

# Exploring Rental Housing Accessibility in the Kootenays

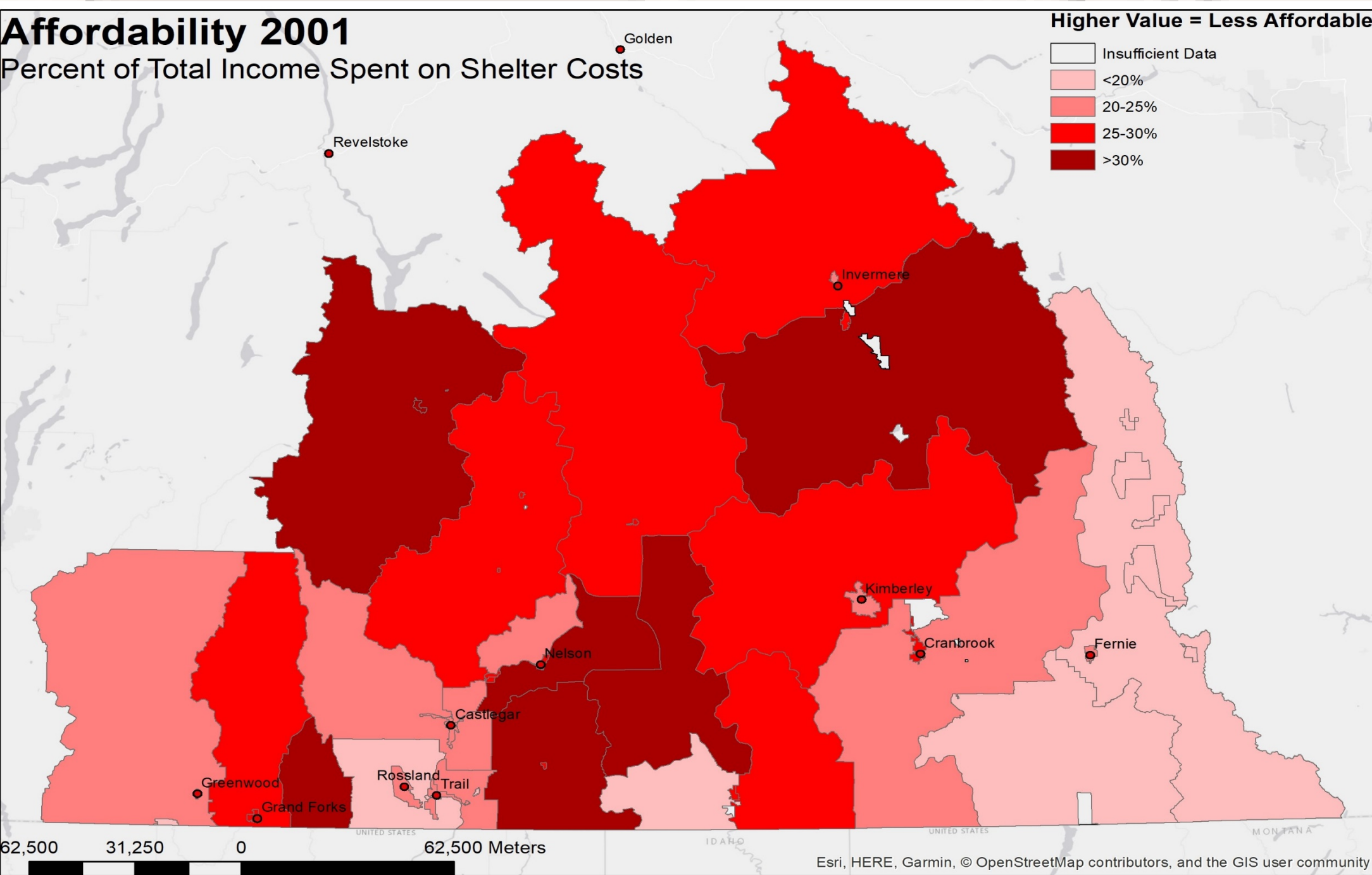
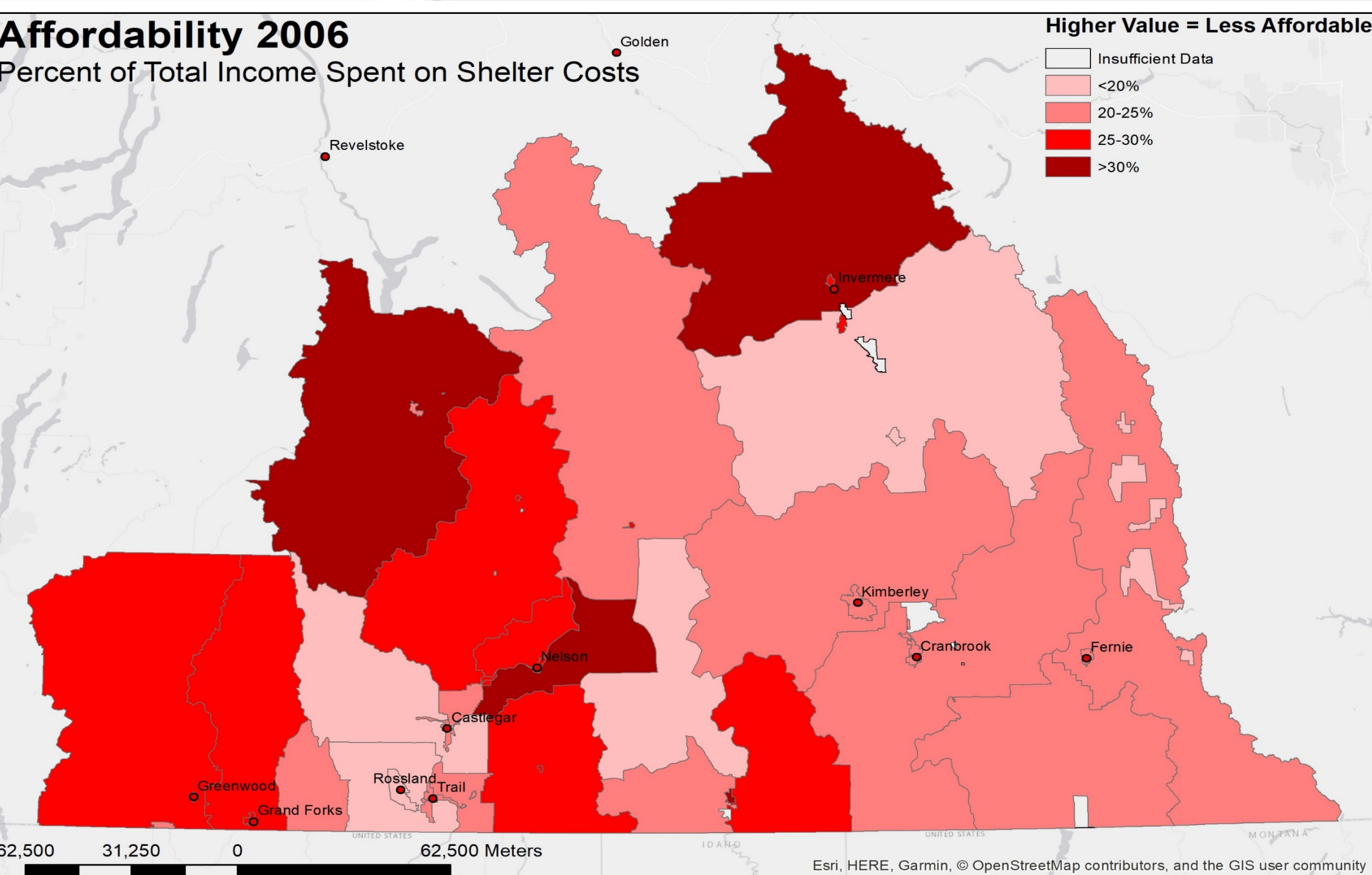
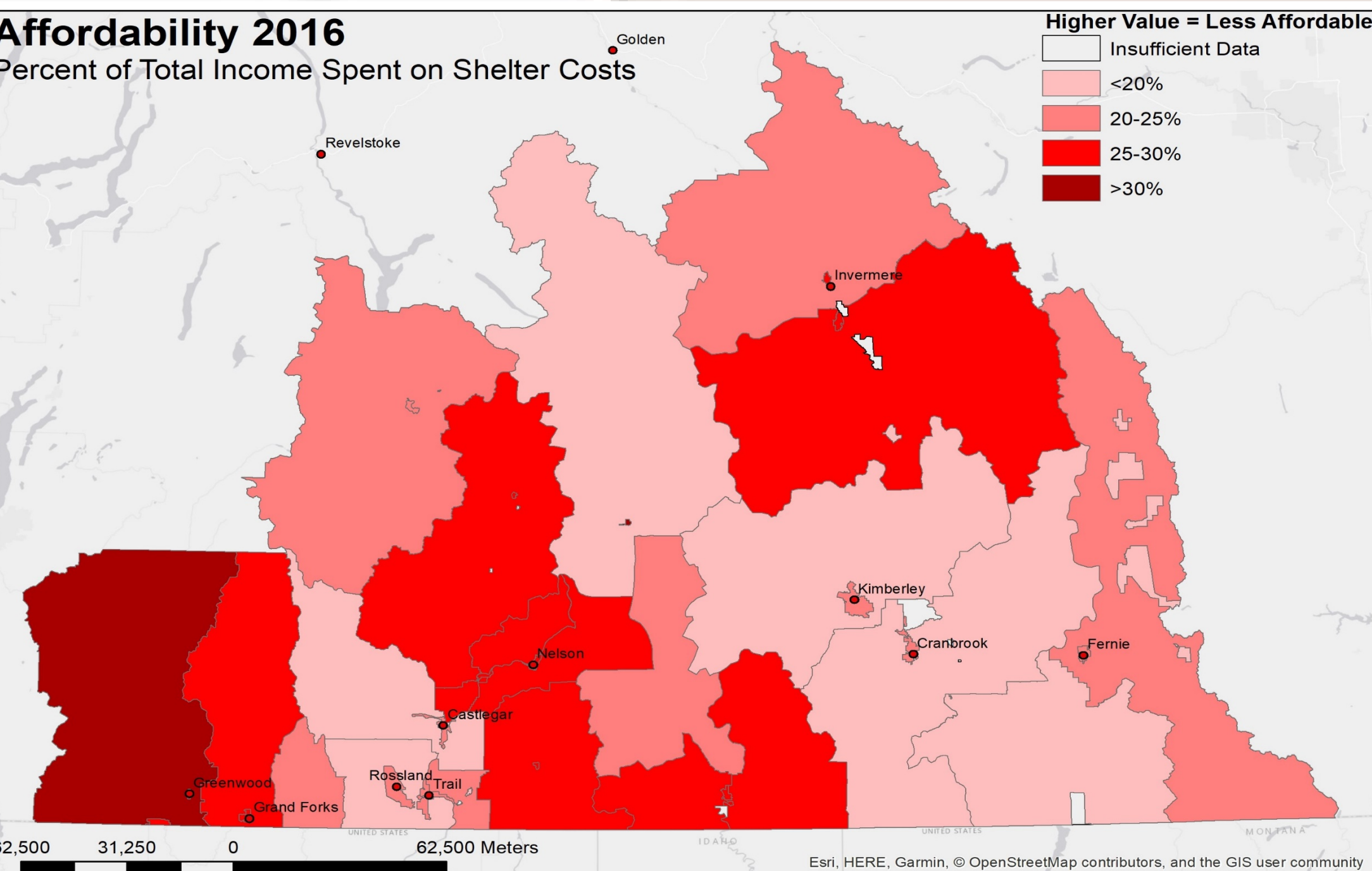
## Mapping Census Variable Distribution Over Time

### Introduction

The province of British Columbia has experienced steady population growth in recent decades; over the course of this study's data collection years (2001 to 2016), the population of British Columbia grew by approximately 690 800 residents. It is projected to further increase by an additional 829 000 residents in the following 15 years (BC Government, 2019). Though the majority of new residents are relocating to the Lower Mainland and adjacent areas, smaller Economic Regions such as the Kootenays can expect population growth of their own. The Kootenay Economic Region (KER) saw a 3.5% population increase between 2011 and 2016 (Statistics Canada, 2016) and is expected to increase by approximately 4820 new residents in the 15 years following this study (BC Government, 2019). Diversified housing options including rental dwellings will continue to play a crucial role in accommodating the growing population. This project aims to identify which census subdivisions within the KER are in most-need of increasing their rental housing accessibility, and help visualize how contributing variables have changed over time. The results are meant to help guide KER communities in making development and management decisions that will help meet the needs of current and incoming demographics.

### Limitations and Assumptions

A limiting factor for this analysis was the lack of data completeness and consistency between census years. Census Subdivisions and their boundaries evolved over time. This resulted in a lack of data for certain subdivisions from earlier years, and these locations were therefor given an "insufficient data" outcome for the study maps. The titles of census variables also changed between years, though they still accounted for the same data. It is therefor assumed for the purpose of this project that titles used in 2016 profiles account for the exact same data as similarly titled variables in the 2001 profile. This analysis portrays rental affordability and rental availability as variables contributing equally to an area's overall rental housing accessibility, though this may not be the case. With a more comprehensive study of which housing variables are more impactful, this analysis could be completed with a weighted accessibility score. For the purpose of this project, affordability and availability are considered equally impactful.

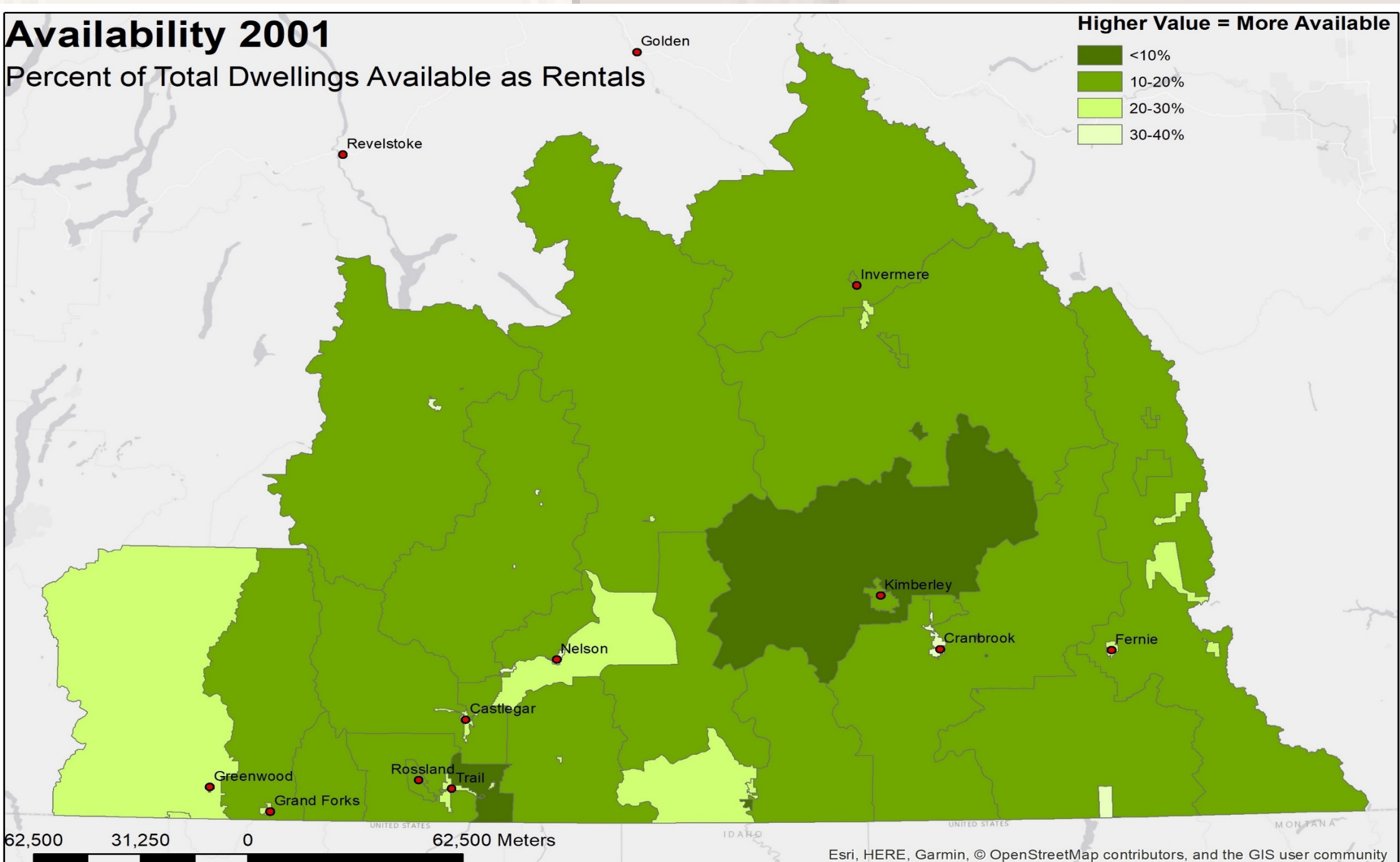
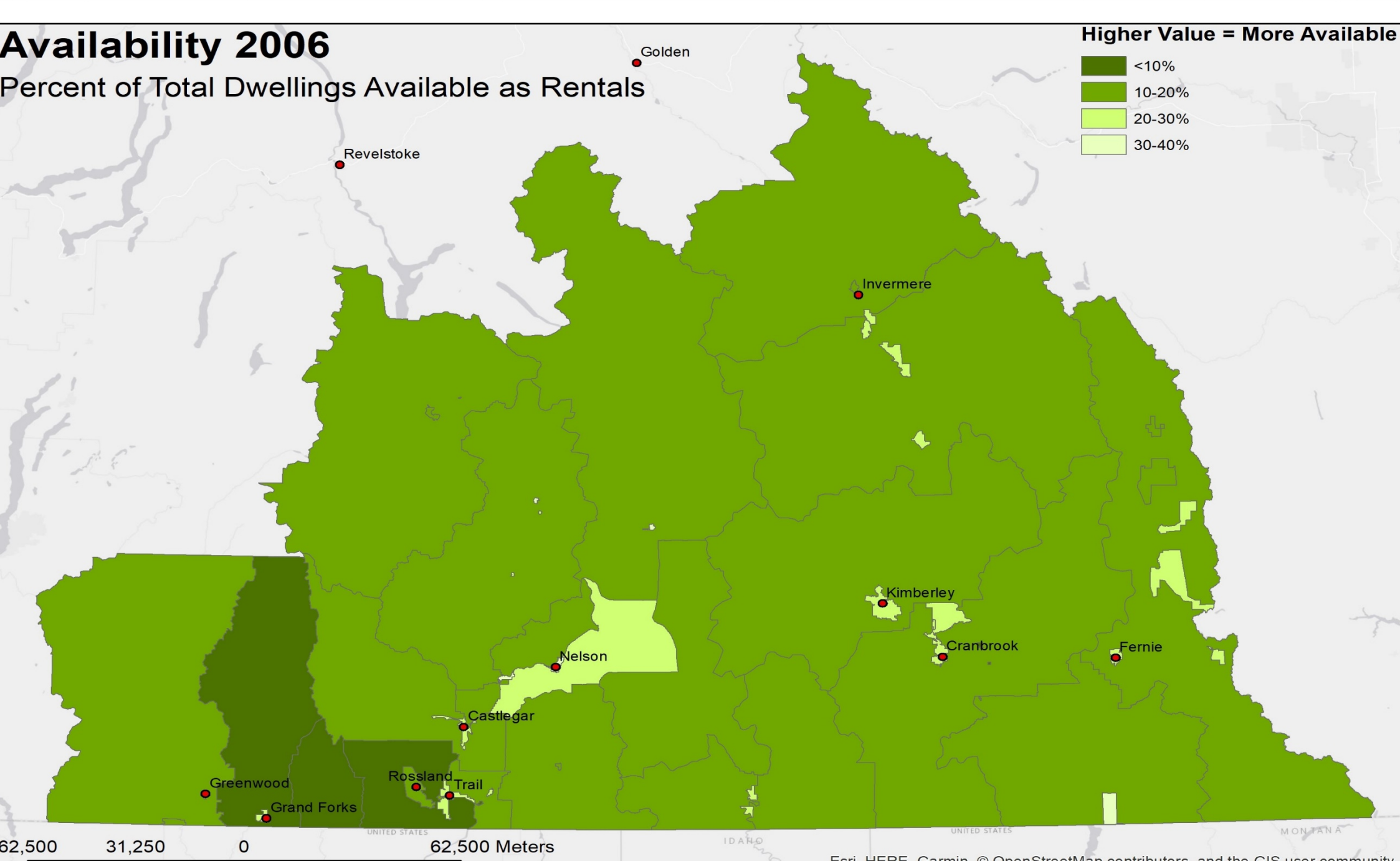
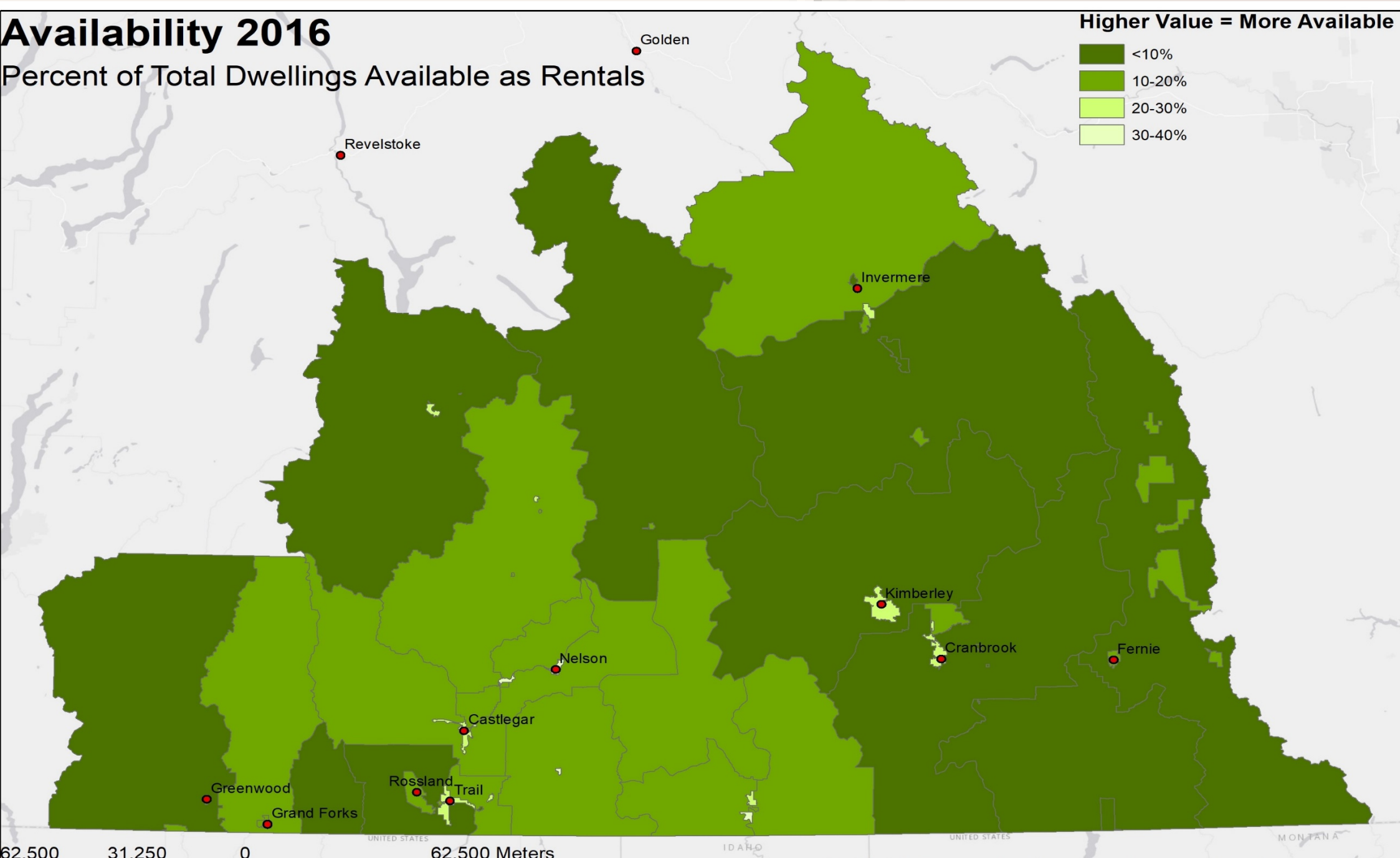


### Affordability

The affordability maps display the distribution of the percent of *Average Income* of a subdivision spent on *Average Rental Shelter Costs*. The higher percentages (darker colours) represent areas that are deemed less affordable for renters by these standards. The spatial analysis revealed that rental options throughout the KER have become more affordable over the years. Most recent census data (2016) revealed that census subdivisions Kaslo and Kootenay Boundary E/ West Boundary both fell within the highest category, with an average yearly shelter cost of over 30% of the population's average income, a statistic that is deemed "unaffordable" by many housing standards (Canada Mortgage and Housing Corporation, 2018).

### Availability

The availability maps display the distribution of the percent of a subdivision's total dwellings that are available as rentals. The higher percentages (lighter colours) are therefore areas deemed to have more rental availability by these standards. The spatial analysis revealed that the availability of rental options in the KER has declined over the years. Most recent census data (2016) shows more than 10 census subdivisions falling into the least desirable category with under 10% of total housing being allocated to renters. Within this category East Kootenay F, Kootenay Boundary E/ West Boundary, Kootenay Boundary C/ Christina Lake, and Kootenay Boundary B/ Lower Columbia-Old-Glory possessed the lowest percentages, all falling under 5%.



### Methods

- The base map for this project was created from Census Boundary Files accessed from the Selkirk College shared O: drive. It consists of Census Subdivision Boundary Files overlaid and clipped to a Kootenay Economic Region Boundary File. Statistical Census Data was accessed from Statistic Canada's Census Profile Database for years 2001, 2006, and 2016. Data for census year 2011 was not included due to data accessibility and scoping difficulties.
- Collected variables were amalgamated to exhibit two components for each subdivision: rental housing availability (percent of total dwellings available to renters) in which a higher percent is desirable, and affordability (percent of total income spent on monthly rental shelter costs) in which a higher percent is undesirable. An overall accessibility score was then given to each subdivision based on the averaged score of these two components. This is represented as a percentage (out of 100%), in which a higher score is less desirable and means that rental housing options in the subdivision are deemed less accessible.
- Using identifier numbers unique to each census subdivision and common to both the Census Boundary Files and Census Statistical Data, the values for rental availability and affordability, as well as the combined accessibility score were joined to the base map. The various components could then be displayed within their appropriate geographic census boundaries and in accordance to their census year. Individual layers were created for every year of rental affordability values, rental availability values, and overall rental accessibility score values to create a visualization of how the components had changed over time.

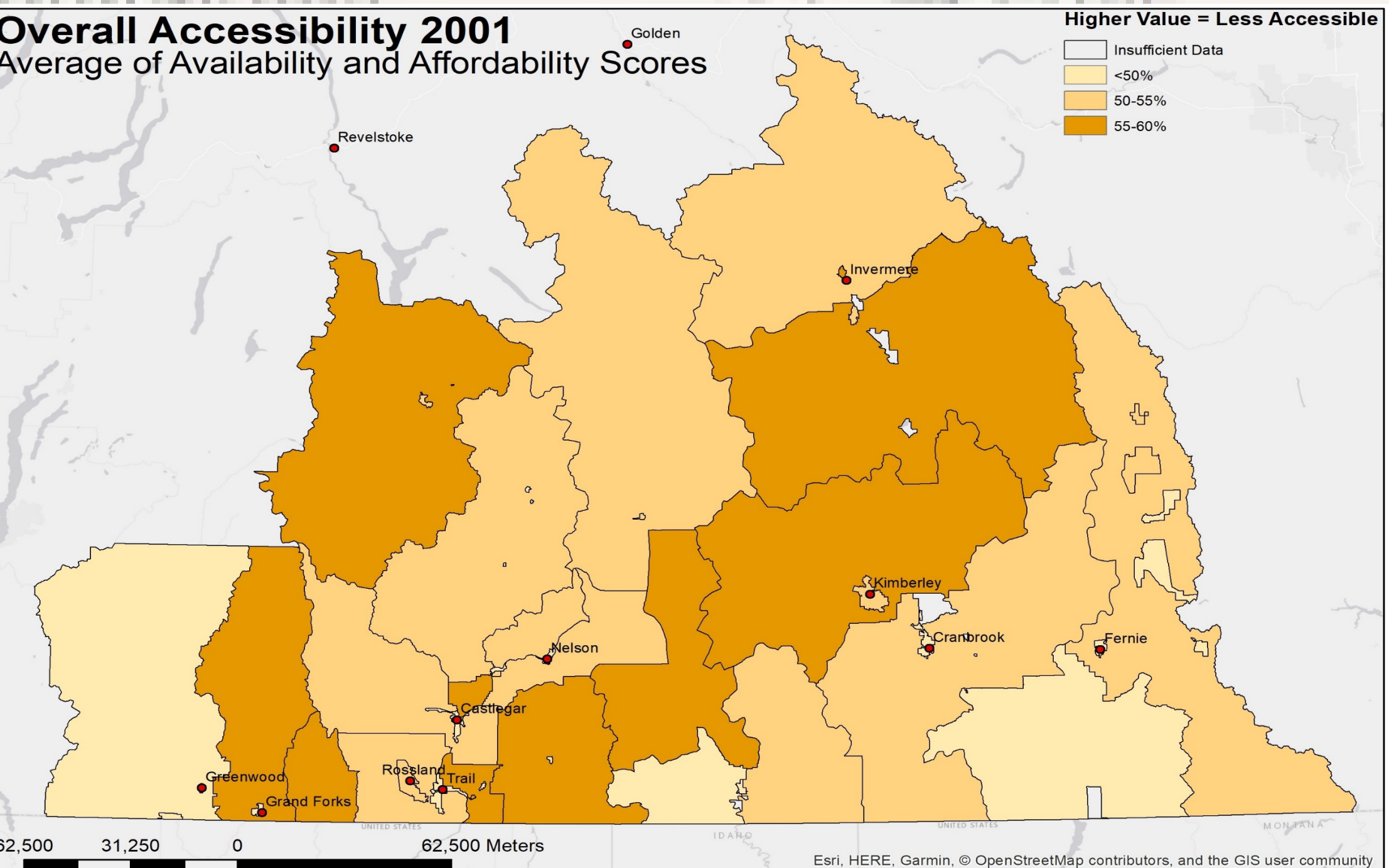
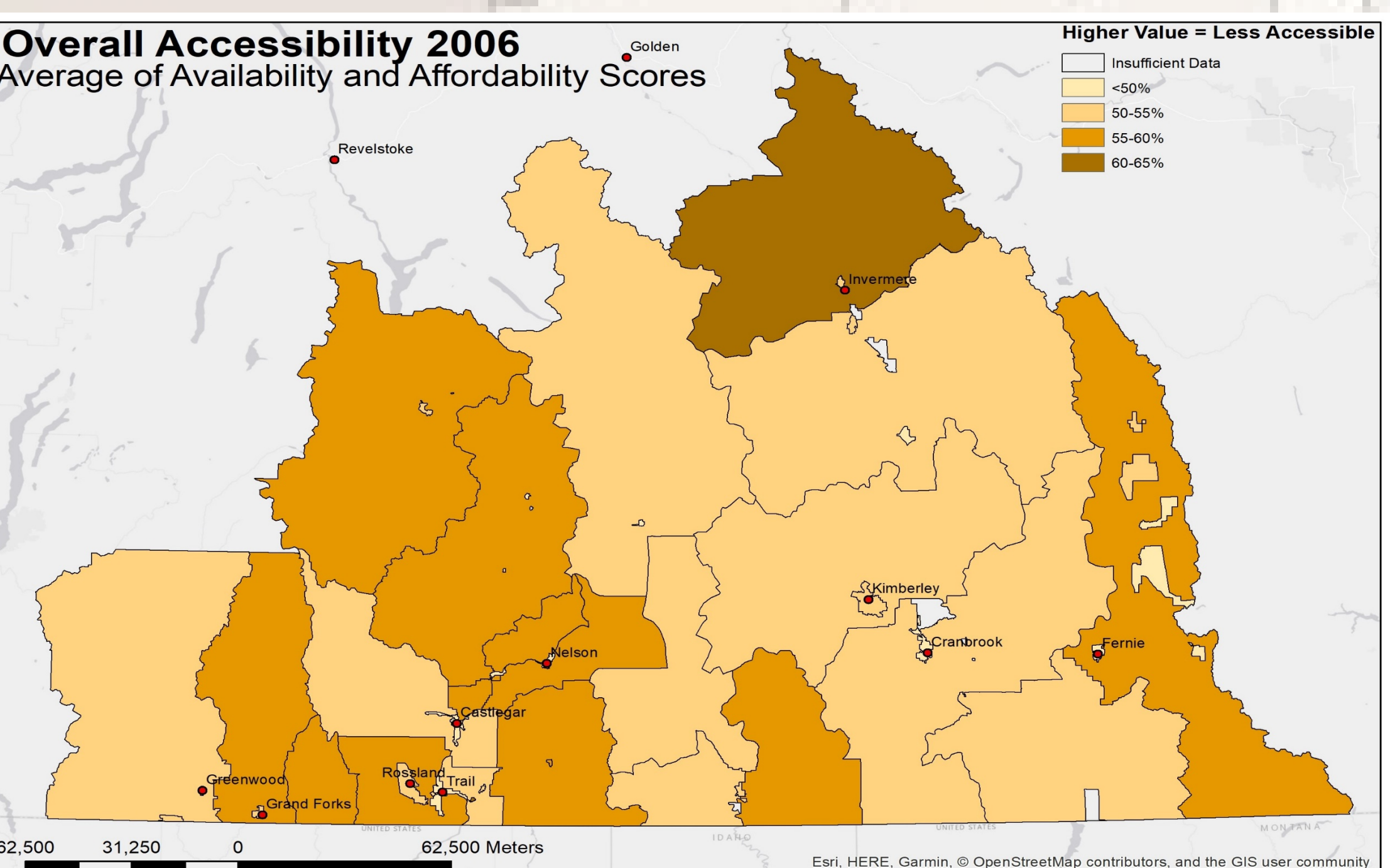
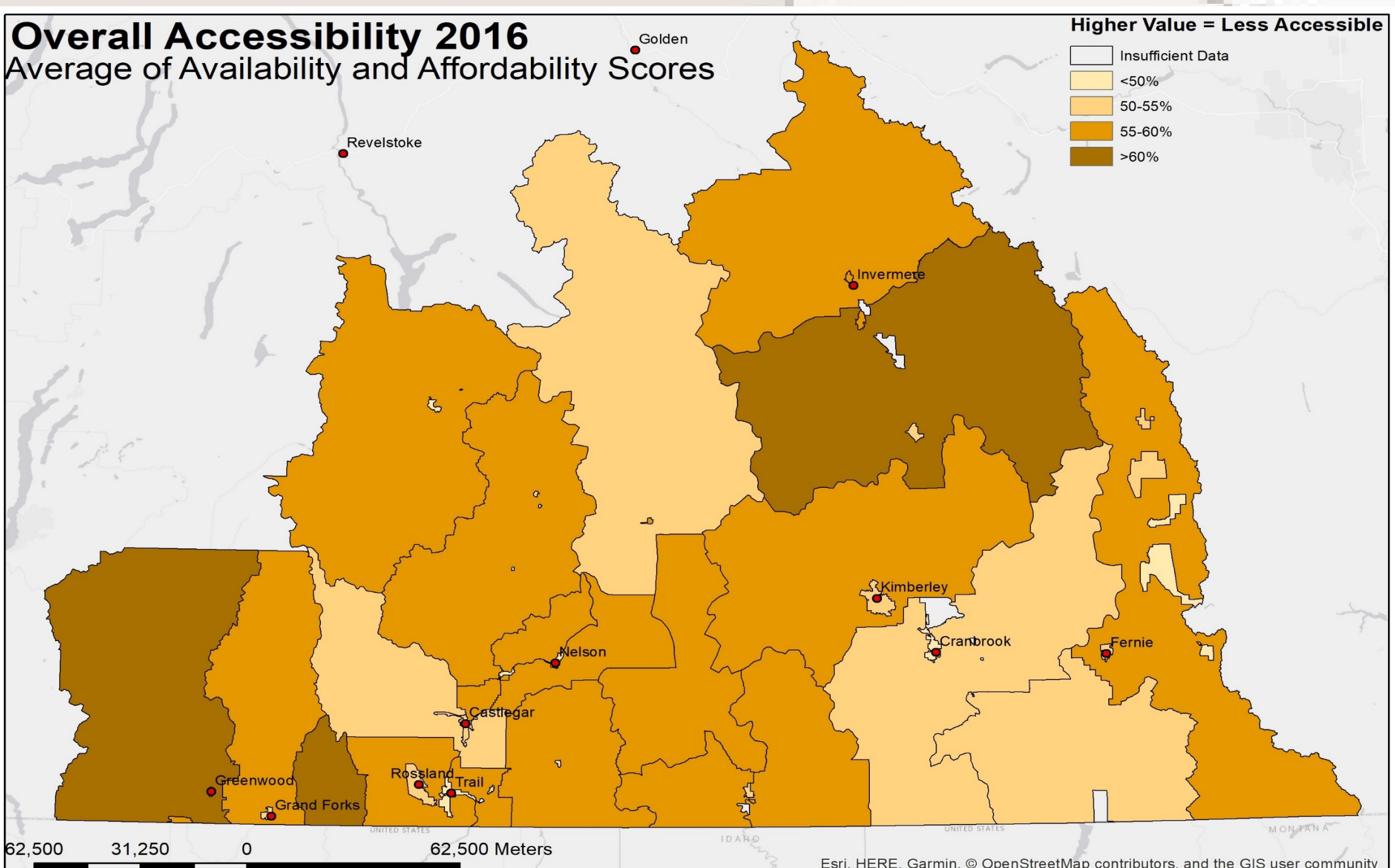


### Overall Accessibility

The overall accessibility maps display the combined average of a subdivision's rental affordability and reversed availability scores. The higher percentages (darker colors) represent areas that have less accessible rental housing options according to these variables. The spatial analysis revealed that the overall accessibility of rental housing within the KER has decreased over the years. The most recent census data (2016) revealed that Kootenay Boundary E/ West Boundary had the overall least accessible rental housing options, followed by Kootenay Boundary C/ Christina Lake and East Kootenay F. These are areas that are in most need of diversifying housing options and encouraging the creation of affordable rentals.

### Interpretation

From the results of this study, we are able to recognize that the accessibility of rental housing options in the Kootenay Economic Region has declined. This is caused by a decline in rental housing availability, which proves to have the greatest impact both in the purpose of this study and when considered in real world scenarios. This may be due to the increased popularity of vacation rental properties outcompeting traditional rental properties. In order to accommodate demographics of varying wealth, age, health, and lifestyle, communities will need to address this issue by creating more rental opportunities. This is of particular concern in Kootenay Boundary E/ West Boundary, Kootenay Boundary C/ Christina Lake and East Kootenay F.



### Sources

- Census Boundary Files were accessed through Selkirk College's O-drive and can be reached through the following file path: (O:\GIS\_Data\census\2016\StatsCanSourceFiles\GeographicProducts).
- Statistical data acquired from Statistics Canada Census Program for profile years 2001, 2001, and 2016: Statistics Canada. (2019, March 14). Census Program. Retrieved from <https://www12.statcan.gc.ca/census-recensement/index-eng.cfm>
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