Cost Per Job Associated with EDA Investments in Urban and Rural Areas

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2002

Economic Development Administration
U.S. Department of Commerce

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2002

This report was prepared by The Pennsylvania State University under award number 99-07-13814 from the Economic Development Administration, U.S. Department of Commerce. The authors would like to thank Kelly Robinson, John Fieser, and John McNamee for their comments and suggestions throughout the execution of the project. The findings, conclusions, and recommendations are those of the authors and do not necessarily reflect the views or policies of the Economic Development Administration or the U.S. Department of Commerce.

Research and National Technical Assistance
Economic Development Administration
U.S. Department of Commerce

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Executive Summary

The Economic Development Administration (EDA) was asked by Senator John McCain to examine the differences in job creation costs of EDA program expenditures in urban and rural areas. In this report, we examine two data sets that capture detailed information on projects funded under the dominant EDA activities: public works and defense adjustment construction. In the four sections of this report we outline the development of the data sets, focus on an overview of the data and a basic view of job costs in urban and rural areas, and then look in detail at the two construction data sets. We report a number of comparisons of job costs by rural and urban areas and attributes of the localities in which projects were funded. Percent minority, unemployment levels, and poverty rates are compared for different program projects. Cost per job is evaluated based on a ratio that compares the number of jobs created versus the number of jobs retained in urban and rural projects.

We combined projects examined in two previous EDA project reports—"Public Works Program: Performance Evaluation" (1990 project completion) and "EDA GPRA Pilot I: Construction Projects" (1993 project completion). We examined their incidence and cost per job in rural (up to 20,000), small urban (20,001–49,999), and urban counties (50,000 and above). This analysis indicates significant differences in cost per job created in different sized communities. In rural counties, the average EDA expenditure per project was $6,157, compared to $2,982 in urban counties. Costs per job in small urban counties were comparable to costs in rural counties. In the data sets examined, projects were more prevalent in rural areas.

Cost per job varies by year of project completion and geography. For example, the cost per job is lower in rural areas in the 1993 cases. For 1993 projects, the average cost per job for EDA funding in rural areas is $6,904, compared to an average cost per job of $7,399 in urban areas. In contrast, for the 1990 cases, the average cost per job (EDA funding) in rural areas is $5,938—or almost three times higher than the cost per job in urban areas ($1,988). A detailed regional breakdown highlights differences both across rural areas and between urban and rural areas of the country. For example, average cost per job in the Census Bureau's Mountain States region was almost ten times higher in rural areas than in urban areas. However, as reflected in the analysis of job cost differences across EDA regions, small cell counts and uneven size groupings diminish ability to make statistical generalizations.

In a detailed examination of county attributes and cost per job in urban and rural areas, a number of differences are noteworthy. Counties in which EDA has made investments have a higher than average percentage of minority populations and experience unemployment substantially in excess of the national average. Half or more of total funds (from EDA and other sources) were expended in counties with moderately high unemployment rates. About 45 and 73 percent of total funding (1990 and 1993 projects, respectively) went to counties with average unemployment rates of up to 8.9 percent. The comparable figures for the EDA share of the funds are 43 and 74 percent (1990 and 1993) going to counties with unemployment rates of up to 8.9 percent. If these projects were proposed and approved three years before their completion, the prevailing U.S. unemployment rates were 6.2 percent (1987) and 5.6 percent (1990). Only a small portion of funds went to counties having unemployment rates less than 6.0 percent: about 12 percent for 1990 projects and 19 percent for 1993 projects. In such cases, a more distressed part of the county usually qualified for assistance.

Section I: Introduction

EDA was established as a predominantly rural-focused agency that has accumulated urban responsibilities over time. Based on an authoritative county-level urban-rural classification that designates counties based on population size and the degree of urban population concentration, the majority of counties qualifying for EDA funding in 1960 were rural (Beale 1994). By 1990, nearly 90 percent of the counties qualifying for EDA assistance were still rural. At the other end of the spectrum, 126 metropolitan counties qualified for EDA program funds in 1960; in 1990, 323 metropolitan counties qualified for program support—an increase of 256 percent. Of course, some of those counties are once-rural areas that became metropolitan over the last thirty years. Thus, the increase in the number of metropolitan counties that qualify cannot be assumed to reflect solely an increase in urban economic distress. Equally possible, formerly rural areas may have become urban while still remaining economically distressed between 1960 and 1990.

In addition to EDA's core programs of planning and infrastructure construction, over the last thirty years the agency has been given additional responsibilities, such as defense adjustment assistance in response to military base closures and economic development financing through revolving loan funds. These additional program responsibilities have somewhat shifted the weight of the agency's efforts to projects that are predominantly in urban areas.

EDA was asked by Senator John McCain to examine the differences in job-creation cost of EDA program expenditures in urban and rural areas. In this report, we examine two data sets that capture detailed information on infrastructure construction projects funded under public works and defense adjustment that were completed in 1990 and 1993.

Section II of this report outlines the development of the data sets upon which subsequent analysis is based. Section III focuses on an overview of the data and presents a basic view of job costs in urban and rural areas. In section IV, we report a number of comparisons of job costs by rural and urban areas and attributes of the localities in which projects were funded. Percent minority, unemployment levels, and poverty rates are compared. The report concludes with a summary of the project's findings.

Section II: Data Sources, Collection, and Description

Purpose of Data Collection

The two sets of data analyzed here were originally collected to examine and evaluate EDA-funded projects in accordance with the Government Performance and Results Act (GPRA; Public Law 103-62). Public works projects (203) completed in FY 1990 and a sample of 57 infrastructure construction projects (both public works and defense adjustment) completed in FY 1993 are included in the two data sets.

How and by Whom Data Were Collected

A research team consisting of Rutgers University, New Jersey Institute of Technology, Columbia University, National Association of Regional Councils, and Princeton University with assistance from the University of Cincinnati collected and analyzed the raw data for 203 public works projects in *Public Works Program: Performance Evaluation, Final Report 1997* completed in FY 1990 ("1990 Completion"). Data for 57 projects in *EDA GPRA Pilot I: Construction Projects Final Report 1999* completed in FY 1993 ("1993 completion") were "collected by field teams from each of the EDA's six regional offices (Philadelphia, Atlanta, Chicago, Denver, Seattle, and Austin) under the guidance of EDA's National Performance Team (NPT). The NPT was composed of representatives from national and regional economic development and planning organizations and staff from EDA's national and regional offices."

The research teams implemented a tripartite approach to evaluate each of the two data sets. First, the team analyzed project profiles containing base data (project dates, grantee information, project type and cost, geographic information, etc.), sources of funding, project schedules, and demographic information (EDA GPRA Pilot I: 1999). Next, the teams collected relevant program statistics through EDA's centralized database and standardized phone and mailed surveys. Finally, 30 percent of project sites of the 1990 completion and 33.33 percent of project sites of the 1993 completion data were randomly selected for intensive follow-up investigation through field visits by the NPT.

Database Construction

A team of researchers from The Pennsylvania State University (Penn State) compiled the data from the two Rutgers project reports and manually entered the data found in the reports into separate Microsoft Access databases.[1]

The Two Data Sets

1990 Completion

EDA public works projects include the renovation or construction of buildings, the expansion or creation of industrial parks, the building of roads, the renovation, expansion, or construction of water and sewer systems, and the renovation or construction of marine and tourism infrastructure (i.e., piers, ports, etc.). Table 1 provides an overview of the number and percentage of projects based on the type of grant awarded and the EDA region in which each project is located.

[1] These original two Microsoft Access databases serve as the master databases for each data set. After checking for errors, each data set was duplicated in both Access and Microsoft Excel. Therefore, each data set—PWP and Construction—is housed in three separate files: the master Access database, the duplicated Access database, and an Excel database.

Table 1
1990 Completion Projects, by Grant Type and EDA Region

1990 Projects, by Grant Type			1990 Projects, by EDA Region		
	Number	*Percent*		*Number*	*Percent*
Buildings	27	13.3%	Atlanta	37	18.2%
Industrial Parks	59	29.1%	Austin	28	13.8%
Roads	17	8.4%	Chicago	45	22.2%
Water/Sewer	87	42.8%	Denver	30	14.8%
Marine/Tourism	13	6.4%	Philadelphia	38	18.7%
			Seattle	25	12.3%
Total	**203**	**100.0%**	**Total**	**203**	**100.0%**

The 1990 completion data include a total of 203 project sites, all of which were used in the present study. It contains 86 variables, including identifying variables (i.e., data source, EDA region, project number, etc.), grant information (i.e., type of grant, duration), community distress indicators (i.e., unemployment, per-capita income, poverty level, and minority variables), project-related capital investments, project-related direct and indirect economic effects, and non-project-related direct effects.

Table 2 describes the average project size for the 203 projects completed in 1990, disaggregated by region and type of grant. Note that the averages totaled by type of grant are similar in size, while the average total grant by region is not, with the Philadelphia region (the New England and Mid-Atlantic areas) having a considerably higher average grant than the other regions.

Table 2
Average EDA Expenditures by Project Type and EDA Region for 1990 Completion Projects

	Region						
Type of Grant	Atlanta	Austin	Chicago	Denver	Philadelphia	Seattle	Average
Buildings	$1,764,473	$1,129,323	$1,222,933	$960,377	$2,170,827	$869,396	$1,365,436
Industrial Parks	1,459,592	1,561,177	1,115,796	990,370	1,873,227	541,165	1,359,626
Roads	2,908,227	769,712	767,164	1,598,229		2,341,243	1,269,110
Marine /Tourism	655,756	1,580,044	1,146,241	2,431,462	2,219,765	1,281,738	1,639,458
Water/Sewer	1,442,577	1,322,790	809,856	1,260,853	2,188.006	1,511,209	1,437,074
Average	**$1,483,842**	**$1,342,434**	**$941,641**	**$1,163,049**	**$2,096,229**	**$1,423,427**	**$1,403,931**

1993 Completion

This data set includes infrastructure projects (primarily public works, with some defense adjustment) completed in FY 1993. Table 3 depicts the number and percentage of projects based on "Grant Type" category and EDA region.

The Rutgers team randomly selected 57 project sites for analysis. All of these sites are included in the 1993 projects database. Up to 64 variables are found in the 1993 data, including identifying variables (i.e., data source, EDA region, project number, etc.), grant information (i.e., type of grant, duration), community distress indicators (i.e., unemployment, per-capita income,

poverty level, and minority variables), project-related capital investments, and project-related direct and indirect economic effects.

Table 3
1993 Completion Projects, by Grant Type and EDA Region

1993 Projects, by Grant Type *			1993 Projects, by EDA Region		
	Number	*Percent*		*Number*	*Percent*
Buildings	14	24.6%	Atlanta	12	21.2%
Industrial Parks	3	5.2%	Austin	11	19.3%
Roads	6	10.5%	Chicago	10	17.5%
Water/Sewer	31	54.4%	Denver	8	14.0%
Marine/Tourism	3	5.2%	Philadelphia	8	14.0%
			Seattle	8	14.0%
Total	**57**	**99.9%**	**Total**	**57**	**100.0%**

* The data in its 'raw form' contained an excessive number of grant types (27 types of grant for 57 records). To simplify the GPRA analysis, the 27 "Grant Types" were synthesized into five broad grant type categories (buildings, industrial parks, roads, water/sewer, and marine/tourism) based on the Public Works project grant categories.

Table 4 describes the average project size for the 57 project sites, disaggregated by region and type of grant. There were two categories of project-related capital investment: estimated and actual. The latter category (actual) is used in this table.

Table 4
Average EDA Expenditure by Project Type and EDA Region for 1993 Completion Projects

	Region						
Type of Grant	Atlanta	Austin	Chicago	Denver	Philadelphia	Seattle	Average
Buildings	$1,381,175	$662,363	$1,203,433	$860,250	$2,243,836	$1,544,342	$1,423,949
Industrial Parks		1,221,649			1,082,417	2,434,433	1,579,500
Roads	267,066	741,473	806,000	2,471,966		1,120,672	1,024,775
Marine/Tourism	1,598,578	2,079,543				1,565,299	1,747,807
Water/Sewer	1,235,212	992,651	1,203,480	899,554	1,567,895	1,752,525	1,226,847
Average	**$1,209,141**	**$1,006,556**	**$1,163,728**	**$1,081,367**	**$1,845,181**	**$1,683,333**	**$1,299,967**

Scale Mixing

The original community distress data are presented at multiple scales in both data sets. The unemployment rate, socioeconomic characteristics, and related variables are based on the "city" level (even though some of these areas are rural sites) and per-capita income and population are based on the county scale. There is no documentation in the metadata to explain the rationale or significance of this difference.

Missing Data

The 1993 completion data set contains incomplete data for some project sites. Sixteen project sites (roughly 28%) are missing either location information (usually the site-specific or county location) and/or at least one of the "Community Distress" indicators (unemployment rate,

number of unemployed, per-capita income, population, % of people below the poverty level, and % of people who are minorities). Thus, these sites are not included in some of the analyses.

Geographic Dimensions of the Data

Designations of Population Classifications

This project examines the total cost per job and the cost job to EDA in urban and rural areas. The Penn State researchers categorized the data into three population subsets—urban, small urban, and rural—based on a modified Beale code system. Table 5 describes the population breakdown by category.

Table 5
Population Breakdown by Modified Beale Code Designation

Urban	50,000 +
Small Urban	20,001–49,999
Rural	0–20,000

The Penn State researchers also examined the data using EDA's simplified classification system for comparison. Table 6 describes that designation between rural and urban areas.

Table 6
Population Breakdown by the EDA Population Classification System

Urban	50,000 +
Rural	0–49,999

EDA and Census Bureau Regions

The data for this project are analyzed using both EDA and Census Bureau regional designations. The typologies shown in Tables 7 and 8 show the breakdown by state for each region designation.

Table 7
States by EDA Region

EDA Region	States
Philadelphia	Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Puerto Rico, Rhode Island, Vermont, Virginia, West Virginia
Atlanta	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee
Denver	Colorado, Iowa, Kansas, Missouri, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming
Chicago	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
Seattle	Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Washington
Austin	Arkansas, Louisiana, Oklahoma, New Mexico, Texas

Table 8
States by Census Bureau Region

Census Region	Census Division	States
Northeast	New England	Connecticut, New Hampshire, Maine, Massachusetts, Rhode Island, Vermont
Northeast	Middle Atlantic	Pennsylvania, New Jersey, New York
South	South Atlantic	Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, Washington, DC, West Virginia
South	East South Central	Alabama, Kentucky, Mississippi, Tennessee
South	West South Central	Arkansas, Louisiana, Oklahoma, Texas
Midwest	East North Central	Illinois, Indiana, Michigan, Ohio, Wisconsin
Midwest	West North Central	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
West	Mountain	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
West	Pacific	Alaska, California, Hawaii, Oregon, Washington

Section III: Aggregate Data Analysis

In this section we examine the results of the data analysis of the two data sets. This discussion provides an overview of the cost per job created. We provide limited additional detail about the characteristics of localities (counties) in which the projects occurred. The fourth section of the report goes into greater detail about the relationship between cost per job and local characteristics.

A First Look at the Cost of Job Creation in Urban, Small Urban, and Rural Places

In this first analysis, we combine the projects examined in the two earlier studies and examine their incidence and cost per job in rural (< 20,000), small urban (20,001–49,999), and urban areas (50,000 and above). On the basis of this analysis there are significant differences in cost per job created in different sized communities. (See Table 9.) In 'rural' counties, the average EDA expenditure per project was $6,157, compared to an average expenditure of $2,982 in 'urban' counties. Costs per job in 'small' urban counties were comparable to costs in rural counties. Differences in cost per job could be the result of a number of factors, including compositional differences associated with the purpose of funding and type of projects funded. Conversely, costs per job in rural counties may be generally higher due to the compositional differences in investments or wage cost differences. In the aggregate, there is a significant difference in cost per job created or retained in urban and rural counties.

Table 9
Average Cost per Job for Construction Projects, Based on Modified Beale Population Designations[a]

County Type[b]	Cost per Job by Funding Type[c]	Projects[d]	Avg. C/J[e]	ANOVA for equality of means[f]
Rural	EDA Funding	150	$6,157	0.052[g]
Small Urban	EDA Funding	48	$5,596	
Urban	EDA Funding	49	$2,982	
Rural	All Funding	150	$11,776	0.103[h]
Small Urban	All Funding	48	$13,886	
Urban	All Funding	49	$6,071	

[a] Data obtained from Rutgers, 1997 and 1999 reports.
[b] Classification of the data by area population size was based on the Beale Code system, developed at the Economic Research Service. This classification scheme has 10 categories. We broke down areas below 50,000 persons to determine whether there were differences in size of place and expenditure patterns. County classification based on a modified Beale classification code = 0–20,000 rural; 20,001–49,999 small urban; 50,000+ urban.
[c] "All Funding" includes EDA funding, in addition to private, local , state, and other federal expenditures on projects.
[d] N=247. Population is drawn from the 1997 and 1999 reports (excluding 13 projects without FIPS codes).
[e] Average cost per job is calculated from the original Rutgers data, using figures from the completion of the project.
[f] ANOVA (Analysis of Variance) compares multiple sample means, to detect significant difference in their values.
[g] Average cost per job is significantly different among the three county types for EDA funding, at the 90% confidence level.
[h] There is no significant difference regarding average cost per job among the three county types for all funding, at the 95% confidence level.

Table 10
Average Cost per Job by Year of Completion, by County Type[a]

Year of Completion[b]	County Type[c]	Cost per Job by Funding Type[d]	Projects[e]	Avg. Cost per Job[f]	ANOVA for equality of means[g]
1993 Completion	Rural	EDA Funding	34	$6,905	0.919
	Small Urban	EDA Funding	11	$7,441	
	Urban	EDA Funding	9	$7,399	
	Rural	All Funding	34	$12,333	0.855
	Small Urban	All Funding	11	$11,402	
	Urban	All Funding	9	$13,163	
	Total Projects		**54**		
1990 Completion	Rural	EDA Funding	116	$5,938	0.032[h]
	Small Urban	EDA Funding	37	$5,047	
	Urban	EDA Funding	40	$1,988	
	Rural	All Funding	116	$11,612	0.085[h]
	Small Urban	All Funding	37	$14,624	
	Urban	All Funding	40	$4,475	
	Total Projects		**193**		

[a] Data obtained from Rutgers, 1997 and 1999 reports.
[b] Data obtained from Rutgers reports.
[c] County classification based on modified Beale population codes = 0–20,000 rural; 20,001–49,999 small urban; 50,000+ urban.
[d] "All Funding" includes EDA funding, in addition to private, local, state, and other federal expenditure on projects.
[e] N=247. Number of EDA projects in each population category for which geographic data were provided. Excludes 23 projects without FIPS codes.
[f] Average cost per job is calculated from EDA survey data, using figures from the completion of the project.
[g] ANOVA (Analysis of Variance) compares multiple sample means, to detect significant difference between the average cost per job between rural, small urban, and urban places. A value under 0.10 indicates a significant difference in the average cost per job among the three county types, at the 90% confidence level.
[h] Average cost per job values are significantly different among the three county types, at the 90% confidence level.

Table 11
Average Cost per Job by Year of Completion, by Grant Type[a]

Year of Completion	Grant Category[b]	Average Cost per Job by Funding Type[c]	Projects[d]	Average C/J[e]	ANOVA for equality of means[f]
1993 Completion	Buildings	EDA Funding	14	$12,685	
	Industrial Parks	EDA Funding	3	$16,462	
	Marine/Tourism	EDA Funding	1	$8,815	0.016[g]
	Roads	EDA Funding	5	$1,313	
	Water/Sewer	EDA Funding	31	$4,544	
	Buildings	All Funding	14	$21,228	
	Industrial Parks	All Funding	3	$31,017	
	Marine/Tourism	All Funding	1	$11,754	0.006[g]
	Roads	All Funding	5	$2,102	
	Water/Sewer	All Funding	31	$8,087	
1990 Completion	Buildings	EDA Funding	24	$7,184	
	Industrial Parks	EDA Funding	57	$4,540	
	Marine/Tourism	EDA Funding	10	$6,414	0.782
	Roads	EDA Funding	17	$4,525	
	Water/Sewer	EDA Funding	85	$4,503	
	Buildings	All Funding	24	$20,591	
	Industrial Parks	All Funding	57	$8,445	
	Marine/Tourism	All Funding	10	$12,067	0.370
	Roads	All Funding	17	$8,138	
	Water/Sewer	All Funding	85	$9,795	
Total Projects			**247**		

[a] Data obtained from Rutgers, 1997 and 1999 reports.
[b] Grant categories, as defined by the original Rutgers database (1997 information) with the exception of the 1993 completion programs. The 1993 completion data in its 'raw form' contained an excessive number of grant types (27 types of grant for 57 records). To simplify, the 27 "Grant Types" were synthesized into five broad grant type based on the Public Works Project Grant categories.
[c] "All Funding" includes EDA funding, in addition to private, local, state, and other federal expenditures on projects.
[d] N=247. Population is drawn from the Rutgers 1997 and 1999 reports. Excludes 13 projects without FIPS codes.
[e] Average cost per job is calculated from the original Rutgers data, using figures from the completion of the project.
[f] ANOVA (Analysis of Variance) compares multiple sample means, to detect significant difference between the average cost per job between the grant categories, based on EDA program type. A value under 0.05 indicates a significant difference in the average cost per job among the grant categories.
[g] Average cost per job values are significantly different among the grant categories, at the 95% confidence level.

Table 12
Average Cost per Job by Year of Completion, by EDA Region[a]

EDA Region	County Type[b]	Average Cost per Job by Funding Type[c]	Projects[d]	Average Cost/Job[e]	K-W Test for equality of means[f, g]
Atlanta	Rural	EDA Funding	27	$5,136	0.296
	Small Urban	EDA Funding	13	$8,401	
	Urban	EDA Funding	9	$1,237	
	Rural	All Funding	27	$8,640	0.462
	Small Urban	All Funding	13	$26,586	
	Urban	All Funding	9	$5,204	
Austin	Rural	EDA Funding	16	$4,252	0.192
	Small Urban	EDA Funding	11	$2,678	
	Urban	EDA Funding	10	$2,117	
	Rural	All Funding	16	$7,603	0.266
	Small Urban	All Funding	11	$8,497	
	Urban	All Funding	10	$3,429	
Chicago	Rural	EDA Funding	38	$5,394	0.497
	Small Urban	EDA Funding	7	$1,889	
	Urban	EDA Funding	9	$3,456	
	Rural	All Funding	38	$8,683	0.783
	Small Urban	All Funding	7	$3,391	
	Urban	All Funding	9	$5,941	
Denver	Rural	EDA Funding	27	$7,624	0.541
	Small Urban	EDA Funding	1	$12,245	
	Urban	EDA Funding	10	$2,914	
	Rural	All Funding	27	$15,555	0.285
	Small Urban	All Funding	1	$29,490	
	Urban	All Funding	10	$6,915	
Seattle	Rural	EDA Funding	17	$9,306	0.343
	Small Urban	EDA Funding	6	$6,719	
	Urban	EDA Funding	4	$1,515	
	Rural	All Funding	17	$17,014	0.400
	Small Urban	All Funding	6	$9,894	
	Urban	All Funding	4	$3,663	
Philadelphia	Rural	EDA Funding	25	$5,914	0.568
	Small Urban	EDA Funding	10	$6,414	
	Urban	EDA Funding	7	$6,784	
	Rural	All Funding	25	$14,890	0.249
	Small Urban	All Funding	10	$11,484	
	Urban	All Funding	7	$11,295	

[a] Data obtained from Rutgers, 1997 and 1999 reports.
[b] County classification based on Modified Beale Population Codes = 0–20,000 rural; 20,001–49,999 small urban; 50,000+ urban.
[c] "All Funding" includes EDA funding, in addition to private, local, state, and other federal expenditures on projects.
[d] N=247. Data are drawn from Rutgers reports. Excludes 13 projects without FIPS codes.
[e] Average cost per job is calculated from the original Rutgers data, using figures from the completion of the project.
[f] The Kruskal-Wallis test (essentially, a nonparametric analysis of variance) compares multiple sample means for groups of uneven size. This is used here to detect significant difference between the average cost per job between population categories. A value under 0.05 indicates a significant difference in the average cost per job among the population categories, at the 95% confidence level.
[g] No average cost per job values are significantly different among the population categories, at the 95% confidence level.

Table 13
Average Cost per Job, by Census Region[a]

Census Region	County Type[b]	Avg. C/J by Funding Type[c]	Projects[d]	Average C/J[e]	K-W Test for equality of means[f]
East North Central	Rural	EDA Funding	33	$5,957	0.720
	Small Urban	EDA Funding	7	$1,889	
	Urban	EDA Funding	7	$2,776	
	Rural	All Funding	33	$9,513	0.729
	Small Urban	All Funding	7	$3,391	
	Urban	All Funding	7	$4,765	
East South Central	Rural	EDA Funding	18	$6,904	0.761
	Small Urban	EDA Funding	1	$3,766	
	Urban	EDA Funding	3	$1,572	
	Rural	All Funding	18	$11,427	0.855
	Small Urban	All Funding	1	$5,021	
	Urban	All Funding	3	$8,165	
Middle Atlantic	Rural	EDA Funding	13	$2,065	0.979
	Small Urban	EDA Funding	3	$10,788	
	Urban	EDA Funding	5	$4,935	
	Rural	All Funding	13	$5,264	0.656
	Small Urban	All Funding	3	$18,742	
	Urban	All Funding	5	$9,738	
Mountain	Rural	EDA Funding	15	$10,443	0.057[g]
	Small Urban	EDA Funding	4	$4,229	
	Urban	EDA Funding	6	$1,531	
	Rural	All Funding	15	$20,340	0.042[h]
	Small Urban	All Funding	4	$9,781	
	Urban	All Funding	6	$3,258	
New England	Rural	EDA Funding	4	$1,939	0.157
	Small Urban	EDA Funding	1	$4,000	
	Urban	EDA Funding	0	$0	
	Rural	All Funding	4	$5,762	0.480
	Small Urban	All Funding	1	$9,516	
	Urban	All Funding	0	$0	
Pacific	Rural	EDA Funding	10	$9,659	0.488
	Small Urban	EDA Funding	3	$11,880	
	Urban	EDA Funding	3	$2,020	
	Rural	All Funding	10	$17,411	0.656
	Small Urban	All Funding	3	$16,577	
	Urban	All Funding	3	$4,884	
South Atlantic	Rural	EDA Funding	17	$7,510	0.568
	Small Urban	EDA Funding	18	$7,401	
	Urban	EDA Funding	8	$3,653	
	Rural	All Funding	17	$18,139	0.639
	Small Urban	All Funding	18	$21,650	
	Urban	All Funding	8	$6,590	
West North Central	Rural	EDA Funding	25	$5,880	0.900
	Small Urban	EDA Funding	0	$0	
	Urban	EDA Funding	8	$4,312	
	Rural	All Funding	25	$11,964	0.867
	Small Urban	All Funding	0	$0	
	Urban	All Funding	8	$9,432	

Table 13 (cont'd.)
Average Cost per Job, by Census Region[a]

Census Region	County Type[b]	Avg. C/J by Funding Type[c]	Projects[d]	Average C/J[e]	K-W Test for equality of means[f]
West South Central	Rural	EDA Funding			0.306
	Small Urban	EDA Funding			
	Urban	EDA Funding			
	Rural	All Funding			0.287
	Small Urban	All Funding			
	Urban	All Funding			

[a] Data obtained from Rutgers, 1997 and 1999 reports.
[b] County classification based on Modified Beale Code system = 0–20,000 rural; 20,001–49,999 small urban; 50,000+ urban.
[c] "All Funding" includes EDA funding, in addition to private, local, state, and other federal expenditures on projects.
[d] N=247. Data are drawn from Rutgers reports. Excludes 13 projects without FIPS codes.
[e] Average cost per job is calculated from the original Rutgers data, using figures from the completion of the project.
[f] The Kruskal-Wallis test (essentially, a nonparametric analysis of variance) compares multiple sample means for groups of uneven size. This is used here to detect significant difference between the average cost per job between population categories. A value under 0.05 indicates a significant difference in the average cost per job between the population categories, at the 95% confidence level.
[g] Average cost per job values from EDA funding for the Mountain Region are significantly different among the population categories, at the 95% confidence level.
[h] Average cost per job values from all funding for the Mountain Region are significantly different among the population categories, at the 90% confidence level.

Disaggregating by year of completion highlights significant variation in the average cost per job. (See Table 10.) In the data sets examined, communities tended to use grants differentially depending on their economic base and their geographic location. This difference significantly affects the measurement of the average cost per job and helps to explain the aggregate pattern previously identified.

Instances in Which Costs per Job Are Lower in Rural than Urban Areas

Costs per job are lower in rural versus urban areas in 1993. For 1993 projects, the average cost per job for EDA funding in rural areas is $6,904 compared to an average cost per job of $7,399 in urban areas. Cost per job in smaller urban areas was similar in magnitude with projects in larger urban areas. The average $300 cost difference was not found to be statistically significant, suggesting considerable variation in the costs per job across the projects studied in urban and rural areas. In other words, when the entire group is taken into account, some projects in rural areas are lower cost than projects in urban areas and vice versa. Across all of the data, these figures are not significantly different from one another.

It should be noted that the smaller number of 1993 completion projects in more populous areas could affect the results reported here. For example, in urban areas, only nine 1993 construction projects were commissioned during the study period. As with many of the relationships under study, highly uneven cell counts make statistical comparisons difficult. In such cases, standard parametric statistics are inappropriate tools for summarization of class differences.

Instances in Which Costs per Job are Higher in Rural than Urban Areas

For 1990 completion projects, based on EDA funding, the average cost per job in rural areas is $5,938. This is almost three times higher than the cost per job in urban areas ($1,988). These results are statistically significant at the 99.9 percent level. However, this difference may be explained by several things: the lower cost of adding new water and sewer capacity in urban areas given existing trunk lines, system capacity, and topography. Additionally, the type of projects proposed in urban areas might attract larger and more complex matching funds, thus reducing the EDA share. Finally, job creation may be more prevalent in rural than in urban areas. The data also reveal that it costs more to create a new job than to retain one, for obvious reasons. In the case of specific project circumstances, there appear to be differences in cost per job by type of expenditure. This result is particularly noteworthy given that in later sections the results suggest major differences in the spatial distribution of different types of investments made in urban versus rural areas and in high-poverty and high-unemployment areas.

Cost Differences between Urban and Rural Areas by EDA and Census Regions

To detect broad geographical patterns in the average cost per job, the six EDA funding regions were compared. (See Table 12.) Only in the Philadelphia region was the average EDA cost per job lower in rural areas than in urban areas. However, a comparison across EDA regions indicates there are no statistically significant differences in the costs per job in urban versus rural areas. It is difficult to make statistical inferences in light of small cell counts and few projects in urban areas.

A more detailed regional breakdown highlights differences both across rural areas and between urban and rural areas of the country. For example, average cost per job in the Mountain states region was almost seven times higher in rural areas compared with urban areas. At the same time, as reflected in the analysis of job cost differences across EDA regions, small cell counts and uneven size groupings diminish the ability to make statistical generalizations.

Summary

By way of summary, in the aggregate of both data sets, cost per job varies by urban and rural areas. Projects completed in 1990 generally exhibit higher costs in rural versus urban areas, while projects completed in 1993 generally exhibit lower costs in rural versus urban areas. In addition, 1990 completion projects also show significant differences in cost per job by project type in urban versus rural areas. For example, industrial buildings, industrial parks, and water and sewer projects post different cost per job estimates across the two data sets. This difference, although no doubt explained in part by specific attributes of projects nominally allocated to project categories, as well as variations in reporting, may also be the result of differences in kind among the projects as well as spatial variation across location. The next section of the report disaggregates the results further and focuses on attributes of the localities in receipt of EDA funding.

Section IV: Project Expenditure by 1990 and 1993 Cases

In this section, we examine the two data sets and characteristics of communities in which projects were funded. Movement is from the general discussion of the two data sets reported in Section III to a report of the cost per job for 1990 and 1993 completion data sets cross-classified by a number of indicators, including attributes of the communities and their residents in which projects have been completed. Cross-classifications are based on analysis of locational attributes, including designations of urban and rural, regional affiliation, and type of project upon which resources were expended. Comparative analysis also was conducted, examining attributes of places in which projects were located, including percent minority population, percent unemployed, and poverty rate.

Place Attributes

Demographic Profile (Tables 14–15)

This section begins by examining attributes of place, spatial scale, and size of EDA investments in 1990 and 1993 completion projects. Localities in which EDA has made investments have a higher than average percentage of minority populations and experience unemployment substantially in excess of the national average. This finding holds true across EDA regions. In general, recipient projects are located in areas with higher than average unemployment and relatively high percentages of minorities in the population. In some cases, the unemployment level in locations is twice the national average. In addition, shares of minority populations in the EDA regions in which projects occurred were substantially above national averages with the exception of the Chicago and Seattle regions. In these regions, the minority share of the population in areas receiving EDA program funding varied by program type. Thus, while 1993

projects in the Seattle region occurred in areas where minority populations were low relative to national averages, 1990 projects occurred in communities with significant numbers of minority residents.

Table 14
Demographic Profile for Counties Receiving 1990 or 1993 Completion Project Funding

Year of Completion	Demographic Attributes[a]	Number of Projects[b]	Average Percent by County[c]	Average Number Unemployed Persons by County[d]
1993 Completion	Avg. % Minority Population: County	45	19.7%	4,143
	Avg. No. Unemployed: County	45		
	Avg. Unemployment Rate: County	45	8.2%	
1990 Completion	Avg. % Minority Population: County	178	18.4%	6,447
	Avg. No. Unemployed: County	178		
	Avg. Unemployment Rate: County	178	10.2%	

[a] Data obtained from EDA. The data are based on county-level averages of the 24 months prior to the start date of each project.
[b] N=223. Several counties received EDA funding for more than one project during the study periods. In the demographic profile analysis, those counties are only counted once.
[c] Average minority population as a share of total population per county and unemployment rates, for all counties receiving 1993 or 1990 projects.
[d] Average number of unemployed persons, for all counties receiving 1993 or 1990 completion projects.

Table 15
Unemployment and Minority Population Profiles of Counties Receiving Funding Compared by EDA Region and Year of Completion

EDA Region	Year of Completion	Demographic Attributes[a]	Number of Projects[b]	Average by County[c]	Average Number of Unemployed[d]
Atlanta	1993	Avg. % Minority Population: County	12	31.7%	
		Avg. # Unemployed: County	12		1,723
		Avg. Unemployment Rate: County	12	9.9%	
	1990	Avg. % Minority Population: County	37	30.8%	
		Avg. # Unemployed: County	37		4,702
		Avg. Unemployment Rate: County	37	9.8%	
Austin	1993	Avg. % Minority Population: County	11	25.7%	
		Avg. # Unemployed: County	11		2,147
		Avg. Unemployment Rate: County	11	8.2%	
	1990	Avg. % Minority Population: County	26	22.0%	
		Avg. # Unemployed: County	26		6,537
		Avg. Unemployment Rate: County	26	12.9%	
Chicago	1993	Avg. % Minority Population: County	8	6.3%	
		Avg. # Unemployed: County	8		6,700
		Avg. Unemployment Rate: County	8	8.9%	
	1990	Avg. % Minority Population: County	42	13.5%	
		Avg. # Unemployed: County	42		7,064
		Avg. Unemployment Rate: County	42	10.8%	
Denver	1993	Avg. % Minority Population: County	8	16.9%	
		Avg. # Unemployed: County	8		771
		Avg. Unemployment Rate: County	8	6.5%	
	1990	Avg. % Minority Population: County	28	10.4%	
		Avg. # Unemployed: County	28		2,728
		Avg. Unemployment Rate: County	28	7.8%	
Philadelphia	1993	Avg. % Minority Population: County	7	13.6%	
		Avg. # Unemployed: County	7		11,079
		Avg. Unemployment Rate: County	7	6.2%	
	1990	Avg. % Minority Population: County	37	16.3%	
		Avg. # Unemployed: County	37		8,808
		Avg. Unemployment Rate: County	37	10.2%	
Seattle	1993	Avg. % Minority Population: County	6	11.5%	
		Avg. # Unemployed: County	6		3,778
		Avg. Unemployment Rate: County	6	8.2%	
	1990	Avg. % Minority Population: County	20	22.9%	
		Avg. # Unemployed: County	20		14,366
		Avg. Unemployment Rate: County	20	10.5%	

[a] Data obtained from EDA. The data are based on county-level averages of the 24 months prior to the start date of each project.
[b] N=242.
[c] Average minority population and unemployment rates, for all counties receiving 1993 or 1990 projects.
[d] Average number of unemployed persons, for all counties receiving 1993 or 1990 projects.

Cost Per Job by Unemployment Class (Tables 16–18; Figures 1–6)

Table 16
Cost Per Job by Unemployment Class[a]

Year of Completion	County Unemployment Rate[a]	Funding Type[b]	Number of Projects[c]	Average Cost per Job	K-W Test for equality of means[d]
1993	0–5.9%	EDA Funding	11	$10,357	
	6–7.9%	EDA Funding	16	$5,605	
	8–8.9%	EDA Funding	10	$8,068	0.522
	9–11.8%	EDA Funding	7	$3,069	
	12%+	EDA Funding	8	$9,018	
	0–5.9%	All Funding	11	$18,082	
	6–7.9%	All Funding	16	$9,145	
	8–8.9%	All Funding	10	$15,047	0.201
	9–11.9%	All Funding	7	$5,050	
	12%+	All Funding	8	$15,401	
1990	0–5.9%	EDA Funding	17	$6,904	
	6–7.9%	EDA Funding	38	$5,619	
	8–8.9%	EDA Funding	23	$2,753	0.546
	9–11.8%	EDA Funding	65	$4,151	
	12%+	EDA Funding	47	$6,132	
	0–5.9%	All Funding	17	$12,696	
	6–7.9%	All Funding	38	$14,636	
	8–8.9%	All Funding	23	$6,167	0.144
	9–11.9%	All Funding	65	$7,684	
	12%+	All Funding	47	$13,858	

[a] Unemployment and cost per job data obtained from EDA. The unemployment data are based on county–level averages of the 24 months prior to the start date of each project. Cost per job data are based on survey and interview information received at each project's completion. County unemployment rate classes derived from EDA data.
[b] "All Funding" includes EDA funding, in addition to private, local, state, and other federal expenditure on projects.
[c] N=242. Average cost per job for 1990 and 1993 projects, for each unemployment rate category.
"All funding" includes the total cost of job creation from all possible project funding sources, including EDA, private, local, state, and other federal.
[d] The Kruskal-Wallis test (essentially, a nonparametric analysis of variance) compares multiple sample means, where the sample sizes are uneven. This can detect significant differences between the average cost per job between unemployment rate categories. A value under 0.05 indicates a significant difference in the average cost per job between the unemployment rate categories, at the 95% confidence level. No average cost per job values are significantly different between the unemployment rate categories, at the 95% confidence level.

Figure 1
EDA Cost per Job Compared to Unemployment Class

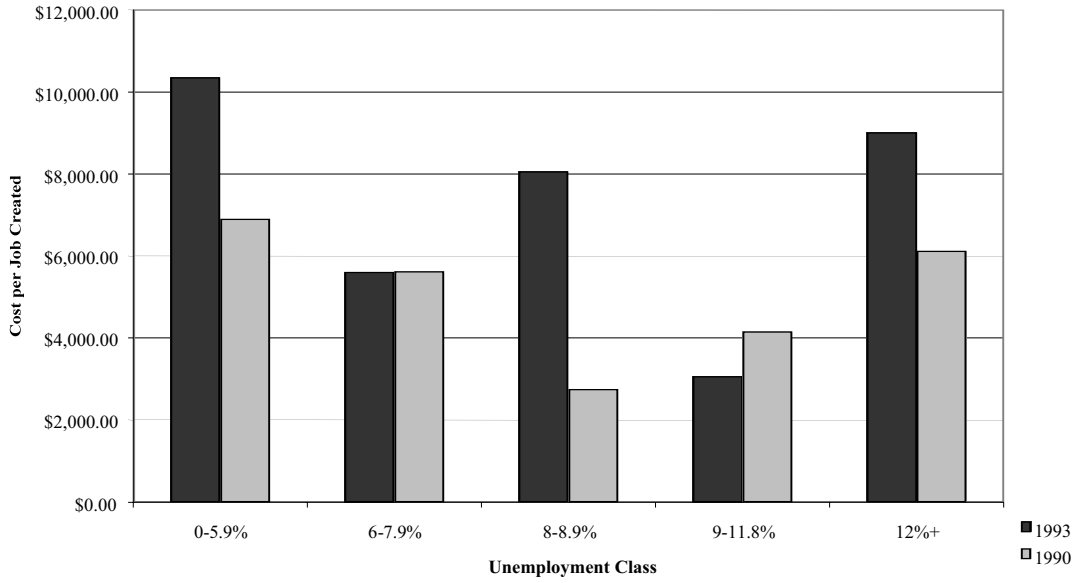


Figure 2
Total* Cost per Job Compared to Unemployment Class

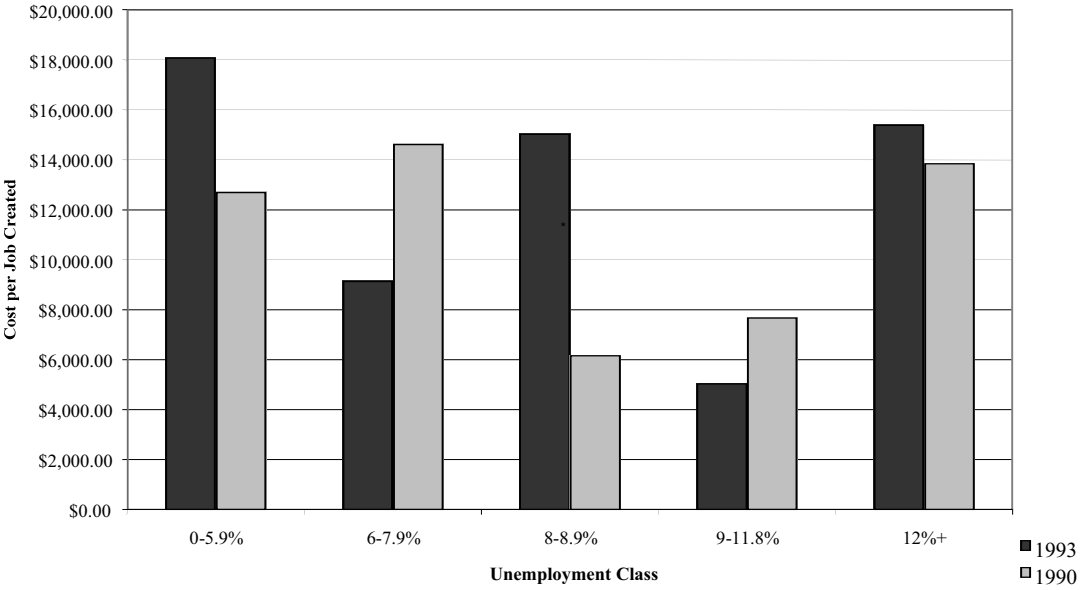


Table 16 reflects the cost per job created for both 1990 and 1993 completion projects, analyzed on the basis of unemployment rates at the time of project approval. The average cost per job varies between the years in each category: for example, 1993 projects in high-unemployment counties (12%+ unemployment rates) had an average cost per job of $9,018. In contrast, 1990 projects in high-unemployment counties had an average cost per job of $6,132. There does appear to be some evidence that projects in low-unemployment areas were more costly on a per job basis than in high-unemployment areas. This may reflect the difference in labor market conditions and relative tightness of labor markets, thus leading to higher labor costs overall. Tables 17 and 18 provide additional information to account for the differences in average cost per job. They show the average and total expenditure for EDA projects, analyzed on the basis of unemployment rates.

Comparisons among projects based on percent unemployed in the surrounding county identify a number of interesting trends. First, for 1993 projects, the average amount expended per project was unequal across unemployment categories. At the same time, in terms of share of total funds expended, comparatively more funds were expended in counties with lower unemployment rates. Nearly 70 percent of all project total funding was allocated to counties with average unemployment rates of under 8.9 percent. Funding for 1990 projects was allocated more evenly across counties given varying unemployment rates, although the average funding per project was higher for projects located in counties with lower rates of unemployment.

Table 17
Average & Total Expenditures from All Funding Sources Based on County Unemployment Rates

Year of Completion	County Unemp. Rate[a]	Number of Projects[b]	Average Expenditure from All Funding Sources per Project[c]	Total Expenditure from All Funding[d]	Share of Total Expenditure
1993	0–5.9%	11	$1,145,458	$12,600,035	19%
	6–7.9%	16	$1,449,092	$23,185,467	35%
	8–8.9%	10	$1,287,627	$12,876,273	19%
	9–11.9%	7	$1,156,637	$8,096,460	12%
	12%+	8	$1,271,387	$10,171,095	15%
				$66,929,330	100%
1990	0–5.9%	17	$2,062,759	$35,066,901	13%
	6–7.9%	38	$1,473,699	$56,000,559	20%
	8–8.9%	23	$1,453,893	$33,439,543	12%
	9–11.9%	65	$1,253,498	$81,477,383	30%
	12%+	47	$1,450,127	$68,155,977	25%
				$274,140,363	100%

[a] County unemployment rate classes derived from EDA data. Unemployment data are based on county-level averages of the 24 months prior to the start date of each project.
[b] N=242.
[c] Average expenditure per EDA project at time of completion of the project. Includes funding from all funding sources (EDA, private, local, state, and other federal funds). Data obtained from EDA.
[d] Total expenditure for all EDA projects per unemployment rate class, at time of completion of the project. Includes funding from all funding sources (EDA, private, local, state, and other federal funds). Data obtained from EDA.

Table 18
Average & Total EDA Expenditures Based on County Unemployment Rates

Year of Completion	County Unempl. Rate[a]	Number of Projects[b]	Average EDA Expenditure per Project[c]	Total EDA Expenditure[d]	Share of Total Expenditure
1993	0–5.9%	11	$602,090	$6,622,989	19%
	6–7.9%	16	$740,464	$11,847,431	34%
	8-8.9%	10	$718,840	$7,188,396	21%
	9–11.9%	7	$691,740	$4,842,180	14%
	12%+	8	$557,252	$4,458,017	13%
	Total			$34,959,013	100%
1990	0–5.9%	17	$826,742	$14,054,613	12%
	6–7.9%	38	$603,296	$22,925,254	19%
	8–8.9%	23	$625,418	$14,384,606	12%
	9–11.9%	65	$600,140	$39,009,108	32%
	12%+	47	$636,690	$29,924,423	25%
	Total			$120,298,004	100%

[a] County unemployment rate classes derived from EDA data. Unemployment data are based on county-level averages of the 24 months prior to the start date of each project.
[b] N=242.
[c] Average expenditure by EDA per EDA project at time of completion of the project. Data obtained from EDA.
[d] Total EDA expenditure for all EDA projects per unemployment rate class, at time of completion of the project. Data obtained from EDA.

A similar pattern of expenditures by completion year is evident when considering just EDA funding and unemployment levels in target counties at the time of project approval. Year 1993 projects in counties with less than 9 percent unemployment received approximately 70 percent of the total EDA funding, while counties with an unemployment rate exceeding 12 percent received the lowest average expenditure of any unemployment class. EDA funding of 1990 projects was targeted to counties with higher rates of unemployment, with 57 percent of total expenditure allocated to counties with unemployment rates greater than 9 percent. Thus, 1990 projects are initiated in areas with high levels of unemployment.

Figure 3
Share of Total EDA Expenditure
for 1993 Projects
Based on County Employment Rates

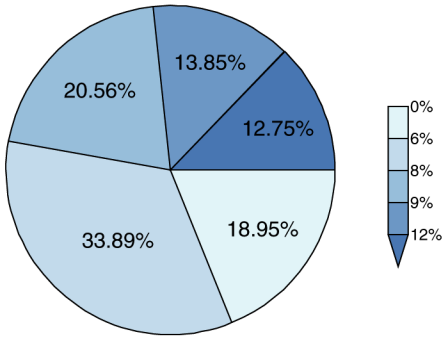


Figure 4
Share of Total Expenditure
by All Funding Sources* for 1990 Projects
Based on County Unemployment rates

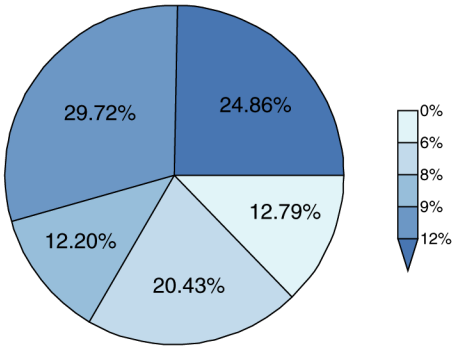


Figure 5
Share of Total Expenditure
by All Funding Sources* for 1993 Projects
Based on County Unemployment Rates

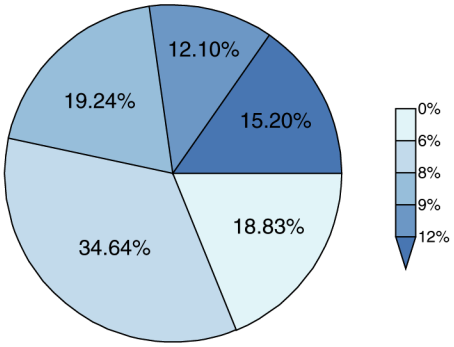
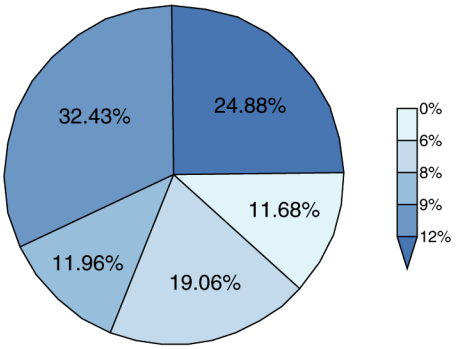


Figure 6
Share of Total EDA Expenditure
for 1990 Projects
Based on County Unemployment Rates



Cost Per Job by Poverty Level (Table 19; Figures 7–8)

Table 19 and Figures 7 and 8 illustrate the average cost per job, by the percentage of county population under the 1997 national poverty level. The average cost per job for 1993 projects is roughly similar among the five poverty classes. To the extent that there is a difference, no discernable pattern is evident. For 1990 projects, the average cost per job from EDA funding is almost three times greater in counties with more than 27 percent of the population under the poverty level ($9,387), compared to counties with under 13 percent of the population in poverty ($3,509). A similar pattern is seen with the 1990 projects' average cost per job from all funding sources. One hypothesis is that the projects funded in these two different types of counties vary. The types of projects in high-poverty and small population areas tend to be more focused on water and sewer projects as opposed to industrial parks.

Table 19
Cost per Job Compared to the Percentage of the Population Living Below the 1997 Poverty Level

Year of Completion	% Pop. Per County Below 1997 Poverty Level[a]	Funding Type[b]	Number of Projects[c]	Average Cost per Job	ANOVA for equality of means[e]
1993	0–13%	EDA Funding	8	$8,741	
	13.1–16.1%	EDA Funding	13	$5,822	
	16.2–19.5%	EDA Funding	12	$9,670	0.798
	19.6–26.5%	EDA Funding	10	$4,965	
	26.7%+	EDA Funding	9	$7,400	
	0–13%	All Funding	8	$14,366	
	13.1–16.1%	All Funding	13	$11,140	
	16.2–19.5%	All Funding	12	$14,411	0.961
	19.6–26.5%	All Funding	10	$10,030	
	26.7%+	All Funding	9	$13,475	
1990	0–13%	EDA Funding	39	$3,509	
	13.1–16.1%	EDA Funding	36	$3,775	
	16.2–19.5%	EDA Funding	39	$4,618	0.058[e]
	19.6–26.5%	EDA Funding	38	$3,754	
	26.7%+	EDA Funding	38	$9,387	
	0–13%	All Funding	39	$7,763	
	13.1–16.1%	All Funding	36	$9,639	
	16.2–19.5%	All Funding	39	$8,224	0.091[e]
	19.6–26.5%	All Funding	38	$7,283	
	26.7%+	All Funding	38	$21,509	

[a] County poverty-level classes constructed from EDA data and are based on 1997 figures.
[b] "All Funding" includes EDA funding, in addition to private, local, state, and other federal expenditure on projects.
[c] N= 242.
[d] ANOVA (Analysis of Variance) compares multiple sample means, to detect significant difference between the average cost per job between poverty level categories. A value under 0.10 indicates a significant difference in the average cost per Job between the poverty level categories, at the 90% confidence level.
[e] Average cost per job values are significantly different between the poverty level categories, at the 90% confidence level.

Figure 7
EDA Cost per Job Compared to the Percentage of County Population Living Below the 1997 Poverty Level

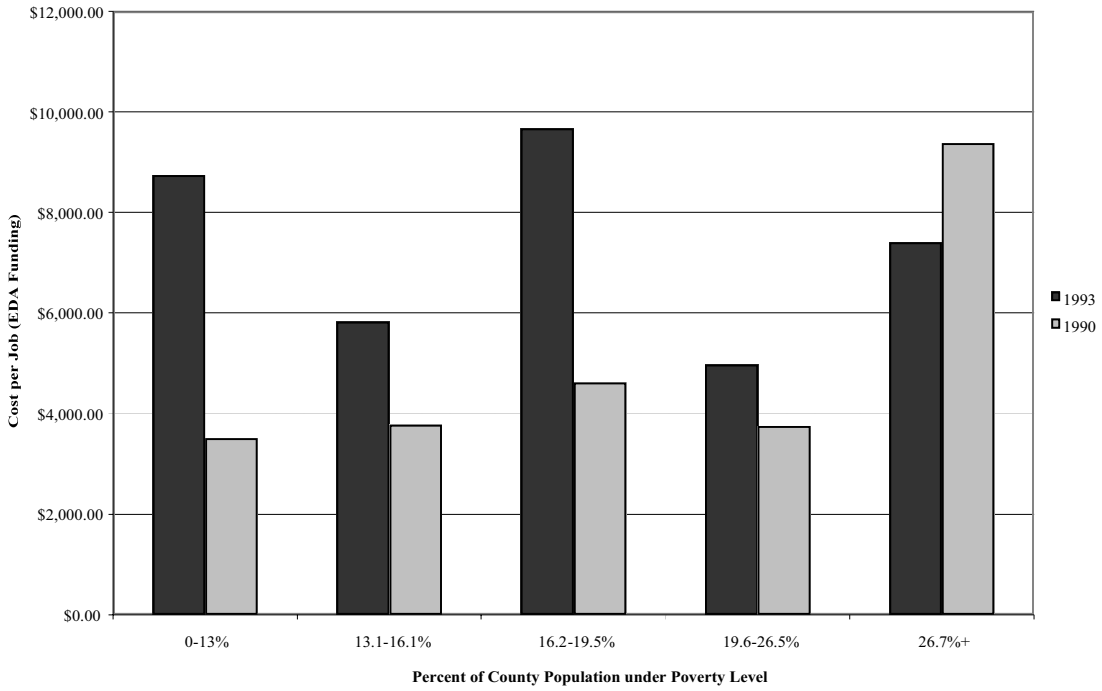
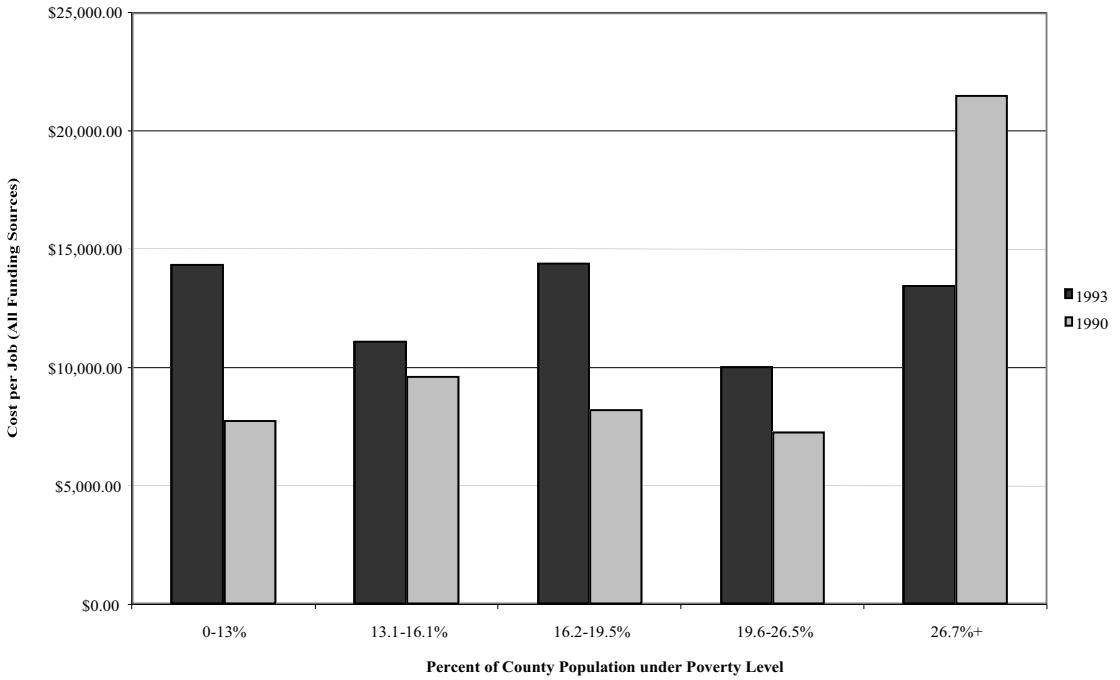


Figure 8
Cost per Job Compared to the Percentage of Population Living Below the 1997 Poverty Level



Summary

Localities in which EDA has made investments have a higher than average percentage of minority populations and experience unemployment substantially in excess of the national average for 1997 (5.9%). Analysis of average cost per job in low-, medium-, and high-unemployment areas indicates the average cost per job varies between the project years in each category. There does appear to be some evidence that projects in low-unemployment areas were more costly on a per job basis than in high-unemployment areas. There was little evidence of differences between average level of funds per project in high-versus low-unemployment areas. However, it does appear that the majority of 1993 projects occurred in relatively lower-unemployment areas. In contrast, 1990 projects are less likely to exhibit differences in size of project or funding incidence in high- versus low-unemployment areas. Overall, 1990 projects are invariant in size and share of EDA funds across high- and low-unemployment areas compared with 1993 projects. In examining the relationship between cost per job and level of poverty in the population, it is clear that average cost per job increases in line with increasing poverty rates in place. The same cannot be said of 1993 projects.

Conclusions

Several important findings emerged from this study. First, cost per job varies by year of project completion and geography. For example, the cost per job is lower in rural areas in the 1993 cases; the average cost per job for EDA funding in rural areas is $6,905, compared to an average cost per job of $7,399 in urban areas. In contrast, for the 1990 cases, the average cost per job (EDA funding) in rural areas is $5,938—or almost three times higher than the cost per job in urban areas ($1,988). A detailed regional breakdown highlights differences both across rural areas and between urban and rural areas of the country. For example, average cost per job in the Census Bureau's Mountain States region was almost seven times higher in rural areas than in urban areas. However, as reflected in the analysis of job cost differences across EDA regions, small cell counts and uneven size groupings diminish ability to make statistical generalizations.

A detailed examination of county attributes and cost per job in urban and rural areas raises a number of noteworthy differences. Counties in which EDA has made investments have a higher than average percentage of minority populations and experience unemployment substantially in excess of the national average. Half or more of total funds (from EDA and other sources) were expended in counties with moderately high unemployment rates. About 45 and 73 percent of total funding (1990 and 1993 projects, respectively) went to counties with average unemployment rates of up to 8.9 percent. The comparable figures for the EDA share of the funds are 43 and 74 percent (1990 and 1993) going to counties with unemployment rates of up to 8.9 percent. If these projects were proposed and approved three years before their completion, the prevailing U.S. unemployment rates were 6.2 percent (1987) and 5.6 percent (1990). Only a small portion of funds went to counties having unemployment rates less than 6.0 percent: about12 percent for 1990 projects and 19 percent for 1993 projects.