

# **Threshold Market Analysis of Western North Carolina**

by

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## **Abstract**

A predictive model is developed to ascertain the suitability of local retail markets to support new business locations as a prerequisite to designing effective development strategies. This paper explores the feasibility for the establishment of new retail enterprises in the twenty-three counties of Western North Carolina. This paper uses a unique method involving ZIP codes to identify fifty-two distinct markets. The tourist demand index is developed by using visitor information. The number of actual business establishments in a market is compared to the predicted number to determine where markets are saturated and where new business entry is feasible.

## **Introduction**

Ascertaining the capability of a rural market to support a particular type of business enterprise is a prerequisite to designing effective development strategies. Several factors can contribute to the vitality of a local retail market, but the most fundamental one is the size of the market in terms of potential customers. Consequently, business owners and regional development specialists frequently inquire about the population base necessary to provide adequate revenues for a particular type of business.

The Southern Appalachian Mountains are the unique geographic feature of Western North Carolina. In terms of demand in the retail sector of the economy, they have a profound influence on the highway design and the subsequent buying patterns of people living in the mountains. Moreover, the demand for retail goods associated with tourism is also significantly influenced by this same mountain landscape.

Standard location quotient methods are inadequate tools for defining relevant market areas in such regions. Topography is as important as distance in defining the bounds of local retail markets in such areas. This study incorporates the effects of topography in defining local retail markets. The Southern Appalachians, which includes

the Great Smoky Mountains National Park—the most visited national park in the National Park System—plays another role in retail demand in the region. It creates year-round tourist demand in Western North Carolina. The model developed in this research attempts to capture both the local demand and tourist demand for the various local retail markets the 23 counties of Western North Carolina in an attempt to identify potential business opportunities in retail trade in the region.

In this research, demand threshold analysis is employed as the tool for market investigation. Population thresholds are traditionally defined as the minimum population needed to support a particular type of retail establishment at an acceptable rate of return on investment (Shaffer, 1989). There have been many estimates of market thresholds in the past (See Berry and Garrison, 1958a and 1958b; Murray and Harris, 1978; Salyards and Leitner, 1981; McConnon, 1989; Schuler and Leistritz, 1990; Deller and Harris, 1993; Coon and Leistritz, 2002). This study deviates from existing research in two distinct ways. First, this paper employs a unique method of market identification involving ZIP codes, which will be explained in the following section. Secondly, a proxy variable involving souvenir shops is incorporated in our model to estimate tourist demand. Hence, the model developed in this study employs two independent variables—population to capture retail demand and a proxy variable for tourist demand.

This analysis concludes with a threshold matrix for potential business location in the region. The number of actual business establishments is compared to the number of predicted establishments in each retail activity—as determined by our threshold analysis—in the attempt to identify potential opportunities for new business location. The study will begin with a discussion of our method.

## Method

Postal delivery routes in the 23 contiguous counties of Western North Carolina were—and are—heavily influenced by mountain geography where ridge lines and mountain valleys (coves) gave rise to highly irregular postal regions that mimicked the topography, which are evident today in ZIP code boundaries. These same geographical features are evident in the shopping patterns of retail customers in the region. For example, a consumer may shop in his or her mountain cove, even though retail establishments twenty miles closer are just over the ridge line. With this phenomenon in mind, it appeared that the most propitious method for defining local markets was to identify them as unique combinations of postal ZIP codes.

Two sources of information were tapped to delineate these individual markets. First, a series of telephone surveys concerning consumer buying patterns was conducted with Directors of the various chambers of commerce in the Western North Carolina Region. Second, the knowledge of economic development specialists of the Institute for the Economy of the Future was obtained. These development specialists were also long-time inhabitants of the region, and shared both their personal and professional expertise about the shopping patterns of the region. This process yielded 52 distinct markets that could be identified as combinations of ZIP codes. A table of the 52 markets and their identifying ZIP codes can be found in the appendix (See Appendix 1).

The data concerning the population of each ZIP code was taken out of *The Sourcebook of ZIP Code Demographics*, 16<sup>th</sup> edition, published in 2002. Unlike some similar studies, this research used the North American Industry Classification System (NAICS) instead of the old Standard Industrial Classification (SIC) to determine the

number of permit holders by retail activity for all ZIP codes in Western North Carolina (ZIP Code Business Patterns 2002). Data on the number of business establishments—both in terms of the raw number of business concerns and total number of employees—was gathered by the three digit NAICS code for all types of activity in the retail trade sector of the economy, as well as for the retail related industries of Accommodations and Food Services & Drinking Places. Altogether, data for fourteen different industries was gathered. A description of the different industries and the number of establishments and employment in each industry in Western North Carolina is given below in Table 1.

[Table 1 here]

### **Model**

Previous research that has dealt with the study of rural retail trade has employed models in which population was the dependent variable and the number of establishments was the independent variable (Schuler and Leistritz, 1990; Deller and Ryan, 1996; Coon and Leistritz, 2000). The dependent variable in this study is the number of business establishments in each market—which can be argued to be more consistent with economic theory—as determined by the number of business permits issued. The data for the independent variable used to capture local demand was obtained from the 2000 population figures for each market area.

Communities that rely heavily on tourist demand—as is the usual case for municipalities in western North Carolina—have been shown to have approximately twice the number of retail establishments that don't have tourism as an essential component of demand (Ryan, 1998). Consequently, another unique aspect of this study is that a second independent variable was employed in an attempt to capture tourist demand. The number

of souvenir shops weighted by the number of employees was used as a proxy for tourist demand.<sup>1</sup> Hence, the following linear equation was specified to capture the effects of both local and tourist demand on retail establishments:

$$BP_{ij} = \beta_0 + \beta_1 P_{ij} + \beta_2 T_{ij}$$

Where:  $BP_{ij}$  = number of business establishments of NAICS group  $j$  in market  $i$ ,  $P_{ij}$  = level of population of group  $j$  in market  $i$ ,  $T_{ij}$  = number of souvenir shops weighted by the number of employees of group  $j$  in market  $i$ , and  $\beta_0$ ,  $\beta_1$ , and  $\beta_2$  are parameter vectors of each group  $j$ .

### Interpretation of Regression Results

The ordinary least square (OLS) regression results in the various markets for each particular industry are shown below in Table 2. The coefficients for the parameter estimates of both independent variables are revealed as well as their accompanying t-statistics. The critical value for  $t_{49/.05} = 2.01$  and the critical value for  $t_{49/.01} = 2.88$ . The adjusted R-squares are disclosed as well as the F-statistic for each industry. The critical value for  $F_{2/49/.05} = 3.08$  and the critical value for  $F_{2/49/.01} = 5.06$ . Finally, elasticity estimates were obtained on both the population and tourism variables.

[Table 2 here]

The interpretation of the coefficient estimates on the independent variables in the model is straight forward. The parameter estimates for population ( $X_1$ ) attempts to capture the effects of local retail demand on the number of establishments for each retail activity in each market. On the basis of the population parameter estimate for the motor

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<sup>1</sup> The weighting was done in the following manner. Employment data was available only in ranges. The mid-point of each range was used as the weighting component. The operative ranges were: 1-4, 5-9, 10-19, 20-49.

vehicle and parts dealer industry (NAICS code 441), 1445 (the reciprocal of the coefficient, .692) people are necessary to generate sufficient local demand for one retail establishment. All of the parameter estimates on population are statistically significant at .05. In fact, all t-values on this variable that attempts to capture local demand, except for the accommodations industry, are significant at .01.

The approximate number of employees in souvenir shops ( $X_2$ ) is a proxy variable that attempts to capture the effects of tourist demand on the number of local establishments. The parameter estimates for each industry are positive, as expected, and for the most part are statistically significant, an indication that employment in souvenir shops is a reliable proxy variable. The t-statistics on tourism are significant at .05, except for NAICS code 441, motor vehicle and parts dealers, NAICS code 444, building material, garden equipment and supplies dealers. The insignificant t-value on the tourism variable in the motor vehicle and parts industry is not surprising in that tourists would not likely buy or service their automobiles in tourist areas—except in an emergency. A similar result in the building material, garden equipment and supplies dealers classification is somewhat expected because those purchases would logically be almost entirely from local demand.

The high adjusted R-squares for the regression equations in each industry indicate that the model has good explanatory power. Moreover, the estimated F-statistics for all of the regression equations are statistically significant at .01. These two results—high R-squares and significant F-statistics—indicate that the model employed in this study is a reliable predictor of market thresholds.

Finally, elasticities were calculated for both population and tourism. The elasticity coefficients for each independent variable are shown below in Table 3. While the elasticity coefficients on each variable were inelastic, except in one instance, the location of business establishments seems much more sensitive to local demand than tourist demand, at least as measured in this study.

[Table 3 here]

### **Threshold Matrix**

The model developed in this research appears to have significant explanatory power as indicated by the high adjusted R-squares and very significant F-statistics. Therefore, a threshold matrix for potential business location was developed in the following manner. First, the regression equations for each of the fourteen different industries in the study were used to calculate the predicted number of business establishments for each of the 52 markets in the region. By comparing the predicted number of businesses for each industry in each market with the actual number of establishments for those respective industries in those respective markets, the potential for new business locations can be identified. If the predicted value is greater than the actual value, the potential for new business may exist. The threshold matrix is shown below in Table 4. A positive number indicates location potential, whereas a negative value denotes market saturation.

[Table 4 here]

Some markets in the matrix indicate a high degree of saturation. This outcome is misleading in the Asheville and Hendersonville market areas. These two urban areas—



especially Asheville—are regional hubs. The retail demand in those does not just consist of just local and tourist demand, but also attracts considerable regional demand.

### **Limitations**

Although the model developed in this research appears highly reliable, when considering a revitalization program as a community leader or opening up a new business of a certain type in a market included in this study, two limitations of this study should be mentioned. First, the calculated results of possible room for additional establishments of a certain kind do not guarantee that a new business will be profitable. There might be reasons people stay in business even they are incurring economic losses—i. e., they may have some non-economic motive for being in business. Such behaviour, not uncommon in some retail endeavours, could not be captured in this study.

One more thing to consider is that according to the NAICS codes, a business might be classified in a certain type of retail activity, while also offering goods and services in another area of retail trade. For example, a full-service hotel could also have a restaurant, but may be only coded as a hotel, but not as a restaurant. A mass merchandiser such as Wal-Mart may be coded as a "general merchandise store," hiding the fact that it competes with shoe stores, music stores, electronic stores, apparel stores, or other retail categories having their own NAICS code.

No potential entrepreneur should base his or her decision on whether to open up a new establishment strictly on the basis of this study. However, it can provide initial information on whether it may be feasible or not to open a certain type of establishment in a specific market. Possibilities for further research could include a more refined study that involves the usage of four, five or six digit NAICS codes, instead of the broader three

digit code employed in this study. Then one could, for instance, check for market saturation in a narrowly defined industry such as sporting goods.

### **Conclusion**

The novel demand threshold analysis employed in this study provides regional economists with a new method for defining the boundaries of local markets when topography—in this case, the Southern Appalachians—has a major effect on retail shopping patterns. By using ZIP code information, local retail markets were defined, and secondary data on both the dependent and independent variables was obtained. Moreover, the innovative econometric model developed by this research—which has business permits as the dependent variable, and includes explanatory variables for both local and retail demand—seems to be well specified. Both t-statistics on the independent variables and the test for overall fit—adjusted R-squares and F-statistics—are, for the most part, highly significant.

## References

- Berry, B. and Garrison, W. 1958a. "A Note on Central Place Theory and the Range of a Good," *Economic Geography*, 34, 304-311.
- \_\_\_\_\_. 1958b. "Recent Developments in Central Place Theory," *Proceedings of the Regional Science Association*, 4, 107-121.
- Coon, Randal C. and Leistritz, F. Larry. 2002. "Threshold Population Levels for Rural Retail Businesses in North Dakota, 2000," *Agribusiness & Applied Economics Miscellaneous Report No. 191*. Fargo: North Dakota State University, Department of Agribusiness and Applied Economics.
- Deller, S. C. and Harris, T. R. 1993. "Estimation of Minimum Market Thresholds Using Stochastic Frontier Estimators," *Regional Science Perspectives*, 23, no 1, 3-17.
- Deller, Steven C. and Ryan, William F. 1996. "Retail and Service Demand Thresholds for Wisconsin." Center for Community Economic Development. Staff Paper 96.1. Madison: University of Wisconsin-Extension.
- McConnon, J. C., Jr. 1989. "Market Potential for Retail Business in Maine," University of Maine Cooperative Center, Bulletin no. 3006, Orono, Maine.
- Murray, J. and Harris, J. 1978. "A Regional Economic Analysis of the Turtle Mountain Indian Reservation: Determining the Potential for Commercial Development," prepared for the Federal Reserve Bank of Minneapolis. Minneapolis, MN.
- Ryan, Bill. 1998. "Retail Mix in Rural Communities." Center for Community Economic Development. Staff Paper 98.25. Madison, WI: Univ. of Wisconsin-Extension. Retrieved March 1, 2006, from <http://www.uwex.edu/ces/cced/lets/lets998.html>.
- Salyards, D. M. and Leitner, K. R. 1981. "Market Threshold Estimates: A Tool for Business Consulting in Minnesota," *American Journal of Small Business*, 6, no 2, 26-32.
- Schuler, Alan V. and Leistritz, Larry F. 1990. Threshold Population Levels for Rural Retail Businesses in North Dakota. *Agricultural Economics, Miscellaneous Report, No. 132*. Fargo: North Dakota State University, Department of Agricultural Economics.
- Shaffer, R. 1989. *Community Economics: Economic Structure and Change in Smaller Communities*. Ames, Iowa: Iowa State University Press.
- ESRI Business Information Solutions. 2002. *The Sourcebook of ZIP Code Demographics*, 16<sup>th</sup> Edition.
- U. S. Census Bureau. 2002. *ZIP Code Business Patterns 2002*.

**Table 1. Number of Establishments by Industry**

NAICS 3-Digit	Industry Description	Industry Statistics	
		No. of Firms	Employment
441	Motor vehicle & parts dealers	687	7120.5
442	Furniture & home furnishings stores	335	2129.5
443	Electronics & appliance stores	153	1061.0
444	Building material, garden equipment & supplies dealers	459	6998.0
445	Food & beverage stores	513	12049.5
446	Health & personal care stores	302	3808.0
447	Gasoline stations	691	4290.5
448	Clothing & clothing accessories stores	543	4117.5
451	Sporting goods, hobby, book & music stores	266	1734.0
452	General merchandise stores	222	10583.0
453	Miscellaneous store retailers	701	3595.5
454	Non-store retailers	188	1541.0
721	Accommodations	521	9187.0
722	Food services & drinking places	1750	31484.0
	Total	7331	99699.0

Source: ZIP Code Business Patterns 2002

**Table 2. Linear Regression Results of the Threshold Models**

NAICS 3-Digit	Intercept		Population ( $X_1$ )			Souvenir Shops ( $X_2$ )			Adj. R-sq	F-value
	Coeff.	t-stat	Coeff.		t-stat	Coeff.		t-stat		
441	-0.630	-0.58	0.692	***	17.25	0.015		0.62	0.867	167.9
442	-0.621	-0.69	0.291	***	8.67	0.065	***	3.25	0.686	56.8
443	-0.211	-0.58	0.128	***	9.46	0.030	***	3.77	0.728	69.2
444	0.680	-0.83	0.406	***	13.35	0.010		0.57	0.797	101.1
445	0.175	0.28	0.427	***	18.69	0.063	***	4.60	0.901	233.2
446	-0.497	-1.04	0.274	***	15.51	0.044	***	4.19	0.865	164.2
447	0.689	0.89	0.624	***	21.75	0.020		1.15	0.913	270.1
448	-0.254	-1.15	0.245	***	4.03	0.276	***	7.62	0.663	51.3
451	-0.505	-0.66	0.174	***	6.12	0.104	***	6.15	0.676	54.2
452	0.253	0.62	0.178	***	11.73	0.025	***	2.75	0.779	91.0
453	0.484	0.44	0.365	***	9.01	0.275	***	11.40	0.855	151.1
454	0.611	1.50	0.119	***	7.94	0.031	***	3.51	0.662	50.9
721	1.938	1.30	0.124	**	2.25	0.265	***	8.09	0.633	45.0
722	0.061	0.03	1.319	***	16.34	0.367	***	7.63	0.896	221.3

\*\*\* significant at 99%, \*\* significant at 95%

**Table 3. Elasticity Estimations on Population and Tourism**

NAICS 3-Digit	Industry Description	Mean of Business Permits	Elasticity	
			Population	Tourism
441	Motor vehicle & parts dealers	13.21	1.02	0.01
442	Furniture & home furnishings stores	6.44	0.88	0.05
443	Electronics & appliance stores	2.94	0.85	0.05
444	Building material, garden equipment & supplies dealers	8.83	0.90	0.01
445	Food & beverage stores	9.87	0.85	0.03
446	Health & personal care stores	5.81	0.92	0.04
447	Gasoline stations	13.29	0.92	0.01
448	Clothing & clothing accessories stores	10.44	0.46	0.13
451	Sporting goods, hobby, book & music stores	5.12	0.66	0.10
452	General merchandise stores	4.27	0.81	0.03
453	Miscellaneous store retailers	13.48	0.53	0.10
454	Non-store retailers	3.62	0.64	0.04
721	Accommodation	10.02	0.24	0.13
722	Food services & drinking places	33.65	0.77	0.05

Mean of Population (in thousands) = 19.53, and mean of tourism = 4.73

**Table 4. Threshold Matrix - Potential Number of New Establishments**

Market	441	442	443	444	445	446	447	448	451	452	453	454	721	722
Andrews	1	-1	0	-1	-1	0	-3	0	1	-1	-1	2	-1	-3
Arden	3	3	1	-4	4	4	6	3	2	4	-1	-3	-3	3
Asheville-East	0	3	-4	4	4	-1	1	-28	-3	-4	17	3	21	-3
Asheville-North	3	-2	3	0	-10	-4	0	0	-10	3	-11	-6	0	-41
Asheville-South	7	-6	-4	-2	-3	-5	-1	2	-1	-1	-6	-3	3	-22
Asheville-West	-17	-4	0	5	3	-2	-1	-17	0	-1	-12	-3	0	11
Bakersville	0	1	1	2	3	1	3	2	1	1	1	-2	3	4
Barnardsville	1	-1	-1	2	1	0	2	0	0	1	2	1	-1	1
Black Mountain	4	0	1	2	-7	1	2	8	-4	1	-1	-1	1	-7
Blowing Rock	3	-12	2	-3	3	0	0	-12	4	1	-1	0	-4	7
Boone	-8	-2	-2	-5	3	-1	-4	-12	-16	-2	-2	-5	-3	-18
Brevard	3	7	-1	-4	4	-2	7	4	-3	2	2	2	-8	2
Bryson City	-6	-2	-1	0	-6	-1	0	0	-2	0	2	1	-16	-3
Burnsville	0	-2	1	-3	-1	2	-2	1	-2	-4	-2	0	-2	5
Cashiers	-1	-6	1	-3	-4	-1	-1	-2	-1	-1	-7	-3	-4	-8
Cherokee	7	10	4	5	2	8	1	31	6	4	-1	2	-11	31
Columbus	4	2	0	2	1	2	3	3	2	1	3	2	3	3
Elkin	-5	-2	-1	6	0	2	-2	10	8	-2	15	2	17	8
Forest City	-12	2	5	5	4	2	-2	1	1	-3	1	0	7	19
Franklin	-9	-3	-2	-7	-3	1	0	-8	1	-3	-3	-3	-6	-7
Hayesville	-3	-1	-1	-4	0	-1	-1	1	-1	-2	0	1	0	5
Hendersonville	0	-4	-2	-13	1	-5	7	0	-5	4	-2	0	-5	-4
Highlands	1	-5	-3	-6	-5	1	0	-10	-1	2	-14	2	4	-3
Hot Springs	1	0	0	2	1	-1	0	0	-2	1	1	1	0	2
Jefferson	0	1	-1	-1	1	0	0	0	1	-3	1	-1	0	-3
Lake Lure	0	1	0	0	-1	1	-1	3	1	1	0	0	-4	-8
Lansing	2	-1	-1	2	0	0	2	0	0	1	2	1	2	2
Leicester	2	2	0	1	3	2	6	2	1	1	2	2	3	11
Lenoir	4	-14	-2	3	-1	2	-11	1	1	0	4	3	7	3
Linville	-1	0	0	0	-3	-2	-2	1	-1	0	0	1	-1	-4
Marion	-1	3	-2	5	-1	2	-5	2	5	-1	1	-1	1	-6
Mars Hill	2	1	1	4	1	-1	2	2	0	1	3	1	1	5
Marshall	1	2	1	-1	2	0	5	2	0	0	3	-1	2	6
Millers Creek	4	2	1	2	3	1	3	1	1	1	4	0	3	6
Morganton	15	11	2	10	-4	2	8	-2	5	0	8	5	7	1
Murphy	-1	-3	-3	-3	1	-3	-4	-12	-2	-3	0	-2	-2	-14
Nebo	3	1	1	4	3	2	2	2	1	1	3	1	3	8
Newland	9	-3	1	-3	-3	1	4	0	-3	0	-6	0	-4	-8
North Wilkesboro	-4	7	1	-2	3	2	-1	2	0	2	2	-2	7	5
Robbinsville	-2	1	0	0	0	-2	-4	2	1	-2	1	1	-4	2
Rosman	2	1	0	3	-1	0	1	2	0	0	2	1	-2	2
Rutherfordton	4	4	1	3	0	1	-3	0	3	2	3	1	2	-2
Sparta	1	3	-1	1	2	1	-2	0	-1	0	0	0	1	-3
Spindale	-2	0	-2	-1	0	-1	-3	-1	0	-1	-2	0	0	-8
Spruce Pine	-3	-1	0	-3	1	-3	-3	-4	-3	0	-2	-2	-1	4

Swannanoa	-3	-2	1	4	0	-2	3	0	0	1	3	0	2	6
Sylva	2	6	-1	3	0	1	-2	1	5	1	2	1	10	5
Tryon	0	0	1	1	-3	-4	1	2	1	1	-9	-1	-1	-11
Waynesville	1	2	1	-2	2	-1	-4	18	6	-5	-5	1	-30	11
Weaverville	7	3	2	0	0	2	5	0	2	3	-1	-2	-2	9
West-Jefferson	-6	0	0	-8	-1	1	-2	-2	-1	-1	1	1	2	6
Wilkesboro	-9	2	0	1	0	0	-9	-1	1	1	0	1	2	-10
Estimate = Predicted Value - Actual Value														



## Appendix

**Appendix Table 1. Market Area by ZIP Codes**

Market	Population	ZIP Codes								
Andrews	8603	28901	28905							
Arden	34872	28704	28732	28730	28776					
Asheville-East	16089	28805								
Asheville-North	32948	28804	28801	28810	28814	28815	28802			
Asheville-South	24660	28803	28813							
Asheville-West	54884	28806	28715	28816	28728					
Bakersville	7403	28705								
Barnardsville	2954	28709	28757							
Black Mountain	17027	28711	28770	28762						
Blowing Rock	3098	28605								
Boone	38400	28607	28618	28679	28684	28691	28692	28698	28608	
Brevard	24437	28712	28768	28766	28718					
Bryson City	8900	28713	28702	28733						
Burnsville	14145	28714	28740	28755						
Cashiers	2827	28717	28774	28736						
Cherokee	11670	28719	28789							
Columbus	12090	28722	28756							
Elkin	26255	28621	27020	28642	28676	28683	28668			
Forest City	42673	28043	28018	28019	28020	28024	28040	28074	28076	28114
Franklin	26856	28734	28763	28775	28781	28744				
Hayesville	9151	28904	28902	28909						
Hendersonville	78218	28739	28791	28792	28742	28758	28760	28784	28790	28710
		28726	28729	28731	28735	28727	28724	28793		
Highlands	2975	28741								
Hot Springs	2359	28743								
Jefferson	6783	28640	28631	28617						
Lake Lure	2090	28746	28720							
Lansing	3304	28643								
Leicester	9360	28748								
Lenoir	75880	28645	28638	28667	28630	28611	28633	28661		
Linville	354	28646	28616	28664	28662	28653	28641			
Marion	29864	28752	28749	28737						
Mars Hill	9515	28754								
Marshall	11122	28753								
Millers Creek	8428	28651	28665							
Morganton	80880	28655	28612	28637	28671	28690	28666	28628	28680	
Murphy	15301	28906								
Nebo	7421	28761								
Newland	19905	28657	28622	28604						
North Wilkesboro	35325	28659	28635	28649	28669	28670	28685			
Robbinsville	7218	28771								
Rosman	4473	28772	28708	28747	28708					
Rutherfordton	19214	28139	28167							
Sparta	11310	28675	28663	28644	28627	28623	28672			
Spindale	3932	28160								

Spruce Pine	9129	28777	28765						
Swannanoa	9459	28778							
Sylva	22348	28779	28723	28788	28783	28725			
Tryon	7240	28782	28773	28750					
Waynesville	54257	28785	28786	28751	28745	28721	28716	28707	28738
Weaverville	18996	28787	28701						
West-Jefferson	12587	28694	28693	28626	28615	28629			
Wilkesboro	16421	28697	28606	28624	28654				