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NONRESIDENT TRAVEL PATTERNS BETWEEN GLACIER AND YELLOWSTONE NATIONAL PARKS

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ABSTRACT

The purpose of this study was to analyze travel routes taken by nonresident visitors to Montana who visited both Glacier and Yellowstone National Parks in one trip and to compare those patterns to multideestination travel patterns suggested by previous research. Additionally, the concept of distance decay was analyzed for these travelers. Results confirm previous research on travel patterns with an additional undiscovered pattern. Results did not confirm a distance decay finding but rather suggest that attractions at the sight such as national parks overcome the barrier of distance.

INTRODUCTION

Travel patterns and the spatial movement of people on leisure trips has been the topic of numerous researchers throughout the years. Some studies have focused on multideestination travel (Hanson 1980; Hwang and Fesenmaier 2003; Lue, Crompton, and Fesenmaier 1993; Stewart and Vogt 1997; Tideswell and Faulkner 1999), highlighting issues of distance, market access, and travel time available which correlates to travel patterns. Other studies have looked at distance decay and its effect on travel destinations (Eldridge and Jones 1991; McKercher, Chan, and Lam 2008; McKercher and Lew 2003; McKercher 1998).

The theory behind distance decay predicts that demand will peak at some distance relatively close to a source market and then decline exponentially as distance increases. McKercher and Lew (2003), however, found that travel from Hong Kong clearly showed a short-haul and long-haul travel pattern with an emerging ETEZ (effective tourism exclusion zone) in-between suggesting that destinations within the medium-haul distance were less likely to be chosen by Hong Kong residents. In a follow-up study it was found that international outbound travel patterns of 39 of the world's leading 41 major source markets adhere closely to distance decay principles (McKercher, Chan, and Lam 2008).

Multi-destination trip patterns were conceptualized by Lue, Crompton, and Fesenmaier (1993) to consist of four distinct patterns: the En Route Pattern (same route to and from the destination with short stops along the way); the Base Camp (directly to the destination then take day trips from the destination); Regional Tour (drive to the region, then circle the region); and finally the Trip Chaining Pattern (an extended tour visiting several

regions on the same trip, usually in a circular pattern). This was further tested and verified by Stewart and Vogt (1997) in a study of visitors to Branson, Missouri.

Similarly, describing the spatial configuration of travel to Yellowstone National Park, Mings and McHugh (1992) found four distinct patterns of visitor travel from home to Yellowstone and back again. The Direct Route (shortest route possible to and from), the Partial Orbit (partially direct route with an orbit in the rocky mountain region including Yellowstone and back on the direct route), the Full Orbit (a completely circular route), and the Fly/Drive (similar to the Partial Orbit but the direct leg was by air) showed some differences in length of trip, distance traveled and prior visits to Yellowstone. They concluded that visitors to Yellowstone were more likely to combine a trip to Yellowstone with stops at other western landmarks. They also found that the Direct Route pattern was usually taken by visitors from the region. McKercher (1998) would suggest that market access is the reason for this finding meaning that destination choice is often influenced by convenience and that, given a choice; the visitor will tend to choose the more convenient one.

All of these studies focused on travel patterns from the home to the destination(s) and back home again. Little research has looked at the travel patterns between two prominent destinations on one trip. The purpose of this study was to analyze the travel routes taken by nonresident visitors to Montana who visited both Glacier and Yellowstone National Parks. The distance between Glacier and Yellowstone is anywhere between 454 miles to 509 miles depending on the route and park entrance. From a travel marketing viewpoint, understanding the routes taken and relationships of that route to travel group characteristics could assist in traffic projections, marketing to enroute travelers, and the location of visitor centers and other travel facilities.

RESEARCH METHODS

Data were collected through both an on-site questionnaire and a diary type mail questionnaire to nonresidents traveling in Montana. Visitors were asked to trace their travel routes in Montana on a map provided in the survey instrument and return it in the postage paid envelope after completing their trip. Ten percent of nonresident visitors indicated they visited both Glacier and Yellowstone National Parks (Oschell and Nickerson 2007). Of this group, 160 useable maps were extracted for this analysis.

GIS was used to analyze the travel patterns of visitors to both Glacier and Yellowstone. The travel maps generated by visitors were first digitized. Once the maps were in digital format, a line density function was performed in order to represent the density of travel patterns for non-resident visitors to both Yellowstone and Glacier National Parks. In addition, the entry and exit points for each visitor were coded and then digitized. This data was then aggregated by entry/exit point. Finally, the home zip code of every visitor was recorded in the survey and the data joined to a GIS file containing the center points of each zip code in the United States.

Analysis of the data included extracting visitors who had travel patterns as suggested by Lue, Crompton, and Fesenmaier (1993) and Mings and McHugh (1992). Were the described patterns from home to a destination similar to the travel patterns used between destinations on the trip? In addition, the home zip codes were analyzed to look for distance decay patterns.

FINDINGS

Results show the most common pattern for travelers visiting both Glacier and Yellowstone was an open loop or full orbit (circular) where visitors entered and exited from the same side of the state but through different roads (53% of Glacier/Yellowstone travelers). As seen in Figure 1, the patterns of the open loop traveler are spread throughout the state but do exhibit some common route areas of travel. The open loop traveler was more likely to enter or exit through Yellowstone or south of Billings on Interstate 90. The highest density of travel occurred on Interstate 90, highway 93 between Missoula and the Glacier gateway communities (Kalispell, Whitefish, Columbia Falls), highway 2 between Kalispell and Shelby, Interstate 15 between Shelby and Helena, as well as connecting roads; highway 89 between Browning and Great Falls, highway 287 between Helena and Three Forks, highway 83 through the Seeley-Swan, and the three roads out of Yellowstone (highway 89 from Gardiner to Livingston, highway 191 from West Yellowstone to Belgrade, and highway 287 from West Yellowstone to Three Forks).

The second most popular route pattern shows thirty-three percent of the Yellowstone-Glacier travelers using a linear pattern for their route between the two parks (Figure 2). With this pattern the traveler entered and exited in the same spot and backtracked on the same road, or did a north-south or east-west entry and exit. In other words, there was no indication of any sort of loop in their travel pattern. In general it was usually the most expedient route a visitor could take between the two parks.

Eleven percent of the visitors represented a pattern not described in earlier studies. These travelers entered and exited the state in a variety of patterns but still visited both parks. This multiple entry/exit group more closely represents visitors who are traveling in a larger pattern, perhaps throughout the Northwest or Rocky Mountain Regions. This research only captured visitors' travels within Montana and, therefore, these multiple entry/exit patterns were not fully captured. The researchers suggest that future research also include wider travel patterns of visitors in order to capture the entirety of the trip of visitor's to Montana. A density map showing this pattern was not included as it simply looked like a maze of road segments with no typical route to be found.

A fly/drive group emerged representing seven percent of the Glacier/Yellowstone visitors. This group was less likely to leave the state for other stops and tended to stay in Montana to visit Glacier and Yellowstone (for the purposes of this travel pattern, Montana claims Yellowstone as within its boundaries). The main airports included Billings, Bozeman, Missoula, and Glacier International airport with some travelers opting to fly into Helena and Great Falls. The fly/drive route generally followed the interstate between Bozeman and Missoula then highway 93 from Missoula to the Glacier gateway communities (Kalispell, Whitefish, Columbia Falls) and into Glacier National Park. Figure 3 highlights the patterns of the fly/drive traveler.

A comparison of travelers on the two most popular patterns, open loop and linear, was conducted to further understand the travel. Recall that the sample size in these comparisons is quite small (85 for open loop and 52 for linear). In terms of demographic differences, open loop travelers were more likely to have children under 18 in the travel group. Along with that age comparison, 56 percent of open loop travelers had travelers over the age of 55 in their group while 72 percent of linear travel groups had travelers over the age of 55. It is not clear why older travelers were more likely to travel in a linear travel pattern. Household income only varied at the \$20,000-\$39,999 category

where the linear pattern travelers represented 16 percent compared to 7 percent of the open loop travelers. Interestingly, place of residence differed quite a bit between the two groups. Those in the open loop pattern were more likely to be from Colorado while those in the linear pattern were most likely to be from California. The linear pattern had travelers from foreign countries whereas the open loop travel pattern did not.

The most obvious difference in trip characteristics was in the length of stay in Montana. The open loop traveler spent 1.6 more nights in Montana than the linear group. The linear pattern group was slightly more likely to be couples than the open loop group and significantly more likely to be camping in developed areas. A very interesting aspect of people who travel to both Glacier and Yellowstone on one trip is that the primary attraction to Montana was Glacier rather than Yellowstone. Slightly over 50 percent of both travel pattern types said Glacier was their primary attraction. Yellowstone was the primary attraction for 15 percent of the open loop travel group and 22 percent of the linear travel group. Apparently, when visitors come to Montana with the purpose of visiting both parks, Glacier, not Yellowstone is the primary draw. This is in contrast to all vacationers which show that ten percent more of all vacationers are primarily attracted to Yellowstone over Glacier National Park (Oschell & Nickerson 2007). Therefore, when one park is the reason for traveling to Montana, Yellowstone is more likely to be the draw. When both parks are the reason for traveling to Montana, Glacier is the primary draw.

Finally, distance decay was analyzed by looking at the home zip code locations of non-resident visitors to Montana who visited both Yellowstone and Glacier National Parks. Distance decay does not appear to play a significant role. In fact, visitors who provided their zip code (120 of 160 respondents) represented all regions of the United States, including Alaska (Figure 4). Certain urban areas and agglomerations were well-represented by visitors. These include: Seattle, Portland, Los Angeles, Phoenix, New York/New Jersey, Washington D.C., Chicago, Dallas and Denver. In addition, the South was well represented as was the Midwest. The only region not well represented was New England. What this pattern does suggest is that people from surrounding states such as Wyoming, Idaho, South and North Dakota are perhaps less attracted to visiting Yellowstone and Glacier National Parks than those who live further away and/or in urban areas. It is not surprising here to see no significant distance decay for visitors to these two national parks within the United States as both are part of American wilderness iconography. People seem more than willing to travel great distances to experience these parks.

APPLICATION OF RESULTS

Nonresident visitors to Montana who visit both Glacier and Yellowstone National Parks take a variety of routes to travel between the two parks. One dominant route, the interstate between Bozeman and Missoula, however, is where the state of Montana might consider concentrating visitor information centers as the gateways to the two parks. Keep in mind; visitors to both parks in one trip only represent 10 percent of nonresident travelers in Montana. In terms of marketing both parks to potential visitors, it would be important to highlight the differences in time and access based on travel patterns.

When these researchers tried to find travel routes between the two parks on the Montana travel promotion site, visitmt.com, or other sites, we were not able to find any suggestions or predetermined travel route itineraries. On visitmt.com, the result of a search on the site indicated, “Your search on travel routes Glacier to Yellowstone returned: 0 Business & Feature listings and 65 Recommended Results.” The 65 recommended results were not travel routes; instead most of them were towns in Montana. There were suggested bike paths, but none of these were between the two parks. In addition, when a Google search was conducted asking for a travel route between Glacier and Yellowstone National Park, nothing emerged. In fact the following did come up within the top ten on the search:

“I am in two minds about doing **Yellowstone** or **Glacier National Park**, or both. ... What week **between** mid June and Late August would you recommend. ... Can anyone furnish us with good **travel routes** (including **travel** distances and times), ...” (forum.virtualtourist).

This potential visitor was blogging and asking for help on travel routes. This is just one example of a potential traveler’s inability to find travel routes between the two parks. However, since we know that 10 percent of travelers are likely to travel to both parks, it would be advantageous for Montana’s websites promoting the state to provide the traveler with suggested routes. This would include providing a map on the web with each route highlighted with distances, sites to see along the way, and visitor services available.

DISCUSSION

Travel patterns between two destinations somewhat mirror the travel pattern classifications identified by Mings and McHugh (1992). In the Mings and McHugh study, 45 percent used a Full Orbit pattern to and from home. In this study, 53 percent used a Full Orbit pattern between Glacier and Yellowstone suggesting that when visiting parks, travelers are more likely to take different routes and forgo the backtracking theme common in the direct route pattern. On the other hand, 33 percent did choose a linear pattern with no loop. Those on the linear pattern were in the state fewer days indicating that travel time was a predictor of travel route. This agrees with other studies conducted on multi-destination trips.

While it is possible to group people into travel patterns, it is obvious that travel between Glacier and Yellowstone is more a personal choice based on time available, distance from home, and activity. Additionally, distance decay is not represented in this data. This confounds the marketing efforts of a state like Montana since it would be much easier to concentrate marketing in certain geographic locations. It appears that visitors to both Glacier and Yellowstone National Parks are not bound by their geographic origin. Instead, in terms of marketing Montana to nonresidents, their interests in national parks and wilderness type settings are better indicators of likeliness to visit than place of residence.

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Figure 1: Open Loop Pattern

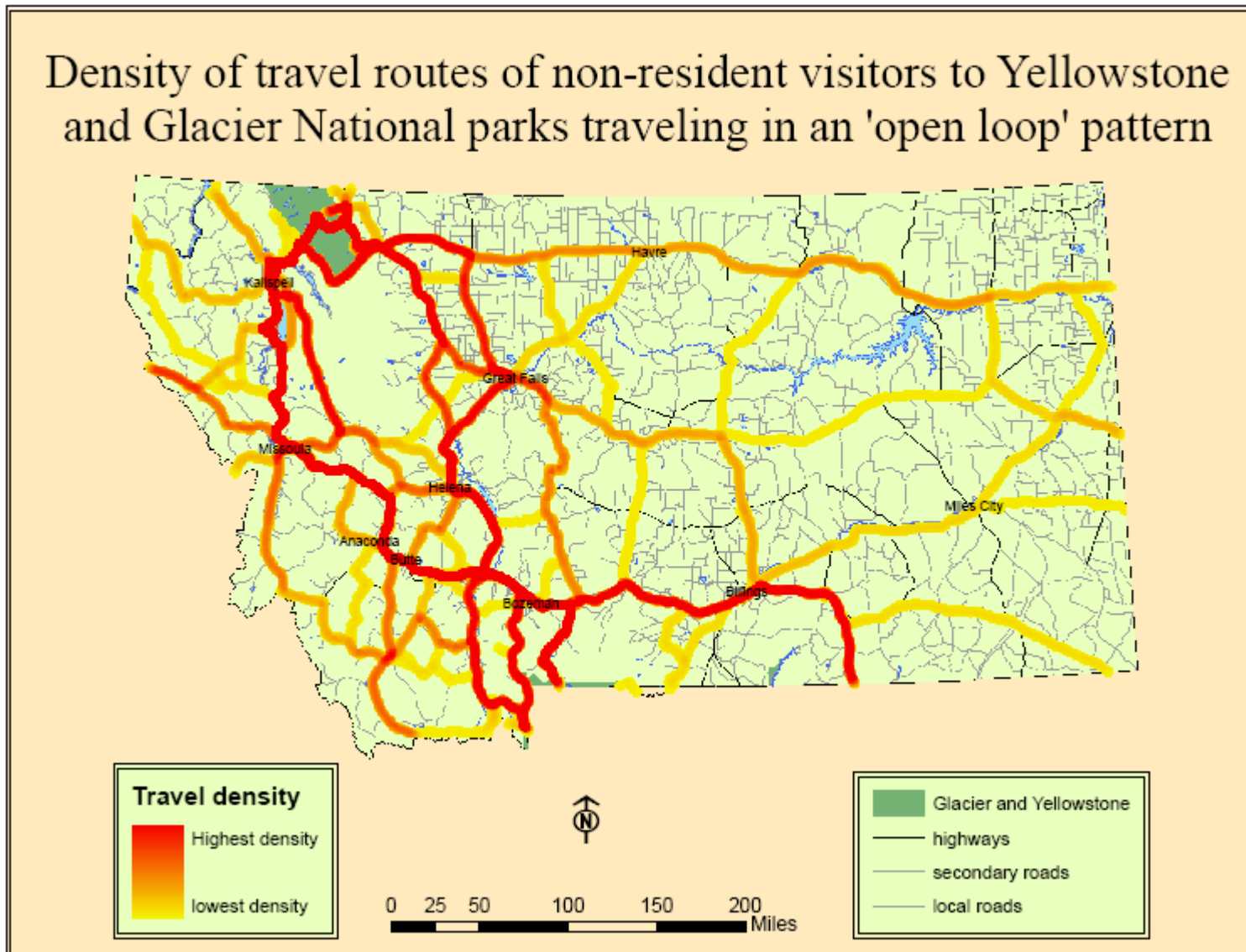


Figure 2: Linear Pattern

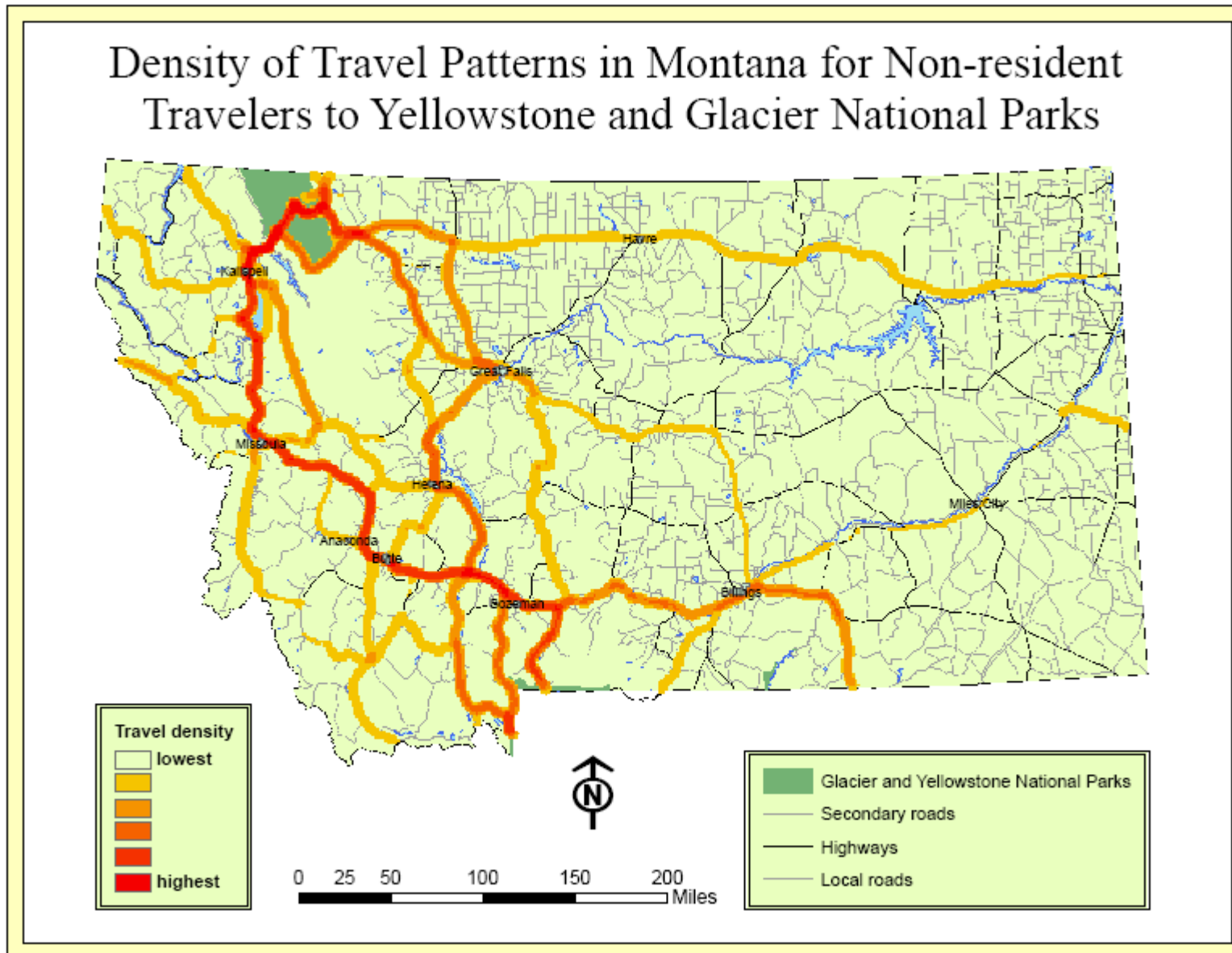


Figure 3: Fly Drive Pattern

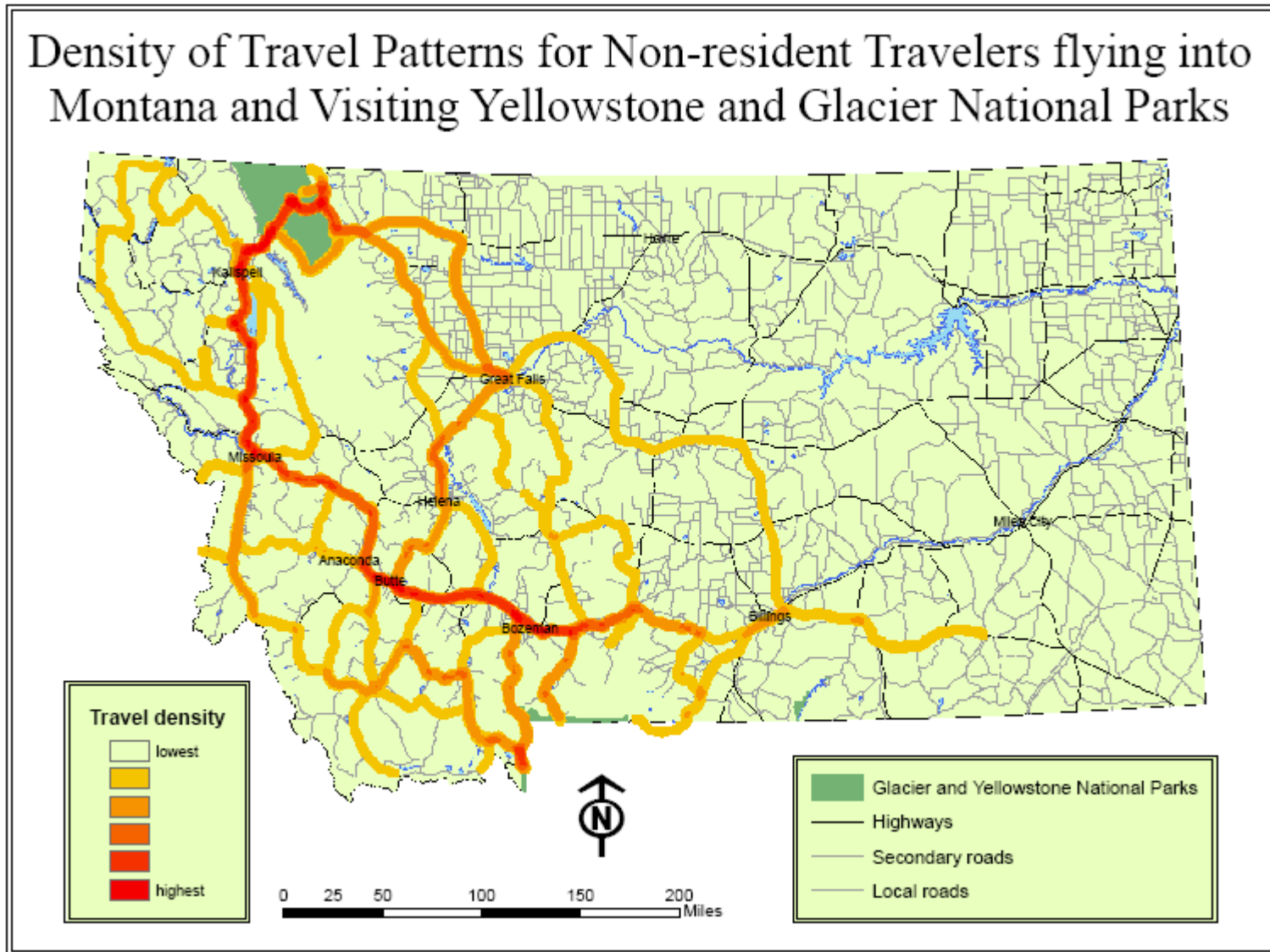


Figure 4: Lack of Evidence for the Distance Decay theory with Visitor to Glacier and Yellowstone National Parks

