

Prepared for:
**The Ohio Economic Development Study
Advisory Committee**

Prepared by:
**Economic Development Program
The Urban Center**
Ziona Austrian, Ph.D.
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July 8, 1998

**Ohio Business
Establishments
Inter-County
Relocation
Trends During
the 1994-1997
Period**

UWP

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EXECUTIVE SUMMARY

The purpose of this report is to describe inter-county business relocation trends in Ohio. Intra-county relocations are excluded from this study. Business relocation is defined as the move of a business operation from a location in one county to another location in a different county. Business relocation is only one dimension of business dynamics that include business start-ups, deaths, expansions, and contractions.

In Ohio, 884 business establishments relocated from one county to another between 1994 and 1997. The move could have occurred any time between the first quarter of 1994 and the first quarter of 1997 and had to have an origination and destination in two different counties within the state of Ohio. These business establishments employed slightly over 16,000 in the first quarter of 1997 and had a combined annual payroll of \$468.5 million. It should be noted that the number of business establishment relocations accounted for only 0.4 percent of Ohio's number of establishments. The total jobs associated with these moves accounted for 0.3 percent of Ohio's total employment. Total payroll associated with the relocated establishments accounted for 0.3 percent of Ohio's total payroll in 1997.

The 88 Ohio counties are classified into three categories: central, suburban, and rural counties. Central counties include the largest city (central city) in each of the metropolitan areas. Suburban counties are defined as all counties in the metropolitan area excluding the central county, and rural counties are defined as counties that are not part of Ohio's metropolitan areas.

MAJOR FINDINGS

- The counties that gained the most business establishments on a net basis (relocation into it minus relocation out of it) are Butler (27), Warren (21), Medina (20), and Clermont, Delaware, and Portage (17 each). All of these counties, except for Butler, are suburban counties. Butler is a one-county metropolitan area bordering the Cincinnati metropolitan area.

- The counties that lost the most business establishments on a net basis are all central counties, including Cuyahoga (-82), Hamilton (-65), Franklin (-33), Montgomery (-24), and Lucas (-17). However, another five central counties gained some businesses from net relocations.
- Ohio's central counties (as a group) lost 184 business establishments, 3,300 jobs, and \$96.9 million in annual payroll from net relocations.
- Ohio's suburban counties (as a group) gained 167 business establishments, 3,650 jobs, and \$117.7 million in annual payroll from net relocations.
- Ohio's rural counties (as a group) gained 17 business establishments, but lost 380 jobs and \$20.8 million in annual payroll from net relocations.
- The largest flow of business establishments was from central counties to suburban counties (318 businesses), although a significant number of establishments moved from suburban to central counties (151) and from one central county to another (171).
- The leading three counties measured in terms of the most business establishments moving in are Summit (69), Cuyahoga (68), and Butler (59) counties. In each of them, the vast majority of the businesses relocated from adjacent counties.
- The three counties that lost the most business establishments through relocation to other counties in Ohio are Cuyahoga (150), Hamilton (102), and Franklin (76). These are the central counties of Ohio's largest three metropolitan areas, Cleveland, Cincinnati, and Columbus, respectively.
- For Ohio's larger metropolitan areas, more of the relocations occurred within the boundaries of the metro area.
- The industrial sectors with the most relocations of business establishments are services (232), manufacturing (156), construction (147), and wholesale trade (106). The relocated manufacturing business establishments accounted for almost 5,300 jobs, while relocating service businesses accounted for over 3,400 jobs.
- The relocating manufacturing business establishments experienced an employment increase of over 1,400 jobs, with 70 percent of it in durable manufacturing, while employment at the relocating service businesses increased only slightly.
- Ohio's manufacturers relocated 2.5 times more than their proportion of Ohio's economy would suggest. This greater frequency of relocation could be attributed to the needs of manufacturers to modernize their facilities, which frequently means moving to areas with more land.

GENERAL CONCLUSIONS

- The number of relocations for each county depends on the size of the county's economy and its mix of industries. The larger the economy and the number of businesses, the more business start-ups, deaths, and relocations occur.
- The suburban counties had the most net gains in number of business establishments and jobs due to inter-county relocations.
- The counties with the most net losses in business establishments and jobs are central counties.
- The majority of the relocations occur between counties that are contiguous to each other.
- One of the requirements for relocations into a county is the availability of land for development. However, it is expected that, in the future, most of Ohio's central counties will suffer from lack of adequate land for new industrial and commercial development. Within central counties, most of the land in central cities has been developed, and the land in suburbs is being developed fast. Only policies that encourage recycling of used land will stimulate new developments in central counties and in central cities.

INTRODUCTION AND PURPOSE

Businesses are constantly changing. Most of these changes are necessary to the survival and continued competitiveness of companies. Past research by David Birch and others has attempted to measure business dynamics in terms of business expansions, contractions, start-ups, and deaths. Relocations of companies are a small part of business expansions or contractions; however, either employment gains or losses can accompany a relocation of a business establishment. This study focuses on one aspect of these dimensions of business change - relocations.

The newspapers are filled with stories about business establishments moving from one location to another, sometimes within the same city, sometimes from one city to another within the same county, and more often between a central/urban county and its suburban counties in the same metropolitan area. An underlying question being asked by the Ohio Economic Development Study Project is whether and to what extent Ohio economic development incentives encourage or assist firms in the state to relocate from one geographic location to another. A sound research answer to this question is not currently possible, but a partial understanding is possible. This analysis provides some insights into trends in business establishments relocations between Ohio's counties.

This report is trying to answer questions raised by many policy makers, such as where are businesses moving to and what areas are they leaving? Which industries account for the majority of the moves? Do most of the moves occur within the same metropolitan area? Are there a significant number of business establishments that are moving to rural counties? This report describes the trends in inter-county business relocations in Ohio between 1994 and 1997. It reports the number of business establishments that relocated from one county to another and the jobs and payroll that are gained or lost due to the moves.

DATA AND METHODOLOGY

The data used for this study are derived from the Ohio Economic Development Information database, which is developed from the Ohio ES202 data by the Urban Center. This database is based on the Ohio ES202 administrative database, created for tax collection purposes by the Ohio Bureau of Employment Services (OBES). Cleveland State University receives the data on a quarterly basis from OBES under a special contract on behalf of the Ohio Economic Development Information Network, a statewide network dedicated to the development and use of an establishment-level employment and payroll database in research and technical assistance.

The ES202 data are based on quarterly unemployment compensation reports collected by every state under federal mandate; nearly all employers with paid employees are required to file unemployment reports to their respective states. The database includes quarterly information on each company's name, address, zip code, county, industrial classification, number of employees, and payroll.

Firm relocation in this study is defined as a move from a location in one county to another location in a different county. A firm that opened a new location in a different county but kept its plant or office in the original county is not "relocating" (the new location should be considered an opening of a new establishment). The following method was used to create a database for relocations among counties.¹ Firms were selected from the ES202 data to become part of the relocation database if they reported a different county in the first quarter of 1997 compared with the first quarter of 1994. The firm's relocation was confirmed by checking the firm's location (address and county) against the phone book (on CD-ROM) for all business establishments with at least 20 employees. Relocations of manufacturing businesses were also confirmed using the Harris Ohio Industrial Directory.

¹ Ellen Cyran, a senior programmer analyst in the Urban Center, with assistance from Dwayne Keeney, a graduate research assistant, developed the relocations database from the ES202 database.

MAJOR FINDINGS

RELOCATION AMONG OHIO'S COUNTIES

In Ohio, 884 business establishments relocated from one county to another between 1994 and 1997. The move could have occurred any time between the first quarter of 1994 (1994:Q1) and the first quarter of 1997 (1997:Q1) and had to have an origination and destination in two different counties within the state of Ohio. These business establishments accounted for slightly over 16,000 employees in the first quarter of 1997 and a payroll of \$468.5 million. It should be noted that the number of business establishment relocations accounted for only 0.4 percent of Ohio's total number of establishments. The total jobs associated with these moves accounted for 0.3 percent of Ohio's total employment. Total payroll associated with the relocated establishments accounted for 0.3 percent of Ohio's total payroll in 1997.

Ohio had a total of 242,173 business establishments in 1994:1Q, the start of the study period and 242,097 establishments in 1997:1Q, the end of the study period. A very small portion of these business operations, 0.4 percent, relocated from one Ohio county to another during the 1994-97 period. We believe that many business relocations occur within a county, but we are currently unable to research these trends because of data problems.

The 88 Ohio counties are classified into three categories: central, suburban, and rural counties. Central counties are defined for this study as the urban counties in each of Ohio's metropolitan areas that include the largest city (central city) in the metropolitan area. Suburban counties are defined as all counties in the metropolitan area excluding the central county. Rural counties are defined as counties that are not part of Ohio's metropolitan areas. Using these definitions, Ohio has 11 central counties, 26 suburban counties, and 51 rural counties. All of Ohio's counties had at least one business moving into or out of it, except for five rural counties that experienced no relocations during the studied time period. Thus, Table 1 reports on only 46 rural counties.

The numbers of business relocations from and into each of the counties (between 1994:Q1 and 1997:Q1), along with their associated employment (during 1997:Q1), are presented in Table 1. The counties that gained the most business establishments on a net basis (relocation into it minus relocation out of it) are Butler (27), Warren (21), Medina (20), and Clermont, Delaware, and Portage (17 each). Each of these counties gained between 300 and 900 jobs as a result of these relocations. All of these counties, except for Butler, are suburban counties. Butler is a one-county metropolitan area bordering the Cincinnati metropolitan area. The counties that lost the most business establishments on a net basis are all central counties, including Cuyahoga (-82), Hamilton (-65), Franklin (-33), Montgomery (-24), and Lucas (-17).

Of the 884 business relocations, Table 2 shows that 357 business establishments moved into Ohio's central counties, while 541 establishments moved out. As a group, the central counties lost 184 business establishments between 1994 and 1997, which resulted in a job loss of almost 3,300 jobs by 1997. These job losses translated into an annual payroll loss of \$96.9 million in 1997:Q1.

Although the counties that lost the most business establishments from net relocations are all central counties, another five central counties gained some establishments on a net basis, led by Butler with a net gain of 27 businesses. As mentioned before, Butler County is different from other central counties because it is a one-county metropolitan area adjacent to the Cincinnati metropolitan area. Of the 59 business establishments that moved into Butler County, 47 moved from Hamilton County. Of the 32 businesses that left Butler County, 15 moved to Hamilton County, and seven to Warren County, central, and suburban counties, respectively, in the Cincinnati metropolitan area.

Table 1: Business Relocations Between Ohio's Counties, 1994-1997

County		Establishments			Employment		
Name	Type	In	Out	Net Change	In	Out	Net Change
Allen	C	1	6	-5	13	15	-2
Ashland	R	2	2	0	21	79	-58
Ashtabula	S	6	2	4	269	5	264
Athens	R	0	3	-3	0	23	-23
Auglaize	S	3	3	0	14	8	6
Belmont	S	3	1	2	8	1	7
Brown	S	7	1	6	21	3	18
Butler	C	59	32	27	1,210	290	920
Carroll	S	3	4	-1	130	11	119
Champaign	R	2	3	-1	5	36	-31
Clark	S	4	7	-3	23	108	-85
Clermont	S	36	19	17	962	294	668
Clinton	R	3	2	1	18	397	-379
Columbiana	S	3	2	1	41	92	-51
Coshocton	R	2	3	-1	17	13	4
Crawford	S	3	2	1	40	8	32
Cuyahoga	C	68	150	-82	1,991	2,401	-414
Darke	R	2	1	1	6	4	2
Defiance	R	2	1	1	13	10	3
Delaware	S	23	6	17	543	40	503
Erie	R	7	6	1	63	322	-259
Fairfield	S	25	9	16	236	188	48
Fayette	R	4	2	2	18	6	12
Franklin	C	43	76	-33	638	600	38
Fulton	S	3	3	0	58	7	51
Gallia	R	2	1	1	31	7	24
Geauga	S	19	19	0	98	214	-116
Greene	S	24	8	16	882	64	818
Guernsey	R	1	1	0	8	1	7
Hamilton	C	37	102	-65	502	2,589	-2,087
Hancock	R	3	4	-1	300	20	280
Hardin	R	3	4	-1	52	60	-8
Harrison	R	1	2	-1	0	29	-29
Henry	R	1	0	1	43	0	43
Highland	R	0	3	-3	0	64	-64
Hocking	R	3	1	2	16	2	14
Holmes	R	5	7	-2	42	69	-27
Huron	R	1	6	-5	22	50	-28
Jackson	R	2	2	0	22	23	-1
Jefferson	S	2	3	-1	5	10	-5

Table 1: Business Relocations Between Ohio's Counties, 1994-1997 (continued)

County		Establishments			Employment		
Name	Type	In	Out	Net Change	In	Out	Net Change
Knox	R	2	2	0	12	15	-3
Lake	S	41	32	9	363	529	-166
Licking	S	16	12	4	125	73	52
Logan	R	1	3	-2	3	59	-56
Lorain	S	25	19	6	474	313	161
Lucas	C	11	28	-17	149	712	-563
Madison	S	5	2	3	38	15	23
Mahoning	C	13	10	3	373	141	232
Marion	R	5	2	3	80	4	76
Medina	S	36	16	20	538	236	302
Mercer	R	2	0	2	2	0	2
Miami	S	12	8	4	189	402	-213
Monroe	R	1	0	1	5	0	5
Montgomery	C	25	49	-24	560	1,148	-588
Morgan	R	1	1	0	12	6	6
Morrow	R	3	3	0	15	46	-31
Muskingum	R	5	2	3	13	25	-12
Ottawa	R	5	1	4	52	7	45
Paulding	R	1	1	0	15	16	-1
Perry	R	1	1	0	1	14	-13
Pickaway	S	1	7	-6	3	35	-32
Pike	R	2	1	1	86	10	76
Portage	S	33	16	17	725	271	454
Preble	R	4	3	1	29	29	0
Putnam	R	2	1	1	19	5	14
Richland	C	6	5	1	94	70	24
Ross	R	2	1	1	7	15	-8
Sandusky	R	7	4	3	59	30	29
Scioto	R	1	3	-2	33	20	13
Seneca	R	2	2	0	4	25	-21
Shelby	R	1	3	-2	6	14	-8
Stark	C	25	23	2	323	619	-296
Summit	C	69	60	9	1,229	1,771	-542
Trumbull	S	11	12	-1	207	485	-278
Tuscarawas	R	11	4	7	242	23	219
Union	R	8	1	7	72	0	72
Van Wert	R	1	1	0	1	15	-14
Vinton	R	1	1	0	15	12	3
Warren	S	33	12	21	669	123	546
Washington	R	0	1	-1	0	148	-148
Wayne	R	10	11	-1	131	227	-96
Wood	S	23	8	15	648	119	529
Wyandot	R	2	3	-1	24	36	-12
Total		884	884	0	16,026	16,026	0

Another of Ohio's central counties that gained business establishments from relocations is Summit County in the Akron metropolitan area, which added 69 businesses and lost 60 due to relocations (see Table 1). The majority of the establishments that left Summit County moved to Portage (19), Medina (11), Stark (9), and Cuyahoga (8), all counties in northeast Ohio contiguous to Summit. The majority of the business establishments that moved into Summit County came from Cuyahoga County (35), Stark (14) and Portage (13), again all counties in northeast Ohio that are adjacent to Summit County.

Three other central counties gained business establishments from net relocations: Mahoning County in the Youngstown metropolitan area gained a net of three business establishments, Stark County in the Canton area gained two businesses, and Richland County in the Mansfield area gained a net of one establishment.

Table 2: Business Relocations by Central, Suburban, and Rural Counties, 1994-1997

Type	Establishments			Employment		
	In	Out	Net Change	In	Out	Net Change
Central	357	541	-184	7,082	10,356	-3,274
Suburban	400	233	167	7,309	3,654	3,655
Rural	127	110	17	1,635	2,016	-381
Total	884	884	0	16,026	16,026	0

Type	Payroll (\$)			Payroll per Employee (\$)	
	In	Out	Net Change	In	Out
Central	220,070,268	316,924,644	-96,854,376	31,075	30,603
Suburban	213,963,212	96,264,792	117,698,420	29,274	26,345
Rural	34,478,528	55,322,572	-20,844,044	21,088	27,442
Total	468,512,008	468,512,008	0	29,234	29,234

As a result of relocations, suburban counties as a whole added 400 business establishments (45 percent of all relocations) and lost 233 (25 percent), gaining a net of 167 business establishments and 3,650 jobs (see Table 2). These net gains in businesses contributed additional annual payroll of \$117.7 in 1997:Q1. Eight of the suburban counties gained more than 15 establishments on a net basis. These include Warren (21); Medina (20); Clermont, Delaware, and Portage (17 each); Fairfield and Greene (16 each);

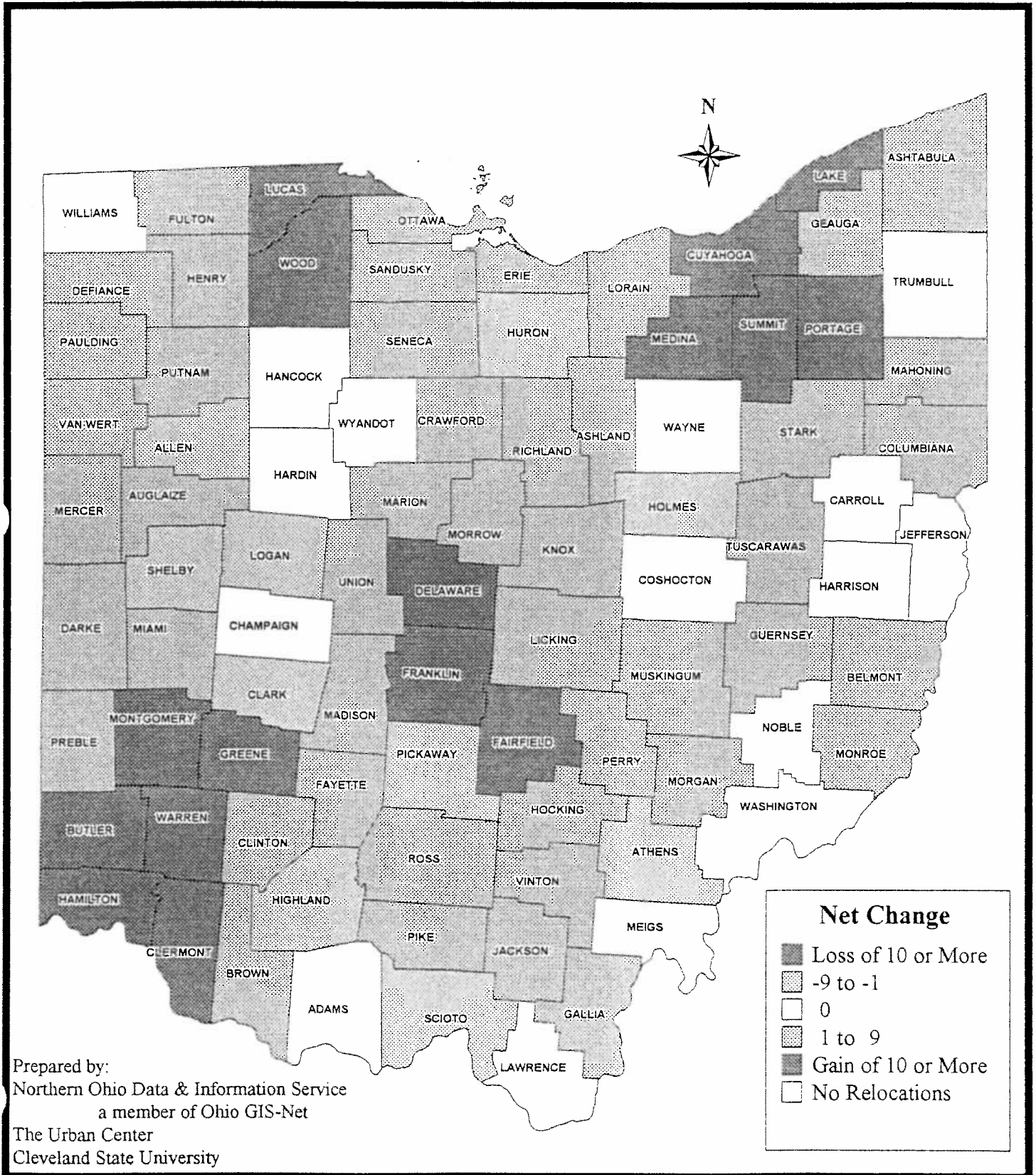
and Wood (15). These suburban counties were all part of Ohio's large metropolitan areas.

The two rural counties that gained the most business establishments on a net basis are Tuscarawas and Union, each gaining seven businesses. Tuscarawas, adjacent to the Youngstown metropolitan area, lost four establishments to two adjacent counties and gained 11 that moved in from adjacent counties as well as from other counties in Ohio. Union County borders the Columbus area; it gained eight business establishments, mostly from adjacent counties, and lost one, also to a bordering county. As is expected, the numbers of relocations associated with rural counties are much smaller than those that occur in central or suburban counties. The main reason is that rural counties have far less businesses and employees than metro area counties and the number of relocations depends on the size of the economy. The larger the economy, the more business moves are expected. Appendix A includes a list of Ohio's counties with the number of establishments and total employment for each county. The appendix also ranks the counties by these two measures.

To summarize, Tables 1 and 2 reveal that the suburban counties had the most net gains in number of business establishments and employment due to inter-county relocations. Maps 1 and 2 illustrate these gains. The maps also show that the counties with the most net business and job losses are central counties. Comparing the two maps reveals that a positive relationship between net gain in business establishments and net gain in employment does not always exist. In some cases, counties that posted a net gain in business establishments due to relocations actually lost employment from net relocations. For example, Lake County had a net gain of nine businesses and a net employment loss of over 160 jobs during the studied period. Summit County showed a net gain of nine businesses and a net employment loss of almost 550. The opposite was true in Franklin County, which experienced a net loss of 33 business with a small net gain in employment.

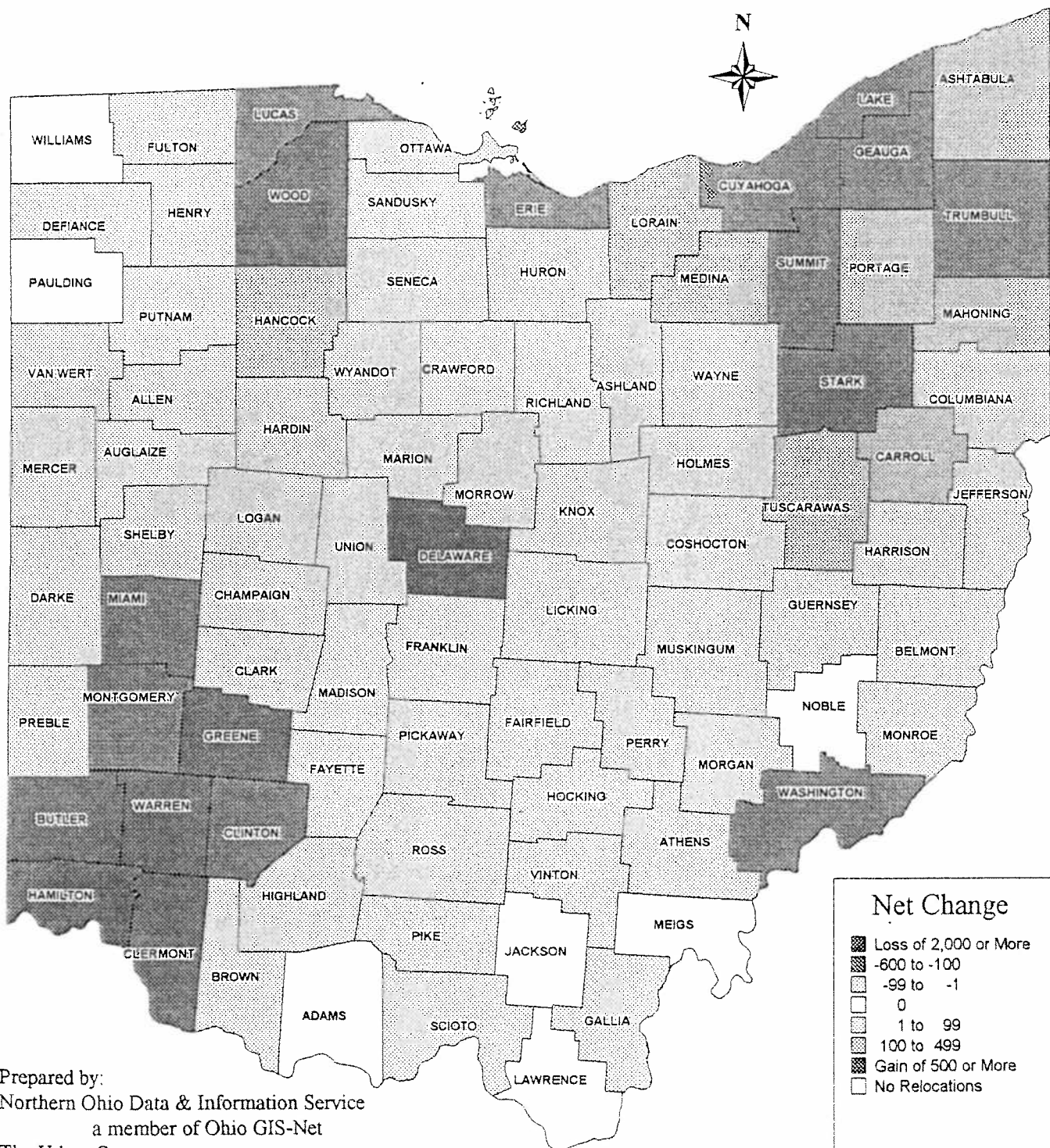
Map 1: Inter-County Business Establishment Relocations

Net Change In Number



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Map 2: Net Change in Employment Due to Inter-County Relocations



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 The Urban Center
 Cleveland State University

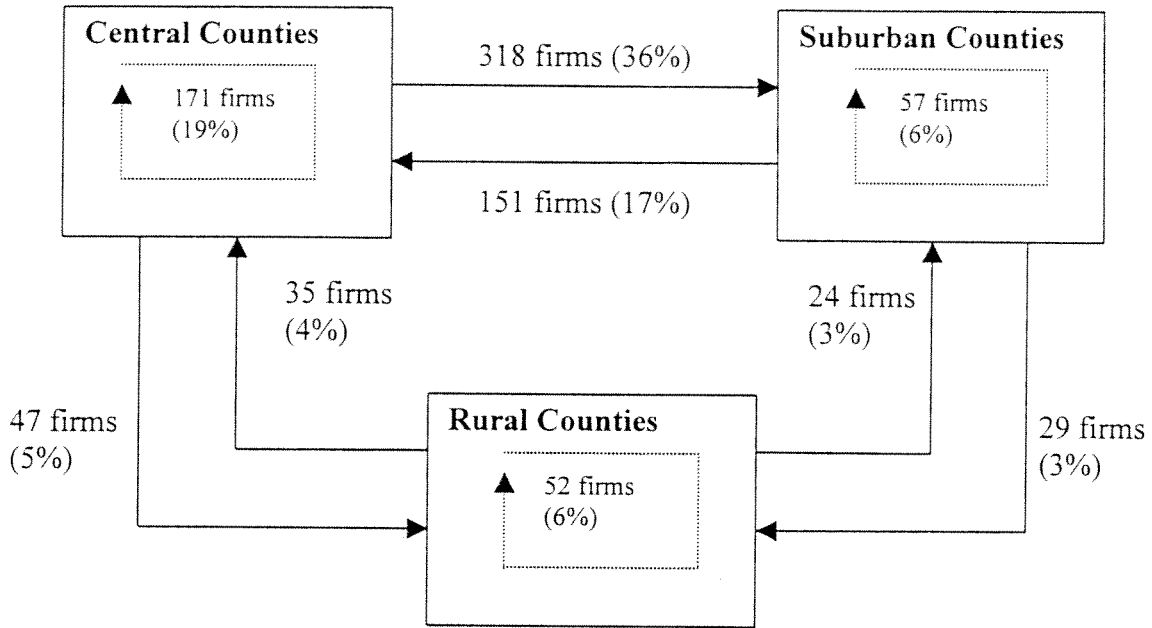
RELOCATIONS BETWEEN GROUPS OF COUNTIES (CENTRAL, SUBURBAN, AND RURAL)

This section examines business relocations between groups of counties, which are classified in this study as central, suburban, or rural counties. Where do most of the moves occur? Are they from central counties into suburban counties? How many business establishments move from central counties to the rural areas? And how many move back into the central counties?

Figure 1 describes relocations between these groups of counties as well as between themselves (for example, from one central county to another). As expected from the discussion in the previous section, the most business relocations occurred from central counties to suburban counties, accounting for 318 business establishments out of 884 relocations, or 36 percent. The relocations from central to suburban counties resulted in a shift of 5,900 jobs. It is interesting to note that the number of business establishments that moved from suburban counties to central counties (151) is close to the number of business establishments that relocated from one central county to another (171). Moreover, the inter-central county moves were associated with 3,800 jobs, significantly higher than the 2,800 jobs that moved from suburban to central counties. Together, the relocations and associated jobs from one central county to another and from suburban counties to central counties (322 businesses and 6,600 jobs) offset the number of businesses and employees that left the central counties for the suburban counties (318 firms and 5,900 jobs).

Rural counties captured small proportions of the business establishments that changed location from a central or a suburban county. Of all the businesses that moved from their location in a central county (a total of 536 businesses), only 47, or nine percent, moved to a rural county. Of all the businesses that moved from their location in a suburban county (a total of 237 businesses), only 29, or 12 percent, moved to a rural county. However, almost one-half of the 111 business establishments that left rural counties moved to another rural county.

Figure 1. Relocations between Ohio's central, suburban, and rural counties
 (Total relocations = 884)



COUNTIES WITH THE MOST BUSINESS ESTABLISHMENTS MOVING IN

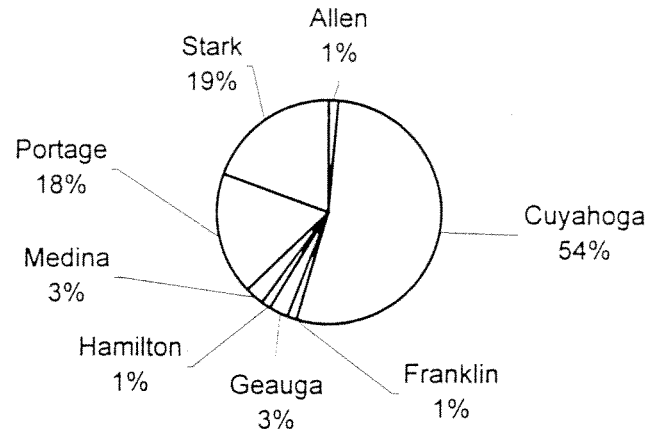
The next two sections examine the leading three counties that experienced the most business establishments moving in and the three counties that suffered from the most businesses leaving. Two more counties for each category are described in Appendices B and C. The leading three counties measured in terms of number of establishments relocating into the county are Summit, Cuyahoga, and Butler. Figures 2-4 describe where these business establishments moved from. It is obvious that the number of relocations is strongly related to the size of the county's economy. For comparison purposes, these three counties are ranked 4th, 1st, and 10th in terms of the number of establishments, and 5th, 1st, and 8th in terms of total employment (see Appendix A).

In Summit County (Figure 2), the central county of the Akron metropolitan area, 69 business establishments relocated into the county between 1994 and 1997, accounting for

1,229 jobs and \$38.5 million in annual payroll by 1997:Q1.² The average payroll per employee for these jobs is \$31,325. As can be seen in Figure 2, more than one-half of the establishments (54%) moved from Cuyahoga County and another 19 percent and 18 percent moved from Stark and Portage counties, respectively. Cuyahoga is the central county of the Cleveland metropolitan area and is adjacent to Summit County. Stark, another adjacent county, is the central county of the Canton metropolitan area immediately to the south of the Akron area, and Portage County is Summit's suburban county. Thus, over 90 percent of the establishments that moved into Summit county came from three contiguous counties, of which two are central counties of other metropolitan areas and one which is its own suburban county. It is obvious that establishments move to nearby counties and do not pay attention to metropolitan area boundaries. Every ten years, the Census Bureau, based on commuting patterns and other criteria, adjusts metropolitan area boundaries.

² Summit County, however, lost 60 businesses establishments that relocated to other counties in Ohio. By 1997, these companies employed 1,770 people with a total payroll of \$62.3 million.

Figure 2. Relocations into Summit County



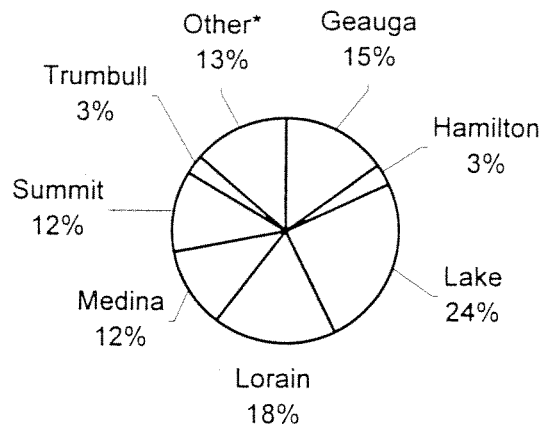
From: County	Establishments	Employment	Annual Payroll (\$)	Payroll per Employee (\$)
Allen	1	4	124,644	31,160
Cuyahoga	35	716	24,672,312	34,460
Franklin	1	2	291,104	145,552
Geauga	2	11	197,716	17,976
Hamilton	1	28	957,752	34,204
Medina	2	12	303,004	25,252
Portage	13	173	4,247,128	24,548
Stark	14	283	7,704,304	27,224
Total	69	1229	38,497,964	31,325

In Cuyahoga County (Figure 3), the central county of the Cleveland metropolitan area, 68 business establishments relocated into the county between 1994 and 1997, accounting for almost 2,000 jobs and \$65.1 million in annual payroll by 1997:Q1.³ The average size of a company that moved into Cuyahoga County was 29 employees and the average payroll per employee for these jobs was \$32,730. In contrary to Summit County (described above), the business establishments that moved into Cuyahoga County came from many more counties. As can be seen in Figure 3, counties that lost businesses to Cuyahoga County include Lake (24%), Lorain (18%), Geauga (15%), Medina (12%), and Summit

³ Cuyahoga County, however, lost 150 businesses establishments that relocated to other counties in Ohio. By 1997, these companies employed 2,400 people with a total payroll of \$81.6 million.

(12%). All counties, except for Summit, are suburban counties of the Cleveland metropolitan area that surround Cuyahoga County.

Figure 3. Relocations into Cuyahoga County

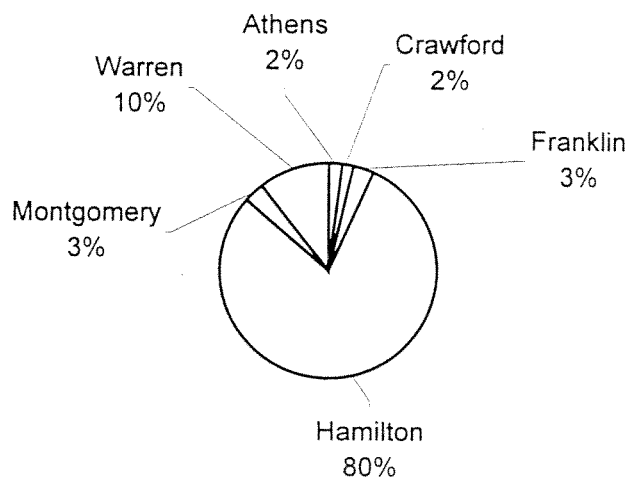


*Other includes counties with 1 firm relocation

From: County	Establishments	Employment	Annual Payroll per Payroll (\$)	Employee (\$)
Butler	1	0	0	0
Franklin	1	2	32,548	16,276
Gauga	10	92	2,807,720	30,520
Hamilton	2	18	750,728	41,708
Jefferson	1	6	44,744	7,456
Lake	17	282	7,309,744	25,920
Lorain	12	165	2,804,212	16,996
Lucas	1	8	402,416	50,304
Mahoning	1	8	103,868	12,984
Medina	8	53	1,181,532	22,292
Montgomery	1	1	12,000	12,000
Portage	1	78	2,156,248	27,644
Stark	1	2	126,400	63,200
Summit	8	1148	43,467,176	37,864
Trumbull	2	125	3,896,480	31,172
Wayne	1	1	4,164	4,164
Total	68	1989	65,099,980	32,730

Butler County, which is a one-county metropolitan area (Hamilton-Middletown area), benefited from 59 business establishments that moved into it (Figure 4). The vast majority of the establishments (80 percent) came from Hamilton County, which is adjacent to Butler and is the central county of the Cincinnati metropolitan area. Another ten percent of the establishments that moved to Butler came from Warren County, a suburban county of the Cincinnati area and also adjacent to Butler. The 59 business establishments that moved to Butler County added over 1,200 jobs with an annual payroll of \$40.1 million.⁴

Figure 4. Relocations into Butler County



From: County	Establishments	Employment	Annual Payroll (\$)	Payroll per Employee (\$)
Athens	1	6	120,340	20,056
Crawford	1	5	127,812	25,564
Franklin	2	3	150,556	50,184
Hamilton	47	1,142	38,521,832	33,732
Montgomery	2	10	202,588	20,260
Warren	6	44	943,828	21,452
Total	59	1,210	40,066,956	171,248

⁴ Butler County lost 32 business establishments that relocated to other counties in Ohio. By 1997, these companies employed 290 people with a total payroll of \$6.8 million.

In summary, in each of the three counties described above, the vast majority of the businesses relocated from adjacent counties.

COUNTIES WITH THE MOST BUSINESS ESTABLISHMENTS MOVING OUT

The three counties that lost the most business establishments through relocation to other counties in Ohio are Cuyahoga County (150 businesses), Hamilton County (102 businesses), and Franklin County (76 businesses). These are the central counties of Ohio's largest three metropolitan areas, Cleveland, Cincinnati, and Columbus, respectively. Observing all of Ohio's counties (Appendix A), these central counties are the three largest counties in terms of both the number of establishments and total employment. Figures 5-7 describe where these business establishments moved.

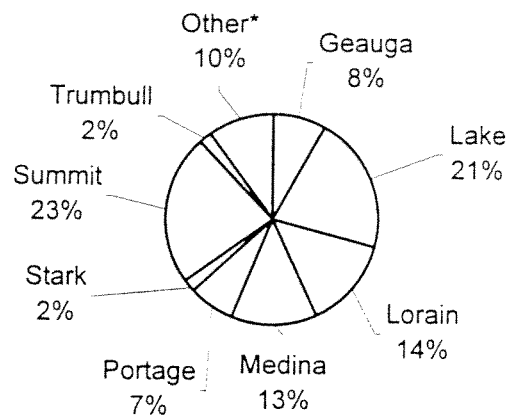
Figure 5 indicates that most of the business establishments that left Cuyahoga County were lost to Summit County (23%) and Lake County (21%). Both are adjacent to Cuyahoga County. However, Summit is the central county of the Akron area and Lake is one of Cuyahoga's suburban counties. Business establishments also left Cuyahoga County and moved into three other of its suburban counties, Lorain (14%), Medina (13%), and Geauga (8%). Cuyahoga County lost 2,400 jobs and an annual payroll of \$81.6 million as a result of these moves.

Figure 6 shows that of the 102 business establishments that left Hamilton County, 46% moved to Butler County, which is adjacent to it but is a self-standing metropolitan area. Continued relocations between these two counties might change the definition of the Cincinnati metropolitan area to include Butler County. Clermont and Warren counties, two of Hamilton's suburban counties, absorbed 25% and 13% of the business establishments that left Hamilton County. Hamilton lost close to 2,600 jobs and an annual payroll of \$85.1 million due to the relocations away from it.

Figure 7 demonstrates that close to two-thirds of the 76 business establishments that left Franklin County moved to Delaware (26 percent), Fairfield (22 percent), and Licking (16 percent). All three are suburban counties of the Columbus metropolitan area surrounding

Franklin County, the area's central county. Franklin County lost 600 jobs and an annual payroll of \$14.2 million due to the businesses that moved away from it.

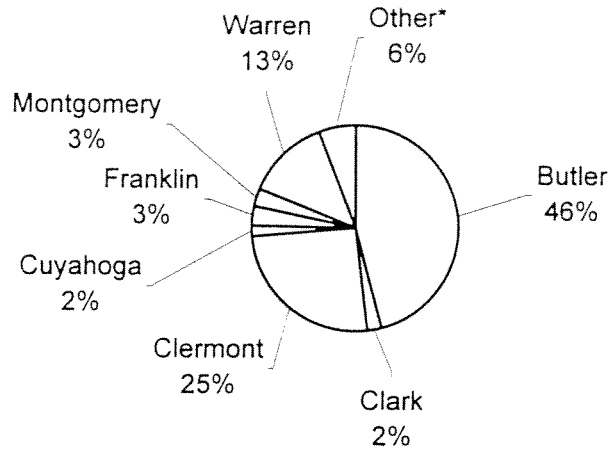
Figure 5. Relocations from Cuyahoga County



*Other includes counties with 1 firm relocation

From: County	Establishments	Employment	Annual Payroll (\$)	Payroll per Employee (\$)
Ashtabula	1	5	92,324	18,464
Belmont	1	4	184,016	46,004
Erie	1	10	49,220	4,924
Franklin	2	23	661,280	28,752
Geauga	12	52	1,230,532	23,664
Greene	1	1	27,860	27,860
Hamilton	1	5	116,500	23,300
Lake	32	302	6,254,476	20,712
Licking	1	2	16,800	8,400
Lorain	21	448	13,611,648	30,384
Mahoning	1	10	287,160	28,716
Medina	19	300	12,653,148	42,176
Montgomery	1	26	524,960	20,192
Ottawa	2	23	435,692	18,944
Portage	10	439	19,718,512	44,916
Sandusky	1	3	188,520	62,840
Seneca	1	3	42,416	14,140
Stark	3	6	237,220	39,536
Summit	35	716	24,672,312	34,460
Trumbull	3	19	553,544	29,132
Wayne	1	2	41,052	20,528
Total	150	2,399	81,599,192	34,014

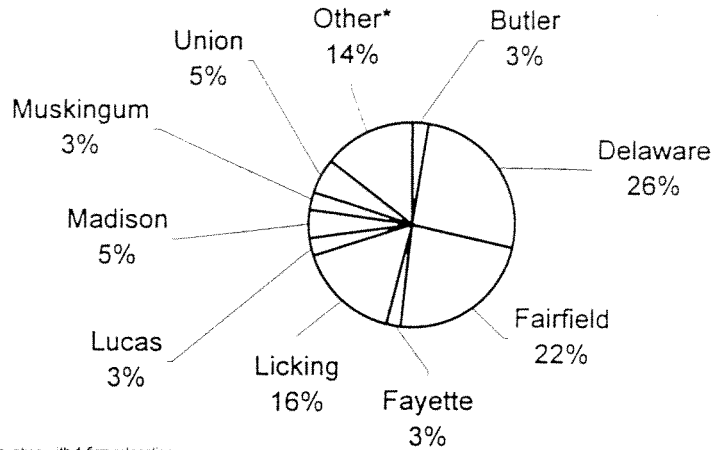
Figure 6. Relocations from Hamilton County



*Other includes counties with 1 firm relocation

From: County	Establishments	Employment	Annual Payroll per	
			Payroll (\$)	Employee (\$)
Brown	1	3	71,600	23,868
Butler	47	1,142	38,521,832	33,732
Clark	2	4	102,192	25,548
Clermont	26	867	27,472,540	31,688
Clinton	1	12	337,036	28,088
Cuyahoga	2	18	750,728	41,708
Defiance	1	8	78,140	9,768
Franklin	3	73	1,576,792	21,600
Mahoning	1	4	68,404	17,100
Montgomery	3	34	1,849,256	54,388
Preble	1	3	161,840	53,948
Summit	1	28	957,752	34,204
Warren	13	392	13,185,044	33,636
Total	102	2,588	85,133,156	32,895

Figure 7. Relocations from Franklin County



*Other includes counties with 1 firm relocation

From: County	Establishments	Employment	Annual Payroll per	
			Payroll (\$)	Employee (\$)
Butler	2	3	150,556	50,184
Cuyahoga	1	2	32,548	16,276
Delaware	20	131	3,435,656	26,228
Erie	1	35	1,240,944	35,456
Fairfield	17	191	4,291,528	22,468
Fayette	2	3	46,684	15,560
Geauga	1	3	72,464	24,156
Hocking	1	1	12,136	12,136
Lake	1	2	56,064	28,032
Licking	12	78	2,167,228	27,784
Lucas	2	14	406,232	29,016
Madison	4	30	590,412	19,680
Marion	1	2	98,880	49,440
Medina	1	0	0	0
Muskingum	2	7	80,984	11,568
Perry	1	1	24,000	24,000
Pickaway	1	3	25,172	8,392
Summit	1	2	291,104	145,552
Tuscarawas	1	45	407,808	9,064
Union	4	45	820,224	18,228
Total	76	598	14,250,624	23,830

RELOCATIONS WITHIN METROPOLITAN AREAS

This section examines relocations of business establishments within metropolitan areas. The previous sections showed that most business establishments move to adjacent counties. A related question is whether most of the moves stay within the metropolitan area boundaries.

Table 3 presents data on the total relocations into and out of Ohio's metropolitan area counties and those business establishments that moved within the counties of the same metropolitan area. The ratios calculate what percent of the relocations into (out of) a metropolitan area occurred from (to) counties of the same metro area. For example, 65 business establishments relocated into counties in the Dayton-Springfield metropolitan area. Of those, 40 firms, or 62 percent, moved from other counties in the metropolitan area. The data suggests that, for the larger metropolitan areas, more of the relocations occurred within the boundaries of the metro area. The Akron metropolitan area is an exception because it is adjacent to the Cleveland metropolitan area and many of the moves occur between Cuyahoga County and Summit County, the central counties of both metro areas. This is evident in Figure 2, which showed that over one-half of the business establishments that moved into Summit County came from Cuyahoga County, which explains the information in Table 3 that only 31 percent of the establishments moving into the Akron area relocated from its own counties.

Table 3: Business Relocation in Ohio's Metropolitan Areas

Metropolitan Area	Total In	Total Out	In From MSA	Out to MSA	Percent of Relocations Within MSA	
					In	Out
Akron	102	76	32	32	31.4%	42.1%
Canton/Massillon	28	27	3	3	10.7%	11.1%
Cincinnati	113	134	62	62	54.9%	46.3%
Cleveland/Lorain/Elyria	195	238	151	151	77.4%	63.4%
Columbus	113	112	78	78	69.0%	69.6%
Dayton/Springfield	65	72	40	40	61.5%	55.6%
Lima	4	9	1	1	25.0%	11.1%
Mansfield	9	7	2	2	22.2%	28.6%
Toledo	37	39	24	24	64.9%	61.5%
Youngstown/Warren	27	24	16	16	59.3%	66.7%

DISTRIBUTION OF RELOCATIONS BY MAJOR INDUSTRY

This section analyzes inter-county relocations of Ohio business establishments in each of the major industrial sectors. Table 4 indicates that the sectors with the most relocations of business establishments are services (232), manufacturing (156), construction (147), and wholesale trade (106). The relocated manufacturing establishments accounted for almost 5,300 jobs, while relocating service establishments accounted for over 3,400 jobs. Moreover, the relocating manufacturing business establishments experienced a gain in employment of over 1,400 jobs, while employment at the relocating service businesses increased only slightly.

Table 4: Business Relocations by Industrial Sector, 1994-1997

Sector	Number of Establishment Relocations	Percent of Relocations By Sector	Relocation Concentration Index
Agriculture & Mining	37	4.2%	2.1
Construction	147	16.6%	1.7
Manufacturing	156	17.6%	2.5
TCPU	44	5.0%	1.3
Wholesale Trade	106	12.0%	1.6
Retail Trade	91	10.3%	0.4
FIRE	71	8.0%	0.9
Services	232	26.2%	0.7
TOTAL	884	100.0%	

Over two-thirds of the relocating manufacturers and their associated jobs were in the durable goods industries. Among the service industries, two-thirds of the relocations occurred in three detailed industries: business services, health services, and engineering and management services.

The column entitled "Relocation Concentration Index" compares the distribution of relocations by major industry with the distribution of Ohio's business establishments by major sector. For example, a larger proportion of manufacturers relocated compared to their share of Ohio's establishments. More specifically, 18 percent of all inter-county relocations in Ohio were by manufacturers, while they account for only 7 percent of all

establishments in Ohio. This variance is described in Table 4 as a relocation concentration ratio of 2.5, suggesting that Ohio's manufacturing establishments relocate 2.5 times more than their proportion of the Ohio's economy would suggest. This could be attributed to the fact that manufacturers have been investing in new structures and equipment to increase productivity, and moving from older multi-story facilities to newer and more modern facilities built on more land as one-floor facilities. These trends explain the moves of many manufacturing establishments from central to suburban and rural counties where more land is available for development.

At the other end of the spectrum, the relocation concentration ratio for service industries is 0.7; service establishments account for 35% of the economy but accounted for only 26 percent of the relocations. Relocations of retail establishments account for even a smaller proportion than their share of the economy, yielding a relocation concentration index of 0.4. One reason for this low index is that service and retail companies might open additional shops or offices and then close their older locations at a later time, activities that are considered to be business openings and closings and not relocations.

SUMMARY AND CONCLUSIONS

The purpose of this report is to describe inter-county business relocation trends in Ohio. Between 1994 and 1997, 884 business establishments relocated from one Ohio county to another, accounting for slightly over 16,000 employees in the first quarter of 1997 and an annual payroll of \$468.5 million. It should be noted that the number of business establishment relocations accounted for only 0.4 percent of Ohio's total number of establishments. The total jobs associated with these moves accounted for 0.3 percent of Ohio's total employment. Total payroll associated with the relocated establishments accounted for 0.4 percent of total payroll in Ohio in 1997.

These statistics give rise to number of questions: Where are business establishments moving from and where are they moving to? What industrial sectors have a higher

tendency to move? Do most of the moves occur within the same metropolitan area? Are there a significant number of business establishments moving to rural counties? What causes these moves? Are businesses moving because they need to expand and current locations have no additional land? Are company owners looking for a more modern facility? Are tax incentives programs affecting these moves? Are businesses moving to be closer to their customers? Suppliers? Labor force?

This report answers the first four questions by describing the trends in business relocations between counties in Ohio. The rest of the questions could be answered in the future after a follow-up study to understand the causes for relocations. One of the tools that should be used in the next study would be a survey of the businesses that were identified as relocations for this study.

The Executive Summary summarizes the major findings. Four general conclusions emerge from the report:

- The number of relocations for each county depends on the size of the county's economy and its mix of industries. The larger the economy and the greater the number of businesses, the more business start-ups, deaths, and relocations occur.
- The suburban counties had the most net gains in number of business establishments due to inter-county relocations.
- The counties with the most net business losses are central counties.
- The majority of the relocations occur between counties that are contiguous to each other.
- One of the requirements for relocations into a county is the availability of land for development. However, it is expected that, in the future, most of Ohio's central counties will suffer from lack of adequate land for new industrial and commercial development. Within central counties, most of the land in central cities has been developed, and the land in suburbs is being developed fast. Only policies that encourage recycling of used land will stimulate new developments in central counties and in central cities.

APPENDIX A

OHIO'S TOTAL ESTABLISHMENTS AND EMPLOYMENT
BY COUNTY, 1997

Table A.1 : Ohio Total Establishments and Employment by County, 1997

County	Establishments	Rank	Employment	Rank
Adams	391	80	6,080	80
Allen	2,561	17	53,309	16
Ashland	971	46	18,147	52
Ashtabula	1,968	29	32,384	30
Athens	1,086	44	18,105	53
Auglaize	960	47	19,656	47
Belmont	1,495	35	21,352	44
Brown	519	75	6,581	78
Butler	5,347	10	109,050	8
Carroll	448	79	6,384	79
Champaign	667	65	10,279	70
Clark	2,530	18	53,592	15
Clermont	2,634	15	42,550	24
Clinton	723	60	22,507	41
Columbiana	2,216	24	33,081	29
Coshocton	699	62	13,212	60
Crawford	947	48	16,111	56
Cuyahoga	35,232	1	779,435	1
Darke	1,111	43	18,636	50
Defiance	817	58	18,267	51
Delaware	1,565	33	25,377	37
Erie	1,915	30	36,290	26
Fairfield	2,138	26	31,529	31
Fayette	651	69	9,548	73
Franklin	24,562	2	633,671	2
Fulton	977	45	19,828	46
Gallia	641	70	10,270	71
Geauga	2,101	27	28,545	32
Greene	2,428	20	57,384	14
Guernsey	870	55	13,609	59
Hamilton	22,882	3	549,130	3
Hancock	1,559	34	37,557	25
Hardin	553	73	8,385	75
Harrison	333	83	3,564	85
Henry	632	71	10,978	67
Highland	678	64	11,044	66
Hocking	492	76	7,121	76
Holmes	841	57	14,036	58
Huron	1,228	42	25,222	38
Jackson	653	68	10,691	68
Jefferson	1,591	32	22,475	42
Knox	947	49	17,815	54
Lake	5,588	9	95,036	12
Licking	2,503	19	47,960	19
Lawrence	886	53	12,769	62

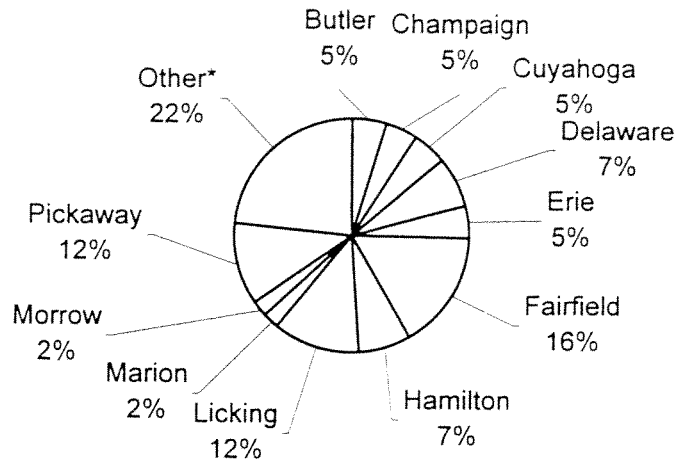
Table A.1 : Ohio Total Establishments and Employment by County, 1997

County	Establishments	Rank	Employment	Rank
Logan	884	54	18,976	48
Lorain	4,983	11	100,087	10
Lucas	10,136	6	229,078	6
Madison	662	66	11,439	64
Mahoning	5,845	8	106,371	9
Marion	1,283	38	28,282	33
Medina	3,060	13	46,784	21
Meigs	363	82	4,848	84
Mercer	916	51	15,789	57
Miami	2,072	28	43,205	23
Monroe	304	85	4,900	82
Montgomery	12,226	5	299,059	4
Morgan	232	86	3,561	86
Morrow	378	81	5,277	81
Muskingum	1,794	31	35,763	27
Noble	226	87	3,101	87
Ottawa	904	52	13,096	61
Paulding	329	84	4,882	83
Perry	475	77	6,732	77
Pickaway	742	59	16,141	55
Pike	470	78	10,552	69
Portage	2,604	16	49,633	18
Preble	660	67	10,108	72
Putnam	699	63	11,076	65
Richland	2,758	14	60,205	13
Ross	1,230	41	25,585	36
Sandusky	1,277	39	25,962	35
Scioto	1,385	37	23,694	39
Seneca	1,273	40	21,966	43
Shelby	938	50	27,517	34
Stark	8,183	7	165,137	7
Summit	12,515	4	253,212	5
Trumbull	4,340	12	96,647	11
Tuscarawas	2,198	25	34,482	28
Union	720	61	21,203	45
Van Wert	585	72	11,650	63
Vinton	185	88	2,297	88
Warren	2,300	22	47,363	20
Washington	1,459	36	23,578	40
Wayne	2,264	23	45,609	22
Williams	860	56	18,828	49
Wood	2,302	21	50,778	17
Wyandot	542	74	9,463	74
Total	242,097		5,082,469	

APPENDIX B

**ADDITIONAL COUNTIES WITH BUSINESS ESTABLISHMENTS
MOVING IN**

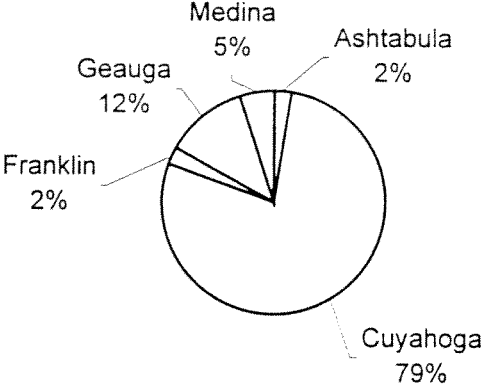
Figure B1. Relocations into Franklin County



*Other includes counties with 1 firm relocation

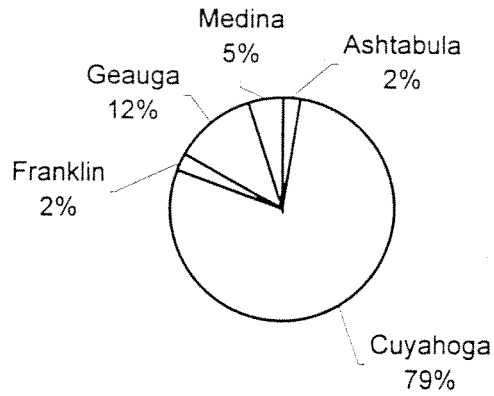
From: County	Establishments	Employment	Annual Payroll (\$)	Payroll per Employee (\$)	
Butler		2	12	97,036	8,088
Champaign		2	17	528,644	31,096
Cuyahoga		2	23	661,280	28,752
Delaware		3	7	168,648	24,092
Erie		2	47	1,325,388	28,200
Fairfield		7	164	4,176,672	25,468
Fayette		1	2	50,820	25,412
Gallia		1	7	99,668	14,240
Greene		1	6	89,920	14,988
Hamilton		3	73	1,576,792	21,600
Highland		1	26	336,488	12,940
Knox		1	0	0	0
Lake		1	4	218,904	54,728
Licking		5	54	1,467,088	27,168
Marion		1	3	105,048	35,016
Morrow		1	7	114,688	16,384
Pickaway		5	25	593,552	23,744
Trumbull		1	6	197,572	32,928
Union		1	0	0	0
Washington		1	148	6,549,156	44,252
Wood		1	6	77,860	12,976
Total		43	637	18,435,224	482,072

Figure B.2. Relocations into Lake County



From: County	Establishments	Employment	Annual Payroll (\$)	Payroll per Employee (\$)
Ashtabula	1	2	23,284	11,644
Cuyahoga	32	302	6,254,476	20,712
Franklin	1	2	56,064	28,032
Gauga	5	51	442,072	8,668
Medina	2	7	193,576	27,652
Total	41	364	6,969,472	96,708

Figure B.2. Relocations into Lake County

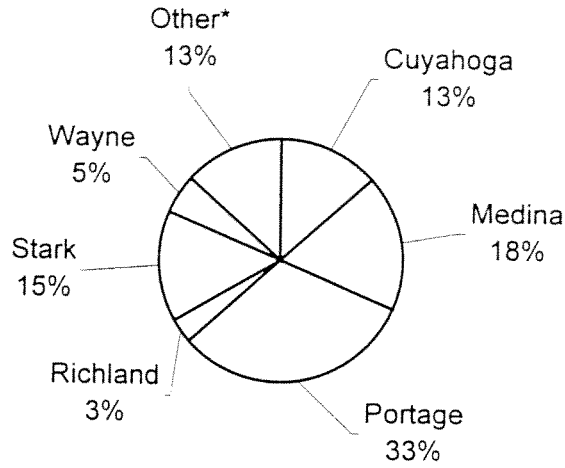


From: County	Establishments	Employment	Annual Payroll (\$)	Payroll per Employee (\$)
Ashtabula	1	2	23,284	11,644
Cuyahoga	32	302	6,254,476	20,712
Franklin	1	2	56,064	28,032
Gauga	5	51	442,072	8,668
Medina	2	7	193,576	27,652
Total	41	364	6,969,472	96,708

APPENDIX C

**ADDITIONAL COUNTIES WITH BUSINESS ESTABLISHMENTS
MOVING OUT**

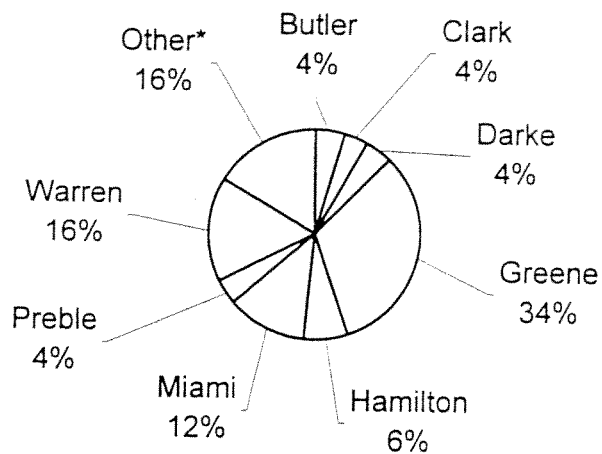
Figure C1. Relocations from Summit County



*Other includes counties with 1 firm relocation

To: County	Establishment	Employment	Annual Payroll (\$)	Payroll per Employee (\$)
Coshocton	1	12	341,152	28,428
Cuyahoga	8	1,148	43,467,176	37,864
Erie	1	0	0	0
Geauga	1	0	0	0
Hamilton	1	1	28,000	28,000
Licking	1	4	163,520	40,880
Marion	1	30	565,304	18,844
Medina	11	153	6,376,500	41,676
Portage	19	220	5,749,084	26,132
Richland	2	9	255,492	28,388
Stark	9	46	1,581,080	34,372
Trumbull	1	86	1,369,168	15,920
Wayne	3	41	1,720,200	41,956
Wood	1	21	707,620	33,696
Total	60	1,771	62,324,296	35,192

Figure C2. Relocations from Montgomery County



*Other includes counties with 1 firm relocation

To: County	Establishments	Employment	Annual Payroll (\$)	Payroll per Employee (\$)
Brown	1	0	0	0
Butler	2	10	202,588	20,260
Champaign	1	3	50,280	16,760
Clark	2	19	217,140	11,428
Clermont	1	5	94,736	18,948
Cuyahoga	1	1	12,000	12,000
Darke	2	6	593,580	98,932
Greene	16	822	21,620,040	26,300
Hamilton	3	26	997,276	38,356
Lucas	1	1	55,924	55,924
Miami	6	57	1,181,232	20,724
Preble	2	20	541,500	27,076
Ross	1	5	41,532	8,308
Scioto	1	33	708,528	21,472
Warren	8	127	3,130,668	24,652
Wood	1	14	461,664	32,976
Total	49	1,149	29,908,688	26,030