Disclaimer: While the data comes from official AERC records – the analysis and conclusions below are not officially sanctioned by the AERC.

Distribution of Riders and Starts Over the Past Ten Years

1. Introduction: This report resulted from an effort to analyze the data in the AERC database for the ten year period of 1996 through 2005 to address the question, "Are LD's feeding 50's?" This is a simple enough question but one that is difficult to get ones arms around since the meaning of the term "feeding" is somewhat ambiguous used in this context. In the effort to crunch the data in the database to address this issues, some results surfaced that are both interesting in their own right and paint an interesting picture on how endurance riding has evolved in the ten year period. This is a report of these results. Section 2 details the method of analysis and what was analyzed. Section 3 is the results of the analysis for the AERC total. Section 4 breaks the data down on a regional basis. In Section 5 the breakout into multiple categories of ride types is given. In Section 6 some observations are made on the treads in the data. After looking at these data it seems that the question "Are the LD's feeding the 50's?" may not the proper question to ask.

2. Method of Analysis: This effort required quite a bit of crunch time on my fairly capable computer. The task started out to address the original question of LD's feeding 50's. In order to do that or to address any question of evolution in the sport, one must be able to track an individual or group of individuals through time. That implies that only the data associated with AERC members be used. This in effect eliminates the data associated with non members. This is not considered a big issue since the non member starts is small in comparison to the total starts. In this work, all the member starts from year 1996 through 2005 were included. The year 1996 was selected since that is the earliest year the information on individual starts in the database is of sufficient accuracy to be useful. The records of non members were eliminated. This resulted in a data set of approximately 180,000 individual starts.

For the analysis the data was parsed to year within each member (in that year). One interesting statistic is all the 180,000 starts were accounted for by approximately 10,000 members over the ten year period. Another interesting statistic is of all these 10,000 members who started rides only 556 members have started a ride in all ten years.

The data for each starter in each year were analyzed to determine the number of rides of a given type they started. The types were LD, and single day endurance rides of 50 to 70 miles, 75 to 95 miles, 100 miles and a two day 100. The Pioneer (multiple day) rides were counted in a separate category. This data (along with number finished and some other ancillary data) was then saved for further analysis. Statistics were calculated on each type of events, both with respect to riders and number of starts. The calculation of these statistics was based on riders who rode at least one of the events in a year and as such the categories were not mutually exclusive. In order to estimate the underlying population distributions three mutually exclusive categories were defined and the data analyzed based on these categories.

For this report the individual riders were put into one of three categories based on this calculated data. The categories are based on the types of rides a rider has done. The categories are “LD Only,” “Endurance Only,” and “Both LD and Endurance.” A rider was placed into one of these three categories for each year and the statistics on both the distribution (percentage of total) of riders, the average number of rides for riders in each category and the distribution (percentage of total) of starts was calculated.

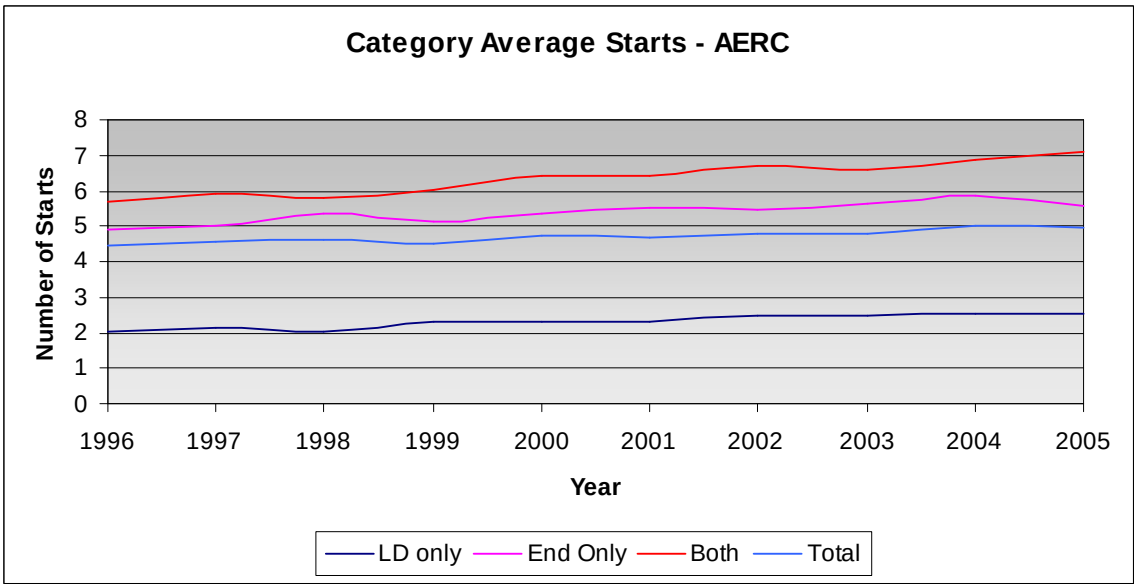
The trends that show up for the AERC nationwide in the data will be shown in the next section.

3. The AERC Trends: For each year the number of LD rides and Endurance rides started by a rider in that year is calculated. The riders are then placed into one of three categories for analysis. These categories are

a) A rider did only LD rides – LD only,
b) A rider did only Endurance rides – End only,
c) A rider did both LD and Endurance - Both.

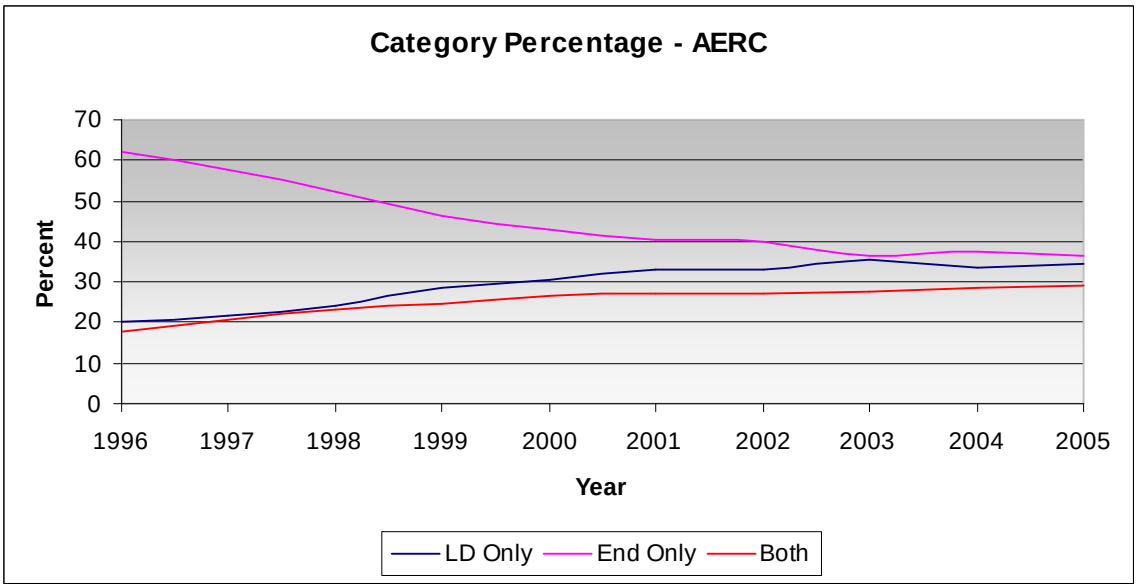
These categories are mutually exclusive and their union is the entirety of all the data.

For each category the average number of rides done by each rider is calculated. This is shown in Figure 3.1 below. In all the charts LD only refers to the category of riders that only started LD rides in that year, End only refers to the category of riders that only Endurance rides that year and Both refers to riders that started at least one of each in that year. What is interesting about the information shown in Figure 3.1 is that riders that do both start more rides. The riders that do only LD start the least number of rides – 1/2 to 1/3 the number started by the riders that have done endurance only or both. This is consistent with the rule of thumb that “ lot of riders that do LD only come out to do one or two a year.” It’s also interesting to point out that the average number of starts is increasing across the board.



Average Number of Starts for Each Category
Figure 3.1

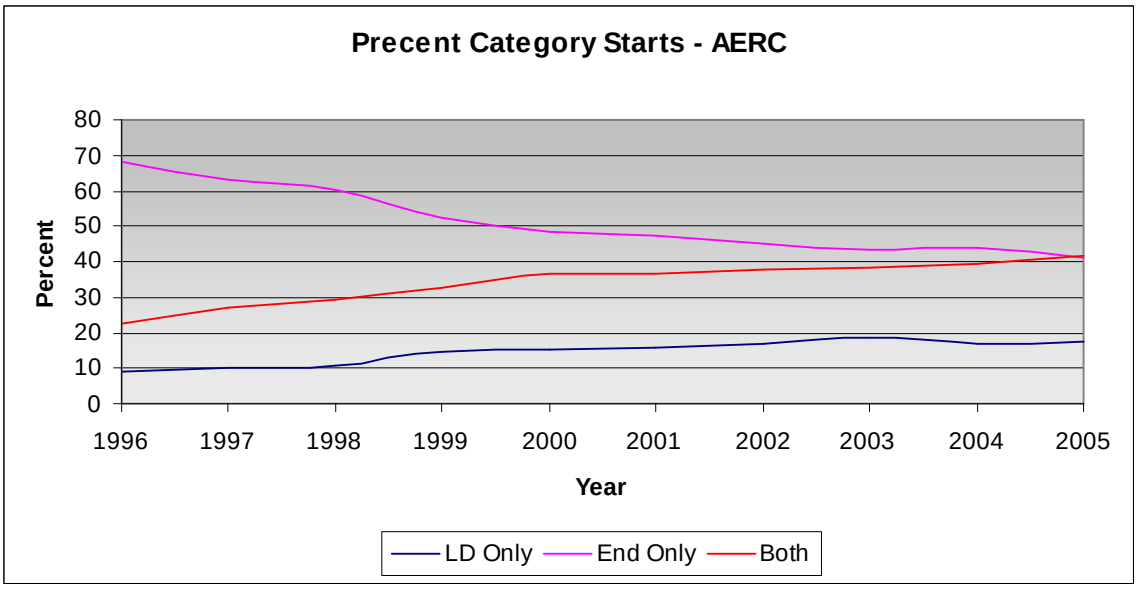
The next chart documents the percentage of the number of riders in each category to the total number of riders starting a ride in the given year. It is a measure how many people fall into the category independent of the number of rides they start. From statistics on starting data it is known that LD is a rapid growing sector of our sport. However, what Figure 3.2 points out is these LD starts come from both people that only do LD's and people that do both. The data also a decline in the endurance only category. For example in 1996 about 62% of the riders only did endurance distances. This has steadily declined to about 37% by 2005. It is important to recall that this chart documents the riders independent of the number of rides they did. The portion of riders that did LD only grew from about 21% in 1996 to 34% in 2005 and the portion of the riders that did both grew from about 18% in 1996 to 29% in 2005. The growth rate of riders in both the LD only category and Both category are very close.



Distribution of Riders by Category
Figure 3.2

The last chart documents the distribution (percentage) of the total starts of riders in each category. As noted earlier the average number of starts for the LD only was smaller than the other categories and the average number of starts of those that did both was larger. That factored with the information in Figure 3.2 above would indicate that the fastest growth category with respect to starts is not the LD only but the riders that do both LD and endurance. This is documented in Figure 3.3.

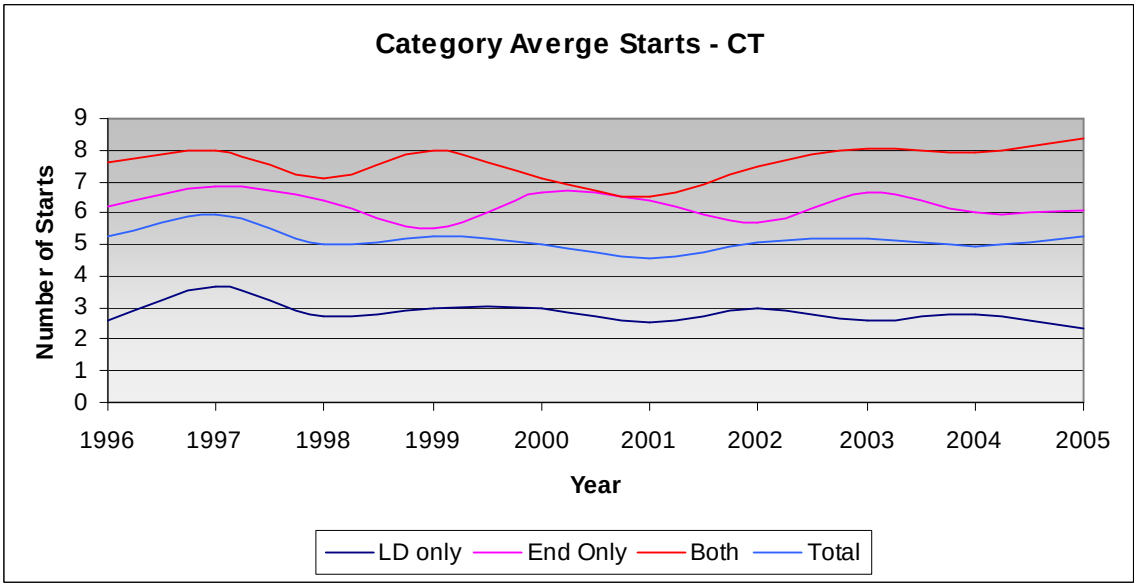
The growth in starts by LD riders only has grown (9% to19%) but not that significantly over the 10 year period. During the same period the growth of starts by riders that do both has been from 22% to 42% of the total starts. At the same time the starts for the Endurance only category has fallen from 68% to 42% of the total starts. That is in 2005 a random person at a ride was as likely to do both a LD and Endurance as he was to do only Endurance rides where as in 1996 the a random person was 3 time more likely to do only Endurance rides as he was to do both LD and Endurance rides.



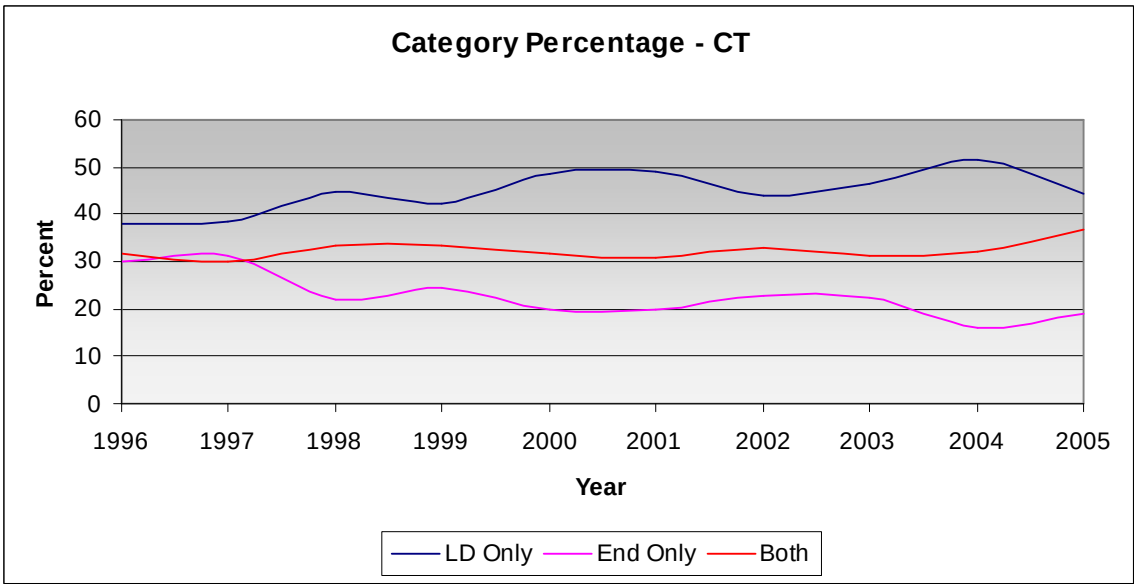
Distribution of Total Starts by Rider Category
Figure 3.3

4. Regional Similarities and Differences: As would be expected there are regional differences. However, while there are differences the same trends are apparent in the data – the difference is in degree. This will be discussed later.

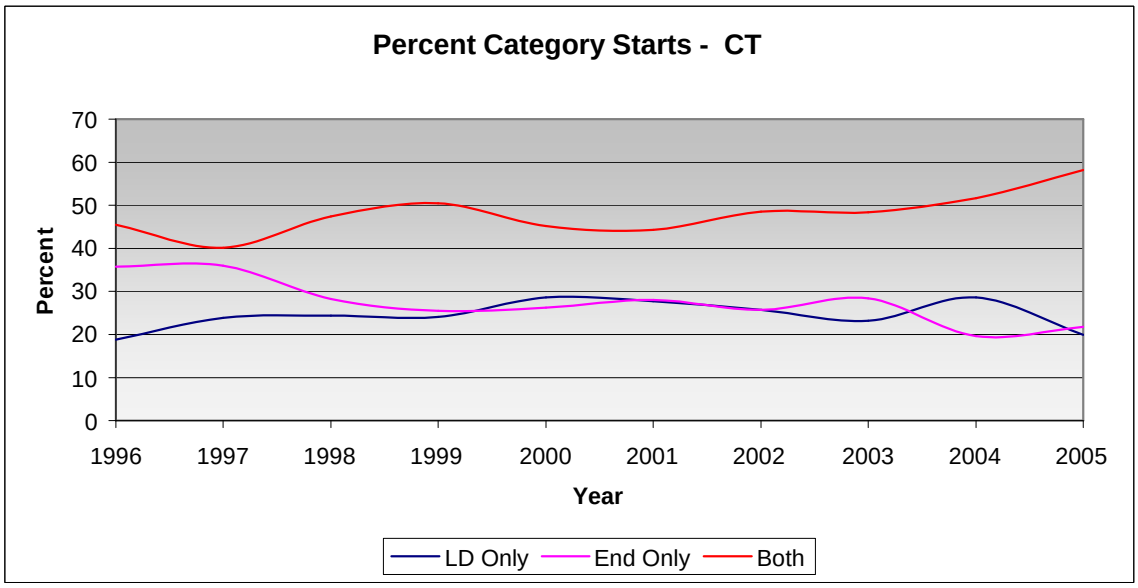
In Figure 4.1 a, b and c the same data for the Central region as given in Figures 3.1, 3.2 and 3.3 are shown.



Average Number of Starts for Each Category
Figure 4.1a



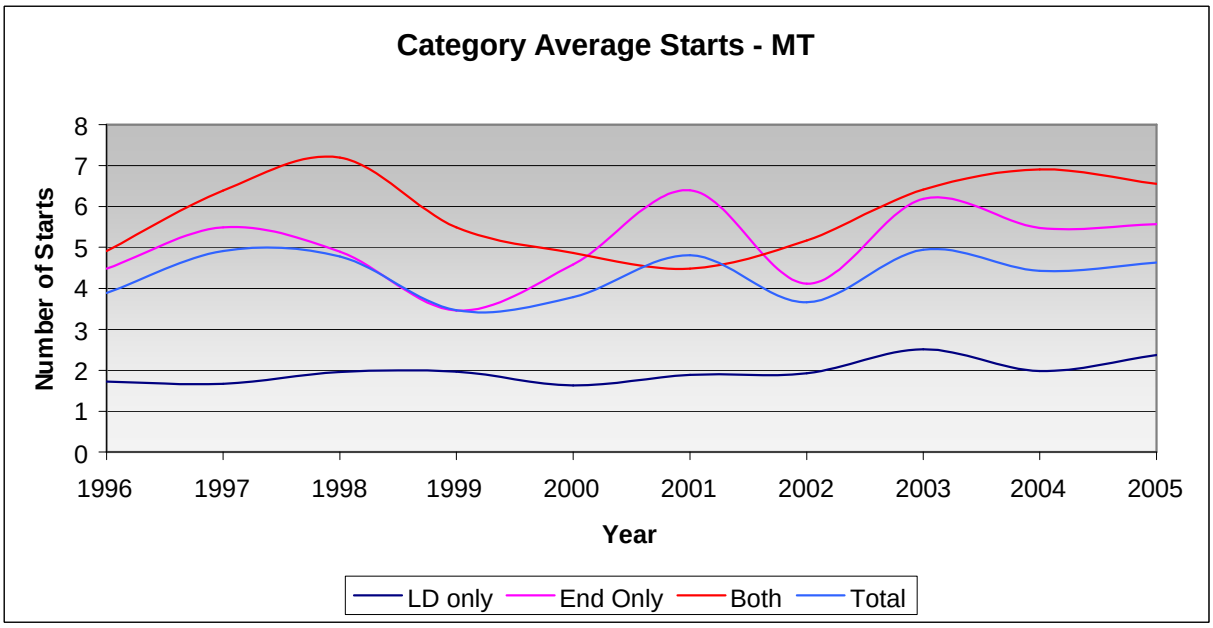
Distribution of Riders by Category
Figure 4.1b



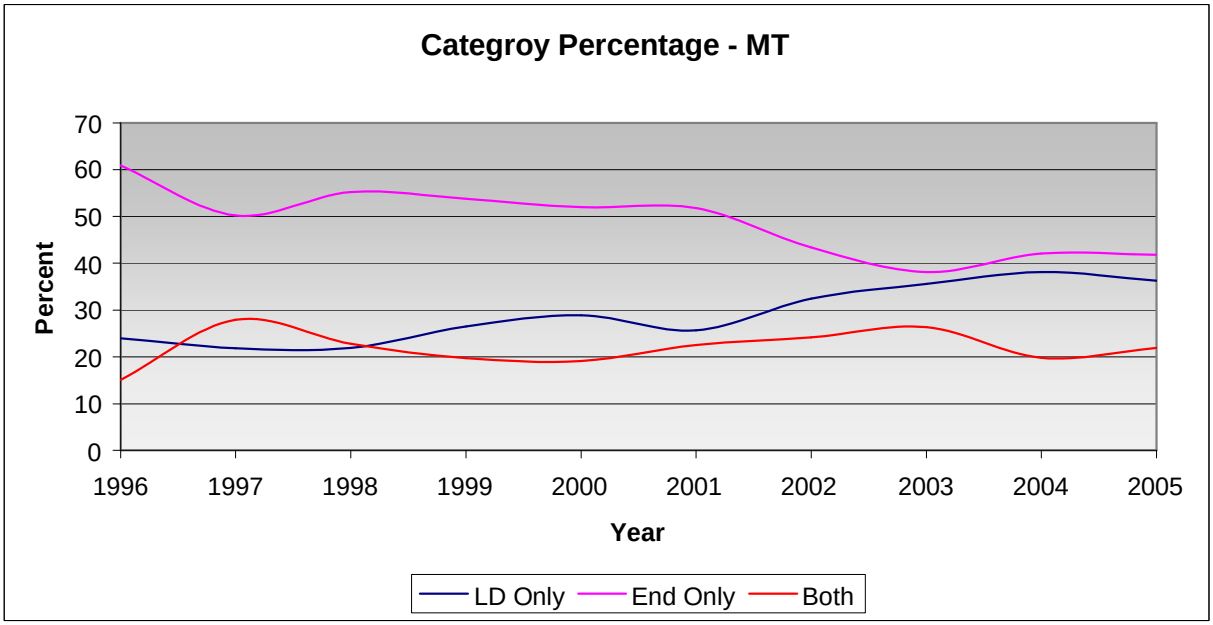
Distribution of Total Starts by Rider Category
Figure 4.1c

In the Central region the LD only category has always been the largest and the number of starts by riders that do both LD and Endurance is by far the biggest category.

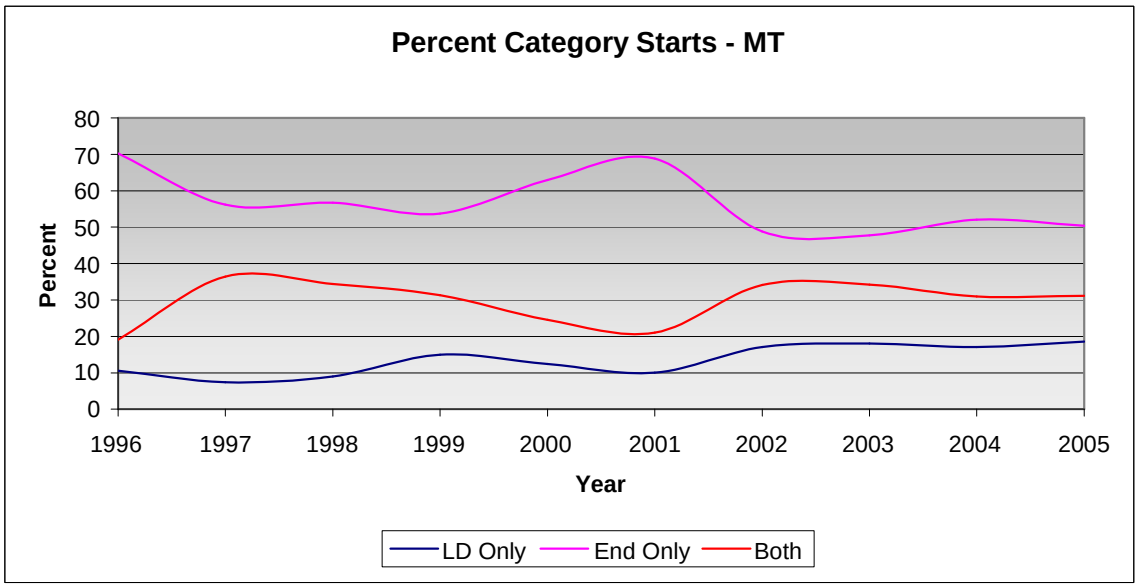
In Figure 4.2 a, b and c the same data for the Mountain region as given in Figures 3.1, 3.2 and 3.3 are shown. In the Mountain region, the trends are there but not to the same level as in the AERC as a whole.



Average Number of Starts for Each Category
Figure 4.2a

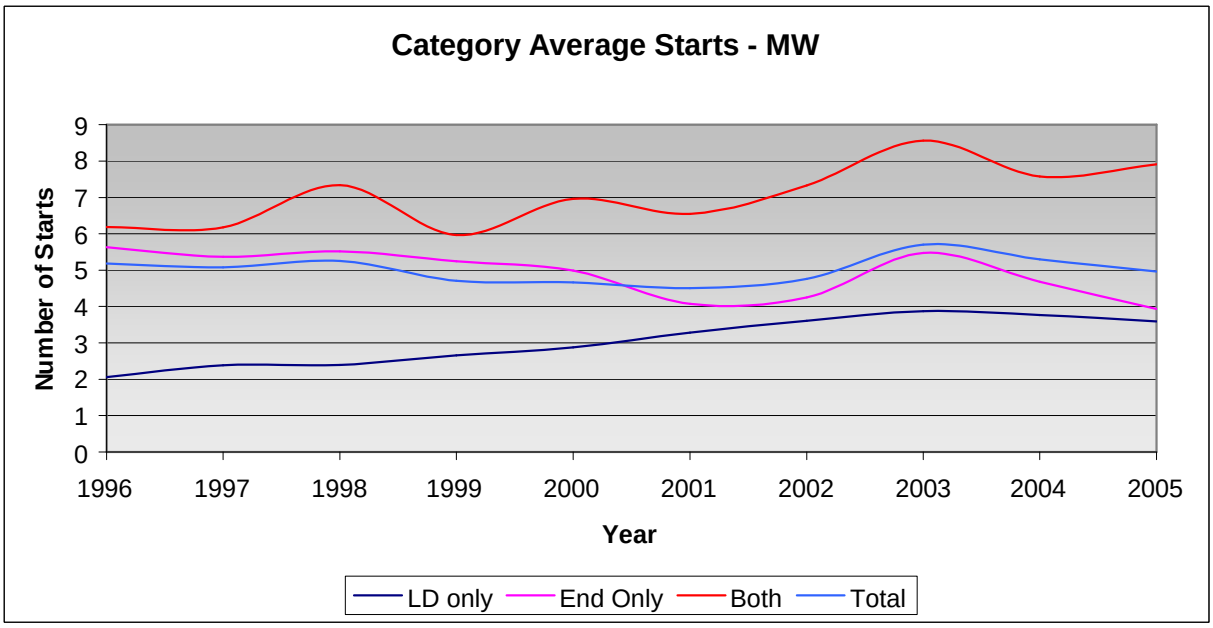


Distribution of Riders by Category
Figure 4.1b

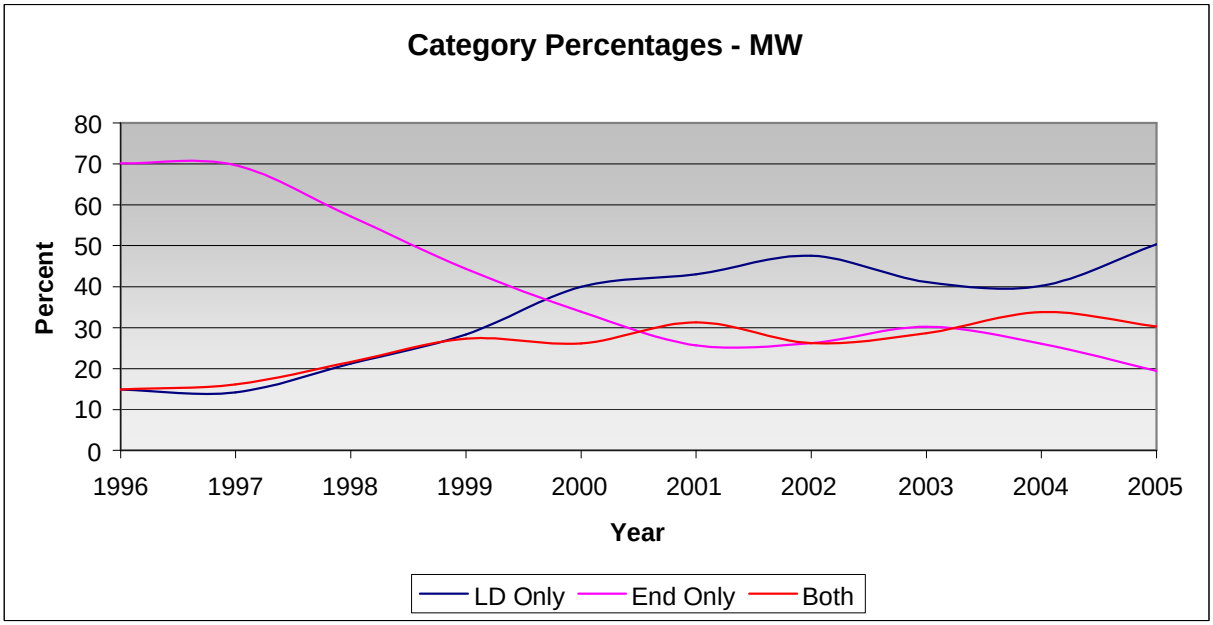


Distribution of Total Starts by Rider Category
Figure 4.2c

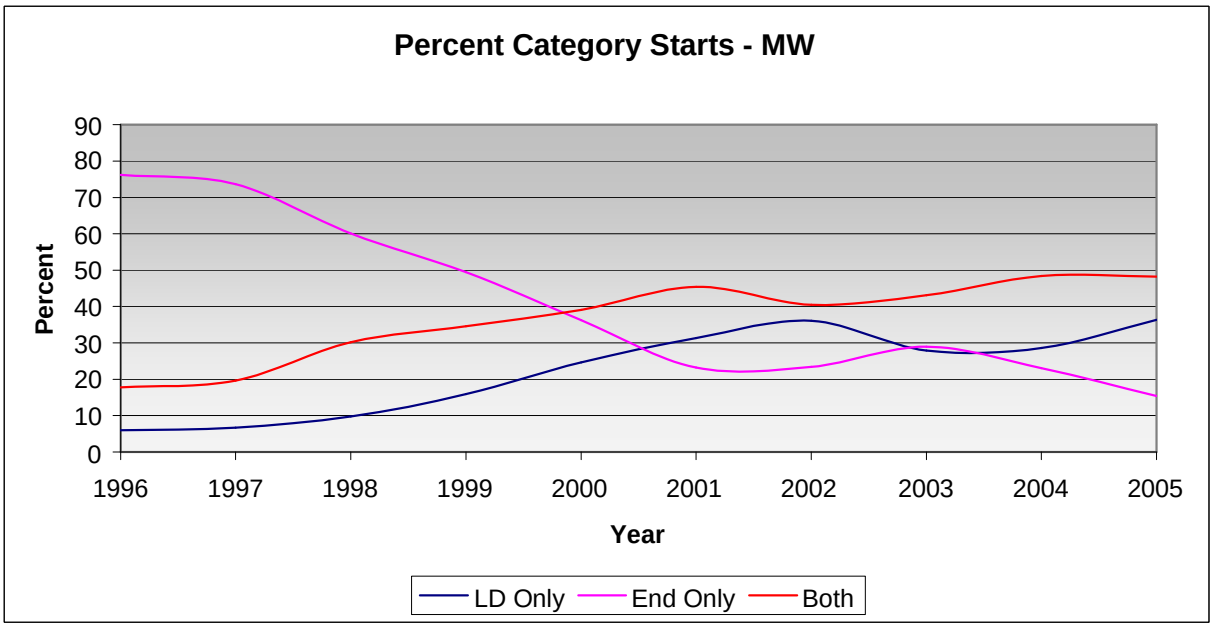
In Figure 4.3 a, b and c the same data for the Midwest region as given in Figures 3.1, 3.2 and 3.3 are shown. While the Mountain region, the trends are there but not to the same level as in the AERC as a whole – in the Midwest region the trends are more pronounced. Where as the average number of starts by riders that did both and riders that did Endurance only were about the same in 1996, in 2005 a rider that did both would likely start 3 more rides than one that did Endurance only. In the Midwest the riders that did only Endurance fell from 70% of the total riders to 20% of the total riders in the period. The Midwest also has the biggest growth in LD only riders going from 15% to 50% of the total riders. It should be pointed out that the MW region has had a growth in the number of LD rides offered so there were more opportunities for people to do LD rides. This could partially explain why the trends are more pronounced than the national trends.



Average Number of Starts for Each Category
Figure 4.3a

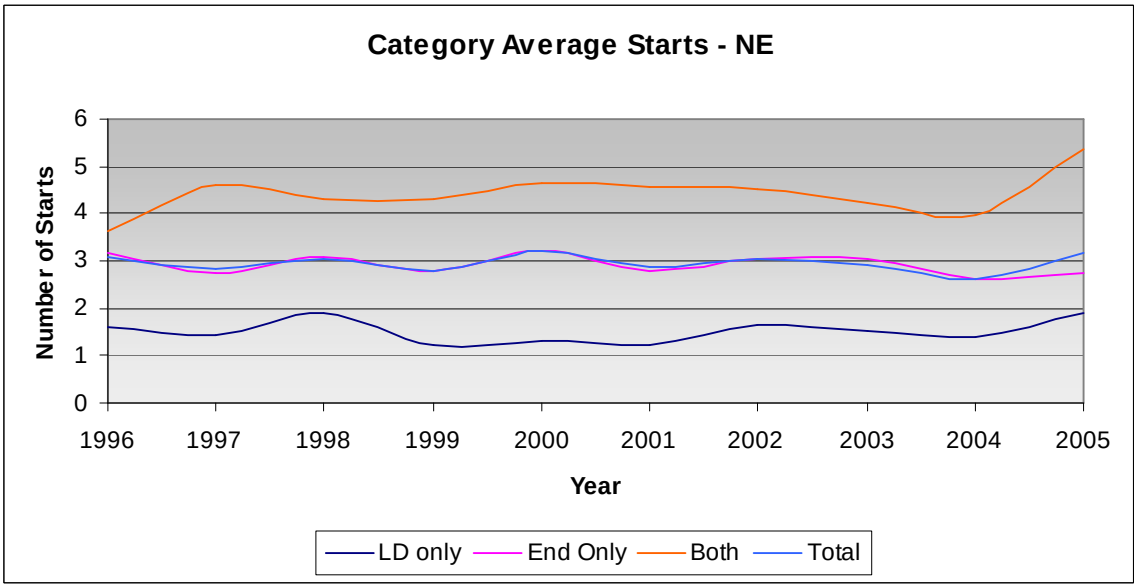


Distribution of Riders by Category
Figure 4.3b

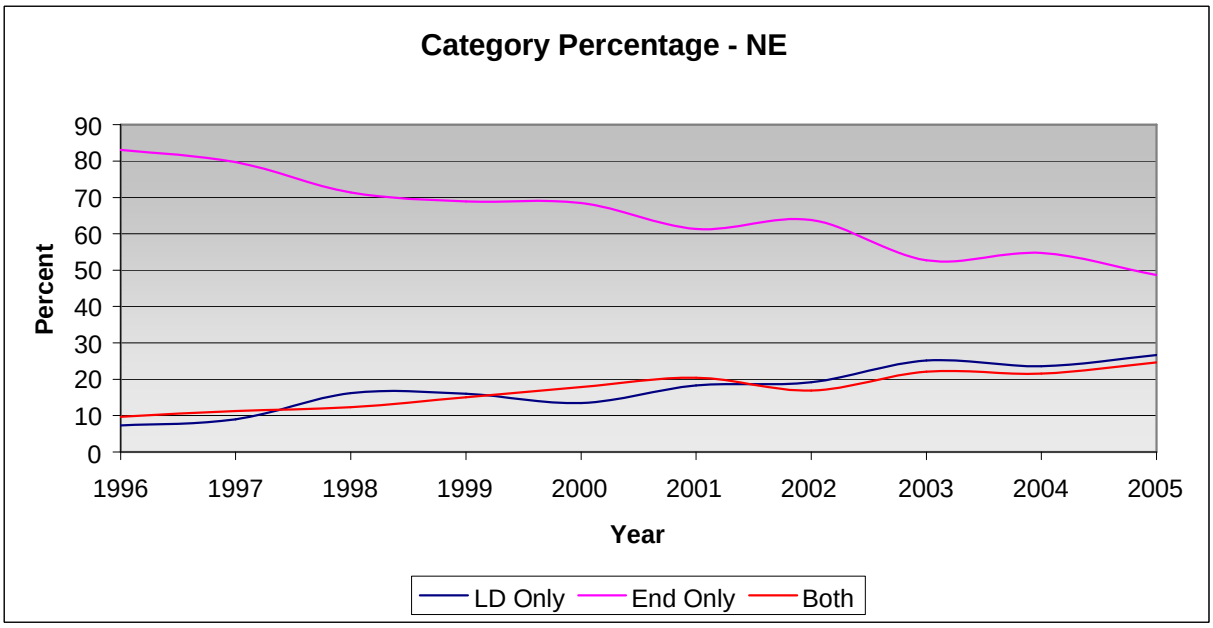


Distribution of Total Starts by Rider Category
Figure 4.3c

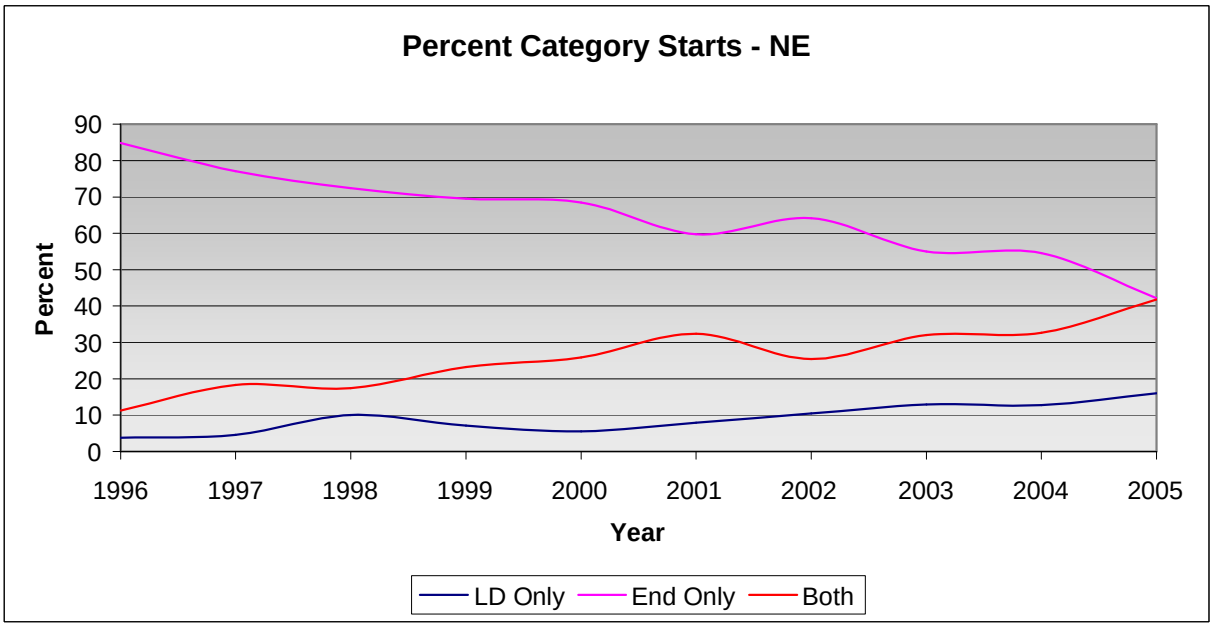
In Figure 4.4 a, b and c the same data for the Northeast region as given in Figures 3.1, 3.2 and 3.3 are shown. The Northeast region has some interesting features. The NE riders tend not to ride as much as riders in some other regions. The trends that show up nationally are also clear in the NE region.



Average Number of Starts for Each Category
Figure 4.4a

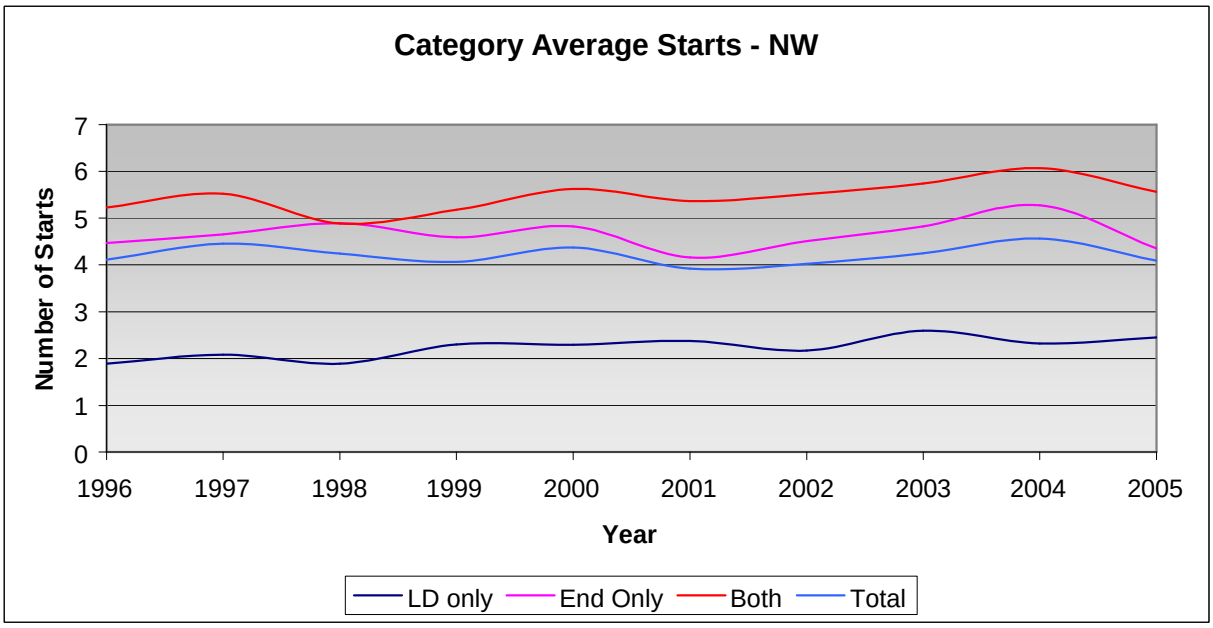


Distribution of Riders by Category
Figure 4.4b

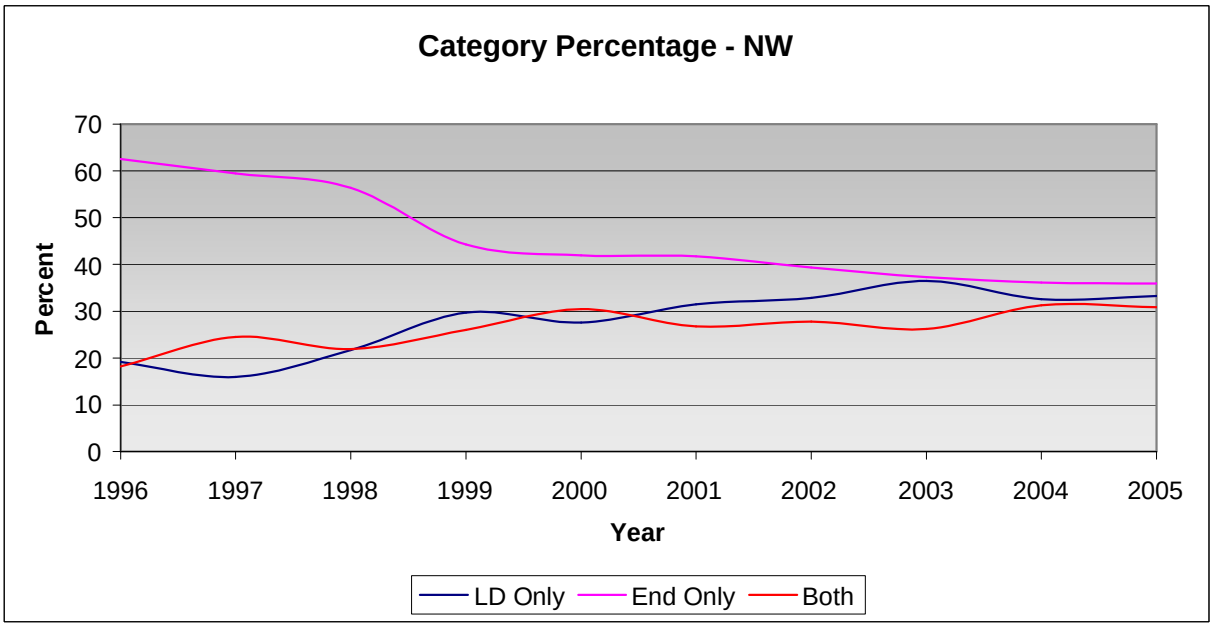


Distribution of Total Starts by Rider Category
Figure 4.4c

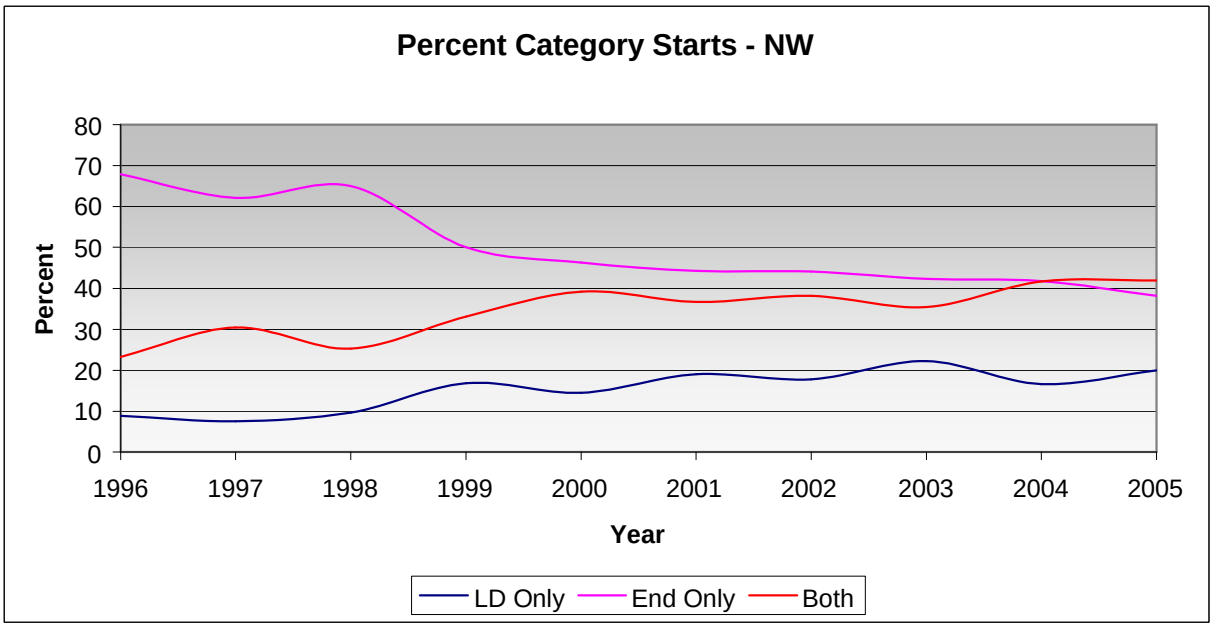
In Figure 4.5 a, b and c the same data for the Northwest region as given in Figures 3.1, 3.2 and 3.3 are shown. The trends in the NW region are consistent with those in the entire AERC.



Average Number of Starts for Each Category
Figure 4.5a

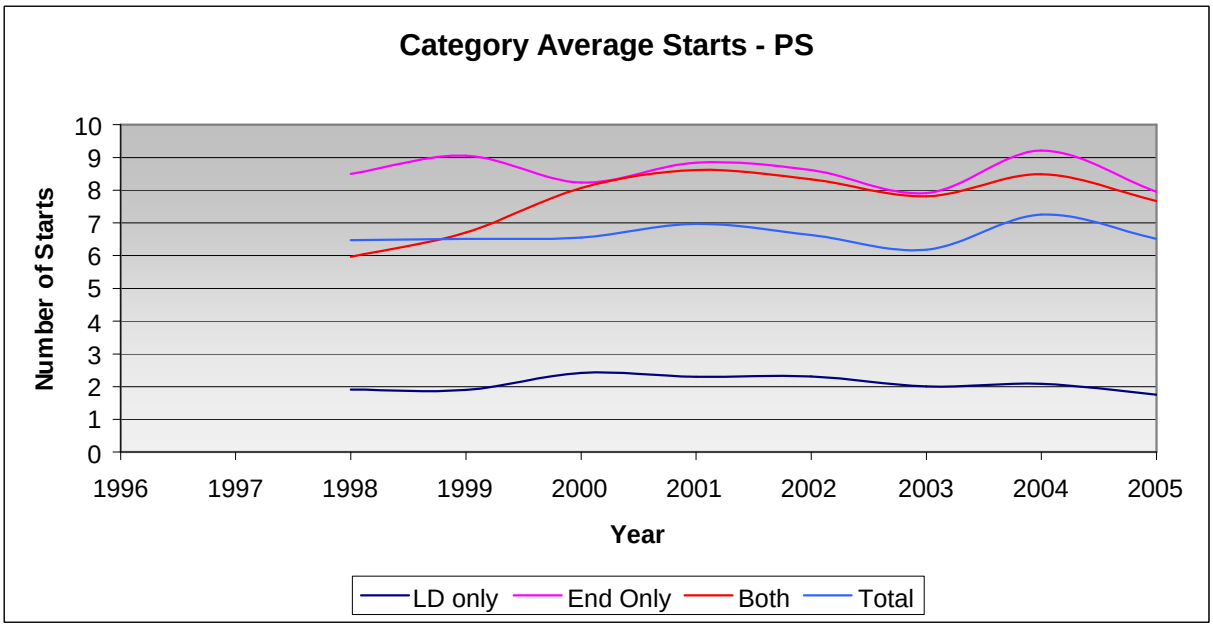


Distribution of Riders by Category
Figure 4.5b

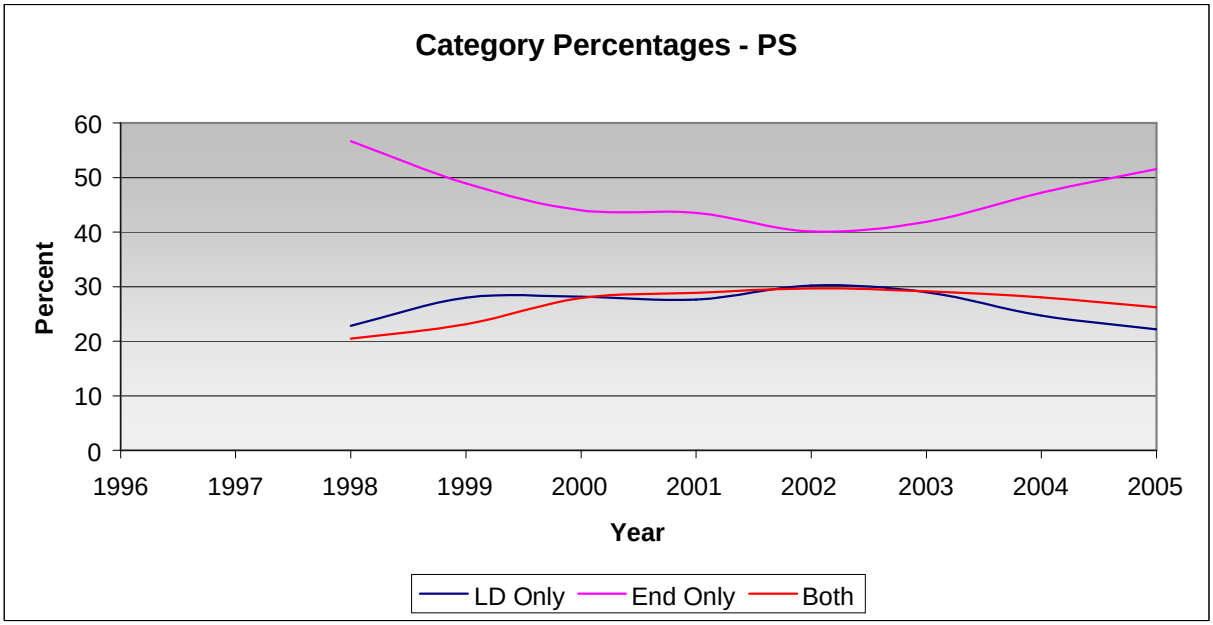


Distribution of Total Starts by Rider Category
Figure 4.5c

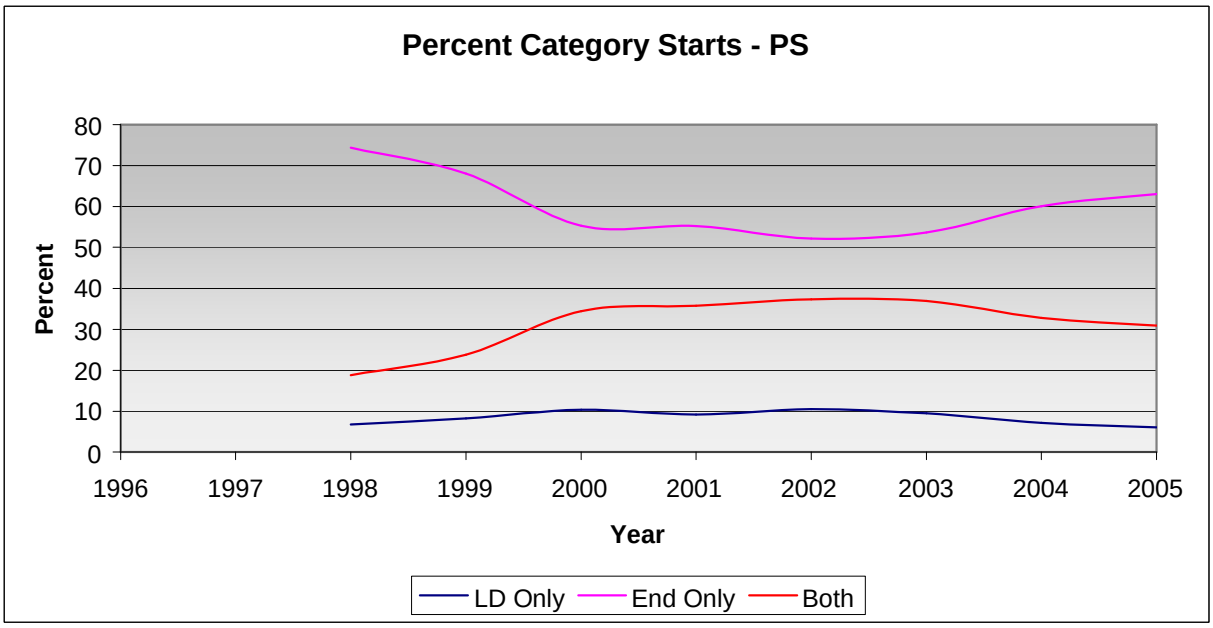
In Figure 4.6 a, b and c the same data for the Pacific South region as given in Figures 3.1, 3.2 and 3.3 are shown. The Pacific South region was created in 1998 as part of the (at that time) Southwest region and part of the (at that time) West region. Hence there is no data for the PS region prior to 1998. The national trends, while still present, are by far the least pronounced in the PS region than any other AERC region. It should be pointed out that in 2004 and 2005 the PS region had LD's offered in only 60% to 70% of its rides. This lack of opportunity for people riding LD's may be partially because of the PS trends to be less pronounced than the national trends.



Average Number of Starts for Each Category
Figure 4.6a

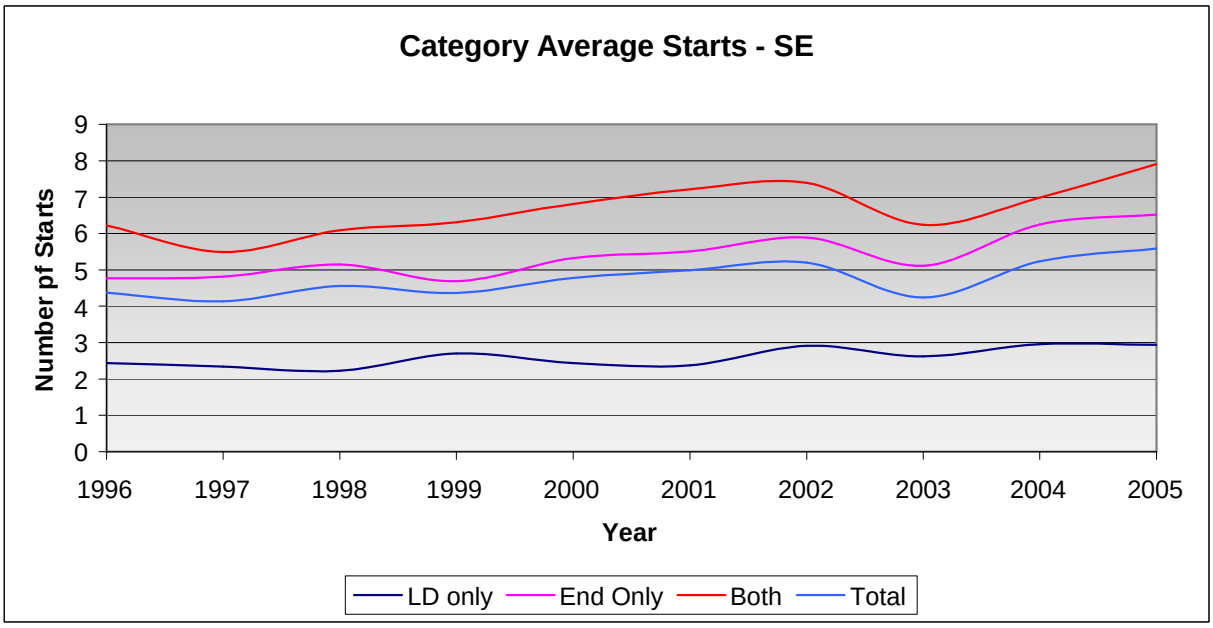


Distribution of Riders by Category
Figure 4.6b

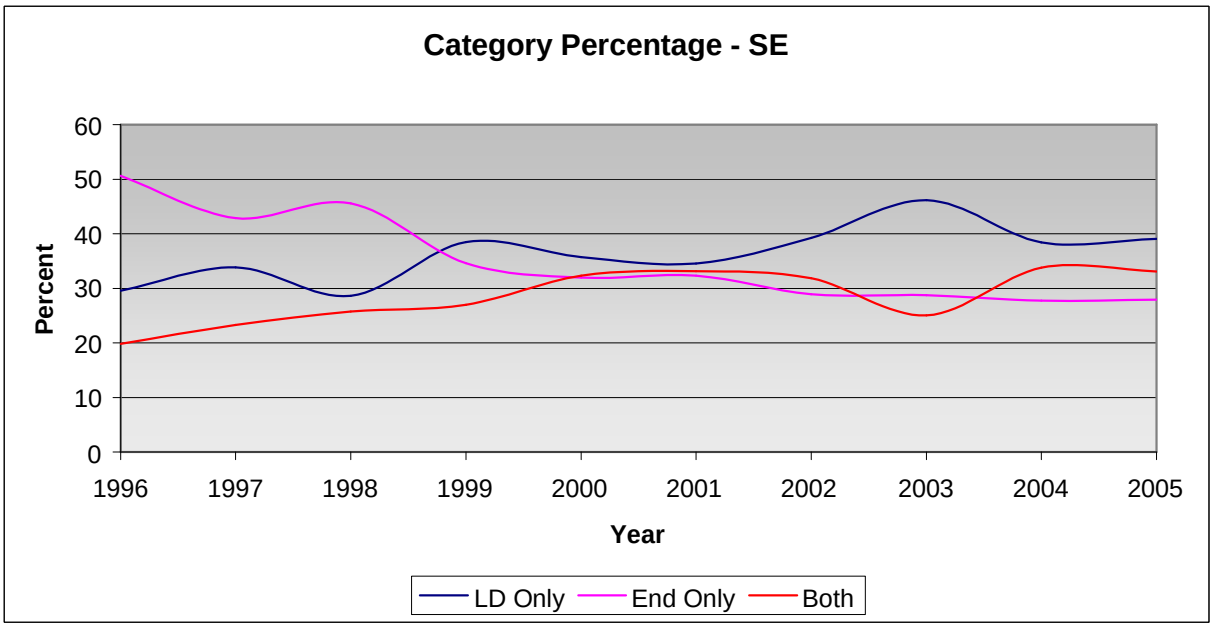


Distribution of Total Starts by Rider Category
Figure 4.6c

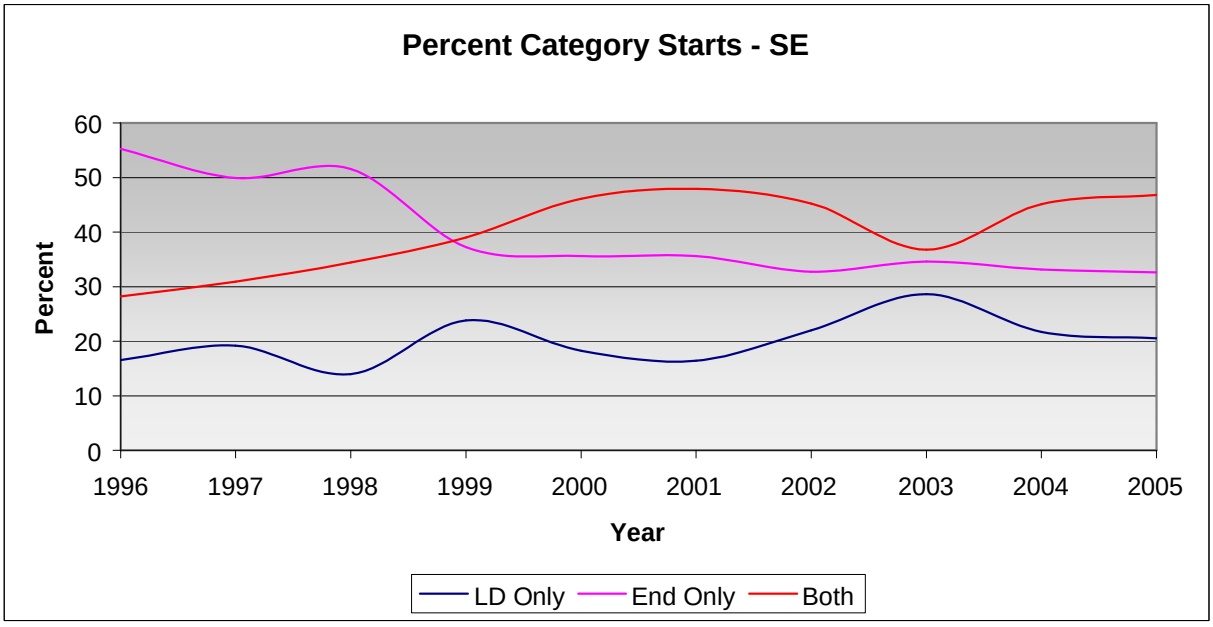
In Figure 4.7a, b and c the same data for the Southeast region as given in Figures 3.1, 3.2 and 3.3 are shown. The Southeast region shows the same trends. However, in the SE since 1999 the riders that do both LD and Endurance account for more starts than the other two categories.



Average Number of Starts for Each Category
Figure 4.7a

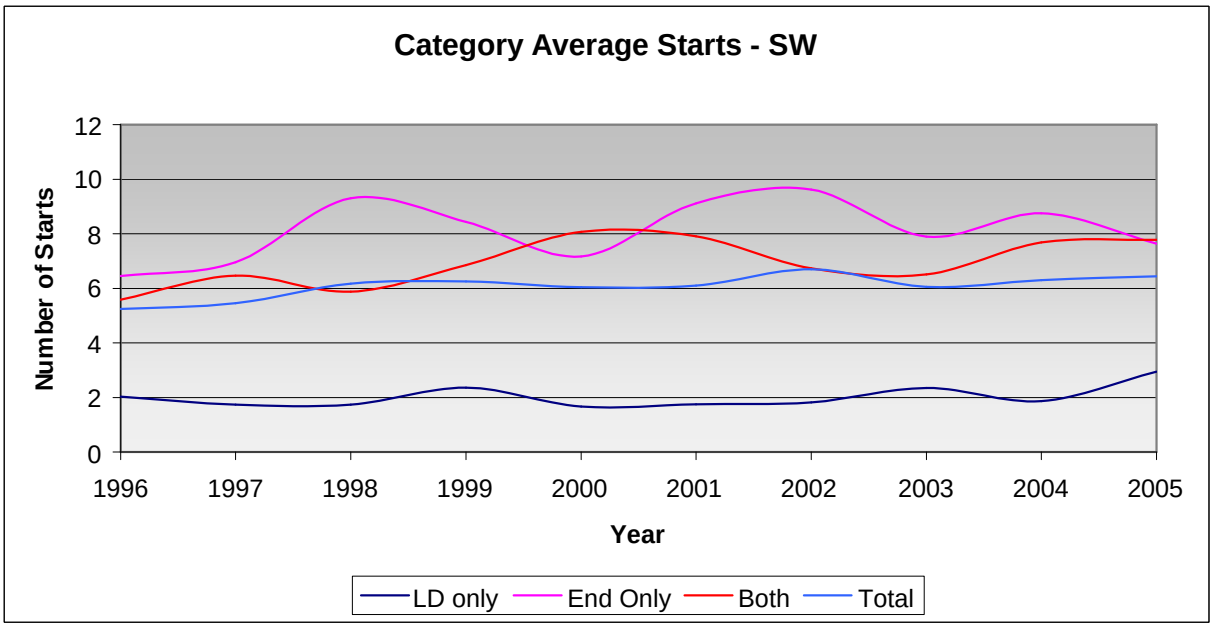


Distribution of Riders by Category
Figure 4.7b

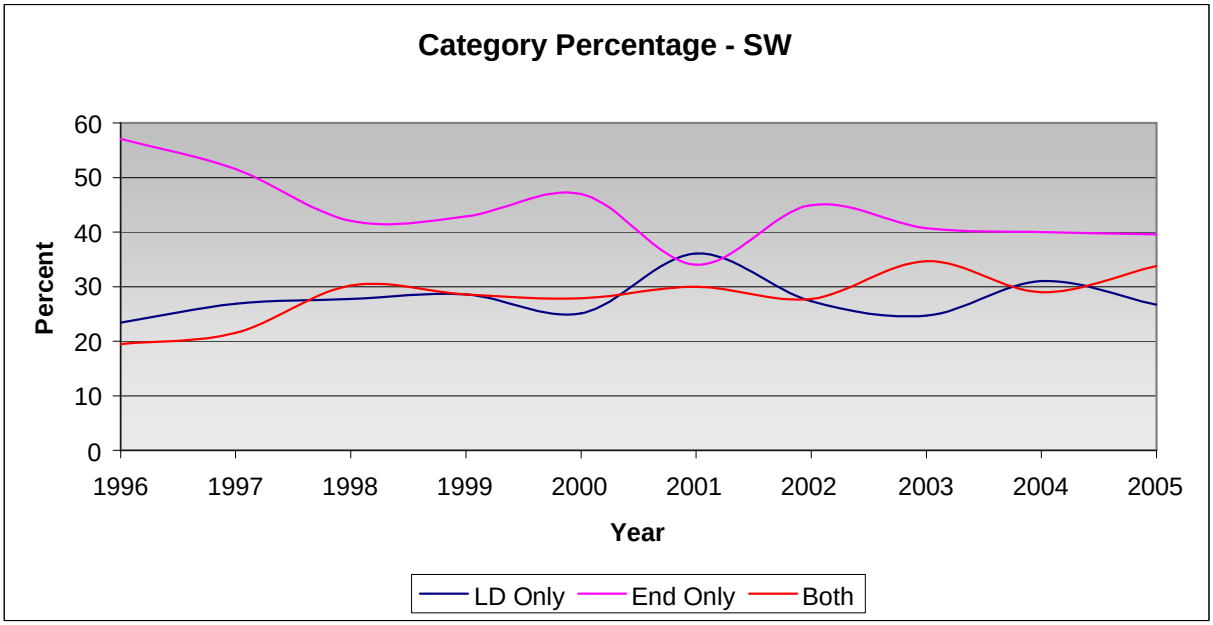


Distribution of Total Starts by Rider Category
Figure 4.7c

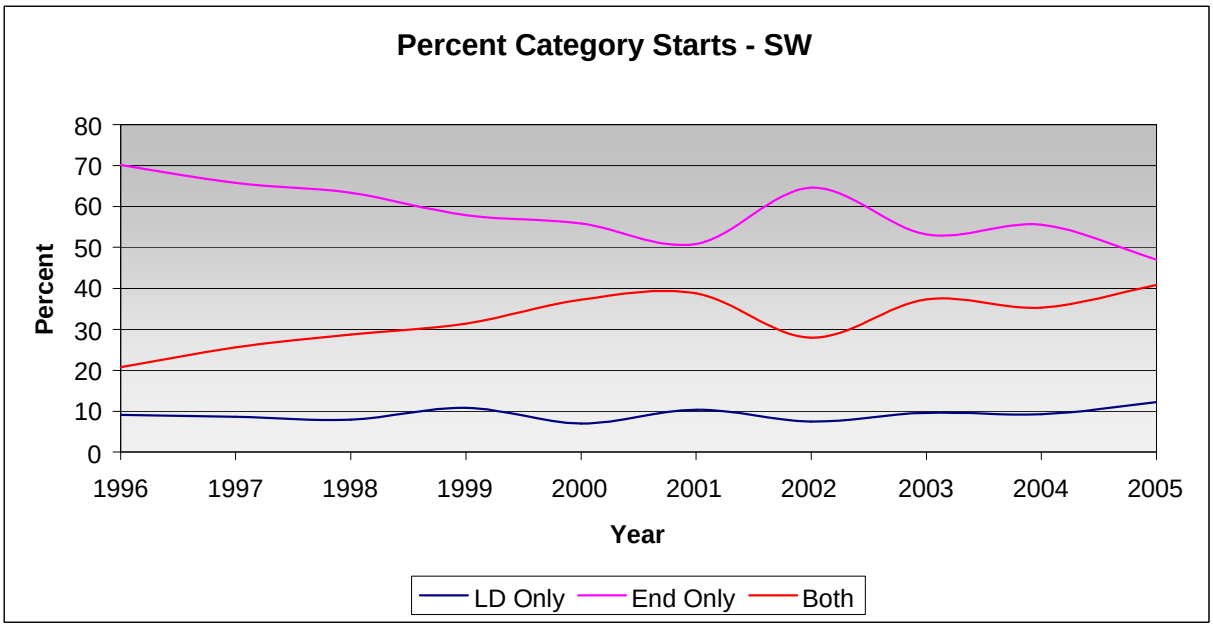
In Figure 4.8a, b and c the same data for the Southwest region as given in Figures 3.1, 3.2 and 3.3 are shown. The Southwest region shows the same trends at close to the same levels as shown nationally.



Average Number of Starts for Each Category
Figure 4.8a

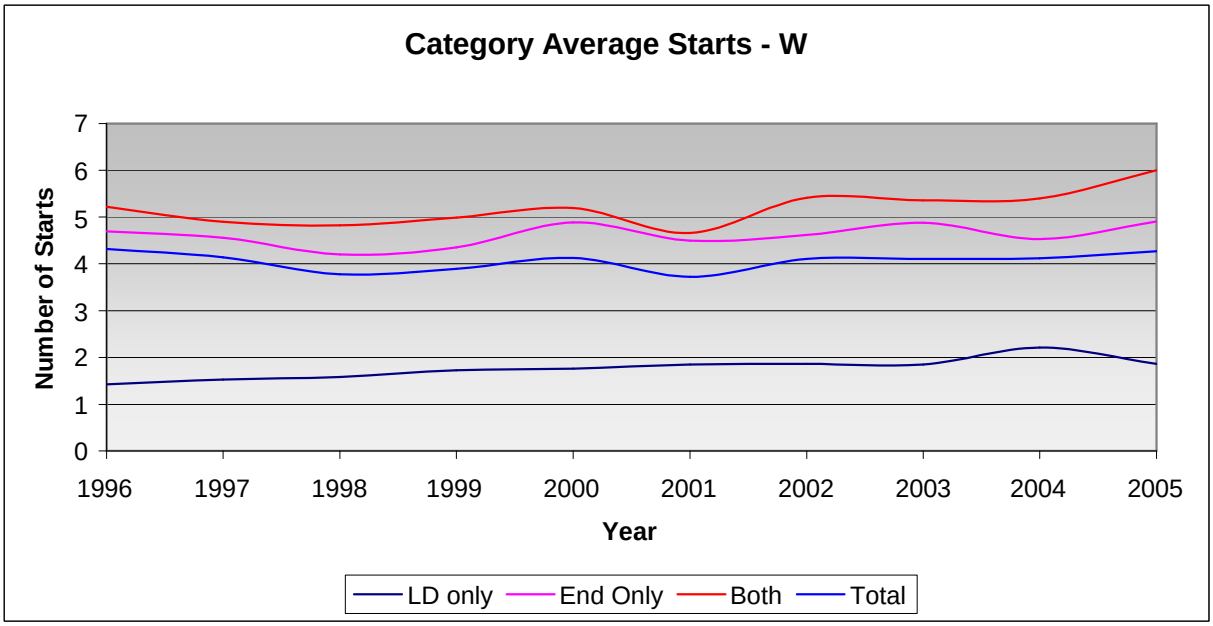


Distribution of Riders by Category
Figure 4.8b

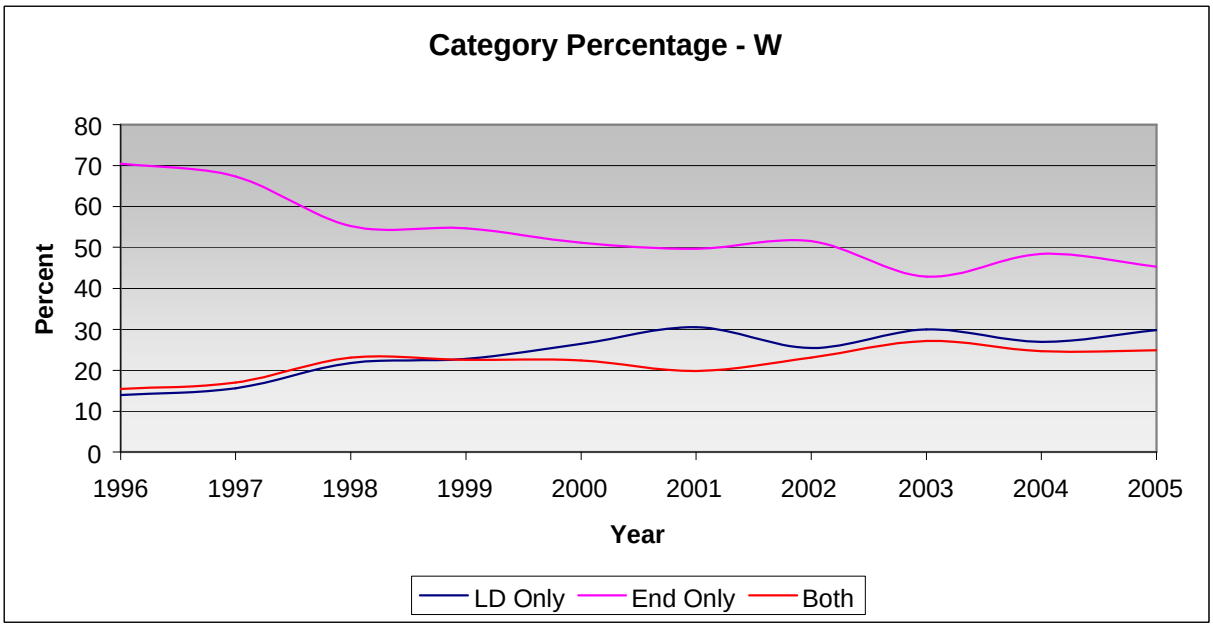


Distribution of Total Starts by Rider Category
Figure 4.8c

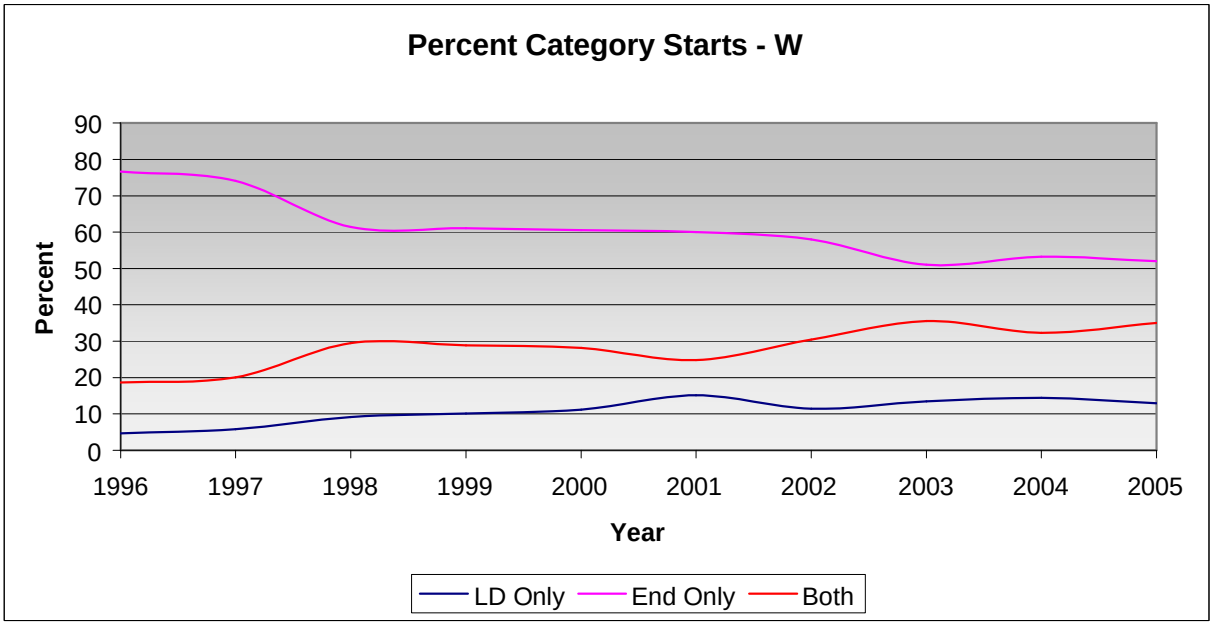
In Figure 4.9a, b and c the same data for the West region as given in Figures 3.1, 3.2 and 3.3 are shown. The West region shows the same trends but slightly less pronounces as the AERC nationally.



Average Number of Starts for Each Category
Figure 4.9a



Distribution of Riders by Category
Figure 4.9b

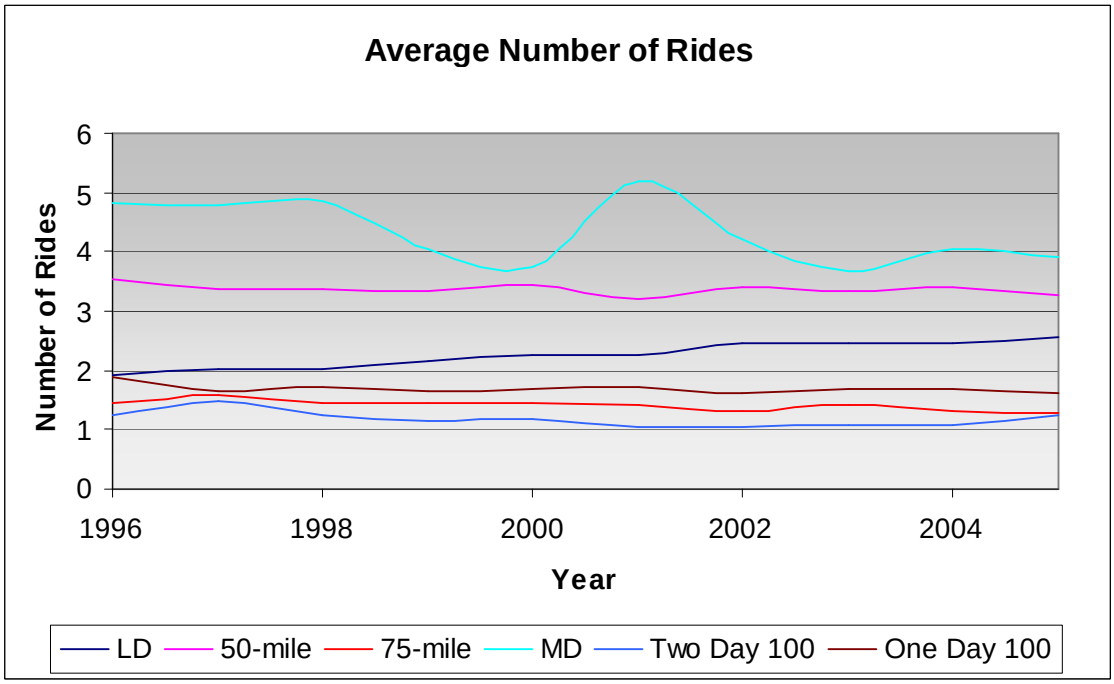


Distribution of Total Starts by Rider Category
Figure 4.9c

5. Overall Percentages Over Multiple Ride Types: The AERC rides were broken down into six types. These were Limited Distance, 50 mile ride (rides of between 50 and 70 inclusive miles), 75 miles (rides of between 75 and 95 miles inclusive), Pioneer Rides (multi-day), two day 100's and one day 100's. There were three statistics calculated from the database. The data were process to identify the riders that did at least one ride of a

given type and the number of that type calculated. That is if a rider did two LD's, one 50 and one one day 100, he would be counted as riding LD, 50 mile rides and one 100 mile rides. Note that one rider can show up in multiple categories. While some valid statistical information can be derived from this type of analysis, care needs to be taken in doing so.

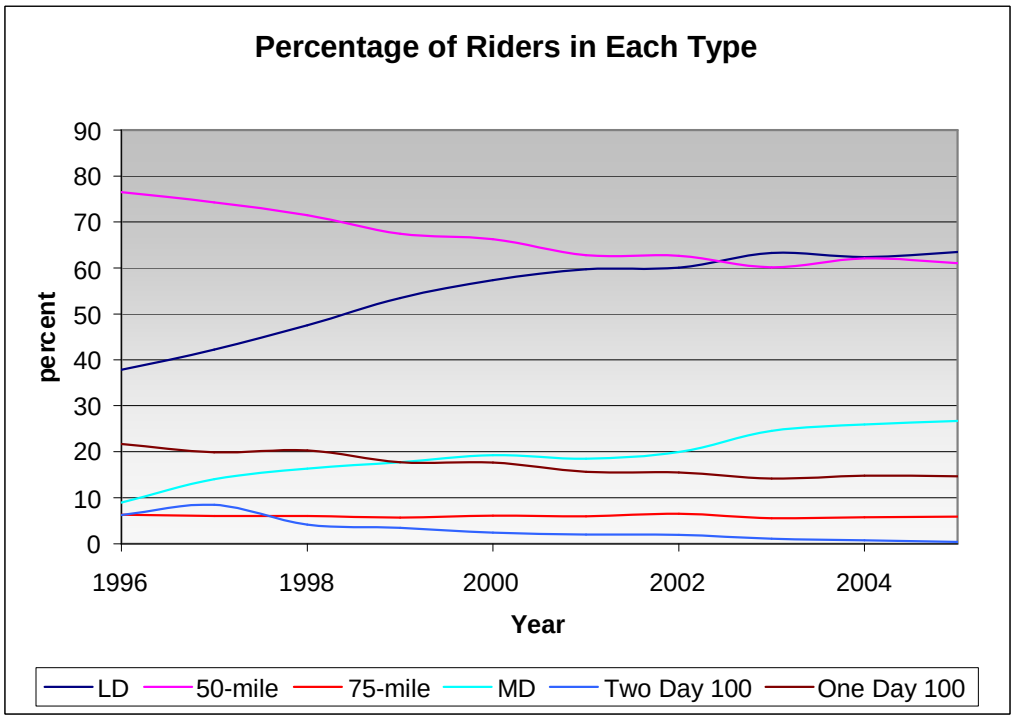
First the average number of rides per rider is calculated for each type. This is show in Figure 5.1.



Average Number of Rides of Each Type
Figure 5.1

The interesting point here is the multi-day riders on the average ride more multi-day rides than any other ride type. This could be expected since there is more opportunity to ride more. The multi-day ride average started off high – probably because of the limited number at that time and probably because those that went to them in 1996 went to ride "all days." It dropped in 2000, peaked in 2001 (2000 mile XP ride year) and then has stabilized at about 4 per rider. The single day 50's average has been flat as have most of the other types.

Figure 5.2 shows the percentage of the riders in each type to the population of the riders. Since the types are not mutually exclusive (one rider can do more than one type) the percentages don't add up to 100.

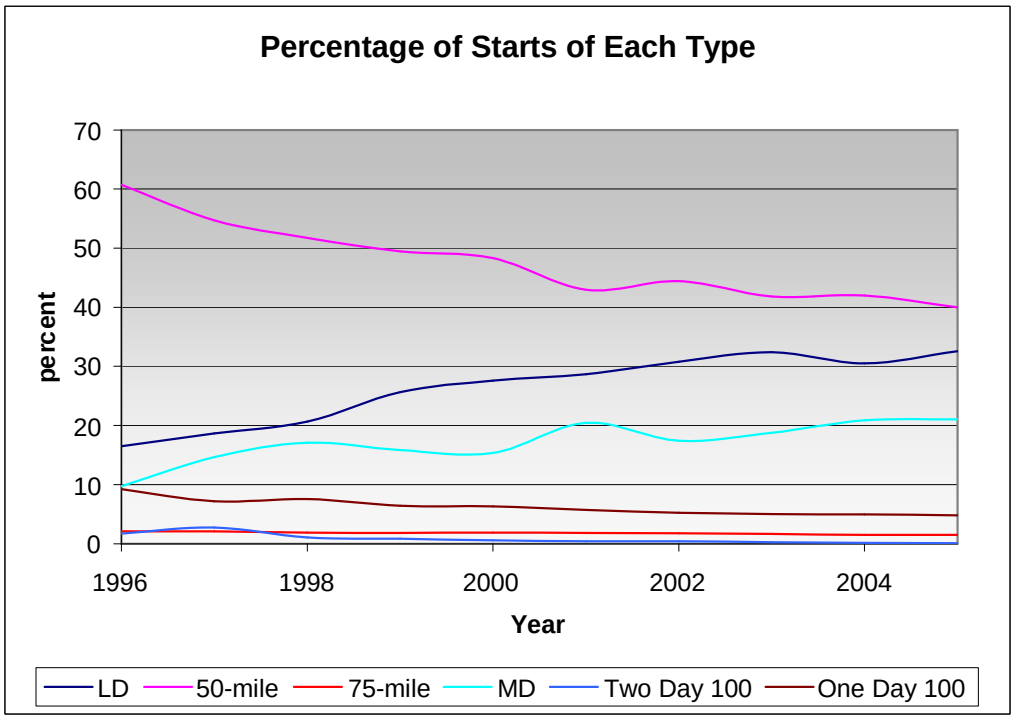


Percentage of Riders of Each Type to Total Number of Riders
Figure 5.2

The riders that do LD's are increasing (38% to 62%) while the riders that do 50's is decreasing (77% to 60%). The maximum rate of change in both categories was from 1996 through 2001. Since then they both have been flat. The riders that do one day 100's is decreasing from (21% to 14%). The multi-day riders are increasing (9% to 28%). The 2 day 100 has practically disappeared and the 75 percentage is flat.

The increase in the percentage of people doing multi-day rides and the fact that multi-day riders do more multi-day rides on the average than the other types explains the rapid growth in multi-day starts.

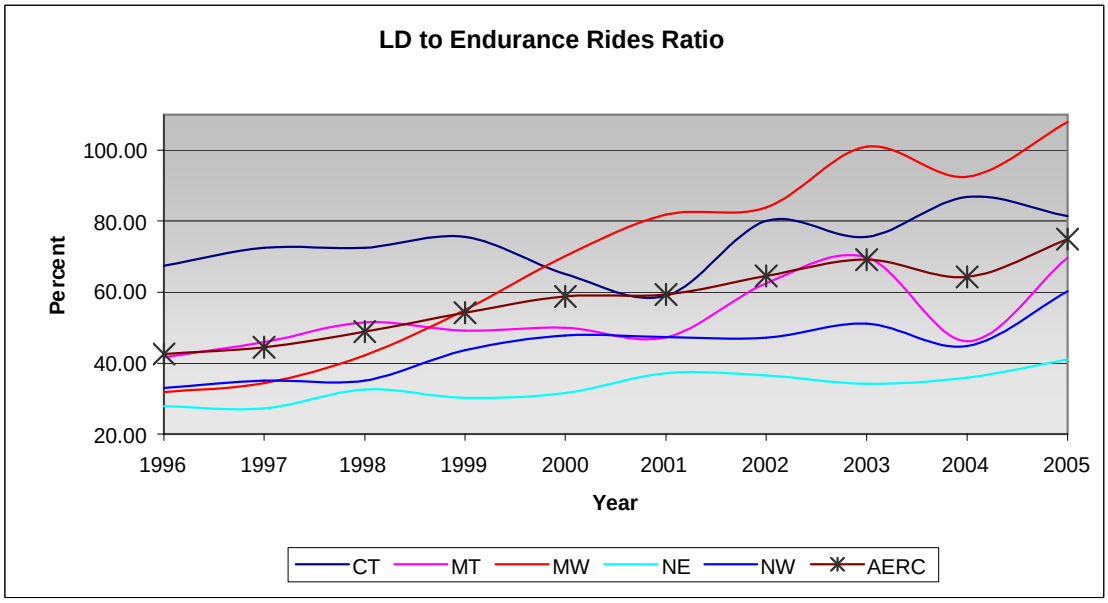
The percentage of starts in each type is shown in Figure 5.3. Again this data is not mutually exclusive over type so the percentages don't add up to 100.



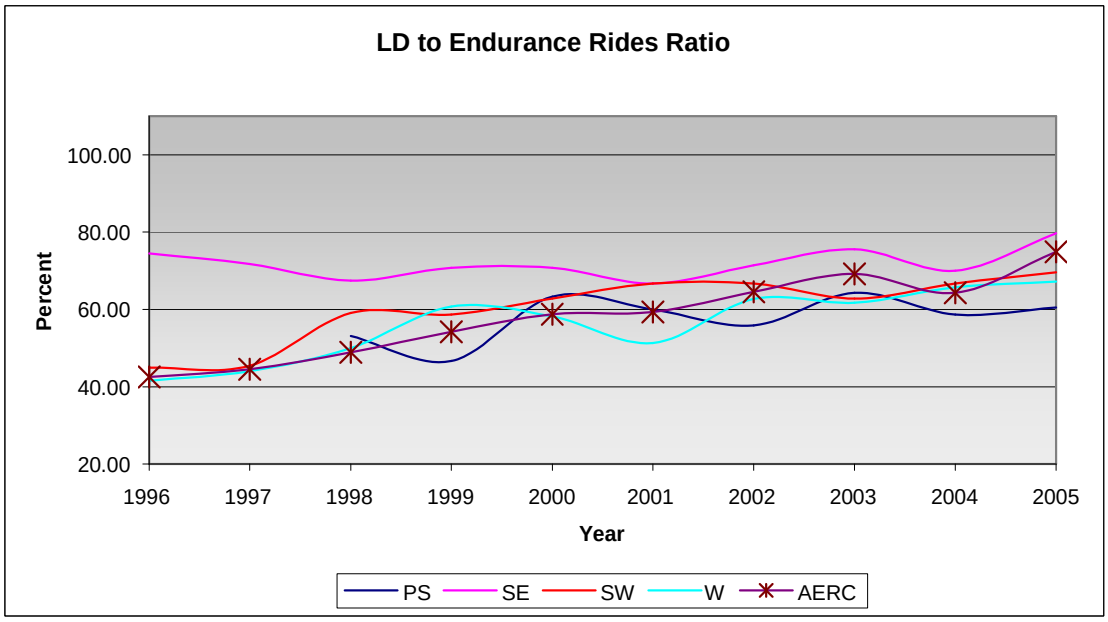
Percentage of Starts of Each Type to Total Number of Starts
Figure 5.3

The thing that stands out here is the multi-day starts and LD starts are the only growth areas. All other types are decreasing. However, the multi-day rides are rides of length 50 to 55 miles and to some extent to get the total picture they should be combined with the single day 50's. This chart is instructive to show trends, but to better understand the underlying population of riders the analysis performed in Sections 3 and 4 is has more statistical valid since the categories used are mutually exclusive.

6. Observations: An important factor in the growth of LD's is the opportunity to ride an LD. This needs to be factored into the analysis. Figures 6.1a and 6.1b show the ratio (in percent) of the LD rides to Endurance rides (all endurance rides of all distances). The data on the regions are split into two charts because of limitations in Excel.



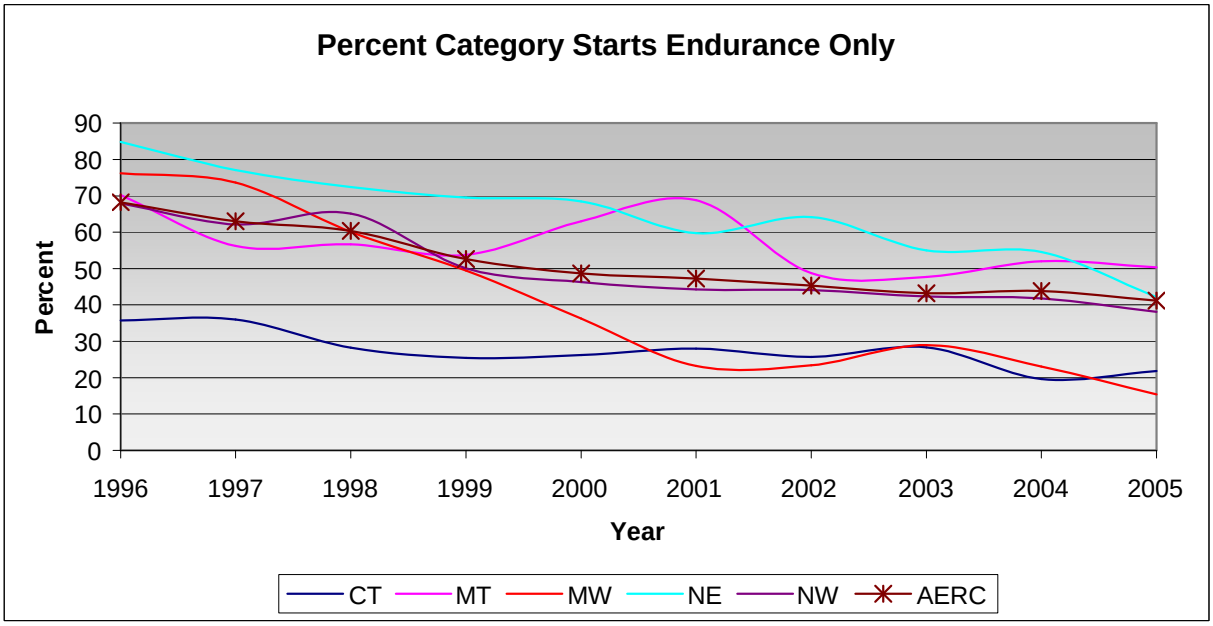
LD Rides to Endurance Rides Ratio
Figure 6.1a



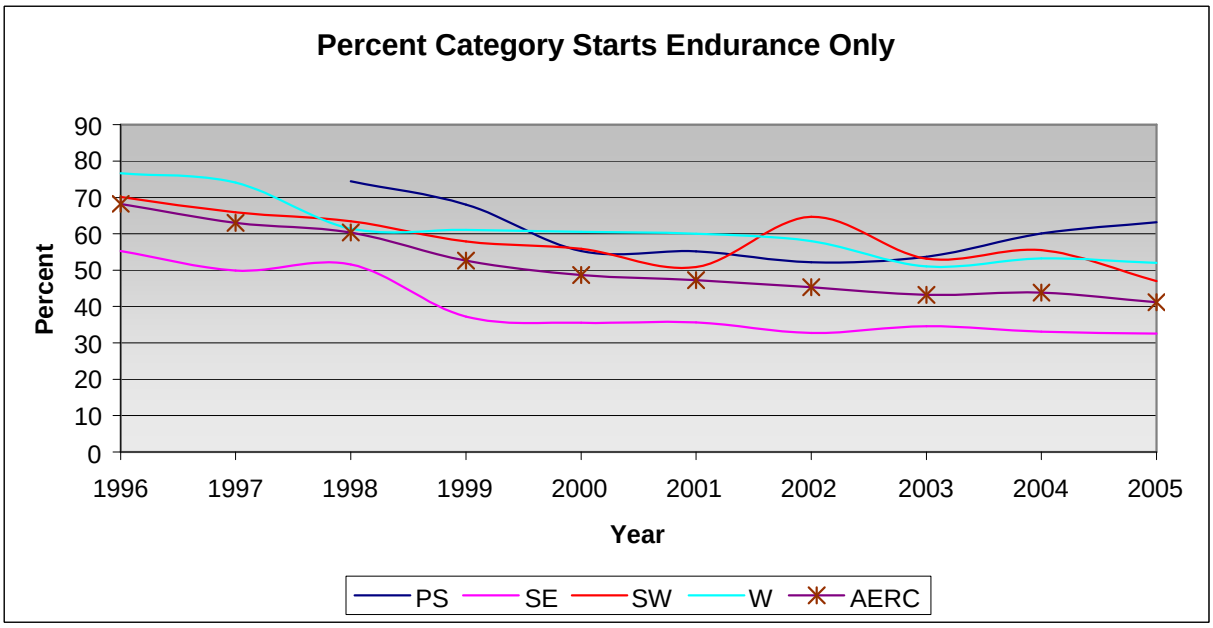
LD Rides to Endurance Rides Ratio
Figure 6.1b

Over the 10 year period the number of LD rides has grown significantly in the AERC. In most regions (and the AERC total) the ratio of LD rides to endurance rides has grown significantly. The only regions where there hasn't been significant change are the PS and NE regions - where the growth in LD rides seems to lagging behind the rest of the AERC, and the SE where most rides have always had an LD.

The next two charts (Figures 6.2a and 6.2b) show the percent of the starts of the Endurance only category to the total number of starts for each region (split into two charts because of limitations in Excel). The AERC statistic is also shown in each for a reference. Except for two regions, while the initial point in 1996 may be different the slope of the downward trend is consistent with that of the AERC (which loses 2.5% per year). The two exceptions are the Midwest and Pacific South regions. The slope of the loss in the Midwest is greater than the AERC and in the Pacific South it is less.

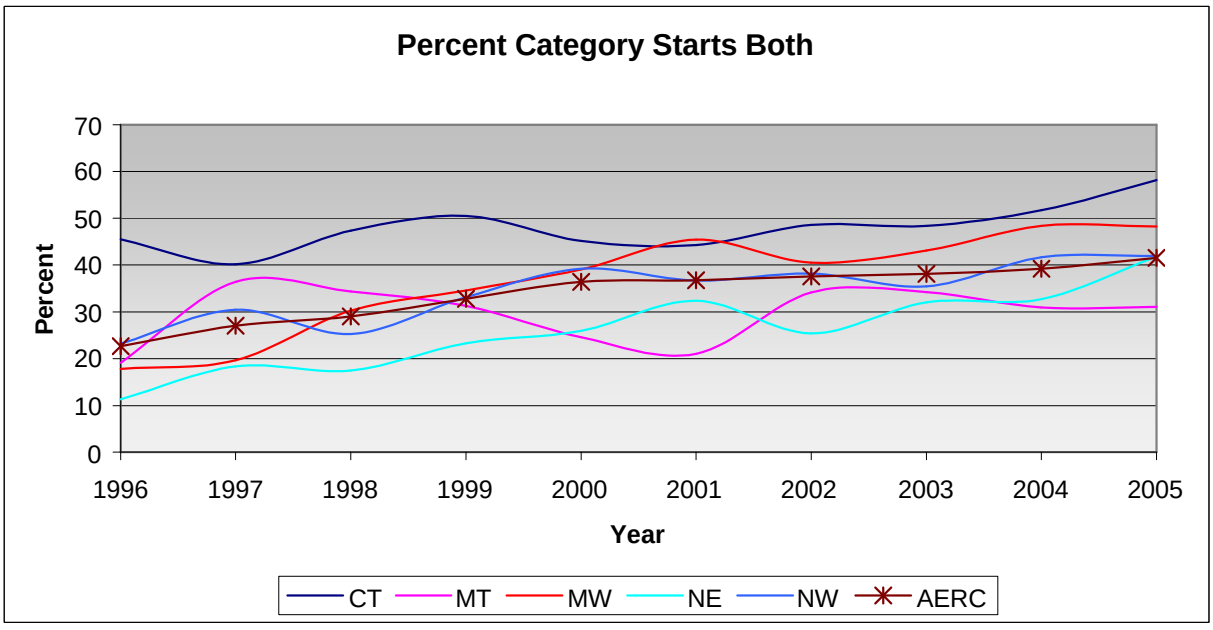


Distribution of Total Starts by Rider Category
Figure 6.2a

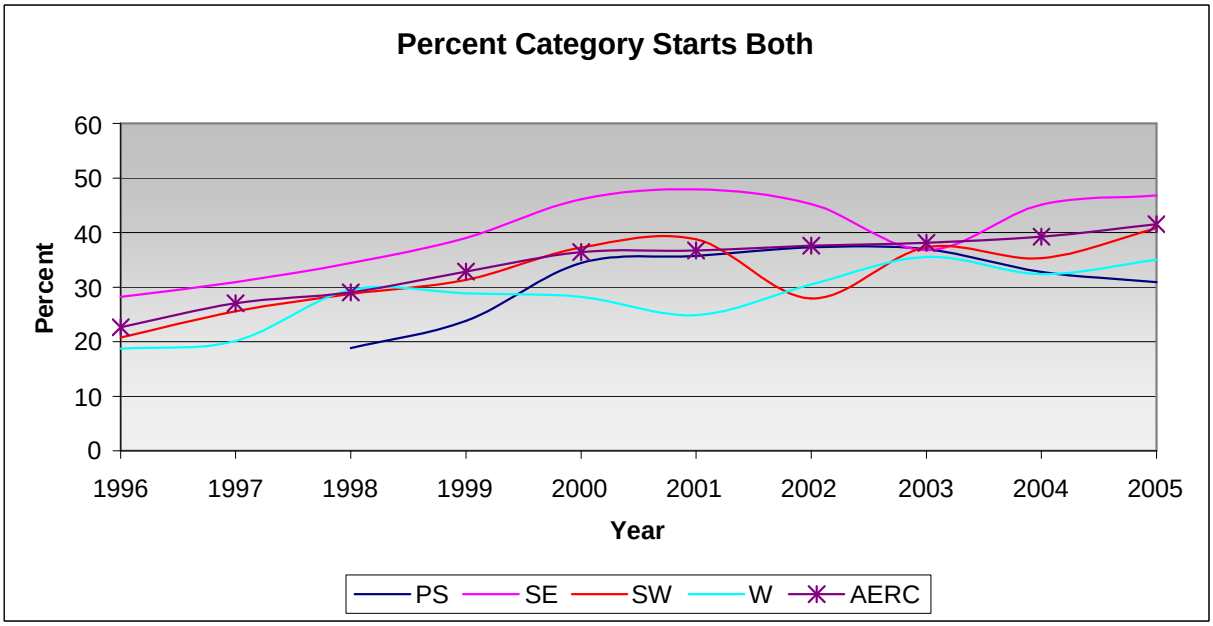


Distribution of Total Starts by Rider Category
Figure 6.2b

The next two charts (Figures 6.2a and 6.2b) show the percent of the starts of riders who start ride LD and Endurance to the total number of starts for each region (split into two charts because of limitations in Excel). The AERC statistic is also shown in each for a reference. Except for the exception of one region, while the initial point in 1996 may be different the slope of the upward trend is consistent with that of the AERC (which gains 2.0% per year). One exception is the Midwest region that had a slope of 3% per year.



Distribution of Total Starts by Rider Category
Figure 6.3a



Distribution of Total Starts by Rider Category
Figure 6.3a

While there are regional differences, there is a basic trend throughout the AERC. The differences seem to be the extent of the trend rather than the direction of the trend. The first trend is that people that ride only endurance rides in a year are decreasing in proportion to the total number of riders. This in the past has been explained by noting the rapid growth in LD riders (Figures 6.1 a and b). But as these data points out – that's not the whole story. What these data points to is that much of the increase in LD starts comes from people that ride both LD and endurance. It is hypothesized that this effect is a result of two phenomena.

First: today most new riders start in the LD and then start doing longer distances while still doing LD's and continue to do both. Second: many endurance riders have reached the point that a steady diet of Endurance rides is too much for either them or their horse but they still want to ride so they do both. In the earlier part of this study period, the norm looks more to be if a rider started in LD, many would eventually move up and stop doing LD or start out in endurance without doing LD. Could this indicate a paradigm shift in the 10 year period covered by this study? An interesting side note is there are people that had done LD's, 50's and one day 100's interspersed throughout this 10 year period.

From Figure 3.2, the percentage of people that ride LD only, Endurance only and Both seem to be converging to a point that is about 1/3 each of the total riders that ride in the AERC.

What Figure 3.3 seems to indicate is that because the riders that ride both tend to ride more rides per year, the percentage of rides of the Both category to the total number of

starts has increased while the percentage of rides of the Endurance category to the total number of rides has decreased till the two are approximately equal. If this trend continues (and the slope is still pretty steep, ref. Figure 3.3) it is probable that at some time in the future riders that do both LD rides and Endurance rides will account for a plurality of the total starts in the AERC.

The rapid change in the MW is believed to originate from the fact that there has been a rapid growth in LD rides in that region over the last 10 years. This can be seen in Figure 6.1a where the percentage of LD to endurance rides rose from about 30% in 1996 to 107% in 2005. That's correct there were more LD rides than endurance rides in the Midwest in 2005 resulting from more than one LD ride being offered in conjunction with an endurance ride. That seems to be quite common in the Midwest region.

The trend is not as pronounced in the PS region because percentage wise there are fewer rides with LD's in the PS than in most other regions. For example in 2005 about 40% of the rides did not offer an LD.

It is the case that riders that do at least one LD in a year (the category of LD only and Both) account for a majority of the yearly starts in the AERC and this trend is growing.

The charts in section 5 – while not mutually exclusive categories – shows the same trends. We have more people riding LD and multi-days and fewer riding other types (percentage wise). There is one interesting question that should be explored with the explosive growth in multi-day rides, many with LD's each day. That is what is the between the correlation between multi-day growth and LD growth. That is do people come to multi-day and ride both LD and 50's during the same period – maybe an LD on day one and a 50 on day two, or maybe 50 on day one an LD on day two with a new horse and a 50 on day three with the original horse, *etc*? With the flexibility of multi-day rides this would be quite conceivable. If so what will be the long range impact?