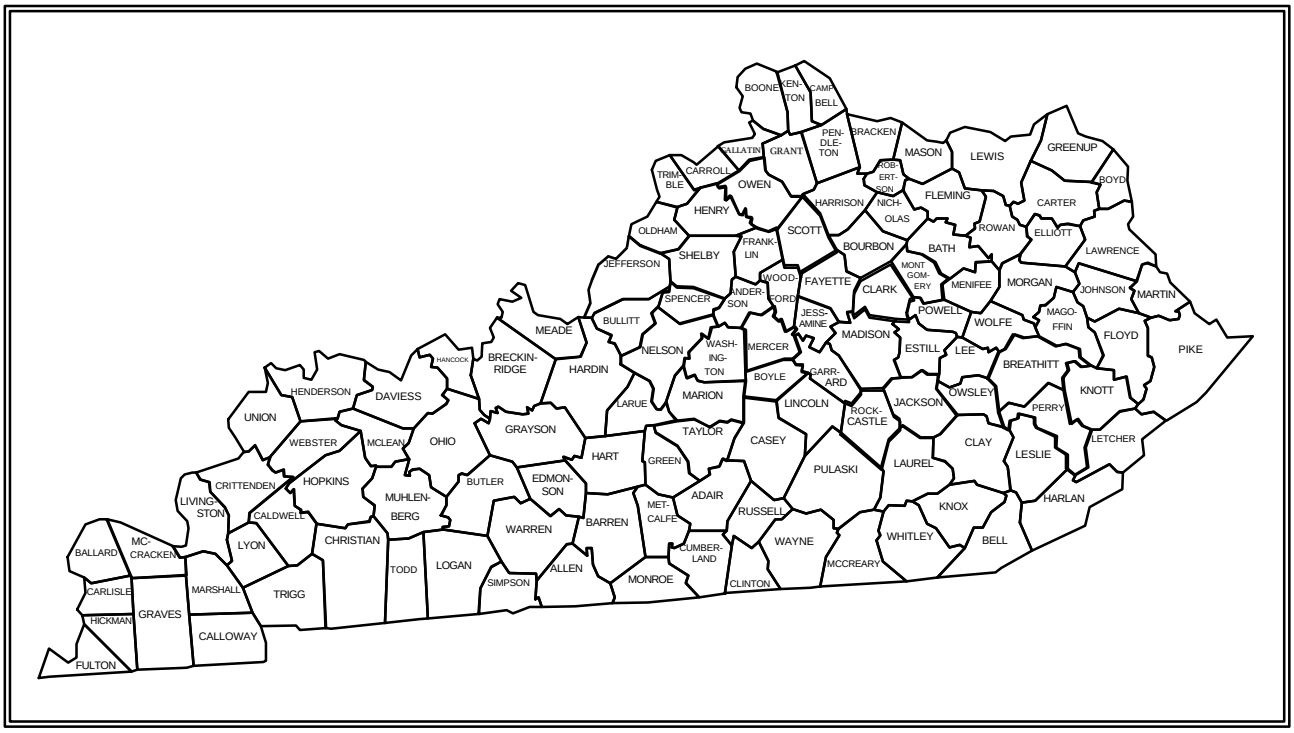
Individual Level Data Analysis



Individual Level Data Analysis

To further investigate individual and place characteristics that impact patterns of recipiency of TANF, we examined the individual-level time series data from the REDB database. These data were combined with economic and community indicators selected from the "Kentucky: By the Numbers" database in order to provide further insight into factors impacting our low income population.

In this section we will describe the dependent variables, as well as the individual, location, and place characteristics independent variables used in our multiple logistic regression models. Following these descriptive statistics, we will provide the results of several models analyzed.

Variables Used in Logistic Regression		
Dependent Variables	Cycle	
	Long Term Recipient	
	Recent Entrant	
Independent Variables	Individual/ Family Characteristics	Race
		Age
		Sex
		Education
		Household Size
		Year
	Location	East region
		Central Region
		Western Region
		Metro
		NonMetro Adjacent
		NonMetro NonAdjacent
	Place Characteristics	Percent change in total county employment from 1993-97
		Number of retail jobs as a percent of total county employment in 1997
		Percent change in retail jobs by county from 1993-97
		Poverty rate by county for children 0-17 years in 1995
		Percent change in child poverty rate by county from 1989 to 1995
		Average weekly wages for county in 1998
		Percent change in total county employment from 1993-97

Dependent Variables

With the focus on reducing cash assistance caseloads, most attention has focused on the rate of exit from assistance. However, many in this population do not experience

permanent exit, but rather cycle on and off assistance over time. Furthermore, given the increased likelihood of returning to assistance should an economic downturn occur, to best assess the independent effects of individual, location, and place characteristics on caseload dynamics, it was important to distinguish among three key experiences of cash assistance: those who cycle on and off assistance, long term recipients, and recent entrants. We believe it is particularly interesting to examine this third group as they represents individuals who had not been on assistance for the first 27 months of the study period, but entered post welfare reform. Is there a different selectivity for this group? That is, how do the characteristics of these 1999 entrants compare to earlier entrants?

Hence, our dependent variable in each of the logistic regression models was one of these three patterns of assistance – Cylers (those who had at least one pattern of entry, exit, and reentry), Long Term Recipients (receiving 24 or more months of assistance), and Recent Entrants (those who entered in the last 12 months of analysis and remained on the rolls in the 39th month). These categories are not mutually exclusive, but represent three key patterns of cash assistance receipt. In our data, 27% of the sample were Cyclers, 22% were Long Term recipients, and 7% were Recent Entrants.

Independent Variables

The following section provides a description of the independent variables and their distributions. These variables were selected in part to maximize the inclusion of cases. For example, while important, less than 10% of all cases have both reported income and can be identified as tied to a case. The independent variables fall into three categories, individual/family characteristics, location, and place characteristics. This analysis is based upon 94,970 individuals identified as the "specified adult relative", in other words, the recipient that the case or family record is tied to.

Individual/Family Characteristics

Race - The second and third categories of race were collapsed for analysis to reflect minority recipients. In the logistic regression models White was the reference group.

Race	
White	80%
Black	19%
Hispanic, Asian, American Indian	1%

Sex - As expected, by far the majority of specified adult relatives are female.

Sex	
Female	91%
Male	9%

Age – The age range of the specified adults is from 18 to 68 years with a mean of 30 years.

Age	
18-24 years	23%
25-30 years	27%
31-36 years	23%
37-68 years	27%

Education – This reflects the recipients' most recent data on education or the level of education in the month they last received assistance. In order to facilitate analysis, the last two categories were collapsed for the logistic regression with completion of high school or the GED equivalency as the reference group.

Education	
< HS	12%
some HS	29%
HS/GED	47%
Some post secondary	11%
BA+	1%

Household Size – The number of people in the recipient's household was measured in the last month of assistance or in the 39th month if they were still receiving assistance. The mean household size was 2.8 people with a maximum value of 12 in the household.

Year – The number of months on K-TAP was collapsed into four categories for comparison in the analyses with 13-24 months as the reference category. (Note: The data used in this analyses is both right and left truncated and only represents a 39 month time period. Hence we cannot speak to the prior or subsequent behavior of the individuals). In the population the mode is 3 months (6.16%) on assistance. The percent/month steadily decreases to 0.83% in month 38. Then in month 39 (receiving assistance throughout the entire period of analyses) the percent jumped to 4%. Note that this independent variable is only used in the Cycler model. Inclusion in the Long Term and Recent Entrant models would pose multicolinearity problems since by definition these dependent variables reflect number of months on assistance.

Months on K-TAP	
1-12 months	53%
13-24 months	27%
25-36 months	14%
37-39 months	6%

Location

As previously discussed, location was defined using both **Region** designation and Urban Influence codes reflecting **Adjacency** within the state of Kentucky. The individual-level data reflects similar patterns to those of the aggregate sample distributions in October 1996, 1997, 1998, and 1999 as previously reported.

Region	
East	42%
Central	38%
West	20%

Adjacency	
Metro	40%
NonMetro Adjacent	14%
NonMetro NonAdjacent	46%

Region by Adjacency		
East	Metro	5%
	NonMetro Adjacent	5%
	NonMetro NonAdjacent	32%
Central	Metro	29%
	NonMetro Adjacent	7%
	NonMetro NonAdjacent	2%
West	Metro	5%
	NonMetro Adjacent	3%
	NonMetro NonAdjacent	12%

Adjacency by Region		
Metro	East	5%
	Central	29%
	West	5%
NonMetro Adjacent	East	5%
	Central	7%
	West	3%
NonMetro NonAdjacent	East	32%
	Central	2%
	West	12%

Place Characteristics

Variables were selected to reflect the nature of place, with a particular emphasis on the local economy. Following Bartik (1999), and Goetz et al., (1998), instead of overall economic indicators, variables were selected which best captured local changes in economic opportunity affecting low income households in particular. For example, instead of overall unemployment rate changes, we chose changes in the retail employment sector and retail employment concentration (since many rural areas are reliant on retail jobs). Instead of an overall poverty rate (which includes the elderly and for which there are rural/urban differences) we selected child poverty rates and changes therein. Below is a brief discussion of each of these variables and their characteristics.

Place Variables and Description					
Variable Name	**Description**	**Range**	**Mean**	**Median**	**Source**
EMPL9397	Percent change in total county employment from 1993-97	-12.7 to 42.7	8.4	8.2	Regional Economic Information System, Bureau of Economic Analysis
PCRTOT97	Number of retail jobs as a percent of total county employment in 1997	4.5 to 27.4	15.9	15.7	Regional Economic Information System, Bureau of Economic Analysis
RET9397	Percent change in retail jobs by county from 1993-97	-11.6 to 58.1	14.5	12.6	Regional Economic Information System, Bureau of Economic Analysis
CPOVRT95	Poverty rate by county for children 0-17 years in 1995	7.5 to 65.4	29.6	26.4	Census Bureau intercensal Small Area poverty estimates
CPOV8995	Percent change in child poverty rate by county from 1989 to 1995	-26.1 to 41.9	3.5	3.0	Census Bureau intercensal Small Area poverty estimates
WKWAGE98	Average weekly wages for county in 1998	$424 to $802	$509.99	$409.99	Kentucky Workforce Development Cabinet
	For group comparisons in multiple logistic regression analyses, the range was divided in thirds.		Lower third <$388 Median third $388 to $459 Upper third $460+		

Statistical Analysis

Given that the dependent variables (patterns of assistance) are dichotomous – e.g., each recipient either cycled on and off assistance during the thirty-nine month period – multiple logistic regression procedures were used. Multiple logistic regression allows for

estimating the odds of a certain event occurring, in this case cycling on and off, remaining on for more or less than two years, or being a recent entrant to the program.

Multiple logistic regression calculates parameter estimates that are similar in interpretation to those generated in multiple linear regression. The relationship of individual, location, and place characteristics to the particular pattern of assistance are addressed by examining the logits (log odds) of a particular outcome given a particular characteristic while controlling for the effects of other factors. The log odds results of the analyses are reported in Table 2 (dependent variable Cycler), Table 3 (dependent variable Long Term), Table 4 (dependent variable Recent Entrant), and Table 5 (all three dependent variables for the state analyses). Note that only odds ratios that are significant at the $p<.05$ level or greater can be interpreted. Thus, throughout the findings, only those significant relationships will be discussed.

There are two types of data used in the logistic regression analysis – continuous and categorical data. Since the interpretation of the results differs slightly, this merits a brief discussion.

To interpret the log odds for a continuous variable (e.g. age, household size), a value greater than 1.000 represents a greater likelihood of the outcome (e.g. Cycler) as the independent variable (e.g. Household Size) increases. If the log odds are less than 1.000 then there is a lesser likelihood of the outcome (e.g. Cycler) as the independent variable (e.g. Age) increases.

The categorical data include dichotomous and multiple category. For all categorical variables (e.g. Race, Education, Region), the log odds are computed comparing one level of the variable with a comparison.

In the case of dichotomous variables such as Race, White is the comparison group and the odds ratio for Minority compares the odds of a Minority recipient being a Cycler to the odds of a White recipient being a Cycler. In Table 2 the odds ratio of 1.344 is significant for Minority at the $p<.001$ level indicating that the odds of a Minority recipient being a Cycler is 1 1/3 greater than the odds of a White recipient.

When the independent variable has been categorized into more than two categories (e.g., Education), the odds associated with each category are compared to the reference group. Thus for Education (see Table 2), the three remaining categories are compared with having received a high school diploma. Since the Some HS category has a significant odds ratio greater than 1.000, a recipient in this category is more likely than a high school graduate to be a Cycler. In contrast, a recipient having completed years of education beyond the high school level has a significant odds ratio less than 1.000 and thus she is 72% less likely than a high school graduate to be a Cycler.

Prior to examining the state population as a whole (Table 5), a multiple logistic regression model was fitted for each type of adjacency residence – Metro, NonMetro Adjacent, and NonMetro NonAdjacent. Models were also fitted for each region of the state – East, Central and West. Based upon these models, results will be reported only for the adjacency models. When the analyses were run by region there were no regional differences that surfaced warranting inclusion of interaction terms in the final state model. However, when analyzed by adjacency of residence, several interactions were revealed and will be discussed below.

Results

The following section describes the results from the logistic regression models. In order to facilitate discussion, these results are also summarized using embedded tables. This discussion is organized by dependent variable in order of Cycler, Long Term Recipient, and Recent Entrant.

Cycler

Table 2 presents the results of the Cycler pattern of assistance being regressed on the independent variables of major interest in this study. **The results reveal that many individual-level variables prove important in predicting the likelihood of a person cycling on and off assistance across all places of residence.**

These results indicate that minority participants are more likely than white participants to be cyclers, while men are less likely than women to exhibit this pattern. Younger participants and those with some high school education are more likely than older adults or high school graduates to move on and off the rolls. In addition, individuals with a larger household size are more likely to be cyclers. Not surprisingly, individuals who have been on assistance for less than one year or more than three years are less likely than recipients who have been on for 12 to 24 months to cycle on and off. On the other hand, recipients with 25 to 36 months of participation are more likely to be cyclers. This appears to be a pattern of short term recipients not having had as much opportunity to cycle on and off while those on very long term assistance being more likely to represent the group who are more welfare-dependent. These same significant relationships continue to hold in the statewide model as depicted in Table 5.

CYCLING ON AND OFF ASSISTANCE	
Individual Characteristics	
More likely to have cycled on and off K-TAP	**Less** likely to have cycled on and off K-TAP
Minority recipients	White recipients
Women	Men
Younger	Older
Some high school education	High school graduates **or** Post secondary educated
Larger household size	Smaller household size
Receiving assistance for 25-36 months during the three year period	Receiving assistance for less than one year **or** more than three years during the three year period

When we examine the location of recipients, differential patterns of variables appear. Participants in the Central Metro counties are less likely than Eastern Metro recipients to be cyclers, a pattern that differs across adjacency categories. In the NonMetro Nonadjacenct counties both Central and Western region participants are more likely to be

cyclers. In the NonMetro Adjacent counties there is no significant difference by region whether an individual is a cycler or not.

CYCLING ON AND OFF ASSISTANCE	
Location	
More likely to have cycled on and off K-TAP	**Less** likely to have cycled on and off K-TAP
Table 2 - by Adjacency	
Metro counties, Eastern Region	Metro counties, Central Region
NonMetro NonAdjacent Central Region **and** NonMetro NonAdjacent Western Region	NonMetro NonAdjacent Eastern Region
Table 5 - Statewide	
Metro	NonMetro NonAdjacent
Metro Eastern Region	Metro Central Region **and** Metro Western Region
NonMetro NonAdjacent Central Region **and** NonMetro NonAdjacent Western Region	NonMetro NonAdjacent East

As indicated in Table 2, there are five additional place characteristics that are significant predictors in at least one adjacency category. In the NonMetro Adjacent counties both greater retail employment concentration (PCRTOT97) and growth in the retail sector (RET9397) increase the odds of a recipient cycling on and off assistance. Then in Metro counties with average weekly wages of less than $388 recipients are more likely to be a cycler. In Metro counties both child poverty indicators reflect lower odds of being a cycler as rates increase.

Because of these apparent differences across place, interaction terms were created for inclusion of the state level analyses. The significant interactions are included in the model presented in Table 5 in the first column. In examining the interaction of Region and Adjacency, we see that in comparison to the most rural counties in the East, the Metro counties in the Central and Western regions are less likely to be cyclers. Yet, comparing the most rural counties across regions, the Central and Western recipients are more likely to be cycling on and off assistance. **These interactions highlight the importance of location characteristics to a critical analysis of caseload composition.**

Since the effect of Adjacency is so strong in the statewide model (Metro recipients have nearly twice the odds of being a cycler than rual recipients), we see somewhat different influences of independent variables than when examining the relationships within the Ajacency category. Again, **this speaks to the importance of place characteristics.**

For both the retail employment concentration (RET9397) and growth in the retail sector (PCRTOT97) variables, a pattern somewhat different to that in Table 2 emerges. Recipients in NonMetro Adjacent counties are more likely to be cyclers as the growth in the retail sector increases in comparison to more rural areas of the state. Then, in Metro

counties with higher retail employment concentration, recipients are more likely to be cyclers than those in the more rural areas. Recipients in Metro counties are also more likely to be cyclers the greater the child poverty rate. Recipients in Metro and NonMetro NonAdjacent counties with the lowest weekly wages across the state are more likely to be cyclers than recipients in counties across adjacency categories with weekly wages in the median third ($388-$459). In contrast, NonMetro Adjacent counties with the lowest weekly wages are less likely to be cyclers than recipients with weekly wages in the median third.

Hence, we learn from these analyses that location, particularly with regard to adjacency and place characteristics reflecting local economic opportunities impact the likelihood that a recipient will exhibit a pattern of cycling on and off assistance. Participants in Metro counties with lower wages, higher retail employment concentration, and a higher percent change in the child poverty rate are at greater risk for cycling than their more rural counterparts. However, the participants from the most rural counties with greater growth in the retail employment sector are more likely to be cyclers than their counterparts in NonMetro Adjacent counties with similar retail employment sector growth.

CYCLING ON AND OFF ASSISTANCE	
Place Characteristics	
More likely to have cycled on and off K-TAP	**Less** likely to have cycled on and off K-TAP
Table 2 - by Adjacency	
NonMetro Adjacent with *higher* retail employment concentration	NonMetro NonAdjacent with *higher* retail employment concentration
NonMetro Adjacent with *greater* growth in retail employment sector	NonMetro Nonadjacent with *greater* growth in retail employment sector
Metro with weekly wages <$388	Metro with weekly wages $388-$459
Metro with *lower* child poverty rates	Metro with *higher* child poverty rates
Metro with *lower* percent change in child poverty rate	Metro with *higher* percent change in child poverty rate
Table 5 - Statewide	
NonMetro NonAdjacent with *greater* growth in retail employment sector	NonMetro Adjacent with *greater* growth in retail employment sector
Metro with *higher* retail employment concentration	NonMetro NonAdjacent with *higher* retail employment concentration
Metro with *higher* percent change in child poverty rate	NonMetro NonAdjacent with *higher* percent in child poverty rate
Metro and NonMetro NonAdjacent with weekly wages <$388	NonMetro Adjacent with weekly wages <$388

These are interesting findings as they address the issue of whether "any" job is better than none. An increase in retail sector jobs that are often tied to lower paying employment opportunities may not be the only solution to families not cycling on and off welfare. The importance of the local economy's wage structure is also emphasized when we consider that Metro recipients in lower wage areas are more likely to be cyclers than recipients in counties with a higher average weekly wage. **Adequate employment opportunities continue to be a key issue, particularly in rural areas.**

Long Term Recipients

Table 3 presents the results of the Long Term pattern of assistance being regressed on the independent variables of major interest in this study. As with the Cycler model, both the adjacency specific models and the overall state model reveal that **many individual-level variables prove important in predicting the likelihood of a person remaining on cash assistance for more than 24 months**.

Again, these results indicate that minority participants are more likely than white participants to be long term recipients, and men are less likely than women to exhibit this pattern. Age is a significant predictor in both NonMetro categories of counties as well as for the state as a whole with older recipients being more likely to have been on the rolls for a longer period of time. Recipients with larger household size are more likely to be classified as long term. Education has a different influence on the likelihood of long term assistance than we saw in the Cycler model. In comparison to recipients with a high school or equivalent degree, those with less or greater levels of education are more likely to be long term recipients. These same significant relationships continue to hold in the statewide model as set forth in Table 5.

LONG TERM RECEIPT OF ASSISTANCE	
Individual Characteristics	
More likely to be on K-TAP for a Long Term	**Less** likely to be on K-TAP for a Long Term
Minority recipients	White recipients
Women	Men
Older	Younger
Some high school education **or** Post secondary educated	High school graduates
Larger household size	Smaller household size

When we examine the location of recipients, results reveal that in the Metro counties, recipients in the Central and Western regions are more likely to be Long Term recipients. The pattern differs for the other adjacency categories. In the NonMetro counties both the Central and Western region participants are less likely than Eastern participants to be long term recipients. In the more rural areas residents in the Western region are less likely than the Eastern region to be classified as longterm.

While the interaction term between region and adjacency was not significant enough for the state as a whole (see Table 5) to be included in the model, when we compare

regions, the Western recipients are significantly less likely to remain on assistance for a longer time than those in the Eastern Region. And, across adjacency categories, the more rural residents in the NonMetro NonAdjacent counties are more likely than NonMetro Adjacent residents to be long term recipients.

LONG TERM RECEIPT OF ASSISTANCE	
Location Characteristics	
More likely to be on K-TAP for a Long Term	**Less** likely to be on K-TAP for a Long Term
Table 3 – By Adjacency	
Metro counties, Central Region **and** Metro counties, Western Region	Metro counties, Eastern Region
NonMetro Adjacent Eastern	NonMetro Adjacent Central **and** NonMetro Adjacent Western Region
NonMetro NonAdjacent Eastern	NonMetro NonAdjacent West
Table 5 – Statewide	
East Region	West Region
NonMetro NonAdjacent	NonMetro Adjacent

As indicated in Table 3, all of the place characteristics are significant predictors in at least one adjacency category. In the NonMetro NonAdjacent counties with increasing employment rates (EMPL9397), recipients are less likely to be long term recipients than in other rural counties with a declining employment rate. Across adjacency categories and in the statewide model, individuals in counties with higher Child Poverty rates are more likely to be long term recipients.

With regard to counties with differing levels of retail employment concentration, recipients in Metro counties are more likely and individuals in NonMetro Adjacent counties are less likely to be longtermers as the rate increases. Also in Metro counties, growth in the retail sector decreases the odds of a recipient being on assistance for a long term. Then in Metro and rural counties with average weekly wages of less than $388 recipients are <u>less</u> likely to be a longtermer. At least in Metro areas this is consistent with individuals in these counties more likely being Cyclers. Interestingly in the NonMetro NonAdjacent category, counties with average weekly wages over $460 are <u>more</u> likely to remain on the caseload for long periods. This may reflect the impact of areas with higher income inequality not captured in an average weekly wage variable and indicates the need for further investigation.

Because of these apparent differences across place, interaction terms were created for inclusion in the state level analyses. The significant interactions are included in the model presented in Table 5 in the second column. In examining the influence of location in this model we note that the absence of a significant interaction between Region and Adjacency indicates that for the most part patterns of long term receipt are similar for the caseload across the state. However, NonMetro Adjacent residents are less likely than

Metro or rural residents to be long term recipients. People in the West are also less likely than the other two regions to be on assistance for the long term.

Three place characteristics do differ significantly across adjacency categories: retail employment concentration, growth in the retail sector, and weekly wages. Of these, the most notable contrast is for growth in retail sector (PCRTOT97). NonMetro Adjacent recipients have over twice the odds of being a long term recipient than NonMetro NonAdjacent recipients. Recipients in both Metro and NonMetro Adjacent counties with an increase in retail employment concentration are less likely than their rural counterparts to be long term participants.

Examination of the weekly wage by adjacency data again reveals the **importance of examining caseload composition by place characteristics reflecting local economic opportunities to provides insight on factors affecting the likelihood of long term assistance.** We see that both Metro and NonMetro NonAdjacent recipients from counties with lower weekly wages are less likely to be long term recipients. In contrast, rural individuals in counties with the highest weekly wages are more likely to be long term recipients. While this result may be more reflective of differing income distributions, the results are suggestive of the need for further investigation. Still, this relationship between local weekly wages, adjacency, and assistance outcome differs from the Cycler outcome, and so interesting questions are still raised by this result. **If varying constellations of place characteristics impact differing patterns of welfare dependence or exit, how might these local characteristics affect service targeting and could they be predictive of future caseload composition?**

LONG TERM RECEIPT OF ASSISTANCE	
Place Characteristics	
More likely to be on K-TAP for a Long Term	**Less** likely to be on K-TAP for a Long Term
Table 3 – by Adjacency	
NonMetro NonAdjacent *with declining* employment rates	NonMetro NonAdjacent *with increasing* employment rates
Metro *with greater growth* in the retail employment sector	Metro *with slower growth* in the retail employment sector
NonMetro NonAdjacent *with slower* growth in the retail employment sector	NonMetro NonAdjacent *with higher* growth in the retail employment sector
Metro *with lower* retail employment concentration	Metro *with higher* retail employment concentration
Metro with weekly wages $388-$459	Metro with weekly wages < $388
NonMetro NonAdjacent with weekly wages $460+	NonMetro NonAdjacent with weekly wages < $388

LONG TERM RECEIPT OF ASSISTANCE (continued)	
Place Characteristics (continued)	
More likely to be on K-TAP for a Long Term	**Less** likely to be on K-TAP for a Long Term
Table 5 – Statewide	
Counties with a *declining* employment rate	Counties with an *increasing* employment rate
Counties with a *higher* child poverty rate	Counties with a *lower* child poverty rate
NonMetro Adjacent *with higher* retail employment concentration	Metro *with lower* retail employment concentration
NonMetro NonAdjacent *with growth* in retail sector	Metro *with growth* in retail sector **and** NonMetro Adjacent *with growth* in retail sector
NonMetro NonAdjacent with weekly wages $460+	Metro with weekly wages < $388 **and** NonMetro NonAdjacent with weekly wages < $388

Recent Entrants

Table 4 presents the results of the Recent Entrants pattern of assistance being regressed on the independent variables of major interest in this study. As in the previous models of the Cycler and Long Term dependent variables, both the adjacency specific model and the overall state model reveal that **many individual-level variables prove important in predicting the likelihood of a person being a recent entrant**.

Again, these results indicate that minority participants are more likely to have entered the caseload recently. However, in contrast to the previous models, men are now more likely than women to be in the recent category. Still, while the odds suggest that men in our study are more likely than women to be classified as Recent Entrants, the vast majority remain women. Age and household size remain significant predictors, yet recipients with either some high school education or some post secondary education are less likely to be a recent addition to the rolls in rural counties.

This slightly different profile for Recent Entrants suggests the likelihood that the **characteristics of recent entrants do differ from those already receiving assistance** and may indicate an additional factor in the trends of caseloads being increasingly characterized by those with greater barriers to employment. In other words, this trend may be in part due to those with the most favorable characteristics being able to exit as well as selective processes for those newly needing assistance. The likelihood that the household size is smaller for these recipients further suggests a trend toward smaller families now entering assistance. Based on the previous aggregate level analyses we can

speculate that these may be parents of infants as the proportion of children who are infants increased during this time.

RECENT ENTRANT ON ASSISTANCE	
Individual Characteristics	
More likely to be Recent entrant on K-TAP	**Less** likely to be Recent entrant on K-TAP
Minority recipients	White recipients
Men	Women
Younger	Older
NonMetro NonAdjacent counties Some high school education **or** NonMetro NonAdjacent counties Post secondary educated	NonMetro NonAdjacent counties High school graduates
Smaller household size	Larger household size

When we examine the location of recipients, results reveal that individuals in the NonMetro Adjacent Central region counties are less likely than individuals in NonMetro Adjacent Eastern region counties to be recent recipients. In the statewide analysis we observe that recipients in NonMetro Adjacent counties in general have about one-third the odds of rural recipients to be recent additions to the caseload. Thus, in 1999 we saw more of a concentration of new entrants in the NonMetro Adjacent counties.

RECENT ENTRANT ON ASSISTANCE	
Location	
More likely to be Recent entrant on K-TAP	**Less** likely to be Recent entrant on K-TAP
Table 4 – by Adjacency	
NonMetro Adjacent Eastern Region	NonMetro Adjacent Central Region
Table 5 – Statewide	
NonMetro NonAdjacent	NonMetro Adjacent

As indicated in Table 4, all but the weekly wage place characteristic were significant predictors in at least one adjacency category. In the NonMetro Adjacent counties with declining employment rates, recipients are more likely to be recent entrants than in other NonMetro Adjacent counties with rising rates. Recipients in Metro counties with greater retail employment concentration and decreases in the child poverty rate are also more likely to be recent entrants. However, if a recipient is living in a NonMetro NonAdjacent county with a decline in the child poverty rate, there is a greater likelihood that they will be a new entrant. This is a puzzling finding that in some counties an increase in a risk factor (e.g., percent of children in poverty) would be associated with less likelihood of being a Recent Entrant. Probably, this is more of a reflection that recent entrants only represent 7% of the sample and that the child poverty indicators were more strongly associated with a recipient being categorized as Long Term.

Because of these apparent differences across location, interaction terms were created for inclusion in the state level analyses. The significant interaction for predicting Recent Entrant status are included in the model presented in Table 5 in the third column.

Two place characteristics do differ significantly across adjacency categories: retail employment concentration and growth in the retail sector. Since the effect of Adjacency is so strong in the statewide model (NonMetro Adjacent recipients have one-third the odds of being a Recent Entrant), we see somewhat different influences of independent variables than when examining the relationships within the Adjacency category. Again, **this speaks to the importance of place characteristics, this time in predicting recent entrants onto cash assistance.**

For both retail employment concentration and growth in the retail sector variables, a pattern somewhat different to that in Table 4 emerges. Recipients in both Metro and NonMetro Adjacent counties are less likely to be Recent Entrants as the growth in the retail employment sector increases in comparison to the more rural areas of the state. Likewise, in both Metro and Nonmetro Adjacent counties with higher retail employment concentration, recipients are again less likely to be Recent Entrants with respect to the more rural NonMetro NonAdjacent counties.

RECENT ENTRANT ON ASSISTANCE	
Place Characteristics	
More likely to be **Recent entrant** on K-TAP	**Less** likely to be **Recent entrant** on K-TAP
Table 4 – by Adjacency	
NonMetro Adjacency with *declining* employment rates	NonMetro Adjacency with *rising* employment rates
Metro with *greater* retail employment concentration	Metro with *declining* retail employment concentration
NonMetro Adjacent with *growth* in the retail sector	NonMetro Adjacent with *decline* in the retail sector
NonMetro NonAdjacent with *decreasing* rates of child poverty	NonMetro NonAdjacent with *increasing* rates of child poverty
Metro with *decreases* in the child poverty rate	Metro with *increases* in the child poverty rate

RECENT ENTRANT ON ASSISTANCE (continued)	
Place Characteristics (continued)	
More likely to be **Recent entrant** on K-TAP	**Less** likely to be **Recent entrant** on K-TAP
Table 5 – Statewide	
NonMetro NonAdjacent with *growth* in the retail sector	Metro with *growth* in the retail sector **and** NonMetro Adjacent with *growth* in the retail sector
NonMetro NonAdjacent with *higher* retail employment concentration	Metro with *higher* retail employment concentration **and** NonMetro Adjacent with *higher* retail employment concentration

As we noted earlier, these analyses again show that **location, particularly with regard to adjacency and place characteristics reflecting local economic opportunities impact the likelihood that a recipient will be a Recent Entrant. This is a similar pattern as that found for the Cycler model.**

As we look across the statewide models for the three dependent variables in Table 5, it is noteworthy that very similar patterns in individual characteristics are associated with the likelihood of a recipient having a particular pattern of assistance. It was not until we examined location and place characteristics reflecting differing economic opportunities that we improved our understanding of how these categories of recipients varied throughout the state of Kentucky. These analyses confirm that factors influencing caseload patterns of assistance vary more by whether the participants are residents of a Metro or more rural environment than they do by region within the state. Hence, **there is something about ruralness that needs to be further considered.**

Table 2. Multiple Logistic Regression Analysis of Recipient Being a Cycler by Adjacency

	Metro		NonMetro Adjacent		NonMetro NonAdjacent	
Individual	odds ratio	95% CI	odds ratio	95% CI	odds ratio	95% CI
Race						
White	1.00		1.00		1.00	
Minority	1.344***	1.272-1.420	1.298***	1.139-1.481	1.346***	1.232-1.471
Sex						
Female	1.00		1.00		1.00	
Male	0.87*	0.776-0.976	0.746**	0.622-0.893	0.865***	0.796-0.941
Age	0.973***	0.970-0.976	0.965***	0.959-0.970	0.966***	0.963-0.969
Education						
<HS	0.929	0.845-1.021	0.977	0.847-1.126	1.012	0.945-1.085
Some HS	1.111***	1.052-1.173	1.163**	1.057-1.281	1.144***	1.083-1.208
HS/GED	1.00		1.00		1.00	
Post Sec	0.715***	0.660-0.774	0.724***	0.618-0.849	0.813***	0.751-0.881
Household Size	1.065***	1.041-1.090	1.086***	1.042-1.132	1.089***	1.064-1.113
Year						
<12 mo	0.227*	0.215-0.240	0.224***	0.204-0.246	0.239*	0.226-0.252
13-24	1.00		1.00		1.00	
25-36	1.492*	1.395-1.595	1.472***	1.297-1.670	1.363*	1.280-1.451
37-39	0.377*	0.335-0.425	0.280***	0.218-0.360	0.253*	0.227-0.283
Region						
East	1.00		1.00		1.00	
Central	0.877*	0.777-0.989	1.168	0.977-1.397	1.292***	1.119-1.491
West	0.925	0.803-1.066	1.117	0.939-1.329	1.247***	1.146-1.358
Place Characterisitcs						
EMPL9397	0.999	0.991-1.007	0.996	0.989-1.002	1.003	0.999-1.008
PRCTOT97	1.001	0.986-1.015	1.018*	1.003-1.033	0.998	0.992-1.005
RET9397	0.995	0.988-1.002	1.006*	1.001-1.011	0.999	0.997-1.002
WKWAGE98						
< $388	1.345*	1.066-1.695	1.154	1.000-1.332	0.969	0.897-1.048
$388 to $459	1.00		1.00		1.00	
$460+	1.065	0.951-1.193	0.931	0.821-1.055	0.959	0.907-1.015
CPOVRT95	0.976***	0.965-0.989	0.995	0.987-1.004	0.998	0.994-1.001
CPOV8995	0.995*	0.989-1.000	0.997	0.992-1.002	1.001	0.997-1.005
N=37,825	12,358		43,692			

*p<.05, **p<.01, ***p<.001

Table 3. Multiple Logistic Regression Analysis of Being a Long Term Recipient by Adjacency

	Metro		NonMetro Adjacent		NonMetro NonAdjacent	
Individual	odds ratio	95% CI	odds ratio	95% CI	odds ratio	95% CI
Race						
White	1.00		1.00		1.00	
Minority	1.518***	1.433-1.607	1.331***	1.144-1.549	1.513***	1.378-1.660
Sex						
Female	1.00		1.00		1.00	
Male	0.384***	0.334-0.443	0.701***	0.586-0.839	0.653***	0.604-0.707
Age	0.999	0.996-1.002	1.013***	1.008-1.019	1.008***	1.005-1.011
Education						
<HS	1.070	0.966-1.185	1.193*	1.032-1.380	1.367***	1.282-1.458
Some HS	1.295***	1.223-1.371	1.009	0.904-1.127	1.146***	1.085-1.211
HS/GED	1.00		1.00		1.00	
Post Sec	1.219***	1.126-1.320	1.199*	1.021-1.408	1.272***	1.181-1.369
Household Size	1.264***	1.236-1.293	1.140***	1.092-1.191	1.142***	1.117-1.166
Region						
East	1.00		1.00		1.00	
Central	1.313***	1.150-1.499	0.731**	0.602-0.887	0.933	0.794-1.096
West	1.336***	1.140-1.566	0.805*	0.667-0.972	0.813***	0.745-0.888
Place Characteristics						
EMPL9397	1.007	0.997-1.016	1.001	0.994-1.008	0.993***	0.989-0.997
PRCTOT97	1.072***	1.053-1.091	1.010	0.993-1.027	0.993*	0.987-1.000
RET9397	0.984***	0.976-0.992	1.002	0.997-1.008	1.000	0.997-1.003
WKWAGE98						
< $388	0.314***	0.237-0.415	1.066	0.914-1.243	0.803***	0.743-0.868
$388 to $459	1.00		1.00		1.00	
$460+	0.875	0.765-1.001	1.074	0.927-1.244	1.362***	1.290-1.438
CPOVRT95	1.083***	1.067-1.099	1.019***	1.010-1.028	1.033***	1.029-1.037
CPOV8995	1.004	0.998-1.010	0.992*	0.986-0.998	0.999	0.995-1.004
N=37,825	12,358		43,692			

*p<.05, **p<.01, ***p<.001

Table 4. Multiple Logistic Regression Analysis of Being a Recent Entrant by Adjacency

	Metro		NonMetro Adjacent		NonMetro NonAdjacent	
Individual	odds ratio	95% CI	odds ratio	95% CI	odds ratio	95% CI
Race						
White	1.00		1.00		1.00	
Minority	1.078	0.982-1.182	1.045	0.830-1.315	1.154*	1.001-1.330
Sex						
Female	1.00		1.00		1.00	
Male	2.313***	1.981-2.700	1.524**	1.159-2.005	1.669***	1.466-1.899
Age	0.932***	0.926-0.938	0.940***	0.930-0.950	0.931***	0.926-0.937
Education						
<HS	1.078	0.930-1.251	1.028	0.809-1.308	0.891	0.792-1.003
Some HS	0.928	0.846-1.018	1.024	0.870-1.206	0.906*	0.828-0.992
HS/GED	1.00		1.00		1.00	
Post Sec	0.923	0.807-1.056	0.904	0.685-1.194	0.873*	0.764-0.999
Household Size	0.862***	0.825-0.900	0.957	0.888-1.032	0.870***	0.834-0.907
Region						
East	1.00		1.00		1.00	
Central	0.956	0.784-1.165	0.714*	0.527-0.968	0.922	0.728-1.169
West	0.974	0.773-1.226	0.762	0.564-1.028	0.956	0.831-1.098
Place Characteristics						
EMPL9397	0.999	0.985-1.014	0.989*	0.978-1.000	1.005	0.998-1.012
PCRTOT97	1.030*	1.005-1.056	1.025	0.998-1.051	1.000	0.989-1.011
RET9397	0.989	0.977-1.001	1.018***	1.009-1.027	0.996	0.991-1.000
WKWAGE98						
< $388	0.677	0.445-1.030	0.961	0.750-1.231	1.028	0.902-1.171
$388 to $459	1.00		1.00		1.00	
$460+	1.136	0.938-1.376	0.902	0.725-1.123	1.080	0.986-1.184
CPOVRT95	0.998	0.978-1.019	0.988	0.974-1.003	0.990**	0.984-0.996
CPOV8995	0.987**	0.978-0.996	0.992	0.983-1.001	1.000	0.993-1.006
N=37,825	12,358		43,692			

*p<.05, **p<.01, ***p<.001

Table 5. Multiple Logistic Regression Analysis of Dependant Variable for Statewide Recipients

	Cycler		Long Term Recipient		Recent Entrant	
Individual	odds ratio	95% CI	odds ratio	95% CI	odds ratio	95% CI
Race						
White	1.00		1.00		1.00	
Minority	1.341***	1.284-1.402	1.569***	1.500-1.640	1.100**	1.024-1.181
Sex						
Female	1.00		1.00		1.00	
Male	0.845***	0.794-0.900	0.588***	0.552-0.626	1.837***	1.673-2.016
Age	0.968***	0.966-0.970	1.006***	1.004-1.008	0.933***	0.929-0.936
Education						
< HS	0.972	0.923-1.024	1.290***	1.227-1.357	0.961	0.882-1.048
Some HS	1.132***	1.092-1.173	1.195***	1.151-1.240	0.927*	0.873-0.984
HS/GED	1.00		1.00		1.00	
Post Sec	0.759***	0.718-0.800	1.226***	1.165-1.290	0.902*	0.825-0.987
Household	1.080***	1.064-1.097	1.187***	1.170-1.205		
by Adj						
Met					0.723	0.689-0.757
NonMet					0.364*	0.358-0.370
NonNon					1.00	
Year						
< 12 mo	0.232***	0.223-0.240				
13-24	1.00					
25-36	1.425***	1.365-1.488				
37-39	0.299***	0.277-0.323				
Location						
Region						
East	1.00		1.00		1.00	
Central	1.270*	1.241-1.299	0.963	0.894-1.036	0.845**	0.758-0.941
West	1.248***	1.230-1.266	0.880***	0.821-0.944	0.943	0.849-1.048
Adj						
Met	1.888*	1.871-1.905			0.727	0.710-0.743
NonMet	.686	.671-701			0.326***	0.319-0.333
NonNon	1.00				1.00	
Adj by Reg						
Met E	1.00					
Met C	0.871***	0.852-0.890				
Met W	0.939***	0.927-0.951				
Non E	1.00					
Non C	1.160	1.122-1.198				
Non W	1.187	1.127-1.247				
NonNon E	1.00					
NonNon C	1.270**	1.190-1.350				
NonNon W	1.248***	1.228-1.268				
EMPL9397	1.00	0.997-1.004	0.994***	0.991-0.997	1.001	0.996-1.006

Table 5. continued

Individual	Cycler odds ratio	95% CI	Long Term Recipient odds ratio	95% CI	Recent Entrant odds ratio	95% CI
PCRTOT						
by Adj						
Met	1.893	1.888-1.898	0.851**	0.793-0.909	0.743*	0.736-0.750
Non	0.700*	0.648-0.752	2.367*	2.340-2.394	0.335*	0.328-0.342
NonNon	1.00		1.00		1.00	
RET9397						
by Adj						
Met	1.875*	1.768-1.982	0.814**	0.782-0.846	0.718**	0.699-0.737
Non	0.688	0.574-0.802	0.609**	0.585-0.633	0.332***	0.327-0.337
NonNon	1.00		1.00		1.00	
WKWAGE						
by Adj						
Met < $388	2.574**	2.498-2.650	0.580**	0.558-0.602		
Met Mid	1.00		1.00			
Met $460 +	1.02	0.997-1.043	1.111***	1.089-1.133		
Non < $388	0.831*	0.823-0.839	1.070***	1.062-1.078		
Non Mid	1.00		1.00			
Non $460 +	0.958	0.935-0.981	1.064***	1.032-1.096		
NonNon < $388	1.888**	1.812-1.964	0.789**	0.762-0.816		
NonNon Mid	1.00		1.00			
NonNon $460	0.686	0.670-0.700	1.350**	1.337-1.363		
CPOVRT95			1.037***	1.033-1.040	0.989***	0.984-0.994
by Adj						
Met	1.853***	1.812-1.894				
Non	0.685	0.671-0.699				
NonNon	1.00					
CPOV8995	0.998	0.995-1.001	1.000	0.998-1.003	0.985*	0.991-0.999