

TAXABLE SALES ANALYSIS

FOR

THE TRI-COUNTY

DEVELOPMENT AUTHORITY

AREA



***Disclaimer:** this report is missing the appendix-B & C section. The complete report is available in *Hard Copy* only*

Taxable Sales Analysis
for
The Tri-County
Development Authority Area

Study Conducted by

Ted E. Oleson, Jr., Manuel N. Lopez

Thomas R. Harris

and

Glen W. Atkinson

Ted E. Oleson, Jr. is an Instructor in the Department of Economics at the University of Nevada, Reno.

Manuel N. Lopez is a Research Associate in the Department of Economics at the University of Nevada, Reno.

Thomas R. Harris is a Professor in the Department of Agricultural Economics and Director of the University Center for Economic Development at the University of Nevada, Reno.

Glen W. Atkinson is a Professor in the Department of Economics at the University of Nevada, Reno.

October 1994

**UNIVERSITY
OF NEVADA
RENO**

The University of Nevada, Reno is an Equal Opportunity/Affirmative Action employer and does not discriminate on the basis of race color religion sex age creed national origin veteran status physical or mental disability and in accordance with university policy sexual orientation in any program or activity it operates. The University of Nevada employs only United States citizens and aliens lawfully authorized to work in the United States.

This publication, *Taxable Sales Analysis for the Tri-County Development Authority Area* was published by the University of Nevada Economic Development Center. Funds for the publication were provided by the United States Department of Commerce Economic Development Administration under University Centers Program contract #07-06-03262-94. This publication's statements, findings, conclusions, recommendations, and/or data represent solely the findings and views of the authors and do not necessarily represent the views of the United States Department of Commerce, the Economic Development Administration, Tri-County Development Authority, University of Nevada, or any reference sources used or quoted by this study. Reference to research projects, programs, books, magazines, or newspaper articles does not imply an endorsement or recommendation by the authors unless otherwise stated. Correspondence regarding this document should be sent to:

Thomas R. Harris, Director
University Center for Economic Development
University of Nevada, Reno
Department of Agricultural Economics
Mail Stop 204
Reno, Nevada 89557-0105



UCED
University of Nevada, Reno
Nevada Cooperative Extension
Department of Agricultural Economics

**TAXABLE SALES ANALYSIS FOR
TRI-COUNTY DEVELOPMENT AUTHORITY AREA**

EXECUTIVE SUMMARY

Introduction

- Economic development strategies have traditionally concentrated attention on the attraction of export industries, such as agriculture, mining and manufacturing.
- Development strategies, however, focusing solely on export industry promotion overlook increasing the multiplier effect through development of a region's commercial industries (retail, wholesale and service sectors).
- A more comprehensive development strategy for contemporary and future time periods would be one which not only encourages the attraction of export industries but also emphasizes developing the community's commercial sector.

Trends in Taxable Sales

- Taxable sales in Humboldt County have increased from \$62 million in 1980 to over \$272 million in 1992.
- Between 1986 and 1992, real taxable sales have had an average annual increase of 10.3 percent per year in Humboldt county.
- Taxable sales in Lander County have increased from \$32 million in 1980 to \$96.1 million in 1992.
- Between 1986 and 1992, real taxable sales have had an average annual increase of 13.44 percent in Lander County.
- Taxable sales in Pershing County have increased from \$12.5 million in 1980 to \$49.3 million in 1992.
- Between 1986 and 1992, real taxable sales have increased by an average of 4.4% per year in Pershing County.

Computation of Pull Factors

- An analytical procedure to estimate taxable sales activity for a community or county is the pull factor.
- Pull factors can be used to judge taxable sales activity for a given sector through time for a given county or to make cross-county comparisons of a county's retail sector.
- Pull factor estimates the portion of a customers a county draws from outside its borders.
- What do pull factors tell us? If the pull factor is greater than 1.0, then the county is attracting consumers from outside the county's boundaries. However, if the pull factor value is less than 1.0, then the county is not capturing the commercial purchases of its own residents. When the pull factor is less than 1.0, the county is realizing sales leakage.
- Given that for the state of Nevada, county and local governments receive a large proportion of their revenues from sales taxes; taxable sales leakages are of interest to this level of government.

Interpretation and Use of the Pull Factor

- For local economic development, pull factors can help identify selected sectors which can be targeted for development.
- Some pull factor values may reflect the dominance of a given industry in a given county such as mining and agriculture. In these cases, understanding the cause of the pull factor values may suggest little retail sector development opportunities. For example, a mining supply store has substantial sales in Elko County because of natural resource endowments. Clark County, on the other hand, has low mining supply store sales because of a lack of natural resource endowments. Therefore, suggesting a mining store development opportunity in Clark County because of a low pull factor would be incorrect.

Pull Factor Analysis

- The pull factor value for Humboldt County was 189.5% indicating the county was capturing trade beyond its borders.
- The aggregate pull factor for Humboldt County is influenced by the two major exporting sectors: mining and agriculture whose activities account for 12% of local taxable sales.
- In 1992, Humboldt County only drugstores and candy stores had pull factors of zero. Lowest of the non-zero pull factors was vending machines of 8.4% while mining and assay offices had the largest pull factor of 1294.6%.
- Sectors in Humboldt County with the largest decrease in pull factor values from 1980 to 1992 were second hand stores, vending machine operations, repair and other professional services, and building materials stores.
- The pull factor for Lander County was 142% indicating the county was capturing trade beyond its borders.
- The aggregate pull factor for Lander County is influenced by the two major exporting sectors: mining and agriculture whose activities account for 28 percent of local taxable sales.
- In 1992, in Lander County only candy stores had pull factors of zero. Lowest of the non-zero pull factors were apparel stores at 3.0% while mining and assay offices had the largest pull factor of 2315.9%.
- Sectors in Lander County with the largest decrease in pull factor values from 1980 to 1992 were apparel stores; eating and drinking places; drugstores; household and home furnishings; garden and farm supply; hardware stores; trailer, aircraft, motorcycle and boat retailers, mobile home dealers; construction and special trade contractors and all other outlets.
- The pull factor value for Pershing County was 128% indicating the county was capturing trade beyond its borders.
- The aggregate pull factor for Pershing County is influenced by two major exporting sectors: mining and agriculture, whose activities account for 16 percent of total taxable sales in 1992.
- In 1992, in Pershing County only candy stores had a pull factor value of zero. Lowest of the non-zero pull factors was health and medical equipment at 2.3%, while mining and assay offices had the largest pull factor value of 1110.6%.

- Sectors in Pershing County with the largest decrease in pull factor values from 1980 to 1992 were apparel stores; candy stores; drugstores; second hand stores; fuel and ice dealers; and trailer, aircraft, motorcycle and boat retailers.

Potential Sales Analysis

- Lost sales are defined as the difference between potential sales and actual sales for retail categories with calculated pull factors less than 1.
- For 1992, estimated lost sales for Humboldt County was approximately \$30 million.
- Six sectors in Humboldt County which calculated the largest lost sales were eating and drinking places (\$9.8 million); general merchandise stores (\$6.7 million); leasing companies (\$3.6 million); repair and other personal services (\$2.4 million); and health and medical equipment (\$1.2 million).
- For 1992, estimated lost sales for Lander County were approximately \$27 million.
- Eight sectors in Lander County which calculated the largest sales were eating and drinking places (\$7.0 million); general merchandise stores (\$4.4 million); new and used automobile dealers (\$3.7 million); apparel stores (\$2.4 million); leasing companies (\$1.6 million); household and home furnishings (\$1.5 million); and construction and special trade contractors (\$1.2 million).
- For 1992, estimated lost sales for Pershing County were approximately \$12 million.
- Four sectors in Pershing County which calculated largest lost sales were new and used automobile dealers which were new and used automobile dealers (\$2.9 million); general merchandise stores (\$2.1 million); apparel stores (\$1.2 million); and eating and drinking places (\$1.1 million).
- Those lost sales can be translated as lost sales tax revenues to Humboldt, Lander and Pershing Counties.
- Potential and lost taxable sales by category for Humboldt, Lander and Pershing Counties can help local economic development officials in the formulation of feasibility studies for possible commercial sector development.

Business Development Strategies

Listed below are retail business development strategies that can potentially be used by the decision makers in Douglas County:

- Analyze the Local Business Sector to Identify the Needs and Opportunities to be Pursued.
- Provide Management Assistance and Counseling to Improve the Efficiency and Profitability of Local Businesses.
- Assist New Business Start-Ups and Entrepreneurial Activity.
- Provide Assistance in Identifying and Obtaining Financing.
- Provide Assistance in Undertaking Joint Projects for Business District.
- Develop a One-Stop Permit Center.
- Involve Active Local Organizations and the Media.
- Promote the Development of Home Based Enterprises.

Introduction

Communities in Nevada have been concerned with all aspects of economic development for the past several years. Creating new jobs and additional income is of concern to rural communities and urban areas alike. Often retailing is viewed as unimportant while development focuses upon such “basic” sectors as manufacturing, mining, agriculture or gaming. These basic industries produce goods and services which are sold outside the local or regional economy. These export sales bring outside dollars to the local or regional economy which provide funds for further expansion of the local or regional economy. Export base theory suggests that expansion of a local or regional economy is only achievable by expanded export sales by these basic industries.

The non-basic or commercial sector industries, i.e., retail, wholesale and service sectors, by export base theory tend to circulate existing local dollars rather than attract “new” outside dollars. However, activities of the commercial sector such as retail trade create multiplier effects from export sales by basic industries. Recently it has been estimated that some commercial sectors such as retail bring outside dollars to a local or regional economy (Porterfield and Pulver; Smith; Smith and Pulver). Therefore a more comprehensive economic development strategy would be one that encourages attraction or relocation of export industries but also emphasizes developing a local or regional economy’s commercial sector.

Retail sales also are a major revenue source for local governments which provide most of the services demanded by area residents. Many local communities are promoting a “shop at home” campaign to keep local retail dollars in the community. As one official of a chamber of commerce stated recently, “people need to understand that if people live in one area and demand services from that community, but spend their money somewhere else, we are worse off!”

It will not be possible to eliminate all out-of-town spending or sales leakage for a local economy. However, analysis of retail trade trends will allow identification of emerging retail trade centers and areas for potential growth or decline.

The purpose of this study is to analyze taxable sales trends in the Tri-County Development Authority area. Specifically, this paper will

1. Analyze taxable sales activity in the Tri-County Development Authority area from 1980 to 1992 in terms of overall sales, commodity specific sales and county per capita taxable sales. County per capita taxable sales in the Tri-County Development Authority area will show whether taxable sales of counties in the Tri-County Development Authority area are keeping up with population growth in these counties
2. Derive a “pull factor” for taxable sales which estimates how much counties in the Tri-County Development area could be selling if its residents were making all their purchases within these counties.
3. Estimate the amount of “lost sales” due to shopping outside the counties in the Tri-County Development area, and
4. Review retail trade and small business development strategies available to local communities.

Trends in Sales for the Tri-County Development Authority Counties

An analysis of taxable sales trends for the counties of Humboldt, Lander and Pershing which constitute the Tri-County Development Authority are presented in this section.

Humboldt County

Taxable sales in Humboldt County have generally increased between 1980 and 1992. As shown in Table 1, total taxable sales increased from \$62.5 million in 1980 to over \$272 million in 1992. However, taxable sales declined in 1984, 1986 and 1992. When sales are adjusted for inflation, real sales have shown some variability between 1982 and 1986 but since 1986, real sales have had a somewhat steady increase. Also, real taxable sales in Humboldt County increased from \$76.2 million in 1980 to \$186.4 million in 1992, or an increase of 145 percent in twelve years. Between 1986 and 1992, real sales have had an average increase of 10.3 percent per year. However in 1992, real sales in Humboldt County declined by 3.8% reflecting decreased taxable sales sector activity.

As shown in Graph 2, when sales are adjusted for both inflation and population changes, real per capita taxable sales have increased since 1986 with a small decrease in 1992. As seen from Graph 2, Humboldt County leads both Lander and Pershing Counties in real per capita taxable sales. The implications of a steady increase in per capita real taxable sales is that as the population grows, more taxable sales items are being purchased in Humboldt County. This in turn means that per capita local retail sales tax revenues will likely increase.

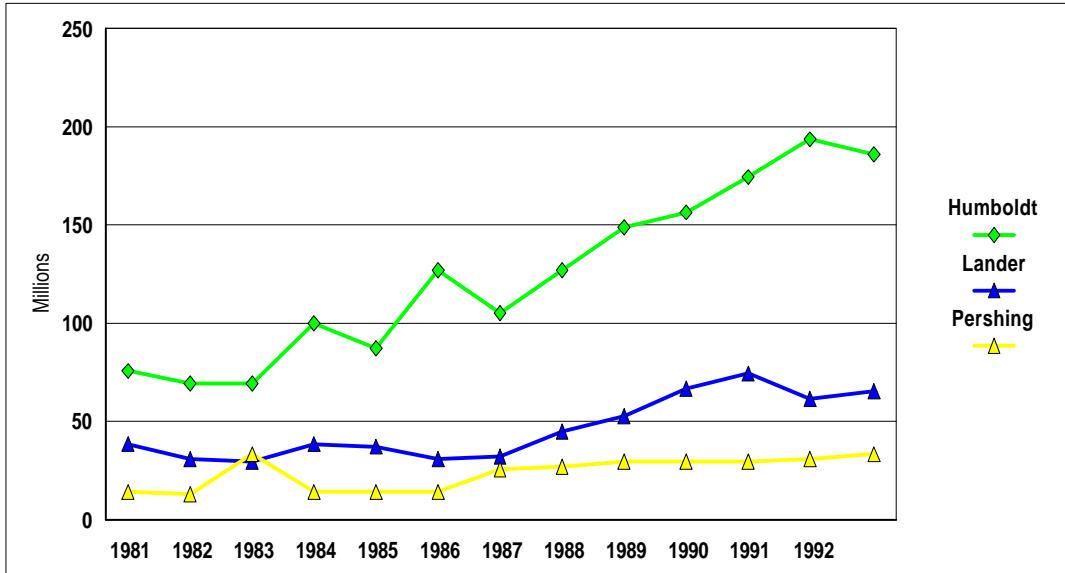
Table 1. Humboldt County Total and Real Taxable Sales, 1980-1993.

Years	Total Sales	Real Sales ^a
1980	62,454,670	76,164,232
1981	62,873,442	69,859,380
1982	66,833,747	69,618,486
1983	100,168,244	100,168,244
1984	90,694,570	87,206,317
1985	137,583,494	127,392,124
1986	117,190,406	105,576,942
1987	142,728,108	127,435,811
1988	183,069,167	148,836,721
1989	201,007,476	157,037,091
1990	235,984,439	174,803,289
1991	273,429,544	193,921,662
1992	272,198,262	186,437,166
1993 ^b	60,977,414	

^a Real Taxable sales derived from consumer price index, 1983 = 100.

^b Includes only the first quarter of 1993.

Graph 2. Real Per Capita Taxable Sales for Humboldt, Lander and Pershing Counties, 1986 to 1992
(adjusted for inflation and population changes)



Lander County

Taxable sales in Lander County have generally increased between 1980 and 1992, however two recessions in the early 1980's and 1990's affected local sales. As shown from Table 2, taxable sales during 1981, 1985 and 1991 declined. Nominal taxable sales for Lander County increased from \$31.9 million in 1980 to \$96 million in 1992.

When sales are adjusted for inflation, taxable sales have actually shown more volatility. As shown from Table 2 and Graph 3, real sales were dramatically impacted by the 1981 recession and did not recover until 1983. Between 1986 and 1992, real sales have had an average increase of 13.44 percent per year. Also real taxable sales in Lander County increased from \$39.0 million in 1980 to \$66.0 million in 1992 or an increase of 69 percent in twelve years.

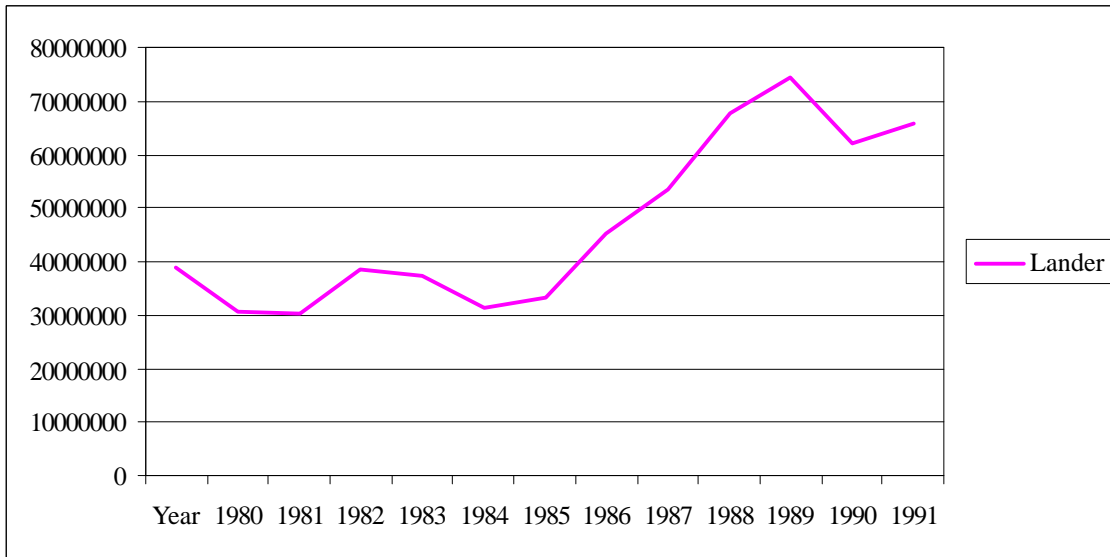
Table 2. Lander County Total and Real Taxable Sales, 1980-1993 ^a

Year	Total Sales	Real Sales
1980	31,902,302	38,905,246
1981	27,749,398	30,832,664
1982	29,240,881	30,459,251
1983	38,492,414	38,492,414
1984	39,070,251	37,567,549
1985	33,819,490	31,314,343
1986	36,998,974	33,332,409
1987	50,617,154	45,193,888
1988	65,674,281	53,393,724
1989	86,563,096	67,627,419
1990	100,514,196	74,454,960
1991	87,273,465	61,896,074
1992	96,144,766	65,852,579
1993 ^b	18,110,249	

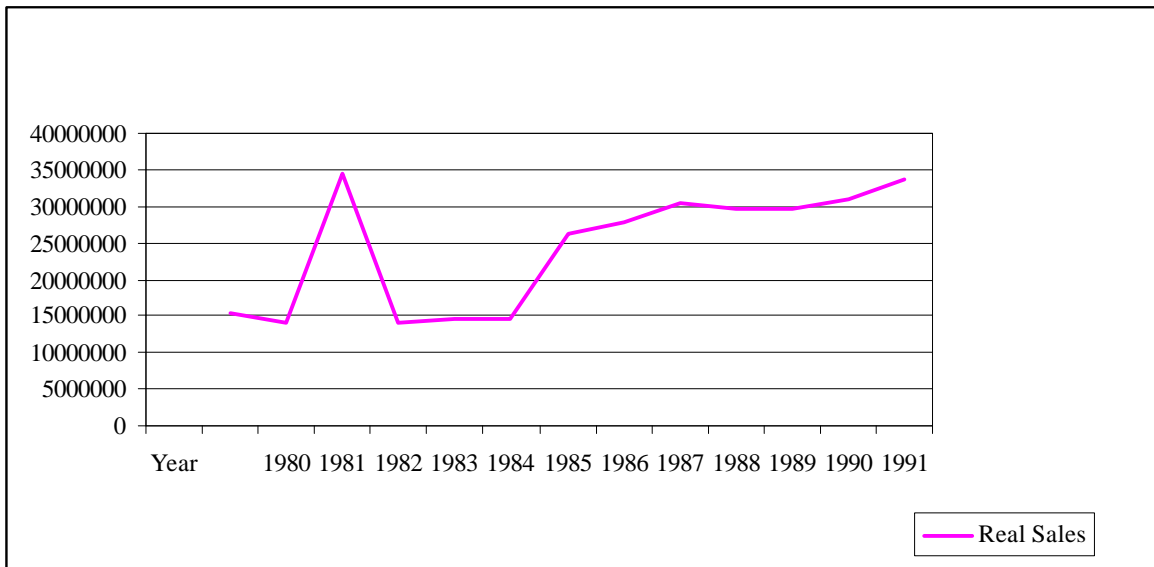
^a Real taxable sales derived from consumer price index, 1983=100.

^b Includes only first quarter of 1993.

Graph 3. Lander County Real Sales, 1980 to 1992



Graph 4. Pershing County Real Taxable Sales, 1980 to 1992



Pershing County

Taxable sales in Pershing County have been somewhat erratic. Sales increased dramatically in 1982 but were substantially lower in 1983 through 1986. As shown in Table 3 and Graph 4, retail sales have increased dramatically from 1986 to 1992. The average annual percentage growth in taxable sales in Pershing County from 1986 to 1992 is 4.4 percent.

As shown in Graph 2, when sales are adjusted for both inflation and population changes, real per capita taxable sales have shown an increase from 1986 to 1992. As seen from Graph 2, Pershing County trails the counties of Humboldt and Lander in real per capita retail sales. Being close to Nevada communities of Reno/Sparks, Winnemucca and Fallon draw sales trade from Pershing County. Real taxable sales in Pershing County increased from \$15.3 million in 1980 to \$33.8 million in 1992 or an increase of 121.0 percent in twelve years.

As shown in Graph 2, when sales are adjusted for both inflation and population changes, real per capita taxable sales have had a somewhat steady increase except for a small decrease which occurred in 1991. As seen from Graph 2, Lander County ranks second to the counties in the Tri-County Development Authorities. The growth in per capita real taxable sales in Lander County since 1986 exceeds Humboldt and Pershing Counties. The implication of a steady increase in per capita real taxable sales in Lander County is, as population grows, more taxable sales items are being purchased in Lander County. This in turn probably means that per capita taxable sales will increase in the future.

Table 3. Pershing County Total and Real Taxable Sales, 1980-1993

Year	Total Sales	Real Sales^a
1980	12,545,138	15,298,949
1981	12,590,183	13,989,092
1982	33,042,475	34,419,245
1983	14,120,317	14,120,317
1984	15,216,853	14,631,589
1985	15,792,599	14,622,777
1986	29,204,941	26,310,758
1987	31,281,397	27,929,819
1988	37,383,102	30,392,766
1989	37,977,863	29,670,205
1990	40,121,565	29,719,678
1991	43,587,927	30,913,423
1992	49,310,098	33,774,040
1993 ^b	9,751,742	

^a Real taxable sales derived from consumer price index, 1983 = 100

^b Includes only the first quarter of 1993.

Computation of the Pull Factor

Because of differences in population and income, it is often difficult to compare one county's sales with another. One method of measuring sales is to measure sales per resident of a large region, such as a state and then assume that local sales should follow the same pattern if local tastes and preferences are the same. After adjusting for differences in population and personal income, a pull factor is computed for each type of retail commodity.

The formula for computing the pull factor is as follows¹:

$$\text{Pull Factor} = \frac{\text{County Retail Sales}}{\left(\frac{\text{* County Income and Population Adjustment}}{\text{* State Average Share of Income Spent on Retail Purchase}} \right)}$$

The data used for this analysis is county retail sales from 1980 through 1992 as reported by the Nevada State Taxation Department. This data reports retail sales in thirty-two different categories. Data was only available for personal income through 1992, so even though retail sales were known for 1993, the pull factor could not be computed.

The pull factor measures how much a county is selling of a particular commodity versus how much it should sell if its residents were buying as much as the state average. Thus a pull factor of 100% means that the county is drawing all of resident's buying power but none from the outside. A pull factor of over 100%, say 150%, means that the county is drawing non-local customers equal to 50% more than the county population. Finally, a pull factor less than one means the county is not capturing the shoppers within its boundaries or they are spending less than the state average. The next section discusses how pull factors can be used to give local decision makers insights as to local retail sales activity and potential.

¹ For the detailed formula used, see Appendix A at the end of this paper or articles by Harris or Woods.

Interpretation and Use of the Pull-Factor

For economic development, the pull-factor analysis can help identify selected retail sectors which may be targeted for retail sector development. Most often a pull-factor below 100% indicates a retail sector opportunity. However, this assumes that the low pull-factor is due to local residents shopping outside the county, which is not always true. Analogously, if a pull-factor is above 100% it may suggest that the county is drawing in residents from neighboring counties to shop.

A pull-factor above 100% indicates that the county sells more of a product than would be expected given its population and income. The most likely reasons for this volume of sales are either the local economy is specialized in a particular economic sector, or residents are shopping outside their own communities. If an economy is specialized in a particular economic sector it may buy more of a given retail product or products. For example, Elko County has a pull-factor for mining related products well above 100%. This does not necessarily mean however, that it has excess supply or is selling to neighboring county residents. Rather, in light of its local economy specializing in mining, it has a higher than average demand for such products. Similarly, Churchill County has a high pull-factor for Farm and Garden Supplies, attributable to its agricultural economy. In these cases, understanding the cause of the pull factor may suggest that a mining supply store may be needed in Elko County, while a county with a low pull factor for mining may not be suitable for such an operation.

The second reason for a high pull-factor is that the county is pulling in residents from neighboring counties. For example, in Carson City, its high pull-factor for automobiles and general merchandise stores probably reflects its role as a regional shopping area for the neighboring counties of Douglas, Lyon and Storey. Many communities have actually pursued a strategy of becoming a regional shopping center in much the same way that the nations try to increase their exports. If a county is exporting its retail products, the local retail sector is bringing outside dollars into the local or regional economy which, like a basic sector yields responding opportunities which increase overall local or regional economic activity.

If a county has a pull factor below 100%, this means that either the local economy does not demand this product, or local residents are purchasing the product outside the county. Churchill County, for example, is an economy dominated by agriculture and the local military base, as opposed to a tourist economy like Reno or Las Vegas. Not surprisingly therefore, the county's pull-factor for mining supplies is very low. In the context of demands of the local economy, these low pull-factors reflect low demand, not necessarily indicators of opportunities for a restaurant or mining supply store.

Especially in rural counties, a low pull-factor often indicates that local residents are shopping in neighboring counties. For example, Douglas County had a pull factor of 18% in department store sales while neighboring Carson City had a pull factor of nearly 180%. Driving through the counties on US 395, it is apparent that a large concentration of department stores are located on the south end of Carson City, while a large concentration of housing is located on the north end of Douglas County, just a few miles away. In such a case, it is likely that Douglas County is importing retail products from Carson City as its residents' retail demand is leaking out of the

county. By examining specific sectors such as Department Stores or Automobiles, which have particularly low pull-factors, it is possible to identify which types of retail stores might be the most successful in a county's economic development as part of an "import substitution" plan. In such a case, a low pull-factor may be used to estimate the current amount of local demand which is currently being lost and might be recaptured by a new retail operation.

Pull Factor Analysis for Tri-County Development Authority

Using pull factor equation stated earlier, pull factors were derived for each county in the Tri-County Development Authority from 1982 to 1992. Also pull factors were derived for specific sales taxable items for the same study period.

Humboldt County

In 1992, the pull factor for Humboldt County was 190% (Table 4) indicating that Humboldt County was capturing more than what would be expected given its population and income. As shown in Graph 5, the pull factor for Humboldt County peaked in 1991 and declined slightly in 1992.

Table 5 disaggregates taxable sales to show the taxable sales and pull factors for particular retail sectors in 1992. Table 5 shows that fifteen of thirty-two taxable sales items had pull factor values greater than 100%. Only the candy and drugstore sectors had values of zero in 1991. However the lowest non-zero pull factor sector was vending machines. The highest sector was the mining sector followed by agriculture.

Graph 6 illustrates the pull factors for 32 retail sectors that are tracked by the Nevada Department of Taxation. Examining these pull factors, all sectors with a pull factor greater than 100% are "exporting" sectors, while all those with pull factors below 100% are "importing". All of the importing sectors are those in which Humboldt County is purchasing less than expected inside the county. Presumably, the balance is made up from stores outside the county, such as the metropolitan county of Washoe.

In addition to examining pull factors for a given year such as 1992, it is important to understand which sectors are increasing or decreasing in their pull factor values. Sectors which have increasing pull factors indicate more local retail sector openings and/or stores attracting more residential customers. Sectors which have decreasing pull factors indicate that people are buying more from outside the county. The sectors in Humboldt County which have shown the most increase in pull factor values from 1980 to 1992 are: Specialty stores (from 42% to 115%); radio, television and appliance stores (from 423% to 876%); Mining and Assay offices (from 39% to 1295%); Mobile Home Dealers (from 85% to 612%); Leasing Companies (from 0% to 17%); Health and Medical Equipment (from 3% to 13%); Manufacturers and Wholesalers (from

Table 4. Overall Pull Factor for Humboldt County, 1980-1992

Years	Pull Factor
1980	91%
1981	89%
1982	105%
1983	159%
1984	129%
1985	190%
1986	160%
1987	158%
1988	157%
1989	143%
1990	166%
1991	193%
1992	190%

Graph 5. Pull Factor for Humboldt County, 1980-1992

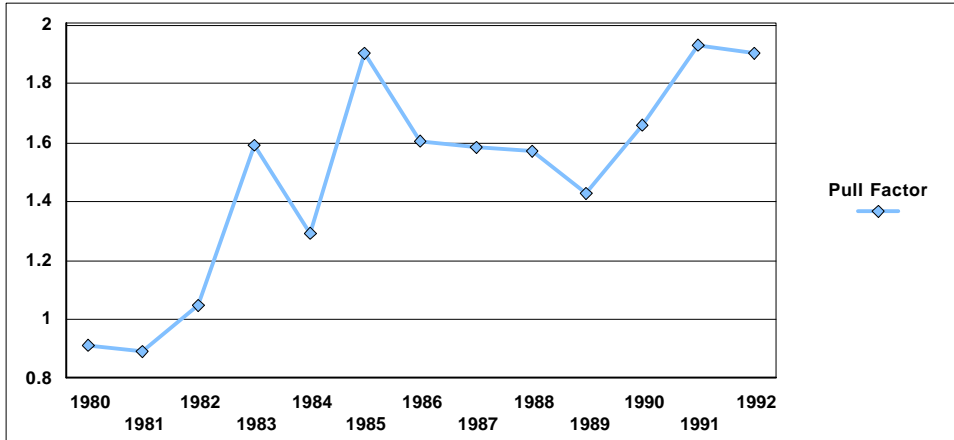
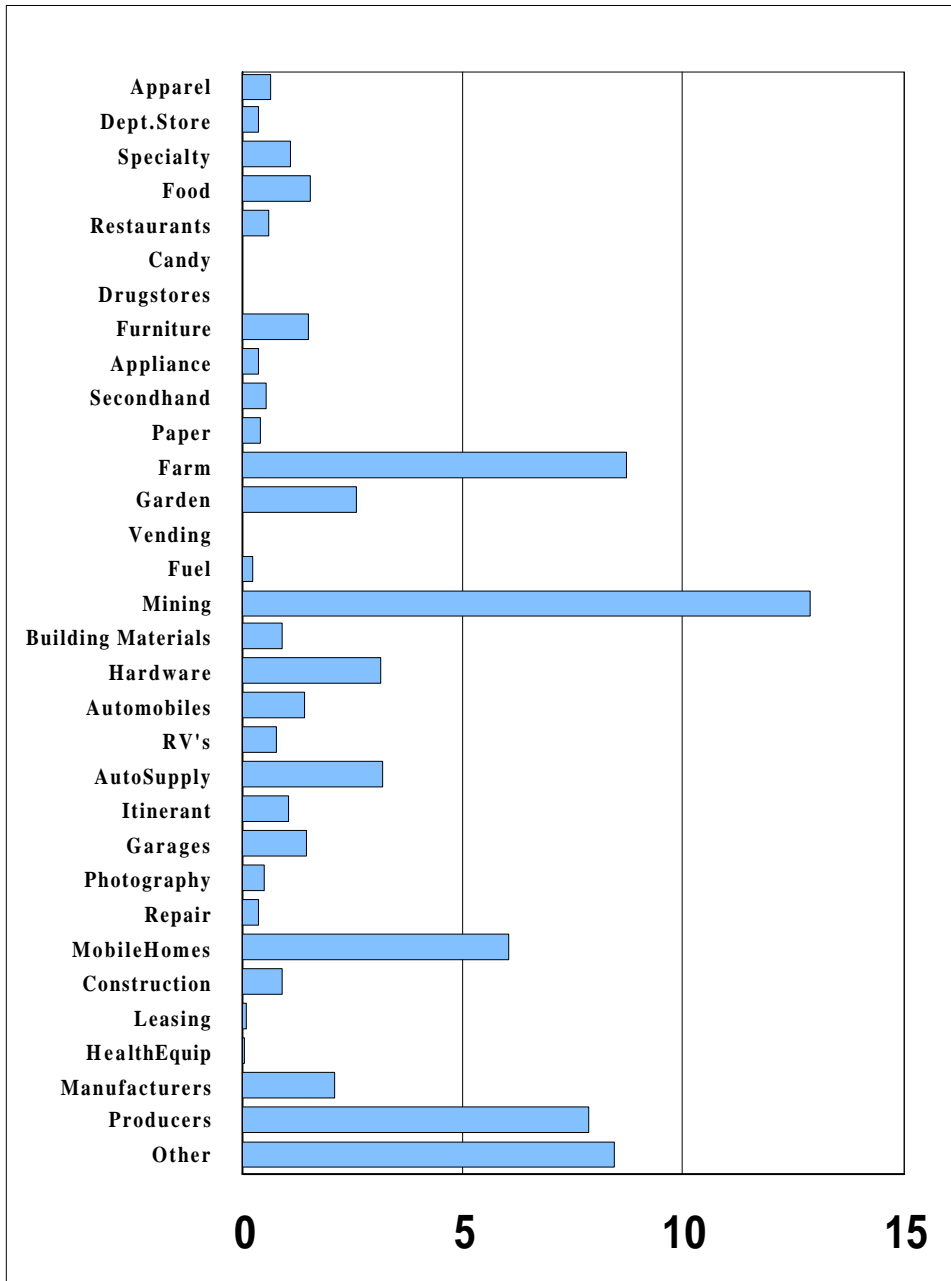


Table 5. Sectoral Pull Factor and Taxable Sales in Humboldt County, 1992

Sector	1992 Sales	Pull Factor
Apparel	3,687,522	70.2%
Dept.Store	5,564,087	45.3%
Specialty	14,416,919	115.3%
Food	13,098,201	158.9%
Restaurants	17,349,202	63.8%
Candy	0	0.0%
Drugstores	0	0.0%
Furniture	5,597,633	156.8%
Appliance	844,804	42.4%
Secondhand	177,248	59.7%
Paper	519,737	48.2%
Farm	2,817,445	876.2%
Garden	1,675,394	265.9%
Vending	26,606	8.4%
Fuel	60,833	28.0%
Mining	30,708,563	1294.6%
Building Materials	8,172,194	98.3%
Hardware	4,354,038	318.3%
Automobiles	20,482,203	146.1%
RV's	661,975	83.1%
AutoSupply	10,631,104	324.9%
Itinerant	135,839	109.4%
Garages	1,898,607	152.5%
Photography	168,465	54.8%
Repair	1,927,275	44.9%
MobileHomes	1,896,455	611.6%
Construction	4,793,383	97.7%
Leasing	715,536	16.7%
HealthEquip	174,092	12.6%
Manufacturers	19,143,878	213.8%
Producers	36,133,215	791.2%
Other	64,365,809	850.0%
Total	272,198,262	189.5%

Graph 6. Pull factors for Humboldt County, 1992.



18% to 214%); Producers and Distributors (from 170% to 791%); and All Other Outlets (from 63% to 850%). Combining the taxable sales of these nine sectors yields taxable sales in 1992 of approximately \$168 million or 62 percent of total taxable sales in Humboldt County.

The sectors which have shown the largest decrease in pull factors are: second hand stores (from 131% to 60%); vending machine operators (from 49% to 8%); fuel and ice vendors (from 274% to 28%); repair and other professional services (from 94% to 45%); and building materials stores (from 146% to 98%). These sectors' taxable sales amount to approximately \$24 million in 1992 or 9.0% in total Humboldt County taxable sales.

Also of interest from Graph 6, the importance of the export sectors of agriculture and mining are displayed. Sectors with the largest pull factor values are the Mining and Assay Office (1295%) and the farm implement store (876%). The taxable sales value for these two sectors in 1992 was approximately \$48 million or 18 percent of total Humboldt County taxable sales.

Lander County

In 1992, the pull factor for Lander County was 142% (Table 6) indicating that Lander County was capturing more than what would be expected given its population and income. As shown in Graph 7, the pull factor for Lander County peaked in 1990 and has decreased slightly through 1992.

Table 7 disaggregates taxable sales to show the taxable sales and pull factors for particular sectors in 1992. Table 7 shows that ten of the thirty-two taxable sales sectors had a pull factor greater than one. Only the candy store sector had a pull factor of zero in 1992. However, the lowest non-zero pull factor sector was the apparel store sector. The largest pull factor was associated with the mining and assay offices sector followed by the farm implement stores sector.

Graph 8 illustrates the aggregate pull factor for the thirty-two sectors that are tracked by the Nevada Department of Taxation. The aggregate pull factor indicates that overall Lander County is capturing its local market and may be capturing sales beyond its borders. However, the aggregate pull factor may not disclose particular sector activity that may or may not be meeting local demands. Examining pull factor values for the individual thirty-two sectors in Table 7, all sectors with a pull factor greater than 100% are designated as "exporting" sectors while those with pull factor values less than 100% are designated as "importing" sectors. All of the importing sectors are those in which Lander County is purchasing less than expected inside the county. Presumably, the balance of local trade demand is made up by establishments outside Lander County.

In addition to examining pull factors for a given year such as 1992, it is important to identify and understand sectors which have increasing or decreasing pull factors. Sectors with increasing pull factor values indicate either local retail sector openings and/or stores attracting more residential customers. Sectors which have decreasing pull factors indicate that people are buying more from outside the county. The sectors in Lander County which have shown the most

Table 6. Overall Pull Factors for Lander County, 1980-1992.

Years	Pull Factor
1980	103%
1981	82%
1982	93%
1983	133%
1984	126%
1985	101%
1986	109%
1987	106%
1988	114%
1989	122%
1990	146%
1991	133%
1992	142%

Graph 7. Lander County Pull Factor, 1980 – 1992

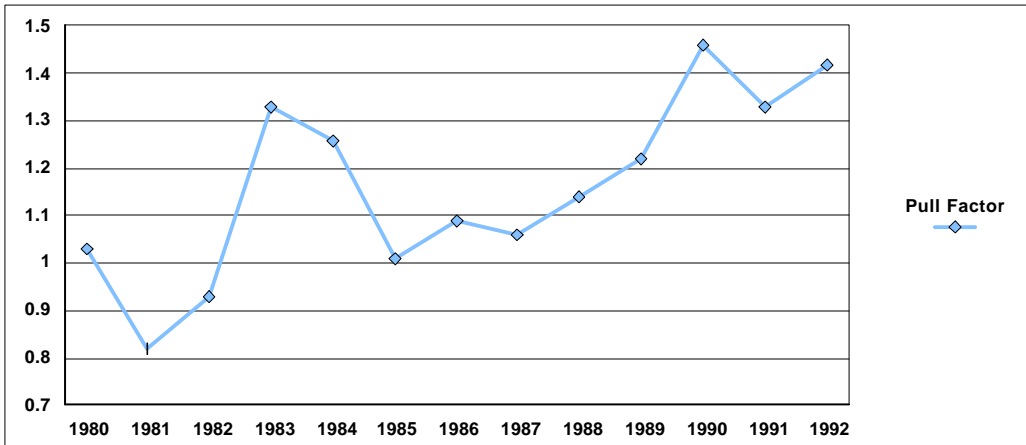
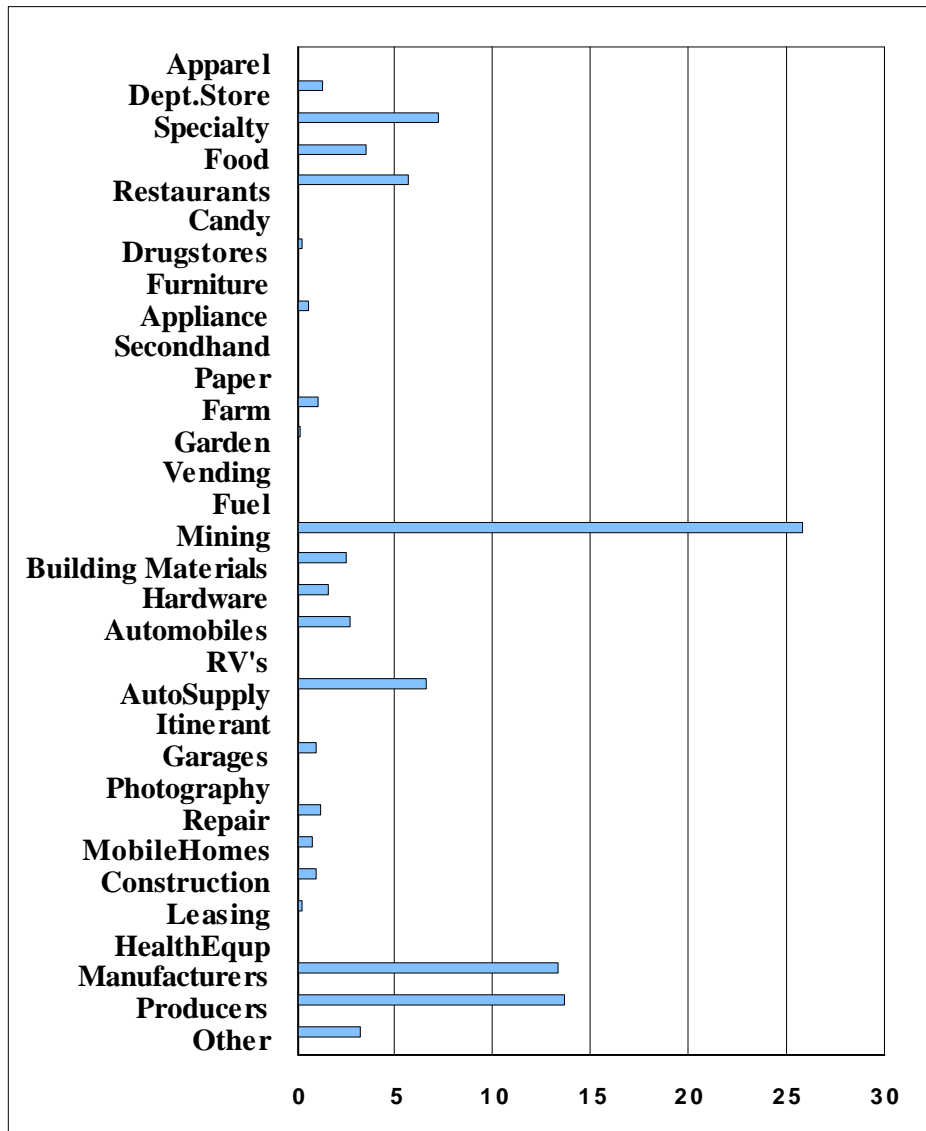


Table 7. Sectoral Pull Factors and Taxable Sales for Lander County, 1992.

Sector	1992 Sales	Pull Factor
Apparel	74,451	3.0%
Dept.Store	1,397,790	24.1%
Specialty	7,291,770	123.7%
Food	3,667,606	94.3%
Restaurants	5,788,784	45.1%
Candy	0	0.0%
Drugstores	332,092	44.1%
Furniture	137,228	8.1%
Appliance	615,807	65.5%
Secondhand	6,992	5.0%
Paper	22,164	4.4%
Farm	1,221,005	804.9%
Garden	273,129	91.9%
Vending	13,965	9.4%
Fuel	132,272	129.0%
Mining	25,916,336	2315.9%
Building Materials	2,621,931	66.8%
Hardware	1,640,339	254.2%
Automobiles	2,865,010	43.3%
RV's	57,306	15.3%
AutoSupply	6,731,065	436.0%
Itinerant	13,221	22.6%
Garages	1,040,925	177.2%
Photography	16,050	11.1%
Repair	1,260,691	62.3%
MobileHomes	859,614	587.6%
Construction	1,114,315	48.1%
Leasing	383,018	19.0%
HealthEquip	84,583	12.9%
Manufacturers	13,429,273	318.0%
Producers	13,804,448	640.7%
Other	3,331,586	93.3%
Total	96,144,766	141.9%

Graph 8. Sectoral Pull Factors for Lander County, 1992



increase in pull factor values from 1980 to 1992 are: specialty stores (from 34% to 124%); radio, television and appliance stores (from 17% to 66%); fuel and ice dealers (from 20% to 129%); building materials stores (from 7% to 67%); mining and assay offices (from 1719% to 2316%); and manufacturers and wholesalers (from 188% to 318%). Combining taxable sales of these six sectors yields taxable sales in 1992 of approximately \$24 million or 25 percent of total taxable sales in Lander County.

The sectors which have shown the largest decrease in pull factors are: apparel stores (from 18% to 3%); eating and drinking places (from 60% to 45%); drugstores (from 86% to 44%); household and home furnishings (from 13% to 8%); garden and farm supply (from 128% to 92%); hardware stores (from 416% to 254%); trailer, aircraft, motorcycle and boat stores (from 43% to 15%), mobile home dealers) from 789% to 588%); construction and special trades contractors (from 174% to 48%) and all other outlets (from 166% to 93%). These sectors' taxable sales amount to approximately \$13.6 million in 1992 or 14.2% of total Lander County taxable sales.

Also of interest from Graph 8, the importance of the export sectors of agriculture and mining are displayed. Sectors with the largest pull factor values are the Mining and Assay offices (2315.9%) and the farm implement store (804.9%). The taxable sales value for these two sectors in 1992 was approximately \$27 million or 28% of total Lander County taxable sales.

Pershing County

In 1992, the pull factor for Pershing County was 128% (Table 8) indicating that Pershing County was capturing more than what would be expected given its population and income. As shown in Graph 9, the pull factors for Pershing County were highest in 1982; subsequently fell until 1986 and rose to 128% in 1992. Graph 9 shows a somewhat volatile aggregate pull factor value for Pershing County.

Table 9 disaggregates taxable sales to show taxable sales and pull factors for selected sectors in 1992. Table 9 shows that ten of the thirty-two taxable sales sectors had calculated pull factors greater than zero. Only the candy store sector had a pull factor of zero in 1992. However, the lowest non-zero pull factor sector was the second hand store. The largest pull factor was associated with the mining and assay offices sector followed by the farm implement stores sector.

Graph 9 illustrates the aggregate pull factor for the thirty-two sectors that are tracked by the Nevada Department of Taxation. The aggregate pull factor has shown volatility over the period of 1980 to 1992. Aggregate pull factor reached its highest level in 1982 at 145% but subsequently fell to 70% in 1983. Pull factor values were below 90% until 1986 and have risen to 128% in 1992. Examining pull factors for individual sectors in Table 9, all sectors with pull factors greater than 100% are designated "exporting" sectors while those with pull factors less than 100% are designated as "importing" sectors. All importing sectors are those in which Pershing County is purchasing less than expected inside the county. Presumably, the balance of local trade demands is made up by establishments outside of Pershing County.

Table 8. Overall Pull Factors for Pershing County, 1980-1992

Years	Pull Factor
1980	55%
1981	55%
1982	145%
1983	70%
1984	73%
1985	74%
1986	112%
1987	108%
1988	101%
1989	90%
1990	94%
1991	112%
1992	128%

Graph 9. Pull Factors for Pershing County, 1980 – 1992.

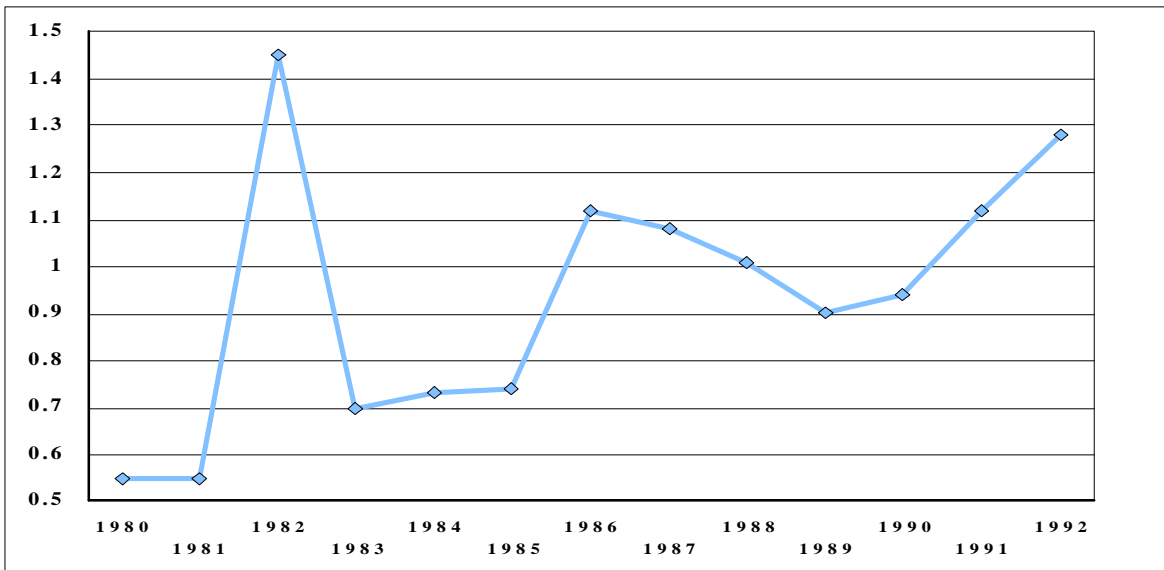
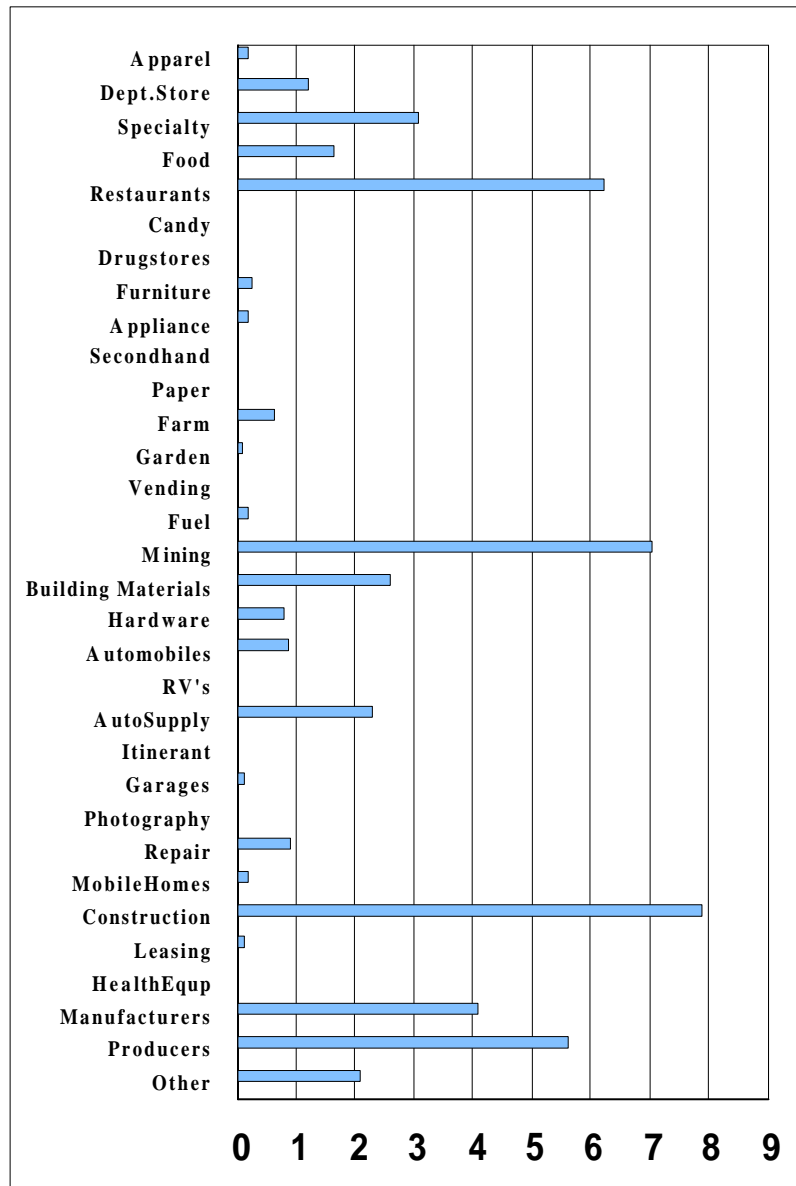


Table 9. Sectoral Pull Factors and Taxable Sales for Pershing County, 1992

Sector	1992 Sales	Pull Factor
Apparel	234,118	16.6%
Dept.Store	1,231,446	37.3%
Specialty	3,112,893	92.7%
Food	1,683,242	76.0%
Restaurants	6,256,767	85.6%
Candy	0	0.0%
Drugstores	27,295	6.4%
Furniture	294,231	30.7%
Appliance	227,646	42.5%
Secondhand	167	0.2%
Paper	66,239	22.9%
Farm	666,299	770.9%
Garden	132,602	78.3%
Vending	42,533	50.2%
Fuel	206,152	352.8%
Mining	7,081,070	1110.6%
Building Materials	2,636,475	117.9%
Hardware	818,666	222.7%
Automobiles	896,980	23.8%
RV's	17,550	8.2%
AutoSupply	2,333,791	265.3%
Itinerant	909	2.7%
Garages	168,596	50.4%
Photography	2,453	3.0%
Repair	939,263	81.4%
MobileHomes	207,148	248.5%
Construction	7,923,121	600.8%
Leasing	167,605	14.6%
HealthEquip	8,436	2.3%
Manufacturers	4,137,676	172.0%
Producers	5,658,270	460.9%
Other	2,130,459	104.7%
Total	49,310,098	127.7%

Graph 10. Sectoral Pull Factors for Pershing County, 1992



In addition to examining pull factors for a given year such as 1992, it is important to identify and understand sectors which have increasing or decreasing pull factors. Sectors with increasing pull factor values indicate either local retail sector openings and/or stores attracting more residential customers. Sectors which have decreasing pull factors indicate that people are buying more from outside the county. The sectors in Pershing County which have shown the most increase in pull factor values from 1980 to 1992 are: specialty stores (from 17% to 93%); farm implement stores (from 402% to 771%); garden and farm supply (from 33% to 78%); mining and assay offices (from 185% to 1111%); building materials stores (from 23% to 118%); construction and special trade contractors (from 7% to 601%); manufacturers and wholesalers (from 56% to 172%); and producers and distributors (from 143% to 461%). Combining taxable sales of these eight sectors yield taxable sales in 1992 of approximately \$31.3 million or 64 percent of total taxable sales in Pershing County.

The sectors which have shown the largest decrease in pull factor values are: apparel stores (from 31% to 17%); candy and tobacco stores (from 410% to 0%); drugstores (from 37% to 6%); second hand stores (from 31% to 0%); fuel and ice dealers (from 677% to 353%) and trailer, aircraft, motorcycle and boat dealers (from 29% to 8%). These sectors' taxable sales amounted to approximately \$0.5 million in 1992 or 1% of total taxable sales in Pershing County.

Also of interest from Graph 10, the importance of the export sectors of agriculture and mining are displayed. Sectors with the largest pull factor values are the mining and assay office (1110.6%) and the farm implement stores (770.9%). The taxable sales value for these two sectors in 1992 was approximately \$7.7 million or 16% of total Pershing County taxable sales.

Potential Sales

As a final measure of potential areas for economic development, an estimate of "lost" sales is derived for Humboldt, Lander and Pershing Counties. Lost sales are defined as the difference between actual sales and potential sales (calculated based on pull factor of 100% and assuming that people purchased items at the statewide average rate after adjusting for income and population)²

Humboldt County

Using the 1992 pull factor for Humboldt County of 142%, Humboldt County overall is capturing not only taxable sales of its populace but also outside its borders. However, approximately 12 percent of total taxable sales are from mining and assay offices and farm implement stores. The overall pull factor for the county reflects the export industries and does not yield information on local commercial sector activity. Therefore sectoral analysis of potential and lost taxable sales may yield information to help target sectors for commercial development.

² For a detailed explanation of the methodology used for estimating potential and lost sales, see Appendix A.

Table 10. Actual, Potential and Estimated Lost Taxable Sales for Humboldt County, 1992

Sector	1992 Sales	Potential Sales	Estimated Lost Sales
Apparel	3,687,522	5,249,806	1,562,284
Dept.Store	5,564,087	12,294,249	6,730,162
Specialty	14,416,919	NA	NA
Food	13,098,201	NA	NA
Restaurants	17,349,202	27,184,641	9,835,439
Candy	0	60,500	60,500
Drugstores	0	1,600,000	1,600,000
Furniture	5,597,633	NA	NA
Appliance	844,804	1,992,189	1,147,385
Secondhand	177,248	296,721	119,473
Paper	519,737	1,077,366	557,629
Farm	2,817,445	NA	NA
Garden	1,675,394	NA	NA
Vending	26,606	314,983	288,377
Fuel	60,833	217,409	156,576
Mining	30,708,563	NA	NA
Building Materials	8,172,194	8,316,127	143,933
Hardware	4,354,038	NA	NA
Automobiles	20,482,203	NA	NA
RV's	661,975	796,511	134,536
AutoSupply	10,631,104	NA	NA
Itinerant	135,839	NA	NA
Garages	1,898,607	NA	NA
Photography	168,465	307,684	139,219
Repair	1,927,275	4,291,633	2,364,358
MobileHomes	1,896,455	NA	NA
Construction	4,793,383	4,906,418	113,035
Leasing	715,536	4,278,195	3,562,659
HealthEquip	174,092	1,384,862	1,210,770
Manufacturers	19,143,878	NA	NA
Producers	36,133,215	NA	NA
Other	64,365,809	NA	NA
TOTAL	272,198,262		29,726,344

From Table 10, Humboldt County had lost sales of approximately \$30 million in 1992. When broken out by selected sector, six sectors are losing the most in taxable sales: eating and drinking places (\$9.8 million); general merchandise stores (\$6.7 million); leasing companies (\$3.6 million); repair and other personal services (\$2.4 million); apparel stores (\$1.6 million) and health and medical equipment (\$1.2 million). These six sectors are approximately 85 percent of total lost taxable sales. While many other sectors have lost potential sales, many have relatively small potential sales. For example, candy stores had the lowest pull factor (0.0%) but their total potential sales are only \$60,500.

These estimates of potential and lost sales are especially useful in identifying particular economic development and retail recruitment strategies. For example, a drug store might be targeted and told that the market is fairly open (currently filing 0.0% of estimated demand) and that there might be as much as \$1.6 million dollars in annual potential sales in the community. Alternately, little effort should be expended in attempting to attract a building materials store where a pull factor of 98.3% indicates that the market is being met relatively well by current establishments. This information in turn can also help economic development officials or private companies attempting to prepare feasibility studies for particular locations.

Lander County

Using the 1992 pull factor for Lander County of 142%, Lander County overall is capturing not only taxable sales of its populace but also outside its borders. However approximately 28 percent of total taxable sales are from mining and assay offices and farm implement dealers. The overall pull factor for the county reflects the export industries and does not yield information on local commercial sector activity. Therefore sectoral analysis of potential and lost taxable sales may yield information to help target sectors for commercial development.

From Table 11, Lander County had lost sales of approximately \$27 million in 1992. When broken out by selected sector, eight sectors are losing the most in taxable sales which are: eating and drinking places (\$7.0 million); general merchandise stores (\$4.4 million); new and used automobile dealers (\$3.7 million); apparel stores (\$2.4 million); leasing companies (\$1.6 million); household and home furnishings (\$1.5 million); building materials stores (\$1.3 million); and construction and special trade contractors (\$1.2 million). These eight sectors are approximately 85 percent of total lost taxable sales for Lander County. While many other sectors have lost potential sales, many have relatively small potential sales. For example, candy stores had the lowest pull factor (0.0%) but their total potential sales are only \$28,500.

These estimates of potential and lost sales are especially useful in identifying particular economic development and retail recruitment strategies. For example, a general merchandise store might be targeted and told that the market is fairly open (currently filing 24% of estimated demand) and that there might be as much as \$5.8 million in annual potential sales in the community. Alternatively, little effort should be expended in attempting to attract food stores whose pull factor of 94.3% indicates that the market is being met relatively well by current

Table 11. Actual, Potential and Estimated Lost Taxable Sales for Lander County, 1992.

Sector	1992 Sales	Potential Sales	Estimated Lost Sales
Apparel	74,451	2,476,683	2,402,232
Dept.Store	1,397,790	5,800,017	4,402,227
Specialty	7,291,770	NA	NA
Food	3,667,606	3,889,255	221,649
Restaurants	5,788,784	12,824,807	7,036,023
Candy	0	28,500	28,500
Drugstores	332,092	752,539	420,447
Furniture	137,228	1,684,083	1,546,855
Appliance	615,807	939,848	324,041
Secondhand	6,992	139,983	132,991
Paper	22,164	508,265	486,101
Farm	1,221,005	NA	NA
Garden	273,129	297,242	24,113
Vending	13,965	148,599	134,634
Fuel	132,272	NA	NA
Mining	25,916,336	NA	NA
Building Materials	2,621,931	3,923,271	1,301,340
Hardware	1,640,339	NA	NA
Automobiles	2,865,010	6,615,000	3,749,990
RV's	57,306	375,768	318,462
AutoSupply	6,731,065	NA	NA
Itinerant	13,221	58,554	45,333
Garages	1,040,925	NA	NA
Photography	16,050	145,155	129,105
Repair	1,260,691	2,024,649	763,958
MobileHomes	859,614	NA	NA
Construction	1,114,315	2,314,684	1,200,369
Leasing	383,018	2,018,310	1,635,292
HealthEquip	84,583	653,332	568,749
Manufacturers	13,429,273	NA	NA
Producers	13,804,448	NA	NA
Other	3,331,586	3,572,445	240,859
Total			27,084,770

establishments. This information in turn can also help economic development officials or private companies attempting to prepare feasibility studies for particular locations.

Pershing County

Using the 1992 pull factor for Pershing County of 127.7%, Pershing County overall is capturing not only taxable sales of its populace, but also outside its borders. However, approximately 16 percent of total taxable sales are from mining and assay offices and farm implement stores. The overall pull factor for the county reflects the export industries and does not yield information on local commercial sector activity. Therefore sectoral analysis of potential and lost taxable sales may yield information to help target sectors for commercial development.

From Table 12, Pershing County had lost taxable sales of approximately \$12 million in 1992. When broken out by selected sector, four sectors are losing the most in taxable sales which are: new and used automobile dealers (\$2.9 million); general merchandise stores (\$2.1 million); apparel stores (\$1.2 million) and eating and drinking places (\$1.1 million). These four sectors are approximately 62 percent of total lost taxable sales in Pershing County. While many other sectors have lost potential, many have relatively small potential sales. For example, candy stores had the lowest pull factor (0.0%) but their total potential sales are \$16,300.

These estimates of potential and lost sales are especially useful in identifying particular economic development and retail recruitment strategies. For example, an apparel store might be targeted and told that the market is fairly open (currently filling 17% of estimated local demand) and that there might be as much as \$1.4 million in annual potential sales in Pershing County. Alternatively, little effort should be expended in attempting to attract specialty stores where a pull factor of 92.7% indicates that the market is being met relatively well by current establishments. This information can also help economic development officials or private companies attempting to prepare feasibility studies for particular location.

Table 12. Actual, Potential and Estimated Lost Taxable Sales Pershing County, 1992.

Sector	1992 Sales	Potential Sales	Estimated Lost Sales
Apparel	234,118	1,411,137	1,177,019
Dept.Store	1,231,446	3,304,670	2,073,224
Specialty	3,112,893	3,359,792	246,899
Food	1,683,242	2,215,977	532,735
Restaurants	6,256,767	7,307,178	1,050,411
Candy	0	16,300	16,300
Drugstores	27,295	428,774	401,479
Furniture	294,231	959,538	665,307
Appliance	227,646	535,496	307,850
Secondhand	167	79,758	79,591
Paper	66,239	289,594	223,355
Farm	666,299	NA	NA
Garden	132,602	169,359	36,757
Vending	42,533	84,667	42,134
Fuel	206,152	NA	NA
Mining	7,081,070	NA	NA
Building Materials	2,636,475	NA	NA
Hardware	818,666	NA	NA
Automobiles	896,980	3,769,022	2,872,042
RV's	17,550	214,101	196,551
AutoSupply	2,333,791	NA	NA
Itinerant	909	33,362	166,151
Garages	168,596	334,747	166,151
Photography	2,453	82,705	80,252
Repair	939,263	1,153,582	214,319
MobileHomes	207,148	NA	NA
Construction	7,923,121	NA	NA
Leasing	167,605	1,149,970	982,365
HealthEquip	8,436	372,248	363,812
Manufacturers	4,137,676	NA	NA
Producers	5,658,270	NA	NA
Other	2,130,459	NA	NA
Total			11,761,006

Business Development Strategies

Retail trade trends reflect the overall health of a local economy. All outshopping or sales leakage cannot be stopped. Often, existing shopping patterns have allowed a neighboring community to attract major retail stores which require a large population to support them. Attempting to simply duplicate these stores may be futile because the local population is insufficient to attract a second store. There are other programs and actions which can assist retail trade activities, however.

Concerned leaders and business persons can focus on business development by forming a business assistance committee to begin implementing some of the assistance activities or working with the existing chamber of commerce. The following activities can improve the climate for business and show the community's commitment to support local business. They were developed and implemented in many other communities although not all are appropriate for any one community. These can be the foundation for a retail trade improvement program.

Analyze the local business sector to identify the needs and opportunities to be pursued by the program. Businesses often do not have the resources to study the economy (local, regional and national) and how they fit in. They need practical data and analysis that will help in their individual business decision making. In particular, economic analysis can identify voids in the local or regional market that can possibly be filled by expanding or by new businesses. Examples of such analysis include the pull factor analysis reported here and consumer surveys to identify needs and opportunities. The pull factor analysis here, especially, the sections on pull-factors by sector and potential or lost sales can be very useful to help a community identify particular businesses in which there may be significant local demand. Such an analysis can then be used to attract merchants to the area. Assistance with such analyses can often be found from the local Cooperative Extension office of the University or more detailed analyses are available from the University Center for Economic Development in Reno.

In addition to economic analysis, information is useful about business districts as a whole. For example, perhaps the appearance of buildings and vacant lots is detrimental to attracting people to the business district; perhaps poorly coordinated store hours are a hindrance; or maybe the zoning regulations are locating the businesses inconveniently with respect to the residential population. Once these needs are identified, a business development program can initiate action. A periodic survey of business needs can form the basis of a business development program workplan.

Provide management assistance and counseling to improve the efficiency and profitability of local businesses. Many local businesses are owner operated, earn low profits and have difficulty obtaining financing. For example, a business may need help in preparing a business plan to qualify for financing to start or expand its operation. Business owners often need additional education and training in improving business management skills like accounting, finance, planning, marketing, customer relations, merchandising, personnel management or tax procedures. This assistance can be provided through seminars and one-to-one aid. Sources of assistance include the Small Business Development Center program sponsored by the Small Business Administration and operated through the University of Nevada, vocational technical centers, Service Corps of

Retired Executives (SCORE) and the Cooperative Extension service. The intent is to aid small businesses in becoming more competitive.

Assist new business start-ups and entrepreneurial activity by analyzing potential markets and local skills and matching entrepreneurs with technical and financial resources. The Nevada State Economic Development Commission and local Economic Development Authorities are often actively attempting to attract such new businesses. Establishing a business incubator is another way to assist new businesses. An incubator is a building with shared space or service requirements that reduce start-up costs for new businesses. Incubators have been successful in many locations, but are not right for every town. A successful incubator must have long-range planning, specific goals and good management in order to identify markets and entrepreneurs.

Provide assistance in identifying and obtaining financing. Small businesses often have difficulty obtaining long-term bank financing for expansion because they lack assets to mortgage, cannot obtain affordable terms or rates, or cannot present a strong business plan. A business development program can identify public loan programs (such as Industrial Development Bonds) and package them with private loans to make projects feasible.

Provide assistance in undertaking joint projects for the business district

- improving street appearance
- improving management of commercial area
- building renovation
- preparation of design standards
- joint promotions and marketing
- organizing independent merchants
- special activities and events
- fund raising
- improving customer relations
- uniform hours of operations

Undertaking these projects requires cooperation, organization and efficient management. These projects can improve a business district's competitive position and attract new customers. The Main Street program provides many good examples of towns such as Carson City or Yerington working for economic revitalization. The Main Street Program developed by the National Trust for Historic Preservation is built around the four points of organization, design, promotion and economic restructuring.

Develop a one-stop permit center. There is a great deal of red tape involved in starting a business including registering a name, choosing a legal form, and determining what licenses, permits or bonds are needed. In a local community this may require visits to the building department, planning department, health department, business license bureau and other local agencies. Other concerns include internal revenue service requirements, unemployment insurance, sales tax permits and workmen's compensation insurance. Having this type of information available in one location will make life easier for potential businesses. The Small Business

Development Center at the University of Nevada, Reno publishes a guide to starting a business in Nevada which addresses many of these issues. Local governments can also work to consolidate their business functions in one central location.

Involve active local organizations and the media. Groups such as the chamber of commerce, civic clubs, etc. can encourage a healthy business climate. The local media can also support small business and aid in developing awareness of the importance of local business.

Promote the development of home based enterprises. Home-based work by individuals is increasing because of the flexibility offered and because in some areas it may be the most realistic alternative. Home-based enterprises can include a variety of full or part-time occupations such as consulting, tele-commuting, food processing, quilting, weaving, crafts, clothing assembly, mail order processing or assembling various goods.

References

Harris, Thomas R. "Commercial Sector Development in Rural Communities: Trade Area Analysis." *Hard Times: Communities in Transition*. Western Rural Development Center, WREP 90, September, 1985.

Hustedde, R., R. Shaffer and G. Pulver, *Community Economic Analysis: A How to Manual*. Ames, Iowa. North Central Regional Center for Rural Development, 1984.

Porterfield, Shirley L. and Glen C. Pulver. "Exports, Imports and Locations of Service Producers". International Regional Science Review, 14(1991):41-59.

Smith, Steve M. "Export Orientation of Nonmanufacturing Business in Nonmetropolitan Communities" American Journal of Agricultural Economics, 66(1984):145-155.

Smith, Steve M. and Glen C. Pulver. "Nonmanufacturing Business as a Growth Alternative in Nonmetropolitan Areas". Journal of Community Development Society, 12(1981):33-47.

Woods, Mike D. "Retail Sales Analysis in Oklahoma City by County, 1977, 1982, 1987." Oklahoma State University Agricultural Experiment Station, Bulletin B-801, October 1991.

APPENDIX A

**PULL FACTOR AND
POTENTIAL SALES FORMULAS**

Appendix A

$$\mathbf{PF} = \mathbf{RS}_c * 1 / \mathbf{PCI}_c * \mathbf{P}_c * 1 / \mathbf{RS}_s / \mathbf{PI}_s$$

Where the following notation is used:

\mathbf{RS}_c = Actual retail sales in county

\mathbf{RS}_s = Actual retail sales for the state

\mathbf{PCI}_c = Per capita income in county

\mathbf{P}_c = County population

\mathbf{PI}_s = Total personal income for the state

To compute a county's potential retail sales, the following formula was used:

Potential Sales = Actual Sales/Pull Factor

Using this information, "Lost Sales" were computed as:

Lost Sales = Potential Sales - Actual Sales

APPENDIX B

**SPECIFIC TRADE AREA DATA FOR
TRI-COUNTY DEVELOPMENT AUTHORITY AREA**

APPENDIX C

**TAXABLE SALES CATEGORIES
FOR THE STATE OF NEVADA**

Table 1. Taxable Sales Categories

Sector Number	Sector
1	Apparel Stores
2	General Merchandising Stores
3	Specialty Stores
4	Food Stores
5	Eating and Drinking Places
6	Candy and Tobacco Stores
7	Drug Stores
8	Household and Home Furnishings
9	Radio, Television and Appliance Stores
10	Secondhand Stores
11	Printers, Publishers and Paper Producers
12	Farm Implement Stores
13	Garden and Farm Supply
14	Vending Machine Operators
15	Fuel and Ice Dealers
16	Mining and Assay Offices
17	Building Materials Store
18	Hardware Stores
19	New and Used Automobile Dealers
20	Trailer, Aircraft, Motorcycles and Boat Dealers
21	Service Station and Automobile Supply
22	Itinerant Vendors
23	Garages
24	Photographers
25	Repair and Other Personal Services
26	Mobile Home Dealers
27	Construction and Special Trade Contractors
28	Leasing Companies
29	Health and Medical Equipment
30	Manufacturers and Wholesalers
31	Producers and Distributors
32	All Other Outlets