Evansville-to-Indianapolis (I-69) Project: Regional Economic Needs Analysis

Prepared For:
Indiana Department of Transportation

October, 2000

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Chapter 1: Introduction

A. Purpose of CUED's Analysis

The Council for Urban Economic Development conducted this study for the Indiana Department of Transportation (INDOT) through a contract with Bernardin, Lochmueller & Associates, Inc (BLA). The Indiana Department of Transportation contracted with BLA to coordinate the production of a Tier 1 Environmental Impact Statement for a project that would involve the construction of a major transportation corridor linking the metropolitan areas of Indianapolis and Evansville. The area of concern for the CUED study is the 25 county[1] region of Southwest Indiana bordered roughly by I-70 to the North, I-65 to the East, the Kentucky border to the South, and the Illinois border to the West. (See the map on the next page.)

The purpose of this document is to inform INDOT and the public review process on issues of importance to the regional economy of Southwest Indiana as the company formulates the Purpose and Need Statement of the Tier 1 EIS. An expert panel of economic development professionals convened by CUED made a site visit to Southwest Indiana on April 11th and 12th, 2000 to assess the dynamics of the economy. The panel interviewed a series of stakeholders from the region during this visit. Following the site visit, CUED conducted additional research and gathered the input of more stakeholders via telephone interviews.

As requested for this project, CUED has assessed Southwest Indiana's regional economic strengths and weaknesses and identified areas where there exists a vulnerability to loss or missed economic opportunity. This chapter constitutes a broad economic overview of the 25 county region. General issues of particular economic concern for Southwest Indiana, including rail service, human resources, cooperative regional economic development, and electricity reliability are covered in Chapter 2. An assessment of regional transportation issues and their relationship to the economy follows in Chapter 3.

B. Economic Overview

[1] For the purposes of the transportation analysis and impacts analysis, INDOT and BLA have defined a 26 county study area. However, a 25 county study area which excludes Marion County is utilized for the Regional Economic Needs Analysis. This is due to the fact that the realities of that populous, urban county are very different from the realities of the 25 other counties, and would bias the results of the analysis.

This section outlines some basic geographic, demographic, and economic information for the Southwest Indiana region. Data concerning such important indicators as population, employment, and income are presented. Additionally, as CUED is considering the strengths and weaknesses of the Southwest Indiana transportation system, a brief summary of existing transportation networks is included.

1. Geography

Twenty-five Southwest Indiana counties comprise the study area for the proposed Evansville to Indianapolis Highway project. "Southwest Indiana" will hereafter refer to this 25 county area, bounded by Vigo, Clay, Putnam, and Hendricks Counties on the North, Johnson, Brown, Lawrence, Orange, and Crawford Counties on the East, the Kentucky border on the South, and the Illinois border on the West. Within this region, there exist a diversity of natural and constructed environments.

The built environments of Southwest Indiana range from large metropolitan areas to small farm communities. Evansville, Bloomington, and Terre Haute are the three largest cities, each hosting a population of more than 55,000 people in 1990, and each home to a wide array of industries, institutions, and service providers. Smaller regional centers such as Greenwood, Vincennes, Bedford, Martinsville, Washington, Plainfield, Jasper, Greencastle, and Princeton serve as focal points in other counties. Many dozens of still smaller rural towns dot the landscape. Most of these small and medium-sized towns are anchored by the hundreds of farms which occupy the vast majority of the land of Southwest Indiana, and are largely responsible for the categorization of the region as rural.

The rich soil is just one example of the myriad environmental attributes of the region. Forests thrive in Southwest Indiana, including the immense Hoosier National Forest, which covers large portions of Perry, Crawford, Orange, and Lawrence Counties. Significant wetland systems include the Pakota Lake National Wildlife Refuge and Monroe Lake. Groundwater supports many wells and natural springs. Unique karst systems, which contain sinkholes and underground caves and streams, constitute parts of the hilly northern region of the study area. These natural environments and others in Southwest Indiana are home to a wide range of plant and animal species.

2. Population

According to 1997 estimates of the U.S. Census Bureau, approximately 1.16 million people reside in Southwest Indiana. This amount represents 19.7% of the total Indiana population of 5,864,950. The 25 Southwest Indiana counties are listed in Table 1 from most populous to least populous.

Table 1
Southwest Indiana Population by County

County	Population	County	Population
1) Vanderburgh	167,240	14) Daviess	28,860
2) Monroe	116,610	15) Clay	26,520
3) Johnson	106,590	16) Posey	26,520
4) Vigo	105,320	17) Spencer	20,750
5) Hendricks	92,390	18) Owen	20,260
6) Morgan	64,770	19) Orange	19,400
7) Warrick	50,930	20) Sullivan	19,360
8) Lawrence	45,490	21) Perry	19,290
9) Knox	39,810	22) Brown	15,580
10) Dubois	39,070	23) Pike	12,790
11) Putnam	33,740	24) Martin	10,560
12) Greene	33,080	25) Crawford	10,430
13) Gibson	31,980		
		Total	**1,157,340**

Source: U.S. Census Bureau 1997 Estimates, BLA, CUED

An analysis of these statistics reveals that the seven most populated counties are largely urban or suburban in nature. Vanderburgh County is home to the City of Evansville and many of its suburbs. The Evansville suburban area extends into Warrick County as well. Monroe County's population is centered in Bloomington, while the majority of Vigo County residents live and work in Terre Haute. Johnson, Hendricks, and Morgan Counties are in close proximity to urbanized Marion County and the state capital of Indianapolis. Together, these seven counties contain nearly 61% of the total Southwest Indiana population.

While there are cities of significant size in the remaining 18 counties (Bedford, Jasper, Vincennes, and Washington all had 1990 populations of greater than 10,000), the counties are definitely more rural in character. Thirty-nine percent of the Southwest Indiana population resides in these rural counties.

3. Unemployment

In recent years and months, Southwest Indiana has been experiencing decreased unemployment and increased competition among employers in the labor market. Nationwide, similar labor market tightness has been one effect of the rapidly expanding U.S. economy. In January 2000, the national unemployment rate was only 4.0 percent, while for the State of Indiana, the rate was even lower, at 3.0 percent.

Four sets of recent unemployment rates for the 25 counties of Southwest Indiana are presented in Table 2. The table is structured to allow for a comparison of unemployment on a seasonal basis, and provides the change in unemployment from one year to the next within the seasons.

Table 2

Unemployment Rates by County

	Unemployment Rates			
County	**July 1998**	**July 1999**	**Jan 1999**	**Jan 2000**
Brown	1.2	1.2	3.1	3.5
Clay	4.6	3.4	5.3	5.4
Crawford	4	4	10.3	7.6
Daviess	2.2	2.6	3.7	3.3
Dubois	1.5	1.6	2.3	2.4
Gibson	3.4	3.9	4.4	4.4
Greene	4.8	4.5	7.8	6.9
Hendricks	1.6	1.2	1.8	1.8
Johnson	2.4	1.5	2.2	2.1
Knox	3.2	2.7	4.1	4
Lawrence	10.1	4.1	7.3	5.9
Martin	3	2.6	4.3	5.4
Monroe	2.8	1.9	3.1	2.3
Morgan	3.2	1.6	3.3	2.9
Orange	5.6	5.1	8.6	7.5
Owen	4.1	3	4.9	3.6
Perry	4.3	5.4	5.9	7.4
Pike	2.5	3.4	3.7	4.6
Posey	2.5	2.1	3.1	3.2
Putnam	3.5	1.7	2.8	2.9
Spencer	2.3	2.9	4.7	4.6
Sullivan	4.2	3.8	6.5	6.5
Vanderburgh	2.8	2.5	3.4	3.2
Vigo	3.7	3.2	5.2	4.7
Warrick	2.9	2.2	3.2	3.8
SW Indiana*	3.5	2.9	4.6	4.4
Indiana	3.1	2.9	3.2	3
United States	4.5	4.2	4.3	4

Source: Bureau of Labor Statistics (Retrieved April 25, 2000), CUED

*** The SW Indiana figures are non-weighted averages of the county rates.**

Several noteworthy points can be drawn from the data in Table 2. First, in every Southwest Indiana county, unemployment levels are lower during the summer than they are during the winter.[2] More seasonal employment opportunities in farming, construction, and other industries are available during the summer than during the winter. Second, unemployment has generally declined over the course of the past two years in Southwest Indiana. In July of 1999, the unemployment rates in 17 counties were lower than those measured during the same month one year earlier. Two counties registered the same rates in the summers of 1998 and 1999, and only six counties (those shaded in light grey) experienced a rise in unemployment. A similar downward trend in unemployment is observed between January 1999 and January 2000. Winter unemployment rates fell or remained constant in all but nine (again shaded light gray) Southwest Indiana counties.

A tendency for the counties with smaller populations to have higher unemployment rates can also be observed in Table 2. In July 1999, Perry, Orange, Greene, Lawrence, Crawford, Gibson, Sullivan, Pike, and Clay Counties suffered from the highest rates of unemployment. These counties ranked 21st, 19th, 12th, 8th, 25th, 13th, 20th, 23rd, and 15th respectively in terms of population. In January 2000, the same counties continued to post high unemployment rates. Crawford County, the least populous, had the highest unemployment, 7.6%, of any Southwest Indiana County. Meanwhile, populous urban counties such as Vanderburgh and Warrick maintained unemployment rates below the national average of 4.0%. Johnson, Monroe, Morgan, and Hendricks Counties notched even lower rates ranging from 1.8% to 2.9%.

In addition to unemployment rates, measures of the *number* of persons unemployed are key considerations in analyzing a regional economy. Data from the Bureau of Labor Statistics compiled by CUED reveal that 14,936 Southwest Indiana residents in July of 1999 and 21,381 in January of 2000 qualified as unemployed. The July 1999 and January 2000 workforces for the 25 counties numbered 609,723 and 603,001 individuals respectively.

4. Employment & Income

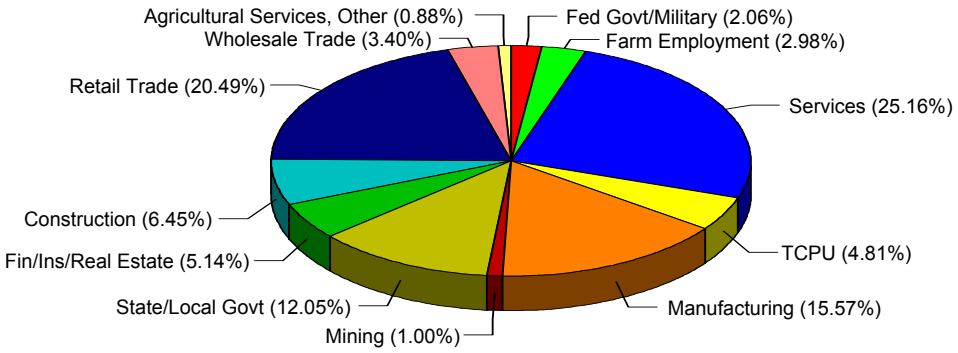
In 1997, according to the United States Department of Commerce, a total of 621,820 Southwest Indiana residents were employed in the region. These individuals pursued a wide range of activities within the primary employment sectors. The percentages of the total active workforce employed within each industrial category are outlined in Figure 1. Service industries (25.16%), the retail trade (20.49%), Manufacturing (15.57%), and State and Local Government (12.05%) are the four largest sectors. Farm employment, though encompassing only 2.98% (18,530 employees) of the labor force, is important to the economy of the extensive rural portion of Southwest Indiana.

[2] Note that none of these rates take into account underemployment or partial employment, which are important realities to consider in all Southwest Indiana counties, but for which no adequate measurements exist.

Figure 1

Percentage of Total Employment by Sector

Sources: U.S. Department of Commerce, BLA, CUED



Between 1990 and 1997, the number of jobs in Southwest Indiana grew by 15.7% from 537,470 to 621,820. Every sector experienced job growth except for farm employment (20,800 to 18,530), federal civilian government (9,930 to 8,490), federal military government (5,780 to 4,350), and mining (8,040 to 6,210). Services (30,000), the retail trade (23,000), and construction (10,000) accounted for the majority of the new jobs created. Approximately 6,500 new manufacturing jobs were also filled.

In percentage terms, job growth in Southwest Indiana outpaced job growth in both the state of Indiana as a whole and the United States. Indiana gained 424,100 jobs between 1990 and 1997, which represents a 13.8% increase. The 84,350 Southwest Indiana jobs constitute 19.9% of total new jobs in Indiana. Meanwhile, the number of jobs in the United States as a whole grew by 12.1% over the same period, according to the United States Department of Commerce Bureau of Economic Analysis.

Average 1997 wages for workers in each of the primary employment sectors are listed in Table 3. Farm employment has the lowest average wage. Despite an abundance of prime farmland and productive harvests, making a living solely in the business of farming has regularly proven difficult, not only in Southwest Indiana but also nationwide. Factors beyond farmers' control, such as activities is world crop markets, are often responsible for these sustained difficulties.

Employees of mining operations and the federal government receive by far the highest wages in Southwest Indiana, though both sectors have been contracting. Average wages above $30,000, however, can also be obtained in the expanding manufacturing, TCPU, wholesale trade, and construction industries. Retail ($13,429) and service ($20,486) industry employees, by contrast, have significantly lower average wages.

Table 3
Average Wages by Sector for the Study Area

Sector	Average Wages
Farm Employment	$7,340
Agricultural Services, Other	$12,003
Mining	$46,952
Construction	$30,421
Manufacturing	$38,013
Transportation, Communications, & Public Utilities (TCPU)	$34,080
Wholesale Trade	$31,929
Retail Trade	$13,429
Finance, Insurance, & Real Estate	$20,774
Services	$20,486
Federal Civilian Government	$47,818
Federal Military Government	$9,181
State and Local Government	$27,082
Overall Average	**$24,355**

Source: U.S. Census Bureau, BLA, CUED

Per capita incomes vary considerably among Southwest Indiana counties, as shown in Table 4. The counties with the closest geographic and hence economic relationship with the cities of Indianapolis, Evansville, and Bloomington tend to have the highest per capita incomes. Dubois County is bolstered by a particularly strong manufacturing sector, which employs nearly 40% of county workers at an average wage above $31,000.

All but the top six Southwest Indiana counties have per capita incomes below the Indiana statewide average. The per capita income of Crawford County is only 68% of the statewide average. While the cost of living is undoubtedly lower in the more rural counties, the inequality in per capita incomes between the wealthiest Southwest Indiana counties and the poorest is high.

Table 4
Per Capita Income by County, 1997

County	Per Capita Income	County	Per Capita Income
Hendricks	$25,723	Sullivan	$19,027
Dubois	$25,529	Spencer	$18,943
Johnson	$24,886	Martin	$18,730
Vanderburgh	$24,522	Daviess	$18,585
Posey	$24,451	Putnam	$18,274
Warrick	$23,783	Clay	$18,184
Morgan	$21,684	Perry	$18,088
Brown	$20,718	Greene	$17,268
Monroe	$20,316	Orange	$17,129
Gibson	$20,230	Owen	$16,191
Knox	$19,876	Crawford	$15,753
Vigo	$19,874	**SW Indiana**	**$21,678**
Lawrence	$19,817	**Indiana**	**$23,201**
Pike	$19,522	**US**	**$25,288**

Sources: U.S. Census Bureau, Nebraska Department of Economic Development, CUED

5. Transportation Networks

The network of roads represents the primary mode of transportation of both people and products in Southwest Indiana. The table in Appendix A provides a short summary of major roadways including traffic counts. The network is anchored by two interstates which run east and west through the region. I-70 emerges from the Indianapolis Beltway (I-465) and passes through Hendricks, Putnam, Clay, and Vigo Counties before entering Illinois and continuing toward St. Louis. In the southern portion of the region, I-64 splits Crawford County and passes near the northern edges of Perry, Spencer, Warrick, Vanderburgh, and Posey Counties, as it connects Louisville and St. Louis. No north-south interstate serves the 25 county region directly, except for the short stretch of I-164 between I-64 and central Evansville. I-65, just to the east of the study area, runs between Louisville and Indianapolis.

A series of U.S. Highways and State Routes flesh out the Southwest Indiana road network. US 41, US 231, SR 37, SR 57, and SR 67 are some of the major north-south routes. US 50/150, SR 54, and SR 46 provide east-west access in the central portions of the region not served by I-70 and I-64. Tractor trailers regularly transport products along these roads and many other roads

throughout Southwest Indiana.

Although trucking is the transportation method most utilized by businesses in the region, the 25 county area does contain valuable rail, air, and waterway transport infrastructure. Commercial rail traffic passes along four Class I railroad main lines, three operated by CSX and one by Norfolk Southern. A number of short line railroads also transport products throughout Southwest Indiana. See Chapter 2 for an extensive discussion of regional railroad service.

The Southwest Indiana region also contains ports that are equipped to handle shipping of products. The Southwind Maritime Centre, operated by the public Indiana Port Commission is located at Mount Vernon in Posey County along the Ohio River. Coal, petroleum, timber, grain, fertilizer, and other products are shipped from Southwind. The port offers advanced material handling technologies, general cargo and bulk commodity storage including a grain elevator, heavy-lift capability, and railroad switching service. Also, Southwind operates Foreign Trade Zone #177 which allows importers and exporters to benefit from duty-free storage and processing. The Port of Evansville in Vanderburgh County is a public general cargo facility which boasts ample storage space, a Customs office, and intermodal service via CSX rail or truck. Five barge lines serve these two ports: American Commercial Barge Lines, Ohio River Company, Union Barge Line, Valley Lines, Inc., and Ohio Barge Line, Inc. In addition to these two operating ports, the Clark Maritime Centere in Jeffersonville, Indiana, across the Ohio River from Louisville, Kentucky is not far beyond the eastern boundaries of the 25 County Southwest Indiana region. Also, Tell City, in Perry County, is working on developing a river port.

Regular passenger air service for Southwest Indiana residents is handled by three major airports, Indianapolis International, Evansville Regional, and Louisville International. Indianapolis International and Louisville International are also regional centers for transporting freight. These two airports, as well as Terre Haute International and Evansville Regional, are capable of handling all types of the largest cargo aircraft. Smaller commercial aircraft can serve Southwest Indiana at a number of smaller public airports in the region.

Chapter 2: Nonhighway Challenges to Regional Economic Development

The following analysis of the nonhighway challenges to economic development faced by the Southwest Indiana region is intended to inform INDOT's consultant team as it prepares the Evansville-to-Indianapolis (I-69) Project's Statement of Purpose and Need. The Council for Urban Economic Development's expert panel has identified four primary areas of concern in assessing the 25 county area's regional economy. This chapter contains discussion of these four topics: commercial rail service, human resources, cooperative regional economic development, and electricity reliability.

In considering the challenges, threats, and opportunities outlined below, it should be acknowledged that while the issues are specific to Southwest Indiana, many largely rural regions throughout the United States possess similar economic conditions. The dynamics of Southwest Indiana's economy are unique, but many of the factors contributing to those dynamics influence regional economies nationwide.

A. Rail Service

The majority of companies, both large and small, in the Southwest Indiana region rely upon trucking as the primary means of transporting inputs and outputs. Nonetheless, freight handling via railroads remains an important transportation option for many businesses. A network of railroads currently serves a number of customers throughout the 25 county region, and other companies continue to consider rail transportation as a potential, viable link with their suppliers and customers. As is the case nationwide, the adequacy of railroad freight service is an important consideration in assessing the economic status and economic development potential of Southwest Indiana. CUED's expert panel observed several threats or challenges to economic development present in Southwest Indiana related to the quality of freight rail service.

1. Current Regional Freight Rail Service

The perception of many of the Southwest Indiana stakeholders with whom CUED conferred during its site visit and subsequent research was that the level of rail service provided to the region's businesses was "adequate". Few, if any, would argue that the region has a felt need for additional trackage. However, individuals representing primarily small businesses did contend that Southwest Indiana could benefit from an expansion in both the level and type of railroad service offered.

A. Rail Service Providers

The counties of Southwest Indiana are served by three major Class I railroads and eight Class II

or Class III railroads, or short lines. Together, these railroad companies provide east-west and north-south access and links to the national rail system.

The three Class I railroad companies in Southwest Indiana are CSX Transportation, Inc, the Norfolk Southern Corporation (NS), and the Soo Line Corporation, which is a subsidiary of the Calgary, Alberta Canada-based Canadian Pacific Railway Company. CSX and NS are also the two primary Class I railroads in the entire portion of the United States east of the Mississippi River. Nationwide, CSX and NS are among the four, U.S.-based major Class I railroads remaining after a wave of mergers in recent years. The Western portion of the country is primarily served by the Union Pacific and Burlington Northern Santa Fe Railroads, which meet CSX and NS lines at major Midwestern hubs such as St. Louis and Chicago.

Until mid-1998, another Class I railroad competed with CSX and NS throughout the eastern United States and in Southwest Indiana. Trains operated by the Conrail Corporation hauled freight over more than 11,000 route miles of track. On July 23, 1998, the Federal Surface Transportation Board approved a joint purchase of Conrail by CSX and Norfolk Southern. On August 22, 1998, the transfer of property from Conrail to CSX and NS occurred. In Southwest Indiana, the immediate repercussions of this acquisition were twofold. First, CSX took over operation of the former Conrail line running between Indianapolis and St. Louis via Terre Haute. Second, some disruptions in service were experienced on all Southwest Indiana routes for a few months while CSX and Norfolk Southern smoothed the various logistical problems which arose as a result of the large-scale track transfers.

Currently, Southwest Indiana boasts five Class I and a number of Class II and III rail lines. Table 5 outlines the company operating each main line, the lines' end points, and the counties each line is equipped to service. Table 6 summarizes the company operating each short line, the lines' end points, and the cities each line services.

Table 5
Class I Rail Lines in Southwest Indiana

Main Lines	Railroad Company	Counties Served
Louisville-St. Louis	Norfolk Southern	Orange, Dubois, Spencer, Pike, Warrick, Gibson, Vanderburgh, Posey
Indianapolis-St. Louis	CSX	Hendricks, Putnam, Clay, Vigo
Cincinnati-St. Louis	CSX	Knox, Daviess, Martin, Lawrence
Chicago-Nashville	CSX	Vigo, Sullivan, Knox, Gibson, Vanderburgh, other CSX line to Posey
Chicago-Bedford	CP/Soo	Vigo, Clay, Greene, Lawrence

Sources: 1999 NS System Map, 1999 CSX System Map, CUED

Table 6
Classes II and III Rail Lines in Southwest Indiana

Short Lines	Railroad Company	Cities Served*
Mount Vernon-CSX line	Southwind RR	Mount Vernon/Southwind Maritime Center
Huntingburg-Dubois County	Dubois County	Jasper
Algers-Oakland City	Algers, Winslow & Western	Cato
Lincoln City-Cannelton	Hoosier Southern	Santa Claus, Lamar, Evanston, Troy, Tell City
Indianapolis-Evansville	Indiana Southern	Maywood, Camby, Mooresville, Brooklyn, Campbells, Martinsville, Paragon, Spencer, Freedom, Worthington, Switz City, Bee Hunter, Sandborn, Elnora, Plainville, Graham, Maysville, Petersburg, Oakland City, Gudgel, Mackey, Daylight, Old Ben 1
Indianapolis-Effingham, IL	INRD	Bloomington, Switz City, Linton, Sullivan
Evansville-Poseyville	Evansville Terminal Company	Evansville, Poseyville
Poseyville-Cynthiana	OTCO	Poseyville, Cynthiana

* The end points are to be considered inclusive in all cases

Sources: 1999 NS System Map, 1999 CSX System Map, CUED

Along their main routes, CSX and Norfolk Southern run trains that are almost always 100 cars or longer according to Tom Beck, the Rail Planner with the Indiana Department of Transportation Rail Section, and other Southwest Indiana representatives. It is more cost effective for the Class I rails to operate longer trains. Due to their more limited service area short line engines tend to haul only 30, 50, or 75 cars at a time. Often, these 30-75 cars contain the products of several customers, while stakeholders not affiliated with CSX or NS report that the long Class I trains are hauling the immense shipments of just one or two main customers.

According to Tom Beck, a significant number of trains travel through Southwest Indiana every day. The busiest of all the lines is the Chicago to Nashville CSX route. Forty to forty-five CSX trains cross through Terre Haute and Vincennes daily on this north-south corridor. Thirty-five to forty-five trains utilize the Indianapolis to St. Louis line daily. The NS Louisville to St. Louis line carries an average of 15 to 20 trains per day. The Cincinnati to St. Louis CSX route is less traveled than the other main lines at the rate of 7 to 10 trains per day. Beck reports that much of the Southwest Indiana daily train traffic is overhead traffic, which passes through the region without stopping to load or offload products. The short lines rarely run more than 1 to 3 trains each per day. Due to the limited geographic scope of the short lines, which are all completely within the region with the exception of INRD, they cannot carry overhead traffic. Any product

traveling on a short line must be shipped by, received by, or both shipped and received by a Southwest Indiana business.

B. Additional Rail-Related Facilities

In addition to the miles of track, Southwest Indiana's freight rail system includes a number of other facilities that are critical to its functioning. These include loading facilities for grain, coal, and other products, warehouses, repair yards, and an intermodal facility. As these facilities are numerous in the 25 county area, no attempt will be made to compile a comprehensive list. Rather, several of the most prominent will be identified.

The CSX intermodal facility at Evansville can be considered a significant asset of the Southwest Indiana rail infrastructure. Intermodalism, as defined by Gerhardt Muller, is "logistically linked movement using two or more modes of transport". This movement typically involves "the interchange of freight in containers or trailers..of standard sizes".[3] The standardization of shipping container sizes allows for efficient transfer of products between ships, freight aircraft, railroads, and trucks, which decreases overall transport time and difficulty. CSX is able to take advantage of this increasingly valuable system of transportation from its Intermodal Terminal, which is located on the Ohio River in Evansville. An additional rail-to-water intermodal facility is located at Southwind Maritime Center in Mount Vernon, and is operated by the Port Authority. The Southwind facility differs from the CSX hub in that it handles only direct transferring of coal from waterborne vessels to railroads and vice versa. The three to four mile Southwind Railroad connects the Maritime Center's coal transfer station to main CSX railroad lines.

In addition to the Intermodal Terminal, Evansville hosts a CSX Rail-to-Truck Transloading Facility, called a TransFlo facility. This facility is one of six in Indiana, with others located at East Chicago, Crawfordville, Lafayette, Milford, and Indianapolis. CSX operates maintenance and repair facilities at rail yards in Evansville and Terre Haute. Norfolk Southern's rail infrastructure in Southwest Indiana includes large warehousing operations in Evansville, and coal loading facilities such as that at the mine in Lynnville. Both Class I railroads also help maintain the rail yards at junctions where short line rails can exchange cargo with trains traveling the main lines.

C. Products Transported by Rail

A number of primary resources and agricultural and manufactured products are carried by freight rail in Southwest Indiana. CSX, for example, lists grain, steel, minerals, automotive industry inputs and outputs, chemicals, and coal as the main commodities hauled by the railroads. Some

[3] See Gerhardt Muller *Intermodal Freight Transportation*, Third Edition. Lansdowne, VA: Eno Transportation Foundation and Intermodal Association of North America, 1995

of these products have origins and destinations within the region, and some cross regional and state boundaries. Agricultural commodities such as corn are shipped intra-regionally from the locales of fields to the sites of processing operations. Coal is another important product with regional producers and consumers. Power plants in Southwest Indiana can obtain coal from mines within the 25 county area.

2. Challenges and Threats Posed by Changes in Rail Operations

There are many notable strengths of the current Southwest Indiana freight rail system. Four well-maintained main lines, functioning short lines, and the Evansville Intermodal Terminal provide real benefits to the regional economy. However, CUED has identified several areas of concern which threaten the effectiveness of regional railroad infrastructure and limit the contribution rail service can make to economic advancement.

A. Rail Access for Small Businesses

Representatives of rail companies, chambers of commerce, and certain other organizations typically report that current levels of freight rail service are adequate. However, several existing users and prospective users of rail transportation interviewed by the CUED panel reported that following the consolidation of Conrail by CSX and NS, it has become more difficult to contract for rail service. Primarily, such difficulties have affected small and medium-sized businesses, including agricultural operations. For such businesses, trucking is often the only option available for shipping products.

Often, railroad transportation appeals to businesses, particularly those wishing to ship products long distances, because it can be more cost effective than trucking. An article in *Area Development* magazine recently reported that railroad rates over long distances are generally 15% cheaper than highway rates.[4] Small businesses shut out of the railroad market by large unit requirements or undependable scheduling are also shut off from these cost-saving rates.

The stakeholders interviewed by CUED's panel made several allusions to the unwillingness of both main line and short line rails to contract with small companies. Robert Jones of the Rogers Group, for example, indicated that his company operates a quarry along the INRD railroad and wishes to use the rail to ship stone into Illinois, but is unable to attract any interest from the company. Similarly, Tom Boyd, who owns a medium-sized farming operation in Daviess County, ships approximately 20 cars per week along the Indiana Southern line, but encounters difficulty in obtaining dependable service from CSX or NS. Problems such as those experienced by Mr. Rogers and Mr. Boyd, if perceived by those considering opening small or mid-sized

[4] See Marie Daddino "Intermodal Transport: A Force in the New Economy" *Area Development* August 1999

businesses in Southwest Indiana, may deter those potential businesses from the region. The prevailing assumption that railroad service is "adequate" could become, or may have already become, a liability for the region. The railroads have little incentive to search for ways to serve more Southwest Indiana companies if they feel that their highest income generating customers are already being served well.

B. Lack of Regional Bargaining Power (Leverage)

CSX and Norfolk Southern are immense corporations, with CSX operating 22,300 route miles of track in 23 states, the District of Columbia, and Ontario, Canada, and NS responsible for 21,600 miles in 22 states, the District, and Ontario.[5] The companies' miles of track in Southwest Indiana represent a small fraction of the total miles in service nationwide. Moreover, as is evidenced by the high percentage of overhead traffic through the 25 counties, a very small fraction of the products carried by the Class I rails originate in or are destined for Southwest Indiana.

The relative lack of major customers present in Southwest Indiana means that regional concerns may not weigh very heavily in financial and service planning decisions made at the national level at Norfolk Southern and CSX. Railroads, like other businesses, concentrate efforts where their services are most needed and where their operations will prove most profitable. Simply, Southwest Indiana's lack of high volume customers translates into a lack of leverage.

In recent months, CSX has temporarily closed the portion of track running between Mitchell and Seymour on the Cincinnati-St. Louis main line. Tom Beck at the INDOT Rail Section and others have heard rumors that CSX may be in the process of phasing out the entire portion of the Cincinnati-St. Louis route in Southwest Indiana. Beck explains that this east-west route is one of three east-west CSX lines in the region, and is the least heavily utilized. The Indianapolis-St. Louis route and a route running through northern Kentucky are strategically more important to the CSX system. If abandonment rumors prove true, the Southwest Indiana counties will have a difficult time convincing CSX to maintain the line, and this could impede the economic development potential of towns and rural areas along this corridor.

While Southwest Indiana counties may be forced into a reactionary position when it comes to relations with the Class I rails, the region can maintain solid relationships with its short lines. The economic concerns of the short lines are inherently similar to the concerns of other Southwest Indiana stakeholders since the short lines are businesses contained within the region. The short lines may prove more responsive to local companies since their very existence depends on the companies' continual need for freight transport.

[5] See "Close Ranks" *U.S. Sites and Development* March 1999

C. Maintenance of Short Lines

Southwest Indiana's short lines serve many portions of the region that are removed from the main CSX and Norfolk Southern routes. Their customers, in general, are businesses with smaller commodity transportation needs than those served by NS and CSX. In order to service current and perhaps future businesses in all portions of Southwest Indiana, maintenance of Indiana Southern, Hoosier Southern, and other short lines is critical.

The Indiana Department of Transportation Rail Section recognizes the key role the short lines play in the regional economy of Southwest Indiana. While the Rail Section agrees that many businesses are successful in transporting products via trucking, state rail planners acknowledge the value of having transport options to keep shipping costs competitive. By providing an alternative shipping option, rails can lessen the impact of recessions on struggling companies.

The INDOT Rail managers have made maintenance of the short lines a high priority. The Rail Section is striving to meet various needs of the short line companies to assure their continued viability. For example, there are funding needs for various projects including the acquisition of right-of-way, the rehabilitation of trackage, and the improvement of grade crossings. INDOT's Rail team administers two programs to help make this funding is available. The Industrial Rail Service Fund (IRSF) is a loan program for Class III railroads. The State Grade Crossing Improvement Fund (GCIF), meanwhile, is a grant program to which both public agencies and railroads can apply in order to improve the safety of grade crossings via the installation of signs and reflective taping, the removal of brush that might hinder drivers' range of vision, and other projects. These efforts of the Department of Transportation as well as continued efforts of the short lines themselves help mitigate the threat to the regional economy posed by declines in short line freight service.

D. Grade Crossings

Safety concerns and delays at grade crossings present challenges to the railroads and therefore economic growth in Southwest Indiana. The situation in the City of Vincennes illustrates these concerns. City Councilman Garry Hall reports that there are 50 train crossing gates within the Vincennes city limits. The dozens of trains passing these intersections each day raise the prospect of automobile-train accidents. Additionally, since automobiles and trucks must regularly stop to permit trains to pass, the pace of road traffic, including commercial traffic, is slowed. This situation is replicated in towns across the region. Concerns for employee safety and about liability in potential truck-train accidents represent a mark against Southwest Indiana towns with numerous railroad crossings in the eyes of site selectors. Furthermore, companies are less likely to locate where their trucks are constantly held up at grade crossings.

E. Rail and Intermodal Transportation Advancements Elsewhere

There are also competitive railroad related threats. While many of the decision-makers in Southwest Indiana remain content with the current "adequate" rail transport system, they should remain aware of rail and intermodal capability improvements made by their counterparts elsewhere. Intermodalism is proving to be an increasingly popular choice for long-distance freight transport among American companies. The percentage of shipments moving 500 miles or more which travel via more than one mode of transportation rose from 10% in 1991 to 25% in 1997, and continues to grow.[6]

Many large urban areas have seized the initiative in efforts to place themselves at the center of intermodal networks. Omaha, NE has experienced phenomenal growth since the early 1990s due in large part to its focus on intermodal transportation. Memphis, TN is in the process of constructing SuperTerminal Memphis, a 1,000-acre intermodal terminal which will serve all six of the city's railroad lines and allow quick, easy transfer of containers among railroads and other means of transport. The Dallas-Fort Worth area has been utilizing the intermodal hub at the Alliance Airport in Forth Worth as an economic development tool. Kansas City, already reaping the benefits of its status as the nation's second largest rail hub, has approved plans to begin construction on an intermodal facility at the Richards-Gebaur Memorial Airport.[7]

Several railroad companies also operate intermodal facilities in more rural areas, or near smaller cities. Shelby, Montana and Dilworth, Minnesota (east of Fargo, North Dakota) host Burlington Northern Santa Fe intermodal facilities. Facilities at Waterville, Maine and rural Front Royal, Virginia are maintained by Norfolk Southern.[8] The majority of products handled at these rural intermodal hubs do not originate in and are not bound for these rural areas. Rather, the hubs handle a lot of pass-over traffic that must necessarily pass through these small towns as it flows between other markets.

Southwest Indiana already contains an intermodal hub at Evansville and a coal-specific intermodal facility at Mount Vernon. The region need not accept that these will be its only intermodal facilities, however. By monitoring transportation developments occurring elsewhere, particularly in rural areas, Southwest Indiana stakeholders can both consider attempting similar developments and assure that the region's current links to the intermodal network do not become obsolete.

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[6] See Marie Daddino

[7] See "Kansas City OKs Intermodal Hub" *Transport Topics* electronic newspaper August 5, 1999 at www.ttnews.com

[8] See the railroad companies' websites at www.bnsf.com/business/iabu and www.nscorp.com

B. Human Resources

CUED's site visit and subsequent research revealed that Southwest Indiana, like many mainly rural areas across the nation, faces labor force challenges to economic development. These realities do not preclude economic advancement, but certainly constitute areas of concern.

1. National Problems Evident in Southwest Indiana

A. Loss of Young, Educated Population

Many of the individuals with whom CUED's panel consulted indicated that Southwest Indiana counties, with the exception of those closest to Indianapolis and Evansville, have been experiencing an exodus of college-educated individuals, particularly in the 20 to 29 and 30 to 39 age groups. This phenomenon has been replicated in rural and small town communities nationwide. The exiting of skilled individuals who are adequately prepared to obtain high-paying jobs represents a significant lost opportunity for the effected counties.

The reasons for the exodus of young individuals and families from rural areas are diverse. Many migrate to urban areas in order to acquire jobs wherein they may utilize the skills they have developed in post-secondary education. Southwest Indiana's small towns and cities do not offer many of the high-paying, dynamic employment opportunities in high-technology and other fields which are available relatively nearby in Indianapolis, Louisville, and Chicago. Other reasons for migration are cultural. Taken together, these issues comprise what by Expansion Management magazine has deemed "a question of livability".[9] The young flock to larger cities in search of a more diverse lifestyle than that which can be experienced in rural areas. They seek to take advantage of the myriad cultural amenities ranging from restaurants, theaters, and nightclubs to large shopping malls and professional sports teams. The urbanization of young professionals has proven a difficult trend to reverse since cities can provide vibrant, fast-paced social and professional environments for single people and young families.

B. Insufficient Focus on Job Matching

Like many rural and low density areas nationwide, Southwest Indiana counties have encountered limited success in aligning the skill sets of their residents and the skill requirements of their various employers. Dialogue between local companies and local educational providers has opened few permanent and productive channels of communication within the region. Therefore, educational programs at the primary, secondary, and university levels generally have not

[9] Discussed in "America's Backroads Open Up for Business" Expansion Management January-February 1998.

incorporated training specifically intended to prepare individuals to excel at positions with local or regional businesses. Meanwhile, organizations engaged in persuading companies to remain, expand, or relocate in Southwest Indiana have had limited success with companies that require the skills already possessed by the regional labor force. Both matching people to jobs and jobs to people have proven difficult.

The exodus of educated individuals is but one symptom of this job matching problem. Underemployment, the condition wherein individuals accept positions for which they are overqualified, also evolves from inadequate job matching. These individuals almost always earn incomes far less than what they could potentially earn at jobs which matched their skill sets. Other members of the labor force possess valuable skills, but those inappropriate to positions open at a given time. For example, Dick Wheatfill of RBW Transportation, Inc., a trucking operation based in Terre Haute, has been forced to keep 3 out of 18 company trucks out of service due to an inability to find qualified drivers. Southwest Indiana employers and Chambers of Commerce have voiced concern with the inability to locate workers to fill manufacturing and other jobs starting between $8 and $11 per hour. This reality may be reflective of both the unwillingness of some overqualified workers to accept lower-paying jobs and the mismatched skills of less educated individuals who might otherwise appreciate these opportunities.

C. Small Size of the Labor Force

Companies seeking to expand or relocate their operations regularly attempt to select sites where they will experience minimal difficulty in finding qualified employees to fill their payrolls. In addition to exploring the educational and applicable skill levels of an area's residents, site selectors must consider the more basic issue of exactly how large numerically a region's workforce is. Simply, if a company is hoping to employ 300 people in a new facility, it must be convinced that 300 people could be found in the areas surrounding the facility to work there.

Southwest Indiana's rural counties and many rural counties nationwide do not have particularly large labor forces. This fact represents a challenge to rural economic development. Potential large employers may look at figures such as the small numbers of unemployed persons in Martin (283), Pike (289), and Brown (312) Counties in January of 2000 and determine that the available workforce is too small to fulfill their requirements. The search for workers in more rural areas may take large operations many miles from their sites. For example, Helen Hauke of the Princeton Chamber of Commerce commented that Toyota plans an expansion soon which will require 200 new workers. The company expects to have to draw individuals from a 100 mile radius surrounding the plant in Gibson County in order to fill that quota. The prospects of such an extensive search may deter other potential Southwest Indiana employers.

2. Current Educational Environment

Overall, an adequate education infrastructure is currently in place throughout Southwest Indiana.

Though there are strengths and weaknesses at all levels, a student can receive a quality education in the region starting in kindergarten and continuing through post-secondary studies.

A. Grades K-12

While each school system offers unique benefits and pitfalls, Southwest Indiana as a whole provides ample educational opportunities for its young people. Upon graduating from high school, students are generally well prepared to pursue post-secondary education should they decide to do so.

Two issues, however, seem to weaken the effectiveness of primary and secondary education across the region. First, school boards rarely enter into dialogue with businesses in their communities to ensure that those students who do not enter into college have the relevant skills to obtain employment after high school. Second, the long-standing Indiana State Property Tax Freeze, first imposed in 1974, can create revenue generation problems for school districts hoping to upgrade or expand their educational services. Under the property tax freeze, about 90% of local taxing units such as city and county governments, libraries, and school districts cannot increase their levies (the total amount of money brought in via property taxes) by more than 5% a year. The remaining entities are limited to 10% levy increases.[10] This policy leads to funding problems particularly when a community wishes to expand or upgrade services (such as education) or when the community's population grows. Property tax revenues, the primary source of local government funding, cannot keep pace with heightened funding needs in many instances due to the property tax freeze.

B. Post-secondary Education

A number of institutions in the Southwest Indiana region offer coursework leading towards 2-year, 4-year, or graduate degrees in countless fields ranging from technical training to liberal and fine arts and from business to science and engineering. Together, these schools of higher learning offer outstanding opportunities to Southwest Indiana residents. The institutions include, but are not limited to:

> Indiana University; main campus at Bloomington (Monroe County); 28,511 Undergraduates and 7,690 Graduate Students
> Indiana State University; Terre Haute (Vigo County); 8,368 Undergraduates and 1,629 Graduate Students
> University of Southern Indiana; Evansville (Vanderburgh County); 8,695 Undergraduate and Graduate Students

[10] Further information about Indiana property taxes is available at www.agecon.purdue.edu/crd/localgov/glossary.htm.

Vincennes University; main campus at Vincennes (Knox County); satellite campus at Jasper (Dubois County); Two-year College; 6,000 Students at Vincennes Campus
Ivy Tech State College; 23 campuses statewide; 3 campuses in SW Indiana: Bloomington, Terre Haute, Evansville; Serves over 67,000 students statewide each year; Offers 1-year certificate programs, 2-year associate degrees, and various non-degree and specialty training courses
ITT Technical Institute; Newburgh (Warrick County); Associate of Applied Science Degrees in automated manufacturing, information technology, electronics engineering, tool engineering
University of Evansville; Evansville; 2,500 Undergraduate and Graduate Students
Oakland City University; Oakland City (Gibson County); 1,200 Associate and Bachelor's Degree Students
Rose-Hulman Institute of Technology; Terre Haute; Approximately 2,300 Students primarily in engineering, science, math curriculum, and
St. Mary-of-the-Woods College; Terre Haute; All women's college; 1,250 Students, with 300 on campus and more than 880 in External Degree Program around the country

As is evidenced by this non-exhaustive list, access to career training for Southwest Indiana residents is available. While the career training facilities are present, however, there is a gap between the skills needed by businesses and communities in the region and the skills taught in these facilities. Closer collaboration between colleges, universities, businesses, and communities can insure that Southwest Indiana is able to fill its current and expected future job openings with individuals trained within the region.

The creation of a business incubator in Terre Haute, the Rose-Hulman Center for an Innovation Economy, signals that the practical benefits of such collaboration have begun to be acknowledged. The Lilly Endowment provided $30 million in funding in September of 1999 to launch this incubator in which professors, researchers, and students from the Rose-Hulman Institute of Technology will cooperate with community entrepreneurs to develop and support high-tech industrial growth, much of it in the form of small businesses, in Vigo County and beyond. Agreements between Ivy Tech State College and large companies such as Alcoa and Toyota wherein Ivy Tech provides specific technical training for the companies' employees are further examples of productive collaboration between businesses and educational institutions.

C. Regional Cooperation and Marketing

Effective marketing to stimulate economic development is often a costly and difficult task.

Many Southwest Indiana towns and counties simply do not have the funding sources at their disposal with which to aggressively pursue certain economic development strategies. Even where development funds are available, less populous areas find it difficult to compete with the wealthy, large urban communities within Indiana and neighboring states in business attraction and retention activities. Though there is no guarantee as to their effectiveness, cooperative regional planning and marketing commissions have helped many small towns and counties in positions similar to those of Southwest Indiana locales to experience development successes.

CUED's team feels that *pro-active, goal-oriented* regional development commissions have the potential to effectively market the strengths of Southwest Indiana to companies and site selectors across the nation. While specific town and county economic development agencies or officials are not only healthy, but essential, a regional commission can formulate strategies that illuminate the additional strengths created and value added when those agencies and officials work together.

1. Existing Regional Planning Commissions

Currently, various sub-regions within the 25 county study area are making efforts to collaboratively plan and market themselves for economic development purposes. A total of four regional planning commissions serve 19 of the 25 Southwest Indiana counties.

A. Indiana 15 Regional Planning Commission

The Indiana 15 Regional Planning Commission addresses many economic and community development issues facing Pike, Dubois, Spencer, Perry, Orange, and Crawford Counties. Funded by the Economic Development Administration and county per capita fees, Indiana 15 is chartered as a multi-county governmental agency. The organization works with local governments in developing and implementing community and economic improvement plans.

Indiana 15's assistance to communities often begins with helping the localities to identify and prioritize planning and economic development needs. Once communities have decided upon projects to pursue, Indiana 15 can assist them with securing and administering federal, state, or other funding. The commission also has the capability to provide technical assistance and advisory services in the areas of mapping, land use planning, zoning, infrastructure development and others. Finally, Indiana 15 constitutes a valuable resource for the six counties because it serves as a clearinghouse of demographic, small business, rural development, and other information.

In 1999 alone, Indiana 15 collaborated with local governments on more than 60 projects which together represented a $35 million investment in the region.[11] These projects can be broadly

[11] See Indiana 15 Regional Planning Commission brochure.

grouped into the areas of:

Infrastructure Development,
Industrial Development,
Community Facilities,
Historic Preservation,
Tourism Development,
Housing and Disaster Recovery, and
Technical Assistance/Mapping/Zoning.

B. Vision 2000

The Evansville Regional Economic Development Corporation, which is known by the name Vision 2000, serves Vanderburgh, Posey, Warrick, and Gibson Counties in the Southwestern corner of Indiana. Vision 2000, chartered as a not-for-profit economic development organization, maintains working relationships with state and local governments' economic development groups, as well as the development offices of railroads and regional utilities. The public-private partnership is anchored by a 13-member Board of Directors comprised of the Mayor of Evansville, the Vanderburgh County Commissioner, and 11 other individuals, many of them representatives of private companies, who are either appointed or elected to three year terms. Based in Evansville, Vision 2000's operations are funded almost equally by public and private contributions. County and city funds account for 48% of the budget, while private industries within the Evansville region contribute 52%.

The stated organizational purpose for Vision 2000 is the marketing of the four county region with the hopes of encouraging inward direct investment. Since 1989, Vision 2000 has maintained this concentration on industrial attraction, while deferring to the Metropolitan Evansville Chamber of Commerce in the areas of business expansion and retention. Extensive attempts have been and continue to be made by Vision 2000 to increase the visibility of the Evansville Region both nationally and internationally. These include:

Direct mailing of content-rich brochures and other printed materials of high visual quality to potential leads and site selectors,
Placement of advertisements in leading development journals such as *Site Selection, Area Development, and Plants, Sites, and Parks*,
Attendance at various trade shows, including annual participation in the show of the Society of Automotive Engineers,
Cooperation with the State of Indiana's Department of Commerce in trade shows and expos, and follow-up concerning leads,
Maintenance of the website at www.vision2000.org, which provides considerable valuable information about the region,
Travel to both Europe and Asia, particularly Japan (10-12 trips since 1990) to

meet with industry leaders,
Initiation of a "sister city" program with officials of Tochigi City, just North of Tokyo,
Hosting site selection consultants during events such as the 2000 NCAA Men's Basketball Final Four Tournament, and a golf tournament featuring the chance to play with long-time professional Fuzzy Zoeller, and
Hosting consultants and leads from companies interested in the region for nights-on-the-town in both Evansville and Indianapolis.

Upon securing leads through marketing efforts, Vision 2000 further caters to the site selectors' needs by offering a number of free services including:

Interpretation of zoning laws,
Assistance with feasibility studies,
Assistance with facility location studies, and
Guidance of building and site searches, facilitated in part by the database of vacant buildings and available sites maintained by the organization.

In an effort to capitalize on the region's strengths and opportunities, Vision 2000 focuses its industrial attraction efforts in three particular sectors. Automobile industry suppliers are lured by the prospect of serving the Toyota plant at Princeton. High-tech, automated manufacturing industries are targeted as well. Finally, Vision 2000 highlights the Evansville Region's quality highway, rail, and water transport systems and central location in an attempt to draw distribution centers. The development of air cargo capabilities currently under way with the help of an EDA grant will further assist this campaign.

While Vision 2000 has achieved success in focusing on development within the four county region, it has also acknowledged the value of cooperation with other Indiana, Illinois, and Kentucky Counties. Vision 2000 representatives participate in the 11-county Southwest Indiana Development Council (described below). Additionally, the Executive Director of Vision 2000, cognizant of the spillover benefits of economic developments across the Ohio River in Northern Kentucky, has made efforts to forge ties with Kentucky Counties in a Mid-America Alliance.

C. Southern Indiana Development Commission

Located just to the north of the Indiana 15 and Vision 2000 counties, Knox, Daviess, Martin, Lawrence, and Greene Counties are the focus of the activities of the Southern Indiana Development Commission (SIDC). A 36-member board, comprised of 7 members from each of the 5 counties and 1 member appointed by the governor, oversees the economic development district's activities. In existence since 1974, the SIDC garners the majority of its funding from the Economic Development Administration and other federal and state government agencies and programs. Member counties provide only a small fraction of SIDC's budget.

The general mission of the Southern Indiana Development Commission is to provide technical assistance to cities, counties, and not-for-profit organizations in areas related to development. The commission proudly embraces a broad definition of what constitutes development, and therefore engages in a wide-range of assistance activities. Rather than focus most directly on job creation through business attraction, retention, or expansion, SIDC devotes much attention to issues which must accompany or precede job creation. Community, housing, and infrastructure development are three examples of such issues.

Jo Arthur, the Executive Director of SIDC, identifies at least three primary roles which the organization regularly plays in pursuing comprehensive economic development within the five county region. SIDC serves as:

> A *catalyst*--The organization helps to spark discussions in the counties which are aimed at identifying the primary development issues. Once these issues are identified, SIDC helps communities and counties to prioritize them, and then proceeds to search for methods for ameliorating problems.
> A *facilitator*--SIDC is an agency through which myriad programs of federal, state, and local agencies can be administered and implemented.
> A *grant writer*--Communities that are eligible for funding for various programs have limited access to that funding if they cannot produce grant proposals. SIDC helps the counties to obtain rural development grants, Community Development Block Grants, and other funds.

A random sampling of recent SIDC projects partially illuminates the organization's diverse range of activities. In recent months SIDC has worked on:

> Housing rehabilitation projects with the Indiana Housing Finance Authority,
> A feasibility study exploring the possibility of constructing additional housing,
> Water, sewer, and other municipal infrastructure projects, and
> Fee-for-service contracts with communities outside of the five county region which are not served or are under-served by economic development organizations.

D. West Central Indiana Economic Development District

Though it performs other functions as well, the West Central Indiana Economic Development District (WCIEDD) is Southwest Indiana's fourth regional planning commission. Four counties within the Evansville-to-Indianapolis (I-69) study area, Putnam, Clay, Vigo, and Sullivan, in addition to Parke and Vermillion Counties comprise the WCIEDD's realm of influence. Economic development in the six county region, however, is only one of three competing concerns of the WCIEDD. In the WCIEDD's mandate, the organization is also charged with maintaining state programs and creating local assistance schemes for the aging or aged in the six

counties. Meanwhile, the body also serves as the metropolitan planning organization for the City of Terre Haute.

The not-for-profit WCIEDD has been in operation since the late 1960s. Representatives of all six counties and many of the larger cities and towns sit on the Board of Directors. WCIEDD operates on a very tight budget pieced together from various grants and matching funds from the six counties.

Pat Martin of WCIEDD explains that the majority of the budget and staff time of the organization are earmarked for the programs for the aging and aged. MPO duties consume additional resources. With the remaining resources, WCIEDD pursues regional economic development activities that can be grouped into three general areas. The WCIEDD:

> Follows up on business leads--Though the WCIEDD is not engaged in marketing/promotional campaigns, the organization is responsible for responding to leads generated by the Indiana Department of Commerce, as well as non-solicited leads in 5 of the 6 counties. In Vigo County, the Alliance for Growth and Progress and the Vigo County Redevelopment Commission bear these duties. Also, the City of Greencastle in Putnam County deals with its leads independent of the WCIEDD.
> Attempts to strengthen relationships with existing businesses--Business retention and expansion are primary concerns for WCIEDD. Local company expansions which generate 10, 15, or 20 jobs are a valuable means for reinforcing the existing economic base.
> Develops concepts for, writes, and administers grants--In order to pursue the strategic planning, community development, and multi-modal transportation development it desires in the region, WCIEDD has taken on primary responsibility for securing and allocating grant funds from a range of sources.

2. Other Regional Economic Development Forums

In addition to the four regional planning commissions, the presence of two other entities further underscores that Southwest Indiana cities and counties acknowledge the value of wider, regional thinking. These two bodies constitute forums wherein those actively participating in economic development activities can share knowledge and attempt to formulate a regional identity.

A. Southwest Indiana Development Council

Representatives of chambers of commerce, regional planning commissions, institutions, railroads, utilities, and others in one 11-county sub-region of Southwest Indiana participate in an economic development consortium named the Southwest Indiana Development Council

(SWIDC).[12] Members of the consortium meet approximately every two and a half to three months. Individuals from Vision 2000 counties (Posey, Gibson, Vanderburgh, Warrick), Indiana 15 counties (Pike, Dubois, Spencer, Perry), and SIDC counties (Knox, Daviess, Martin) collaborate in this forum. The primary motivation for the existence of SWIDC is a shared desire among members to generate the greatest possible return on their advertising dollars.

The primary promotional activities of SWIDC are three-fold. First, SWIDC places ads in economic development journals, most recently in *Plants, Sites, and Parks* and *Area Development*. Second, representatives of SWIDC attend various trade shows to increase the visibility of the region. Thirdly, SWIDC occasionally hosts expositions or fairs in Indianapolis in order to showcase the region's positive attributes. Legislators, state officials, business leads, site selectors, and others are invited to attend.

Particular SWIDC promotional activities are funded by particular members of the organization. Not every member contributes to every promotional scheme. Due to this reality, SWIDC maintains a procedure to insure that only those members that contributed to a specific promotion are able to directly benefit from it. The organization's Director, currently Tim Mahoney of the University of Southern Indiana, is responsible for handling phone calls and other communications from individuals and companies whose interest is peaked by an ad, trade show, or expo. Upon learning which promotion garnered a lead's interest, Mr. Mahoney then passes the lead's contact information along to those members that funded that promotion. The Chambers of Commerce, regional planners, and others are then responsible for pursuing or not pursuing the lead on their own time, and with their own resources. Essentially, the SWIDC counties collaborate to attract a new business to the region in general, and then compete with each other to lure the company to a specific site.

B. The Metro Indianapolis Network

The nine counties which comprise the Indianapolis Metropolitan Statistical Area, including Hendricks, Morgan, and Johnson Counties within the study area, currently participate in a body called the Metro Indianapolis Network (MINe). This entity is described by MINe representative Bill Petranoff as a "loose confederation" of economic development departments or units within the nine counties. Funding for MINe's activities is provided by several, not all, of the economic development departments. Paying members and non-paying members alike are invited to participate in monthly meetings to share information and occasionally coordinate marketing campaigns.

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[12] The Southwest Indiana Development Council maintains a website at www.swidc.org. The site contains a significant amount of information about each of the 11 counties that is expected to be of interest to relocating or expanding companies, site selectors, and others.

In addition to facilitating interaction among economic developers within the MSA, the MINe staff performs other functions. In the recent past, MINe has:

> Conducted studies on issues of concern to the Indianapolis area,
> Worked with the Indiana Department of Commerce on a number of projects,
> Contributed to state co-op advertising and state co-op trade shows, and
> Helped to create and maintain a website at www.greaterindy.com that promotes the nine counties of the Indianapolis MSA together with Monroe County as "The Perfect 10". This internet advertising venture has been a combined effort of MINe and the Metropolitan Association of Greater Indianapolis Communities (MAGIC).

The loosely structured Metro Indianapolis Network will soon be joined by another regional economic development entity. According to Bill Petranoff, the Indianapolis Economic Development Corporation (IEDC) is in the process of shifting from a focus solely on Marion County and the City of Indianapolis to an outlook which embraces the wider, nine county area. Petranoff expects the new regionally focused organization to be fully functioning by January 1, 2001. The current IEDC will cease to exist and be reformulated as the base of a Greater Indianapolis Development Corporation. Once this shift has taken place, Petranoff acknowledges that a period of trust-building by the new development corporation will be necessary, as surrounding counties will find the new, larger focus of the organization threatening. The new regional thinking, currently in its infancy, which this IEDC shift and MINe hope to accomplish will take time if it is to effectively develop.

3. Tapping the Potential of Regional Organizations

The CUED panel considers the presence of six organizations devoted to regional economic development issues in the 25 county study area to be a noteworthy strength of the region. However, CUED also perceives a significant opportunity for Southwest Indiana to build upon this network to stimulate new economic development. The full potential of collaboration among Southwest Indiana counties and sub-regions remains unrealized.

In suggesting the benefits of regional collaboration in Southwest Indiana, CUED must note that it would be improper to think of the 25 county area considered within the scope of the Evansville-to-Indianapolis (I-69) Project as one cohesive region. "Southwest Indiana", as referred to throughout this report and throughout the overall study, is an artificial construct. It must not be forgotten that the 25 counties are not isolated from other Indiana counties or counties in neighboring Kentucky and Illinois. Additionally, the felt ties between counties within the study area may be very minimal. Due to geographic, economic, and cultural factors residents of Perry County, for example, may feel strong ties to Louisville, KY and weak links to Indianapolis or Terre Haute. For these and other reasons, the sub-regional approach to collaborative economic development planning currently in place seems reasonable to CUED. The questions of how to

define a region and who defines a region carry real weight. The fact that counties in the six current organizations are cooperating seems to indicate that those are the groups wherein the strongest felt bonds exist. While a significant realignment of counties into new regional planning groups would not greatly enhance Southwest Indiana's economic development potential, CUED observes several opportunities for enhancing the effectiveness of regional cooperation.

A. Enhancing Cooperation Among Northern Counties

In general sub-regional collaboration for economic development purposes appears stronger in the southern portion of the study area than in the northern portion. The counties closest to Indianapolis are in the process of expanding marketing and other activities at the regional level and are formulating a new organization, the Greater Indianapolis Development Corporation. These developments are evidence that Hendricks, Morgan, Johnson, and their affiliated counties have begun to more tightly embrace the opportunities presented by regional cooperation.

Committed to the fulfillment of three important roles, the West Central Indiana Economic Development District has worked diligently to perform its myriad tasks. However, due to its divided responsibilities, the WCIEDD's regional economic development focus occasionally wanes. Vermillion, Clarke, Vigo, Clay, Putnam, and Sullivan Counties could thus benefit from the presence of an organization with a *singular* responsibility for economic development. A multi-purpose organization may not have the resources or mandate to fully capitalize upon the six counties' desire for a regional economic outlook.

B. Inclusion of Unserved Counties

Despite the presence of six sub-regional organizations in the 25 county area, 3 counties are not affiliated with any such organization. The adjacent counties of Owen, Monroe, and Brown pursue economic development independent of each other and other Indiana counties. The current SIDC, a functioning Greater Indianapolis Development Corporation, or a re-invigorated WCIEDD may wish to explore the inclusion of Owen, Monroe, or Brown County in their organizations. Additionally, those concerned with economic development in Owen, Brown, and Monroe Counties, and perhaps others, may benefit from the establishment of some formal or informal forum that would facilitate communication and possible cooperation regarding common economic development challenges.

C. Identification and Aggressive Promotion of Regional Selling Points

Each of the six regional economic development organizations in Southwest Indiana is interested to a certain degree in the attraction, retention, or expansion of businesses and jobs. The effectiveness of attraction and retention efforts, however, seems to be hindered by disjointed and at times undynamic promotion activities. Promotional efforts formulated with the attitude "we're

just trying to get anyone to locate here" such as the CUED panel observed in several of its interviews can result in a perception that a region lacks dynamism and vitality. Additionally, a reliance upon the state's Department of Commerce or company-initiated interaction for the procurement of leads may reduce a county or region's appeal. Once regional selling points are identified, however, the fuel for creative and aggressive marketing campaigns has been supplied.

D. Establishing Organizational Goals

CUED's review of regional development organizations revealed that while all have defined a clear purpose for their activities, few have strategically planned goals. A lack of a specific goal orientation can be harmful in that organizations then have no concrete method for evaluating whether their efforts have been successful. For example, if a regional organization states simply that its purpose is to create jobs, different individuals could have different interpretations as to how many jobs and what types of jobs are being sought. Establishing goals and time frames in which they are to be achieved can have the effect of driving an organization to be more pro-active, focused, and efficient. Such steps will allow the organizations to realize greater economic development benefits from road improvements or new highway development.

D. Electricity Reliability

In the Spring, Summer, and Fall of 1999 abnormally high temperatures and abnormally low levels of rainfall contributed to drought conditions in Southwest Indiana and throughout much of the Eastern half of the United States. One of the side effects of the drought and accompanying heat wave was a dramatic increase in the demand for electric power to run cooling units and other machines. Meanwhile, the plants producing energy were forced to cut back output since their cooling systems, dependant upon scarce water, could not operate properly. As electricity demand peaked in Southwest Indiana in July, power companies engaged in defensive measures to attempt to avoid brownouts, conditions in which power plants must decrease the supply voltage to less than 90% of the standard voltage for sustained periods in order to avoid a complete shut down. As the threat of brownouts calls into question the overall reliability of electric utility service in Southwest Indiana and elsewhere, it represents a serious challenge to economic development. For a company considering whether or not to remain, expand, or establish itself in Southwest Indiana, the potential for interruptions in electric service, no matter how short in duration, would represent a mark against the region.

To the credit of the electric companies, no brownout occurred in any portion of Southwest Indiana in 1999. Nonetheless, the brownout prevention effort did make a negative impact on the region's economy. PSI, SIGECO, Hoosier Energy, and municipally controlled utilities had to request that their customers take unusual steps to conserve energy. For manufacturing operations, this meant limiting production on peak energy-use days.

The experience of PSI in July of 1999 underscores the reality of the Southwest Indiana brownout threat at peak use times. Scott Fulford, a representative of Cinergy/PSI in Plainfield, Hendricks County explains that while some would say there was only a "2% chance" of a brownout, the region came extremely close. Only by reducing their wholesale business was PSI able to maintain service to retail customers. The energy conservation voluntarily agreed to by those retail customers was also critical to PSI's efforts to maintain service. The *Cincinnati Enquirer* reported that the Summer 1999 generating capacity of Cinergy/PSI's plants in Indiana, Kentucky, and Ohio was 11,000 megawatts. On July 22, a record 10,873 megawatts of that capacity was used. Even after customer conservation reduced demand 600 megawatts in the following week, 10,811 megawatts were consumed on July 29.[13] As is evident, barring voluntary conservation, a brownout or complete shutdown was imminent.

1. Electric Service Providers

Four primary companies supply electricity in the Southwest Indiana region. PSI Energy is a subsidiary of the Cinergy Corporation, which is headquartered in Cincinnati, Ohio. PSI serves 69 of 92 Indiana counties, and a total of 655,000 residential, commercial, and industrial customers. Many of the counties in the northern portion of the study area are covered by PSI.

The Southern Indiana Gas and Electric Company, or SIGECO, services 10 counties in the Southwestern corner of Indiana. Five municipalities purchase electricity from SIGECO, in addition to its 120,000 retail electric customers. The natural gas needs of 104,000 retail customers are also met by SIGECO.

Hoosier Energy is a rural electric cooperative that serves rural communities and farms throughout 40% of Indiana and approximately two-thirds of the Evansville-to-Indianapolis study area. A total of around 200,000 customers are reached through Hoosier Energy's 16 member distribution systems. The electric cooperatives within the Hoosier Energy Power Network in the study area include the Daviess-Martin County REMC, Dubois REC, Inc., Johnson County REMC, Western Indiana Energy REMC (WIN Energy), Orange County REMC, South Central Indiana REMC, Southern Indiana REC, Inc., and the Utilities District of Western Indiana REMC.

IMPA Communities

Bainbridge (Putnam County)
Bargersville (Johnson County)
Edinburgh (Johnson/Bartholomew County)
Linton (Greene County)
Paoli (Orange County)
Pittsboro (Hendricks County)
Washington (Daviess County)

Source: www.impa.com

Finally, the Indiana Municipal Power Agency (IMPA) provides wholesale electric power for its

[13] See Mike Boyer "Cinergy Buys Into New Plants" *The Cincinnati Enquirer* October 7, 1999.

members, which are 32 publicly-owned utilities. The 32 localities utilizing IMPA energy contain approximately 150,000 households, businesses, and industries. The Southwest Indiana cities which are affiliated with IMPA are listed in the box on the previous page.

2. Generating Facilities

The four primary power companies in Southwest Indiana and the Indianapolis Power and Light Company (IPALCO), a utility serving Indianapolis and a few surrounding communities, operate more than a dozen power plants in or near the region, as seen in Table 7. IMPA is not represented in the graphic because the sources of its energy are more diverse. IMPA owns and operates combustion turbine plants in Anderson and Richmond, IN, shares ownership of a plant in Gibson County and one in Trimble County in SE Indiana, dispatches power produced at facilities owned by 4 of its members, none of which are in Southwest Indiana, and purchases 30% of its power wholesale from other utilities.

Table 7
Power Plants Serving SW Indiana

Company	Plant	Location	Capacity (MW)
Hoosier Energy	Frank E. Ratts	Petersburg, Pike Co.	250
	Merom	Sullivan Co.	1,016
IPALCO	Stout	Indianapolis, Marion Co.	921
	Pritchard	Martinsville, Morgan Co.	366
	Petersburg	Petersburg, Pike Co.	1,715
PSI	Cayuga	Cayuga, Vermillion Co.	1,100
	Edwardsport	Edwardsport, Knox Co.	144
	Noblesville	North of Indianapolis	100
	Gallagher	Near Louisville	600
	Wabash River	Vigo Co.	962
	Gibson Station	Gibson Co.	3,340
SIGECO	F.B. Culley	Yankeetown, Warrick Co.	415
	A.B. Brown	Mount Vernon, Posey Co.	265
	Warrick	Warrick Co.	323

Sources: Hoosier Energy, IPALCO, Turbine Systems Engineering, Inc., CUED

The approximately 11,500 megawatts of power produced at the identified plants are sufficient to meet the needs of providers' current customers *nearly* every day of the year. In fact, as Scott Fulford indicated, PSI normally conducts a wholesale electricity export operation. However, while current customers are served well, with the occasional exception at peak periods, the Southwest Indiana electric power infrastructure may not be prepared to accommodate an extensive expansion of business facilities. The addition of a even a few new business sites to the area would force the implementation of even more widespread conservation efforts at peak times. But also, new customers would deplete the amount of reserve capacity maintained at non-peak times, with the

effect of further jeopardizing electricity reliability.

No new power plants have been constructed in Southwest Indiana during the recent years of economic expansion in cities such as Evansville, Indianapolis, and Columbus. However, having acknowledged the very real threat of brownouts during peak months and the diminishing reserve generating capacity available, Indiana utilities have entered into dialogue with each other and other companies to plan the construction of "merchant plants". These merchant plants would be jointly owned and operated by regional utilities and outside suppliers such as the wholesale energy provider ENRON. Fueled by natural gas, these merchant plants would be small by power plant standards, somewhere between 130 and 300 megawatts. Their primary function, Fulford indicates, would be to serve as a *short-term* solution to energy shortages during peak periods. Even if such merchant plants are built, the limited availability of excess generating capacity may limit business facility growth, and thereby challenge economic development in general.

Chapter 3: Roadways and Economic Development

This chapter provides a discussion of transportation infrastructure as it relates to regional economic development. The transportation infrastructure of the 25 county study region supports, encourages, and in some respects facilitates the area's economic activity. The first section covers regional economics and Southwest Indiana's road network, which includes federal interstates, US highways, and numerous county and state routes. The chapter proceeds to explore the strengths and weaknesses of Southwest Indiana's road system as it relates to site selection, strategic planning, and economic development.

A. Roadways and Regional Economics

As is evidenced by the traffic counts available in Appendix A, thousands of cars, trucks, and other vehicles travel the main roadways of Southwest Indiana each day. Additionally, a network of less traveled roads serves communities, farms, and remote areas throughout the region. This road system is a critical factor to the functioning of Southwest Indiana's economy. Individuals on their way to either earn or spend their wages share city streets, county roads, state routes, U.S. highways, and interstates with trucks hauling commodities between diverse suppliers and consumers, producers and retailers. Due to the supplier-consumer linkages roads facilitate, any significant weakness in the 25 counties' road network can constitute a weakness or missed economic opportunity, and a potential impediment to future regional economic development. Depending upon the different economic aspirations of Southwest Indiana communities, be they to maintain current economic levels, experience small degrees of growth, or encourage significant economic advancement and job creation, the perceived quality or adequacy of existing roads may vary.

1. Reliance Upon Roads

Nearly every type of business operation relies to some degree upon the transportation opportunities afforded by roads. For large portions of the Southwest Indiana region, roads, many of them two-lane routes, provide not only the primary but sometimes the only means of moving both people and products. Therefore, an inadequate or non-functional road system could leave businesses in large portions of the 25 county area in effect geographically isolated from their customers and suppliers. Such isolation would limit the growth and threaten the stability of most types of commercial operations. Due to the wide range of small and large businesses operating *throughout* the 25 counties, *all components* of the road system are important to long-term regional economic maintenance and advancement.

Data compiled by the U.S. Department of Transportation, the U.S. Department of Commerce, and other sources quantifies the critical role road transportation plays in the economies of the

nation, the Midwestern region, and the State of Indiana. The Commodity Flow Survey (CFS), conducted in 1993 and 1997 by the Bureau of Transportation Statistics (BTS) in cooperation with the Bureau of the Census, represents a quite detailed study of freight shipments by all modes of transportation in the United States. Over 100,000 establishments in 559 of the 1,004 industries identified in the Standard Industrial Classification system are covered in the CFS. These businesses are in the sectors of mining, manufacturing, wholesale trade, and selected retail industries, such as catalog and mail-order houses.[14] The CFS aims to identify the value, tonnage, and ton-miles of shipments carried by each single mode of transportation and each multi-modal transportation combination (for example, truck and rail).

National data from both the 1993 and 1997 Commodity Flow Surveys confirms the primacy of trucking, and therefore roadways, as a means of product transport. Trucks were the sole carriers of 75.3% of the total value of shipments nationwide in 1993, and 71.7% in 1997, as is revealed in Table 8. Additional trucking activity falls into the intermodal and air categories as well. Air data include trucking activity, since most often the commodities traveling by plane are carried by truck to and from the airport. Meanwhile the vast majority of intermodal shipments in 1993 and 1997 spent a portion of their journeys in trucks. Truck and rail, truck and water, and parcel/U.S. Postal Service shipments accounted for about 99% of intermodal transport. When these facts are considered, it can be determined that 88.9% (75.3% + 2.4% + 11.2%) of the total value of 1993 shipments and 88.5% (71.7% + 3.3% + 13.5%) of the total value of 1997 shipments were moved at least partially by truck.

Table 8
Percentage of Total Value of National Shipments by Mode

Mode	1993	1997
Truck	75.3	71.7
Rail	4.2	4.6
Water	1.1	1.1
Air	2.4	3.3
Pipeline	1.5	1.6
Intermodal	11.3	13.6
Unknown mode	4.1	4.0

Sources: Bureau of Transportation Statistics, 1997 CFS, CUED

[14] It is important to note that the CFS does not cover shipments made within industries classified as farms, forestry, fisheries, governments, construction, transportation, foreign establishments, services, and many retail sectors. For agriculture, shipments of products from farms to processing plants or terminal elevators are not included. However, as products move onward from these locations, they are tracked by the CFS. A complete table of the industries covered by the CFS and a more detailed description of the survey is available at www.bts.org.

When shipments are quantified in terms of weight, trucking remains the dominant mode of transportation in the United States. Trucks alone hauled 65.9% of tonnage in 1993, and 69.4% in 1997, as shown in Table 9. No percentage is listed for air freight because the weights of products shipped by airplane in the surveyed industry sectors amount to less than one-tenth of one percent of the total weight.

Table 9
Percentage of Total Tonnage of National Shipments by Mode

Mode	1993	1997
Truck	65.9	69.4
Rail	15.9	14.0
Water	5.2	5.1
Air	-	-
Pipeline	5.0	5.6
Intermodal	2.3	2.0
Unknown mode	5.6	3.9

Sources: Bureau of Transportation Statistics, 1997 CFS, CUED

The third set of data compiled in the Commodity Flow Studies gauges the distances covered by products shipped via each mode of transportation. The measurement unit utilized in this portion of the survey is ton-miles, defined as the weight times the mileage for a shipment. In 1997, the ton-miles for trucking and rail transport were approximately equal, constituting 38.5% and 38.4% of the total respectively. Since railroads only transported about one-fifth of the tonnage that trucks moved, this statistic indicates that railroad shipments are generally longer-distance shipments than truck shipments. The full breakdown of ton-miles per mode of shipment is found in Table 10.[15]

Table 10
Percentage of Total Ton-Miles of National Shipments by Mode

Mode	1993	1997
Truck	35.9	38.5
Rail	38.9	38.4
Water	11.2	9.8
Air	.2	.2
Pipeline	-	-
Intermodal	7.9	7.7
Unknown mode	3.8	2.8

Sources: Bureau of Transportation Statistics, 1997 CFS, CUED

In addition to the data above the BTS was able to calculate the average miles per shipment for products moved via each mode of transportation. The realities uncovered by this calculation only further emphasize the importance of roads to Southwest Indiana's, or any region's, economy. In 1997 truck cargo was shipped an average distance of 142

[15] The pipeline data are not available due to the fact that they did not meet BTS standards.

miles, rail cargo 887 miles, shallow draft (mostly river) cargo 253 miles, Great Lakes cargo 386 miles, deep draft (open ocean) cargo 1,329 miles, air cargo 1,300 miles, and U.S. Postal Service or courier cargo 813 miles. It can be gleaned from this data that trucks are the primary method of moving products short distances. This seems quite understandable since large portions of the United States in general, and of Southwest Indiana specifically, are linked to the national transportation infrastructure only through road networks. Indeed, 44.8% of truck freight by value and 79.0% by weight travels less than 100 miles. In comparison, only 11.5% of rail freight by value and 25.4% by weight travels less than 100 miles.

Bureau of Transportation Statistics Commodity Flow Study data for 1997 for the State of Indiana contain trends very much similar to those observed at the national level. The primacy of roadways and trucking is again affirmed. As can be seen in Table 11, 76.5% of Indiana shipments by value and 74.4% by ton traversed the state's roadways. 51.3% of ton-miles were truck miles. When trucking's contribution to intermodal transport is considered, it is seen that 86.9% of shipments in terms of value were carried at least partially by truck.

Table 11
Percentage of Total 1997 Indiana Shipments in Terms of Value, Tons, and Ton-miles by Mode of Transportation

Mode	Value	Tons	Ton-miles
Truck	76.5	74.4	51.3
Rail	5.6	17.6	33.0
Water	0.6	2.4	5.7
Air	1.4	-	0.2
Pipeline	0.5	1.4	-
Intermodal	10.7	2.2	6.9
Unknown mode	4.7	2.0	2.5

Sources: Bureau of Transportation Statistics, 1997 CFS, CUED

A BTS data comparison of Indiana truck traffic with truck traffic in other states points out the relative importance of Indiana roads to those in other states. The U.S. Department of Transportation reported in 1998 that for the calendar year 1993 only 5 states's road systems carried more ton-miles of traffic than that of Indiana. California and Texas supported the most trucking, followed by Ohio, Illinois, Pennsylvania, and Indiana. This significant truck traffic has been critical to the state's economic strength and economic development potential.

2. Logistics Trends

A number of recent trends in logistics practices have had the effect of reinforcing the contributions of highways and other roads to the functioning of the national economy. The traditional reliance upon trucking for quick and reliable movement of products has been

reaffirmed and expanded in recent years for several reasons.

A. Customer Expectations

Throughout the 1990s and into the year 2000, the concept of just-in-time delivery has been rapidly gaining favor in businesses spanning the range of industrial sectors. Sparked by desires to decrease inventory costs and enabled by advances in information technology, manufacturers, wholesalers, and retailers have come to rely upon frequent smaller shipments rather than less frequent larger shipments. The National Governor's Association and the American Association of State Highway and Transportation Officials estimate that 50% of U.S. production was dependent upon just-in-time shipping by the end of the 1990s.[16] Such demands for quick delivery can most adequately be met by trucking activities. The journal *Area Development* has documented a trend wherein customers increasingly *expect* even last-minute orders to be handled without pause.[17] Trucking and truck-air multimodal combinations (depending upon distance) are the transportation modes best equipped to deal with such rapid response product shipments.

B. Developments in Warehousing

The ascendance of just-in-time delivery and other related developments have forced many companies nationwide to reevaluate whether or not traditional warehousing operations will continue to be effective in the long term. Warehouses are gravitating away from being purely storage facilities and evolving into flow-through facilities. The result is that many companies' inventories are 'stored' on the nation's roadways, in the containers of moving trucks. It has been stated that "one of the most notable changes in warehousing today is the rapid movement of inventory as a way to reduce the high cost of maintaining it."[18] Companies are confident in their ability to track inventory as it travels due to technological advances such as electronic data interchange. They have tended to move away from stockpiling extra products as a precautionary measure.[19]

As the role of warehouses has changed, many companies have found it cost-effective to

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[16] See *Transportation and the Economy: National and State Perspectives* American Association of State Highway and Transportation Officials, May 1998, Pg. 13

[17] See Poitevint, David "Information Systems Alter Logistics Site Selection" *Area Development* August 1999

[18] From Weiskott, Maria N. "Warehouse Evolution: High-Tech Developments Get Industry Cooking" *Plants Sites & Parks* Feb/Mar 2000

[19] See Poitevint, David

consolidate several warehouses within a region into one large regional center.[20] These logistical centers are located where companies feel the transportation infrastructure will allow the quickest service to the largest percentage of their customers. Areas that attract logistics operations that are also hoping to attract additional industries may have a competitive advantage in that "the best places for logistics are also often the best places for companion manufacturing operations."[21] Good roadways are a critical determinant of an area's logistical strength.

C. Size of Shipments

The primacy of trucking has been enhanced by the downward trend in shipment sizes. Simply, small shipments are much more likely to travel at least a portion of their distance by truck than are large, bulky shipments. It is now common for shippers to send shipments that fill only a portion of a truck. Recent expansion in the number of time-sensitive shipping services offered by "less-than-truckload carriers" such as Roadway Express, Consolidated Freightways, Yellow Freight System, and ABF Freight System acknowledge this trend.[22]

Along with just-in-time manufacturing, wholesaling, and retailing trends, e-commerce has helped to expand reliance upon trucking and road systems. Through e-commerce, companies are able to sell their products to customers all over the U.S. and throughout the world. A logistical problem arises from this business opportunity, however, as companies need to find a means of delivering products to these diverse locations in a timely manner. As a solution to this dilemma, companies have come to rely upon parcel carriers, the U.S. Postal Service, and other couriers when making relatively small shipments. Commodity Flow Survey evidence from 1993 and 1997 shows the rising stake of Fed Ex, UPS, the USPS, Airborne Express, and other parcel shippers or couriers in the national economy. These intermodal operations carried 9.6% of the total value of shipments in 1993 and 12.3% by 1997. The advent of e-commerce has only served to enhance this trend. Trucking is critical to all of these parcel, postal, and courier services.

D. Intermodalism

The operations of couriers and parcel carriers are necessarily intermodal in nature. As discussed in Chapter 2, intermodal capabilities are being developed in states and regions nationwide to strengthen logistical networks. Since they feed into railroad facilities, ports, cargo airports, and other product-transfer terminals, roads underlie intermodalism and the economic development opportunities it provides to a region. The 25 counties of Southwest Indiana either contain or are

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[20] See Weiskott "Warehouse Evolution"

[21] From "On the Move" *Business Facilities* February 1998

[22] See Weiskott, Maria N. "Logical Logistics: Market Access Critical to Location Decisions" *Plants Sites & Parks* Dec 1999/Jan 2000

located near important intermodal hubs. Evansville's intermodal terminal has already been mentioned. Louisville, Kentucky is home to the world's 10th largest cargo airport.[23] Fed Ex's 2nd largest package sorting hub and the Postal Service's largest air sorting hub, covering 33 states, are in Indianapolis.[24] Through their collective road system, all of the 25 Southwest Indiana counties can access the current and future business opportunities offered by these facilities.

3. Economic Concerns and Southwest Indiana Roadways

Those interviewed during the CUED expert panel's site visit voiced a number of concerns regarding the road system in the Southwest Indiana region. These concerns were largely economic or safety-related.

A. Trucks Along Rural Roads

Southwest Indiana stakeholders report that truck drivers traveling within and through the 25 county area experience difficulties in navigating the region's rural roads. Resident concerns included the safety of truck drivers and those with whom they share the road, the fear of geographic isolation due to inadequate roadways, and the movement of dangerous products and commodities.

Representatives of trucking companies, cities, farms, citizens' groups, and other entities were united in their consternation regarding the safety of roads in many portions of the study area, particularly in rural sectors. A sampling of the concerns raised by interviewees illustrates this point. Councilman Garry Hall of Vincennes stated that about 30 people have been killed in eight years on the US 41 bypass around that city. Mayor Tom Baumert of Washington cited the dangers that coal trucks experience in travel along winding portions of State Routes 57 and 67. Dick Wheatfill, the President of RBW Transportation, a trucking company which operates in 23 states, expressed concerns about the weights of many shipments hauled through Southwest Indiana and other portions of the country. As states have permitted heavier and heavier loads per truck, safe operation of semi-trucks has become more and more difficult, especially on winding, narrow rural roads. Dave Cox, of the Daviess County Growth Council, felt citizens would be alarmed if they were aware of the types of materials passing through their region en route to and from the Crane Surface Warfare Center. Sandra Tokarsky, of the group Citizens for Appropriate Rural Roads, reiterated the point that the lack of shoulders, passing lanes, and turning lanes and the presence of difficult-to-maneuver curves make many of Southwest Indiana's roads treacherous for truck drivers and others utilizing the same routes.

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[23] See Heath, Tracy "Airport Infrastructure: Sending Cargo Hubs to New Heights" *Site Selection* September 1999

[24] See Welch, Mary "Medium-Hub Airports: Making a Big Business Connection" *Site Selection* March 1999

Such concerns related to the adequacy of *many* rural roads in Southwest Indiana feed regional economic concerns. Trucks come from and are destined for countless businesses operations spread all across Southwest Indiana's landscape. Several examples gleaned from CUED's interviews support this contention. Sue Webster estimates that over 8,000 trucks per year service the Crane Surface Warfare Center, and these trucks have myriad origins and destinations and use many different routes in accessing Crane. Dave Cox indicated that the Grain Processing Corporation (GPC) and Purdue plants in Daviess County both depend to a large extent upon truck shipments from Southwest Indiana counties. A total of about 60 truck loads of products such as corn are purchased by GPC each day. Meanwhile, the birds processed at the Purdue plant are shipped to Purdue from within a 60 mile radius. Numerous rural roads within that circumference are thus important factors in Purdue's business operations. Therefore, *truck traffic must be safely conveyed along numerous rural roads* servicing cities, towns, mines, farms and other economic generators throughout the 25 counties.

B. Shipment Time

Due to factors such as the lack of turning or passing lanes and the presence of railroad crossings and stop-lighted intersections on many important roads, the travel time of shipments is considered by some Southwest Indiana representatives to be inefficient. Not only shipments, but also business travellers, are encumbered by these realities. Projects such as the recently approved construction of a bypass connecting I-70 and US 41 to the Southeast of Terre Haute have begun to address such concerns, but many concerns remain unaddressed. Should recent just-in-time trends (see above) continue, speed and timing issues will continue to arise in economic and transportation discussions.

C. Loss of Prospects

The perception that certain economic opportunities have been lost due to a specific lack of interstates or limited-access, interstate-quality highways exists among some Southwest Indiana representatives. Even in counties already served by either I-64 or I-70, the lack of a nearby North-South interstate is perceived by some as problematic to attracting new businesses or the expansion of current businesses. Tom Baumert, for example, related an anecdote about how Washington lost a prospective wire plant to the I-65 corridor when the company's officials flew over the area in a helicopter on the day meetings in the city were scheduled. They failed to even land when they observed the limited road system available in Washington. Troy Woodruff indicated that when companies look at a map during the site selection process, Vincennes is eliminated from contention because US 41 does not seem like a highway to them.

CUED also witnessed a very different perception from another group of representatives. These individuals point out that while Southwest Indiana's road system may need some work, another interstate is not necessary. They maintain that there would be economic decay in specific localities if an interstate is constructed elsewhere. Furthermore, many believed that a new

interstate is unlikely to have much of an effect other than simply maintaining current levels of economic activity.

4. Adequate Roads and Economic Development

Although roadways play a key role in a regional economy such as that of Southwest Indiana, roadways are *one factor among many* affecting economic dynamics. Even a road system far superior to that of other regions cannot assure one region's economic ascendancy. Economic development proceeds through a combination of factors carefully orchestrated to suit a particular locality or region's strengths, weaknesses, opportunities, and threats. Adequate economic development in certain communities may be defined differently. A community may desire no economic growth at all, or growth in small increments, whereby issues of how roadways can support growth may receive limited attention. Furthermore, there are no guarantees as to the type of development a well-functioning system of roadways may attract. CUED explores these issues in the following sections.

B. Site Selection and Highway Access

Economic development, especially large-scale economic development, is inherently linked to the process associated with site selection. Broadly defined, site selection is the process whereby a new or existing business decides upon a location to start, expand, or relocate a facility. Each company establishes criteria unique to its purpose and goals in evaluating the attractiveness of potential sites. Often, however, such criteria are similar for companies located within the same industry type. Upon conducting research on trends in site selection across a range of industries, CUED concludes that access to an interstate or other highway is a factor that communities use to market themselves, as many companies consider such highway availability important. Surveys, trends, and anecdotal evidence lend support to this assertion. However, at the same time, the contention that four-lane highways are not necessary for economic advancement in regions such as Southwest Indiana can be sustained.

1. Site Selection Surveys, 1997-1999

Every year since 1986, the site selection journal *Area Development* has conducted a survey of its subscribers in an effort to gauge which factors company decision makers generally consider most imperative in deciding upon a new facility's location. Highway accessibility has ranked highly in all fourteen years of the survey.[25] Appendix B contains a brief outline of the methodology used in these surveys.

[25] See Gambale, Geraldine "Charting Industry's Priorities & Plans" *Area Development* November 1999

The 1997, 1998, and 1999 *Area Development* surveys show that highway accessibility is widely considered to be a very important or important site selection criterion. The factor was ranked either first or second out of the 23 factors considered in each of the three years. Tables 12, 13, and 14 present the top ten ranked factors for each year, with the combined percentages for 'important' and 'very important' responses.

Table 12
1997 Site Selection Rankings

Factor	Percent
1. Labor Costs	92.7
2. Highway Accessibility	*90.7*
3. Occupancy or Construction Costs	85.5
4. Available Skilled Labor	84.4
5. Telecom Services	83.5
6. Availability of Land	82.0
7. Cost of Land	80.6
8. Energy Availability And Costs	80.5
9. Nearness to Major Markets	78.7
10. State/Local Incentives	77.8

Source: *Area Development*, CUED

Table 13
1998 Site Selection Rankings

Factor	Percent
1. Highway Accessibility	*91.5*
2. Available Skilled Labor	88.0
3. Occupancy or Construction Costs	85.7
4. Labor Costs	84.8
5. Telecom Services	82.0
6. Availability of Land	81.1
7. State/Local Incentives	80.9
8. Energy Availability And Costs	78.9
9. Environmental Regulations	78.6
10. Tax Exemptions	77.9

Source: *Area Development*, CUED

Table 14
1999 Site Selection Rankings

Factor	Percent	Factor	Percent
1. Available Skilled Labor	95.8	6. Tax Exemptions	85.9
2. *Highway Accessibility*	94.6	7. Energy Availability And Costs	85.2
3. Labor Costs	93.8	8. Telecom Services	85.1
4. State/Local Incentives	90.3	9. Availability of Land	85.0
5. Occupancy or Construction Costs	87.5	10. Cost of Land	80.9

Source: *Area Development*, CUED

When only the 'very important' responses are studied, highway accessibility ranks first all three years. In 1997, 52.1% of respondents considered highway accessibility very important. The next highest percentage of very important responses was for availability of skilled labor, at 48.6%. In 1998, the gap between these top two very important factors widened, with 58.9% and 47.3% of

respondents assigning the highest level of importance to highway accessibility and availability of skilled labor respectively.[26] Again in 1999, highway accessibility (59.4%) topped available skilled labor (54.9%) in the 'very important' category. Such survey data provide the first pieces of evidence that areas with interstates or other highways may have an advantage over regions without such access in the site selection decisions of many companies nationwide.

2. Site Selection Trends and Anecdotal Evidence

In addition to the rankings above, the importance of highway accessibility to site selection professionals is regularly reported in the journals of the trade. These reports have contained both general trends and specific interviews or discussions with those involved in the location decisions of companies that have recently opened new facilities.

A. Trends in Highway Importance

Much has already been stated in previous sections regarding the growing importance of logistics in an economy increasingly reliant upon quick and accurate turnaround time between the placement of an order and the delivery of products. Site selectors are markedly aware of transportation's importance to the success of many, diverse businesses. *Area Development* has observed that "site-specific qualities like transportation flexibility and a high-quality transportation infrastructure are more important than ever to...site selection professionals."[27] An article in *Plants Sites & Parks* went ever further in emphasizing transport's role in site selection, stating that "logistics is a critical consideration because market access has become the most important factor in choosing a site, even ahead of labor availability."[28] Market access is largely dependent upon highways and other roads.

B. Representative Reports

Many companies have chosen to locate in small towns and rural areas similar to those in Southwest Indiana. Company representatives often cite highway access as one of the main concerns influencing their choices, though for some such access is not a determining factor in decisions. For example, Jeffrey A. Smith, a senior manager at Honda, when asked what factors made the new $400 million plant site in Lincoln, Alabama attractive replied "The infrastructure of Alabama was important to our decision-making. The site provides good ground and rail

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[26] See "1998 Annual Corporate Opinion Survey" *Area Development* December 1998

[27] From Poitevint, David, pp. 28

[28] From Weiskott, Maria N. "Logical Logistics: Market Access Critical..."

access...[and] is also within one mile of Interstate 20, with interchanges already in place."[29] R. David Alexander Jr., a Senior VP of Family Dollar, which is opening a distribution center in a Kentucky regional business park operated by the four rural counties of Menifee, Morgan, Rowan, and Carter, lauded the site's "outstanding access to major interstate highways, which will be utilized to speed deliveries of merchandise to...stores."[30] Meanwhile, Mark Weyhrich, President of Tube Specialties Co., which recently opened a facility in Statesville, North Carolina stated quite clearly "We like the location of Statesville due to the proximity of I-77, I-85, and I-40."[31] Though anecdotal, these statements confirm the importance of highway accessability in some site selection decisions.

3. Business Facilities, Small Towns, and Highways

In March 2000, *Site Selection* magazine published a list entitled "America's Top 100 Small Towns for Corporate Facilities". The intention of the list was to identify the cities and towns outside of metro areas which attracted the largest numbers of new and expanded business facilities between 1989 and February 2000. Those communities that made the list exhibited numbers of new plant openings ranging from 22 to 104. The source used for the facility numbers was the New Plant Database compiled by Conway Data. This database is based on company announcements, surveys of development agencies, 1,750 daily newspapers, 5,500 weekly newspapers, 300 magazines, and electronic information services, including the internet. A new facility or expansion is included in the database if it employs at least 50 people, covers at least 20,000 square feet, or costs at least $1 million.[32]

CUED has utilized this Top 100 list as a starting point for further analysis. Undoubtedly, the facilities encompassed by the Top 100 list were located in the particular towns for a wide variety of reasons. To assess the importance of interstates and other highways to business attraction, expansion, and retention efforts, CUED reviewed the list of 102 towns to see what types of road systems serviced each. *CUED does not show why facilities opened where they did via this analysis. Rather, it simply wishes to show what types of road systems are available to the towns that have been home to the significant growth documented by Conway Data.* Southwest Indiana localities that determine for themselves that such significant facility and job growth is desirable may benefit from this analysis most.

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[29] From "The Inside Story: How Honda Chose Alabama" *Site Selection* January 2000

[30] From Heath, Tracy "Small Towns Come on Big for Business Locations" *Site Selection* March 2000

[31] From Heath, Tracy "Small Towns..."

[32] See Conway Data's website at www.conway.com/cdi

CUED proceeded to explore whether or not each town in the list was served by U.S. interstates, other limited-access highways (including toll roads), or other 4-lane divided highways. CUED used the individual state maps present in the 1999 edition of Rand McNally's *Business Traveler's Road Atlas* to make these observations. This information was compiled in a spreadsheet which is available in its full form in Appendix C. Several interesting points regarding road systems in the 102 towns emerged from this process.

First, 44 of the 102 towns were directly accessible via one or more United States interstates. More strikingly, of the top 21 towns (those with 38 or more new plants since 1989), 15 were located along interstates. Two additional towns from among the top 21, Sanford, North Carolina, and Marion, OH were not along interstates, but were serviced by other limited-access highways. Therefore, a total of 17 out of 21, or approximately 81% of the top small towns for new corporate facilities could directly access limited-access highways. Altogether, 58 of the 102 towns were along *either* an interstate or another limited-access highway.

Second, while there is no limited-access highway service to 44 of the 102 towns, other high quality roads, capable of carrying truck traffic, are available to many of them. Thirty of these 44 towns have at least one state or county four-lane highway at their disposal. Therefore, only 14 of the total 102 small towns on *Site Selection*'s list are not located next to at least a four-lane highway of some kind.

Third, more than half (24) of the 44 towns lacking a limited-access highway, are nonetheless located within 20 miles of such a facility. Table 15 enumerates the number of towns from this group of 44 by distance from the closest interstate.

Table 15
44 Towns Not Along Limited-Access Highways

Distance to Limited-Access	Number of Towns
6-10 miles	13
11-15 miles	6
16-20 miles	5
21-25 miles	4
26-35 miles	7
36+ miles	9

Source: CUED

Fourth, of the 14 towns not served directly by a four-lane highway, four are within ten miles of a limited-access road, four are between 11 and 15 miles away, and two are between 16 and 20 miles away. Four of the communities are more than 25 miles from an interstate. Of these, 50th ranked Albermarle, North Carolina seems strategically located in the triangle formed by I-85, I-73/74, and US 74. Meanwhile, Traverse City, Michigan, tied for 8th with 55 new facilities, functions as a Lake Michigan Port, which may contribute to much of its growth.

These four points provide an interesting glimpse as to the advantages an interstate, limited-access highway, or other four-lane divided road *may* provide to a small town seeking to attract

significant numbers of new facilities. Judging by the fact that 88 out of 102 of the small towns most successful at attracting new facilities have direct access to at least a four-lane thoroughfare of some kind, it could be inferred that most communities wishing to experience high growth need four-lane access. Since the site selection criteria utilized by the companies that relocated in these 102 towns cannot be known, it cannot be said for certain that these companies attributed a high value to highway access in their location decisions. Still, the majority of the most rapidly growing towns possess direct highway access and highway accessibility is ranked 1st or 2nd in importance in the site selection surveys. *Based on these occurrences, rural and small town regions wishing to experience rapid growth are much more likely to succeed if they have four-lane highway access.*

4. Highway Importance by Industry

As stated previously, each expanding or relocating company independently formulates a set of site selection factors suited to its own specific situation. Nonetheless, trends do emerge as to the primary factors for companies in the same or similar industries. The following two tables summarize the issues most commonly affecting location decisions for twelve different types of industries or operations according to site selection journals.[33] Table 16 includes those for which transportation infrastructure issues were denoted. Table 17, on the other hand, presents the industries where transportation issues were apparently not the paramount concerns in general.

[33] The information in Tables 16 and 17 is drawn from a variety of articles. As it would be cumbersome to list all of the sources as footnotes in this part of the report, the sources are instead listed in Appendix D. The number proceeding each industry type corresponds to the source listing of that number in Appendix D.

Table 16
Site Selection Factors for Specific Industries (A)

Highway or Transportation Factors Cited:		
	Common Site Selection Factors	
Type of Industry	**Most Important**	**Others Considered**
1. Auto/Auto Supply	Nearness to suppliers, transportation infrastructure, available labor, workforce training, community support	Weather, seismology, region of the country
2. Biotechnology	Free-flowing capital, great university/private sector linkages	Tax incentives, highly-skilled workforce, abundant R&D activity and access to research, cooperation/critical mass among other biotech firms, good infrastructure (transportation, industrial parks, agricultural land), quality of life amenities, good climate
3. Distribution	Proximity to manufacturing sites, suppliers, and customers, price of reaching customers	Tax issues, workforce, good selection of transport providers, real estate, weather, transport infrastructure
4. Metalworking	Favorable utility costs, available skilled workers, solid access to market	
5. Plastics (Raw Materials Manuf.)	Closeness to source of natural raw materials and suppliers (for example, oil refineries), transportation (ports, RR, interstates)	

Table 17
Site Selection Factors for Specific Industries (B)

Highway or Transportation Factors Not Cited:		
	Common Site Selection Factors	
Type of Industry	**Most Important**	**Others Considered**
1. Back Office	Technology and telecommunications links in place, labor availability, good land prices, low labor costs	Presence of university/college for part-time workers
2. Call Centers	Labor availability, operating costs	Available buildings, telecommunications infrastructure, regulatory environment, support infrastructure, market coverage
3. Food Processing	Skilled workers for automated plants, low utility costs	
4. Headquarters	Space, labor (executive, professional, administrative), operating costs (taxes, real estate, cost of business)	Accessibility, particularly by air, incentives, quality of life (cost of living, schools, cultural, recreational, weather)
5. High Technology	Presence of other high tech firms in region (for labor reasons), world-class research university	Tax structure, incentives, utility rates, available capital, available buildings
6. Pharmaceuticals	Research university, trained and available workforce, favorable state business climate, quality of life	Entrepreneurial community of biotech firms, contract research organizations nearby
7. Plastics (Molding)	Near primary customers (to the extent they would follow relocation), skilled labor pool	Cost of general operations, utilities, environmental regulations

The information contained in the tables above could challenge the assertion that highway access is absolutely critical if a region is to experience development. If the other crucial factors a firm in the plastic molding, high tech, or pharmaceutical sector desires are present in an area without direct highway access, that area may still be chosen for a new facility. Focused campaigns by local communities and regional organizations could very well lure and have lured companies to Southwest Indiana regions when no benefit of highway access is available to be packaged with a locality's other strengths. *However, efforts at attracting auto industry or distribution firms, for example, may well prove difficult for communities that cannot offer access to a 4-lane divided road of some kind.*

5. Economic Development Without Four-Lane Highway Facilities

Undoubtedly, the range of economic development opportunities available for a community or region with an interstate or other four-lane highway is wider than the opportunity range of a community or region without such a road. Simply, site selectors in certain industries and particular companies decide that highway access is critical to the functioning of their businesses. However, information such as that in Table 17 suggests a fundamental point: *The absence of a highway by no means precludes economic development. Conversely, the presence of a highway by no means guarantees economic development.*

The small towns and rural counties of Southwest Indiana, and areas like them nationwide, can and do pursue and attain economic development despite sole reliance upon two- and possibly four-lane county and state routes. Such rural areas are not without marketable benefits. Cost savings on land, labor, taxes, and water, sewer, and electric services, for example, are evident in many small towns and rural counties. Dennis Donovan, senior managing director of the Wadley-Donovan Group Ltd., maintains that "Some of the disadvantages [of small towns and rural areas]-more removed from support services, a little bit of extra shipping time to a customer, possibly higher transportation costs-are more than offset by the high quality of workforce available, and usually very moderate cost levels."[34]

A well integrated network of highways can make two-lane served small communities viable for higher levels of economic development. Data from the State of Wisconsin suggests that small communities along *quality* two-lane state and county roads, which are well incorporated into a network of interstates and other four-lane highways, are considered perfectly viable locations for a variety of businesses, including manufacturers. Introduced in 1988, the Wisconsin Corridors 2020 road improvement plan aims at connecting all of the state's communities with over 5,000 people via a network of two- and four-lane state highways by the year 2020. This planned 3,650-mile road system, which incorporates existing US interstates and some state routes, will include

[34] From Hedgcoth, Rachael "Small Towns Offer Pro-Business Surprise" *Expansion Management* January 1999

1,550 miles of multilane divided highways and 2,100 miles of high quality two- and four-lane connectors when completed.[35] Approximately 40% of connector roads will be four-lane, non-divided facilities. The connector routes are to have appropriate widths, shoulders, passing, turning, and hill-climbing lanes.[36] Eight years after Corridors 2020 was announced, in 1996, it was observed that 86% of manufacturing jobs and 77% of manufacturing firms were located within five miles of a Corridors 2020 route. Of the 1,912 new and expanding facilities in Wisconsin between 1990 and 1996, 87% were within five miles of a Corridors road.[37] Many small communities along the 1,260 miles of two-lane current and projected connector routes have shared in this economic expansion.

Hauser Air Corporation representative Stewart Hauser stated that "there are very few places that are too remote or isolated for distribution by truck...[because] truckers tend to follow large shippers."[38] This contention seems validated by the experience of Wisconsin and all of the small towns and regions in Southwest Indiana and elsewhere that have landed new companies or expansions. Poor quality roads are likely to deter many or most companies considering locating in a particular community. However, one quality road (be it a two-lane road, four-lane undivided road, four-lane divided route, limited-access highway, or interstate) that is a link in a system of quality roads can make a locality or region more attractive to site selectors. Though companies' future location decisions cannot and should not be predicted, past experience indicates that any quality road has the potential to support or possibly encourage economic development.

It should be clarified, however, that *economic development in rural areas served directly by high-quality four-lane highways does have potential to proceed on a different, and larger scale than does development in rural areas that are more isolated from highway systems*. Highways can peak the interest of site selectors in many industries. Still, individual rural communities and regions may want only a moderate level of growth. For such areas, four-lane highway access is not critical. In contrast, others may seek more rapid growth and still others desperately need to reverse a declining economy. Each rural community's road transportation and related economic development needs are as unique as each community's current economic situation and growth

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[35] See "Corridors 2020-Review and Update" June 1994, pg.3 at www.bts.gov/smart/cat/transl.html

[36] See "Corridors 2020" pg. 5

[37] See *Transportation and the Economy: National and State Perspectives* American Association of State Highway and Transportation Officials, May 1998, Pg. 19

[38] See Weiskott, Maria N. "Logical Logistics: Market Access Critical to Location Decisions" *Plants Sites & Parks* December 1999/January 2000

aspirations.[39]

C. Crane as an Economic Development Generator

The roughly 100-square mile (62,000+ acre) Crane Division Naval Surface Warfare Center in Martin County is one of the most significant economic development assets in Southwest Indiana. Centrally-located, the economic benefits of Crane already radiate outward from Martin County to reach many of the counties in the study area. Still, the opportunities for industrial, high-tech, and other development related to Crane remain largely untapped. Nationwide, many regions have recognized and pursued opportunities associated with nearby military research, engineering, and industrial facilities.

1. Crane Facilities and Programs

The Crane Surface Warfare Center exists to conduct and apply research in diverse and highly-technical product areas for the United States Navy. The Crane campus contains research, testing, and production facilities related to this wide range of product lines. Crane's areas of specialization and high-tech expertise include:

Electro-Chemical Power Systems,
Electronic Displays and Peripherals,
Acoustic Sensors,
Microelectronics,
Computers and Processors,
Chemical-Biological Warfare Detection Systems,
Physical Security Systems,
Small Arms,
Pyrotechnics,
Ground and Surface Ordnance,
Electronic Countermeasures and Surveillance Systems,
Night Vision/Electro-Optics,
Microwave Components,
Radar,
Mine Countermeasures, and
Certain Environmental Technologies

In all of these areas, Crane maintains a focus on "the management and application of commercial

[39] These issues highlight the importance of strategic community planning when it comes to economic and infrastructure development. For further discussion of strategic planning see Section D of this chapter.

technologies."[40] This focus on utilizing commercial technologies indicates that Crane should be and is interested in encouraging mutual exchange with the private sector, as well as academia.

Crane representatives have been very active in attempting to formulate various types of partnerships with private companies and academic researchers. Sue Webster explains that Crane is even exploring the possibilities of locating private industries on its own grounds. While military and governmental red tape have slowed these attempts, Crane maintains a desire to see industrial or high-tech development nearby, perhaps just beyond its borders. The presence of the engineering firms EG&G and Comarco Systems (which was recently purchased by SIAC) in nearby Bloomfield is evidence of this spin-off potential. Crane's willingness to work cooperatively with the private sector is a strong selling point for the entire Southwest Indiana region.

Crane's dedication to technology transfer and partnerships for technological advancement has been manifested in several ways. First, Crane participates in forums such as Access Technology Across Indiana (ATAIN), Dean's Industrial Advisory Council (DIAC), the Indiana Electronics Manufacturers Association (IEMA), the Indiana Environmental Extension Network (IEEN) and the Institute for Forensic Imaging (IFI). Second, the Department of Defense has authorized Crane to share knowledge and its facilities with private businesses through Cooperative Research and Development Agreements and Memorandums of Understanding and Agreement. As of April 2000, Crane has been teaming with TASC, EG&G, Betc/Advance Tek, IPC, CINergy, and Mid America Plastic Partners. Third, Crane shares facilities and expertise with researchers and students through various Education Agreements with Indiana University, Purdue University, Ball State, the Rose-Hulman Institute of Technology, Vincennes University, and Ivy Tech.

2. Governmental Facilities and Private Sector Spinoffs

The contention that Crane's presence has the potential to spark significant private sector development is bolstered by the experiences of other regions with similar assets. This section quickly explores four such cases of private sector 'spinoff' developments.

A. Oak Ridge National Laboratory

The very city of Oak Ridge, in eastern Tennessee, can correctly be characterized as a spinoff of the U.S. Department of Energy's Oak Ridge National Laboratory. Prior to 1942, Oak Ridge did not exist. In that year, the federal government chose to construct three large plants and accompanying housing at the site that became the city of Oak Ridge. The famous "Manhattan Project", which built the first atomic bomb, was housed at these plants, one of which is now

[40] This quotation and other Crane information are mostly drawn from a report entitled "Keeping America's Navy #1 in the World" published in April 2000 by Crane and provided to CUED at the site visit by Sue Webster, Crane's representative.

referred to as the Oak Ridge National Laboratory (ORNL).

Capitalizing on the dense community of scientists, engineers, and researchers at ORNL, many private high technology companies have taken root in Oak Ridge since the 1960s. The energy, nuclear, medical, and environmental research currently conducted at Oak Ridge continues to attract scientifically and technically talented individuals to the area. Companies interested in applying or furthering this research have taken advantage of the skilled labor force of Oak Ridge.

B. The Nevada Test Site

The Nevada Test Site (NTS) is a 1,350-square mile secured U.S. government facility in the desert of southern Nevada, north of Las Vegas. Between 1951 and 1992, the site was utilized for testing of nuclear weapons. Currently under the authority of the Department of Energy (DOE), the NTS hosts programs such as hazardous spill testing, conventional weapons testing, emergency response training, and waste management and environmental technology studies, in addition to other government research programs.[41]

Table 18
Nevada Test Site Private Companies

Company	Type of Operation
Fluid Tech, Inc.	Radioactive decontamination services
Kistler Aerospace Corp.	Producing reusable aerospace vehicles
NRG Technologies, Inc.	Alternative fuels, renewable energy
Nevada Carbon Corp.	High-quality carbon products
Rocky Research	Heating, cooling, thermal, refrigeration products
Cryo-Line USA	Recovering and recycling fluorocarbons
helloNetwork	Online live or recorded video
METBRO Technologies	Recycling methyl bromide

Sources: NTSDC at www.ntsdev.com, CUED

Following the moratorium on nuclear testing in 1992, the DOE-funded Nevada Test Site Development Corporation (NTSDC) has been marketing the site and its facilities to the private business community. Entrepreneurship, primarily among scientists and technicians formerly employed at the NTS, has been encouraged by NTSDC via its business incubator, the Nevada Innovations Center. A number of high-tech and scientific firms are currently operating on the grounds of the NTS, primarily at the Mercury base camp, which resembles a small town. A sampling of these companies and descriptions of their operations is found in Table 18.

C. Pinellas Plant

The potential for sparking private business near federal facilities such as Crane is underscored by

[41] See website of Department of Energy's Nevada Regional Office at www.nv.doe.gov.

the innovative experience of Pinellas County, Florida following the Department of Energy's closure of an electronic weapons plant in the town of Largo in December 1997. Working with the DOE, the Pinellas County Industrial Council was able to attract 24 businesses to the location by the end of 1999. These businesses, employing about 1,600 people, are primarily focused in the scientific, technology, and research sectors. The highly-skilled former DOE employees and high-tech DOE equipment are employed in reinventing this facility. If such a striking success is possible even after the government vacates a facility, the potential for economic development in and around an operational facility such as Crane, which can partner in research and other activities, is surely tremendous.

D. The Devens Commerce Center

Fort Devens, a former military base in northeastern Massachusetts, has experienced a boom private development while maintaining some federal and state government facilities. Reconfigured as the Devens Commerce Center, the former Fort Devens has evolved into a modern industrial and technology-intensive business park. Roughly $96.5 million in federal and state investment in a U.S. Army Reserve Enclave, Massachusetts National Guard Reserve facility, Federal Job Corp Facility, and Federal Medical Facility has been coupled with more than $89 million in private investment. Nearly 1,100 jobs were created by companies such as The Gillette Company, Ce Corr, Inc., Parker Hannifin, Netstal Machinery, Inc., Comco Graphics, Learning Express, Image Software, Xinetics, and Ellora Software, Inc.

3. Crane, Economic Development, and Transportation

The combination of cutting-edge industrial, technological, and scientific activities and the pro-active stance of the facility administration in support of private sector partnerships makes Crane a shining economic development opportunity for the whole of Southwest Indiana. Crane's skilled workforce of 3,859 includes 2,104 scientists, engineers, chemists, technicians, logistics management specialists, and other professionals drawn from nearly all of the 25 counties in the study area, and even some counties outside of Southwest Indiana. Several hundred residents each from Martin, Daviess, Lawrence, Greene, and Monroe Counties work at Crane. That high-quality workforce, according to Sue Webster is expected to grow by 150 scientists and engineers in the next two or three years.

Crane is generating economic activity despite its transportation limitations. Sue Webster indicates that roughly 8,000 trucks per year are required to navigate a series of two- and sometimes four-lane state and county roads to access Crane. Many of the trucks are hauling heavy loads, making travel on what are at times narrow and winding roads treacherous. Such access difficulties arise from the fact that Crane was initially meant to be geographically isolated due to the nature of its work and the era of its construction in the early 1940s. These transportation constraints would be exacerbated if any significant new private economic development were to occur near Crane. In the four cases outlined above, the government facility or former government facility has access to at least one four-lane divided road. Oak Ridge is

only three or four miles from I-40 and I-75. The Nevada Test Site is along US 95, which feeds into I-15 in Las Vegas. The four-lane divided facility SR 60 connects Largo, Florida to I-75 in a few miles. The Devens Commerce Center is surrounded by I-190, I-290, I-495, and SR 2. Quality road systems seem to have supported the new business locations at each of these sites.

D. Strategic Planning for Infrastructure Needs

Determining infrastructure needs for economic development is a complicated process. Different infrastructural components are required to support the activities of companies within different industrial sectors. Transportation planning, therefore, needs to take into account both the current business landscape and projections for desired or expected business growth by industry. In many respects, the difficulties of transportation planning in the Southwest Indiana region seem compounded by an uncertainty or vagueness regarding what types of economic development or growth the various communities and counties desire.

1. Need for Establishing Growth Goals

Economic development goals in Southwest Indiana often seem couched in general terms, such as wishes for more and better-paying jobs. Unfortunately, when goals are so general, attempting to outline the specific steps and methods for achieving them, such as particular infrastructure projects, is an unruly task. CUED's panel feels that local and regional economic development goals of Southwest Indiana jurisdictions should be defined more specifically. Strategic planning to guide economic development, and infrastructure projects as they relate to economic development, is needed.

CUED's interviews and research revealed a lack of specific goal-oriented economic development activity, particularly in the area of business attraction and retention, in Southwest Indiana. CUED inquiries regarding what types of industries marketing efforts hope to attract were met with responses that the localities are targeting 'anything'. Panel questions such as "How much growth do you want?", or "How many jobs are you hoping to create?" were answered unclearly. A well-orchestrated strategic planning process should generate specific answers to such questions. *With specific employment and target industry objectives, the need for transportation improvements can be better determined.* Additionally, clear strategic objectives permit communities to evaluate which economic development tools from among a wide variety of possibilities are best suited to their situations and growth needs. Job training, tax abatements, rural enterprise zones, and funding for industrial development are just a few examples of development tools. Any solid economic development strategy will coordinate a number of development tools, tailored specifically to that strategy. These various components should function together for a community to attain a specific development goal.

2. The Strategic Planning Process

Determining short- and long-term community goals is facilitated by the process of strategic planning. Through strategic planning, communities can clarify goals which are feasible, and discard those which are ideal yet impractical. Additionally, timetables and benchmarks can be established to help gauge progress towards goals and keep efforts from straying off course. In general, strategic planning is comprised of seven components including:

a) *Pre-planning*. The strategic planning process is initiated and organized, and the stakeholders to be involved (including community residents) are identified.

b) *Assessing the local economy*. The strengths, weaknesses, and opportunities of and the threats to a community are explored and analyzed.

c) *Formulating realistic goals, objectives, and strategies*. Feasible options based upon the local economic assessment are determined. These goals are to be as specific as possible and quantifiable when appropriate.

d) *Identifying, evaluating, and prioritizing projects*. Projects aimed at achieving the goals are identified.

e) *Developing plans of action*. A sequence, schedule, and timetable for project steps is formulated.

f) *Implementing plans of action*.

g) *Monitoring and evaluating outcomes*. The effectiveness of projects is evaluated and programs readjusted if they are found to be falling short of achieving set goals.[42]

3. Strategic Planning for Southwest Indiana

If implemented, local and regional strategic planning processes could inform and enhance the efficacy of current and future studies, discussions, and debates regarding transportation infrastructure and economic development. Each area's strategic plan should address the role envisioned for transportation infrastructure in supporting or directly promoting economic development goals. If a community determines infrastructural improvements to be necessary to accomplish strategic goals, the plan should enumerate specific projects, state why they are necessary, and outline how they could be implemented.

Well-developed Southwest Indiana strategic plans could translate vague goals (for example, increasing job opportunities) into specific goals with set end dates (for example, creating 200

[42] These seven steps are taken from the CUED training manual *Economic Development Planning*.

jobs in a specific industry sector in three years) when the success or failure of efforts could be evaluated. Additionally, strategic plans could channel the resources of communities away from spontaneous or reactive development pursuits (a development by any means currently available approach) to a more focused, pro-active development program. Without strategic plans, stakeholders in Southwest Indiana do not have any real means for evaluating whether or not their development programs are functioning well in general or whether their roadways and other transport links are adequate.

For example, the recent opening of the $300 million Grain Processing Corp. plant in Washington has been a significant boost to the Daviess County economy. About 400 new jobs, 200 at the plant and 200 in support services, many paying $11.50/hour, $14.50/hour, $16.50/hour and up, were created.[43] In the absence of a strategic plan, however, Washington officials are left wondering whether the food processing facility is the industry most suited to their town's strengths and needs, and to their main road US 50/150. In a sense, they cannot determine whether they should re-tune recruitment efforts, or maintain them unaltered. They are left questioning where to direct resources next.

Finally, strategic goals and performance criteria are important in motivating those responsible for business attraction and retention. CUED's expert panel perceived what may be described as reactive, defensive tendencies on the part of some of Southwest Indiana's development professionals. Understandably, though, aggressive marketing and other campaigns are difficult to maintain when the agents are unsure what they are hoping to accomplish through them. In eliminating such confusion, strategic plans should increase the likelihood of more pro-active, innovative, and aggressive activities. In infrastructure development pursuits, towns and counties will be better equipped to pitch potential projects to INDOT and others if they can show how the projects fit in to a comprehensive, long-term vision.

[43] From interviews with Washington and Daviess County officials

Chapter 4: Conclusion

The preceding discussion summarizes the major issues of concern currently faced by the regional economy of Southwest Indiana. The primary threats to and opportunities for economic development in the 25 counties are discussed in chapter 2. In chapter 3, special attention is given to the economic role of the region's road system. The key findings of CUED's regional economic analysis are as follows:

1.) <u>There are several areas of general economic concern that affect communities throughout Southwest Indiana.</u>

a.) The region faces some threats regarding future rail access for commercial and industrial customers. Whether or not economic activity along rail lines can be maintained at current levels or expanded is a significant question. The major rail-related threats for Southwest Indiana include reductions in service to smaller customers, the lack of regional bargaining power with major rail carriers, and concerns about maintenance and the overall financial viability of the remaining short lines.

b.) Workforce-related problems could restrain future economic development opportunities. Problems such as the inadequate matching of workforce skills with the skill requirements of employers can be partially addressed via closer collaboration between communities, businesses, and educational providers. Other labor force constraints such as the relatively small size of the available workforce and the loss of young, educated workers are pressing, and difficult to combat.

c.) Questions of the continuing adequacy of electricity supply constitute an economic problem. Electricity concerns alone are unlikely to constitute a sufficient reason for a company to exclude Southwest Indiana, but the region will need to fashion a means to adequately address companies' concerns should they arise.

2.) <u>There are a number of reasons why the road system should be included among Southwest Indiana's key economic concerns.</u>

a.) The region's current businesses are highly reliant upon *all components* of the road system. Dependable trucking is a major driver of Indiana's and more particularly Southwest Indiana's economy.

b.) Current national logistics trends assure that the road system will remain of high economic importance, and most likely will increase in importance. Trends supporting this assertion include:

Increasing customer expectations for quick delivery,

Businesses' growing reliance upon just-in-time distribution,
Expanding intermodalism, which involves a truck component, and
Declining shipment sizes, which leads to increasing utilization of trucking over rail or water transport.

In addition, Southwest Indiana's reliance upon trucking should increase if rail delivery becomes less dependable due to the factors discussed in Chapter 2, Section A.

c.) Business representatives report problems with the existing road system in the region. Concerns include the safety of trucks on rural roads, truck and commuter accessibility to remote areas, and extended and unreliable shipment times. These problems will constrain economic growth.

d.) Site selection surveys, trends, and anecdotal evidence indicate that sufficient highway access is a high ranking factor in many businesses' facility location decisions. The majority of the most rapidly growing small towns have access to four-lane highways of some kind. This suggests that highways are important factors in generating employment growth through business attraction, retention, and expansion. Companies in certain industries consider highway access more important than do companies in other industries.

e.) The Crane Surface Warfare Center constitutes a particularly important opportunity to spur regional economic growth. The scope of this opportunity may be restrained by road accessibility issues. Truck drivers hauling supplies to and products from Crane experience difficulty navigating narrow, winding roads. Trucks share these same roads with Crane's workers, who commute to the facility from all 25 counties in Southwest Indiana and counties outside of the region. Several other military locations that have been successful at attracting private economic development have a high level of ground access which Crane presently does not have.

3.) <u>Efforts to address the above economic concerns could benefit from regional or sub-regional cooperation/coordination and strategic planning.</u>

a.) Regional cooperation for economic development purposes has a strong foothold in Southwest Indiana. The six multi-county entities currently in place recognize the expanded economic development opportunities made possible by cross-county efforts. Several counties working together can complement each other's economic strengths, in the process making each county stronger. Including unserved counties in existing entities can help expand the effectiveness of regional collaboration. Regional cooperation allows counties to assist each other by sharing and evaluating *individual* economic development goals and visions, and developing plans for addressing topics of *mutual importance* (for example, regional transportation questions).

b.) The type of road transportation links available in part determine the amount of growth possible in a specific community. Therefore, individual communities can benefit from strategically planning both economic development and transportation needs. Diverse constituencies should be engaged in the planning process. In general, the need for transportation improvements can be better determined with specific economic development objectives such as specific employment growth targets.

Major improvements to the road system of Southwest Indiana will help attract and retain businesses and jobs. Evaluated in isolation, the potential for major road system improvements to encourage *high levels* of regional economic growth is greater than the economic development potential of nonhighway initiatives. Such nonhighway economic development initiatives include improvements to rail service, the workforce, regional cooperation, and electricity reliability.

The full economic development potential of Southwest Indiana, however, could best be tapped via a strategy that focused both on road system improvements and other complementary economic development initiatives. As stated in CUED's January 1999 report, *The Southwest Indiana Highway Project*, in order to maximize the impact of highway improvements (or improvements to other roads), additional economic development initiatives should be implemented.

Appendices

Appendix A: Key Southwest Indiana Roadways

Road	Description	Segment	Average Daily Traffic
SR 62	East-West	Border to SR 69 (increasing)	3,978-7,160
	Illinois border to	SR 69 to US 41 (rapidly increasing)	16,796-60,403
	Louisville via Evansville		
I-70	East-West	I-465 to SR 144	52,950
	Indianapolis to	US 231 to SR 243	27,030
	Terre Haute	SR 243 to SR 59	38,710
US 41	North-South	I-70 to SR 54 (Decreasing N to S)	34,026-16,560
	Terre Haute to	SR 54 to US/150 (Low in N. Knox Co.)	7,750
	Evansville	SR 64 to I-64 (increasing)	16,861-25,620
SR 37	North-South	SR 144 to SR 252 (Martinsville)	25,010-28,660
	Indianapolis to	SR 46 to SR 43/48 (within Bloomington)	34,558
	Tell City via	SR 60 to US 150 (decreasing)	10,941-8,558
	Bloomington	SR 64 to I-64 (decreasing)	2,115-1,199
SR 46	East-West	SR 67 to SR 37	15,262-28,457
	Terre Haute to Ohio	SR 37 to SR 446 (within Bloomington)	21,214
	border via Bloomington	SR 446 to SR 135	7,045-8,874
I-164	North-South	I-64 to US 41 (increasing N to S)	16,570-26,150
	I-64 to Evansville		
SR 67	North-South	I-465 to US 231 (decreasing)	27,068-4,750
	Indianapolis to	SR 54 to SR 58	2,133-3,044
	Vincennes	SR 58 to US 41 (increasing)	3,220-6,950
SR 261	North-South	I-164 to SR 61	17,552-17,997
	Evansville to Boonville		
US 231	North-South	SR 42 to Worthington	4,360-8,300
	Lafayette to	Haysville to SR 56 (Jasper)	8,350-14,890
	Owensboro, KY	I-64 to Ohio River (Owensboro)	4,429-9,957

Road	Description	Segment	Average Daily Traffic
I-64	East-West	Illinois border to US 41 (increasing)	9,710-13,040
	Louisville KY to	I-164 to SR 62 (decreasing)	16,910-11,450
	Illinois border	SR 66 to SR 135	14,450
SR 54	East-West	US 41 to SR 59	5,143-5,320
	Sullivan to Bedford	SR 59 to SR 67	8,286-15,578
SR 57	North-South	SR 54 to US 50/150	1,978-4,655
	Owen County to	US 50/150 to SR 56 (decreasing)	10,973-5,620
	Evansville	SR 56 to SR 64	5,899-6,470
SR 59	North-South	I-70 to SR 48 (decreasing)	4,621-1,222
	Brazil to Route 67	SR 48 to SR 54 (increasing)	4,632-10,808
US 50/150	East-West	Point of Joining Until US 41	6,586-9,621
	Shoals to Vincennes	Lowest at Joining/Highest at Washington	
	via Washington		

Sources: BLA, CUED

Appendix B: Survey Methodology for Site Selection Surveys

The editors of Area Development dispense the survey each year to readers in manufacturing companies in SIC codes 20-39 as well as some wholesalers, distributors, motor freight/warehousing, and business services firms.[44] One of the survey's primary goals is to accumulate a ranking of which criteria are the least and most important to the greatest number of site selection professionals.

The format considers quality-of-life factors independently of all other factors.

Presented with a list of 23 general factors and nine quality of life factors, survey respondents are asked to indicate whether each is very important, important, a minor consideration, or of no importance in a location decision. The journal then compiles the percentage returning each response for each of the 32 categories. The ranking of factors is accomplished by adding the percentages of "very important" and "important" responses, and then listing these combined ratings from largest to smallest in the general and quality-of-life categories.

Table 19
Industries of Respondent Companies

Industry	1998	1999
Food and Kindred Products	7%	5%
Textile Mill Products	-	1%
Apparel and Other Finished Products	3%	1%
Lumber and Wood Products	2%	3%
Furniture and Fixtures	2%	3%
Paper and Allied Products	-	4%
Printing, Publishing, and Allied Industries	3%	5%
Chemical and Allied Products	3%	3%
Petroleum Refining and Related Industries	-	1%
Rubber and Misc. Plastic Prodcuts	6%	7%
Stone/Clay/Glass and Concrete Products	-	2%
Primary Metal Industries	2%	4%
Fabricated Metal Products including Ordnance & Accessories	10%	14%
Machinery (Except Electrical)	4%	3%
Electrical Machinery and Electronics	6%	8%
Transportation Equipment	3%	3%
Professional, Scientific and Controlling Instruments	-	1%
Other Manufacturing Industries	18%	18%
Motor Freight/Warehousing	3%	3%
Wholesalers and Distributors	4%	8%
Business Services	10%	1%
All Other Industries	14%	3%

Sources: Area Development December 1998, Area Development November 1999, CUED

Three-hundred fifteen, 288, and 170 site selectors responded to the 1997, 1998, and 1999 surveys respectively. *Area Development* attributes the relatively low level of responses in 1999 to the fact that the survey was published one month earlier than usual that year. Though similar data is unavailable from 1997, table 19 indicates the percentage of survey respondents from each industrial category.

[44] See "1997 Annual Corporate Survey" *Area Development* December 1997

Appendix C: Interstates and Other Highways in Small Towns Experiencing Significant Increases in Business Facilities

Rank	Location (miles from nearest highway in parentheses)	Number of New Business Facilities 1989 to February 2000	Interstate	Other Limited Access Highway	Other 4-Lane Divided Highway
1	Statesville, NC	104	I-77, I-40		
2	Bowling Green, KY	93	I-65	Wm.H. Natcher Pkwy	
3	Mooresville, NC	79	I-77		
4	Findlay, OH	75	I-75		US 23
5	Sanford, NC	62		US 1	
5	Tupelo, MS	62	I-78		US 45
7	Plattsburgh, NY	59	I-87		
8	Greeneville, TN	55	I-81		SR 34
8	Traverse City, MI (35+)*	55			
10	Danville, IL	51	I-74		
10	Kinston, NC (35+)	51			US 70, SR 11
10	Wilson, NC (6-7)	51			US 264, US 301
13	Columbus, IN	47	I-65		
14	Plaquemine, LA (11-12)	46			SR 1
15	Frankfort, KY	45	I-64		US 127
16	Fremont, OH	43	I-80/90		US 20
17	Gainesville, GA	40	I-985		US 23
17	Zanesville, OH	40	I-70		
19	Sandusky, OH	39	I-90		
20	Henderson, NC	38	I-85		US 1
20	Marion, OH	38		US 23	
22	Elizabethtown, KY	37	I-65, I-64		US 31
22	Glasgow, KY	37		Cumberland Pkwy	
22	Greenwood, SC (25-30)	37			
25	Effingham, IL	36	I-57, I-70		
25	Lumberton, NC	36	I-95		
25	Roxboro, NC (28)	36			US 501
25	Sedalia, MO (18)	36			US 50, US 65
25	Selma, AL (35+)	36			US 80
25	Sidney, OH	36	I-75		

Rank	Location (miles from nearest highway in parentheses)	Number of New Business Facilities 1989 to February 2000	Interstate	Other Limited Access Highway	Other 4-Lane Divided Highway
31	New Bern, NC (36+)	35			US 70
31	Wooster, OH (20-22)	35			US 30
33	Defiance, OH (36+)	34			
33	Lancaster, SC (16-18)	34			US 521
33	Paducah, KY	34	I-24		US 45
36	Kings Mountain, NC	33	I-85		US 74
36	Orangeburg, SC (6)	33			US 301
38	Cullman, AL	32	I-65		US 31
38	Franklin, KY	32	I-65		
38	Wilmington, OH (6)	32			
41	Bardstown, KY	31	I-64		
41	Mount Vernon, OH (16-17)	31			
41	Muskogee, OK	31		Tollroad	US 62, US 69
41	Quincy, IL	31	I-172		
45	Booneville, MS (27-28)	30			US 45
45	Coldwater, MI	30	I-69		
47	Fostoria, OH (12)	29			
47	Russellville, AR	29	I-40		
47	Watertown, NY	29	I-81		
50	Albermarle, NC (26-27)	28			
50	Bellevue, OH (6)	28			US 20
50	Chillicothe, OH	28		US 35	US 23
50	Columbus, MS	28		US 82	US 45
50	Darlington, SC (7)	28			US 52
50	Jonesboro, AR (34)	28			US 63
50	Opelika, AL	28	I-85		US 280/431
57	Ashland, OH	27	I-71		
57	Eden, NC (11)	27			
57	Mount Airy, NC	27		US 52	
57	Mount Sterling, KY	27	I-64		
61	Cape Girardeau, MO	26	I-55		
61	Carson City, NV (30)	26			US 395
61	Chester, SC (6)	26			
61	Greenville, OH (18)	26			

Rank	Location (miles from nearest highway in parentheses)	Number of New Business Facilities 1989 to February 2000	Interstate	Other Limited Access Highway	Other 4-Lane Divided Highway
61	Madisonville, KY	26		Pennyrile Pkwy	
61	Marysville, OH	26		US 33	
61	Mexico, MO (12-13)	26			US 54
61	Scottsboro, AL (22)	26			US 72
69	Ames, IA	25	I-35		
69	Clinton, NC (9-10)	25			
69	Hope, AR	25	I-30		
69	Laurinburg, NC (19)	25			US 74
69	Meridian, MS	25	I-20, I-59		
69	Norwalk, OH (6)	25			US 20
69	Reidsville, NC	25		US 29	
69	Shelby, NC (6-7)	25			US 74
69	Thomasville, GA (36+)	25			US 19, US 319, US 84
69	Upper Sandusky, OH (28-30)	25			US 23
79	Brookings, SD	24	I-29		
79	Columbus, NE (36+)	24			US 81
79	Fletcher, NC	24	I-40		
79	Harrisonburg, VA	24	I-81		
79	Marion, IN (6)	24			SR 18
79	Rockingham, NC (23-24)	24			US 74, US 220
79	Vicksburg, MS	24	I-20		US 61
86	Cadillac, MI	23		US 131	
86	Corinth, MS (36+)	23			US 72, US 45
86	Decatur, AL	23	I-65, I-565		US 31, US 72
86	Greenville, NC	23		US 264	SR 11
86	Jefferson City, MO	23		US 54	US 63
86	Napoleon, OH (12-13)	23			
92	Aberdeen, SD (36+)	22			US 281, US 12
92	Cleveland, TN	22	I-75		SR 40
92	Hanford, CA (7)	22			SR 198, SR 41
92	Hattiesburg, MS	22	I-59		SR 98, SR 49
92	Lee County, MS	22		US 78	SR 45
92	London, KY	22	I-75	Daniel Boone Pkwy	
92	Morristown, TN (7)	22			SR 32, US 11

Rank	Location (miles from nearest highway in parentheses)	Number of New Business Facilities 1989 to February 2000	Interstate	Other Limited Access Highway	Other 4-Lane Divided Highway
92	North Vernon, IN (12)	22			
92	Orrville, OH (9)	22			
92	Richmond, IN	22	I-70		US 40
92	Rome, GA (24)	22			SR 53, SR 20
92	Somerset, KY	22		Cumberland Pkwy	

Sources: Conway Data's New Plant Database, Site Selection magazine, Rand McNally, and CUED
* Note that Traverse City, MI and the other 13 shaded rows are those cities without access to at least one 4-lane divided highway.

Appendix D: Sources of Information for Tables 16 and 17

Sources of Information for Table 16

1. "The Inside Story: How Honda Chose Alabama" *Site Selection* January 2000 and "Just-in-Time Manufacturing Creates New Site Selection Criteria" *Business Facilities* May 1999

2. "Where Biotechs Are Taking Root" *Area Development* May 1999. Note that 'biotech' refers to "a business that applies new scientific techniques using living cells and their molecules to develop new drugs or products."

3. Poitevint, David "Information Systems Alter Logistics Site Selection" *Area Development* August 1999

4. "Workers, Market Access Fire Metal Industry Expansions" *Expansion Management* March 1999

5. Clapp, Donna "15 States That Fit the Mold" *Business Facilities* February 1999

Sources of Information for Table 17

1. Beck, Bill "Rural Areas: The Up Front Choice for Back Offices" *Area Development* April 1998. Note that 'back office' refers to operations dealing with medical records, credit card and check processing, catalog call centers, telemarketing, handling of national and regional reservations and like operations.

2. Hamer, Thomas "Siting Call Centers in the Twenty-First Century" *Area Development* April 1998

3. Moline, Ann "Food Processing: Change on the Horizon" *Plants Sites & Parks* June/July 1999

4. Hedgcoth, Rachael "7 Key 'Insites' for Headquarters on the Move" *Expansion Management* March 1999

5. Stackhouse, Steve "High Power Strategies to Attract High-Tech Firms" *Area Development* September 1999

6. Beck, Bill "Pharmaceuticals Location: A Self-Fulfilling Prophecy" *Area Development* July 1998

7. Clapp, Donna "15 States That Fit the Mold" *Business Facilities* February 1999

Appendix E: Individuals Interviewed by CUED Panel and Staff

Site Visit, Terre Haute Chamber of Commerce, April 12, 2000:

Mr. Louis Britton
Member, Terre Haute Chamber of Commerce
Terre Haute

Mr. Pat Martin
WCIEDD
Vigo County

Mr. William Price
Alliance for Growth and Progress
Terre Haute

Mr. C. Roderick Henry
President, Terre Haute Ch. of Commerce
Terre Haute

Mr. Wim Wiewel (via conference call)
University of Illinois at Chicago
Chicago, IL

Mr. Robert Jones
Rogers Group
Bloomington

Mr. Dick Wheatfill
RBW Transportation, Inc.
Terre Haute

Mr. Bert Williams
Realtor
Terre Haute

Mr. Bill Minnis
Terre Haute Journal of Business
Terre Haute

Mr. David Zaun
Indiana State University
Terre Haute

Mr. Wayne Hutson
Union Hospital
Terre Haute

Mr. Sandy Ewing
Environmental Law and Policy Center
Chicago, IL

Ms. Sandra Tokarsky
Citizens for Appropriate Rural Roads
Stanford

Mr. Andy Knott
Hoosier Environmental Council
Indianapolis

Site Visit, Washington/Daviess County Chamber of Commerce, April 13, 2000:

Mr. Bob Barron
Daviess/Martin County REMC
Daviess and Martin Counties

Ms. Sue Webster
Crane Surface Warfare Center
Crane

Mr. Troy Woodruff
Vincennes/Knox County Chamber of Commerce
Vincennes

Mr. John Blair
Valley Watch
Evansville

Mr. Ron Arnold
Washington/Daviess County Ch. of Commerce
Washington

Mr. Tom Boyd
Boyd Grain
Daviess County

Ms. Helen Hauke
Princeton Chamber of Commerce
Princeton

Mr. Jim Gillooly
Colbert Farms
Daviess County

Mr. Dave Cox
Daviess County Growth Council
Daviess County

Ms. Dorrie LoBue
Evansville Chamber of Commerce
Evansville

Mr. Greg Wathen
Perry County Development Corporation
Tell City

Mr. Tom Baumert
Mayor
Washington

Mr. Garry Hall
Vincennes City Council
Vincennes

Mr. John Williams
Mayor
Bedford

Telephone Discussions after Site Visit:

Mr. Tom Beck
INDOT Rail Section
Indianapolis

Mr. John Moon
Norfolk Southern, Strategic Planning Sect.
Norfolk, VA

Mr. Mike Rogers
Indiana Department of Commerce
Indianapolis

Mr. Tim Mahoney
Southwest Indiana Development Council
Evansville

Mr. Ken Robinson
Vision 2000
Evansville

Mr. Bill Petranoff
MINe
Indianapolis

Ms. Jo Arthur
Southern Indiana Development Commission
Greene, Knox, Daviess, Martin, Lawrence Co.

Scott Fulford
Cinergy/PSI
Plainfield

Appendix F: CUED Advisory Panel and Staff Bios

Janet Cypra is President of Cypra & Associates, a consulting firm that provides economic development and grant administrative consulting services. Cypra is primarily responsible for special projects in Economic Development for the City of East Chicago, and Indiana. She is also Special Projects Officer for Chesterton, Indiana and administrator of the $1 million LaPorte County, Indiana Revolving Loan Fund for the Northwestern Indiana Regional Planning Commission. Cypra's experience in economic development spans two decades. During this time she has provided project management and commercial/industrial development services throughout the Midwest. Previously she served as Operational Planning Officer for the USEDA's Region V Office, and Executive Director of the Lake County Economic Development Authority. She is a member of the CUED's Board of Directors and serves on the Board of Partners in Contracting. She holds a MBA from the University of Michigan.

Dennis J. Hellmann has been recently appointed External Affairs Director for Ameritech/SBC. in Toledo, Ohio. There he manages the day-to-day activities of Ameritech in the communities, including assistance in customer service matters, coordination of sponsorships and civic involvement, private/public sector initiatives, education, and economic development. Before joining Ameritech, Hellmann served as the Executive Director of the Fostoria (OH) Economic Development Corporation. Prior to that, Hellmann was the President of the Committee of One Hundred, an influential think tank and community facilitator for large metropolitan areas. He has served on the boards of the Mid-American Economic Development Council, the Ohio Economic Development Council, and as president of the Ohio Development Association. Hellmann holds a Bachelor of Arts degree in Economics from the University of Toledo.

Lee Peterson is President of the Minot Area Development Corporation (MADC) in Minot, North Dakota. Since the beginning of his tenure in December of 1990, Mr. Peterson has lead MADC development efforts that focus mainly on the creation of new basic industry jobs and new wealth for Northwest North Dakota. Approximately 6,000 jobs have been created in MADC's service area in the past ten years. Prior to becoming President of MADC, Peterson worked for the Chadron-Dawes County Economic Development Corporation in Nebraska. Before becoming an economic development professional, Mr. Peterson was involved in production agriculture for two decades in Idaho. He served for a period as County Commissioner and participated in a volunteer efforts in support of economic development. Mr. Peterson has completed a number of Industrial Development courses at the University of Portland and the University of Oklahoma.

Ed Gilliland is Vice President and Sr. Director of Advisory Services for CUED. He has twelve years of economic consulting experience with cities, counties, quasi-public agencies, multi-jurisdictional coalitions and private clients. Mr. Gilliland specializes in strategic planning, economic development, downtown revitalization, brownfields redevelopment, public/private partnerships, financial analysis, transportation economics and economic impacts. He directs CUED's work with the EPA on brownfields, the DOE on their energy communities, and the DOJ on their Weed and Seed neighborhoods. Mr. Gilliland also directs work on numerous local

assignments. His capabilities go beyond the consulting and project management roles. He has facilitated workshops, instructed in real estate, designed training courses and managed periodicals. Mr. Gilliland holds an M.B.A. from the University of Virginia Darden Graduate School of Business Administration.

Brian Dylong is an Economic Development Analyst for CUED's Technical Advisory Services Department. He assists on a wide range of projects including both federal contracts with the Department of Justice, Department of Energy, and Environmental Protection Agency, and local, site-specific contracts with regions, cities, and neighborhoods. He recently concluded a media review of brownfields redevelopment trends. Mr. Dylong has completed some graduate course work in the International Development Studies Program at the George Washington University in Washington, DC. This work includes Development Economics, International Business Law, and a theoretical and practical overview of a number of key development issues. He obtained a B.A. degree with Highest Honors from the University of Notre Dame in South Bend, Indiana, where he majored in History, minored in Anthropology, and completed nine courses from within the Business curriculum.