

**Linking Transportation System Improvements  
To New Business Development  
In Eastern Washington**

**EWITS Research Report Number 1  
February 1994**

**by**

**William R. Gillis, Ph.D.  
The Gillis Group  
108 North Adams  
Ritzville, WA 99169**

**in cooperation with**

**Kenneth L. Casavant, EWITS Project Director  
Washington State University  
Department of Agricultural Economics  
101 Hulbert Hall  
Pullman, WA 99164-6210**

# **EWITS Research Reports: Background and Purpose**

This is the first of a series of reports prepared from the Eastern Washington Intermodal Transportation Study (EWITS). The reports prepared as a part of this study provide information to help shape the multimodal network necessary for the efficient movement of both freight and people into the next century.

EWITS is a six year study funded jointly by the Federal government and the Washington State Department of Transportation as a part of the Intermodal Surface Transportation Efficiency Act of 1991. Dr. Ken Casavant of Washington State University is Director of the study. The Gillis Group, a private consulting firm based in eastern Washington, provides the WSU project team with research and management assistance. A state-level Steering Committee provides overall direction pertaining to the design and implementation of the project. The Steering Committee includes Jerry Lenzi, Chair (WSDOT, District 6); Richard Larson (WSDOT, District 5); Don Senn (WSDOT, District 2), Charles Howard (WSDOT, Planning Manager) and Jay Weber (Douglas County Commissioner). Linda Tompkins represents the Washington State Transportation Commission on the Steering Committee. An Advisory Committee with representation from a broad range of transportation interest groups also provides guidance to the study. The following are key goals and objectives for the Eastern Washington Intermodal Transportation Study:

- *Facilitate existing regional and statewide transportation planning efforts.*
- *Forecast future freight and passenger transportation service needs for eastern Washington.*
- *Identify gaps in eastern Washington's current transportation infrastructure.*
- *Pinpoint transportation system improvement options critical to economic competitiveness and mobility within eastern Washington.*

For additional information about the Eastern Washington Intermodal Transportation Study or this report, please contact either Ken Casavant or Bill Gillis at the following address:

Ken Casavant, Project Director  
Washington State University  
Department of Agricultural Economics  
Pullman, WA 99164  
509-335-1608

Bill Gillis, Project Manager  
The Gillis Group  
108 North Adams  
Ritzville, WA 99169  
509-659-1712

## **DISCLAIMER**

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Washington State Department of Transportation or the Federal Highway Administration. This report does not constitute a standard, specification or regulation.

# Linking Transportation System Improvements to New Business Development in Eastern Washington

<b>Introduction</b> .....	1
<b>Section 1: Profile of Establishments Included in the EWITS New Business Survey</b> .....	3
Statewide Distribution of Firms Interviewed.....	3
Eastern Washington Growth Industries.....	6
<b>Section 2: Transportation Modes Utilized by New Businesses and Industries</b> .....	10
Motor Freight.....	10
Package Delivery Services.....	12
Air Freight.....	14
Rail Freight.....	16
Marine and Inland Barge Transportation.....	17
Electronic Media.....	19
<b>Section 3: Transportation Factors Most Important to Business and Industry Site Location Decisions</b> .....	21
Access to Highway Transportation.....	21
Access to Air Transportation.....	24
Rail and Water Transport.....	26
Public Transportation for Employees.....	28
<b>Section 4: Non-Transportation Needs of New Businesses</b> .....	30
Desirability of the Community as a Place to Live and Work.....	30
Proximity to Markets and Suppliers.....	32
Availability of Local Business Support Services.....	32
Availability of Appropriate Labor, Real Estate, Utilities and Financing.....	32
Supportive Local and State Government.....	33
<b>Section 5: Implications for Eastern Washington Transportation Policies and Programs</b> .....	34
<b>References</b> .....	38
<b>APPENDIX: EWITS New Business Survey Instrument</b> .....	39

## **List of Tables**

<b>Table 1--Geographic Location and Type of Firms Interviewed .....</b>	<b>3</b>
<b>Table 2--Most New Washington Businesses are Start-up Operations.....</b>	<b>5</b>
<b>Table 3--Most New Washington Businesses are Relatively Small .....</b>	<b>5</b>
<b>Table 4--Eastern Washington Manufacturing Growth Industries .....</b>	<b>6</b>
<b>Table 5--Eastern Washington Retail/Service Growth Industries.....</b>	<b>8</b>
<b>Table 6--National/International Market Orientation for Eastern Washington Growth Industries .....</b>	<b>9</b>
<b>Table 7--Use of Motor Freight by Eastern WA Growth Industries.....</b>	<b>11</b>
<b>Table 8--Use of Package Delivery Services by Eastern WA Growth Industries.....</b>	<b>13</b>
<b>Table 9--Use of Air Freight by Eastern WA Growth Industries .....</b>	<b>15</b>
<b>Table 10--Use of Rail Transport by Eastern WA Growth Industries .....</b>	<b>17</b>
<b>Table 11--Use of Water Transport by Eastern WA Growth Industries.....</b>	<b>18</b>
<b>Table 12--Use of Electronic Media by Eastern WA Growth Industries .....</b>	<b>20</b>
<b>Table 13--Highway Transportation Factors Important to New Businesses and Industries.....</b>	<b>23</b>
<b>Table 14--Air Transportation Factors Important to Location Choices by Eastern Washington Growth Industries.....</b>	<b>25</b>
<b>Table 15--Importance to Rail and Water Transport to Location Choices of Eastern Washington Growth Industries .....</b>	<b>27</b>
<b>Table 16--Importance of Public Transportation to Location Choices by New Businesses and Industries .....</b>	<b>29</b>
<b>Table 17--Factors Other than Transportation Important to New Business and Industry.....</b>	<b>31</b>

## **List of Figures**

<b>Figure 1: Geographic Region for EWITS New Business Survey .....</b>	<b>4</b>
<b>Figure 2: Use of Motor Freight by New Businesses.....</b>	<b>10</b>
<b>Figure 3: Use of Package Delivery Service by New Businesses .....</b>	<b>12</b>
<b>Figure 4: Use of Air Freight by New Businesses.....</b>	<b>14</b>
<b>Figure 5: Use of Rail by New Manufacturing Businesses .....</b>	<b>16</b>
<b>Figure 6: Use of Water Transport by New Manufacturing Businesses .....</b>	<b>18</b>
<b>Figure 7: Use of Electronic Media by New Businesses.....</b>	<b>19</b>
<b>Figure 8: Highway Transportation Factors Important to New Businesses .....</b>	<b>22</b>
<b>Figure 9: Air Transportation Factors Important to New Businesses .....</b>	<b>24</b>
<b>Figure 10: Rail and Water Transportation Factors Important to New Businesses .....</b>	<b>26</b>
<b>Figure 11: Percent of New Businesses Identifying Public Transportation as Important.....</b>	<b>28</b>

# **Linking Transportation System Improvements to New Business Development in Eastern Washington**

## **Key Findings**

An assessment of how specific transportation system improvements are likely to impact location choices made by owners of new manufacturing, retail and service businesses is provided in this report. The study is based on a statewide telephone survey of nearly 650 new manufacturing and nonmanufacturing businesses that began operations in the state of Washington between January 1990 and January 1993. Responses by new business owners concerning the reasons for their location choice are used to identify specific policies and program guidelines that would better link transportation system improvements to new business development in eastern Washington. The following are key findings:

- *Public highway investments which facilitate the efficient operation of truck motor freight are the most critical for new manufacturing, retail and service business development within eastern Washington.*
- *An efficient air freight system is of increasing importance to the development of manufacturing, retail and service businesses within the region.*
- *Intermodal connections to marine and inland barge transportation should be recognized as essential to eastern Washington's export-oriented manufacturing businesses.*
- *Eastern Washington manufacturing industries are the most likely to cite access to rail transportation as important to their business location choice.*
- *Plans for transportation system improvements should take into consideration the key role of public transportation, telecommunications and other factors that enable successful economic development at the local level.*

# **Linking Transportation System Improvements to New Business Development in Eastern Washington**

## **Introduction**

**An extensive highway, rail, barge and air system serves the transportation needs of eastern Washington's businesses and industries. Future public investment in this system will be guided by multiple criteria ranging from improved public safety to enhanced freight and passenger mobility. Among the most important of these criteria is the potential of system improvements to encourage economic development within the region.**

**This report provides an assessment of how specific transportation system improvements are likely to impact location choices made by owners of new manufacturing, retail and service businesses. The analysis is primarily based on a telephone survey conducted for the Eastern Washington Intermodal Transportation Study (EWITS) by Washington State University's Social and Economic Sciences Research Center. Results from the completed interviews were analyzed by The Gillis Group and Washington State University's Department of Agricultural Economics.**

**Business owners interviewed for the EWITS New Business Survey were selected at random from records provided by the Washington State Department of Revenue. Specifically, business owners were selected from the list of individuals who applied for a Washington business license between January 1990 and January 1993. Questions focused on why business people chose their location for a new office or facility. Particular emphasis was given to the current use of alternative transportation modes and how the availability of transportation systems impacted their business location decision. The questionnaire utilized in conducting telephone interviews is attached as an appendix.**

**A brief profile of businesses included in the EWITS New Business Survey is provided in Section 1 of this report. This profile is important as background for the analysis of how specific transportation system improvements are likely to impact location choices made by new business owners. The modes of transportation most widely utilized by new Washington businesses are the focus of Section 2. Transportation modes considered include motor freight, package delivery services, air, rail, water and electronic media.**

Specific transportation and non-transportation factors that are important to the choice of a new business location are discussed in Section 3 and Section 4. Location decisions of new business owners are usually based on a wide variety of factors ranging from access to an interstate highway to availability of rail service to personal preferences of the owner to market proximity. The location factors that are most important in choosing a site for a new business are expected to vary among different industries and indeed among different owners.

The final section of this report outlines policies and program guidelines that would better link transportation system improvements to new business development within eastern Washington. The scope of the analysis and recommendations are limited to transportation needs of manufacturing, retail and service businesses. Future reports prepared as a part of the Eastern Washington Intermodal Transportation Study will address the transportation needs of eastern Washington's agricultural industries in detail.

## Section 1: Profile of Establishments Included in the EWITS New Business Survey

### Statewide Distribution of Firms Interviewed

The geographic location and type of firms included in the EWITS New Business Survey are summarized in Table 1.

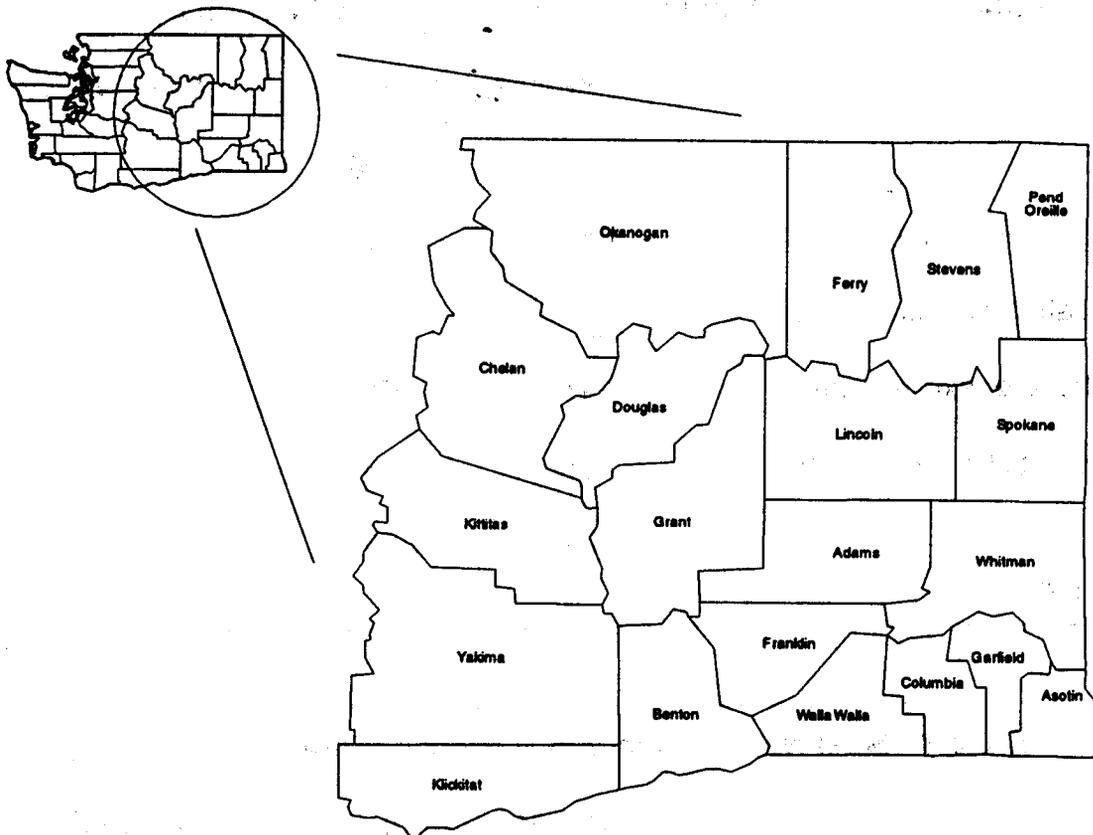
<b>Table 1--Geographic Location and Type of Firms Interviewed</b>		
	<b>Eastern Washington</b>	<b>Western Washington</b>
	<i>(Number of firms interviewed)</i>	
Manufacturing	111	212
Retail/Service Businesses	<u>172</u>	<u>153</u>
Total	283	365

New businesses locating in eastern Washington were deliberately over-sampled to enable more detailed analysis for the region of primary interest in the Eastern Washington Intermodal Transportation Study. Businesses east of the Cascade Mountains account for less than 15% of the new business licenses issued by the Washington State Department of Revenue during the first three years of the 1990s. However, over 40% of the businesses interviewed for the EWITS New Business Survey are from the eastern half of the state. For the purposes of this study, eastern Washington businesses are those located in counties on the east side of the Cascade Mountain Range (see Figure 1 on page 4).

New manufacturing businesses were also deliberately over-sampled to provide a more in-depth analysis for this important sector. Statewide, manufacturing firms account for only about 3% of the new business licenses issued each year. To gain an accurate picture of location decisions made by owners of new manufacturing enterprises, it was necessary to have a total sample with at least 300 owners of manufacturing businesses. Manufacturers represent about half of the total firms interviewed.

Throughout this report, research results are generally reported separately and compared for manufacturing and retail and service businesses. New businesses locating in eastern Washington are generally analyzed separately from new businesses locating in western Washington. This provides an opportunity to highlight the uniqueness of different geographic regions and different economic sectors in the state of Washington. Research results that focus on a specific

**Figure 1: Geographic Region For the  
EWITS New Business Survey**



industry (such as wood products or specialty retail) are generally reported for the state as a whole. This approach enables an accurate comparison of transportation needs for the state's key industries.

It is important to emphasize that this study focuses on the transportation needs of newly established businesses. Most new businesses are start-up operations that are still under development (see Table 2). These businesses are typically small establishments with annual revenues less than \$250,000 (see Table 3).

**Table 2--Most New Washington Businesses are Start-up Operations**

	<b>Manufacturing:</b>		<b>Retail/Service:</b>	
	<u>East</u>	<u>West</u>	<u>East</u>	<u>West</u>
New business start	68%	67%	68%	69%
Relocation of existing firm	12%	20%	12%	16%
Purchase of existing firm	14%	8%	16%	11%
Branch facility expansion	<u>6%</u>	<u>5%</u>	<u>4%</u>	<u>4%</u>
Total	100%	100%	100%	100%

Source: EWITS New Business Survey

**Table 3-- Most New Washington Businesses are Relatively Small**

<u>1992 Revenues</u>	<b>Manufacturing:</b>		<b>Retail/Service:</b>	
	<u>East</u>	<u>West</u>	<u>East</u>	<u>West</u>
Less than \$250,000	81%	87%	90%	86%
\$250,000 to \$1,000,000	13%	9%	7%	10%
\$1,000,000 to \$2,000,000	2%	1%	2%	2%
Greater than \$2,000,000	<u>4%</u>	<u>3%</u>	<u>1%</u>	<u>2%</u>
Total	100%	100%	100%	100%

Source: EWITS New Business Survey

Small newly established businesses will not necessarily have the same transportation requirements as more mature businesses, even within the same general industry. For example, pulp mills, saw mills and dimension lumber plants represent a significant component of Washington's wood products sector. Most of the new wood products businesses are value-added manufacturers such as cabinet makers, specialized furniture manufacturers and producers of wood toys. The transportation needs of new firms producing relatively small value-added wood products will be quite different from those of mills producing bulky lumber and paper products. Consequently, research results presented in this report provide valuable insights into transportation infrastructure most important to the development of new business and industry. However, the results do not necessarily reflect the transportation needs of more mature industries and businesses in the state.

### **Eastern Washington Growth Industries**

This study includes a special emphasis on the transportation needs of eastern Washington growth industries. During the first three years of the 1990s, approximately 320 new manufacturing industries and 9,500 new retail and service businesses located in eastern Washington. Examining the types of industries and businesses growing most rapidly provides insights into the type of transportation systems necessary to support the eastern Washington economy of tomorrow.

***Table 4--Eastern Washington Manufacturing Growth Industries***

Industry	Number of New Eastern WA Businesses, 1990--1992
Printing and Publishing	84
Logging and Lumber Products	81
Manufactured Wood Products	58
Industrial Machinery Manufacturing	28
Fabricated Metal Products	17
Transportation Equipment	11
Food Manufacturing	10

Source: WA Department of Revenue Business License Applicants Adjusted for Non-starts

According to Washington State Department of Revenue figures, an estimated three-hundred-twenty manufacturing businesses successfully started a new operation within eastern Washington between January 1990 and January 1993.

Ninety percent of these new manufacturing enterprises fall into one of the industry categories listed in Table 4 (see previous page).

Printing and publishing is the fastest growing manufacturing industry category in eastern Washington. Businesses within this industry include newspapers, commercial printers and bookbinding operations. These businesses are springing up rapidly across the entire region, both in larger communities such as Spokane, Tri-Cities and Yakima as well as in smaller communities like Odessa and Republic. Regional growth in printing and publishing reflects a national and statewide trend generated by a growing demand for advertising, newsletters, business service publications and other printed materials. Emerging desk top publishing, print process and telecommunications technologies make new operations relatively inexpensive to start.

Logging operations as well as manufactured wood products are also growing rapidly within the region. The vast majority of these new businesses operate in northeastern and north central Washington. Eastern Washington logging firms have benefited from old growth forest harvest restrictions in western Washington and Oregon. As Pacific coast timber supplies become more uncertain, demand for eastern Washington timber has increased. Also during the early 1990s, the Canadian Free Trade Agreement opened up new Canadian markets for eastern Washington lumber and wood products. A recent decision to restrict timber harvests of federal lands in eastern Washington, however, may slow or reverse recent growth in the region's logging industry. Future US/Canadian exchange rates, final developments with the North American Free Trade Agreement and federal timber harvest rules will likely have a significant impact on the future growth of eastern Washington wood products industries.

Other rapidly growing manufacturing industries include industrial machinery, fabricated metals, transportation equipment and food manufacturing. In all four of these industry categories, new start-ups were primarily small specialty manufacturers. While these industries represent a relatively small percentage of new manufacturing business start-ups, they remain important to the economy of the region. For example, food product manufacturing is a cornerstone of the Columbia Basin, Wenatchee and Yakima Valley economies. The future growth of these industries will remain important to these areas.

Between 1990 and 1992, an estimated 9,500 retail and service businesses started within eastern Washington. Two business categories, specialty retail and business services comprise about one-quarter of the new retail and service business developments. Specialty retail has replaced mass retail merchandising as the consumer's choice in the 1990s. Examples of specialty retail range from boutiques and gift shops to antique malls. These businesses are located throughout eastern Washington in communities both large and small. Other business growth categories such as food and drink as well as personal services

also appear to benefit from this same consumer trend. Small unique shops such as expresso stands, micro-breweries, hair-stylists and diaper services are starting operation within eastern Washington.

**Table 5--Eastern Washington Retail/Service Growth Industries**

<b>Industry</b>	<b>Number of New Businesses 1990--1992</b>
Specialty Retail	1539
Business Services	1235
Automotive and Other Repair Services	1007
Food and Drink Establishments	760
Personal Services	722
Engineering/Management Consulting	513
Health Services	399

Source: WA Department of Revenue Business License Applicants Adjusted for Non-starts

Business services have been at the leading edge of the economy in both Washington and the nation throughout the past decade. Eastern Washington has also benefited from growth in business service demand. Examples of business services that have recently started within eastern Washington include: temporary help services, janitorial services, equipment rental and computer support services. Demand for business services has expanded as businesses seek to cut costs by hiring outside services rather than maintaining permanent employees and equipment. This same business trend has led to another growth industry, engineering and management consulting.

Effective intermodal transportation systems are particularly important to eastern Washington growth industries that have a strong national and international market orientation. Nearly all manufacturing industries growing rapidly in eastern Washington sell a significant share of their total product to customers outside the state of Washington. For example, nearly three-quarters of new fabricated metals businesses locating in the state of Washington during the early 1990s sell at least 25% of their total product to national or international markets (see page 9). Industrial machinery manufacturing, food manufacturing and printing and publishing are examples of other industries with a significant share of new companies selling more than 25% of their product outside the state of Washington. Among retail and service industries, health care and management/engineering services have the strongest ties to national and international markets.

**Table 6--National/International Market Orientation for  
Eastern Washington Growth Industries**

<b>Industry</b>	<b>Industry share selling at least one-quarter of total product to national/international markets</b>
<b><u>Manufacturing</u></b>	
Fabricated Metal Products	71%
Industrial Machinery Manufacturing	57%
Food Manufacturing	54%
Printing and Publishing	54%
Logging and Lumber Products	40%
Transportation Equipment	40%
Manufactured Wood Products	22%
<b><u>Retail/Service</u></b>	
Health Services	50%
Engineering/Management Consulting	41%
Repair Services	34%
Specialty Retail	33%
Business Services	27%
Food and Drink Establishments	14%
Personal Services	14%

Source: EWITS New Business Survey

Successful economic development requires recognizing the segments of the economy that are driving economic growth and when appropriate, taking actions to support their continued prosperity. Seeking to meet the transportation needs of new businesses and industries is one possible action that can facilitate their future prosperity.

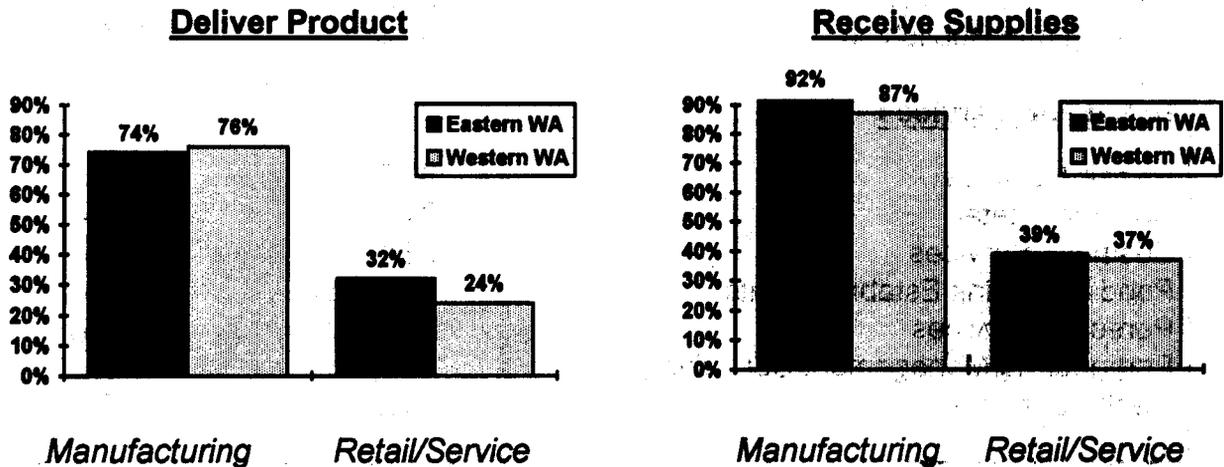
## Section 2: Transportation Modes Utilized by New Businesses and Industries

### Motor Freight

Motor freight includes both commercial freight carriers as well as company owned trucks. The use of motor freight by new Washington businesses and industries is summarized in Figure 2.

**Figure 2: Use of Motor Freight by New Businesses and Industries**

Percent Using Motor Freight to:



New manufacturing businesses located throughout the state are heavily dependent upon motor freight for product delivery as well as for the transport of needed supplies. Approximately 75% of Washington's new manufacturing businesses use motor freight to deliver products and about 90% use motor freight to receive supplies.

Newly established retail and service businesses are considerably less reliant on motor freight than are manufacturing firms. Many retail and service businesses sell directly to walk-in customers or deal in products that can easily be shipped by mail (package delivery services are discussed on page 12). Often these businesses obtain inventory and supplies either through the mail or by using personal cars and light trucks. Overall about one-third of retail and service businesses report that they use motor freight to either deliver product or receive supplies.

**Table 7--Use of Motor Freight by Eastern WA Growth Industries**

Industry	Percent using motor freight to:	
	<u>deliver product</u>	<u>receive supplies</u>
<b><u>Manufacturing</u></b>		
Transportation Equipment	100%	100%
Food Manufacturing	100%	100%
Industrial Machinery Manufacturing	84%	100%
Fabricated Metal Products	83%	100%
Logging and Lumber Products	83%	98%
Manufactured Wood Products	76%	100%
Printing and Publishing	50%	58%
<b><u>Retail and Services</u></b>		
Repair Services	31%	39%
Specialty Retail	24%	38%
Business Services	32%	21%
Food and Drink Establishments	0%	50%
Personal Services	20%	33%
Engineering/Management Consulting	16%	22%
Health Services	0%	14%

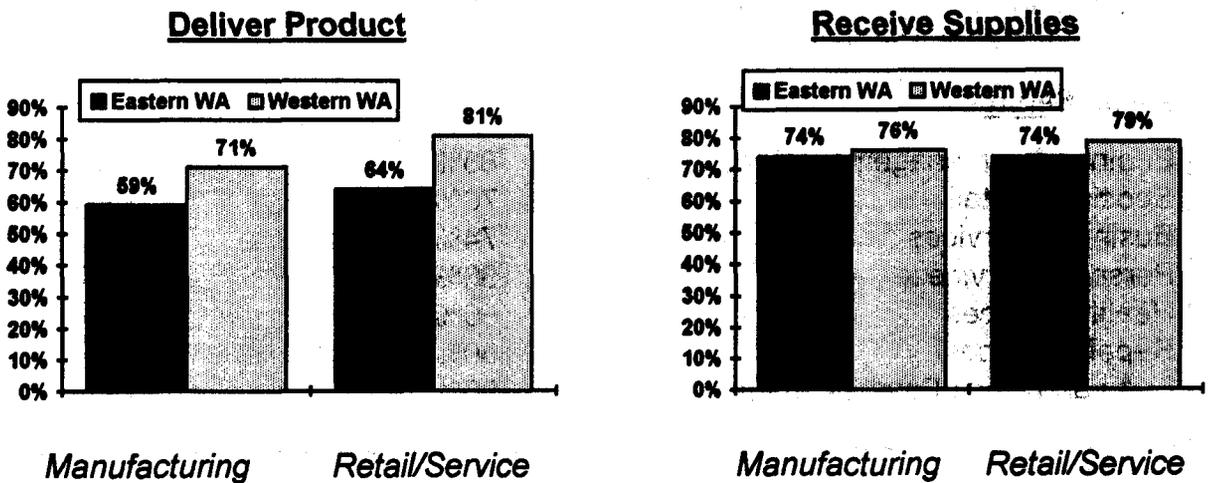
Use of motor freight by eastern Washington growth industries is compared in Table 7. Nearly all manufacturing growth industries rely heavily on motor freight to transport products and receive supplies. Printing and publishing is the only manufacturing growth industry category with less than 75% of the firms utilizing motor freight. Included in printing and publishing are smaller retail-oriented printers that focus on walk-in clientele. The remaining manufacturing growth industries tend to handle relatively bulky raw materials and products that often are suitable for shipment by motor freight. Consistent with statewide trends already discussed, most retail and service growth industries do not rely heavily on motor freight to transport product or receive supplies.

## Package Delivery Services

Package delivery services are among the most widely utilized modes of transportation for newly established Washington businesses and industries. These services include US Mail as well as a growing number of private carriers such as UPS or Federal Express. Typically package delivery services rely heavily on efficient truck to air intermodal transportation connections. While package delivery services are available to all communities, the number of carrier options and the frequency of pick-up and delivery varies from place to place.

**Figure 3: Use of Package Delivery Services  
by New Businesses and Industries**

**Percent Using Package Delivery Services to:**



New manufacturing as well as nonmanufacturing businesses located in western Washington are more likely than those in eastern Washington to utilize package delivery services to deliver product (see Figure 3). However, approximately three-quarters of new businesses and industries use package delivery services to receive supplies regardless of their geographic location within the state.

**Table 8--Use of Package Delivery Services by Eastern WA Growth Industries**

Industry	Percent using package services to:	
	<u>deliver product</u>	<u>receive supplies</u>
<b><u>Manufacturing</u></b>		
Transportation Equipment	83%	92%
Printing and Publishing	83%	83%
Food Manufacturing	82%	91%
Industrial Machinery Manufacturing	68%	91%
Manufactured Wood Products	52%	80%
Logging and Lumber Products	35%	51%
Fabricated Metal Products	33%	67%
<b><u>Retail/Service</u></b>		
Engineering/Management Consulting	88%	78%
Specialty Retail	76%	89%
Business Services	74%	80%
Personal Services	60%	91%
Health Services	50%	100%
Repair Services	50%	81%
Food and Drink Establishments	50%	65%

Both eastern Washington manufacturing and nonmanufacturing growth industries utilize package delivery services extensively to transport their product and receive supplies (see Table 8). Specialized food manufacturers, for example, utilize package delivery services for direct marketing to final household consumers. Transportation equipment and industrial machinery manufacturers use package delivery services to ship parts overnight to customers and receive smaller components for assembly. Specialty retail stores rely on package delivery services to ship products purchased by customers living in distant locations. Industries with relatively bulky commodities such as wood products or fabricated metals are the least likely to utilize package delivery services. However, even these industries utilize package delivery services when appropriate.

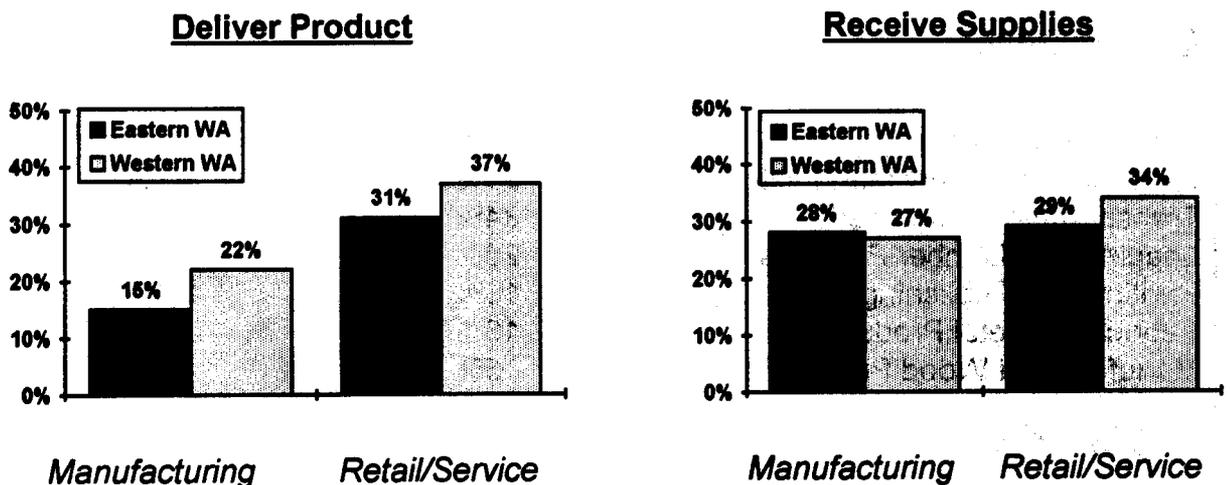
## Air Freight

Air service is less widely utilized by new businesses than the highway network. However, it is a crucial component of the transportation network. Many businesses do not recognize their dependence on air service because of the efficient seamless intermodal network provided by package delivery services.

New Washington businesses surveyed were asked whether or not they use a "combination of truck and air service" to deliver product or receive supplies. Industries with the strongest direct connection to air service appear in Figure 4.

**Figure 4: Use of Air Freight by New Businesses and Industries**

**Percent using air freight to:**



New manufacturing businesses tend to utilize air freight more frequently for receiving supplies than for delivering product. This reflects the bulky nature of many manufactured products. Products produced by retail and service businesses are often more appropriate for air shipment. In fact, new retail and service businesses are about twice as likely as new manufacturing enterprises to use air freight to deliver their product.

Air freight is essential to businesses that require machine parts, information products and other supplies in a short time-frame. Approximately 30% of new businesses in retail and service industries as well as in manufacturing use air freight to receive supplies. Overall, new business owners in western Washington are slightly more likely to utilize air freight compared to their eastern Washington counterparts.

Several manufacturing growth industries including food manufacturing, industrial machinery and transportation equipment are particularly heavy users of air freight (see Table 9). Eastern Washington manufacturing growth industries with the greatest orientation to national and international markets (identified on page 9) rely most heavily on air transportation to ship products. Air transportation provides the key shipping link for products/services that must reach a long-distance destination within a short time.

**Table 9--Use of Air Freight by Eastern WA Growth Industries**

Industry	Percent using air freight to:	
	deliver product	receive supplies
<b><u>Manufacturing</u></b>		
Food Manufacturing	37%	28%
Industrial Machinery Manufacturing	36%	41%
Transportation Equipment	34%	42%
Logging and Lumber Products	20%	23%
Printing and Publishing	18%	23%
Fabricated Metal Products	16%	33%
Manufactured Wood Products	5%	22%
<b><u>Retail/Service</u></b>		
Engineering/Management Consulting	48%	38%
Personal Services	40%	19%
Food and Drink Establishments	33%	11%
Business Services	31%	27%
Specialty Retail	30%	34%
Repair Services	13%	34%
Health Services	0%	29%

Air transportation links are also particularly important for several eastern Washington retail and service growth industries such as consulting and personal services. In general these industries are shipping information products and small merchandise that must reach their destination in a short time frame. For food and drink places and specialty retail stores, the connection to broader markets comes through an expanding tourism trade and increased use of direct mail selling. Repair services do not depend heavily on air transportation for delivering their product. However, air service can be critical to receiving necessary components and parts in a timely manner.

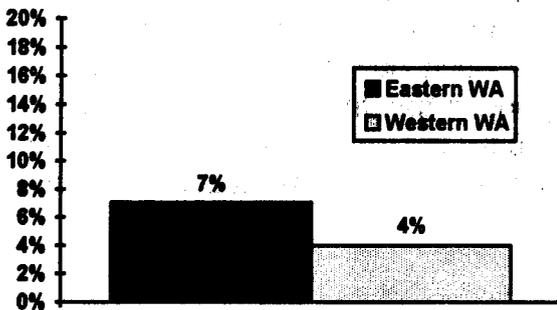
## Rail Freight

Rail is an important link within the Washington transportation system. The trend towards abandonment of low volume rail lines is a major concern stated by many economic development leaders, farm commodity associations, business people and others. Rail is perceived to be a particularly critical mode for the transport of eastern Washington agricultural commodities. Previous studies document that rail is also very important to key eastern Washington industries such as wood products and agricultural chemicals. However, rail is less widely utilized than highway or air modes of transport for manufacturing industries established within the last three years. The use of rail service by recently established manufacturing industries is summarized in Figure 5.

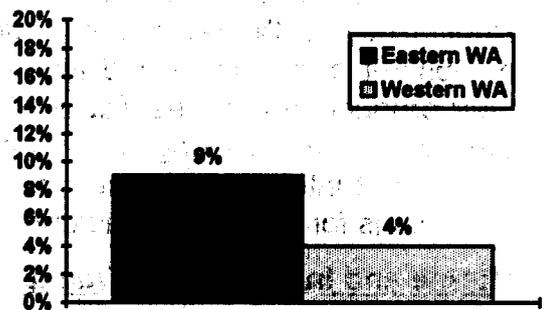
**Figure 5: Use of Rail by New Manufacturing Businesses**

*Percent using rail freight to:*

### Deliver Product



### Receive Supplies



New manufacturing businesses in eastern Washington are about twice as likely as those in western Washington to use rail to transport. Among new eastern Washington manufacturing industries, 7% use rail to deliver product and 9% use rail to receive supplies. This compares with only 4% of new western Washington manufacturing companies that report using rail for either the delivery of product or receipt of supplies.

**Table 10--Use of Rail Transport by Eastern WA Growth Industries**

<b>Industry</b>	<b>Percent using package services to:</b>	
	<b>deliver product</b>	<b>receive supplies</b>
<b><u>Manufacturing</u></b>		
Fabricated Metal Products	17%	0%
Transportation Equipment	16%	14%
Logging and Lumber Products	11%	11%
Food Manufacturing	9%	9%
Industrial Machinery Manufacturing	6%	6%
Printing and Publishing	1%	1%
Manufactured Wood Products	0%	4%

There are several key eastern Washington growth industries that rely significantly on the rail system. Most notably, fabricated metals, transportation equipment and logging and lumber industries each deliver more than 10% of their product by rail (see Table 10). Among industries that do utilize rail, most businesses report using a combination of truck and rail. This suggests that convenient intermodal connections may be an acceptable alternative to on-site rail sidings for many manufacturing firms.

### **Marine and Inland Barge Transportation**

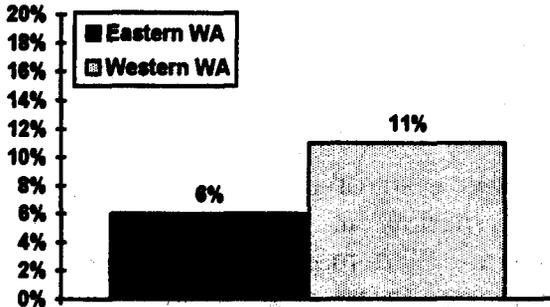
Water transportation is critical to agriculture and other established Washington industries. Water transportation is even more important with the increase in international exports and expanding use of container technologies that provide cost effective intermodal transport to the Pacific Rim and Europe.

The use of water transport by new Washington businesses and industries is summarized in Figure 6 (page 18). Water transport is more widely utilized by new Washington manufacturing industries to transport product than it is to receive supplies. Western Washington manufacturing businesses are about twice as likely to use water transport compared to eastern Washington manufacturing businesses. This reflects a heavier concentration in western Washington of industries that demand easy accessibility of ocean marine ports.

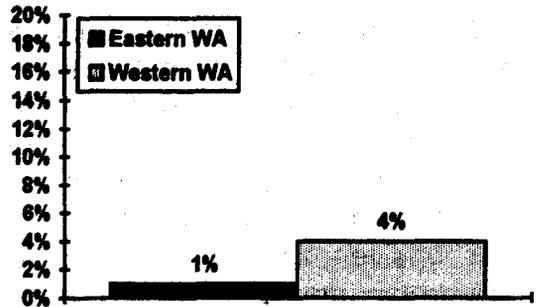
**Figure 6: Use of Water Transport by  
New Manufacturing Businesses**

Percent using water transport to:

**Deliver Product**



**Receive Supplies**



**Table 11--Use of Water Transport by Eastern WA Growth Industries**

Industry	Percent using water transport to:	
	deliver product	receive supplies
<b><u>Manufacturing</u></b>		
Food Manufacturing	45%	9%
Transportation Equipment	25%	17%
Logging and Lumber Products	17%	2%
Industrial Machinery Manufacturing	10%	3%
Printing and Publishing	1%	0%
Manufactured Wood Products	0%	8%
Fabricated Metal Products	0%	0%

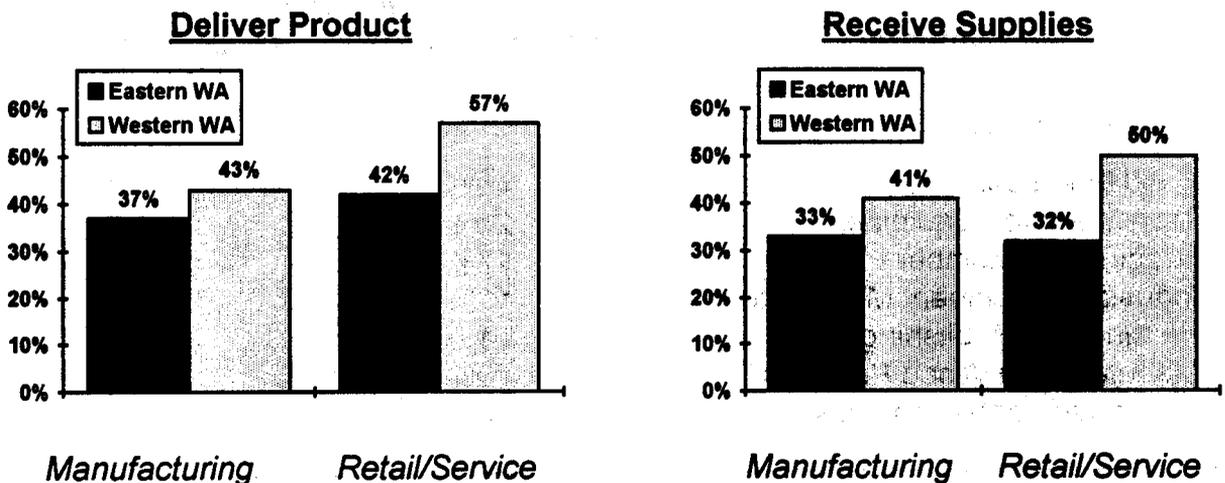
Water transportation is particularly important for eastern Washington's expanding food manufacturing industry (Table 11). Forty-five percent of new food manufacturers use water to transport their product. This includes both shipments through eastern Washington's inland river ports as well as container transports through coastal marine ports. More than 10% of new businesses in transportation equipment, logging and lumber products and industrial machine manufacturing businesses also ship product using water transportation. Each of these industries are among Washington's international export leaders.

## Electronic Media

Electronic media includes fax transmissions and computer modem linkages used to transport information products between two locations. Electronic media is not typically thought of as a component of the transportation system. However, for many newly established businesses, electronic media is an alternative to traditional transportation modes. For example, a technical drawing prepared by a Washington engineering firm could be shipped to a client in Denver, Colorado either by overnight package delivery or even more quickly by electronic transfer with a computer and modem. In many cases electronic media is used in combination with traditional transportation modes to improve customer responsiveness. For example, an industrial machine manufacturer may use electronic media to track customer inventory needs to ensure "just-in-time" shipment of parts required by the client.

**Figure 7: Use of Electronic Media by  
New Businesses and Industries**

Percent using electronic media to:



Overall, new retail and service businesses tend to use electronic media more frequently than do new manufacturing businesses in the state of Washington. However, over one-third of new manufacturing companies report using electronic media to ship products or receive supplies. Fax and computer modem technologies appear to be more widely utilized in western Washington than in eastern Washington. For example, 57% of new western Washington retail and service businesses use electronic media to deliver products compared to 42% of their counterparts in eastern Washington.

**Table 12--Use of Electronic Media by Eastern WA Growth Industries**

Industry	Percent using electronic media to: deliver product	receive supplies
<b><u>Manufacturing</u></b>		
Printing and Publishing	61%	51%
Food Manufacturing	46%	27%
Transportation Equipment	42%	58%
Fabricated Metal Products	33%	33%
Industrial Machinery Manufacturing	32%	34%
Logging and Lumber Products	22%	27%
Manufactured Wood Products	16%	19%
<b><u>Retail/Service</u></b>		
Engineering/Management Consulting	92%	69%
Business Services	68%	52%
Personal Services	40%	19%
Repair Services	44%	24%
Specialty Retail	27%	21%
Health Services	0%	57%
Food and Drink Establishments	0%	11%

Electronic media is widely utilized by several of eastern Washington's key growth industries (Table 12). For example, well over one-third of the new businesses in printing and publishing, food manufacturing, and transportation equipment manufacturing use electronic media to deliver product. In the case of printing and publishing, electronic media is an alternative to package delivery services for the delivery of printed materials. For food manufacturing and transportation equipment companies, electronic media is generally used in combination with truck, air or rail transport modes to ensure the product reaches customers at the time needed. Many manufacturing firms also produce information products such as engineering designs, technical reports and business data. These are the products typically shipped by electronic means.

Washington's growing business information sector is one of the heaviest users of electronic media. For example, 92% of new management/engineering consulting firms and 68% of new business service firms use electronic media to deliver their product. New businesses in other service industries such as repair and personal services also report significant use of electronic media to transport products and receive supplies.

## **Section 3: Transportation Factors Most Important to**

### **Business and Industry Site Location Decisions**

A business owner's decision to locate in a specific community depends on many factors. Business owners interviewed for the EWITS New Business Survey evaluated the importance of specific transportation factors to their final choice of location for a new business. This section summarizes the transportation factors identified as most important by new Washington business owners.

#### **Access to Highway Transportation**

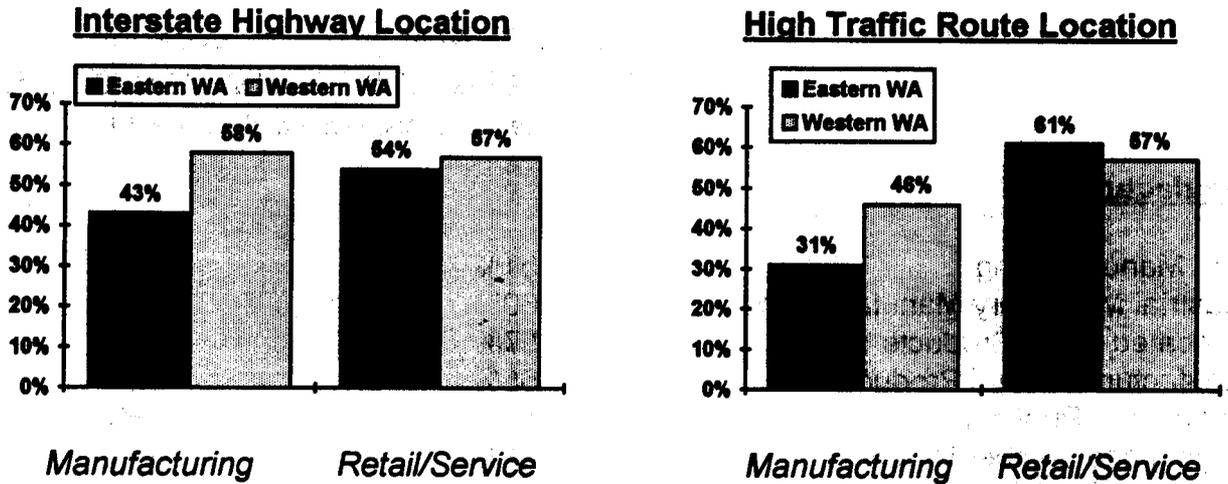
Results from the EWITS New Business Survey indicate that the vast majority of new Washington businesses rely to some extent on trucks to deliver products and/or deliver supplies. Trucks are used for direct point-to-point shipments. Trucks are also an integral part of a broader intermodal system including package delivery services, air freight and rail freight as well as the inland waterway and marine transport system. Interstate highways reduce travel time for deliveries. Communities along interstates typically benefit from more frequent pick-up and delivery on standard motor freight service routes. Consequently new business owners were asked to evaluate the "importance" of location near an interstate highway to their choice of business site.

Business owners were also asked to evaluate the "importance" of location on a "high traffic" route. For some businesses location on a high traffic route is important for customer visibility. In many cases, high traffic routes also provide an advantage of more frequent pick-up and delivery by package delivery services and other motor freight carriers.

Approximately one-half of the new businesses locating in the state of Washington during the early 1990s view close proximity to an interstate highway as important to their choice of location (Figure 8). New eastern Washington manufacturing business owners were the least likely to cite location near an interstate highway as important.

**Figure 8: Highway Transportation Factors Important to New Businesses and Industries**

Percent rating factor as "important" to location choice:



A majority of retail and service firms located in both eastern Washington and western Washington view close proximity to a high traffic route as important to their site location choice. A significant share of new Washington manufacturing owners also cited location on a high traffic route as an advantage. These businesses benefit from both customer visibility and perhaps also from location on a route frequently traveled by package delivery services and motor carriers. Owners of new eastern Washington manufacturing businesses were the least likely to cite proximity to a high traffic route as important to their choice of a business location.

Eastern Washington growth industries that perceive interstate access as most important are identified in Table 13 (see page 23). Interstate access appears to be particularly important for manufacturing growth industries that emphasize national markets (see Table 6 on page 9). Interstate highways provide convenient access to national and international distribution channels required by these industries. A surprisingly large percentage of eastern Washington growth industries also cite location in close proximity to a high traffic route as important. This may reflect a perception that high traffic routes offer more frequent pick-up and delivery by standard motor freight carriers. Also high traffic routes provide visibility and convenient access for customers and suppliers.

**Table 13--Highway Transportation Factors Important  
to New Businesses and Industries**

	<b><u>Location Near Interstate Highway</u></b>	<b><u>Location on "High Traffic" Route</u></b>
	<i>(Percent rating factor as "important")</i>	
<b><u>Manufacturing</u></b>		
Food Manufacturing	91%	55%
Industrial Machinery Manufacturing	69%	49%
Fabricated Metal Products	57%	57%
Manufactured Wood Products	55%	23%
Printing and Publishing	51%	46%
Logging and Lumber Products	48%	41%
Transportation Equipment	40%	33%
<b><u>Retail/Service</u></b>		
Food and Drink Establishments	68%	86%
Specialty Retail	65%	63%
Engineering/Management Consulting	63%	35%
Personal Services	53%	57%
Repair Services	50%	66%
Business Services	42%	36%
Health Services	37%	50%

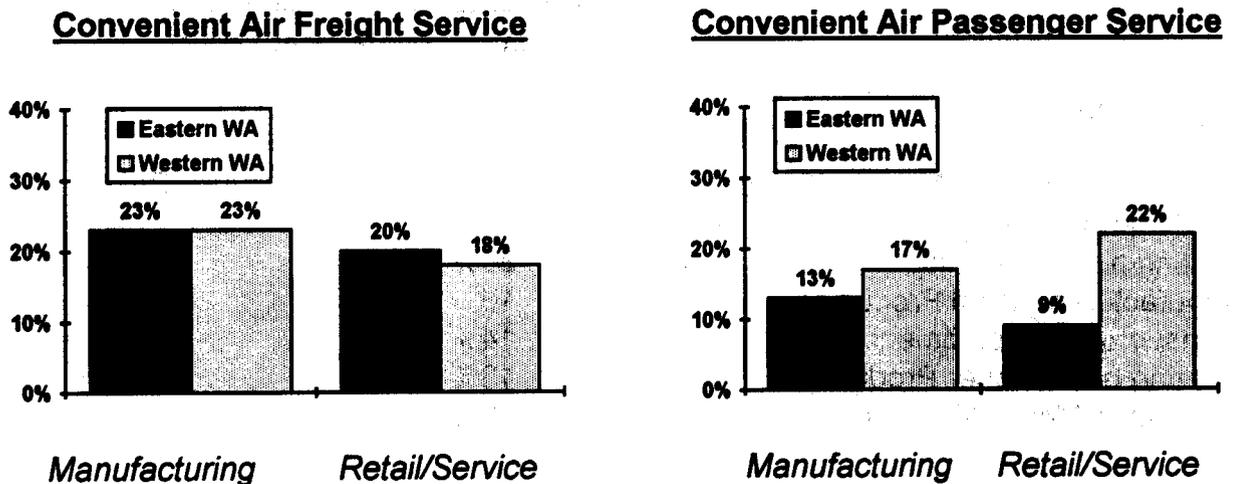
Many retail and service growth industries also prefer locations in close proximity to an interstate as well as on a high traffic route. Food and drink establishments and specialty retail, for example, benefit from high customer visibility along interstates and heavily traveled highways. For management/engineering consulting businesses, interstates provide convenient access for both customers and employees.

## Access to Air Transportation

A significant number of new Washington businesses also utilize air transportation as a part of their day-to-day business operations. As noted in the last section (page 15) air service is particularly important to industries that rely heavily on national and international business connections. Air freight provides timely delivery of products and supplies. Passenger air provides critical access for visiting customers as well as the company's sales and technical staff. The relative importance of convenient air freight and passenger service to business location decisions is summarized in Figure 9.

**Figure 9: Air Transportation Factors Important to New Businesses and Industries**

Percent rating factor as "important" to location choice:



New businesses located in both eastern and western Washington provided a similar evaluation of the importance of convenient air freight service. Twenty-three percent of new Washington manufacturing business owners and about one-fifth of new Washington retail/service business owners indicated that convenient air freight was important to their choice of location. New business and industry owners in western Washington tend to cite convenient access to air passenger service as important more frequently than do their eastern Washington counterparts. For most eastern Washington communities, air passenger service is both limited in availability and often more expensive than for businesses located in the western half of the state.

Many eastern Washington growth industries are among those that most frequently cite convenient air transportation access as important. Well over one-third of the new businesses in industrial machine manufacturing, food manufacturing and printing and publishing cite convenient access to air freight

as important to their location choice. Approximately one-quarter of the businesses in these same three manufacturing industries also note convenient access to air passenger transportation as important to their choice of location. Among eastern Washington nonmanufacturing growth industries, engineering/management consulting, business services and specialty retail most frequently cited convenient air transportation access as important. Each of these industries are examples of industries that tend to maintain strong national business connections.

**Table 14--Air Transportation Factors Important to Location Choices by Eastern Washington Growth Industries**

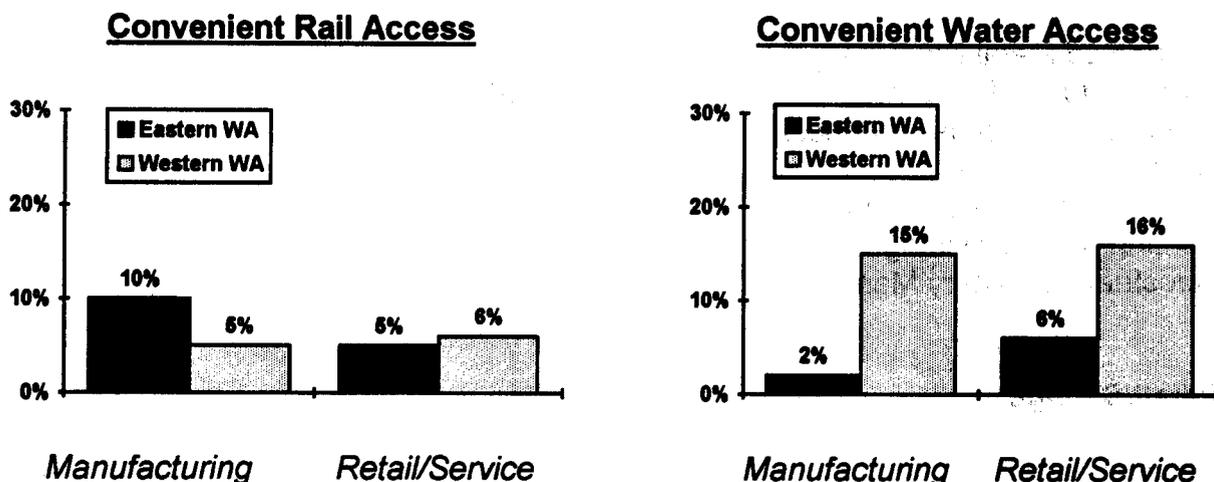
	<b><u>Convenient Air Freight Service</u></b>	<b><u>Convenient Air Passenger Service</u></b>
	<i>(Percent rating factor as "important")</i>	
<b><u>Manufacturing</u></b>		
Industrial Machinery Manufacturing	49%	25%
Food Manufacturing	45%	27%
Printing and Publishing	35%	19%
Manufactured Wood Products	18%	0%
Transportation Equipment	14%	13%
Logging and Lumber Products	13%	9%
Fabricated Metal Products	0%	14%
<b><u>Retail/Service</u></b>		
Engineering/Management Consulting	32%	41%
Business Services	29%	11%
Specialty Retail	26%	9%
Personal Services	19%	5%
Repair Services	19%	6%
Food and Drink Establishments	0%	7%
Health Services	0%	0%

## Rail and Water Transport

Rail and water are also essential components of Washington's intermodal transportation system. While these modes are less widely utilized than highway and air, they are perceived as essential by certain key industries. The importance of rail and water transport to location choices made by new business and industry is summarized in Figure 10.

**Figure 10: Rail and Water Transportation Factors Important to New Businesses and Industries**

*Percent rating factor as "important" to location choice:*



In general, the same manufacturing business owners that use rail and water facilities to deliver product or receive supplies also rated convenient access to these facilities as important to their business location decision. An exception are eastern Washington manufacturing business owners using water transportation. About 6% of eastern Washington manufacturers utilize water transportation (Figure 6 on page 18), but only 2% identified convenient access to water as important to their location choice. This reflects the fact that many eastern Washington manufacturers ship products by truck or rail to west coast marine ports.

A significant number of new retail and service business owners also cited location near water transportation as important. In general retail and service businesses are not direct users of water transportation. However, some provide support services such as warehousing, travel arrangements, cargo handling, marine petroleum products, engineering services or advertising that cater to the needs of water carriers. For other service businesses, location near water transport represents an aesthetic environment that is important to their business. An example is a food and drink establishment located along the water front.

Overall, new retail and service businesses located in western Washington were the most likely to identify water transportation as important to their choice of location.

**Table 15—Importance to Rail and Water Transport to Location Choices of Eastern Washington Growth Industries**

	<u>Convenient Rail Access</u>	<u>Convenient Water Access</u>
	<i>(Percent rating factor as "important")</i>	
<b><u>Manufacturing</u></b>		
Fabricated Metal Products	14%	0%
Transportation Equipment	13%	27%
Logging and Lumber Products	13%	12%
Food Manufacturing	9%	36%
Manufactured Wood Products	4%	4%
Printing and Publishing	3%	6%
Industrial Machinery Manufacturing.	3%	3%
<b><u>Retail/Service</u></b>		
Repair Services	9%	3%
Specialty Retail	7%	11%
Engineering/Management Consulting	6%	6%
Food and Drink Establishments	4%	14%
Personal Services	0%	10%
Business Services	0%	9%
Health Services	0%	0%

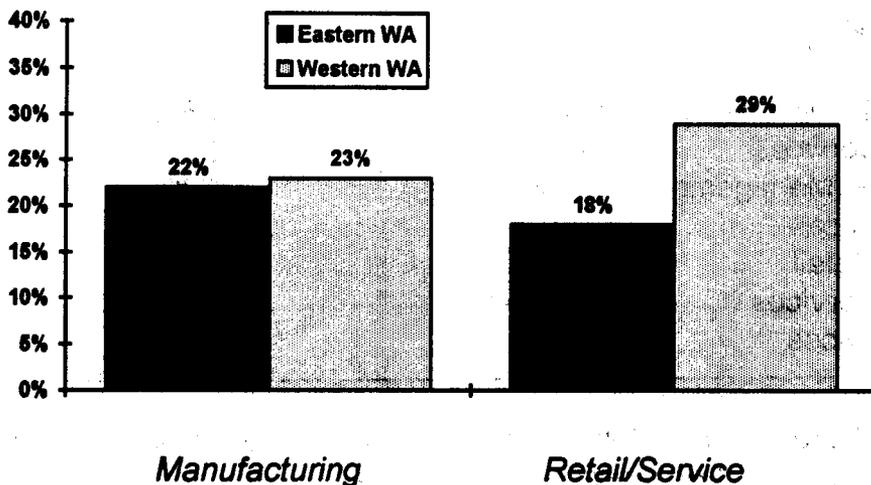
The importance of rail and water transportation to location decisions made by eastern Washington growth industries is summarized in Table 15. While overall, rail and water transportation are not rated as important as highway and air transport modes, rail and water are very important to several key eastern Washington growth industries. For example, only 2% of eastern Washington's new manufacturing business owners identified water transportation as important to their choice of location. However, 36% of food manufacturing business owners and 27% of transportation equipment business owners cited convenient access to water transportation as important. More than 10% of the new businesses in fabricated metal products, transportation equipment as well as logging and lumber products cited convenient rail access as important to their

choice of location. In general, manufacturing growth industries place more importance on both rail and water transport than do retail and service growth industries.

### **Public Transportation for Employees**

Transportation is not only important for the movement of customers, products and supplies. Transportation systems also provide the means for employees to reach the workplace. Overall, about one-quarter of the new businesses starting within Washington during the early 1990s report public transportation for employees to be an important factor in their choice of business location. The importance attached to public transportation by different economic sectors and regions of the state are summarized in Figure 11.

**Figure 11: Percent of New Businesses and Industries Identifying Public Transportation as Important**



Nearly one-quarter of new manufacturing businesses locating in both eastern and western Washington cite the availability of public transportation for employees as an important consideration in their choice of location. Among new retail and service businesses, those locating in western Washington referenced the importance of public transportation most frequently.

The eastern Washington growth industries attributing the greatest importance to public transportation are identified in Table 16 (see page 29). Over one-half the new food manufacturing business owners and 28% of new printing and publishing business owners indicated that the availability of public transportation was an important consideration in their site location decision. Among new retail and service growth industries, food and drink establishments, personal services and engineering/management consulting indicated most frequently that public transportation for employees was an important consideration. In general,

**Table 16--Importance of Public Transportation to Location Choices by New Businesses and Industries**

	<b>Percent citing public transportation as important to location decision</b>
<b><u>Manufacturing</u></b>	
Food Manufacturing	54%
Printing and Publishing	28%
Industrial Machinery Manufacturing	20%
Logging and Lumber Products	19%
Manufactured Wood Products	18%
Fabricated Metal Products	14%
Transportation Equipment	0%
<b><u>Retail/Service</u></b>	
Food and Drink Establishments	36%
Personal Services	29%
Engineering/Management Consulting	28%
Health Services	25%
Specialty Retail	20%
Business Services	20%
Repair Services	6%

industries that are the most labor intensive tend to place the highest value on public transportation. For these businesses, public transportation is critical to labor recruitment and mobility.

## **Section 4: Non-Transportation Needs of New Business and Industry**

Transportation improvements are only one factor necessary for successful development of new business and industry. By themselves, better highways, more efficient intermodal connections and other transportation improvements are not likely to lead to the development of new business and industry. This section discusses other critical elements of the business development equation that enhance the potential economic impact of transportation system improvements.

A list of factors other than transportation identified in the EWITS New Business Survey as "important" to new business and industry appear on page 31. Location preferences are compared for retail/service businesses and manufacturing businesses on both sides of the Cascade Mountains. The ranking of specific location factors that are important is remarkably similar for manufacturing and nonmanufacturing businesses as well as for businesses located in different regions of the state.

### **Desirability of the Community as a Place to Live and Work**

A dominant factor in any business location decision is the preference of the owner for a particular community and the lifestyle that it offers. The personal preference of the owner was cited by 87% of the businesses surveyed as an important reason for the business' location choice. This preference often involves a subjective assessment of the quality of life offered by a particular community. About ninety percent of the new business people surveyed suggest that their perception of the community as "a good place to live" was important to their business location choice. What makes a community a good place to live obviously varies according to individual preference. Several factors rated as "important" to new business location are low cost of living, affordable residential housing, quality public schools and access to higher education.

While very important, the desirability of a community as a place to live can only go so far in determining where a new business will locate. In the end, economics will determine whether or not a business can be successful in their chosen location. Key elements of that economic choice are (1) proximity to markets and suppliers, (2) availability of local business support services and (3) the availability of appropriate labor, real estate, utilities and financing.

**Table 17--Factors Other than Transportation Important  
to New Business and Industry**

<b>Local Site Advantage</b>	<b>Percent citing local factor as "important" to location choice</b>				
	<b><u>Statewide Average</u></b>	<b><u>Manufacturing</u></b>		<b><u>Retail/Service</u></b>	
		<b><u>East</u></b>	<b><u>West</u></b>	<b><u>East</u></b>	<b><u>West</u></b>
Community is a good place to live	90%	90%	89%	93%	90%
Personal preference of owner	87%	87%	87%	87%	88%
Local attitudes support business	84%	86%	81%	89%	84%
Previous business relationships	80%	79%	78%	83%	79%
Low cost of living	79%	81%	76%	85%	74%
Affordable residential housing	72%	78%	67%	73%	70%
Proximity to markets for products	72%	76%	75%	63%	74%
Availability of key business services	66%	64%	69%	69%	58%
Availability of telecommunications	64%	56%	70%	65%	64%
Proximity to suppliers	61%	63%	73%	48%	54%
Quality of public schools	59%	64%	55%	64%	58%
Access to higher education	56%	61%	54%	56%	58%
Low local business taxes	56%	55%	57%	60%	55%
Low state taxes	56%	58%	54%	59%	51%
Availability of low cost public utilities	54%	57%	52%	52%	48%
Availability of skilled labor	50%	57%	57%	40%	48%
Low cost commercial real estate	46%	54%	44%	47%	43%
Quality of local government services	36%	36%	37%	37%	35%
Available local financing	36%	36%	32%	37%	31%
Availability of low cost labor	29%	34%	30%	29%	23%
Quantity of government services	24%	25%	21%	27%	31%

## **Proximity to Markets and Suppliers**

Transportation provides the opportunity to ship products to market and to receive necessary supplies. However, the actual cost of reaching the customer or obtaining supplies depends upon how far products and supplies must be transported. Seventy-two percent of Washington's new businesses report proximity to markets to be an important consideration in their business location choice. Sixty-one percent stressed the importance of proximity to suppliers. Eastern Washington businesses and industries appear to place slightly less importance on location near markets and suppliers than do businesses locating in western Washington. By locating near major markets and suppliers, new business people are able to reduce their bottom line costs of business start-up and operation.

## **Availability of Local Business Support Services**

Business support services include telecommunications, printing services, accounting, legal help, janitorial services, temporary help agencies and others. These services are becoming increasingly essential for competitive business operation. The availability of local business support services was mentioned as important by two-thirds of the businesses surveyed. Sixty-four percent of Washington's new business owners recognized adequate telecommunications as important to their business location choice. Fax, modem and voice telecommunications systems are essential to the day-to-day operation of most modern businesses. An increasing number of businesses use video-conferencing as an alternative to in-person meetings with clients and colleagues in branch offices.

## **Availability of Appropriate Labor, Real Estate, Utilities and Financing**

Labor, real estate, utilities and financing are the primary components of the profit and loss statement that determine the tenure of a new business. However, among new Washington business people surveyed, these factors were generally perceived as less important than most other considerations in their chosen community. The availability of low cost public utilities was viewed as important in their location decision by 54% of Washington's businesses. The remaining factors (availability of appropriate labor, real estate and local financing) were viewed as important by less than 50% of the businesses. While less important in business location decisions than some other factors, the availability of appropriate labor, real estate, utilities and financing are essential to the long-term success of new business and industry. They must be in place before new transportation system improvements can be expected to have a significant impact on local business development.

## **Supportive Local and State Government**

Among factors other than transportation considered, the quality and quantity of local government services were among issues perceived as the least important by businesses choosing a new location. This may partly reflect the near universal availability of adequate fire, police, garbage and other typical local government services. These services are not unique to any one community. However, new business people surveyed did have much to say about the importance of supportive state and local government. Many of the businesses surveyed commented that taxes on small business are a burden. Indeed, 56% of the businesses indicated that low state and local taxes are an important consideration in their business location decision. Over half of the new Washington businesses surveyed responded to an open ended question asking what government could have done to make their chosen community a more attractive business location. The most frequent suggestion was to "reduce regulations and lower taxes". These appear to be the issues on the top of the list for the 84% of Washington new businesses who indicated that "local attitudes are supportive of business" was important to their location choice.

## **Section 5: Implications for Eastern Washington**

### **Transportation Policies and Programs**

The analysis presented in this report points to the important role of the transportation system in supporting the development of new business and industry. The final section of this report provides focus on policies and program guidelines that would better link future transportation system improvements to new business development needs within eastern Washington. The scope of these recommendations is limited to the transportation needs of newly established manufacturing, retail and service businesses.

***1. Public highway investments which facilitate the efficient operation of truck motor freight are the most critical for new manufacturing, retail and service business development within eastern Washington.***

Truck motor freight is the dominant mode of transportation used by new eastern Washington manufacturing firms. More than three-quarters of Washington's new manufacturing businesses rely on motor freight to deliver products and/or receive supplies. Package delivery services are widely used by both new manufacturing and nonmanufacturing businesses. Even industries that are significant users of other modes including air, water and rail rely on an efficient motor freight network. Typically trucks are used to transport products to and from intermodal transfer facilities (ports, rail reloading facilities, etc.).

Because of its central importance, public highway investments which facilitate the efficient operation of truck motor freight will likely have the greatest impact on the development of new business and industry. Examples of investments important to truck movement include: adding or widening lanes on two lane segments of heavily-traveled motor freight corridors; providing trucks with the opportunity for efficient bypass of congested urban segments; constructing local access roads as needed to provide convenient truck access to ports, rail reloading facilities, airports, industrial parks, shopping centers and other truck destinations; and emphasizing the maintenance and general improvements of heavily-traveled truck routes and haul roads.

Careful coordination between public highway investment decisions and local land use planning is essential for success in facilitating the efficient operation of truck motor freight needed by new business and industry. For example, the development of new industrial sites or storage facilities should be encouraged on better designed roads or in areas where convenient truck access can be provided. This means that transportation system planning should be an element of local growth management and comprehensive plans. Likewise, established local and regional land use goals should be an important consideration by

MPOs/RTPOs, city governments, county governments and WSDOT when planning new highway transportation improvements.

**2. *An efficient air freight system is of increasing importance to the development of manufacturing, retail and service businesses within the region.***

Air freight is important to the development of nearly all of eastern Washington's manufacturing, retail and service growth industries. This is particularly true for industries such as food manufacturing, industrial machinery and transportation equipment, engineering/management consulting and specialty retail where timely delivery of products and receipt of supplies is essential to their business' success. This includes both direct air shipments and use of package delivery services.

Maintaining and improving eastern Washington's air freight system will be critical to the region's success in developing new business and industry. This may include capacity expansions and other facility improvements at regional airports. Maintaining efficient truck to air intermodal connections is equally important. The development of a Foreign Trade Zone in the vicinity of the Yakima Air Terminal and a similar proposal in Moses Lake represent another option to better fulfill the air freight transportation needs of new eastern Washington businesses and industries.

**3. *Intermodal connections to marine and inland barge transportation should be recognized as essential to eastern Washington's export-oriented manufacturing businesses.***

Export-oriented manufacturing industries are particularly dependent on the marine and inland barge transportation system. Food manufacturing, transportation equipment, as well as lumber and wood products are the most dependent on water transportation. Truck-to-port transportation systems are particularly important to these industries.

Examples of possible transportation system improvements that can facilitate the transportation needs of international export-oriented manufacturing businesses include: continued improvement of container handling facilities at eastern Washington river ports; maintaining or improving access roads to eastern Washington ports; and continued improvement of eastern Washington's interstate highway and rail connections to Pacific coast marine ports. Continued on-site development of export-oriented industries at eastern Washington's public port facilities is another important option to efficiently meet the water transportation needs of these industries.

**4. Eastern Washington manufacturing industries are the most likely to cite access to rail transportation as important to their business location choice.**

New manufacturing industries in eastern Washington are about twice as likely as those in western Washington to use rail transport. There are several key eastern Washington growth industries that rely significantly on the rail system. Most notably, newly established businesses in fabricated metals, transportation equipment and logging and lumber industries each deliver more than 10% of their product by rail.

This study focused on the transportation needs of industries locating in the state of Washington during the first three years of the 1990s. It is recognized that rail transportation may be even more important for established eastern Washington businesses in agriculture, lumber products and other industries with bulky commodities.

While businesses and industries established in the state of Washington during the early 1990s tend to use rail less than highway transportation, rail continues to remain important to eastern Washington's future economy. Consequently, continued maintenance and enhancement of rail transportation is a necessary component of an effective intermodal transportation system for eastern Washington.

**5. Plans for transportation system improvements should take into consideration the key role of public transportation, telecommunications and other factors that enable successful economic development at the local level.**

Transportation improvements such as constructing a four lane highway segment, diverting truck traffic around a congested urban location, restoring abandoned rail service or upgrading local port facilities are often touted by local leaders as keys to successful economic development. Transportation improvements such as these may indeed open up new opportunities for economic development. However, highway, air, water, and rail transportation access is just one factor considered by firms in choosing a new business location. For example, one-quarter of Washington's new businesses consider public transportation for their employees as important to their business location choice. Two-thirds of the new businesses suggest "adequate local telecommunications facilities" is important to their business location choice. Consequently, for some businesses the advantages of improved transportation systems may not off-set the disadvantages of a business location in a community without public transportation or those lacking state-of-the-art telecommunications facilities.

A community offering a quality living environment was recognized almost universally as an important consideration by new businesses choosing a location. Approximately 90% of the manufacturing and nonmanufacturing business owners interviewed suggested that their perception of the "community as a good place to live" is important to choosing a site for a new business. Other community factors such as availability of affordable housing and quality public schools were also frequently mentioned by new business owners.

Advanced planning studies for proposed transportation improvements should take into consideration the important nontransportation factors that will influence the economic and land use consequences of a major system change. To maximize the potential economic benefits of a transportation system improvement, MPOs/RTPOs, local governments, and WSDOT should work closely with public transportation interests, telecommunications providers and others to ensure nontransportation factors are available to support new business development.

## References

Casavant, Ken, "A Review of the Pacific Northwest Transportation System," Cascade Grain Council, Winnipeg, Manitoba, November 1991.

Hough, Jill, Frank Dooley and Gary Otto, Transportation and Rural Economic Development, Upper Great Plains Transportation Institute, August 1991.

McMullen, Starr and Ken Casavant, "Methodology for Estimating Impact of Transportation Infrastructure on Business Location in Rural Northwest Communities," University of Washington, Transportation Northwest, September 1992.

US Chamber of Commerce, A Guide to the North American Free Trade Agreement, Washington D.C., 1992.

Washington State Department of Revenue, Tax Statistics, 1990 - 1992.

Washington State Department of Revenue, Taxable Retail Sales by City and County, 1981 - 1991.

Washington State Employment Security, Employment and Payrolls in Washington State by County and Industry, Annual Averages 1980 - 1992.

Washington State Employment Security Department, "Industry Forecast 1990-2010," LMI Review, Third Quarter 1990.

Washington State University Social and Economic Science Research Center, "New Business Starts: A Telephone Survey of Washington Business Conducted for the Eastern Washington Intermodal Transportation Study", Summer 1993.

**APPENDIX**

**EWITS New Business Survey Instrument**

New Business Starts: A Survey of Washington Businesses

Data Report (#93-22): By SESRC - July, 1993

Survey Instrument

- Q1. Enter respondent ID number: \_\_\_\_\_
- Q2. Enter the Interview Start Time (XXX or XXXX): \_\_\_\_\_
- Q3. Enter the Interview End Time (XXX or XXXX): \_\_\_\_\_
- Q4. Enter the Area Code and First Three Digits of Telephone Number: \_\_\_\_\_
- Q5. Enter the ZIP code: \_\_\_\_\_
- Q6. Enter the SIC code: \_\_\_\_\_
- Q7. Enter type of business:
  - 1. Manufacturing
  - 2. Non-manufacturing
- Q8. Enter the Business Size Class/Gross Revenues:
  - 1. Under \$250,000
  - 2. \$250,000 to \$999,999
  - 3. \$1,000,000 to \$1,999,999
  - 4. \$2,000,000 and above

INTERVIEWER, DIAL THE TELEPHONE NUMBER 6-(ACCESS CODE)-##-(AREA CODE) XXX-XXXX

INTRODUCTION

- Q9. Hello, my name is \_\_\_\_\_ and I am calling from the Social and Economic Sciences Research Center at Washington State University in Pullman. May I speak to the owner or manager of this business?
  - 1. Yes, speaking
  - 2. What is this regarding
  - 3. Yes, someone else . . . . . GOTO Q11
  - 3. Person Not Available . . . . . [INTERVIEWER: SCHEDULE A CALL BACK APPOINTMENT OR LEAVE 1-800-833-0867 NUMBER. MAKE SURE AND GET THE PERSON'S NAME]
  
- Q10. We have been asked by Washington State University's Department of Agricultural Economics to contact new businesses throughout the state. The answers you provide will help state and local government identify ways to be most helpful to new and expanding businesses in Washington State.  
[INTERVIEWER, ASK IF NECESSARY: May I speak with the owner or manager of this business?]
  - 1. Yes, speaking . . . . . GOTO Q12
  - 2. Yes, someone else . . . . . GOTO Q11
  - 3. Person not available . . . . . [INTERVIEWER: SCHEDULE A CALL BACK APPOINTMENT OR LEAVE 1-800-833-0867 NUMBER. MAKE SURE AND GET THE PERSON'S NAME.]

New Business Starts: A Survey of Washington Businesses  
Data Report (#93-22): By SESRC - July, 1993  
Survey Instrument

Q11. Hello, my name is \_\_\_\_\_ and I am calling from the Social and Economic Sciences Research Center at Washington State University in Pullman. We have been asked by Washington State University's Department of Agricultural Economics to contact new businesses throughout the state. The answers you provide will help state and local government identify ways to be most helpful to new and expanding businesses in Washington State.

PRESS "1" TO CONTINUE

Q12. This interview is completely voluntary and has been approved by Washington State University. While parts of this interview may be monitored by my supervisor, the information you provide will remain both confidential and anonymous. If I ask any question that you would prefer not to answer, just let me know and I will skip over it. Okay?

1. Yes

2. Not a convenient time . . . . . [INTERVIEWER ASK: WHEN WOULD BE A GOOD TIME TO CALL BACK?]

Q13. The questions I will be asking relate to new businesses in the State of Washington.

Has your company been involved in a relocation, the establishment of a branch facility, or the establishment of a new start-up business in the last five years, that is SINCE JANUARY 1, 1988?

1. Yes . . . . . GOTO Q18.2

2. No

Q14. Has your organization applied for a business license in the last five years, that is, SINCE JANUARY 1, 1988.

1. Yes

2. No . . . . . [INTERVIEWER: READ: "Thank you very much for your time." CODE INTERVIEW AS "IE"]

Q15. In what year did your organization apply for a business license?

\_\_\_\_\_ [ENTER YEAR]

[INTERVIEWER: IF BEFORE 1988: "Has your organization applied for a business license SINCE 1988?" IF "NO", THEN READ: Thank you very much for your time." CODE INTERVIEW AS "IE"]

Q16. Why did your organization apply for a business license?

[PROBE TO ELICIT AN ANSWER: "For instance, was your organization restructuring or was it planning to expand its operations to another location?"]

New Business Starts: A Survey of Washington Businesses  
Data Report (#93-22): By SESRC - July, 1993  
Survey Instrument

Q17. [INTERVIEWER: IF THE REASON FOR APPLYING FOR A BUSINESS LICENSE INVOLVED ANY CHANGE IN THE PHYSICAL LOCATION OF ALL OR PART OF THE ORGANIZATION,  
-OR-  
IF THE REASON FOR APPLYING INVOLVED ANY DECISION PROCESS TO BUY AN EXISTING BUSINESS  
-THEN-  
THE BUSINESS IS ELIGIBLE FOR THE STUDY  
IF NOT, TERMINATE AS AN "IE"

1. Eligible for study
2. Ineligible for study ---> [INTERVIEWER READ: "Thank you very much for your time." CODE INTERVIEW AS AN "IE"]

Q18. Did your organization actually (fill in phrase from Q16)

1. Yes
2. No --> [INTERVIEWER READ: "Thank you very much for your time. CODE AS AN "IE"]

In which Washington cities or towns did your business establish new facilities SINCE JANUARY 1, 1990

Q19. _____	Q20. _____	[FIRST MENTION]
Q21. _____	Q22. _____	[SECOND MENTION]
Q23. _____	Q24. _____	[THIRD MENTION]

[INTERVIEWER: IF RESPONDENT MENTIONS ONLY ONE BUSINESS, PROBE: Was this the only new facility established in Washington State since January 1, 1988? RECORD UP TO THREE RESPONSES]

Q25. The remainder of the questions in this interview will focus on your decision to locate a new facility in {reference Q19}

In what year was the {reference Q19} facility established?

\_\_\_\_\_ [ENTER YEAR]

[IF BEFORE 1988: BO BACK TO Q19 AND RECORD BUSINESSES ESTABLISHED SINCE 1988.]

Q26. Would you say your new facility in {reference Q19} was the result of . . .

1. THE RELOCATION OF AN EXISTING BUSINESS
2. THE ESTABLISHMENT OF A BRANCH BUSINESS FACILITY
3. THE ESTABLISHMENT OF A NEW START-UP BUSINESS
4. THE PURCHASE OF AN EXISTING BUSINESS

New Business Starts: A Survey of Washington Businesses  
 Data Report (#93-22): By SESRC - July, 1993  
 Survey Instrument

Q27. What are the principal products or services provided by your facility in {reference Q19)?

---



---



---

[INTERVIEWER PROBE: Are there any other principal products or services provided by your {reference Q19} facility that you haven't mentioned?]

Next, we would like to know what factors are important to businesses when selecting a particular site for a new business facility.

Q28-Q35 First, I am going to read a list of different types of TRANSPORTATION. As I read each one, please tell me if access to that type of transportation was VERY IMPORTANT, SOMEWHAT IMPORTANT, SOMEWHAT UNIMPORTANT, or VERY UNIMPORTANT in your decision to select {reference Q19} as the site for your new facility.

The first one is ACCESS TO SCHEDULED PASSENGER AIR SERVICE.

Would you say this was VERY IMPORTANT, SOMEWHAT IMPORTANT, SOMEWHAT UNIMPORTANT, or VERY UNIMPORTANT in your decision to select {reference Q19} as the site for your new facility.

The next one is access to ...

[1=VERY IMPORTANT, 2=SOMEWHAT IMPORTANT, 3=SOMEWHAT UNIMPORTANT, 4=VERY UNIMPORTANT]

	VERY IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT
Q28. Scheduled passenger air service	1	2	3	4
Q29. Air freight service	1	2	3	4
Q30. Rail service	1	2	3	4
Q31. Motor freight	1	2	3	4
Q32. Water transportation	1	2	3	4
Q33. Public transportation for employees	1	2	3	4
Q34. High traffic routes	1	2	3	4
Q35. Interstate highways	1	2	3	4

Q36.  
 Q37.  
 Q38.  
 Q39.  
 Q40.  
 Q41.  
 Q42.  
 Q43.

----> MATI BRANCH VARIABLES. IF Q28 THROUGH Q35 ALL EQUAL 3 OR 4, GOTO Q45]

New Business Starts: A Survey of Washington Businesses  
 Data Report (#93-22): By SESRC - July, 1993  
 Survey Instrument

Q44. Which one of these factors I just mentioned would you say was most important?

[INTERVIEWER NOTE: I CAN READ THE LIST AGAIN IF YOU LIKE]

1. Access to scheduled passenger air service
2. Access to air freight service
3. Access to rail service
4. Access to motor freight
5. Access to water transportation
6. Access to public transportation for employees
7. Access to high traffic routes
8. Access to interstate highways

Q45-Q58 Next, I am going to read a list of BUSINESS factors. As I read each one, please tell me if this factor was VERY IMPORTANT, SOMEWHAT IMPORTANT, SOMEWHAT UNIMPORTANT, or VERY UNIMPORTANT in your decision to select (reference Q19) as the site for your new facility.

The first one is AVAILABILITY OF LOCAL FINANCING FOR BUSINESSES.

Would you say this was VERY IMPORTANT, SOMEWHAT IMPORTANT, SOMEWHAT UNIMPORTANT, or VERY UNIMPORTANT in your decision to select (reference Q19) as the site for your new facility.

The next one is ...

[1=VERY IMPORTANT, 2=SOMEWHAT IMPORTANT, 3=SOMEWHAT UNIMPORTANT, 4=VERY UNIMPORTANT]

	VERY IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT
Q45. Availability of local financing for businesses . . . . .	1	2	3	4
Q46. Availability of local business services . . . . .	1	2	3	4
Q47. Quantity of local government services . . . . .	1	2	3	4
Q48. Quality of local government services . . . . .	1	2	3	4
Q49. Low local business taxes . . . . .	1	2	3	4
Q50. Low state taxes . . . . .	1	2	3	4
Q51. Availability of printing and publication services . . . . .	1	2	3	4
Q52. Availability of adequate telecommunication services . . . . .	1	2	3	4
Q53. Availability of skilled labor . . . . .	1	2	3	4
Q54. Availability of low cost, unskilled labor . . . . .	1	2	3	4
Q55. Availability of low cost commercial real estate sites . . . . .	1	2	3	4
Q56. Availability of low cost public utilities . . . . .	1	2	3	4
Q57. Proximity to suppliers . . . . .	1	2	3	4
Q58. Proximity to markets for products . . . . .	1	2	3	4

New Business Starts: A Survey of Washington Businesses  
Data Report (#93-22): By SESRC - July, 1993  
Survey Instrument

- Q59.
- Q60.
- Q61.
- Q62.
- Q63.
- Q64.
- Q65. --> MATI BRANCH VARIABLES. IF Q45 THROUGH Q58 ALL EQUAL 3 OR 4, GOTO Q74.]
- Q66.
- Q67.
- Q68.
- Q69.
- Q70.
- Q71.
- Q72.

Q73. Which one of the factors I just mentioned would you say was most important?

[INTERVIEWER NOTE: I CAN READ THE LIST AGAIN IF YOU LIKE]

1. Availability of local financing for businesses
2. Availability of local business services
3. Quantity of local government services
4. Quality of local government services
5. Low local business taxes
6. Low state taxes
7. Availability of printing and publications services
8. Availability of adequate telecommunications services
9. Availability of skilled labor
10. Availability of low cost, unskilled labor
11. Availability of low cost commercial real estate sites
12. Availability of low cost public utilities
13. Proximity to suppliers
14. Proximity to markets for products

New Business Starts: A Survey of Washington Businesses  
 Data Report (#93-22): By SESRC - July, 1993  
 Survey Instrument

Q74-Q81 Now, I am going to read a list of COMMUNITY factors. As I read each one, please tell me if this factor was VERY IMPORTANT, SOMEWHAT IMPORTANT, SOMEWHAT UNIMPORTANT, or VERY UNIMPORTANT in your decision to select (reference Q19) as the site for your new facility.

The first one is PERSONAL PREFERENCE OF OWNER

Would you say this was VERY IMPORTANT, SOMEWHAT IMPORTANT, SOMEWHAT UNIMPORTANT, or VERY UNIMPORTANT in your decision to select (reference Q19) as the site for your new facility.

The next one is ...

[1=VERY IMPORTANT, 2=SOMEWHAT IMPORTANT, 3=SOMEWHAT UNIMPORTANT, 4=VERY UNIMPORTANT]

	VERY IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT UNIMPORTANT	VERY UNIMPORTANT
Q74. Personal preference of owner . . . . .	1	2	3	4
Q75. The community is a good place to live . . .	1	2	3	4
Q76. Favorable local attitudes and support . . .	1	2	3	4
Q77. The quality of public schools . . . . .	1	2	3	4
Q78. Well developed business relationships . . .	1	2	3	4
Q79. Affordable residential housing . . . . .	1	2	3	4
Q80. Access to higher education . . . . .	1	2	3	4
Q81. The cost of living . . . . .	1	2	3	4

Q82.  
 Q83.  
 Q84.  
 Q85.  
 Q86.  
 Q87.  
 Q88.  
 Q89.

--> MATI BRANCH VARIABLES. IF Q74 THROUGH Q81 ALL EQUAL 3 OR 4, GOTO Q91.]

Q90. Which one of the factors I just mentioned would you say was most important?

[INTERVIEWER NOTE: I CAN READ THE LIST AGAIN IF YOU LIKE]

1. Personal preference of owner
2. The community is a good place to live
3. Favorable local attitudes and support
4. The quality of public schools
5. Well developed business relationships
6. Affordable residential housing
7. Access to higher education
8. The cost of living

New Business Starts: A Survey of Washington Businesses  
Data Report (#93-22): By SESRC - July, 1993  
Survey Instrument

Q91. Are there any other MAJOR REASONS that I have not mentioned for choosing {reference Q19} as the location for your new facility?

1. Yes
2. No . . . . . GOTO Q93

Q92. What were the reasons?

---

---

Q93. Did you encounter any major problems in locating your business in {reference Q19}?

1. Yes
2. No . . . . . GOTO Q95

Q94. What problems did you encounter?

---

---

Q95. Is there anything that state or local government could have done to make {reference Q19} a more attractive location for your business?

1. Yes
2. No . . . . . GOTO Q97

Q96. What could they have done?

---

---

New Business Starts: A Survey of Washington Businesses  
Data Report (#93-22): By SESRC - July, 1993  
Survey Instrument

**Q97. MATI BRANCH VARIABLE FOR MANUFACTURING/NON-MANUFACTURING SECTIONS**

\*\*\*\*\*MANUFACTURING SECTION\*\*\*\*\*

Next, I have some questions about where Washington manufacturing firms sell their products and where they buy the materials and supplies used during the production process.

**Q98-Q105** I am going to read seven regions. Please tell me what percent of the products from your (reference Q19) facility are sold in each of these regions. First, what percent of the products are sold in EASTERN WASHINGTON?

What percent of your products (from the {reference Q19} facility) are sold in . . .

[INTERVIEWER: YOU MAY DISCONTINUE READING THE LIST ONCE THE TOTAL OF THE RESPONDENT'S ANSWERS EQUALS 100 %]

Q98. Eastern Washington	_____	
Q99. Western Washington	_____	
Q100. Elsewhere in the Pacific Northwest, not including Washington State	_____	
Q101. Elsewhere in the United States	_____	
Q102. Canada	_____	
Q103. Pacific Rim Nations, such as Japan, Korea, China	_____	
Q104. Europe	_____	
Q105. Any other Regions	_____	. . . . GOTO Q106
		100% = Total

Q106. [IF OTHER, What are the other regions?]

---

Q107. MATI BRANCH VARIABLE. IF Q98 THROUGH Q105 DO NOT EQUAL 100%, GOTO Q108.

Q108. INTERVIEWER: YOUR TOTAL DOES NOT EQUAL 100%

USE ALT J TO RETURN TO Q98 AND VERIFY THE VALUES WITH THE RESPONDNET.

HAVE THE RESPONDENT ADJUST THE VALUES SO THEY EQUAL 100%

ENTER "1" TO CONTINUE WHEN VALUES EQUAL 100%.

New Business Starts: A Survey of Washington Businesses  
 Data Report (#93-22): By SESRC - July, 1993  
 Survey Instrument

Q109-Q116 Please tell me what percent of the materials and supplies used in production at your {reference Q19} facility come from each of these regions. First, what percent of the materials and supplies used in production come from EASTERN WASHINGTON?

What percent of the materials and supplies (used at your {reference Q19} facility come from) . . .

[INTERVIEWER: YOU MAY DISCONTINUE READING THE LIST ONCE THE TOTAL OF THE RESPONDENT'S ANSWERS EQUALS 100%]

- Q109. Eastern Washington \_\_\_\_\_
  - Q110. Western Washington \_\_\_\_\_
  - Q111. Elsewhere in the Pacific Northwest, \_\_\_\_\_  
 not including Washington State \_\_\_\_\_
  - Q112. Elsewhere in the United States \_\_\_\_\_
  - Q113. Canada \_\_\_\_\_
  - Q114. Pacific Rim Nations, such as \_\_\_\_\_  
 Japan, Korea, China \_\_\_\_\_
  - Q115. Europe \_\_\_\_\_
  - Q116. Other Regions \_\_\_\_\_ . . . . . GOTO Q120
- 100% = Total

Q117. [IF OTHER, What are the other regions?]

Q118. MATI BRANCH VARIABLE. IF Q109 THROUGH Q116 DOES NOT EQUAL 100%, GOTO Q119.

Q119. INTERVIEWER: YOUR TOTAL DOES NOT EQUAL 100%  
 USE ALT J TO RETURN TO Q109 AND VERIFY THE VALUES WITH THE RESPONDNET.  
 HAVE THE RESPONDENT ADJUST THE VALUES SO THEY EQUAL 100%  
 ENTER "1" TO CONTINUE WHEN VALUES EQUAL 100%.

Q120-Q128 Do you use any of these methods to transport your facility's products from {reference Q19} to their SELLING DESTINATION?

Do you use . . .

	YES	NO	
Q120. Motor truck freight . . . . .	1	2	
Q121. Rail service . . . . .	1	2	
Q122. A combination of truck and rail . . .	1	2	
Q123. A combination of truck and air . . .	1	2	
Q124. A combination of truck and water . .	1	2	
Q125. Electronic media (fax, modem) . . .	1	2	
Q126. Package Delivery Services (U.S. mail, UPS, etc) . . . . .	1	2	
Q127. Other motor freight . . . . .	1	2	
Q128. Other methods . . . . .	1	2	. . . GOTO Q129

Q129. [IF OTHER, What are these methods?]

New Business Starts: A Survey of Washington Businesses  
 Data Report (#93-22): By SESRC - July, 1993  
 Survey Instrument

Q130-Q138 Do you use any of these methods to transport goods and materials used in production FROM SUPPLIERS to your (reference Q19) facility?

	YES	NO
Q130. Motor truck freight . . . . .	1	2
Q131. Rail service . . . . .	1	2
Q132. Combination of truck and rail . . . . .	1	2
Q133. Combination of truck and air . . . . .	1	2
Q134. Combination of truck and water . . . . .	1	2
Q135. Electronic media (fax, modem) . . . . .	1	2
Q136. Package Delivery Services (U.S. mail, UPS, etc) . . . . .	1	2
Q137. Other motor freight . . . . .	1	2
Q138. Other methods . . . . .	1	2

. . . . GOTO Q139

Q139. [IF OTHER, What are these methods?]

---

UNCONDITIONAL BRANCH TO Q172

New Business Starts: A Survey of Washington Businesses  
Data Report (#93-22): By SESRC - July, 1993  
Survey Instrument

\*\*\*\*\*NON-MANUFACTURING SECTION\*\*\*\*\*

Next, I have some questions about where Washington businesses sell their products and where they buy the materials and supplies used to support their business operations.

Q140. Does your {reference Q19} facility sell products or services to customers located outside of your local area?

1. Yes
2. No . . .GOTO Q156

[INTERVIEWER: Let the respondent make their own judgement about what is the local area. However, if questions come up, suggest the local area is a 60 mile radius around {reference Q19}]

Q141-Q148 I am going to read seven regions. Please tell me what percent of the products from your {reference Q19} facility are sold in each of these regions. First, what percent of the products are sold in EASTERN WASHINGTON?

What percent of your products (from the {reference Q19} facility) are sold in . .

[INTERVIEWER: YOU MAY DISCONTINUE READING THE LIST ONCE THE TOTAL OF THE RESPONDENT'S ANSWERS EQUALS 100%]

ENTER PERCENT

Q141. Eastern Washington	_____
Q142. Western Washington	_____
Q143. Elsewhere in the Pacific Northwest, not including WA State	_____
Q144. Elsewhere in the United States	_____
Q145. Canada	_____
Q146. Pacific Rim Nations, such as Japan, Korea, China	_____
Q147. Europe	_____
Q148. Other Regions	_____ . . . GOTO Q149

100% = Total

[MATH: IF SUM OF Q141 THROUGH Q148 DOES NOT EQUALS 100, FLASH WARNING " " ]

Q149. [IF OTHER, What are the other regions?]

---

New Business Starts: A Survey of Washington Businesses  
 Data Report (#93-22): By SESRC - July, 1993  
 Survey Instrument

Q150-Q154 Do you use any of these methods to transport your facility's products from {reference Q19} to their SELLING DESTINATION?

Do you use . . .

1 = YES      2 = NO      3 = DON'T KNOW

Q150. Package delivery services (U.S. mail, UPS, etc) . . . . .	1	2	3	
Q151. Other motor freight . . . . .	1	2	3	
Q152. Air freight . . . . .	1	2	3	
Q153. Electronic media (fax, modems) . . .	1	2	3	
Q154. Other . . . . .	1	2	3	. . . GOTO Q155

Q155. [OTHER: Please specify.]

---

Q156-Q163 Please tell me what percent of the materials and supplies used to support your business operations at your {reference Q19} facility come from each of these regions. First, what percent of the materials and supplies come from EASTERN WASHINGTON?

What percent of the materials and supplies (used at your {reference Q19} facility come from) . . .

[INTERVIEWER: YOU MAY DISCONTINUE READING THE LIST ONCE THE TOTAL OF THE RESPONDENT'S ANSWERS EQUALS 100%]

	ENTER PERCENT	
Q156. Eastern Washington	_____	
Q157. Western Washington	_____	
Q158. Elsewhere in the Pacific Northwest, not including Washington State	_____	
Q159. Elsewhere in the United States	_____	
Q160. Canada	_____	
Q161. Pacific Rim Nations, such as Japan, Korea, China	_____	
Q162. Europe	_____	
Q163. Other Regions	_____	. . . GOTO Q164
	100% = Total	

[MATH: IF SUM OF Q156 THROUGH Q163 DOES NOT EQUAL 100, FLASH WARNING " " ]

Q164. [IF OTHER, What are the other regions?]

---

New Business Starts: A Survey of Washington Businesses  
Data Report (#93-22): By SESRC - July, 1993  
Survey Instrument

Q165-Q169 Do you use any of these methods to transport goods and materials used in your businesses' operations FROM SUPPLIERS to your (reference Q19) facility?

Do you use . . .

1 = YES      2 = NO      3 = DON'T KNOW

Q165. Package delivery services (U.S. mail, UPS, etc.) . . . . .	1	2	3
Q166. Other motor freight services . . . . .	1	2	3
Q167. Air freight . . . . .	1	2	3
Q168. Electronic media (fax, modems) . . . . .	1	2	3
Q169. Other . . . . .	1	2	3 . . . . . GOTO Q170

Q170. [OTHER: Please specify.]

---

New Business Starts: A Survey of Washington Businesses  
Data Report (#93-22): By SESRC - July, 1993  
Survey Instrument

\*\*\*\*\*BOTH MANUFACTURING AND NON-MANUFACTURING\*\*\*\*\*  
Q171. MATI BRANCH VARIABLE (ONLY ASK Q172 FOR MANUFACTURING AND SIC CODES 50xx THROUGH 59xx FOR NON-MANUFACTURING.)

Q172. Does your business use off-the-shelf or just-in-time inventory technologies to minimize the amount of inventory that must be stored on-site?

1. Yes
2. No
3. Don't Know/Unfamiliar with this technology

Q173. On average, how many people are employed FULL-TIME by your business in {reference Q19)?

\_\_\_\_\_

Q174. On average, how many people are employed PART-TIME AND/OR SEASONALLY by your business in {reference Q19)?

\_\_\_\_\_

Q175. That's my last question. I would like to thank you very much for your time and cooperation. If you have any further comments that you would like to make about this survey or about establishing new businesses, I can note them now.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q176. INTERVIEWER COMMENTS [Enter any comments you have regarding the important observations on the interview/respondent that should be taken into consideration when analyzing the results.]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q177. Enter the termination code: \_\_\_\_\_