233,681	\$120,218	\$674,833
Professional, Scientific, and Technical Services	\$617,715	\$584,832	\$195,555	\$1,398,106
Management of Companies & Enterprises	\$0	\$184,393	\$46,393	\$230,786
Administrative and Support Services	\$1,584,389	\$419,326	\$106,124	\$2,109,839
Educational Services	\$365,239	\$20,588	\$108,043	\$493,870
Health Care and Social Assistance	\$2,100,349	\$9,801	\$911,271	\$3,021,421
Arts, Entertainment, and Recreation	\$164,901	\$46,220	\$72,933	\$284,053
Accommodation and Food Services	\$1,537,692	\$86,419	\$202,153	\$1,826,265
Other Services (except Public Administration)	\$879,329	\$132,293	\$237,287	\$1,248,911
Government Enterprises	\$223,462	\$40,780	\$40,464	\$304,705
Total	\$11,643,474	\$3,506,053	\$3,215,266	\$18,364,792
Change in Final Demand ^b	\$29,261,280			
Direct Impact	\$11,643,474			
Indirect Impact	\$3,506,053			
Induced Impact	\$3,215,266			
Total Earnings Impact	\$47,626,072			

^a JCU expenditures in Northeast Ohio are equal to the goods & services purchased in the region, discounted by 8.6% to account for students who might have attended another university in Northeast Ohio (substitution effect).

^b Change in final demand is equal to disposable income (75% of gross income) plus healthcare benefits paid to JCU employees, discounted by 8.6% to account for students who might have attended another university in Northeast Ohio (substitution effect).

Economic Impact of Student Spending

This section details the total economic impact that John Carroll students have on Northeast Ohio through their spending patterns. The same methodology that was used to calculate the university’s economic impact will be utilized here. IMPLAN multipliers are used to estimate impact in terms of output, employment, and earnings.

In 2006, nearly one-third of JCU students came from outside Northeast Ohio to attend the university. These students create additional demand for products and services in the region. In addition, it can be argued that a large number of the students who are from Northeast Ohio would have left the region had they not been able to attend JCU.²² As a result, the spending patterns of these students are also included in the economic impact model.

Student expenditures for books, housing, food, travel, and entertainment/other were estimated by JCU. Different assumptions were used depending on whether students lived on-campus, off-campus, or with family. The expenditures were then divided among 11 different IMPLAN industry sectors.

Output Impact

Final demand output multipliers measure the effect of spending by students on gross receipts or sales in Northeast Ohio. Student expenditures include spending for food, housing, books, travel, and entertainment. Data shown in Table 4 are based on information provided by the JCU Office of Finance and Administrative Services.

To calculate direct, indirect and induced output impacts, student spending in each category is assigned to a specific industry (or industries). The total output impact is the summation of the direct, indirect, and induced impacts.

Student expenditures have a \$19.8 million impact on regional output. Most of this is due to the direct expenditures of students (67%); the indirect and induced impacts are relatively small because a large portion of student spending goes toward housing and services which generate little spin-off activity when compared to many other sectors. The industry sectors most affected are Manufacturing, Real Estate (due to expenditures for rental housing), Retail Trade, Accommodation & Food Services, and Arts, Entertainment & Recreation.

²² JCU admission records indicate that relatively few students who apply to John Carroll also apply to other universities in Northeast Ohio. Many apply to Jesuit institutions in other states. These admission records were used to estimate the number of students who would have left Northeast Ohio if they did not attend John Carroll University.

Table 4. Output Impact of Student Expenditures

JCU Student Expenditures in Northeast Ohio \$ 13,118,813

Industry	Direct	Indirect	Induced	Total
Agriculture, Forestry, Fishing and Hunting	\$0	\$75,187	\$6,772	\$81,958
Mining, Quarrying & Oil and Gas Extraction	\$674,639	\$103,288	\$9,954	\$787,880
Utilities	\$4,328	\$84,857	\$40,883	\$130,069
Construction	\$0	\$90,323	\$21,323	\$111,646
Manufacturing	\$4,777,083	\$561,210	\$266,097	\$5,603,142
Wholesale Trade	\$167,888	\$33,441	\$18,592	\$221,185
Transportation and Warehousing	\$351,149	\$246,664	\$88,290	\$686,103
Retail Trade	\$796,185	\$95,182	\$397,695	\$1,289,064
Information	\$0	\$152,846	\$93,447	\$246,294
Finance and Insurance	\$0	\$232,397	\$291,487	\$523,888
Real estate	\$4,152,735	\$490,588	\$204,750	\$4,848,071
Professional, Scientific, and Technical Services	\$0	\$387,627	\$131,645	\$519,271
Management of Companies & Enterprises	\$0	\$170,016	\$32,107	\$202,124
Administrative and Support Services	\$7,188	\$322,497	\$69,783	\$399,468
Educational Services	\$0	\$4,919	\$63,261	\$68,178
Health Care and Social Assistance	\$0	\$549	\$558,141	\$558,689
Arts, Entertainment, and Recreation	\$933,004	\$45,524	\$55,143	\$1,033,672
Accommodation and Food Services	\$788,792	\$74,199	\$205,949	\$1,068,940
Other Services (except Public Administration)	\$527,939	\$110,467	\$177,641	\$816,044
Owner-occupied Dwellings	\$0	\$0	\$471,563	\$471,563
Government Enterprises	\$1,670	\$54,148	\$40,475	\$96,292
Total	\$13,182,600	\$3,335,937	\$3,245,008	\$19,763,545
Direct Impact	\$ 13,182,600			
Indirect Impact	\$ 3,335,937			
Induced Impact	\$ 3,245,008			
Total Output Impact	\$ 19,763,545			

Employment Impact

Students who attend JCU bring with them purchasing power. Like every household, they spend money on ordinary living expenses, and this spending for goods and services creates jobs in the Northeast Ohio economy.

Employment impact by industry is shown in Table 5. Student expenditures for food, books, entertainment, and other goods and services generated more than 180 jobs in the regional economy. Most of these jobs are found in Real Estate, Manufacturing, Accommodation & Food Services, Retail Trade, Arts, Entertainment & Recreation and Other Services. Two-thirds of the employment impact is derived from the direct impact.

Table 5. Employment Impact of Student Expenditures

JCU Student Expenditures in Northeast Ohio \$ 13,118,813

Industry	Direct	Indirect	Induced	Total
Agriculture, Forestry, Fishing and Hunting	0	1.2	0	1.2
Mining, Quarrying & Oil and Gas Extraction	2.9	0.4	0	3.3
Utilities	0	0.1	0.1	0.3
Construction	0	0.8	0.2	1
Manufacturing	33.4	0.9	0.1	35.1
Wholesale Trade	0.9	0.2	0.1	1.2
Transportation and Warehousing	1.5	2.4	0.9	4.9
Retail Trade	12.5	1.3	5.8	19.6
Information	0	0.4	0.2	0.9
Finance and Insurance	0	1.2	1.4	2.7
Real estate	31.5	3.5	1.6	36.6
Professional, Scientific, and Technical Services	0	3.2	1.2	4.3
Management of Companies & Enterprises	0	0.8	0.2	1
Administrative and Support Services	0	5.9	1.1	7.3
Educational Services	0	0.1	1.3	1.4
Health Care and Social Assistance	0	0	7.1	7.1
Arts, Entertainment, and Recreation	13.5	0.8	0.9	15.1
Accommodation and Food Services	17.1	1.5	4.3	22.9
Other Services (except Public Administration)	9.9	1.5	3.2	14.6
Government Enterprises	0	0.2	0.1	0.4
Total	123.3	27.7	31	182
Direct Impact	123.3			
Indirect Impact		27.7		
Induced Impact			31	
Total Employment Impact	182			

Earnings Impact

Student purchases of goods and services creates jobs throughout the regional economy, and every job created generates new earnings for local households. For example, the \$13 million spent by students generated an additional \$5.9 million in direct, indirect and induced earnings by households employed by local businesses in a variety of industries. Again, the majority of the earnings impact (64%) is based on direct expenditures.

Table 6. Earnings Impact of Student Expenditures

JCU Student Expenditures in Northeast Ohio \$ 13,118,813

Industry	Direct	Indirect	Induced	Total
Agriculture, Forestry, Fishing and Hunting	\$0	\$19,938	\$1,799	\$21,739
Mining, Quarrying & Oil and Gas Extraction	\$142,235	\$21,797	\$2,111	\$166,143
Utilities	\$579	\$15,786	\$7,624	\$23,989
Construction	\$0	\$37,807	\$8,946	\$46,753
Manufacturing	\$1,652,789	\$104,093	\$42,777	\$1,799,672
Wholesale Trade	\$63,091	\$12,568	\$6,987	\$82,645
Transportation and Warehousing	\$105,096	\$113,689	\$36,648	\$255,432
Retail Trade	\$307,758	\$35,730	\$158,213	\$501,701
Information	\$0	\$38,173	\$21,193	\$59,364
Finance and Insurance	\$0	\$79,525	\$94,922	\$174,446
Real estate	\$719,911	\$86,905	\$39,027	\$845,842
Professional, Scientific, and Technical Services	\$0	\$174,925	\$63,458	\$238,383
Management of Companies & Enterprises	\$0	\$79,719	\$15,054	\$94,773
Administrative and Support Services	\$2,201	\$153,257	\$34,437	\$189,894
Educational Services	\$0	\$2,632	\$35,038	\$37,668
Health Care and Social Assistance	\$0	\$196	\$295,713	\$295,908
Arts, Entertainment, and Recreation	\$325,621	\$19,871	\$23,662	\$369,154
Accommodation and Food Services	\$249,961	\$23,911	\$65,589	\$339,461
Other Services (except Public Administration)	\$197,606	\$43,843	\$76,980	\$318,430
Government Enterprises	\$584	\$15,754	\$13,132	\$29,470
Total	\$3,767,432	\$1,080,131	\$1,043,316	\$5,890,878
Direct Impact	\$3,767,432			
Indirect Impact	\$1,080,131			
Induced Impact	\$1,043,316			
Total Earnings Impact	\$5,890,878			

Economic Impact of Visitor Spending

This section discusses the total economic impact on Northeast Ohio created by visitors who came from outside the region to attend events, conferences, and other activities at JCU during fiscal year 2006. The same methodology that was used to calculate the university's economic impact was utilized here. IMPLAN multipliers were used to estimate impact in terms of output, employment, and earnings.

Visitors to John Carroll include prospective students and their families, student orientation participants, athletic event attendees and visiting athletic teams, annual alumni reunion attendees, and conference and special event participants. Over the course of their stay, these individuals spend money on food, lodging, entertainment, and

travel (depending on the event they are attending). This spending creates additional impact on the regional economy.

Output Impact

Final demand output multipliers measure the effect of spending by visitors on gross receipts or sales in Northeast Ohio. John Carroll University provided information related to the number and types of events held throughout the year as well as the number of participants and their estimated spending.

Table 7. Output Impact of Visitor Expenditures

Industry	Direct	Indirect	Induced	Total
Agriculture, Forestry, Fishing and Hunting	\$0	\$1,618	\$692	\$2,312
Mining, Quarrying & Oil and Gas Extraction	\$133,214	\$18,420	\$1,017	\$152,651
Utilities	\$854	\$7,917	\$4,179	\$12,950
Construction	\$0	\$8,550	\$2,180	\$10,730
Manufacturing	\$17	\$38,977	\$27,196	\$66,192
Wholesale Trade	\$0	\$1,919	\$1,900	\$3,837
Transportation and Warehousing	\$47,079	\$16,559	\$9,028	\$72,666
Retail Trade	\$0	\$10,146	\$40,660	\$50,806
Information	\$0	\$18,992	\$9,554	\$28,545
Finance and Insurance	\$0	\$21,075	\$29,804	\$50,879
Real estate	\$0	\$51,017	\$20,926	\$71,945
Professional, Scientific, and Technical Services	\$0	\$34,934	\$13,459	\$48,396
Management of Companies & Enterprises	\$0	\$10,674	\$3,282	\$13,956
Administrative and Support Services	\$1,420	\$36,387	\$7,135	\$44,942
Educational Services	\$0	\$13,382	\$6,471	\$19,853
Health Care and Social Assistance	\$0	\$11	\$57,063	\$57,074
Arts, Entertainment, and Recreation	\$249,729	\$2,336	\$5,638	\$257,703
Accommodation and Food Services	\$579,291	\$8,337	\$21,058	\$608,686
Other Services (except Public Administration)	\$0	\$9,136	\$18,163	\$27,300
Owner-occupied Dwellings	\$0	\$0	\$48,225	\$48,225
Government Enterprises	\$196	\$6,759	\$4,138	\$11,092
Total	\$1,011,800	\$317,159	\$331,781	\$1,660,739
Direct Impact	\$1,011,800			
Indirect Impact	\$317,159			
Induced Impact	\$331,781			
Total Output Impact	\$1,660,739			

As shown in Table 7, visitor spending in FY06 was a little more than \$1 million. The total output impact is approximately \$1.7 million. As might be expected, visitors have the greatest impact on the Accommodation & Food Services and Arts, Entertainment & Recreation industries. Direct impact accounts for 61 percent of the total impact.

Employment Impact

When visitors come to JCU from outside the region, the money they spend on food, lodging, travel, and entertainment creates jobs in the Cleveland area economy. Employment impact by industry is shown in Table 8. The \$1 million spent by visitors generates about 21 jobs in the regional economy. Most of these jobs are created in the Accommodation & Food Services industry.

Table 8. Employment Impact of Visitor Expenditures

JCU Visitor Expenditures in Northeast Ohio \$ 1,014,166

Industry	Direct	Indirect	Induced	Total
Agriculture, Forestry, Fishing and Hunting	0	0	0	0
Mining, Quarrying & Oil and Gas Extraction	0.6	0.1	0	0.6
Utilities	0	0	0	0
Construction	0	0.1	0	0.1
Manufacturing	0	0	0	0
Wholesale Trade	0	0	0	0
Transportation and Warehousing	0	0	0	0
Retail Trade	0	0	0.3	0.7
Information	0	0	0	0
Finance and Insurance	0	0.1	0	0.3
Real estate	0	0.3	0.1	0.5
Professional, Scientific, and Technical Services	0	0.2	0	0.4
Management of Companies & Enterprises	0	0.1	0	0.1
Administrative and Support Services	0	0.6	0.1	0.7
Educational Services	0	0.3	0.1	0.4
Health Care and Social Assistance	0	0	0.8	0.8
Arts, Entertainment, and Recreation	3.7	0	0.1	3.8
Accommodation and Food Services	10.4	0.2	0.4	10.9
Other Services (except Public Administration)	0	0.1	0.3	0.4
Government Enterprises	0	0	0	0
Total	14.8	2.8	3.2	20.8
Direct Impact	14.8			
Indirect Impact		2.8		
Induced Impact			3.2	
Total Employment Impact	20.8			

Earnings Impact

As visitor spending creates jobs in the regional economy, these jobs generate new earnings for local households. Earnings multipliers estimate the total change in earnings to households employed locally for each additional dollar of goods and services delivered to visitors. The \$1 million spent by JCU visitors generated an additional \$606,000 in earnings by households employed by local businesses in a variety of industries.

Table 9. Earnings Impact of Visitor Expenditures

JCU Visitor Expenditures in Northeast Ohio		\$ 1,014,166			
Industry	Direct	Indirect	Induced	Total	
Agriculture, Forestry, Fishing and Hunting	\$0	\$193	\$186	\$377	
Mining, Quarrying & Oil and Gas Extraction	\$28,086	\$3,883	\$216	\$32,185	
Utilities	\$115	\$1,516	\$779	\$2,410	
Construction	\$0	\$3,699	\$914	\$4,613	
Manufacturing	\$0	\$6,741	\$4,367	\$11,115	
Wholesale Trade	\$0	\$721	\$715	\$1,435	
Transportation and Warehousing	\$13,883	\$8,614	\$3,746	\$26,247	
Retail Trade	\$0	\$3,808	\$16,174	\$19,984	
Information	\$0	\$4,784	\$2,167	\$6,953	
Finance and Insurance	\$0	\$7,651	\$9,707	\$17,357	
Real estate	\$0	\$8,786	\$3,987	\$12,774	
Professional, Scientific, and Technical Services	\$0	\$16,295	\$6,489	\$22,784	
Management of Companies & Enterprises	\$0	\$5,005	\$1,540	\$6,544	
Administrative and Support Services	\$435	\$17,066	\$3,521	\$21,022	
Educational Services	\$0	\$5,600	\$3,584	\$9,185	
Health Care and Social Assistance	\$0	\$5	\$30,233	\$30,238	
Arts, Entertainment, and Recreation	\$156,010	\$1,308	\$2,418	\$159,739	
Accommodation and Food Services	\$197,097	\$2,669	\$6,705	\$206,471	
Other Services (except Public Administration)	\$0	\$3,803	\$7,873	\$11,675	
Government Enterprises	\$0	\$2,074	\$1,343	\$3,417	
Total	\$395,624	\$104,234	\$106,670	\$606,528	
Direct Impact	\$395,624				
Indirect Impact	\$104,234				
Induced Impact	\$106,670				
Total Earnings Impact	\$606,528				

Summary of John Carroll University's Economic Impact on Northeast Ohio

Economic activity generated by JCU produced the following impacts on Northeast Ohio (2006 dollars):

- Total Output Impact: \$115.8 million
- Total Employment Impact: 1,486 jobs
- Total Earnings Impact: \$54.1 million

University expenditures account for the largest share, but students and visitors also have a notable impact on the regional economy (Table 10).

Table 10. Total Economic Impact

	University	Students	Visitors	Total
Output Impact	\$94,331,669	\$19,763,545	\$1,660,739	\$115,755,954
Employment Impact	1,283	182	21	1,486
Earnings Impact	\$47,626,072	\$5,890,878	\$606,528	\$54,123,478

The economic impact presented in this report reflects John Carroll expenditures in FY06. During that time period, approximately two thirds of JCU's local expenditures were allocated to payroll and health benefits, which is reflected in the types of industries most affected by the presence of the university. In terms of output, the specific industries deriving the greatest benefit from the existence of JCU in Northeast Ohio are:

- Manufacturing;
- Real Estate;
- Accommodation & Food Services;
- Retail Trade;
- Health Care & Social Assistance; and
- Administrative & Support Services.

In terms of employment impact, the following industries are most affected:

- Accommodation & Food Services;
- Administrative & Support Services;
- Retail Trade; and
- Health Care & Social Assistance.

In terms of earnings impact, the industries deriving the greatest benefit are:

- Health Care & Social Assistance;
- Manufacturing;
- Retail Trade;
- Accommodation & Food Services; and
- Administrative & Support Services.

Due to the existence of John Carroll in Northeast Ohio, an additional \$115.8 million was generated in regional output, 1,486 jobs were created, and household earnings increased by \$54.1 million in FY06.

Service to the Community

The previous section of this report assessed the economic impact of John Carroll University (JCU) on the Cleveland metropolitan area; however, the contributions of the university extend well beyond those that can be quantified. John Carroll places great importance on reaching out to the community through service, applied research, educational programming, and cultural offerings. Students, faculty, and staff are engaged in numerous activities that enhance the lives of individuals who live and work outside the boundaries of the JCU campus.

The university is involved in a number of educational partnerships with local schools, colleges, and universities. For example, JCU participates in efforts to enhance math and science education, hosts science fairs for local high schools, and provides professional development to area teachers. In addition, faculty regularly lecture at local schools. These K-12 partnerships involve multiple school districts and institutions of higher education, including the Cleveland Municipal School District, Cleveland State University, The University of Akron, Case Western Reserve University, and Lorain Community College.

The university also encourages community service. Students and faculty participate in a wide range of volunteer activities including assisting in building homes for low-income families, providing food for the hungry, helping hurricane victims in New Orleans, and tutoring students in local schools. Research efforts often focus on issues of interest to those in Northeast Ohio, such as alleviating poverty in the region, fighting specific health conditions, addressing environmental problems, or studying local history. John Carroll also sponsors many events each year that are open to the public. These include art exhibits, lecture series, athletic events, musical performances, theatrical performances, and conferences. John Carroll University's benefits are far-reaching.

Because JCU is involved in such a wide range of activities that benefit the larger community, it is impossible to provide an in-depth description of all activities in this

report. This section highlights five programs that illustrate the types of benefits that John Carroll provides to Greater Cleveland: 1) Center for Community Service, 2) JCU and Cleveland Heights-University Heights City School District Academic Partnership, 3) Reading First – Ohio Center & Literacy Specialist Project, 4) Muldoon Center for Entrepreneurship, and 5) applied research in environmental biology & chemistry. These programs were selected for this study by the leadership team at John Carroll. Information was gathered through personal interviews with program leaders and partners outside the university. Printed materials and online sources provided supplementary data.

Center for Community Service

As a Catholic and Jesuit university, part of the mission of John Carroll University is to develop “women and men with the knowledge and character to lead and to serve.” Providing opportunities for service learning and community service is one way in which the university helps to fulfill its mission.

Many John Carroll students are involved in service learning and community service opportunities provided through the university. The Center for Community Service supports several of these activities. It was established in 1992 to better integrate service and learning at the university. As part of the academic division of the university, the Center's primary responsibility is to support faculty service learning activities by scheduling service projects and providing transportation; however, the Center also functions as a community service placement and referral center.

A clear distinction is made between community service and service learning. Community service involves volunteer work that does not offer academic credit or compensation. In contrast, service learning is integrated with the academic curriculum – activities are coordinated in the classroom and students receive course credit for participating. Depending upon the class, students may serve as tutors or after-school aides, work at a hunger center, or work with the elderly. The placements take students off campus to various neighborhoods in the greater Cleveland area. Service learning is

intended to put a human face on the issues and theories that students are studying in the classroom.

Students, faculty, and nonprofit organizations who want to be involved in community service or service learning activities can register with the Center for Community Service. The Center assists students seeking service learning placements or volunteer opportunities in the greater Cleveland area. It develops service learning placements that meet instructor requirements, monitors service hours, and assists in arranging transportation to service sites. Faculty members leading service learning classes receive assistance with course registration, student placements, and monitoring of student service hours. The Center also encourages tax-exempt organizations to register with them to post volunteer opportunities and recruit volunteers. They welcome participation by all charitable, civic, human service, educational, government, and political organizations.

Some students participate in community service and service learning activities on an ongoing basis while others are involved in one-time events. Some students may also register at the Center for Community Service but not accept a placement. As a result, it is difficult to determine exactly how many students are participating in service activities at a given time; however, in the fall 2006 semester, more than 200 students were registered with the Center. There are a number of service opportunities available to them. A few such opportunities are described below.

Cultivating Community Day

Cultivating Community Day incorporates both service learning and volunteer service. It is a day in which students work with families in Cleveland to do landscaping, exterior home maintenance, and other tasks to help improve the homes and the neighborhood. This may include pulling weeds, trimming hedges, spreading mulch, picking up litter, or painting porches. The springtime event is intended to bring students and residents together while providing needed services.

An event planning class is responsible for planning the program (the service learning component) and the students who perform the work represent the community service component. JCU faculty, staff, and alumni also participate in Cultivating Community Day, helping students and homeowners with the work. The university budgets approximately \$10,000 for supplies, bus transportation, and lunches.

The program began in 2004 and has focused on the Hough neighborhood. JCU works with St. Thomas Aquinas School and St. Francis Elementary School to coordinate the event. The schools recruit families to participate (mostly families of students), and St. Thomas Aquinas serves as the home base for the day's activities. In 2007, the program was expanded to include the Fatima Family Center. JCU volunteers worked with Fatima Family Center's teen leadership students (40 teens) to build raised bed gardens, clean and organize their storage garage, and plant flowers.

Project ¿Que?

Project ¿Que? (Question, Understand, Explain) is an interdisciplinary summer program focused on middle school students. The program is designed to spark interest and enhance skills in science and English composition. It is coordinated in partnership with LaSagrada Familia, a Catholic church on Cleveland's west side.

Middle school students spend one week on the John Carroll campus during the month of July. The youth minister at LaSagrada Familia (which has a primarily Hispanic congregation), recruits students from the parish to participate in the program. Students are presented with a simple research question and then organize data, create graphs, and write reports to summarize their findings. The program adheres to state math and science standards for 6th graders. The week concludes with a celebration and an overnight stay in one of the dormitories for students and their families. In addition, students receive some tutoring during the school year.

Biology professor Dr. Miles Coburn leads the effort for John Carroll, and other faculty and students are also involved. A mathematics and computer science professor provides guidance on handling the data; an English professor helps students with the

writing phase; and, a sociology professor and administrator are involved in program assessment. John Carroll faculty and students serve as camp counselors during the middle school students' stay on campus.

In 2006, 20 students participated in Project ¿Que? and in 2007, 40 students (two cohorts) were invited to participate. The university hopes to continue expanding the program. St. Agnes – Our Lady of Fatima, on Cleveland's east side, is interested in creating a similar program for the children of their parish. In 2006, Project ¿Que? was supported by grants from the Bruening Foundation and Nord Family Foundation. In 2007, the program was supported by the Thomas H. White Foundation and the SC Ministry Foundation.

Carroll Cleveland Philosophers Program

For more than eight years, the Carroll Cleveland Philosophers Program (CCPP) has assisted teenagers in tackling life's biggest questions. Students from the Cleveland Municipal School District (CMSD) are brought to the John Carroll campus once a week to discuss philosophical issues and ethical dilemmas with JCU students and faculty. They break into small groups and ask such questions as "Is lying always wrong?" or "Is beauty a matter of fact or a matter of taste?" Discussions are guided by a textbook developed by professors involved in the program.

The program initially served court-adjudicated middle school children, but over the years the scope expanded. The number of CMSD students participating has ranged from 20 to 60 and there are generally between eight and ten JCU undergraduates involved as teaching assistants. The role of the teaching assistants is to direct and encourage discussion. They've found that that many students have never been asked to analytically break down, question, and offer their thoughts. The program is intended to help them think critically about an issue and express themselves.

The CCPP has largely been funded through grants pursued by JCU. For many years, the university worked with South High School, but it has recently established a relationship with the schools that comprise the Option Complex at Margaret A. Ireland.

Labre Project

The Labre Project is a community service project that assists the homeless. Every Friday since the program was initiated in 2005, 20 to 25 students deliver food to people living under bridges, in doorways, and in alleys. Approximately 120 to 130 sandwiches are made each week. The emphasis of the Labre Project is on building relationships and establishing trust with the individuals in the community. Funding for this project comes from the university, grants from other organizations, and donations. The project leaders also received a \$500 award from Ohio Campus Compact, which also helps cover costs.

Volunteer Income Tax Assistance Program

The Center for Community Service also organizes a volunteer income tax assistance program that provides two days of income tax preparation assistance for area residents. Faculty, staff, students, and alumni help low-to-moderate income families prepare their tax returns without paying fees to professional tax preparers. The program focuses its recruiting efforts on low-wage workers, particularly those in families with children, who may be eligible for the Earned Income Tax Credit. The volunteer tax preparers complete an IRS-sponsored training session and the university then sponsors two all-day events (“Super Saturdays”) — one in late January and one in early February. Tax returns are completed and filed electronically. In 2007, 44 individuals received assistance through this program.

Other Activities

The programs described above are examples of community service and service learning activities coordinated through the Center for Community Service; however, it is not nearly an exhaustive list. There are a number of smaller efforts and one-on-one activities that also contribute to the Greater Cleveland community.

For example, Families of Cleveland United with Students (FOCUS) raises money and organizes a food drive each year before Thanksgiving and Christmas to help low-income families. The money is used to buy perishable foods. Donations are given to the

Fatima Family Center to distribute. In 2003, the program provided approximately \$15,000 in groceries and about 100 families were assisted.

Several students are engaged in one-on-one mentoring activities with individuals with physical disabilities or mental disorders. Two JCU students regularly visit the Fieldstone Farm Therapeutic Riding Center in Chagrin to mentor teens with Asperger's Disorder so they may serve as volunteers. One of these students also works alongside an individual with Down Syndrome to help serve people at a local food bank.

Program Benefits

Sister Michelle Kelly, principal at St. Thomas Aquinas School, has been very involved with John Carroll University through the Center for Community Service. St. Thomas Aquinas is a Catholic school on Cleveland's east side serving students in grades K-8.

As a home site for Cultivating Community Day, the school has been very actively involved in the event for the last few years. Sister Kelly noted that community members are often overwhelmed by the number of college students that participate. She has also found that the families who receive help not only appreciate the assistance provided by those affiliated with John Carroll, but also welcome the opportunity to work alongside their children as part of a larger community service activity.

The benefits of Cultivating Community Day also extend to other students at St. Thomas Aquinas. As part of an after-school activity, JCU students have been teaching 6th graders about service learning. On Cultivating Community Day 2007, they worked with the 6th graders at a separate site and the JCU students will continue to work with these children as they move into 7th grade. In addition, many 8th graders participate in Cultivating Community Day as a way to fulfill a school requirement to complete some community service.

Because of the large number of participants, Cultivating Community Day is a highly visible event, but the relationship between St. Thomas Aquinas and John Carroll University reaches further. Sister Kelly stated that the connections between St. Thomas

Aquinas and John Carroll University have grown during the three years she has been at the school, particularly during the last year.

One JCU student spends a full day each week with the “lunch bunch.” The lunch bunch is a group of students who have fallen behind on their school work and meet at lunch time to catch up. The JCU student helps them with their work and the children have responded very well to him. Another JCU student works with the school’s religion teacher and teaches the 3rd grade religion class once a week. A retired JCU alumnus tutors 1st graders two days a week.

Two separate groups of JCU students work with St. Thomas Aquinas’ after-school program. On Wednesdays, approximately eight students work with 3rd graders. On Thursdays, another group works with at-risk boys in the 6th and 7th grades. The JCU students tutor, do activities, and sometimes just play with the students, although Thursdays are more structured. Approximately 20 to 30 children are in the after-school program at a given time. Sister Kelly said the children see Wednesday as a special day – a day in which they can spend time with the “big kids.” Once, as a class project, a group of JCU students conducted a needs assessment of the after-school program and then went to local businesses to solicit donations to help meet the needs.

Sister Kelly estimates that there are about 17 JCU students who are involved in activities with the school on a consistent basis, although she doesn’t keep close count of the numbers. She welcomes any level of participation from John Carroll students, faculty, staff, and alumni. Sister Kelly sees part of their mission as providing service opportunities for people who want to help. She often finds that people want to contribute but do not know where to begin. She also feels that it is important to make the experience meaningful for the volunteers and believes that the growing number of JCU students becoming involved with the school indicates that they find value in the work. She has been very impressed with JCU’s commitment to service.

John Carroll University and Cleveland Heights-University Heights City School District Academic Partnership

In September 2004, John Carroll University's Department of Education and Allied Studies and the Cleveland Heights-University Heights City School District established a partnership to enhance the educational experiences of the community's children.

The partnership involves the placement of student teachers and John Carroll faculty in classrooms at Gearity Elementary School and Wiley Middle School in the Cleveland Heights-University Heights (CHUH) City School District. At John Carroll, the program is being led by Dr. Kathleen Manning, Associate Professor and Chair, and Dr. Mark Storz, Associate Professor and Associate Chair of the Department of Education and Allied Studies.

The university and the school district recognize the benefits of collaboration and, from the beginning, emphasis was placed on establishing a viable reciprocal relationship. The goal was to create a partnership in which participants from the university and school district are both beneficiaries and contributors — an example of collaborative leadership. The planning stage for the partnership included multiple discussions about roles and missions. This focus is reflected in the mission statement which reads, "The partnership is committed to increasing and sustaining the capacity of one another for educational excellence."

The reciprocal nature of the relationship is also reflected in the specific objectives of the partnership: 1) share a common vision, 2) be a knowledge- and research-based collaboration, 3) promote shared responsibility, 4) demonstrate an inherent commitment to excellence, 5) be focused and strategic in meeting goals, and 6) increase capacity within each organization through shared resources and expertise.

To achieve these objectives, the partnership is designed to promote interaction between district teachers, student teachers, and JCU faculty. Some examples of this partnership include the following:

Student teachers spend one academic year at Gearity Elementary School or Wiley Middle School working with a licensed teacher and participating in faculty meetings and district wide events. At Gearity, each student teacher works with one cooperating teacher; at Wiley each student teacher is assigned two cooperating teachers based on content areas for licensing. During the 2006-07 academic year, both Gearity and Wiley had five student teachers each. Upon successful completion of student teaching, candidates are recommended for the respective teaching license. Other education majors participate in a practicum course and tutor students at each site twice a week.

Another component of the partnership is the involvement of JCU faculty. One faculty member is assigned to each school. Supervision of student teachers and work with district teachers and administrators is part of the faculty course responsibilities. At Gearity, the faculty member is helping to re-vision the school. The focus at Wiley has the teachers and administrators more involved in how future teachers are educated and professionally prepared.

Gearity Elementary and Wiley Middle School have also provided John Carroll with classroom space to offer professional education courses on site. John Carroll offers both undergraduate and graduate level courses that are open to all education candidates such as in Reading. The graduate course was developed by university faculty and district teachers. The rationale for offering college courses on-site is to provide an opportunity for an obvious interaction between theory and practice.

Professional development opportunities also point to the reciprocal nature of the relationship between the university and school district. Teachers from Wiley have come to JCU to learn about different models of teaching and learning. The school district has also provided JCU faculty with professional development workshops.

In addition to regular activities during the school year, the partnership between John Carroll University and the CHUH City School District includes a summer program for gifted students. District teachers identify middle school and high school students who demonstrate special aptitude in math and science, and the students are invited to participate in a two-week program on the JCU campus. Students are engaged in

enrichment activities based on a problem-solving model; e.g., finding solutions to problems by collaborating with other students. Approximately 60 students participated in the program during the summer of 2006. Many of these students will return in the summer of 2007, and the program will be expanded to include a writing component. One goal of this experience is to have these gifted students consider a college education after high school graduation. This program is intended to provide them with an opportunity to be immersed in the college experience and to think about the possibility of a college education.

Program Benefits

Although the partnership has only been in effect since the fall of 2004, both JCU and CHUH participants feel that it is achieving its stated goals of student achievement, teacher preparation, continued professional development, inquiry, research and reflection, and sustainability.

They have not yet measured the impact of the program on student learning, and the partnership has not been in place long enough to identify best practices, but some benefits are already being seen. According to Joseph Micheller, Director of Educational Services for the CHUH City School District, JCU's pre-service teachers gain from the knowledge and experience of district teachers. Their work in the classroom can also help them to determine relatively early in their academic career whether teaching is the right profession for them. District teachers gain from the fresh perspective of the pre-service teachers and sometimes acquire new skills, particularly related to the use of technology. They also benefit from working with JCU faculty who are familiar with the latest research on effective teaching and learning. In turn, JCU faculty have indicated that their experience working with the district improves their teaching when they return to the university classroom. Although the direct benefits to CHUH students have yet to be assessed, some have observed that the children often relate better to the pre-service teachers who are closer to their age. The pre-service teachers serve as role models to the elementary and middle school students.

All of these benefits can be attributed to the fact that program participants are sharing the same environment rather than working in isolation. They are immersed in the teaching and learning experience, seeing it from all perspectives. The partnership effectively integrates research and practice.

University faculty have found that the district superintendent is very eager to make the partnership work. The district has been very committed to improvement and has provided the resources to help its teachers better serve their students. The partnership with John Carroll is only one part of a larger strategy.

Both school district officials and university faculty who are taking the lead in managing the program are hopeful that they can expand the partnership in the future. Micheller indicated that the district wants to get more schools and more university departments involved. The precise nature of the partnership might be different in different schools, but the model would be similar. The focus will remain on the ultimate goal, which is how best to help children to learn.

Literacy Specialist Project & Reading First – Ohio Center

John Carroll University is playing a leading role in a higher education partnership that aims to increase literacy among Ohio's children by offering professional development to teachers. Two statewide programs are co-led by JCU's Department of Education and Allied Studies: the *Literacy Specialist Project* and the *Reading First – Ohio Center*. The Literacy Specialist Project is a state-funded professional development program focused on improving teaching to increase literacy among students in preschool through grade 12. Reading First – Ohio Center is a federally funded program that channels money to the state, school districts, and other organizations to support the implementation of professional development programs for teachers in kindergarten through 3rd grade classrooms. The Reading First program is a collaborative that involves Cleveland State University and The University of Akron.

Both programs use a similar professional development model but involve a different set of collaborative partners. The model entails working through a statewide

network to design, develop, and implement a professional development curriculum for teachers. The Literacy Specialist Project was originated in 2000 by Professor Kathleen Roskos in collaboration with the Ohio Department of Education. Associate Professor Catherine Rosemary has served as director of the Literacy Specialist Project since 2001 and co-director of the Reading First – Ohio Center since 2004.

Literacy Specialist Project

The goals of the Literacy Specialist Project are to “widely disseminate foundational knowledge of literacy pedagogy to teachers of students preschool through adolescent and to build capacity to improve student achievement within districts through high quality professional development.”²³ This is achieved through the participation of university reading faculty (field faculty), mentor coaches (reading consultants), and school-based literacy specialists (teachers with strong literacy educational background and experience).

Field faculty members and mentor coaches play the leading role in disseminating a core curriculum. These two groups meet with school-based literacy specialists on a monthly basis to guide the implementation of the curriculum. The literacy specialists then conduct 15 professional development sessions with small groups of teachers at school sites. Each session covers theoretical background and research on literacy teaching and learning, problem-solving activities that integrate Ohio’s academic content standards and assess-plan-teach instructional cycle, and reflection.²⁴

Reading First – Ohio Center

The Reading First – Ohio Center was initiated in August 2003. Although articulated differently, its goal is similar: “to help K-3 teachers acquire the knowledge and skills they need for effective reading instruction, data-based instructional decision making, accurate diagnoses and powerful interventions that ensure children’s

²³ Literacy Specialist Project informational brochure,
<http://www.literacyspecialist.org/Brochure2.pdf>.

²⁴ Ibid.

progress.”²⁵ JCU partners with Cleveland State University and The University of Akron to lead the statewide program. The primary responsibility of JCU is to provide professional development in effective reading instruction to K-3 teachers. Cleveland State is the fiscal agent for the program and plays a major role in providing technical assistance to Reading First schools. Partners at Akron design and develop e-learning modules for statewide professional development in literacy.

As is the case for the Literacy Specialist Project, the Reading First – Ohio Center relies on a statewide network of university-based field faculty and mentor coaches and school-based literacy specialists to deliver a core curriculum to teachers. In this case, the literacy specialists hold nine professional development sessions with teachers throughout a school year. They also work with administrators and other staff to assure the successful implementation of the professional development curriculum. In addition, literacy specialists provide training in the use of screening, diagnostic and progress monitoring measures, and the interpretation of data to assist teachers in improving instruction.²⁶

The reach of the statewide literacy initiative also extends beyond the two programs. Largely as a result of the efforts of the higher education partnership led by John Carroll, the state of Ohio recently added a Literacy Specialist Endorsement to the credentialing system in teacher education. Teachers complete an 18-credit graduate program to meet the literacy specialist endorsement standards, which are based on the International Reading Association’s Standards for Reading Professionals, with special attention to the criteria for reading specialist/literacy coaches and teacher educators. The Ohio standards also promote a research agenda — the Literacy Specialist Endorsement requires an understanding of research methodologies as they apply to reading and writing, engagement in inquiry to advance understanding of teaching reading and

²⁵ Reading First – Ohio Center informational brochure.

²⁶ Ibid.

writing, and collaboration with other professionals for the purpose of advancing knowledge of reading and writing research.²⁷

The 18-credit graduate program needed to receive the Literacy Specialist Endorsement is offered through a consortium of seven universities, including John Carroll. It uses a statewide online delivery of courses culminating in an internship at home institutions. The program is the only one of its type in the country and has received national recognition.

Program Benefits

The model employed by the Literacy Specialist Project and Reading First – Ohio Center requires a large network of partners and collaborators. During the 2006-07 school year, John Carroll partnered with 20 different colleges and universities throughout Ohio to administer the Literacy Specialist Project and Reading First – Ohio Center. JCU (or the Center) entered into fiscal agreements with universities to provide a faculty release that allows them to participate in the program(s). In addition, JCU collaborated with 10 other institutions that receive sub-grants directly from the Ohio Department of Education to provide the fiscal means for them to participate in the Literacy Specialist Project and support the delivery of professional development in literacy to preschool educators. Thirty-seven field faculty and mentor coaches and 264 literacy specialists were involved across the state, and approximately 2,300 teachers were served by the two programs in 2006-07. Since the programs were initiated, it is estimated that more than 11,000 teachers have been served in 193 districts and three dioceses statewide.²⁸ Based on a conservative estimate of 15 students per teacher, the two literacy programs have benefited more than 165,000 students.

There are many data collection methods in place to track progress and monitor the effectiveness of the professional development programs. There is a feedback

²⁷ http://ira.org/publications/reading_today/samples/RTY-0506-ohio.html. Accessed May 30, 2007.

²⁸ Estimates of the number of teachers served are based on information gathered from Teacher Information Data Sheets, which have an average return rate of approximately 90%.

mechanism built into each phase of implementation. Participants at all levels report on what is working well and what needs improvement. An external evaluation of the Reading First – Ohio Center program is underway. In addition, a number of smaller scale studies are being conducted. When all the results are available, there will be more information about the programs' impacts.

While empirical data are still being compiled, anecdotal evidence speaks to the benefits of the professional development programs. Karen Heinsbergen has participated in the network in various capacities. She currently works for the Cleveland Heights-University Heights (CHUH) City School District as a program specialist focused on literacy education. Her role is to support district literacy initiatives and assist with the implementation.

Heinsbergen first became involved in the Literacy Specialist Project in Fall 2004. She later earned a reading endorsement through a graduate program offered by John Carroll. Following that, she became a literacy specialist, teaching the core curriculum for the adolescent literacy component of the Literacy Specialist Project. She was mentored by a field faculty member from Kent State University. Heinsbergen continued her involvement with the literacy initiative by completing the literacy endorsement program at JCU. She was a member of the first graduating class (in May 2007). She also teaches classes at JCU.

Earlier in her teaching career, Heinsbergen made the transition from a middle school to an elementary school and soon realized that she did not know enough about how to support the efforts of the younger children. This led her to enroll in the professional development course offered by the school district through the Literacy Specialist Project. She credits the professional development with helping her to analyze her teaching and learn from her students, making her better able to help them learn. The curriculum provided her with a logical progression to develop these skills. Heinsbergen believes her experience with the program has also helped her in her current job to support teachers and students. She feels that the program has directly affected individual teachers and in a less direct way may affect how school administrators view

literacy education. In January 2007, the CHUH City School District added another full-time position focused on literacy initiatives, and she sees this as evidence that they value the work.

The literacy programs also have an ancillary benefit for future teachers. Rosemary and Roskos indicate that participation in the professional development programs feeds into classroom instruction at the university level. Each of the collaborating institutions has a teacher education program so they see this as an important way to improve the education of future teachers. They are still working to establish a stronger link between what is learned through the professional development programs and what is taught at the universities.

Rosemary and Roskos see the higher education partnership as contributing to a larger body of work that is developing across the country. They believe a great deal of knowledge exists about how to improve literacy but it is not well distributed. These programs are part of a system to distribute knowledge. They want to build capacity by creating more knowledgeable people and believe the partnerships are important because it is the only way to make significant changes and improvements in the educational system. The Literacy Specialist Project has a 70% retention rate among university participants — that is, 70% of the faculty who began working with the program seven years ago are still with the program. Rosemary and Roskos think this speaks to the success of the program and anticipate that the network will continue to grow.

Muldoon Center for Entrepreneurship

The Muldoon Center for Entrepreneurship at John Carroll University has a dual focus — to develop entrepreneurial skills among students (the academic component) and to help existing entrepreneurs grow their businesses (the business component). The center, housed within the Boler School of Business, was established with a \$2 million endowment provided by JCU alumni and businessmen Ed Muldoon and John Boler.

The academic arm of the Muldoon Center is led by Professor John Soper, holder of the Kahl Chair in Entrepreneurship.²⁹ Two programs fall within the scope of the academic side of the center: the Collegiate Entrepreneur's Organization (CEO) and Students in Free Enterprise (SIFE).

SIFE is an international nonprofit organization with student teams on university campuses across the world. The student teams work with faculty advisors to develop community outreach projects that address at least one of the five educational topics identified by the parent organization: market economics, success skills, entrepreneurship, financial literacy, and business ethics. The goal is to use personal educational experiences, the expertise of faculty advisors, the support of local business advisory boards, and the resources of educational institutions to implement programs that create real economic opportunities for members of their communities.³⁰ The programs are judged in a national competition based on their effectiveness in creating economic opportunity for others. Teams that win at the national level then compete in an international competition.

The Collegiate Entrepreneur's Organization (CEO) bridges the academic and business arms of the Muldoon Center. It is an exclusive group of primarily upperclassmen who have expressed interest in entrepreneurship. Membership in the CEO also grants them membership in the Entrepreneur's Association (EA) — a select group of local business executives (discussed below). By participating in the EA, members of the CEO can benefit from learning and networking opportunities with experienced entrepreneurs.³¹

²⁹ The John J. Kahl Chair was established in 1998 with a \$1 million endowment from Jack Kahl Jr. in honor of his father, businessman John Kahl. A matching gift from the Boler Challenge Fund later increased the endowment to \$2 million. The endowment fund that established the Kahl chair is separate from the \$2 million endowment that established the Muldoon Center.

³⁰ Source: www.sife.org (Accessed May 31, 2007).

³¹ During the 2006-07 academic year, two members of CEO worked with two other JCU students to create a business plan that was entered into a national competition (Spirit of Enterprise and Entrepreneurship Development). They advanced to the finals where they competed against students from top universities across the country. They also won the LaunchTown Entrepreneurship Award, a business plan competition that JCU recently initiated.

An additional activity of the academic arm of the Muldoon Center is its involvement in a summer immersion program for undergraduate students interested in entrepreneurship. The intensive one-week program is a collaborative effort of seven local universities. The program addresses topics such as developing a business idea and exploring innovation and creativity and provides networking opportunities for participants. Students also form teams to create a business plan that is judged by an outside panel of entrepreneurs. The winning team receives a cash award.

The business arm of the Muldoon Center, led by Mark Hauserman, works with established businesses to help them grow; it does not assist start-up companies. Efforts are focused in three areas: mentoring, programming, and relationship building. Work is coordinated through the Entrepreneurship Association (EA). Membership in the EA is limited to 250 companies, which enables Hauserman to gain familiarity with each business. Companies must be nominated for membership by a current EA member, have at least \$1 million in annual revenue, and have been in business for at least five years.³² Many of the companies in the EA have between \$7M and \$50M in annual revenue. Those designated as “professional” members (accountants, lawyers, and other business service providers) must have been in business for at least 15 years before being admitted and cannot constitute more than 25 percent of the total membership. These limits are intended to prevent the EA from becoming a venue for professional members to sell their services to other members. Each company pays an annual membership fee — \$300 for entrepreneurs, \$350 for professional members, and \$500 if the member wishes to sponsor a student for CEO. Programs and services provided to members are covered by this fee, and with the exception of special half-day programs, there generally is no additional cost to participate in individual programs or events.

The mentoring program is a key offering of the business arm of the Muldoon Center. EA member business owners can bring an issue that impedes the growth of their business to the mentoring committee. The committee then matches the business

³² Rules will soon be changed to limit membership to companies with a minimum of \$2 million in annual revenues.

owner with individuals who can help them address specific areas of concern. The mentors include at least one master entrepreneur (an EA member who has successfully operated a business for a number of years), a faculty member with expertise in a relevant field, and another member of the local business community who also has expertise in a needed area. The goal is to establish a set of five or six strategic objectives that the business owner can achieve in the short-term. Once the business owner initiates the program, the mentoring committee follows up in 90 and 180 days to insure that the advice given was on target.

A second facet of the mentoring program is to facilitate the use of an advisory board by EA member companies. A member may request help in establishing an advisory board, or assistance in evaluating his or her current board. In addition, the association provides the member with training to manage the board to ensure effectiveness in using the board to grow the business.

The programming efforts of the Muldoon Center involve planning interactive programs and events that address issues of concern to entrepreneurs in operating and growing their businesses. Topics are carefully selected by a committee of entrepreneurs; the events are intended to provide EA members with information that can be immediately applied to their work. The key ideas presented at each program are summarized within days of the event and sent to all members of the EA in a *Last Night Report*.

The third area of focus of the business arm of the Muldoon Center is a system of sophisticated relationship building. Throughout the year, a number of activities are planned to afford business owners the opportunity to share experiences and learn from each other. Hauserman coordinates all the relationship-building activities, which may range from helping companies identify sources of capital to tapping into the expertise embedded in the Boler School faculty. These activities may also include connecting companies and students for internship opportunities. The goal is to connect businesses with needed resources, and Hauserman follows up on each action to see that the desired

outcome is achieved. He stresses the importance of reaching beyond simply providing a name or phone number.

Program Benefits

Margaret Judd was the first entrepreneur to participate in the mentoring program offered by the Muldoon Center. Judd owns Executive Arrangements, a firm that provides executive recruiting services, executive relocation assistance, and special event and meeting planning services. She worked at the company for 13 years before acquiring it in 2004. She quickly realized that she needed to think about business strategy and address management issues that had not been her direct responsibility as an employee. She began looking for help.

At that time, Mark Hauserman had recently been named director of the Muldoon Center. Judd talked to him about the mentoring program which was just getting off the ground. By connecting her with experienced entrepreneurs, the program promised to help her through every phase of company growth. She was connected with two master entrepreneurs and a JCU marketing professor.

Judd provided her mentors with detailed financial statements for her business. They went over the statements line by line and offered direct advice on where to trim costs. They also advised her on how to update the antiquated accounting system that the business had been relying upon. Additionally, they advised her about how to advertise on a minimal budget by contracting a freelance public relations professional to promote her business. After several sessions, her mentor recommended a few very specific objectives, all of which she pursued. Executive Arrangements has grown each year since Judd acquired the company.

Judd credits Hauserman with being very good at matching business owners with the right mentors based on what the company does. He gets to know each company and adopts a very hands-on approach in providing support. This validates the importance of limiting membership in the EA. Judd is now on the advisory board of the EA and assumed leadership of the program committee in June 2007.

Applied Research in Environmental Biology & Chemistry

The importance of protecting local watersheds is becoming more widely recognized by the general public. A watershed is the area of land that catches rain and snow and drains or seeps into a marsh, stream, river, lake or groundwater.³³ Watersheds supply drinking water, provide critical habitats for plants and animals, serve as recreational amenities, and support business activity.

A few faculty members from John Carroll have been very actively involved in efforts to monitor and preserve Northeast Ohio's watersheds. Miles Coburn and Jeffrey Johansen, Professors of Biology, and Michael Nichols, Associate Professor of Chemistry, have each undertaken a number of applied research projects that help to maintain or improve water quality in the region.

Doan Brook Watershed

The Doan Brook Watershed has been the focus of some of these efforts. The watershed area covers 11.7 square miles (7,500 acres) with approximately 145,000 residents. It includes parts of Shaker Heights, Cleveland Heights, and the east side of Cleveland.

Green Lake and Marshall Lake are small bodies of water located in the southern branch of the Doan Brook Watershed that have exhibited poor water quality due to non-point source pollution (urban run-off) including residential and commercial turf, streets, parking lots, and sanitary and combined sewer overflows.³⁴ In 2002, Green Lake experienced a major algae bloom, which often indicates an increase in particular types of pollutants. Excessive algae not only affect the aesthetic value of a lake, but can also threaten fish populations. In 2002, the city of Shaker Heights implemented a costly plan to remove the algae by mechanical means. Since fall 2003, Shaker Heights has been employing bioaugmentation treatments to control the algal growth. Dr. Nichols worked

³³ U.S. Environmental Protection Agency, www.epa.gov/surf/watershed.html

³⁴ Nichols, M. *Environmental Chemistry Research and Service Projects in Northeast Ohio, 2001-07*.

with the city and Doan Brook Watershed Partnership to evaluate the effectiveness of these treatments in both Green Lake and Marshall Lake.

As part of this project, he has been collecting samples from various locations within the lakes to determine the source of pollutants and whether treatments were making a difference. Nichols was able to ascertain that a problem with the sanitary sewer system was one source of pollution in Green Lake, and as a result, this particular problem was corrected. He is collecting additional data to gain more information about factors negatively affecting the water quality of the lakes. Biology and chemistry students from John Carroll are involved in the project through for-credit research, but Nichols does the majority of the work.

Dr. Coburn has also been involved in efforts to improve water quality and preserve native species within the Doan Brook Watershed. In 1999, he received funding from the Northeast Ohio Regional Sewer District (NEORS) to re-stock native fish that had been depleted in Doan Brook. He re-introduced three species of fish at that time and continues to monitor their survival on a regular basis. Students in one of his classes collect samples on an annual basis, and Coburn draws additional samples at other points in time. Two of the three species have been successfully re-established. In addition to this effort, Coburn has sampled waters adjacent to the Nature Center at Shaker Lakes to determine the extent to which certain species of fish are moving throughout the lake. He also checks diatom (algae) levels, which indicate water quality. Children attending camp at the Nature Center often come to observe his work.

Euclid Creek Watershed

In addition to his work on the Doan Brook Watershed, Nichols has been very involved in research on the Euclid Creek Watershed. The Euclid Creek Watershed encompasses an area of 24 square miles located in eastern Cuyahoga and western Lake Counties.

Several years ago (2000-2001), Nichols performed a number of water quality studies, including comparisons of water quality within the watershed and monitoring of

water quality during a storm event. He detected different types and levels of pollutants in various sections of the watershed and shared his data with the Ohio Environmental Protection Agency (EPA). The data was used by the EPA in 2002 when assessing the impact of the Legacy Village shopping center and later in 2003 when the EPA developed the Euclid Creek Watershed TMDL report. TMDL refers to “total maximum daily load.” It is a calculation of the maximum amount of a pollutant that a body of water can receive and still meet water quality standards.

The EPA relied upon data collected by Nichols when doing the Euclid Creek TMDL modeling. The final report was issued in September 2005. In 2006, Nichols began leading the newly established Euclid Creek Watershed Volunteer Water Quality Monitoring Program. The program involves monthly monitoring of sites within the watershed by citizen volunteers and students and faculty/teachers from several schools, colleges and universities, including Jane Addams High School, Cuyahoga Community College (East), Notre Dame College, Ursuline College, and Baldwin Wallace College. Students from John Carroll and Richmond Heights High School will soon be involved as well. Nichols trains and advises the volunteers, maintains the equipment (owned by JCU and the Cuyahoga County Soil and Water Conservation District), and analyzes the samples that are collected. An application to have the program certified to provide Level II Credible chemical water quality data to the Ohio EPA is in preparation (with Nichols as the lead author). The Ohio EPA uses Level 2 Credible Data in assessing water quality and identifying where future study is needed. When approved, it will be the first volunteer monitoring program in the state to be certified at any level.

Tinkers Creek Watershed

The Tinkers Creek Watershed has also been the subject of research. Dr. Johansen was involved in a joint project with a Cleveland State professor to conduct a historical water quality analysis of the stream and assess the impact of urbanization on the creek. Tinkers Creek is the largest tributary to the Cuyahoga River and has a drainage area of 96.4 square miles. It flows through 19 different political jurisdictions and four counties.

The project, which was managed by the NEORSD, involved analyzing fish samples that dated back to the 1970s. Johansen analyzed the stomach contents of minnows that eat algae and diatoms. The diatoms do not break down, which allows researchers to track changes in the algae found in a particular body of water. Nutrient changes in water chemistry are reflected in the algae, and therefore, the algae provide information on how land use changes (i.e., development) have affected the water. The Ohio EPA contributed to this effort by providing historical samples to Johansen for analysis.

Other Water Quality Projects

Dr. Johansen received a grant from the U.S. Environmental Protection Agency to work with several researchers in the Great Lakes region to develop water quality indicators for the near shore waters of the Great Lakes. This project has implications for future monitoring of water quality and for assessing the impacts of urbanization and the loss of wetlands.

Johansen has also been involved in the study of Ohio rivers for which Remedial Action Plans exist. These include the Cuyahoga, Ashtabula, and Black Rivers. He is helping to monitor the estuary areas of Lake Erie (the mouths of the rivers that empty into the lake). His collaborator, Dr. Gerald Sgro, participates on the RAP committees that guide the process. These committees include representatives from several different agencies and organizations, including the Ohio EPA, NEORSD, Cuyahoga Soil and Water Conservation District, and citizen groups. The goal is to create a plan to improve water quality. JCU students are also involved in these efforts through independent research or summer work.

Program Benefits

At the most basic level, the work conducted by John Carroll scientists represents a considerable cost savings for public agencies. Bill Zawiski, Environmental Scientist with the Ohio EPA, contends that this is a very substantial benefit to the EPA and local

organizations. For example, the data collected by Dr. Nichols contributes to the TMDL reports that the EPA prepares. Each sample that Nichols analyzes would cost \$20 to \$25 if the EPA needed to pay for the service. Nichols has tested hundreds of samples without cost.

In addition, Dr. Nichols donates his time to train the Euclid Creek volunteer water quality monitoring group and to analyze the collected samples. If he did not fill this role, The Friends of Euclid Creek (a not-for-profit citizens group) might need to pay someone for the service. In addition, Zawiski noted that the EPA has not continued monitoring water quality in the watershed because someone they trust is doing the work. This adds to the cost savings.

Nichols also worked free of charge to evaluate the effectiveness of the treatments to Green Lake and Marshall Lake. The city of Shaker Heights has paid approximately \$25,000 a year for the treatments so it is important to know whether they are working — the city would need to pay an environmental consultant a significant fee to perform the tests and interpret the data.

Lester Stumpe, Manager of Watershed Programs at the Northeast Ohio Regional Sewer District, also noted the financial benefits of the work that is conducted by JCU faculty and students. He indicated that stream restoration is still an art in some respects — they need scientific research to see what is working. They spend a large amount of money to restore waterways, so it is very important to know the outcomes. Information that leads to more effective interventions can represent a large cost savings. NEORSDD must meet water quality regulations — if they meet the technological regulations (i.e., how much they can discharge into a stream) but fail to meet water quality regulations, they know their efforts are insufficient.

Another substantial benefit of the work being conducted by JCU faculty is the credibility that they add to the work of public agencies and community organizations. Zawiski stated that to have an environmental chemist supporting the work of the Ohio EPA gives the agency more credibility with some audiences. As a regulatory agency,

the EPA is not always looked upon favorably, but having scientists back its work reinforces the agency's message.

Stumpe also believes that the scientific expertise of university faculty has a considerable impact on efforts to improve water quality. Faculty not only offer knowledge and experience that is often lacking in other groups (particularly the volunteer community groups), but they also introduce an independent view and a healthy skepticism based on scientific method. They ensure that water quality monitoring processes are scientifically rigorous (that they rely on an adequate number of samples, appropriate collection procedures, correct analytical techniques, etc.). The involvement of university scientists gives the work validity. Ultimately, their work provides useful information that leads to more informed decision making. Government agencies and concerned citizens have good scientific information on which to base management decisions.

On a broader level, the work of JCU faculty contributes to wide scale efforts to restore the environment in Northeast Ohio. Stumpe notes that people place great value on having healthy waterways. Protecting the Cuyahoga River and the smaller tributaries is also about protecting Lake Erie. He stresses the importance of protecting the lake and recognizing it as a key regional asset. University researchers are often able to get community groups and policy makers to think more holistically about water quality and its importance to the future of the region.

Summary

The five areas of work highlighted above represent only a portion of the work that John Carroll students, faculty, and staff are engaged in with the broader community. However, they illustrate the important ways in which universities serve those outside their campus boundaries. As a Jesuit institution, John Carroll considers community service as a central part of its mission and encourages all to become involved. This is reflected in the activities described in this section as well as the many activities that could not be covered here.

Conclusions

This study captures the economic impact of John Carroll University on Northeast Ohio as well as the university's contributions to quality of life in the region. These objectives were pursued by: 1) employing a traditional economic impact model to estimate the ripple effects of university expenditures on the regional economy; and 2) adopting a qualitative approach to identify contributions to the region that cannot be quantified.

By creating additional demand for goods and services, the university, its students, and its visitors provide an economic stimulus to Northeast Ohio. Local businesses experience increased sales, jobs are created, and household earnings are augmented. In FY06, the result was as follows:

- Total Output Impact: \$115.8 million
- Total Employment Impact: 1,486 jobs
- Total Earnings Impact: \$54.1 million

The second purpose of this study — to assess JCU's contribution to quality of life in the region — is more difficult to fully describe. The university, through its students, faculty, and staff, are involved in a number of activities that aim to improve the lives of those who reside in Northeast Ohio. These activities include direct community service, educational initiatives, applied research, business assistance services, and cultural events. This study described five areas of work that exemplify this: community service and service learning (through the Center for Community Service); a partnership between JCU and the Cleveland Heights–University Heights City School District; two literacy programs implemented throughout Ohio; entrepreneurial development services offered through the Muldoon Center for Entrepreneurship; and applied research in environmental biology and chemistry. These examples demonstrate the types of benefits that can accrue when the resources of a university are used to address issues affecting a community.