

## **CHAPTER TWO**

### **Profile and Economic Impacts of Florida Historic Rehabilitation**



## INTRODUCTION AND SUMMARY

This chapter first describes the magnitude of historic rehabilitation in Florida. The analysis is for the year 2000, which, when this study commenced, was the last year for which construction information was fully available. The chapter then considers how the direct Florida historic rehabilitation investment translates into total economic impacts, including multiplier effects. The results of the analysis are summarized below:

- In 2000, an estimated total \$5.363 billion was spent on rehabilitation in Florida: \$2.250 billion on residential properties and \$3.113 billion on nonresidential properties.
- Of the \$2.1 billion spent on rehabilitation, an *estimated* \$350 million, or about 6.5 percent of the total, was spent on historic private properties (properties listed on or eligible for historic designation on national, state, and/or local registers of historic sites).

### EXHIBIT 2.1 Estimated Total Rehabilitation and Historic Building Rehabilitation in Florida (2000)

Property Type	Estimated Total Rehabilitation (in \$ million)	Estimated Historic Rehabilitation (in \$ million)	Historic Rehabilitation as % of Total Rehabilitation
Residential	\$2,250	\$135	6.0%
Nonresidential	<u>\$3,113</u>	<u>\$215</u>	6.9%
Total	\$5,363	\$350	6.5%

- The direct effects of historic rehabilitation are translated into multiplier effects, which encompass such dimensions as *jobs* (employment by place of work), *income* (total wages, salaries, and proprietor's income), *gross domestic product* or GDP (total wealth accumulated, referred to at the state level as gross state product or GSP), *taxes* (federal, state, and local), and *in-state wealth* (GSP less "leakage" in the form of federal taxes).
- The total national economic impacts from the \$350 million spent in 2000 on statewide historic rehabilitation included the following: 15,258 new jobs; \$465 million in income; \$729 million in gross domestic product; and \$156 million in taxes. Florida garnered a large share of these economic benefits and, as a result, captured 10,443 jobs; \$317 million in income; \$496 million in gross state product; \$111 million in taxes (including \$50 million in-state local taxes); and \$435 million in in-state wealth. The other effects were distributed outside Florida.

**EXHIBIT 2.2**  
**Total Economic Impacts of the Annual Florida**  
**Historic Building Rehabilitation (\$350 Million)**

	<b>In Florida</b>	<b>Total (U.S.)</b>
Jobs (person years)	10,443	15,258
Income (\$millions)	\$317 million	\$465 million
GDP/GSP <sup>a</sup> (\$millions)	\$496 million	\$729 million
Total taxes (\$millions)	\$111 million	\$156 million
Federal (\$millions)	\$61 million	\$86 million
State/Local (\$millions)	\$50 million	\$70 million
In-State wealth (\$millions) (GSP minus federal taxes)	\$435 million	—

<sup>a</sup>GDP/GSP = Gross Domestic Product/Gross State Product.

## **HISTORIC REHABILITATION IN FLORIDA**

### **Definition of Historic Rehabilitation**

For the purposes of this study, historic rehabilitation includes all “rehabilitation” that is effected in “historic” properties. “Rehabilitation” is defined as encompassing all construction work that the Census classifies as “alterations.” Not included are minor repairs or structures added to buildings (i.e., the Census categories “repairs” and “additions”). All rehabilitation is included—not just work of a historic nature (e.g., facade restoration)—as long as the rehabilitation is effected in a historic property. “Historic” is defined as a property that is designated as a national, state, or local landmark; or is located in a national, state or local historic register district; or because of age and other factors might be eligible for historic designation.

The definition of “rehabilitation” is straightforward (from the Census); however, the specification of “historic” as used in the present study bears further comment. Inclusion of landmarks listed by all levels of government—federal, state, and local—acknowledges that all of these listings are important. Including only entries on the National Register of Historic Places and omitting local landmarks would fail to incorporate the tremendous interest in preservation at the local level and the significance of local involvement, as evidenced by the numbers of landmark and historic district designations and the related rehabilitation of these resources.

Thus, our specification of historic includes only those properties already officially listed on registers, whether federal, state, or local, and properties that, because of age and other factors, *might* be eligible for historic listing. In the field of preservation, eligibility for designation is in fact a recognized status. At the federal level, a Section 106 review is triggered when federal action threatens properties both on, and eligible for, the National Register. There is a valid reason why eligibility for listing is recognized by historic preservationists, principally that the time gap

between eligibility status and official listing should not thwart the ultimate goal of protecting legitimate historic resources.

### **Scale of Historic Rehabilitation in Florida**

At first glance, the task of determining the share of Florida rehabilitation work that is in historic stock seems easy: simply sum for all historic properties the total amount of rehabilitation and repair work that is performed. Unfortunately, there is no centralized data source for current building rehabilitation activity, nor is there one that lists historic properties in the state.

As recently as 1994, data on rehabilitation by community were collected by the Permits Division of the U.S. Bureau of Census. The series was ended, however. Indeed, the only construction data collected at the community level pertain to new residential construction permits. Further, the latest centralized data set with information on the age of structures in Florida is the 1990 decennial national Census, and that too relates only to residential properties. Thus, it was within these constraints that estimates of the statewide value of rehabilitation of historic structures proceeded. The process used to estimate the extent of historic rehabilitation of buildings effected in Florida in 2000 is outlined below.

1. First, past (pre-1994) relationships between permits for new residential building and both new nonresidential and rehabilitation construction for each of Florida’s communities were applied to 2000 data for new residential construction from the Census.
2. The community-level incidence ratios were applied to the respective estimates of rehabilitation activity using year 2000 permits data to obtain final statewide estimates of private historic preservation activity effected in privately owned properties.

Exhibit 2.1 summarizes the results of the method.

### **TRANSLATING THE ANNUAL FLORIDA HISTORIC REHABILITATION INVESTMENT INTO TOTAL ECONOMIC IMPACTS**

This section discusses how the *total economic impact* of the estimated \$350 million of rehabilitation effected in historic properties annually is derived. First, the typical purchases for each type of property on which historic rehabilitation is taking place—single-family, multifamily, and nonresidential—are detailed by industry. The lists of typical labor, material, and service purchases for each property type are then standardized. These estimated economic “recipes” for historic renovation are then multiplied by the annual amount of such activity for each property type. The resulting vectors of historic rehabilitation volume are then applied to input-output models that calculate total economic impacts (direct, indirect, and induced) for the state of Florida and the nation.

#### **“Recipes” for Historic Rehabilitation**

*Direct effects*, or direct requirements, the first category of total economic impact, are readily identified once a project has been bid and once its costs have been calculated and summed. In theory, the best way to estimate a project's direct requirements would be to use bid sheets that apply cost elements (i.e., labor and materials) to items specified by the project's architects and engineers. Bid sheets would provide sufficient detail on project requirements to identify the industry that supplies the components, as well as the type of labor needed for the work. The quality of the estimates of a project's direct requirements, in turn, determines the quality of the estimates of other categories of economic impacts. Thus, estimates demand an unusual amount of thoroughness and care. In ideal circumstances, the thoroughness extends to identifying where the direct requirements come from, as well as a very detailed specification of the supplying industry.

In prior studies, the Center for Urban Policy Research (CUPR) obtained detailed cost information on renovations effected on a variety of historic properties by

- contacting developers/sponsors active in historic preservation,
- obtaining files on historic rehabilitation projects certified for federal preservation tax credits,
- obtaining files on projects that had received public funding.

In all instances, the information obtained approached the detail of a bid sheet. Based on these sources, CUPR received information on almost 60 historic properties requiring just shy of \$100 million in recent rehabilitation. The detailed cost estimates for these projects were summed by property type—residential and nonresidential. Using information from the detailed cost estimates as well as the prior experience of the Regional Science Research Corporation in similar studies (University of Rhode Island 1993), the cost estimates by property type were converted into purchases of goods and services, including labor, by industry. This lengthy, sometimes subjective, conversion process enabled the specification required to get accurate results by industry from the preservation economic impact model. The result is an “economic recipe” of the direct requirements for historic rehabilitation by property type.

### **Estimating Total Economic Impacts**

Total economic impacts encompass both *direct* and *multiplier* effects. The latter incorporate *indirect* and *induced* impacts. The character of the direct impacts of historic preservation is derived from the recipes noted above. The process for estimating a given project's indirect and induced economic impacts is more roundabout. By definition, a project's first round of indirect impact includes the purchases of any supplies and/or services that are required to produce the direct effects. Subsequent purchases of supplies and services generate other rounds of indirect impacts. The induced impacts are the purchases that arise, in turn, from the increase in aggregate labor income of households. Aggregate labor income is defined as the sum of wages, salaries, and proprietors' income earned by workers. Both the indirect and induced economic

impacts demonstrate how the demand for direct requirements reverberates through an economy.

Exhibit 2.3 details the economic impacts of the rehabilitation of historic properties. The *direct impact* component consists of purchases made specifically for the construction project. Direct impacts on the local economy are composed only of purchases from local organizations.

The *indirect impact* component consists of spending on goods and services by industries that produce the items purchased by the contractors who are preserving the property. Among his many business relationships, for example, a contractor might purchase windows from “Jerry’s Home Improvement Inc.” (JHI), which makes custom windows. In order to produce windows, JHI must hire craftsmen as well as contract with firms that supply glass, adhesives, paints and coatings, glazing, and wood products. JHI also hopes to make a profit for its owners/shareholders. In order to meet JHI’s needs, its suppliers must also hire workers and obtain materials and specialized services. The same process is repeated for their suppliers, and so on. Thus, an extensive network of relationships is established based upon round after round after round of business transactions that emanate from a single preservation project. It is this network of transactions that describes the set of indirect impacts. Of course, a firm’s net indirect contribution to the preservation activity largely depends on (1) the total value of its transactions in the network; and (2) the proximity of its business relationship(s) to the preservation contractor within the project’s business network. Similar to direct impacts, local indirect impacts are composed only of indirect business transactions that occur in the local economy.

Finally, *induced impacts* are a measure of household spending. They are a tally of the expenditures made by the households of the construction workers on a preservation project, as well as the households of employees of the supplying industries.

**EXHIBIT 2.3**  
**Examples of Direct and Multiplier Effects**  
**(Indirect and Induced Impacts) of Historic Preservation**

<b>MULTIPLIER EFFECTS</b>		
<b>DIRECT IMPACTS</b>	<b>INDIRECT IMPACTS</b>	<b>INDUCED IMPACTS</b>
Purchases for: <ul style="list-style-type: none"> <li>• Architectural design</li> <li>• Site preparation</li> <li>• Construction labor</li> <li>• Building materials</li> <li>• Machinery &amp; tools</li> <li>• Finance &amp; insurance</li> <li>• Inspection fees</li> </ul>	Purchases of: <ul style="list-style-type: none"> <li>• Lumber &amp; wood products</li> <li>• Machine components</li> <li>• Stone, clay, glass, &amp; gravel</li> <li>• Fabricated metals</li> <li>• Paper products</li> <li>• Retail &amp; wholesale services</li> <li>• Trucking &amp; warehousing</li> </ul>	Household spending on: <ul style="list-style-type: none"> <li>• Food, clothing, day care</li> <li>• Retail services, public transit, utilities, car(s), oil &amp; gasoline, property &amp; income taxes, medical services, and insurance</li> </ul>

One means of estimating indirect and induced impacts would be to conduct a survey of the business transactions of the primary contractor. The business questionnaire for this survey would ask for the names and addresses of the contractor’s suppliers; what and how much they supply; the names and addresses of the contractor’s employees; and the annual payroll.

A related questionnaire would cover the household spending of the employees of the surveyed firms. It would request a characterization of each employee’s household budget by detailed line items, including names and addresses of the firms or organizations from which each line item is purchased.

Both questionnaires subsequently could be used to measure indirect and induced impacts of the primary contractor’s activity. The business questionnaire would be sent to the business addresses identified by the primary contractor; the household questionnaire, in turn, would be sent to the homes of the employees of those businesses that responded to the survey. This “snowball-type” sampling would continue until time or money was exhausted. In order to keep each organization’s or household’s contribution to the project in proper perspective, its total spending would be weighted by the size of its transaction with its customers who were included in the survey activity. The sum of the weighted transaction values obtained through the surveys would be the total economic impact of the project.

This survey-based approach to estimating indirect and induced impacts consumes a great deal of money and time, however. In addition, response rates by firms and households on surveys regarding financial matters are notoriously low. Hence, in the rare cases where survey work has been conducted to measure economic impacts, the results have tended to be not statistically representative of the targeted network of organizations and households. Consequently, relatively less expensive economic models based on Census data are typically used to measure economic impacts.

The economic model that has proven to estimate the indirect and induced economic effects of events most accurately is the input-output model. Its advantage stems from its level of industry detail and its depiction of interindustry relations. As shown in appendix A, a single calculation—known as the Leontief inverse—simulates the many rounds of business and household surveys. Input-output tables are constructed from nationwide Census surveys of businesses and households. The most difficult part of regional impact analysis is modifying a national input-output model so that it can be used to estimate impacts at a subnational level. Regionalization of the model typically is undertaken by the model producer and requires a large volume of data on the economy being modeled. This study employs regional input-output models to estimate the extent of the indirect and induced economic effects of a direct investment in historic preservation activities. The economic effects of historic rehabilitation are studied in this chapter; the effects of heritage tourism, the Main Street Program, and other historic preservation components are studied in later chapters.

### **The Regional Science Research Corporation’s Input-Output Model**

The regional input-output model used by this study to derive the total economic impacts is a regionalized version of the Preservation Economic Impact Model produced by CUPR for the National Park Service. The PEI model (PEIM) produces very accurate estimates of the total regional impacts of an economic activity and employs detail for more than 500 industries in calculating the effects.

This model and its predecessors have proven to be the best of the non-survey-based regional input-output models at measuring a region’s economic self-sufficiency. The models also have a wide array of measures that can be used to analyze impacts. In particular, PEIM produces one of the only regional economic models that enable an analysis of governmental revenue (i.e., tax) impacts and an analysis of gains in total regional wealth. (See appendix A for more details on the relative higher quality of the PEIM.)

The results of PEIM include many fields of data. The fields most relevant to this study are the total impacts with respect to the following:

- **Jobs:** *Employment, both part- and full-time, by place of work, estimated using the typical job characteristics of each detailed industry.* (Manufacturing jobs, for example, tend to be full-time; in retail trade and real estate, part-time jobs predominate.) All jobs generated at businesses in the region are included, even though the associated labor income of commuters may be spent outside of the region. In this study, all results are for activities occurring within the time frame of one year. Thus, the job figures should be read as job-years, i.e.; several individuals might fill one job-year on any given project.
- **Income:** *“Earned” or “labor” income—specifically wages, salaries, and proprietors’ income.* Income in this case does not include nonwage compensation (i.e., benefits, pensions, or insurance), transfer payments, or dividends, interest, or rents.

- **Wealth:** *Value added—the equivalent at the subnational level of gross domestic product (GDP).* At the state level, this is called gross state product (GSP). Value added is widely accepted by economists as the best measure of economic well-being. It is estimated from state-level data by industry. For a firm, value added is the difference between the value of goods and services produced and the value of goods and nonlabor services purchased. For an industry, therefore, it is composed of labor income (net of taxes); taxes; nonwage labor compensation; profit (other than proprietors' income); capital consumption allowances; and net interest; dividends; and rents received.
- **Taxes:** *Tax revenues generated by the activity.* The tax revenues are detailed for the federal, state, and local levels of government. Totals are calculated by industry. *Federal tax* revenues include corporate and personal income, social security, and excise taxes, estimated from the calculations of value added and income generated.

*State tax* revenues include personal and corporate income, state property, excise, sales, and other state taxes, estimated from the calculations of value added and income generated (e.g., purchases by visitors).

*Local tax* revenues include payments to substate governments mainly through property taxes on new worker households and businesses. Local tax revenues can also include revenues from local income, sales, and other taxes.

## **TOTAL ECONOMIC IMPACTS OF ANNUAL FLORIDA HISTORIC REHABILITATION**

This chapter previously estimated that \$350 million in historic rehabilitation is effected annually in Florida. What is the total economic benefit of this activity? What proportion of these benefits accrues to Florida?

To answer these questions, the study team applied the direct requirements of \$350 million in historic rehabilitation construction activity to economic models of Florida and the United States. This yielded total economic impacts for the country as a whole (national or U.S. effects) and for the state of Florida (in-state effects). For both the nation and state, the significant economic indicators were jobs created, resident income generated, resident wealth generated (gross domestic or state product), and taxes generated by level of government.

Besides the above four measures, CUPR estimated an additional gauge of activity termed *in-state wealth*. This measure consists of in-state generation of value added (or gross state product), less the amount that “leaks” out of the state’s economy in the form of taxes paid to the federal government. Since taxes paid to the state and local governments remain in state, they cannot be said to “leak” and, thus, are considered part of the accumulated in-state wealth.

PEIM expresses the resulting jobs, income, and wealth impacts in various levels of industry detail. The most convenient application breaks the industry-level results at the one-digit standard industrial code (SIC) or division level. This level has 11 industry divisions:

1. Agriculture
2. Agricultural, Fishing, and Forestry Services
3. Mining
4. Construction
5. Manufacturing
6. Transportation, Communications, and Public Utilities (TCPU)
7. Wholesale Trade
8. Retail Trade
9. Finance, Insurance, and Real Estate (FIRE)
10. Services
11. Government

PEIM provides results in two other industry breakdowns that detail subcategories under each of these eleven groups. These breakdowns use the two-digit SIC (86-industry) specification and the full industry specification of the input-output model (about 517 industries).

The model results, however, are only as good as the data that go into them. Thus, when the direct requirements are estimated, and the industry-level purchases are also estimated (as is the case in this study), care should be taken in interpreting model results, especially when they contain extreme categorical detail. Hence, the main body of this report focuses on the one-digit SIC level results, but data on the two-digit SIC results are made available as exhibits. The purpose of providing such detail is to enable a better idea of the quality of jobs that are likely to be created and of the types of industries that are most likely to be affected by historic rehabilitation activities.

The total economic impacts of the \$350 million in historic rehabilitation spending are summarized in exhibit 2.2 and detailed in exhibits 2.4 and 2.5:

Item 1 of section II in exhibit 2.4 shows how the \$350 million translates into direct economic effects nationwide. It creates 5,449 jobs (technically “job-years”), which produce \$178 million in labor income and \$228 million in GDP. The difference between the initial investment (\$350 million) and the direct GDP subsequently created by it (\$228 million) implies that historic building rehabilitation requires significant amounts of imported materials.

The indirect and induced effects of historic preservation activity require nationwide 9,809 more jobs, and generate \$287 million more in income and \$477 million more in GDP in their support. As a consequence, the total economic impact—the sum of the direct and indirect and induced effects—of historic building rehabilitation is 15,258 jobs (5,449 + 9,809); \$465 million in income (\$178 million + \$287 million); and \$728 million in GDP (\$228 million + \$477

million). Hence, the multiplier effects are greater than the direct effects: the national multipliers are always substantially greater than 2.0.

According to exhibits 2.4 and 2.5, of the 15,258 jobs created annually, about 70 percent (10,443 jobs) are created within the state. Florida retains nearly all of the jobs (4,434 of the 5,449) created directly by state-based historic rehabilitation activity. However, the indirect and induced impacts of Florida historic rehabilitation activity tend to leak out of the state. Much of this leakage occurs through the demands of Floridians for products manufactured elsewhere.

We can learn other interesting aspects of the impacts when we examine them by detailed industry (see exhibits 2.4 and 2.5). For example, the Florida industry sectors that are stimulated most by the preservation activity are as follows: construction, services, manufacturing, and retail trade.

**TABLE 2.4**  
**National Economic and Tax Impacts of**  
**Annual Florida Historic Building Rehabilitation Activity (\$350.3 Million)**

	Economic Component		
	Employment (jobs)	Income (\$000)	Gross Domestic Product (\$000)
<b>I. TOTAL EFFECTS (Direct and Indirect/Induced)*</b>			
<b>Private</b>			
1. Agriculture	142	2,526.0	7,756.6
2. Agri. Serv., Forestry, & Fish	270	4,409.9	5,190.0
3. Mining	207	6,121.7	17,099.4
4. Construction	3,714	158,698.2	152,006.7
5. Manufacturing	2,683	111,550.7	138,170.6
6. Transport. & Public Utilities	759	32,762.7	59,633.9
7. Wholesale	633	32,020.3	45,826.2
8. Retail Trade	2,058	41,554.0	55,645.2
9. Finance, Ins., & Real Estate	1,675	73,645.4	128,685.7
10. Services	2,995	100,836.0	114,657.4
Private Subtotal	15,136	461,315.3	724,671.6
<b>Public</b>			
11. Government	122	4,958.1	3,945
Total Effects (Private and Public)	15,258	465,330.4	728,616.4
<b>II. DISTRIBUTION OF EFFECTS/MULTIPLIER</b>			
1. Direct Effects	5,449	178,388.0	227,754.0
2. Indirect and Induced Effects	9,809	286,942.3	477,075.8
3. Total Effects	15,258	465,330.4	728,616.4
4. Multipliers (3/1)	2.800	2.609	3.199
<b>III. COMPOSITION OF GROSS STATE PRODUCT</b>			
1. Wages—Net of Taxes			408,721.6
2. Taxes			
a. Local/State			69,989.1
b. Federal			
General			46,738.4
Insurance Trusts			38,883.7
Federal Subtotal			85,622.1
c. Total taxes (2a+2b)			155,611.2
3. Profits, dividends, rents, and other			164,283.7
4. Total Gross State Product (1+2+3)			728,616.4
<b>EFFECTS PER MILLION DOLLARS OF INITIAL EXPENDITURE</b>			
Employment (Jobs)			43.6
Income			1,328,290
Local/State Taxes			199,785
Gross State Product			2,079,842

*Note:* Detail may not sum to totals due to rounding.

\*Terms:

Direct Effect (State)—the proportion of direct spending on goods and services produced.

Indirect Effects—the value of goods and services needed to support the provision of those direct economic effects.

Induced Effects—the value of goods and services needed by households that provide the direct and indirect labor.

**TABLE 2.5**  
**In-State Economic and Tax Impacts of**  
**Annual Florida Historic Building Rehabilitation Activity (\$350.3 Million)**

	Economic Component		
	Employment (jobs)	Income (\$000)	Gross Domestic Product (\$000)
<b>I. TOTAL EFFECTS (Direct and Indirect/Induced)*</b>			
<b>Private</b>			
1. Agriculture	16	523.5	1,733.3
2. Agri. Serv., Forestry, & Fish	127	1,737.0	1,585.6
3. Mining	57	2,581.0	5,667.3
4. Construction	2,666	94,572.6	110,786.7
5. Manufacturing	1,654	55,735.7	83,600.2
6. Transport. & Public Utilities	477	17,353.5	34,476.9
7. Wholesale	423	17,099.2	32,643.6
8. Retail Trade	1,700	26,185.7	46,294.8
9. Finance, Ins., & Real Estate	1,168	38,362.1	91,815.5
10. Services	2,107	61,029.0	85,594.4
Private Subtotal	10,395	315,179.4	494,198.4
<b>Public</b>			
11. Government	47	1,627.1	1,607
Total Effects (Private and Public)	10,443	316,806.4	495,805.5
<b>II. DISTRIBUTION OF EFFECTS/MULTIPLIER</b>			
1. Direct Effects	4,434	155,217.6	200,947.5
2. Indirect and Induced Effects	6,008	161,588.8	294,858.0
3. Total Effects	10,443	316,806.4	495,805.5
4. Multipliers (3/1)	2.355	2.041	2.467
<b>III. COMPOSITION OF GROSS STATE PRODUCT</b>			
1. Wages—Net of Taxes			308,717.1
2. Taxes			
a. Local/State			49,945.0
b. Federal			
General			33,309.0
Insurance Trusts			27,583.4
Federal Subtotal			60,892.3
c. Total taxes (2a+2b)			110,837.3
3. Profits, dividends, rents, and other			76,251.1
4. Total Gross State Product (1+2+3)			495,805.5
<b>EFFECTS PER MILLION DOLLARS OF INITIAL EXPENDITURE</b>			
Employment (Jobs)			29.8
Income			904,327
Local/State Taxes			142,568
Gross State Product			1,415,281

*Note:* Detail may not sum to totals due to rounding.

\*Terms:

Direct Effect (State)--the proportion of direct spending on goods and services produced.

Indirect Effects—the value of goods and services needed to support the provision of those direct economic effects.

Induced Effects—the value of goods and services needed by households that provide the direct and indirect labor.

