

The Economic Impact of Nuestras Raices on the City of Holyoke: Current and Future Projections

February, 2007

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EXECUTIVE SUMMARY February 2007

In this report we provide the current and projected economic impact of Nuestras Raices on the city of Holyoke. Nuestras Raices is a community-based organization founded in 1992 that emphasizes urban agriculture as a means of community development and building intergenerational connections within the Puerto Rican community through the utilization of agricultural heritage.

Nuestras Raices impacts the local economy in three major ways:

- Nuestras Raices' annual operating budget of \$560,000 results in an increase in the local economy of \$1,031,759;
- The impact of non-local visitors attracted to Nuestras Raices sites in 2006 was \$148,311;
- The impact of small businesses incubated through Nuestras Raices' programs is \$1,017,848 annually.

Nuestras Raices plans \$280,000 in capital projects in 2007. The impact on the local economy during the period these projects are undertaken is estimated to be \$515,592.

The capital projects will continue the development of the Tierra de Oportunidades farm site. The development of the site will be accompanied by increased educational programs, small business development, cultural performances and celebrations, and an increase in visitors from outside of the area.

When the implementation of its current capital development project is completed, it is projected that the combined effects of Nuestras Raices' annual expenditures, the small businesses it has incubated and supported, and the non-local visitors it has attracted to the area will be approximately \$3,981,179 annually.

The impacts will be spread over a wide variety of sectors in the economy, involving many types of education and skill levels.

The Economic Impact of Nuestras Raices on the City of Holyoke: Current and Future Projections

In this report we provide the current and projected economic impact of Nuestras Raices on the city of Holyoke. We point to the role of Nuestras Raices in generating jobs and incomes for residents, markets for businesses, education and job training for youth, and cultural offerings for the city of Holyoke.

Background

The city of Holyoke is located in Hampden County in Massachusetts. The city has a total population of 39,838 residents, of whom 14,539 or 36% are of Puerto Rican descent.¹ This is reportedly the highest concentration of Puerto Ricans in the U.S. (outside of Puerto Rico).²

Holyoke was traditionally a city of paper mills, with as many as twenty-five in operation at one time. Puerto Rican immigration to the city began in the 1950s, following earlier waves of Irish, French Canadians, and Poles to the paper mills.

Today, Holyoke's economy is struggling. Median family income according to the 2000 Census is \$36,130. About 23% of families live below the poverty line. Currently, Holyoke is one of the poorest cities in Massachusetts, with about 42% of children under age 18 living below the poverty line.

Nuestras Raices

Nuestras Raices is a community-based organization that emphasizes urban agriculture as a means of community development and building intergenerational connections through the utilization of agricultural heritage.

Nuestras Raices was founded in 1992 by the members of the La Finquita community garden. Today, its projects include 8 community gardens and 2 youth gardens; the Centro Agricola plaza for small business development and community education; and Tierra de Oportunidades farm site with educational programs, small business training, and cultural celebrations. Nuestras Raices is also home to the Women's Leadership and Entrepreneur Group, and is currently involved in a partnership to organize an Environmental Health Coalition in Holyoke.³

¹ Data are from the New England Cultural Database, available at www.newenglandarts.org/public/quicklink.aspx?topic=4, accessed 2/16/2007.

² Wikipedia article on Holyoke, citing an epodunk article.

³ From the Nuestras Raices web site, <http://www.nuestras-raices.org/>, accessed 2/26/2007.

Economic Impacts of Nuestras Raices' Annual Expenditures

The operating budget for Nuestras Raices for 2007 is \$560,000. Additionally, there is anticipated spending of \$280,000 on capital projects in 2007. Capital projects center around the continued development of the Tierra de Oportunidades farm site along the Connecticut River in Holyoke. The project includes farm plots, nature trails, an outdoor stage, farm stand, and the restoration of a one hundred and thirty five year old barn that will be used for youth training at the farm site.

Breaking down the annual expenditures by sector is difficult, since all of the initiatives are interrelated and connected by the common goal of economic, human and community development of the Latino/a community in Holyoke through food, agriculture and the environment. For the purpose of the economic impact analysis, we allocate \$100,000 to agricultural expenses⁴ and \$100,000 to youth education⁵. The remaining \$360,000 we place in the cultural sector.

The economic impact on the local economy of Nuestras Raices' 2007 budget is provided in *Table 1*.

Table 1
Economic Impact of Nuestras Raices' Annual Expenditures (\$560,000)

Type of Effect →	Direct	Indirect	Induced	Total
Total Impact	\$560,000	\$227,810	\$243,949	\$1,031,759

Direct effects of Nuestras Raices 2007 expenditures are \$560,000. **Direct effects** are the effects of an expenditure on the sector or industry in which the money was actually spent. As mentioned above, we estimate that \$360,000 of Nuestras Raices budget is spent in the cultural sector; \$100,000 in the greenhouse and nursery production sector; and \$100,000 in the other educational services sector.

Indirect effects are the impacts on the local economy generated as the sectors directly affected purchase more of the things they need from other sectors (their suppliers) in order to meet increased demand. The indirect effects of Nuestras Raices' annual budget on the local economy are \$227,810. This means that the income of businesses who sell directly to cultural organizations, greenhouses, and educational services organizations (rather than to Nuestras Raices) increased by \$227,810 as a result of increased

⁴ We place these expenditures in the Greenhouse and Nursery Production sector.

⁵ We place these expenditures in the Other Educational Services sector.

demand in these sectors caused by Nuestras Raices spending its annual budget.

While direct effects occur, for the most part, in the sector where the spending occurs (here, cultural venues, greenhouses, and education), indirect effects occur in a variety of sectors. *Table 2* presents the top five sectors impacted by indirect effects of Nuestras Raices’ annual expenditures.

Table 2
Top Sectors Impacted by the Indirect Effects of Nuestras Raices’ Annual Expenditures

	Sector and Amount of Indirect Effects
Top Sector Affected	Real estate \$38,371
Second Most Affected Sector	Other educational services \$21,023
Third Most Affected Sector	Business support services \$11,485
Fourth Most Affected Sector	Power generation & supply \$10,671
Fifth Most Affected Sector	Employment services \$9,545

Table 2 shows that the top sectors of Holyoke to benefit as Nuestras Raices’ annual budget circulates through the local economy are real estate, education, business support services, energy, and employment services. It makes intuitive sense that as the local economy strengthens, these sectors would be leading sectors of growth. Real estate growth is caused by an increased demand for land by businesses and households. An increase in educational services is generated by the increased need for a trained workforce. Energy, business support services, and employment services all grow as part of a strengthening economy.

Table 2 shows only the top five sectors affected by indirect economic effects of Nuestras Raices’ annual expenditures. A total of 240 sectors of the local economy experience increased income as a result of Nuestras Raices’ presence in Holyoke, although the growth is modest in many of these sectors. Included in the other sectors are postal service, radio broadcasting, advertising, clothing, and book publishers. The list includes sectors with a wide range of education and training requirements.

New household income is created as the result of increased spending in the Holyoke economy. This new household income occurs in all of the sectors experiencing direct and indirect effects of Nuestras Raices’ expenditures. New employees are hired to meet increased demand, and this increases total household income in the community. The impacts caused by the expenditure of this increased household income are called **induced effects**. *Table 3* lists the top five sectors that benefit from the induced effects of Nuestras Raices annual expenditures.

Table 3
Top Sectors Impacted by the Induced Effects of Nuestras Raices' Annual Expenditures

	Sector and Amount of Induced Effects
Top Sector Affected	Owner-occupied dwellings \$31,975
Second Most Affected Sector	Hospitals \$16,901
Third Most Affected Sector	Offices of physicians & dentists \$13,479
Fourth Most Affected Sector	Food services \$13,094
Fifth Most Affected Sector	Wholesale trade \$11,499

Table 3 shows the sectors that benefit the most as households spend their increased income. A total of 229 sectors experience some growth, although the growth is modest in many of the sectors. Sectors in addition to those listed in *Table 3* include automotive repair, personal care services, veterinary services, death care services, ice cream manufacturing, and toy manufacturing.

The economic impacts of Nuestras Raices are more broad-ranging than might be expected at first thought. That is due to the fact that its expenditures circulate through the local economy, first to the suppliers it deals directly with, and then to a wider section of the economy as the effects of new hiring are generated. *Table 4* presents the top five sectors in terms of the total effects of Nuestras Raices' annual expenditures. **Total effects** are the sum of direct, indirect, and induced effects of Nuestras Raices' annual expenditures.

Table 4
Top Sectors in terms of Total Effects of Nuestras Raices' Annual Expenditures

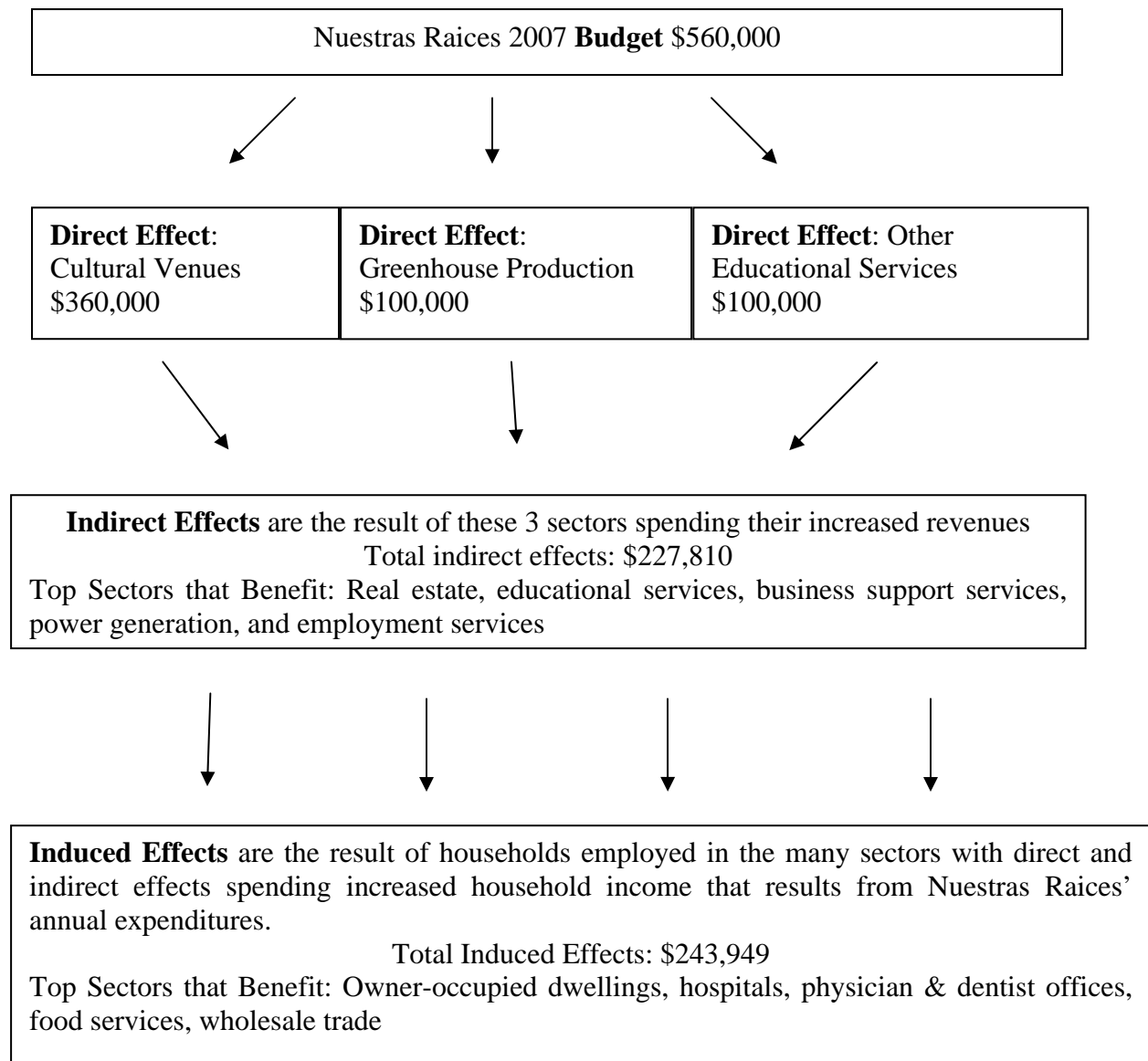
	Sector and Amount of Total Effects
Top Sector Affected	Cultural venues \$360,203
Second Most Affected Sector	Other educational services \$122,344
Third Most Affected Sector	Greenhouse & nursery production \$100,737
Fourth Most Affected Sector	Real estate \$48,321
Fifth Most Affected Sector	Owner-occupied dwelling \$31,975

Table 4 shows that the greatest effects of Nuestras Raices' expenditures occur in the sectors where the monies are actually spent – culture, education, and

greenhouse production. The next most affected sectors are real estate and owner-occupied dwellings.

Figure 1 provides a summary of the process by which Nuestras Raices' annual expenditures circulate through the local economy, producing direct, indirect, and induced economic effects.

Figure 1
The Economic Impacts of Nuestras Raices' Annual Budget



The Economic Impacts of Non-local Visitor Spending

In addition to expenditures by the organization itself, Nuestras Raices generates economic benefits for the community by bringing visitors from outside of the community to their sites. Non-local visitors spend money locally, creating additional economic impact in the community.

In order to estimate the impact of visitors on the local economy, we need two basic pieces of information: the estimated number of non-local visitors during the year; and the estimated amount each non-local visitor spends in the area during the visit. Nuestras Raices estimates that this past year they had approximately 5,000 visitors, with about 2,500 of them non-local.⁶

For an estimate on the amount spent by non-local visitors during their visit, we take as a starting point the results of surveys done by Americans for the Arts of non-local visitors to cultural venues in a selection of cities nationally. Adjusting for inflation, the figures we use are: transportation (gasoline) \$5.90; souvenirs and other retail purchases \$11.11; lodging \$8.02; and restaurant meals \$15.55. Thus, it is estimated that a non-local visitor spends, on average, \$40.58 in the area during his or her visit (including the cost of transportation).

We calculate the economic impact of **non-local** visitors because of the argument that there may be a ‘substitution effect’ for *local* visitors (i.e. if they didn’t attend this event they would have done something else local, spending the same amount of disposable income).

The economic impact on the local economy of the current 2,500 non-local visitors to Nuestras Raices is given in *Table 5*.

Table 5
Economic Impact of Visitor spending on the Local Community (based on 2500 non-local visitors)

Type of Effect →	Direct	Indirect	Induced	Total
Total Impact	\$89,768	\$23,180	\$35,363	\$148,311

⁶ It is estimated that approximately 50% of visitors were from Holyoke, 25% from Western Massachusetts, and 25% from out of state. The largest single day was Harvest Festival, which brought approximately 1,000 visitors to the Tierra de Oportunidades farm site.

Direct effects of non-local visitor spending on the local economy are \$89,768.⁷ The indirect effects of non-local visitor spending on the local economy are \$23,180. This means that the income of businesses who sell directly to gas stations, retail shops, hotels, and restaurants increased by \$23,180 due to the increase in demand in these sectors caused by non-local visitors to Nuestras Raices. *Table 6* presents the top five sectors impacted by indirect effects of non-local visitor spending.

Table 6
Top Sectors Impacted by the Indirect Effects of Visitor Spending (based on 2,500 non-local visitors)

	Sector and Amount of Indirect Effects
Top Sector Affected	Real Estate \$2,518
Second Most Affected Sector	Wholesale Trade \$2107
Third Most Affected Sector	Management of Companies \$1535
Fourth Most Affected Sector	Power Generation and Supply \$1362
Fifth Most Affected Sector	Newspaper Publishers \$781

These sectors highlight the ways in which the local economy is strengthened. As visitors spend money on restaurant meals and lodging, for instance, businesses seek to capture more of that money, perhaps by locating closer to Nuestras Raices sites. Suppliers to restaurants and retail shops benefit. An increase in the number of businesses results in increases in the management sector, the use of energy, and an increase in advertising to attract the visitors.

One hundred and ninety-four (194) total sectors benefit from the indirect effects of non-local visitor spending, although the effects in many of the sectors are quite small. A few of the less obvious sectors include: postal service, insurance carriers, dry cleaning, waste management, paperboard container manufacturing, colleges, and wood windows and doors manufacturers. The list includes a wide range of education and training backgrounds in the local economy.

New household income is created as the result of increased spending in the local economy. This new income is the result of additional wages paid to restaurant, shop, and hotel employees. The impacts on local sectors of the economy caused by the expenditure of this new household income are the induced effects. *Table 7* lists the top five sectors that benefit from the induced effects of non-local visitors to Nuestras Raices.

⁷ If we multiply 2,500 non-local visitors by the \$40.58 each is expected to spend, we get \$101,450. The direct impact of these expenditures is less because of the nature of expenditures on gasoline and retail products. While restaurant meals and lodging are ‘produced’ locally, when the individual requests them, gasoline and most retail items are produced outside of the Holyoke area; thus only a portion of the money spent by the visitor on these items actually benefits the local economy.

Table 7
Top Sectors Impacted by the Induced Effects of Visitor Spending (based on 2,500 non-local visitors)

	Sector and Amount of Induced Effects
Top Sector Affected	Owner-occupied dwellings \$4,634
Second Most Affected Sector	Hospitals \$2,450
Third Most Affected Sector	Offices of physicians and dentists \$1,954
Fourth Most Affected Sector	Food services \$1,898
Fifth Most Affected Sector	Wholesale trade \$1,667

Two hundred and twenty-nine (229) sectors of the local economy benefit from the induced effects of non-local visitor spending. These sectors, like hospitals, physicians, and dentists, are benefiting from new households with income to spend and/or an increase in income-level of existing households.

Other sectors that benefit from the induced effects of non-local visitor spending are: motor vehicle dealers, clothing stores, other educational services, electronics stores, personal care services, veterinary services, death care services, book publishers, bowling centers, and air transportation.

Overall, the economic impact of non-local visitor spending is wide-ranging, covering many sectors in the local economy and affecting a variety of educational and skill-level jobs. *Table 8* presents the top five sectors in terms of the total effects of non-local visitor spending.

Table 8
Top Sectors Impacted by the Total Effects of Visitor Spending (Based on 2,500 non-local visitors)

	Sector and Amount of Total Effects
Top Sector Affected	Food Services \$41,206
Second Most Affected Sector	Store Retailers \$28,004
Third Most Affected Sector	Hotels and motels \$20,276
Fourth Most Affected Sector	Owner-occupied dwellings \$4,634
Fifth Most Affected Sector	Real estate \$3,961

Table 8 shows that the greatest effects are in the sectors where the monies are actually spent, in the food, retail, and lodging sectors. The next most affected sectors are owner-occupied dwellings and real estate.

Nuestras Raices as Employer

Nuestras Raices also affects its local economy through its effects on local employment. Nuestras Raices employs 19 individuals. It has 6 adult full-time staff, 3 adult part-time staff, and 10 paid youth leaders who work part-time throughout the year.

The variety of projects offered by Nuestras Raices means that these jobs occur in a number of occupational categories. They include youth educators, farming experts, trainees, and project managers.

The monies spent by the organization and by non-local visitors to the sites lead to increase demand in many sectors of the local economy, supporting increased employment in the community. Our analysis estimates that the annual expenditures of Nuestras Raices generates 2.5 jobs in the community through indirect effects (i.e., jobs among the sectors that supply Nuestras Raices) and 3 jobs through induced effects (i.e., jobs in the sectors where households are spending increased income due to Nuestras Raices' annual expenditures).

Non-local visitor spending generates another 3 jobs in the local community.

Nuestras Raices as Entrepreneurial Incubator

Nuestras Raices generates additional economic impacts for the community through its entrepreneurial program to incubate new businesses on its property. Currently, five small businesses are based in Nuestras Raices facilities, and it is estimated that these businesses have a combined gross of \$600,000 annually. The businesses include a restaurant, bakery, greenhouse operation, coral aquaculture producer, and *sofrito* sauce maker.

There are also 125 families of community gardeners. It was estimated in a 1999 Mt. Holyoke College study that each family generated an average of \$1,000 of organic produce annually. We estimate that 25% of that produce is sold in the farm market, generating family income, while 75% is consumed by the families. *Table 9* presents the estimated impact of these small entrepreneurial businesses.

Table 9
Economic Impact of New Enterprises Incubated through
Nuestras Raices Programs

Effects	Direct	Indirect	Induced	Total
Amount	\$631,250	\$176,145	\$210,453	\$1,017,848

The results of our analysis are shown in *Table 9*. They estimate that the small businesses currently in operation at Nuestras Raices' sites bring just over \$1 million additional income to the community.

Economic Impacts of Nuestras Raices' Planned Expansion

Planned Capital Improvements

Nuestras Raices anticipates spending \$280,000 on capital projects in 2007. These monies are in addition to their \$560,000 operating budget already examined above. The projects are largely associated with the expansion of the Tierra de Oportunidades farm site. The project includes farm plots, nature trails, outdoor stage, farm stand, and the restoration of a one hundred and thirty five year old barn that will be used for youth training at the farm site. In terms of our analysis, we assume that \$150,000 will be spent on structures at the site and \$130,000 will be spent on developing the farm sites, nature trails, stage, and other aspects of the site.

We analyze these capital projects separately from the annual operating budget because they take place in a specific, limited timeframe. These projects can have a significant effect on the community, but they are not expected to occur annually in the same way that operating budget expenditures do. *Table 10* presents the impacts of the 2007 planned capital projects.

**Table 10
Impact of Nuestras Raices 2007 Capital Improvement Projects**

Effects	Direct	Indirect	Induced	Total
Amount	\$280,000	\$69,479	\$166,113	\$515,592

During the period in which the capital improvements are occurring, there will be an additional impact of just over half a million dollars on the Holyoke community.

Planned Increase in Incubated Entrepreneurial Businesses

When the capital improvements at the Tierra de Oportunidades farm site are completed, new opportunities will exist for entrepreneurial businesses. These include farms, a farm store, cultural events, a restaurant, and a stable.

These activities will be developed as entrepreneurial opportunities for individuals or partnerships in the community, rather than being part of Nuestras Raices annual operating budget. Following the model already used at the Centro Agricola plaza, individuals will be trained, nurtured, and helped along the path to business development and ownership.

It is estimated that these new businesses under the tutelage of Nuestras Raices will generate gross \$650,000 annually. Once again, these activities will be highly interconnected. For the purposes of the analysis, however, we allocate \$150,000 to the farms and farm stand, \$50,000 to the stable, \$200,000 to the restaurant, and \$250,000 to cultural events and performances. *Table 11*

provides estimates of the combined impact of these new enterprises on the local economy.

Table 11
Impact of New Enterprises Resulting from 2007 Capital Improvement Projects

Effects	Direct	Indirect	Induced	Total
Amount	\$650,000	\$207,735	\$213,635	\$1,071,369

We estimate an impact of just over \$1 million annually to the local economy as a result of the new enterprises developed as part of the continued development of Nuestras Raices sites, particularly the Tierra de Oportunidades farm site.

Planned Increase in Visitors

With the capital improvement projects completed, the new businesses in place, and an extensive marketing campaign, we project an additional 18,000 visitors to Nuestras Raices sites, with 12,000 arriving from outside of Holyoke. The economic impacts of an additional 12,000 non-local visitors annually to Nuestras Raices are presented in *Table 12*.

Table 12
Impact of Additional Visitor Spending that Would Resulting from 2007 Capital Improvement Projects
(Additional 12,000 non-local visitors)

Effects	Direct	Indirect	Induced	Total
Amount	\$430,886	111,263	169,742	\$711,892

If after completion of the anticipated 2007 capital improvements projects, Nuestras Raices attracts 12,000 addition non-local visitors annually to its sites, the impact on the local community of spending by these additional visitors would total \$711,892. Given that the one-day Harvest Festival in 2006 attracted approximately 1,000 visitors, the expectation that the continued development of the Tierra de Oportunidades farm site could attract 18,000 visitors per year seems feasible.

Summary of Nuestras Raices' Economic Impacts

We have examined the different components of Nuestras Raices' economic impact on its community and the city of Holyoke. *Table 13* brings all of these pieces together into a single table in order to estimate the total impact that the existence of Nuestras Raices has on its community.

Table 13
Summary of Total Economic Impacts of Nuestras Raices on its Community and the city of Holyoke⁸

Effects	Direct	Indirect	Induced	Total
Annual Expenditures	\$560,000	\$227,810	\$243,949	\$1,031,759
Non-local Visitor Spending	\$89,768	\$23,180	\$35,363	\$148,311
New Businesses Located at Nuestras Raices' sites	\$631,250	\$176,145	\$210,453	\$1,017,848
<i>Actual Current Annual Impact</i>	\$1,281,018	\$427,135	\$489,765	\$2,197,918
Projected New Businesses related to Tierra de Oportunidades farm site	\$650,000	\$207,735	\$213,635	\$1,071,369
Projected Increase in Non-local Visitor Spending	\$430,886	111,263	169,742	\$711,892
Projected Increase in Economic Impact due to Planned Capital Improvement Projects	\$1,080,886	\$318,998	\$383,377	\$1,783,261
<i>Projected Future Annual Impact</i>	\$2,361,904	\$746,133	\$873,142	\$3,981,179

⁸ There are, in addition, the economic impacts of the monies planned to be spent on capital improvements in 2007. Those monies represent a one-time expenditure, rather than an increase in annual (recurring) budget, so we do not include them here.

Nuestras Raices has annual expenditures of \$560,000. These expenditures have an impact on the local community of \$1,031,759. When we take into account the impact of visitors who come to Nuestras Raices from outside of the community, and the impacts of the small businesses that have been incubated, nurtured, and supported by Nuestras Raices, the total annual economic impact of Nuestras Raices is \$2,197,918.

Nuestras Raices plans to engage in \$280,000 of capital improvement projects in 2007. The continued development of the Tierra de Oportunidades farm site is not intended to result in a permanent increase in Nuestras Raices' annual budget. It is projected, however, that there will be a significant increase in visitors to Nuestras Raices sites, and that several new businesses will be incubated related to the Tierra de Oportunidades project. The annual economic impacts that will result are estimated to be \$1,783,261.

When Nuestras Raices has met its current set of plans and goals, the total annual impact on its community and the city of Holyoke will be almost \$4 million per year.

The Multiple Impacts of Nuestras Raices on the Community

The goal of Nuestras Raices extends beyond economic impacts. The information gathered to perform the economic analysis reveals some of the additional ways Nuestras Raices is affecting the Holyoke community.

Nuestras Raices is enhancing the quality of life in Holyoke. It does so in many different ways:

- It creates jobs in the community, through its own annual expenditures and through the expenditures of non-local visitors to its sites;
- It provides youth education programs in agriculture, the building trades, the entrepreneurial arts, and general study skills;
- It provides incubation sites for entrepreneurial development, at the Tierra de Oportunidades farm site, at the community gardens, and at the Centro Agricola plaza;
- It develops programs specifically aimed at building community in the Puerto Rican and Latino/a community of Holyoke;
- It provides unique and interesting cultural offerings, such as the Harvest Festival, for the enjoyment and benefit of the entire Holyoke community;
- It is a generalized resource for the Puerto Rican community available to identify issues as they arise and consider solutions to community problems;
- It has the potential to be part of a larger development plan for the city of Holyoke as a day-trip destination in Western Massachusetts.

Conclusion

Nuestras Raices is a grass-roots organization that has existed within the Holyoke Puerto Rican community since 1992. During that period it has grown to an annual operating budget of \$560,000. These expenditures result in an increase in the local economy of over \$1 million per year. Nuestras Raices works with individuals to foster new enterprises within the community, through education, training, and the provision of business space. It also has begun to attract visitors from outside of the area to Holyoke; these visitors infuse additional monies into the local economy through their spending while in the area. It is estimated that the presence of Nuestras Raices and the results of its work of incubating and supporting new small businesses now results in an annual economic impact of over \$2 million per year.

Nuestras Raices has created a plan for the continued development of its Tierra de Oportunidades farm site. The plan draws upon the successes of past years, primarily the education and training of youth and the incubation of new small enterprises on-site. In addition, Nuestras Raices is planning a marketing campaign to increase the number of visitors to its sites.

When the implementation of its current capital development project is completed, it is projected that the combined effects of Nuestras Raices' annual expenditures, the small businesses it has incubated and supported, and the non-local visitors it has attracted to the area will be almost \$4 million per year.