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Mobility and Resource Accessibility for Federally Recognized American Indian Reservations within the Western United States

A RESEARCH REPORT

Authors:

Becker, Zachary; Scully, Jason; Hill, Margo; Winchell, Dick G.; Rolland, Richard A.

Small Urban, Rural & Tribal Center on Mobility (SURTCOM)
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Availability of Dataset

The data that supports the findings of this study include the following and are provided in the Reference section of the report.

2018 American Community Survey Population Estimates Data

U.S. Census Bureau. (2018d). *2012-2016 American Community Survey 5-year estimates*.

2018 NAHASDA Tribal Population Counts

U.S. Department of Housing and Urban Development (n.d). *Indian Housing Block Grant Formula* https://www.hud.gov/program_offices/public_indian_housing/ih/codetalk/onap/ihbgformula

2010 U.S. Decennial Census Population Counts

U.S. Census Bureau. (2010). *2010 Decennial Census; Summary File (SF 1)*. Retrieved from https://factfinder.census.gov/help/en/summary_file_1_sf_1.htm

Grocery Store, Department Store, and Fast-Food Restaurant Locations

Esri. (2019). *Business Analyst* [Computer database].

Indian Health Service Facility Locations

Indian Health Service. (2018) *Visualizing Data.* Retrieved from April 2018, https://www.ihs.gov/communityhealth/gis/

Reservation GIS Shapefiles

U.S. Census Bureau. (2018a). *American Indian/Alaska Native/Native Hawaiian Areas National.* Retrieved September 2018, from: URL (https://catalog.data.gov/dataset/tiger-line-shapefile-2017-nation-u-s-current-american-indian-alaska-native-native-hawaiian-area)

Tribal Headquarter Locations

National Tribal Geographic Information Support Center. (2017). *Tribal Headquarters.* Retrieved July 16, 2019, from http://tribalgis.maps.arcgis.com/home/item.html?id=1d4f2b1413f843e6a48abc658d180498

United States Street Network GIS Database

Esri. (2017). *Street Map North America* [Computer database].

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Introduction

Distributed throughout the United States, federally recognized American Indian reservations vary in both size and location, with many located at significant distances from urbanized areas. The distance between a reservation and its nearest urbanized area may form a substantial barrier to resources essential for maintaining a high quality of life. This report presents an overview of resource availability for the federally recognized American Indian tribes located on 71 federally recognized reservations within the western United States. Specifically, the research team examines the driving distance between each reservation's tribal headquarters and seven key destinations, as well as provides a basic demographic profile for each of the reservations. These destinations include: interstate onramps, micropolitan population centers, metropolitan population centers, Indian Health Service (IHS) facilities, grocery stores, department stores, and fast-food restaurants. Destinations were chosen based on observed health disparities within the American Indian population (Jones, 2006), the importance of accessibility to healthy foods found throughout the food desert literature (Dutko et al., 2012), the various options and levels of specialty services provided in both metropolitan and micropolitan population centers, as well as the variety of items and pricing models provided by "big box" department stores (Hausman & Leibtag, 2007).

The primary measures used are based on proximity and include network distance to nearest, driving time to nearest, and counts of destinations within the boundaries of each reservation. Distance to resource locations has previously been identified as a primary indicator for resource utilization, especially in rural and isolated areas (Buzza et al., 2011; Dutko et al., 2012). The main goal of this report is to estimate the distances to each of these seven destinations and consider them in relation to reservation demographics.

The Study Area

The research study area consists of the 71 federally recognized American Indian reservations, off-reservation trust lands, and state-recognized American Indian reservations found in nine states (Colorado, Idaho, Montana, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming) as inventoried within the U.S. Census Bureau's database of American Indian, Alaska Native, and Native Hawaiian lands (U.S. Census Bureau, 2018a). These lands (hereafter referred to as "reservations") are under the control of 72 American Indian tribes (the Northern Arapaho and Eastern Shoshone Tribes share the Wind River Reservation in Wyoming) and span across five Bureau of Indian Affairs (BIA) regions, four IHS regions and encompass over ten unique tribal language groups. Though it is under the administration of the Confederated Tribes of Warm Springs, Celilo Village is treated as a separate entity due to its unique status among tribal lands. Figure 1 in the Appendix illustrates the locations of reservations within the study area.

Spatial characteristics of these 71 reservations vary greatly. Using census definitions of urban and rural (Ratcliffe et al., 2016), 7% are located mostly in urban areas (e.g., Puyallup and Muckleshoot) and 80% (e.g., Wind River, Goshute, and Pine Ridge) are located in rural areas. Complicating the situation, 13% of the reservations contain both rural and urban areas within their boundaries.

Likewise, the reservations vary in size. Ten reservations (approximately 14% of the reservations) are smaller than one square mile, including the Sauk-Suiattle, Snoqualmie, and Upper Skagit reservations. Conversely, eight reservations (11.3%) are larger than 3,000 square miles, (e.g., the Uintah and Ouray, Cheyenne River, Pine Ridge, Spirit Lake reservations). The average size for all of reservations within the study area is 784 square miles, though this number

is skewed by the fewer reservations with very large areas. Comparatively, the median reservation area is 2,833 square miles. Table 1 in the Appendix provides an overview of the tribes and reservations in the study area, the affiliated state, and square mileage.

Methodology

Esri ArcGIS 10.6 was used to estimate distance and drive time measurements from each of the tribal headquarters to the nearest of each of the following seven destinations:

(1) Interstate highway onramp

(2) Micropolitan population centers (population > 10,000)

(3) Metropolitan population centers (population > 100,000)

(4) IHS facility

(5) Grocery store

(6) Department store

(7) Fast-food restaurant

The locations of tribal headquarters come from the National Tribal Geographic Information Support Center (2017). The shortest distance between each reservation's tribal headquarters and the nearest of each of the seven aforementioned destinations were identified using the Origin-Destination Cost Matrix (ODCM) tool in the Network Analyst extension as routed along Esri's Street Map North America (Esri, 2017) road network. Network Analyst allows the user to define the level of restriction the algorithm places on the roadways, allowing for certain roads or turn types to be excluded while the analysis is being performed. The possible road restrictions include four-wheel drive roads, alleys, ferries, one-way roads, pedestrian ferries,

pedestrian walkways, toll roads, and turn restrictions. In this project no routing restrictions were used.

In addition to distances and drive times, counts of destinations located completely within reservation boundaries were computed using the spatial join function in ArcGIS. Finally, ratios were calculated to produce measures of counts of destination per square mile of reservation area and per person using the Native American Housing Assistance and Self Determination Act of 1996 (NAHASDA) American Indian Alaska Native (AIAN) counts from 2018 as reported to the U.S. Department of Housing and Urban Development (HUD) (U.S. Department of Housing and Urban Development, n.d.). This population measure was chosen because it was the most recent population data available. Since the destination counts are measured at the reservation level and the NAHASDA data are measured at the tribal level, the per person ratios for the Wind River Reservation (a reservation split between two tribes—the Northern Arapaho and the Eastern Shoshone) were split into two categories one for each tribe. Given the very short distance between Northern Arapaho and Eastern Shoshone tribal headquarters (less than two miles), drive times and distances were also averaged between the two to keep distance measurements at the reservation level of analysis.

Population Data

This study uses population data from the NAHASDA data (U.S. Department of Housing and Urban Development, n.d.), 2010 Decennial Census counts (U.S. Census Bureau, 2010), and the American Community Survey 5-year estimates for 2012-2016 (U.S. Census Bureau, 2018b). As mentioned previously, NAHASDA collects enrollment data and population counts of American Indian/Alaskan Native (AIAN) people for every federally recognized tribe in the United States and reports these numbers to HUD. Each tribe individually collects population

counts for NAHASDA and these counts are used in the dispersion of federal housing funds through the HUD Indian Housing Block Grant Program (US Department of Housing and Urban Development, n.d.). For this reason, NAHASDA is considered to have some of the most up to date and accurate population data for American Indian tribes available.

Though NAHASDA provides the most up to date and accurate population data from American Indian communities, these data are collected by each tribe, each of which have their own methodologies and collection processes. These data are used as weighted variables in the determination of the allocation of federal funding, which presents a possible conflict with the lack of oversight present (US Department of Housing and Urban Development, 2017). The NAHASDA data also use proprietary formula areas, as opposed to federally recognized American Indian reservation boundaries, when collecting data, which can cause differences in geographic boundaries compared to U.S. Census geographies. Further, NAHASDA collects population data by tribe, while the U.S. Census collects data by reservation, which also creates data inconsistencies.

Both the U.S. decennial census data and the ACS data have their own limitations. While the census SF1 dataset provides the most comprehensive data of all three datasets, it is limited in that the data are only collected every ten years. The most recent version of the SF1 dataset was produced in 2010, with 2020 data collection underway at the time this document was being written. A major limitation of the ACS is that the data are inherently dependent upon projection models, in this case the cohort-compound method. Using projections as opposed to actual door to door counts is sacrificing recency for accuracy, which may or may not be appropriate depending on the context of the usage.

Tribal Headquarters

Tribal headquarter locations for each of the study area reservations were obtained from the National Tribal Geographic Information Support Center (2017). This dataset includes 577 tribal headquarters located throughout the United States. Figure 2 in the Appendix shows tribal headquarters locations in relation to reservations. The tribal headquarters located within the study area were again selected through a querying process. Since the Celilo Village reservation does not have an official tribal headquarters located within the reservation boundaries, the location of the reservation's administration office was used in its place. The administrative office was located via visual inspection of ArcGIS satellite imagery, and a data point was created to serve as a digital marker for that location when running the routing queries.

Interstate Highways

Data used to identify interstate highway onramps were obtained using Street Map North America (Esri, 2017). The dataset includes data points for all interstate onramps within the contiguous United States. Figure 12 in the Appendix shows the data points for onramps within the study area.

Micropolitan and Metropolitan Population Centers

Both micropolitan (population > 10,000) and metropolitan (population > 100,000) population centers were derived from the Current Metropolitan Statistical Area/Micropolitan Statistical Area National dataset (U.S. Census Bureau, 2017) and are digitally represented as polygons in the dataset. Figure 11 in the Appendix illustrates the locations of metropolitan and micropolitan population centers in the study area. In order to identify the shortest route between the tribal headquarters and these population centers, the polygons representing the spatial extent

of the population centers were converted to centroids in ArcGIS, and the distances were calculated based on the shortest route between headquarters and micro/metropolitan centroids.

Indian Health Services Facilities

Locations and attributes for IHS facilities were obtained though the IHS GIS data portal (Indian Health Service, n.d.). The IHS dataset includes multiple attribute fields for all IHS facilities found throughout the United States. Figure 10 in the Appendix illustrates the IHS facilities locations in relation to reservations in the study area.

Fast-Food Restaurant, Department Stores, and Grocery Stores

Geospatial data for fast-food restaurant, department, and grocery store locations were obtained through the Business Analyst dataset (Esri, 2019) for ArcGIS. Data for the Business Analyst were provided by Infogroup. Locations were identified by selected querying using the North American Industry Classification System (NAICS) code 722,511 for fast-food restaurants (McDonalds, Wendy's, etc.), 452,210 for department stores (Wal-Mart, Target, etc.), and 445,110 for grocery stores (Safeway, Ralphs, etc.). Figure 13, Figure 14 and Figure 15 show the locations of department stores, grocery stores, and fast-food restaurants, respectively.

It is important to note that NAICS codes can conflict with alternative assessments of industry classification due to difficulties and errors in classifying industries and businesses (Caspi & Friebur, 2016; Wong et al.,2017). Each business is assigned only one NAICS code and the codes themselves are mutually exclusive. This can complicate the classification of businesses that provide more than one service or industry. For example, Target and Walmart stores often carry a wide range of groceries yet are classified as department stores instead of grocery stores. In Indian Country, the history of trading posts and general stores can create further complications

as evidenced by Washburn's General Merchandise in the town of Neah Bay located in the Makah Reservation. This store is not coded as a grocery store even though it is sells groceries.

Street Network

Street network data originated from Esri's *Street Map North America* dataset (Esri, 2017). This dataset includes major interstates, state highways, major roads, arterials, and streets located within the continent of North America. However, data on tribal roads is not always available to the public, thus the routes to and from tribal headquarters used to obtain the distances and drive times presented in this report may not represent the shortest distances. Given this limitation, there are compelling reasons to use Esri's dataset. Notably, the dataset is publicly available and covers all of North America. While tribal and local governments may have more accurate maps, these maps are often not available to the public. Further, such maps often only cover the spatial extent of the reservation thereby limiting the ability to identify routes between on-reservation sites and off-reservation sites without additional, time-consuming GIS processing. Figure 9 in the Appendix illustrates the street network data for the study area.

Results

The following section presents population data by both tribe and reservation as well as distances in miles and drive times from the study area reservations to interstate onramps, micropolitan populations centers, metropolitan population centers, IHS facilities, grocery stores, department stores, and fast-food restaurants.

Population

The 2018 NAHASDA population counts and enrollment data by each tribe in the study area are found in Table 2 in the Appendix. Using AIAN persons as a population measurement, the 2018 NAHASDA population data show that some of the least populated tribes within the study area include Skull Valley (29 people), Kootenai (84 people), Kalispell (206 people), and Flandreau (354 people). In total, the 2018 data shows that 12 of the 72 federally recognized tribes with reservations located within the study area (16.9%) have a population of less than 1,000 while nine of the tribes (12.7%) have a population of over 10,000 AIAN persons. Figure 3 in the Appendix illustrates the 2018 NAHASDA AIAN population by reservation.

The 2018 NAHASDA tribal enrollment data indicate that there are 22 tribes (31%) within the study area that have less than 1,000 enrolled members and 13 (18.3%) with enrollments of 10,000 or more members. Figure 4 in the Appendix shows the 2018 NAHASDA tribal enrollment in the study area. Since NAHASDA collects population data by tribe while the U.S. Census collects it by reservation, NAHASDA data includes enrolled tribal members who do not live on reservation.

Figure 7 in the Appendix shows population estimates of reservations in the study area from the 2012-2016 ACS. Data from the 2012-2016 ACS 5-Year Estimates identified eight reservations (11.3%) with populations of less than 100 people and 13 (18.3%) with populations greater than 10,000. Further, the ACS estimates report that nine reservations (12.7%) have total AIAN populations of less than 100 people and five (7%) have AIAN populations greater than 8,000 people. Figure 8 in the Appendix illustrates the AIAN population estimates of reservations in the study area form the 2012-2016 ACS.

Population counts from the 2010 Decennial Census indicate that 10 (7.1%) of the reservations had populations of less than 100 and 13 (18.3%) had populations larger than 10,000 people. 2010 Decennial Census population counts are shown in Figure 5 in the Appendix. Further, according to the 2010 census 10 (7.1%) of the 71 reservations had AIAN populations of less than 100 people and four (5.6%) had AIAN population counts over 8,000. 2010 AIAN population counts of reservations in the study area are illustrated in Figure 6 in the Appendix. Table 3 in the Appendix provides total population counts and AIAN population counts by reservation from the 2010 Decennial U.S. Census, and the 2012-2016 ACS 5-Year Estimates.

Interstate On-Ramps

The U.S. Interstate system might be one of the most important accessibility tools for rural American Indian populations. It provides a direct route to areas that contain essential resources such as medical services, grocery stores, clothing, etc. Being located further away from an interstate on-ramp may limit a population's access to a variety of amenities.

In this study, the average drive time to the nearest on-ramp from a reservation is about 81 minutes (standard deviation 69 minutes). Table 4 in the Appendix provides travel time and distance from tribal headquarters locations to interstate onramps by reservation. Some of the reservations with shortest times include the Puyallup (1.1 minutes), Crow (1.2 minutes), and Cowlitz (1.3 minutes) reservations. These plus an additional ten reservations have travel times under 10 minutes. The reservations with the highest travel times include the Southern Ute (251 minutes), Makah (202.8 minutes), and Fort Belknap (201.1 minutes) reservations. These three plus 13 more Reservations have a travel times over 150 minutes to the nearest interstate on ramp.

The average driving distance from the tribal headquarters of the 71 reservations to their nearest interstate on-ramps is about 55.6 miles (standard deviation 49.3 miles). Some of the

reservations with the shortest distances to an interstate on-ramp include the Puyallup (0.4 miles), Crow (0.5 miles), and the Cowlitz (0.7 miles) reservations. These plus nine additional reservations have driving distances under 5 miles to the nearest interstate. The reservations with the longest distances include the Southern Ute (181.7 miles), Fort Belknap (150.2 miles), and Wind River (142 miles for the Eastern Shoshone Tribal Headquarters, and 141.4 for the Northern Arapaho Tribal Headquarters). These, plus an additional 11 reservations have distances over 100 miles to the nearest interstate on-ramp.

Micropolitan (population > 10,000) Population Centers

Population centers provide a multitude of services and resources that people need to survive. Beyond merely surviving, population centers provide individuals with access to social activities and areas of interest. Small towns, or micropolitan areas provide a tier of amenities that are critical to the quality of life for rural populations.

Drive times and distances to the nearest micropolitan population centers are tricky to measure. At certain scales maps represent population centers (such as villages, towns, and cities) as points. However, when zoomed in to a closer scale, population centers are represented as polygonal areas. For GIS routing, a point along the street network is needed to represent the population center. Using ArcGIS, the polygons representing the full spatial extent of both metropolitan and micropolitan areas were converted into centroids. The tribal headquarters were then routed to these centroids. Therefore, these routes represent the shortest road network distance between tribal headquarters and the centers of micro- and metropolitan areas. It is important to note that, especially for some of the shorter travel times and distances, the headquarters may actually already be located within either a micropolitan or metropolitan polygon, but the usage of the centroids creates a travel time and distance anyway.

Table 5 provides the travel time and distance from tribal headquarters to the nearest micropolitan population center by reservation. The average drive time to the nearest micropolitan population center is 43.4 minutes (standard deviation 37.2). Some of the shortest times to the micropolitan centroids include the Northwestern Shoshone (1 minutes), Cow Creek (1.9 minutes), and Coos, Lower Umpqua, and Siuslaw (1.9 minutes) reservations. These plus 20 more reservations have a travel time of less than 15 minutes to the nearest micropolitan population center. Some of the reservations with the longest travel times include the Fort McDermitt (162.4 minutes), Burns Paiute (130.5 minutes), and the Uintah and Ouray (129 minutes) reservations. These three reservations are the only reservations in the study area that have a travel time of over 120 minutes to the nearest micropolitan population center.

The average driving distance to the nearest micropolitan population center was 76.4 miles (standard deviation 64.5). Reservations with the shortest distances include the Northwestern Shoshone (1.8 miles), Cow Creek (3.3 miles), and the Coos, Lower Umpqua, and Siuslaw (3.6 miles) reservations. These plus 13 other reservations were located within 20 miles of a micropolitan population center. Some of the reservations that are the furthest away from a micropolitan population center include the Northern Cheyenne (282.1 miles), Fort McDermitt (281.5 miles), and the Goshute (227.4 miles) reservations. These three plus 22 additional reservations are located over 100 miles from the nearest micropolitan population center centroid.

Metropolitan (population > 100,000) Population Centers

Much like micropolitan population centers, metropolitan population centers provide a multitude of services and resources people need to live and survive. The major difference being that larger population centers allow for a greater degree of specialization and niche formation than smaller population centers and rural areas. Residents who live far from metropolitan areas

will most likely have to travel much further to access specialized services or obtain certain goods. For example, rural residents will most likely have to travel much farther for the treatment of rare medical conditions than they would for more common conditions, whereas the travel distance for the city dweller will remain unchanged regardless of whether the condition is rare or common.

As mentioned earlier, distances between tribal headquarters and population centers were routed to the centroids of each population center's area. Though it is likely that many of the centroids roughly correspond to their population center's downtown, this was not confirmed by the research team.

Table 6 in the Appendix provides the travel time and distance from tribal headquarters to the nearest metropolitan population center by reservation. The average travel time to the nearest metropolitan population center is 126.6 minutes (standard deviation 91.7). Some of the reservations with the shortest travel times include the Cow Creek (3.3 minutes), Cowlitz (4.2 minutes), and the Lummi (16.7 minutes) reservations. In total, 10 of the 71 reservations within the study area have a travel time of less than 30 minutes to the nearest metropolitan population center. Some of the reservations with the longest travel times to a metropolitan population center include Rocky Boys (334.3 minutes), Wind River (330.9 minutes for the Northern Arapaho Tribal Headquarters, and 329.1 for the Eastern Shoshone Tribal Headquarters minutes), and the Fort Belknap (325.8 minutes) reservations. In total there are 33 reservations within the study area that have a travel time of over 120 minutes to the nearest metropolitan population center.

The average distance to the nearest metropolitan population center is 91.6 miles (standard deviation 67.2). Reservations with the shortest distances to metropolitan population centers include the Cow Creek (1.9 miles), Cowlitz (2.3 miles), and the Lummi (10.4 miles)

reservations. In total, there are 12 reservations (16.9%) whose headquarters are located within 25 miles of a metropolitan population center. Some of the reservations located farthest from a metropolitan population center include the Rocky Boy's (239.9 miles), Ute Mountain (239.7 miles), and the Wind River (235.5 miles for the Northern Arapaho Tribal Headquarters, and 234.2 miles for the Eastern Shoshone Tribal Headquarters) reservations. In total, there are 28 reservations (39.4%) located over 100 miles away from a metropolitan population center.

Indian Health Services Facilities

Table 7 in the Appendix provides the number of IHS facilities, travel time, travel distance, population per number of facilities, and reservation area per facility by reservation. Sixty-four reservations (90.1%) have at least one IHS funded health facility located within its borders. The seven (9.9%) that do not have an onsite health facility include, Grand Ronde Community, Northwestern Shoshone, Port Madison, Skull Valley, and Snoqualmie. In addition, 18 reservations (25.4%) have more than two IHS funded health facilities on reservation and six (Cheyenne River, Colville, Flathead, Fort Berthold, Pine Ridge, and Standing Rock) have five or more facilities.

The average travel time to the nearest IHS facility from the tribal headquarters of the 71 reservations within the study area is 11.2 minutes (standard deviation 32.2). A number of the study area reservations have IHS facilities connected to their tribal headquarters and therefore have travel times of zero minutes, such as the Rocky Boy's, Duck Valley, Kootenai, Shoalwater Bay, and Flandreau reservations. Reservations with the longest travel times include the Skull Valley (216.5 minutes), and Northwestern Shoshone (135.6 minutes) reservations. In total, there are only six reservations (8.5%) with a travel time of over 30 minutes to the nearest IHS facility within the study area.

In terms of distance from the nearest IHS facility, the average for all 71 reservations within the study area is 7.9 miles (standard deviation 27.4). Over half of the study area reservations (42 reservations) have an IHS facility located within a mile of their tribal headquarters. This may mean that the tribal headquarters and the heath center are located within the same building complex. Reservations with the longest distances to the nearest IHS facility include the Skull Valley (188 miles) and Northwestern Shoshone (119.7 miles) reservations. These three reservations are the ones located farther than 50 miles from an IHS facility.

In addition to drive times and distances, the number of IHS facilities located on each reservation was also computed. The majority of federally recognized American Indian reservations have at least one on-site IHS facility that provides on-site healthcare services. However, many of the larger reservations have multiple on-site facilities and there are also 15 reservations (21.1%) with none. Six reservations have five or more IHS facilities on site, including the Fort Berthold (7 facilities), Flathead (6 facilities), Cheyenne River (6 facilities), Pine Ridge (5 facilities), Colville (5 facilities), and Standing Rock (5 facilities) reservations. The average number of IHS facilities per reservation within the study area was 1.4 facilities (standard deviation 1.5).

Given the large variation in reservation sizes, two ratios were created to normalize the facility counts. First, the ratio of facility count per person was computed using the 2010 SF1 U.S. Census count. The 2010 U.S. Census numbers were chosen for this ratio because they represent the most complete assessment of population within the study area.

The second ratio created in an attempt to normalize the data was the reservation area (in square miles) per IHS facility. It was discovered by using this measure, that the average area per facility was 408.4 square miles (standard deviation 893.2). As with people per facility, the 14

reservations without an IHS facility were the lowest rated with a ratio of 0.0 per reservation. Some of the reservations with very high facilities per square miles were the Uintah and Ouray (6,823.9), Wind River (1,771.2), and the Fort Peck (1,685.8) Reservations. These reservations were some of the largest in the study area.

Grocery Stores

Grocery stores provide communities with food options that allow consumers to make healthy food choices. Like the IHS measures, grocery stores were quantified using travel time, distance, per reservation counts, per person ratios, and per square mile ratios. Table 8 in the Appendix provides the number of grocery stores, travel time, travel distance, population per grocery store, and reservation area per grocery store by reservation.

The average driving time from a tribal headquarters to a grocery store is 7 minutes (standard deviation 13.3). Some of the reservations with very short travel times to the nearest grocery store include the Rosebud (0 minutes), Northern Cheyenne (0.1 minute), Coeur d'Alene (0.1 minute), and Crow (0.2 minute) reservations. In total, there were 45 tribal headquarters (63.4% of study area reservations) that had a grocery store within a 5-minute drive. In addition, there were nine reservations (12.7%) with a travel time of over 15 minutes to the nearest grocery store, including the Goshute (85.7 minutes), Duck Valley (67.6 minutes), Hoh (25.2 minutes) and Pine Ridge (24.3 minutes) reservations.

The average distance to the nearest grocery store from the study area reservations was 13.5 miles (standard deviation 26.1). Ten reservations were located within one mile of a grocery store including the Rosebud (0 miles), Northern Cheyenne (0.2 miles), Coeur d'Alene (0.2 miles), and the Crow (0.4 miles) reservations. There are 14 tribal headquarters located over 20

miles away from the nearest grocery store including the Goshute (180.6 miles), Duck Valley (116 miles), Kalispel (59.8 miles), and the Hoh (34.4 miles) reservations.

On average, there are 1.5 grocery stores per reservation (standard deviation 2.5) within the study area. However, 41 reservations (57.7% of the study area reservations) lacked grocery stores within their boundaries, including the Lower Brule and Quileute. There were 24 reservations (33.8%) with multiple grocery stores located inside their borders, including the Yakama (11 stores), Flathead (10 stores), Nez Perce (9 stores), and Puyallup (8 stores) reservations.

Using the ratio of people per facility, in this case people per grocery store, it was determined that the average number of people per grocery store for all of the reservations within the study area is 1,535.2 (standard deviation 2218.3). The lowest ratio values, naturally, belong to the 41 reservations that do not have a grocery store. Some of the highest ratio values belong to the Uintah and Ouray (8,123), Port Madison (7,640), and the Pine Ridge (6,278) Reservations. In total there were 28 reservations with a ratio value higher than 1,000 people per grocery store.

Examining the reservation area per store, it was determined that, on average, the reservations within the study area had a grocery store every 264.3 square miles (standard deviation 519). Again, the 41 reservations that do not have a grocery store within their borders had the lowest ratios. Some of the highest ratios belonged to the Uintah and Ouray (2,274.6), Cheyenne River (2,225.5), and the Crow (1,818.6) Reservations. In total there were 8 reservations with a ratio over 1000.

As mentioned early, grocery store locations were determined using NAICS code data which come with a few limitations. Further, each business is assigned only one NAICS code and the

codes themselves are mutually exclusive. This can create complications for businesses that provide more than one service or industry, as noted earlier in the Target, Walmart, and Wahsburn's General Merchandise examples described in the Fast-Food Restaurant, Department Stores, and Grocery Stores section on pages 7-8.

Department Stores

Department stores such as Wal-Mart and Target, provide a variety of essential resources at a single centralized location. These locations may be especially important to rural communities, due to the variety of services and resources that they offer. Department store accessibility was quantified using driving time, distance, and reservation counts. Table 9 in the Appendix provides the number of department stores, travel time, travel distance, population per department store, and reservation area per department store by reservation.

The average drive time from the tribal headquarters of the 71 reservations to a department store is 20.7 minutes (standard deviation 22.4). In total, there are 33 reservations (46.5%) within a 10-minute drive of a department store, including the Cowlitz (0.3 minutes), Blackfeet (0.4 minutes), Coquille (0.9 minutes), and the Coos, Lower Umpqua, and Siuslaw (1.1 minutes) reservations. There are 15 reservations with drive times of over 30 minutes to the nearest department store including the Duck Valley (96.1 minutes), Goshute (85.8 minutes), Fort McDermitt (74.9 minutes), and the Makah (71.6 minutes) reservations.

The average distance to the nearest department store for the reservation headquarters within the study area is 37.3 miles (standard deviation 39.4). There are 18 tribal headquarters within 10 miles of a department store, including the Cowlitz (0.7 miles), Blackfeet (0.8 miles), and Coquille (2 miles) reservations. Another 18 reservations had distances of over 50 miles,

including the Goshute (180.8 miles), Duck Valley (164.9 miles), Makah (126.7 miles), and Hoh (121.6 miles) reservations.

On average, there are 0.4 (standard deviation 1) department stores per reservation within the study area. Fifty-seven reservations (80.3%) within the study area do not have a department store located within their boundaries. Five reservations (7%) had more than one department store within their borders including the Wind River (5 stores), Tulalip (3 stores), and Uintah and Ouray (2 stores) reservations.

The average amount of people per department store for all of the reservations within the study area is 3,033.6 (standard deviation 8206.2). The lowest ratio values belong to the 57 reservations that do not have a department store on reservation. Some of the highest ratio values belong to the Puyallup (46,816), Yakama Nation (31,272), and the Flathead (28,359) Reservations. In total there were 9 reservations with a ratio value higher than 10,000.

The last method used when examining the department store data was miles per facility. On average reservations within the study area had 353.9 (standard deviation 917) square miles for every department store. Again, the 57 reservations that do not have a department store within their borders had the lowest ratios. The highest ratios belong to the Pine Ridge (4,365.3), Uintah and Ouray (3,411.9), and the Fort Peck (3,371.7) Reservations. In total there were 9 reservations with a ratio of at least 1,000.

Fast-Food Restaurants

The presence of fast-food restaurants has been correlated with a range of negative health impacts (Currie et al., 2010), many of which disproportionately affect American Indian populations (Indian Health Service, n.d.). As with department stores and grocery stores, accessibility was

quantified using travel time, distance, and per reservation counts. Table 10 in the Appendix provides the number of fast-food restaurants, travel time, travel distance, population per fast-food restaurant, and reservation area per fast-food restaurant by reservation.

The average travel time from the tribal headquarters to a fast-food restaurant is 5.9 minutes (standard deviation 12.1). In total, there are 54 tribal headquarters (76%) within a 5-minute drive of a fast-food restaurant, including some (the Duck Valley, Coeur d'Alene, and Turtle Mountain reservations) that are less than 30 seconds away indicating that the tribal headquarters and the restaurant are located on the same block, if not the same building. In contrast, 12 tribal headquarters are located 10 or more minutes away including the Goshute (73.4 minutes), Fort McDermitt (63.8 minutes), and the Lower Brule (22.7 minutes) reservations.

The average distance to a fast-food restaurant from all tribal headquarters within the study area was 12.1 mile (standard deviation 26). This average is positively skewed by the small number of reservations that are located far from fast-food restaurants. Though only 11 tribal headquarters (15.5%) are located 20 miles or more from the nearest restaurant, some headquarters like those for the Goshute (157.6 miles), Fort McDermitt (142.3 miles), and Lower Brule (50.7 miles) reservations are much farther away. Conversely, 19 headquarters were located with one mile, with Duck Valley, Coeur d'Alene, and Turtle Mountain reservations being located much closer.

The close proximities between headquarters and fast-food restaurants suggests that reservations may contain more fast-food restaurants than any of the other destinations analyzed in this report. On average, there were 5.4 restaurants (standard deviation 11.3) per reservation in the study area. However, there was quite a bit of variability in the study area with 28 reservations

(39.4%) having no restaurants in their borders and 16 (22.5%) with five or more, such as the Puyallup (60 restaurants), Flathead (43 restaurants) and Wind River (35 restaurants) reservations.

On average, the people per facility ratio is 1,001.2 (standard deviation 1562.4). Twenty-eight reservations do not have any fast-food restaurants. Reservations with the highest ratios include the Crow (6,863), Turtle Mountain (6,341), and Rosebud (5,434.5) Reservations. In total, there are 22 reservations with a people per facility ratio of over 1,000.

The last method used with this dataset is miles per fast-food restaurant. On average, the reservations within the study area have 200.2 (standard deviation 498.5) miles per every fast-food restaurant. Again, the lowest ratios are for the 28 reservations that do not have a fast-food restaurant. Some of the reservations with the highest ratios include the Crow (3,637.2), Cheyenne River (1,112.7), and the Warm Springs (1,029.8) Reservations. In total, there are 9 reservations with a ratio over 500 miles per facility.

Discussion and Conclusion

These findings further support what is common knowledge in Indian Country: that there is massive variation between reservations and between the different communities who live on those reservations. For example, there are 17 fast-food restaurants on the Nez Perce Reservation and only one on the Kootenai Reservation, however the Nez Perce Reservation has an additional 1,213.5 square miles. In addition, the Flathead Reservation has six IHS facilities and the Snoqualmie Reservation has none, but the Flathead Reservation is home to an additional 28,359 people (U.S. Census, 2010). Complicating matters is Snoqualmie's location within the greater Seattle metropolitan area (35.3 miles away from Seattle) while the Flathead Reservation is in rural western Montana, about 80 miles from the nearest metropolitan population center. Being

located along a major interstate, as well as significantly closer to a metropolitan population center completely changes the level of accessibility to a variety of healthcare resources for reservation populations.

To address these issues, the data was normalized by creating ratios: count of people per facility and number of square miles per facility. While these ratios make the data more comparable, differences between reservations should not be taken lightly.

The measures of travel times and distances also present some challenges. One of the main issues is that the time and distance measures are based on the physical locations of the tribal headquarters. While these measures may work well with reservations that have less land area, they do not work as well for very large reservations, especially reservations that tend to have more than one population center, or populations that are spread out over large areas of land.

The goal of this research was to measure access to select essential resources within the reservations of the study area. The concepts of *access* and *essential resources* are complicated and idiosyncratic. This is especially true when considering healthcare accessibility. Healthcare is a very personalized resource that may require highly specialized services depending upon the individual. This is one of the reasons why having travel times and distances to the nearest micropolitan and metropolitan areas is very important. Both of these destinations provide generalized measures of access for a variety of specialized resources. In healthcare, resources like cancer treatment centers, cardiologists, diabetic centers, etc. may not be available at every IHS facility, but may be available in the closest small town or large city. Proximity to IHS facilities is also not a catch all measurement for all health conditions. There are instances where patients need to travel across the country to see a doctor who specializes in their specific aliment,

but it does provide some context for the possible level of access to many regional resources, both in healthcare and general goods.

The data presented here can serve as a starting point for estimating levels of locational accessibility for a variety of essential resources. Though not an all-inclusive list of resources important to individual tribal entities, this report presents a collection of measures that may lead to a larger conversation of the unique strengths and challenges provided by each reservation's location and geography. Accessibility and mobility are complicated concepts and Tribal leaders should take the information presented within this report with these limitations in mind.

As previously stated, this report is an overview of multiple datasets designed to provide tribal leaders with individual measures of locational accessibility to primary resource locations. There are many factors that affect locational accessibility, including both geographic and socioeconomic factors. Some reservations have specific programs that provide additional resource availability to their populations, as well as various transportation programs that provide increased mobility for reservation populations. Hopefully, these data will provide some insight on primary resource accessibility for each of these 71 reservations.

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Appendix

All of the tables and figures referenced in this document may be found on the following pages.

Table 1: Tribes and reservations in study area[1]

Tribe	*Reservation*	*State*	*Sq. Mi.*
Blackfeet	Blackfeet Indian	MT	2453.88
Burns Paiute	Burns Paiute Indian Colony	OR	19.04
Celilo Village	Celilo Village	OR	0.18
Confederated Tribes of the Chehalis Reservation	Chehalis	WA	7.48
Cheyenne River Sioux	Cheyenne River	SD	4450.92
Coeur D'Alene	Coeur d'Alene	ID	544.90
Confederated Tribes of the Colville Reservation	Colville	WA	2229.65
Confederated Tribes of Coos, Lower Umpqua and Siuslaw	Coos, Lower Umpqua, and Siuslaw	OR	0.23
Coquille	Coquille	OR	10.14
Cow Creek Band of Umpqua Tribe of Indians	Cow Creek	OR	7.10
Cowlitz	Cowlitz	WA	0.26
Crow Creek Sioux	Crow Creek	SD	463.48
Crow	Crow	MT	3637.15
Shoshone-Paiute Tribes	Duck Valley	NV	453.71
Flandreau Santee Sioux	Flandreau	SD	3.51
Confederated Salish & Kootenai	Flathead	MT	2092.17
Fort Belknap	Fort Belknap	MT	1039.23
Three Affiliated Tribes of the Fort Berthold Reservation	Fort Berthold	ND	1610.88
Shoshone-Bannock	Fort Hall	ID	857.49
Fort McDermitt Paiute and Shoshone	Fort McDermitt	NV	54.52
Assiniboine & Sioux	Fort Peck	MT	3371.69
Confederated Tribes of the Goshute Reservation	Goshute	UT	187.83
Confederated Tribes of the Grand Ronde Community	Grand Ronde Community	OR	17.73
Hoh	Hoh	WA	1.39
Jamestown S'Klallam	Jamestown S'Klallam	WA	0.46
Kalispel	Kalispel	WA	10.98
Klamath	Klamath	OR	0.50

Kootenai	Kootenai	ID	4.63
Sisseton-Wahpeton Oyate	Lake Traverse	SD	1522.40
Lower Brule Sioux	Lower Brule	SD	391.31
Lower Elwha	Lower Elwha	WA	2.85
Lummi	Lummi	WA	38.47
Makah	Makah	WA	48.00
Muckleshoot	Muckleshoot	WA	6.23
Nez Perce	Nez Perce	ID	1218.10
Nisqually	Nisqually	WA	8.34
Nooksack	Nooksack	WA	4.60
Northern Cheyenne	Northern Cheyenne	MT	713.20
Northwestern Band of Shoshone Nation	Northwestern Shoshone	UT	0.30
Paiute Indian Tribe of Utah	Paiute (UT)	UT	50.77
Oglala Sioux	Pine Ridge	SD	4365.33
Port Gamble S'Klallam	Port Gamble	WA	2.53
Suquamish	Port Madison	WA	12.30
Puyallup	Puyallup	WA	29.87
Quileute	Quileute	WA	1.66
Quinault	Quinault	WA	329.34
Chippewa Cree Indians of the Rocky Boy's Reservation	Rocky Boy's	MT	174.88
Rosebud Sioux Tribe of the Rosebud Indian Reservation	Rosebud	SD	1980.90
Sauk-Suiattle	Sauk-Suiattle	WA	0.07
Shoalwater Bay	Shoalwater Bay	WA	1.69
Confederated Tribes of Siletz Indians	Siletz	OR	7.43
Skokomish	Skokomish	WA	8.56
Skull Valley Band of Goshute Indians	Skull Valley	UT	28.16
Snoqualmie	Snoqualmie	WA	0.09
Southern Ute	Southern Ute	CO	1066.07
Spirit Lake	Spirit Lake	ND	406.88
Spokane	Spokane	WA	255.14

Squaxin Island	Squaxin Island	WA	3.43
Standing Rock Sioux Tribe	Standing Rock	ND	3698.28
Stillaguamish	Stillaguamish	WA	0.71
Swinomish	Swinomish	WA	21.49
Tulalip	Tulalip	WA	53.25
Turtle Mountain Band of Chippewa Indians	Turtle Mountain	ND	242.96
Ute Indian Tribe of the Uintah & Ouray Reservation	Uintah and Ouray	UT	6823.85
Confederated Tribes of the Umatilla Indian Reservation	Umatilla	OR	272.88
Upper Skagit	Upper Skagit	WA	0.18
Ute Mountain Ute	Ute Mountain	CO	901.81
Confederated Tribes of the Warm Springs Reservation	Warm Springs	OR	1029.84
Eastern Shoshone	Wind River	WY	3542.33
Northern Arapaho	Wind River	WY	3542.33
Confederated Tribes and Bands of the Yakama Nation	Yakama Nation	WA	2212.60
Yankton Sioux	Yankton	SD	686.20
		Average	784
		Standard Deviation	4068
		Median	2833
		Interquartile Range	4379

Footnotes: (1) U.S. Census (2018a).

Table 2: NAHASDA Population Counts by Tribe

Tribe	*Reservation*	*State*	*AIAN Persons 2018*[1]	*Enrollment 2018*[2]
Blackfeet	Blackfeet Indian	MT	9136	17138
Burns Paiute	Burns Paiute Indian Colony	OR	410	410
Celilo Village	Celilo Village	OR	N/A	N/A
Confederated Tribes of the Chehalis Reservation	Chehalis	WA	1660	830
Cheyenne River Sioux	Cheyenne River	SD	6378	15376
Coeur D'Alene	Coeur d'Alene	ID	1337	1968
Confederated Tribes of the Colville Reservation	Colville	WA	10112	9353
Confederated Tribes of Coos, Lower Umpqua and Siuslaw	Coos, Lower Umpqua, and Siuslaw	OR	2288	1144
Coquille	Coquille	OR	2106	1053
Cow Creek Band of Umpqua Tribe of Indians	Cow Creek	OR	3426	1713
Cowlitz	Cowlitz	WA	7708	3854
Crow Creek Sioux	Crow Creek	SD	1962	3507
Crow	Crow	MT	7381	11407
Shoshone-Paiute Tribes	Duck Valley	NV	4060	2030
Flandreau Santee Sioux	Flandreau	SD	354	723
Confederated Salish & Kootenai	Flathead	MT	10401	8032
Fort Belknap	Fort Belknap	MT	2833	6304
Three Affiliated Tribes of the Fort Berthold Reservation	Fort Berthold	ND	5864	15013
Shoshone-Bannock	Fort Hall	ID	3962	5893
Fort McDermitt Paiute and Shoshone	Fort McDermitt	NV	2058	1029
Assiniboine & Sioux	Fort Peck	MT	7341	13141
Confederated Tribes of the Goshute Reservation	Goshute	UT	1060	530
Confederated Tribes of the Grand Ronde Community	Grand Ronde Community	OR	10544	5272
Hoh	Hoh	WA	381	252
Jamestown S'Klallam	Jamestown S'Klallam	WA	1154	577
Kalispel	Kalispel	WA	206	433
Klamath	Klamath	OR	4878	4722
Kootenai	Kootenai	ID	84	135
Sisseton-Wahpeton Oyate	Lake Traverse	SD	4530	11763

Lower Brule Sioux	Lower Brule	SD	1438	3036
Lower Elwha	Lower Elwha	WA	1968	984
Lummi	Lummi	WA	10026	5013
Makah	Makah	WA	1200	2534
Muckleshoot	Muckleshoot	WA	1435	1929
Nez Perce	Nez Perce	ID	2978	3338
Nisqually	Nisqually	WA	1568	784
Nooksack	Nooksack	WA	2215	1820
Northern Cheyenne	Northern Cheyenne	MT	4842	10496
Northwestern Band of Shoshone Nation	Northwestern Shoshone	UT	932	466
Paiute Indian Tribe of Utah	Paiute (UT)	UT	1682	841
Oglala Sioux	Pine Ridge	SD	17386	43146
Port Gamble S'Klallam	Port Gamble	WA	2140	1070
Suquamish	Port Madison	WA	1726	863
Puyallup	Puyallup	WA	9558	4779
Quileute	Quileute	WA	417	793
Quinault	Quinault	WA	5426	2713
Chippewa Cree Indians of the Rocky Boy's Reservation	Rocky Boy's	MT	3437	6849
Rosebud Sioux Tribe of the Rosebud Indian Reservation	Rosebud	SD	10128	26237
Sauk-Suiattle	Sauk-Suiattle	WA	446	223
Shoalwater Bay	Shoalwater Bay	WA	670	335
Confederated Tribes of Siletz Indians	Siletz	OR	10160	5080
Skokomish	Skokomish	WA	1500	750
Skull Valley Band of Goshute Indians	Skull Valley	UT	29	162
Snoqualmie	Snoqualmie	WA	1042	597
Southern Ute	Southern Ute	CO	1677	1420
Spirit Lake	Spirit Lake	ND	3749	5927
Spokane	Spokane	WA	5742	2871
Squaxin Island	Squaxin Island	WA	2170	1085
Standing Rock Sioux Tribe	Standing Rock	ND	13467	29852
Stillaguamish	Stillaguamish	WA	403	247
Swinomish	Swinomish	WA	1674	837
Tulalip	Tulalip	WA	6350	4622

Turtle Mountain Band of Chippewa Indians	Turtle Mountain	ND	5864	15013
Ute Indian Tribe of the Uintah & Ouray Reservation	Uintah and Ouray	UT	3399	3174
Confederated Tribes of the Umatilla Indian Reservation	Umatilla	OR	4619	3083
Upper Skagit	Upper Skagit	WA	600	928
Ute Mountain Ute	Ute Mountain	CO	1858	2070
Confederated Tribes of the Warm Springs Reservation	Warm Springs	OR	3909	5341
Eastern Shoshone	Wind River	WY	3092	3994
Northern Arapaho	Wind River	WY	5767	10157
Confederated Tribes and Bands of the Yakama Nation	Yakama Nation	WA	20334	10167
Yankton Sioux	Yankton	SD	3152	8300
		Average	**4166**	**5317.3**
		Standard Deviation	**4096.5**	**7433.1**
		Median	**2833**	**2713**
		Interquartile Range	**4429**	**5467**

Footnotes:
1). U.S. Census (2018a).
2). U.S. Department of Housing and Urban Development (n.d); includes tribal members who live off reservation.

Table 3: U.S. Census Population Counts and American Community Survey Population Estimates by Reservation

Reservation	*State*	*Total Population 2010*[1]	*AIAN 2010*[1]	*Total Population 2016*[2]	*AIAN 2016*[2]
Blackfeet Indian	MT	10405	8944	10842	8631
Burns Paiute Indian Colony	OR	128	116	142	119
Celilo Village	OR	74	66	58	53
Chehalis	WA	649	333	834	471
Cheyenne River	SD	8090	6067	8459	6421
Coeur d'Alene	ID	6760	1247	7064	1305
Colville	WA	7687	4616	7478	3923
Coos, Lower Umpqua, and Siuslaw	OR	47	19	95	62
Coquille	OR	323	140	388	137
Cow Creek	OR	104	41	182	45
Cowlitz	WA	N/A	N/A	N/A	N/A
Crow Creek	SD	2010	1808	2190	1920
Crow	MT	6863	5322	7120	5441
Duck Valley	NV	1309	1215	1450	1240
Flandreau	SD	418	349	436	340
Flathead	MT	28359	7042	28938	8181
Fort Belknap	MT	2851	2704	3020	2781
Fort Berthold	ND	4238	3587	4399	3666
Fort Hall	ID	5767	3558	6061	3879
Fort McDermitt	NV	334	313	482	451
Fort Peck	MT	10008	6714	10433	6427
Goshute	UT	143	118	122	104
Grand Ronde Community	OR	434	257	448	263
Hoh	WA	116	99	153	115
Jamestown S'Klallam	WA	11	5	30	4

Kalispel	WA	231	185	285	225
Klamath	OR	26	15	43	23
Kootenai	ID	82	65	61	49
Lake Traverse	SD	10922	4072	11269	4484
Lower Brule	SD	1505	1337	1531	1423
Lower Elwha	WA	609	480	758	607
Lummi	WA	4706	2447	5428	2683
Makah	WA	1414	1066	1590	1318
Muckleshoot	WA	3870	1242	4010	1083
Nez Perce	ID	18437	2310	18754	2490
Nisqually	WA	575	342	735	431
Nooksack	WA	884	517	1184	755
Northern Cheyenne	MT	4789	4406	4814	4359
Northwestern Shoshone	UT	0	0	0	0
Paiute (UT)	UT	273	239	322	264
Pine Ridge	SD	18834	16580	19698	16513
Port Gamble	WA	682	561	560	422
Port Madison	WA	7640	626	7832	1161
Puyallup	WA	46816	1282	49416	1161
Quileute	WA	460	370	433	358
Quinault	WA	1408	1038	1159	892
Rocky Boy's	MT	3323	3221	3745	3581
Rosebud	SD	10869	9617	11324	8907
Sauk-Suiattle	WA	71	43	69	59
Shoalwater Bay	WA	82	52	102	60
Siletz	OR	506	347	685	401
Skokomish	WA	730	494	934	654
Skull Valley	UT	23	22	33	13
Snoqualmie	WA	0	0	0	0
Southern Ute	CO	12153	1388	13077	1508
Spirit Lake	ND	8217	6205	8612	6540

Spokane	WA	2096	1661	2064	1485
Squaxin Island	WA	431	265	573	287
Standing Rock	ND	8669	8321	9303	8897
Stillaguamish	WA	4	0	13	0
Swinomish	WA	3010	681	2843	500
Tulalip	WA	10631	2469	10064	1764
Turtle Mountain	ND	6341	4556	7435	4964
Uintah and Ouray	UT	24369	2951	25902	3175
Umatilla	OR	3031	1419	2782	1070
Upper Skagit	WA	220	165	259	212
Ute Mountain	CO	1742	1652	1354	1189
Warm Springs	OR	4012	3569	4548	4044
Wind River[3]	WY	26490	7798	27045	7665
Yakama Nation	WA	31272	7239	31466	7259
Yankton	SD	6465	2878	6700	2949
Average		**5211.0**	**2218.5**	**5428.9**	**2263.7**
Standard Deviation		**8328.3**	**3003.5**	**8649.8**	**3027.6**
Median		**1505.0**	**1066.0**	**1531.0**	**1083.0**
Interquartile Range		**7389.3**	**3380.8**	**7253.8**	**3497.5**

Footnotes:

1). U.S. Census Bureau (2010).

2). U.S. Census Bureau (2018b).

3) U.S. Census Data is counted by Reservation not tribe. This makes disaggregating population counts between the Eastern Shoshone Tribe and the Northern Arapaho Tribe impossible.

Table 4 Interstate On-Ramps

Reservation	*State*	*Travel Time (Min)*[1]	*Distance (Mi)*[1]
Blackfeet Indian	MT	77.9	57.9
Burns Paiute Indian Colony	OR	181.8	133.8
Celilo Village	OR	1.8	0.7
Chehalis	WA	14.4	9.4
Cheyenne River	SD	141.0	85.9
Coeur d'Alene	ID	45.7	34.0
Colville	WA	144.3	95.3
Coos, Lower Umpqua, and Siuslaw	OR	113.9	83.9
Coquille	OR	110.1	82.4
Cow Creek	OR	2.5	1.2
Cowlitz	WA	1.3	0.7
Crow Creek	SD	35.9	20.7
Crow	MT	1.2	0.5
Duck Valley	NV	165.6	96.3
Flandreau	SD	14.9	8.3
Flathead	MT	69.6	51.9
Fort Belknap	MT	201.1	150.2
Fort Berthold	ND	157.8	91.8
Fort Hall	ID	4.0	2.3
Fort McDermitt	NV	100.8	75.0
Fort Peck	MT	149.7	111.8
Goshute	UT	197.6	118.9
Grand Ronde Community	OR	49.1	36.5
Hoh	WA	170.5	127.3
Jamestown S'Klallam	WA	47.9	35.8
Kalispel	WA	104.0	52.3
Klamath	OR	130.4	97.4
Kootenai	ID	110.6	80.3
Lake Traverse	SD	12.8	5.3
Lower Brule	SD	36.4	17.2
Lower Elwha	WA	93.9	67.4
Lummi	WA	10.6	5.7
Makah	WA	202.8	131.4
Muckleshoot	WA	12.4	5.9
Nez Perce	ID	153.5	114.4
Nisqually	WA	12.6	7.0
Nooksack	WA	23.0	14.0
Northern Cheyenne	MT	57.7	42.6
Northwestern Shoshone	UT	5.9	3.2

Paiute (UT)	UT	3.3	1.6
Pine Ridge	SD	138.4	88.9
Port Gamble	WA	20.6	11.7
Port Madison	WA	14.0	7.9
Puyallup	WA	1.1	0.4
Quileute	WA	176.0	127.8
Quinault	WA	119.4	80.6
Rocky Boy's	MT	153.2	102.2
Rosebud	SD	75.8	51.4
Sauk-Suiattle	WA	63.7	36.0
Shoalwater Bay	WA	105.7	66.3
Siletz	OR	92.3	59.7
Skokomish	WA	34.0	25.1
Skull Valley	UT	18.1	10.4
Snoqualmie	WA	3.3	1.6
Southern Ute	CO	251.0	181.7
Spirit Lake	ND	123.5	89.1
Spokane	WA	67.3	39.5
Squaxin Island	WA	12.7	7.8
Standing Rock	ND	125.6	73.0
Stillaguamish	WA	3.6	1.6
Swinomish	WA	20.1	12.6
Tulalip	WA	8.9	5.0
Turtle Mountain	ND	165.1	123.5
Uintah and Ouray	UT	151.0	113.8
Umatilla	OR	4.8	2.5
Upper Skagit	WA	15.1	8.7
Ute Mountain	CO	168.0	124.2
Warm Springs	OR	74.7	55.4
Wind River (tribal average)	WY	189.7	141.7
Eastern Shoshone		190.1	142.0
Northern Arapaho		189.3	141.4
Yakama Nation	WA	8.0	4.2
Yankton	SD	67.9	47.2
Average		**81.0**	**55.6**
Standard Deviation		**69.0**	**49.3**
Median		**68.8**	**49.3**
Interquartile Range		**130.4**	**86.6**

Footnotes
1). Travel time and distance calculated using data from Esri (2017) and the National Tribal Geographic Information Support Center (2017).

Table 5 Micropolitan Population Centers

Reservation	*State*	*Travel Time (Min)[1]*	*Distance (Mi)[1]*
Blackfeet Indian	MT	94.9	154.2
Burns Paiute Indian Colony	OR	130.5	181.9
Celilo Village	OR	13.3	16.6
Chehalis	WA	15.1	26.6
Cheyenne River	SD	91.1	166.3
Coeur d'Alene	ID	34.0	45.3
Colville	WA	92.4	144.9
Coos, Lower Umpqua, and Siuslaw	OR	1.9	3.6
Coquille	OR	2.1	4.3
Cow Creek	OR	1.9	3.3
Cowlitz	WA	2.2	5.1
Crow Creek	SD	60.0	102.9
Crow	MT	58.9	67.6
Duck Valley	NV	97.4	167.8
Flandreau	SD	26.7	61.9
Flathead	MT	55.0	96.8
Fort Belknap	MT	46.8	63.7
Fort Berthold	ND	77.8	126.6
Fort Hall	ID	11.9	27.4
Fort McDermitt	NV	162.4	281.5
Fort Peck	MT	75.6	101.6
Goshute	UT	112.3	227.4
Grand Ronde Community	OR	22.5	36.9
Hoh	WA	71.1	123.3
Jamestown S'Klallam	WA	24.9	54.2
Kalispel	WA	52.0	103.3
Klamath	OR	26.2	36.9
Kootenai	ID	80.2	110.2
Lake Traverse	SD	54.9	102.4
Lower Brule	SD	62.1	115.1
Lower Elwha	WA	6.2	12.7
Lummi	WA	8.2	15.9
Makah	WA	70.4	124.0
Muckleshoot	WA	7.4	13.1
Nez Perce	ID	11.5	26.2
Nisqually	WA	8.0	13.9
Nooksack	WA	15.3	26.1
Northern Cheyenne	MT	96.5	282.1
Northwestern Shoshone	UT	1.0	1.8

Paiute (UT)	UT	2.1	3.9
Pine Ridge	SD	82.1	144.3
Port Gamble	WA	12.8	78.0
Port Madison	WA	13.7	80.4
Puyallup	WA	2.1	4.0
Quileute	WA	67.3	119.3
Quinault	WA	38.7	64.6
Rocky Boy's	MT	26.5	57.4
Rosebud	SD	107.2	159.1
Sauk-Suiattle	WA	36.4	63.5
Shoalwater Bay	WA	28.7	59.1
Siletz	OR	49.0	75.7
Skokomish	WA	30.6	43.1
Skull Valley	UT	8.6	16.3
Snoqualmie	WA	15.2	21.9
Southern Ute	CO	22.2	45.1
Spirit Lake	ND	85.3	130.8
Spokane	WA	41.4	88.0
Squaxin Island	WA	13.2	21.8
Standing Rock	ND	62.2	152.3
Stillaguamish	WA	9.4	14.9
Swinomish	WA	11.1	25.2
Tulalip	WA	5.1	8.7
Turtle Mountain	ND	84.9	136.7
Uintah and Ouray	UT	129.0	176.0
Umatilla	OR	6.9	10.5
Upper Skagit	WA	13.5	26.3
Ute Mountain	CO	60.0	82.6
Warm Springs	OR	42.0	58.0
Wind River (tribal average)	WY		
Eastern Shoshone		31.8	61.2
Northern Arapaho		30.4	57.7
Yakama Nation	WA	18.8	31.3
Yankton	SD	55.4	105.3
Average		**43.4**	**76.4**
Standard Deviation		**37.2**	**64.5**
Median		**31.2**	**61.6**
Interquartile Range		**57.5**	**95.5**

Footnotes:
1). Travel time and distance calculated using data from U.S. Census Bureau (2017), Esri (2017), and the National Tribal Geographic Information Support Center (2017).

Table 6 Metropolitan Population Centers

Reservation	*State*	*Travel Time (Min)[1]*	*Distance (Mi)[1]*
Blackfeet Indian	MT	169.0	117.2
Burns Paiute Indian Colony	OR	181.2	133.6
Celilo Village	OR	106.2	95.6
Chehalis	WA	35.8	27.6
Cheyenne River	SD	234.1	172.8
Coeur d'Alene	ID	45.2	33.9
Colville	WA	154.5	104.6
Coos, Lower Umpqua, and Siuslaw	OR	120.5	89.2
Coquille	OR	116.7	87.6
Cow Creek	OR	3.3	1.9
Cowlitz	WA	4.2	2.3
Crow Creek	SD	201.9	163.4
Crow	MT	88.6	69.6
Duck Valley	NV	222.2	142.3
Flandreau	SD	57.8	45.0
Flathead	MT	80.2	60.9
Fort Belknap	MT	325.8	217.4
Fort Berthold	ND	227.5	152.9
Fort Hall	ID	46.7	39.6
Fort McDermitt	NV	254.2	186.9
Fort Peck	MT	263.6	197.3
Goshute	UT	185.3	86.3
Grand Ronde Community	OR	45.6	33.9
Hoh	WA	179.6	133.5
Jamestown S'Klallam	WA	67.8	51.8
Kalispel	WA	103.3	52.1
Klamath	OR	141.2	104.9
Kootenai	ID	109.8	80.0
Lake Traverse	SD	175.0	151.4
Lower Brule	SD	207.2	170.9
Lower Elwha	WA	113.8	83.4
Lummi	WA	16.7	10.4
Makah	WA	222.7	147.4
Muckleshoot	WA	46.2	36.1
Nez Perce	ID	156.0	116.3
Nisqually	WA	22.0	12.8
Nooksack	WA	25.4	15.5
Northern Cheyenne	MT	147.5	113.7
Northwestern Shoshone	UT	31.8	23.1
Paiute (UT)	UT	61.4	54.0

Pine Ridge	SD	138.0	88.6
Port Gamble	WA	39.7	27.0
Port Madison	WA	33.2	23.2
Puyallup	WA	35.3	30.1
Quileute	WA	195.9	143.8
Quinault	WA	128.5	86.8
Rocky Boy's	MT	334.3	239.9
Rosebud	SD	225.2	187.0
Sauk-Suiattle	WA	78.8	54.6
Shoalwater Bay	WA	117.9	78.9
Siletz	OR	95.7	60.8
Skokomish	WA	43.0	31.2
Skull Valley	UT	82.1	66.2
Snoqualmie	WA	35.3	28.6
Southern Ute	CO	304.8	227.3
Spirit Lake	ND	147.6	104.3
Spokane	WA	72.9	43.6
Squaxin Island	WA	21.7	13.9
Standing Rock	ND	133.2	77.4
Stillaguamish	WA	25.4	19.9
Swinomish	WA	24.4	12.4
Tulalip	WA	42.7	34.2
Turtle Mountain	ND	236.6	176.8
Uintah and Ouray	UT	173.9	130.1
Umatilla	OR	108.5	79.4
Upper Skagit	WA	19.8	13.0
Ute Mountain	CO	305.7	239.7
Warm Springs	OR	78.5	58.1
Wind River (tribal average)	WY		
Eastern Shoshone		329.1	234.2
Northern Arapaho		330.9	235.5
Yakama Nation	WA	28.3	22.0
Yankton	SD	151.2	108.2
Average		**126.6**	**91.6**
Standard Deviation		**91.7**	**67.2**
Median		**111.8**	**79.7**
Interquartile Range		**140.7**	**106.2**

Footnotes:
1). Travel time and distance calculated using data from U.S. Census Bureau (2017), Esri (2017), and the National Tribal Geographic Information Support Center (2017).

Table 7 Indian Health Services Facilities

Reservation	*State*	*Travel Time (Min)*[1]	*Distance (Mi)*[1]	*# of Facilities*[2]	*People Per Facility*[3]	*Miles Per Facility*
Blackfeet Indian	MT	1.0	0.4	2	5202.5	1226.9
Burns Paiute Indian Colony	OR	0.3	0.1	1	128.0	19.0
Celilo Village	OR	94.0	70.6	0	0.0	0.0
Chehalis	WA	0.4	0.2	1	649.0	7.5
Cheyenne River	SD	0.8	0.3	6	1348.3	741.8
Coeur d'Alene	ID	0.3	0.2	1	6760.0	544.9
Colville	WA	5.0	2.7	5	1537.4	445.9
Coos, Lower Umpqua, and Siuslaw	OR	6.1	3.1	0	0.0	0.0
Coquille	OR	10.5	6.1	1	323.0	10.1
Cow Creek	OR	0.3	0.1	1	104.0	7.1
Cowlitz	WA	0.4	0.1	0	N/A	0.0
Crow Creek	SD	1.8	0.8	1	2010.0	463.5
Crow	MT	4.4	2.4	3	2287.7	1212.4
Duck Valley	NV	0.0	0.0	1	1309.0	453.7
Flandreau	SD	0.0	0.0	1	418.0	0.0
Flathead	MT	6.6	4.9	6	4726.5	348.7
Fort Belknap	MT	0.3	0.1	2	1425.5	519.6
Fort Berthold	ND	0.3	0.2	7	605.4	230.1
Fort Hall	ID	1.6	0.7	1	5767.0	857.5
Fort McDermitt	NV	0.4	0.2	0	0.0	0.0
Fort Peck	MT	1.9	0.9	2	5004.0	1685.8
Goshute	UT	49.9	28.9	0	0.0	0.0
Grand Ronde Community	OR	0.3	0.2	1	434.0	17.7
Hoh	WA	0.1	0.1	1	116.0	1.4
Jamestown S'Klallam	WA	11.9	8.3	0	0.0	0.0
Kalispel	WA	33.4	3.2	1	231.0	11.0

Klamath	OR	0.1	0.1	0	0.0	0.0
Kootenai	ID	0.0	0.0	1	82.0	4.6
Lake Traverse	SD	20.7	9.2	1	10922.0	1522.4
Lower Brule	SD	3.6	1.5	1	1505.0	391.3
Lower Elwha	WA	9.7	4.3	1	609.0	2.9
Lummi	WA	0.5	0.2	1	4706.0	38.5
Makah	WA	6.5	2.7	1	1414.0	48.0
Muckleshoot	WA	0.4	0.1	1	3870.0	6.2
Nez Perce	ID	0.4	0.2	2	9218.5	609.1
Nisqually	WA	0.1	0.0	1	575.0	8.3
Nooksack	WA	18.1	9.3	1	884.0	4.6
Northern Cheyenne	MT	2.0	0.9	1	4789.0	713.2
Northwestern Shoshone	UT	135.6	119.7	0	0.0	0.0
Paiute (UT)	UT	0.5	0.2	0	0.0	0.0
Pine Ridge	SD	30.8	23.1	5	3766.8	873.1
Port Gamble	WA	0.3	0.1	1	682.0	2.5
Port Madison	WA	18.8	11.0	0	0.0	0.0
Puyallup	WA	1.8	0.8	1	46816.0	29.9
Quileute	WA	2.3	1.2	1	460.0	1.7
Quinault	WA	0.6	0.3	2	704.0	164.7
Rocky Boy's	MT	0.0	0.0	2	1661.5	87.4
Rosebud	SD	3.5	1.4	3	3623.0	660.3
Sauk-Suiattle	WA	0.3	0.1	1	71.0	0.1
Shoalwater Bay	WA	0.0	0.0	0	0.0	0.0
Siletz	OR	0.1	0.0	1	506.0	7.4
Skokomish	WA	0.1	0.1	1	730.0	8.6
Skull Valley	UT	216.5	188.0	0	0.0	0.0
Snoqualmie	WA	19.9	12.5	0	0.0	0.0
Southern Ute	CO	0.4	0.2	1	12153.0	1066.1
Spirit Lake	ND	4.6	1.9	1	8217.0	406.9
Spokane	WA	0.5	0.2	1	2096.0	255.1

Squaxin Island	WA	26.5	18.3	0	0.0	0.0
Standing Rock	ND	0.4	0.2	5	1733.8	739.7
Stillaguamish	WA	11.0	6.1	0	0.0	0.0
Swinomish	WA	0.5	0.2	1	3010.0	21.5
Tulalip	WA	2.4	1.3	1	10631.0	53.2
Turtle Mountain	ND	4.3	2.9	1	6341.0	243.0
Uintah and Ouray	UT	6.8	3.5	1	24369.0	6823.9
Umatilla	OR	2.7	1.5	1	3031.0	272.9
Upper Skagit	WA	0.4	0.2	1	220.0	0.2
Ute Mountain	CO	1.7	0.7	1	1742.0	901.8
Warm Springs	OR	1.7	0.7	1	4012.0	1029.8
Wind River (average)	WY				13245.0	1771.2
Eastern Shoshone		0.5	0.2	2		
Northern Arapaho		2.8	1.7	2		
Yakama Nation	WA	0.3	0.2	3	10424.0	737.5
Yankton	SD	4.8	2.0	1	6465.0	686.2
Average		**11.2**	**7.9**	**1.4**	**3460.2**	**408.4**
Standard Deviation		**32.2**	**27.4**	**1.5**	**6706.9**	**893.2**
Median		**1.6**	**0.7**	**1.0**	**1309.0**	**29.9**
Interquartile Range		**6.1**	**2.9**	**0.0**	**4602**	**608.9**

Footnotes:
1). Travel time and distance calculated using data from Esri (2017) and the National Tribal Geographic Information Support Center (2017).
2). Indian Health Services (2018).
3). U.S. Census Bureau (2010).

Table 8 Grocery Stores

Reservation	*State*	*Travel Time (Min)[1]*	*Distance (Mi)[1]*	*# of Stores[2]*	*People Per Facility[3]*	*Miles Per Facility*
Blackfeet Indian	MT	0.4	0.8	5	2081.0	490.8
Burns Paiute Indian Colony	OR	3.4	7.5	0	0.0	0.0
Celilo Village	OR	8.0	15.7	0	0.0	0.0
Chehalis	WA	1.3	3.2	1	649.0	7.5
Cheyenne River	SD	19.8	28.4	2	4045.0	2225.5
Coeur d'Alene	ID	0.1	0.2	2	3380.0	272.4
Colville	WA	15.7	30.9	2	3843.5	1114.8
Coos, Lower Umpqua, and Siuslaw	OR	0.7	1.6	0	0.0	0.0
Coquille	OR	0.5	1.1	0	0.0	0.0
Cow Creek	OR	0.5	0.8	0	0.0	0.0
Cowlitz	WA	0.6	1.3	0	N/A	0.0
Crow Creek	SD	0.7	1.7	2	1005.0	231.7
Crow	MT	0.2	0.4	2	3431.5	1818.6
Duck Valley	NV	67.6	116.0	0	0.0	0.0
Flandreau	SD	0.9	2.2	0	0.0	0.0
Flathead	MT	0.6	1.4	10	2835.9	209.2
Fort Belknap	MT	4.1	6.2	0	0.0	0.0
Fort Berthold	ND	4.4	7.6	4	1059.5	402.7
Fort Hall	ID	2.5	5.3	1	5767.0	857.5
Fort McDermitt	NV	0.9	1.7	0	0.0	0.0
Fort Peck	MT	1.0	2.1	3	3336.0	1123.9
Goshute	UT	85.7	180.6	0	0.0	0.0
Grand Ronde Community	OR	1.3	2.2	0	0.0	0.0
Hoh	WA	25.2	34.4	0	0.0	0.0
Jamestown S'Klallam	WA	6.0	27.2	0	0.0	0.0
Kalispel	WA	18.0	59.8	0	0.0	0.0

Klamath	OR	0.6	1.0	0	0.0	0.0
Kootenai	ID	3.5	8.0	0	0.0	0.0
Lake Traverse	SD	7.6	17.8	5	2184.4	304.5
Lower Brule	SD	15.6	33.6	0	0.0	0.0
Lower Elwha	WA	6.5	13.2	0	0.0	0.0
Lummi	WA	2.9	5.8	0	0.0	0.0
Makah	WA	13.6	26.1	0	0.0	0.0
Muckleshoot	WA	6.2	10.9	0	0.0	0.0
Nez Perce	ID	0.7	1.6	9	2048.6	135.3
Nisqually	WA	4.3	7.8	0	0.0	0.0
Nooksack	WA	2.9	4.3	0	0.0	0.0
Northern Cheyenne	MT	0.1	0.2	1	4789.0	713.2
Northwestern Shoshone	UT	0.6	1.1	0	0.0	0.0
Paiute (UT)	UT	1.3	2.3	0	0.0	0.0
Pine Ridge	SD	24.3	33.1	3	6278.0	1455.1
Port Gamble	WA	3.9	6.7	0	0.0	0.0
Port Madison	WA	0.3	0.6	1	7640.0	12.3
Puyallup	WA	1.0	1.8	8	5852.0	3.7
Quileute	WA	15.8	27.3	0	0.0	0.0
Quinault	WA	0.8	1.9	4	352.0	82.3
Rocky Boy's	MT	11.3	27.2	1	3323.0	174.9
Rosebud	SD	0.0	0.0	4	2717.3	495.2
Sauk-Suiattle	WA	5.5	9.5	0	0.0	0.0
Shoalwater Bay	WA	5.7	11.2	0	0.0	0.0
Siletz	OR	0.2	0.5	0	0.0	0.0
Skokomish	WA	6.2	10.0	0	0.0	0.0
Skull Valley	UT	1.7	4.1	0	0.0	0.0
Snoqualmie	WA	2.9	5.4	0	0.0	0.0
Southern Ute	CO	1.2	2.3	2	6076.5	533.0
Spirit Lake	ND	8.2	16.1	2	4108.5	203.4
Spokane	WA	11.9	26.4	1	2096.0	255.1

Squaxin Island	WA	6.2	10.7	0	0.0	0.0
Standing Rock	ND	0.3	0.8	3	2889.7	1232.8
Stillaguamish	WA	4.5	8.8	0	0.0	0.0
Swinomish	WA	1.2	2.6	0	0.0	0.0
Tulalip	WA	2.2	3.8	2	5315.5	26.6
Turtle Mountain	ND	9.0	12.0	0	0.0	0.0
Uintah and Ouray	UT	1.2	1.9	3	8123.0	2274.6
Umatilla	OR	6.0	10.7	0	0.0	0.0
Upper Skagit	WA	3.6	7.4	0	0.0	0.0
Ute Mountain	CO	14.1	21.9	0	0.0	0.0
Warm Springs	OR	2.7	5.6	1	4012.0	1029.8
Wind River- Eastern Shoshone	WY	6.7	12.4	5	5298.0	708.5
Wind River- Northern Arapaho	WY	5.2	8.9	5		
Yakama Nation	WA	0.9	1.9	11	2842.9	201.1
Yankton	SD	1.9	4.4	4	1616.3	171.6
Average		**7.0**	**13.5**	**1.5**	**1535.2**	**264.3**
Standard Deviation		**13.3**	**26.1**	**2.5**	**2218.3**	**519.0**
Median		**2.9**	**5.7**	**0.0**	**0.0**	**0.0**
Interquartile Range		**5.8**	**11.3**	**2.0**	**2889.7**	**255.1**

Footnotes:
1). Travel time and distance calculated using data from Esri (2017) and the National Tribal Geographic Information Support Center (2017).
2). Esri (2019).
3). U.S. Census Bureau (2010).

Table 9 Department Stores

Reservation	*State*	*Travel Time (Min)*[1]	*Distance (Mi)*[1]	*# of Stores*[2]	*People Per Facility*[3]	*Miles Per Facility*
Blackfeet Indian	MT	0.4	0.8	1	10405.0	2453.9
Burns Paiute Indian Colony	OR	71.0	102.4	0	0.0	0.0
Celilo Village	OR	11.1	13.9	0	0.0	0.0
Chehalis	WA	13.7	24.6	0	0.0	0.0
Cheyenne River	SD	41.3	58.5	0	0.0	0.0
Coeur d'Alene	ID	33.7	45.0	0	0.0	0.0
Colville	WA	35.8	64.6	1	7687.0	2229.7
Coos, Lower Umpqua, and Siuslaw	OR	1.1	2.5	0	0.0	0.0
Coquille	OR	0.9	2.0	0	0.0	0.0
Cow Creek	OR	1.6	2.8	0	0.0	0.0
Cowlitz	WA	0.3	0.7	0	N/A	0.0
Crow Creek	SD	22.6	44.1	0	0.0	0.0
Crow	MT	13.4	30.3	0	0.0	0.0
Duck Valley	NV	96.1	164.9	0	0.0	0.0
Flandreau	SD	18.2	33.7	0	0.0	0.0
Flathead	MT	6.6	8.8	1	28359.0	2092.2
Fort Belknap	MT	42.8	58.1	0	0.0	0.0
Fort Berthold	ND	4.6	7.9	2	2119.0	805.4
Fort Hall	ID	8.2	19.6	0	0.0	0.0
Fort McDermitt	NV	74.9	100.3	0	0.0	0.0
Fort Peck	MT	21.6	29.3	1	10008.0	3371.7
Goshute	UT	85.8	180.8	0	0.0	0.0
Grand Ronde Community	OR	21.9	36.0	0	0.0	0.0
Hoh	WA	69.4	121.6	0	0.0	0.0
Jamestown S'Klallam	WA	7.5	29.2	0	0.0	0.0

Kalispel	WA	17.9	59.6	0	0.0	0.0
Klamath	OR	27.6	38.2	0	0.0	0.0
Kootenai	ID	5.5	10.4	0	0.0	0.0
Lake Traverse	SD	8.7	19.7	1	10922.0	1522.4
Lower Brule	SD	29.8	68.9	0	0.0	0.0
Lower Elwha	WA	7.5	15.4	0	0.0	0.0
Lummi	WA	5.9	11.8	0	0.0	0.0
Makah	WA	71.6	126.7	0	0.0	0.0
Muckleshoot	WA	7.4	12.9	0	0.0	0.0
Nez Perce	ID	12.3	27.5	1	18437.0	1218.1
Nisqually	WA	7.2	12.4	0	0.0	0.0
Nooksack	WA	13.4	22.9	0	0.0	0.0
Northern Cheyenne	MT	55.4	111.2	0	0.0	0.0
Northwestern Shoshone	UT	2.3	3.9	0	0.0	0.0
Paiute (UT)	UT	1.2	2.8	0	0.0	0.0
Pine Ridge	SD	21.9	29.4	1	18834.0	4365.3
Port Gamble	WA	12.7	22.1	0	0.0	0.0
Port Madison	WA	8.2	18.4	0	0.0	0.0
Puyallup	WA	2.1	5.0	1	46816.0	29.9
Quileute	WA	68.1	120.1	0	0.0	0.0
Quinault	WA	37.0	62.9	0	0.0	0.0
Rocky Boy's	MT	25.3	49.9	0	0.0	0.0
Rosebud	SD	37.5	77.9	0	0.0	0.0
Sauk-Suiattle	WA	21.3	46.6	0	0.0	0.0
Shoalwater Bay	WA	27.2	57.0	0	0.0	0.0
Siletz	OR	12.5	42.7	0	0.0	0.0
Skokomish	WA	9.0	21.1	0	0.0	0.0
Skull Valley	UT	8.9	18.7	0	0.0	0.0
Snoqualmie	WA	12.2	16.9	0	0.0	0.0
Southern Ute	CO	18.2	38.5	0	0.0	0.0
Spirit Lake	ND	15.2	28.2	0	0.0	0.0

Spokane	WA	29.0	69.0	0	0.0	0.0
Squaxin Island	WA	8.9	13.8	0	0.0	0.0
Standing Rock	ND	48.6	84.8	0	0.0	0.0
Stillaguamish	WA	5.1	8.9	0	0.0	0.0
Swinomish	WA	1.2	2.6	0	0.0	0.0
Tulalip	WA	5.2	9.2	3	3543.7	17.7
Turtle Mountain	ND	8.5	11.4	0	0.0	0.0
Uintah and Ouray	UT	6.9	9.5	2	12184.5	3411.9
Umatilla	OR	5.6	9.8	0	0.0	0.0
Upper Skagit	WA	3.9	7.2	0	0.0	0.0
Ute Mountain	CO	14.9	24.2	0	0.0	0.0
Warm Springs	OR	15.5	22.7	0	0.0	0.0
Wind River- Eastern Shoshone	WY	7.7	10.9	5	5298.0	708.5
Wind River- Northern Arapaho	WY	9.0	13.2	5		
Yakama Nation	WA	1.2	2.6	1	31272.0	2212.6
Yankton	SD	2.7	6.0	1	6465.0	686.2
Average		**20.7**	**37.3**	**0.4**	**3033.6**	**353.9**
Standard Deviation		**22.4**	**39.4**	**1.0**	**8206.2**	**917.0**
Median		**12.4**	**22.8**	**0.0**	**0.0**	**0.0**
Interquartile Range		**21.4**	**45.3**	**0.0**	**0.0**	**0.0**

Footnotes:
1). Travel time and distance calculated using data from Esri (2017) and the National Tribal Geographic Information Support Center (2017).
2). Esri (2019).
3). U.S. Census Bureau (2010).

Table 10 Fast-Food Restaurants

Reservation	*State*	*Travel Time (Min)[1]*	*Distance (Mi)[1]*	*# of Locations[2]*	*People Per Facility[2]*	*Miles Per Facility*
Blackfeet Indian	MT	0.4	0.8	16	650.3	153.4
Burns Paiute Indian Colony	OR	3.0	7.0	0	0.0	0.0
Celilo Village	OR	7.7	15.3	0	0.0	0.0
Chehalis	WA	1.1	2.6	3	216.3	2.5
Cheyenne River	SD	0.3	0.7	4	2022.5	1112.7
Coeur d'Alene	ID	0.0	0.0	3	2253.3	181.6
Colville	WA	15.7	30.5	3	2562.3	743.2
Coos, Lower Umpqua, and Siuslaw	OR	0.7	1.7	0	0.0	0.0
Coquille	OR	0.1	0.2	0	0.0	0.0
Cow Creek	OR	0.4	0.8	0	0.0	0.0
Cowlitz	WA	0.3	0.7	0	N/A	0.0
Crow Creek	SD	8.0	19.0	2	1005.0	231.7
Crow	MT	6.5	9.3	1	6863.0	3637.2
Duck Valley	NV	0.0	0.0	1	1309.0	453.7
Flandreau	SD	0.6	1.3	0	0.0	0.0
Flathead	MT	4.3	5.9	43	659.5	48.7
Fort Belknap	MT	4.0	6.1	0	0.0	0.0
Fort Berthold	ND	4.2	7.2	8	529.8	201.4
Fort Hall	ID	0.2	0.6	2	2883.5	428.7
Fort McDermitt	NV	63.8	142.3	0	0.0	0.0
Fort Peck	MT	1.0	1.8	8	1251.0	421.5
Goshute	UT	73.4	157.6	0	0.0	0.0
Grand Ronde Community	OR	1.7	2.7	0	0.0	0.0
Hoh	WA	0.2	0.3	1	116.0	1.4
Jamestown S'Klallam	WA	0.1	0.1	1	11.0	0.5
Kalispel	WA	1.6	29.7	2	115.5	5.5

Klamath	OR	0.6	1.0	0	0.0	0.0
Kootenai	ID	3.3	7.6	1	82.0	4.6
Lake Traverse	SD	7.1	17.1	15	728.1	101.5
Lower Brule	SD	22.7	50.7	0	0.0	0.0
Lower Elwha	WA	4.4	10.1	0	0.0	0.0
Lummi	WA	4.1	8.4	0	0.0	0.0
Makah	WA	3.2	7.3	2	707.0	24.0
Muckleshoot	WA	3.2	7.8	1	3870.0	6.2
Nez Perce	ID	0.7	1.6	17	1084.5	71.7
Nisqually	WA	4.4	7.7	0	0.0	0.0
Nooksack	WA	1.8	3.4	0	0.0	0.0
Northern Cheyenne	MT	0.3	0.7	1	4789.0	713.2
Northwestern Shoshone	UT	0.6	1.1	0	0.0	0.0
Paiute (UT)	UT	0.2	0.5	0	0.0	0.0
Pine Ridge	SD	21.9	29.4	8	2354.3	545.7
Port Gamble	WA	4.0	6.9	0	0.0	0.0
Port Madison	WA	0.3	0.5	3	2546.7	4.1
Puyallup	WA	0.1	0.2	60	780.3	0.5
Quileute	WA	15.3	26.0	0	0.0	0.0
Quinault	WA	1.1	2.4	3	469.3	109.8
Rocky Boy's	MT	13.1	31.6	0	0.0	0.0
Rosebud	SD	11.4	22.1	2	5434.5	990.5
Sauk-Suiattle	WA	5.4	9.2	0	0.0	0.0
Shoalwater Bay	WA	7.6	14.3	0	0.0	0.0
Siletz	OR	0.2	0.4	0	0.0	0.0
Skokomish	WA	1.4	2.4	2	365.0	4.3
Skull Valley	UT	0.9	1.6	0	0.0	0.0
Snoqualmie	WA	0.9	2.2	2	0.0	0.0
Southern Ute	CO	0.3	0.6	6	2025.5	177.7
Spirit Lake	ND	14.4	27.0	0	0.0	0.0
Spokane	WA	20.3	48.4	1	2096.0	255.1
Squaxin Island	WA	1.4	3.2	2	215.5	1.7

Standing Rock	ND	0.4	0.9	5	1733.8	739.7
Stillaguamish	WA	0.6	1.3	1	4.0	0.7
Swinomish	WA	0.8	1.8	0	0.0	0.0
Tulalip	WA	4.6	8.0	19	559.5	2.8
Turtle Mountain	ND	0.0	0.0	1	6341.0	243.0
Uintah and Ouray	UT	1.1	1.9	35	696.3	195.0
Umatilla	OR	1.2	2.6	8	378.9	34.1
Upper Skagit	WA	3.1	6.2	1	220.0	0.2
Ute Mountain	CO	2.0	4.6	1	1742.0	901.8
Warm Springs	OR	0.7	1.7	1	4012.0	1029.8
Wind River- Eastern Shoshone	WY	14.7	20.0	35	756.9	101.2
Wind River- Northern Arapaho	WY	14.2	19.1	35		
Yakama Nation	WA	0.8	1.6	21	1489.1	105.4
Yankton	SD	1.8	4.1	3	2155.0	228.7
Average		**5.9**	**12.1**	**5.4**	**1001.2**	**200.2**
Standard Deviation		**12.1**	**26.0**	**11.3**	**1562.4**	**498.5**
Median		**1.5**	**2.9**	**1.0**	**218.2**	**2.5**
Interquartile Range		**4.8**	**9.0**	**3.0**	**1489.1**	**191.7**

Footnotes:
1). Travel time and distance calculated using data from Esri (2017) and the National Tribal Geographic Information Support Center (2017).
2). Esri (2019).
3). U.S. Census Bureau (2010).

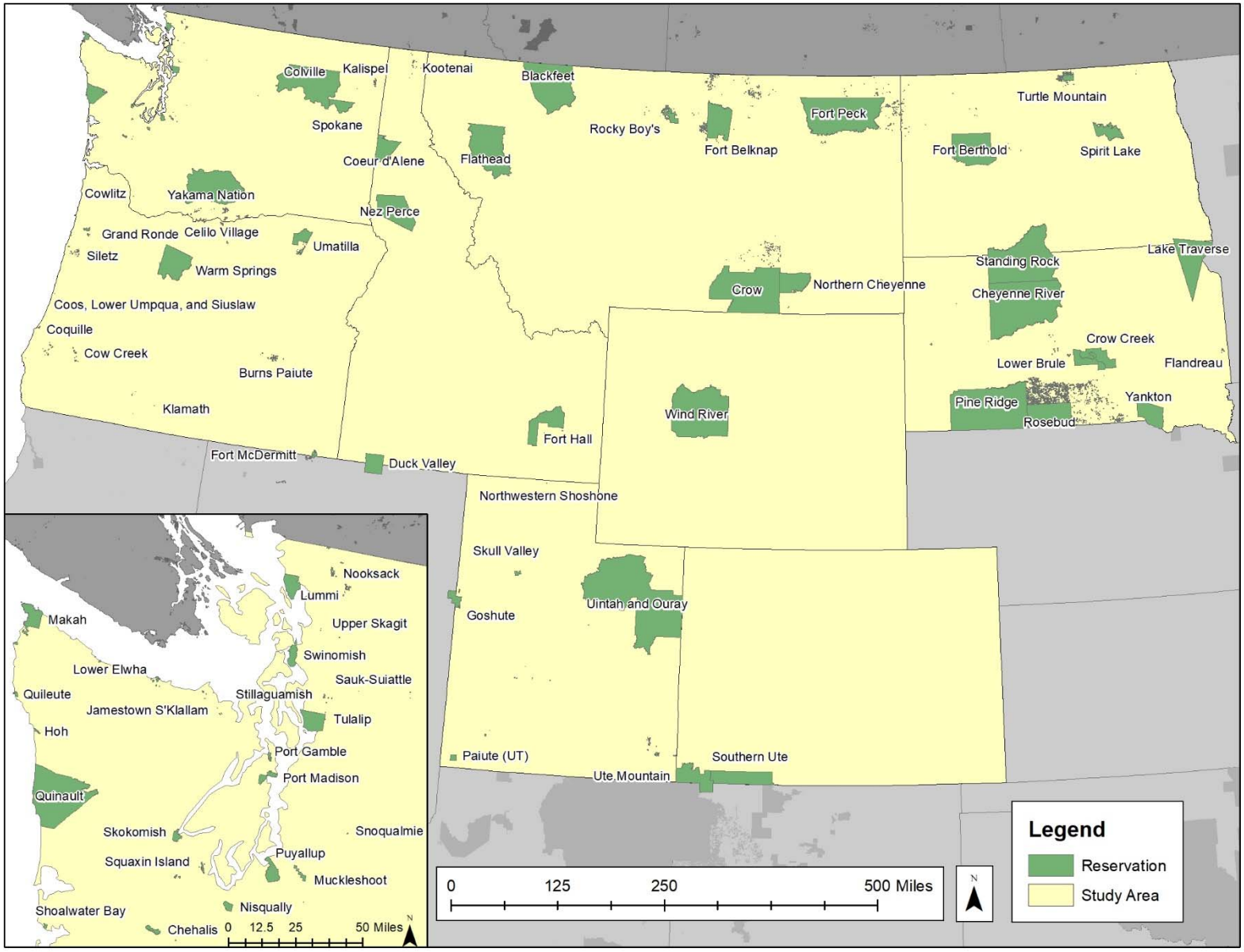

Figure 1: Study Area Reservations

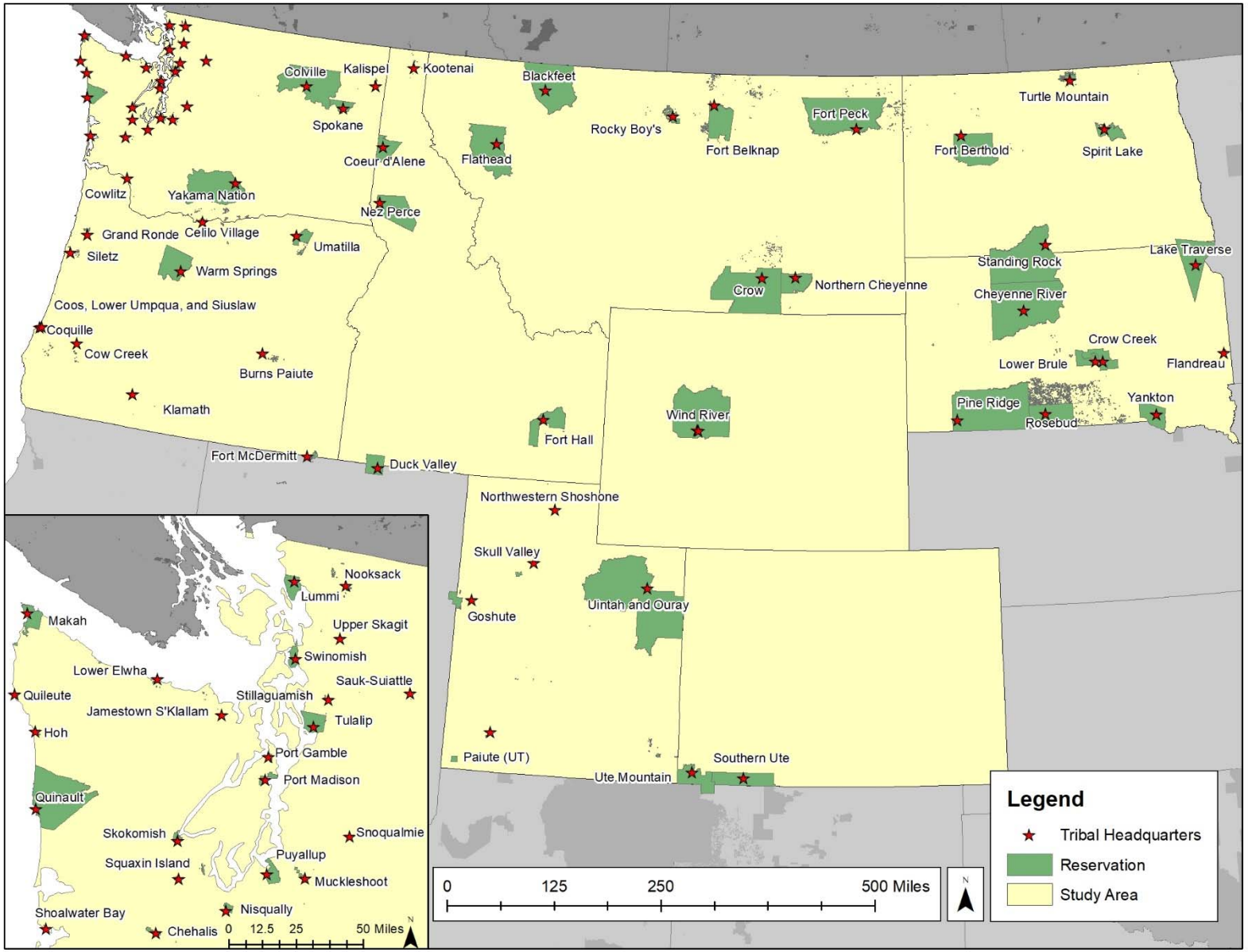

Figure 2: Tribal headquarters locations

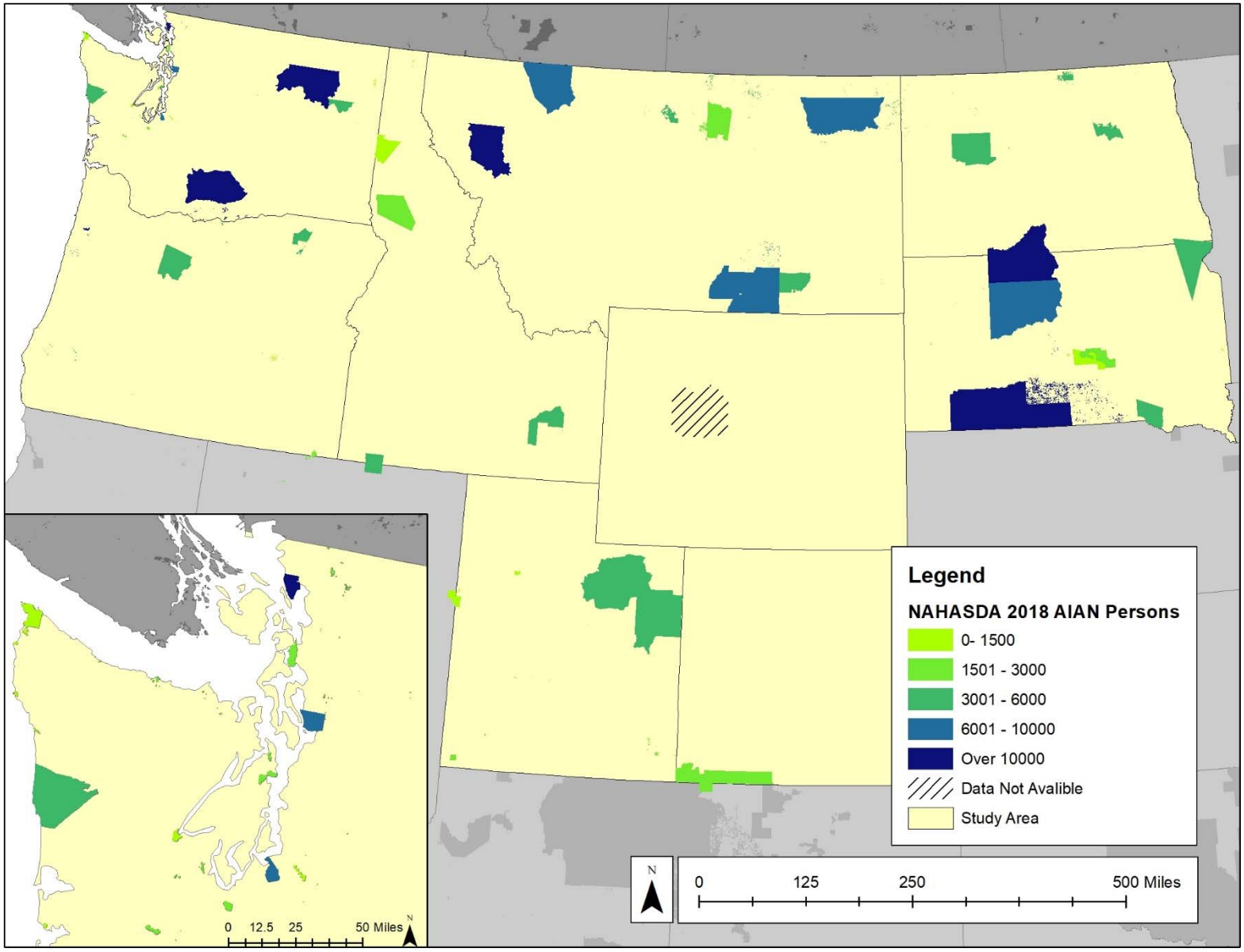

Figure 3: Reservation AIAN populations (NAHASDA)

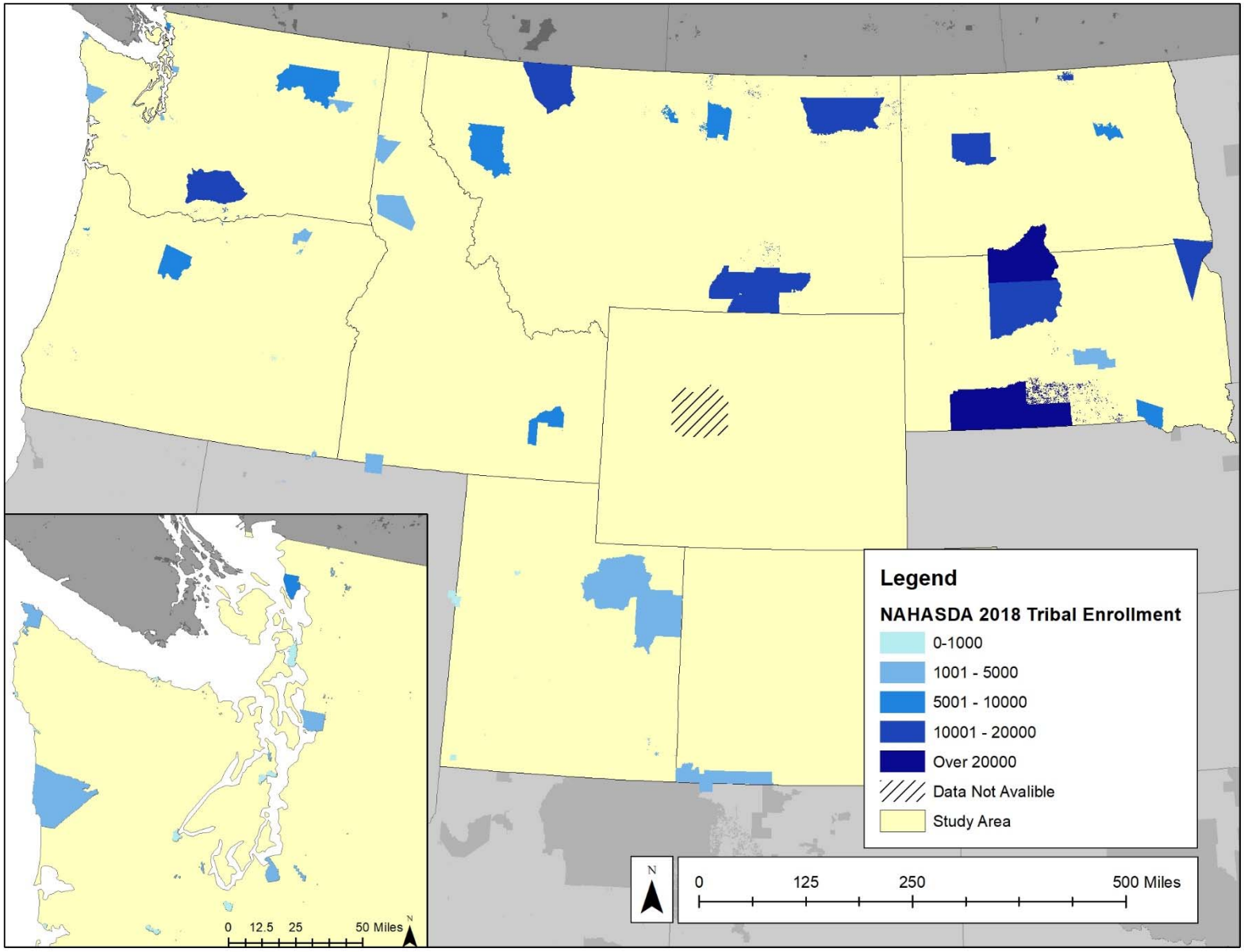

Figure 4: Tribal enrollment data (NAHASDA)

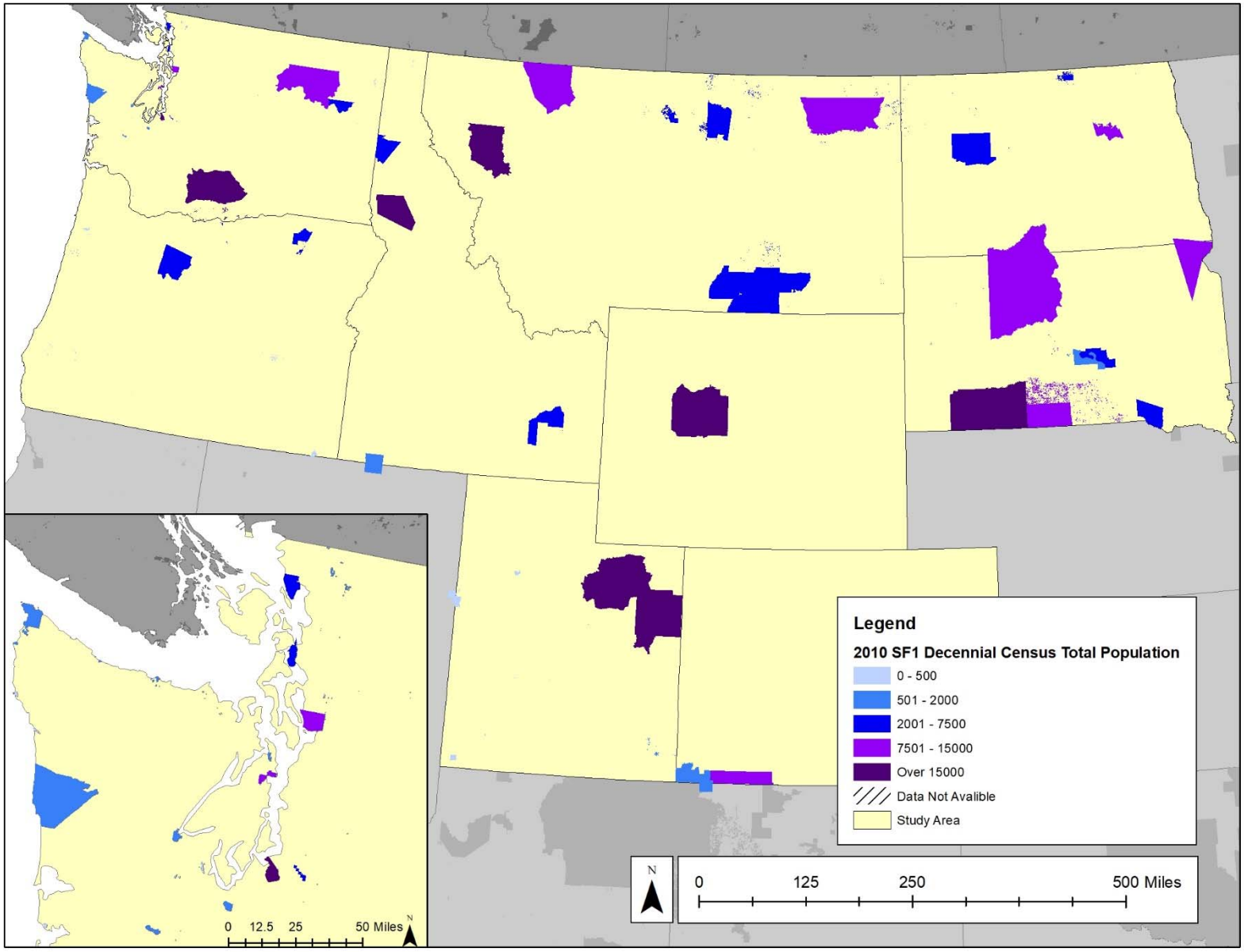

Figure 5: 2010 Census counts

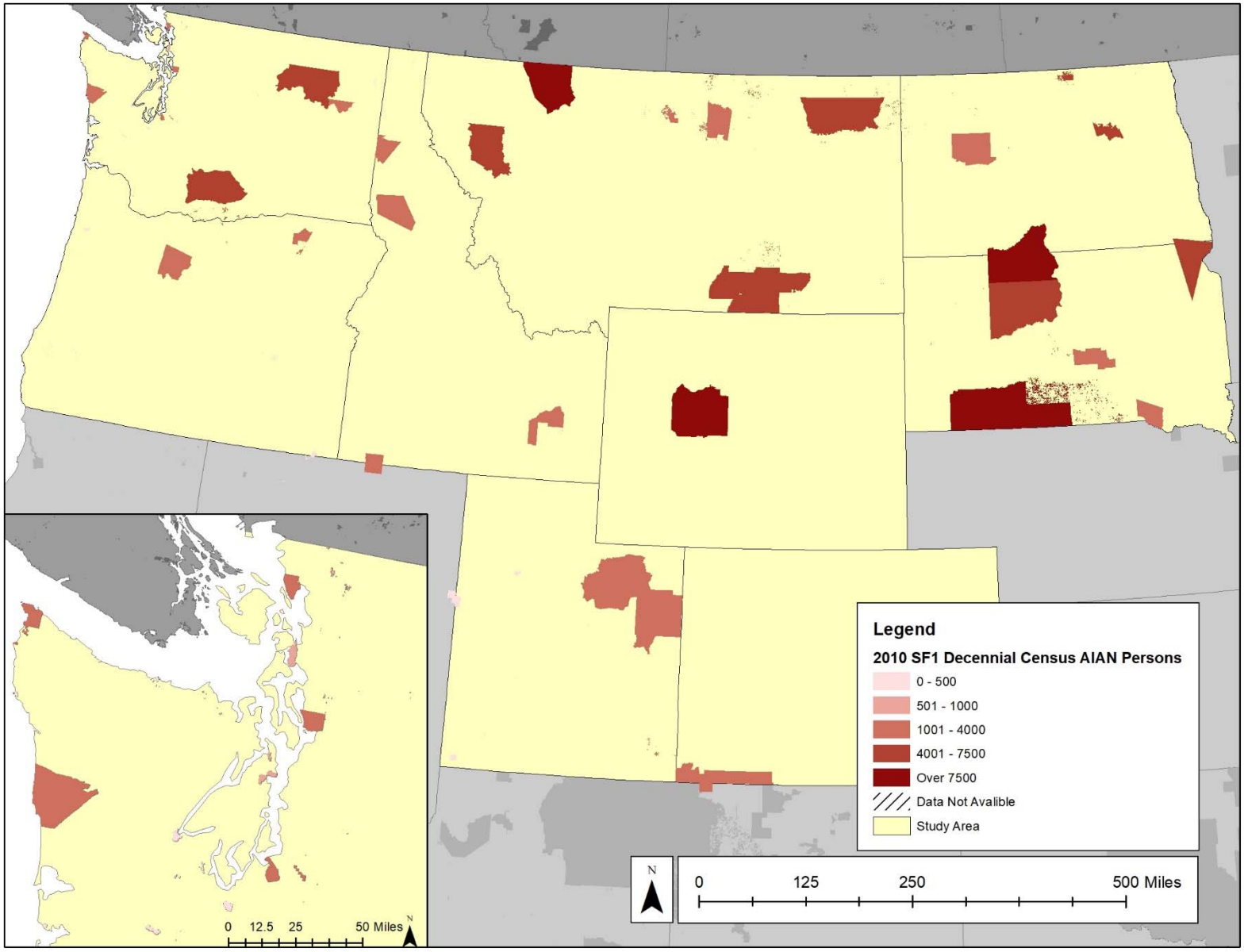

Figure 6:2010 AIAN Census counts

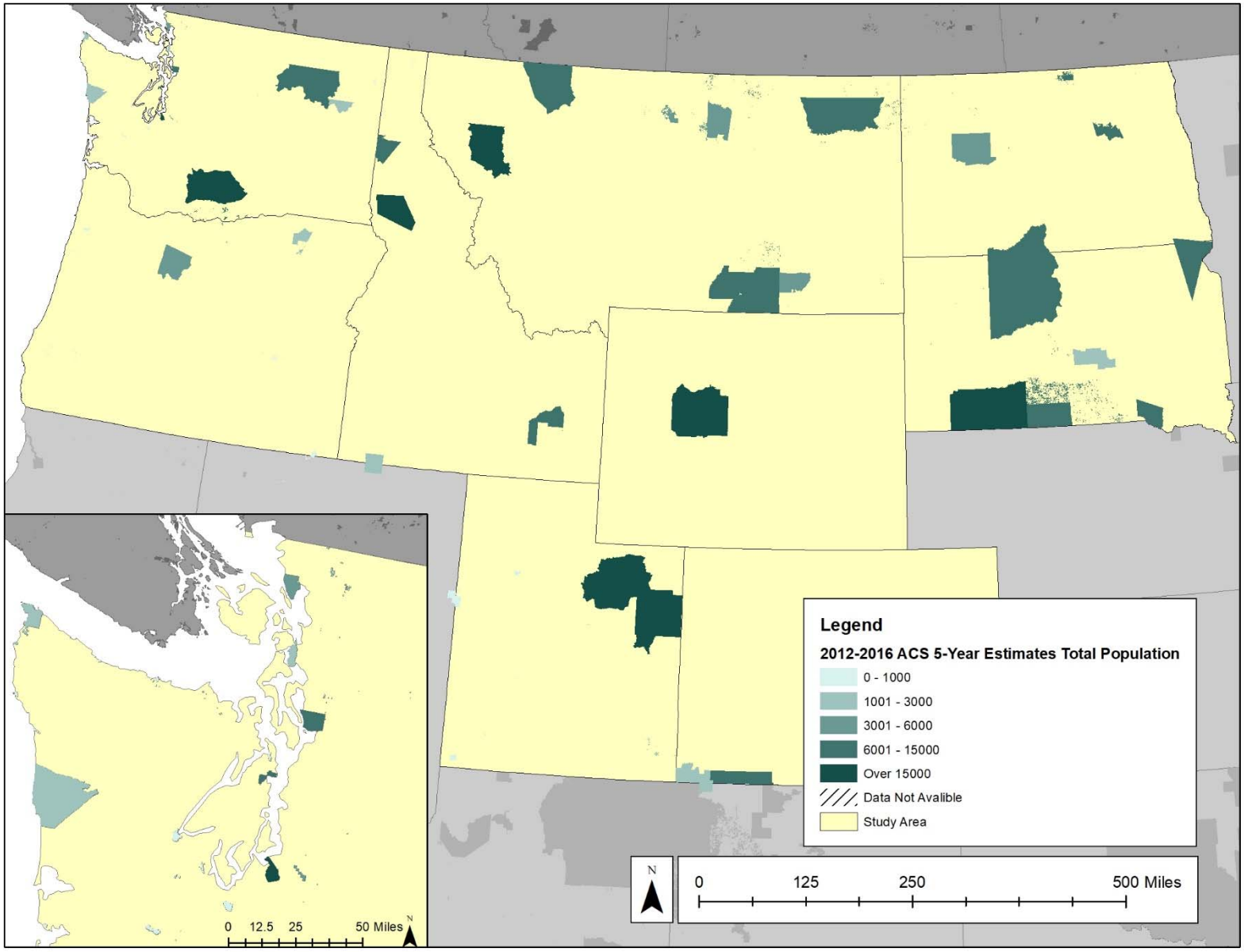

Figure 7: 2012-2016 ACS population estimates

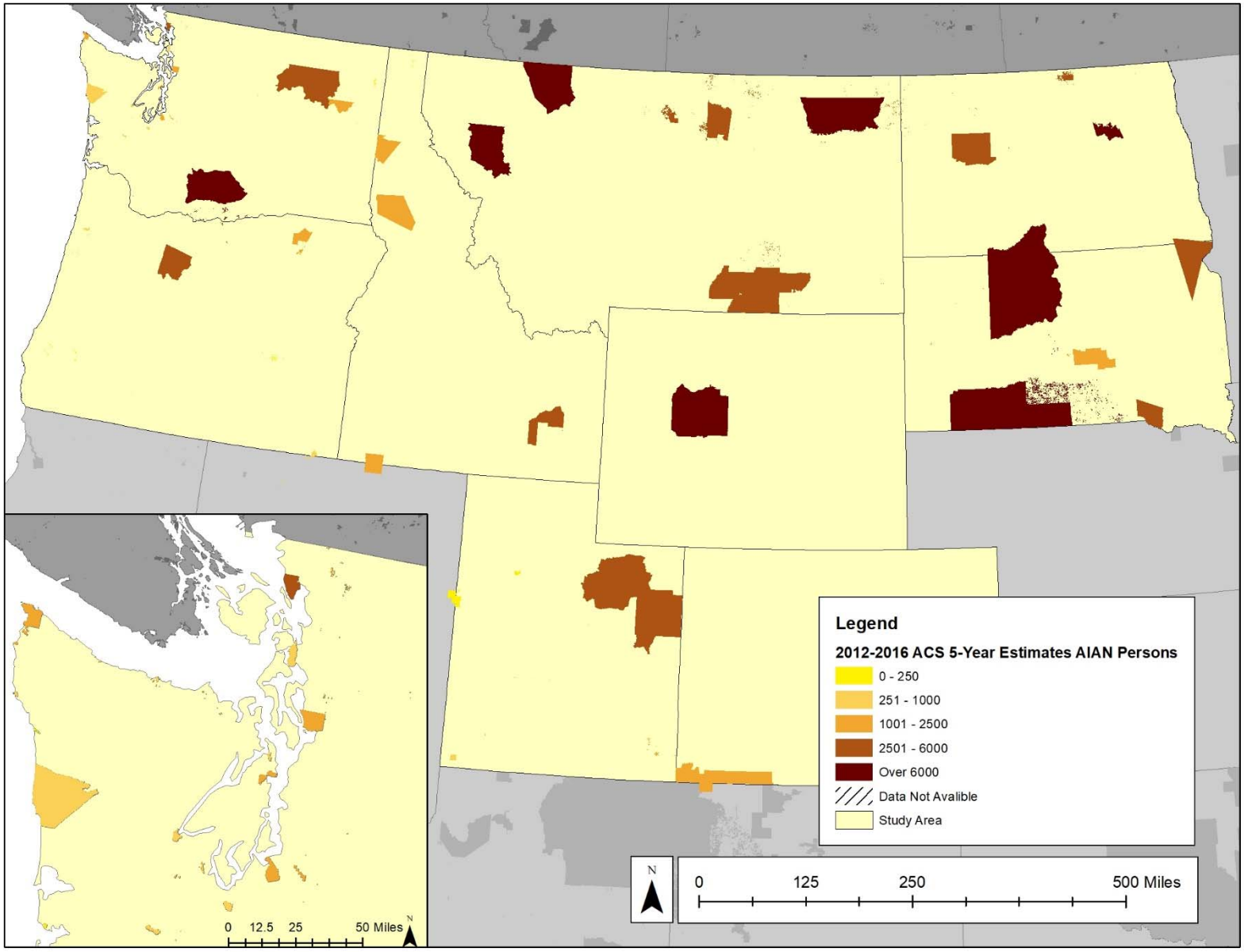

Figure 8: 2012-2016 ACS AIAN population estimates

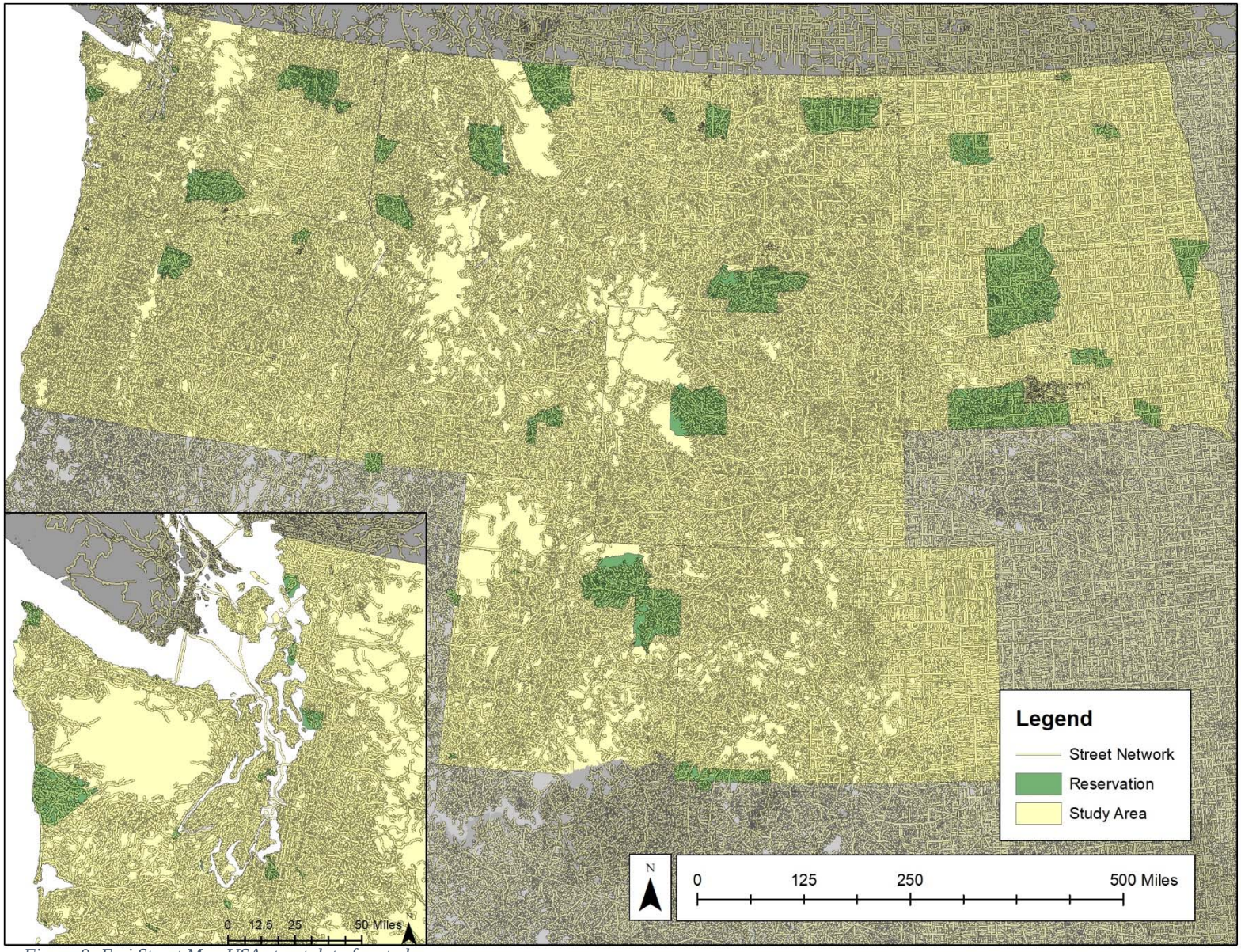

Figure 9: Esri Street Map USA street data for study area

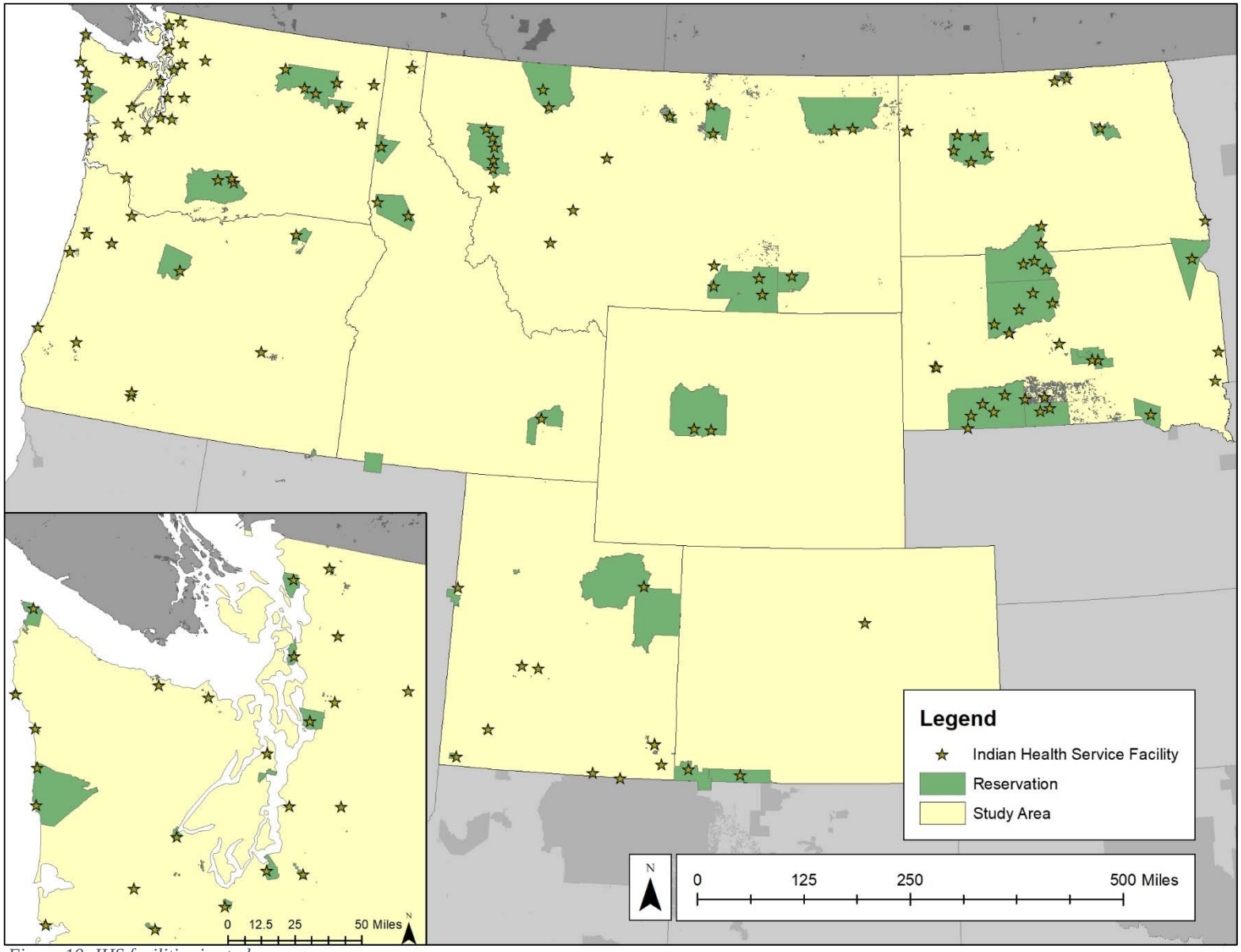

Figure 10: IHS facilities in study area

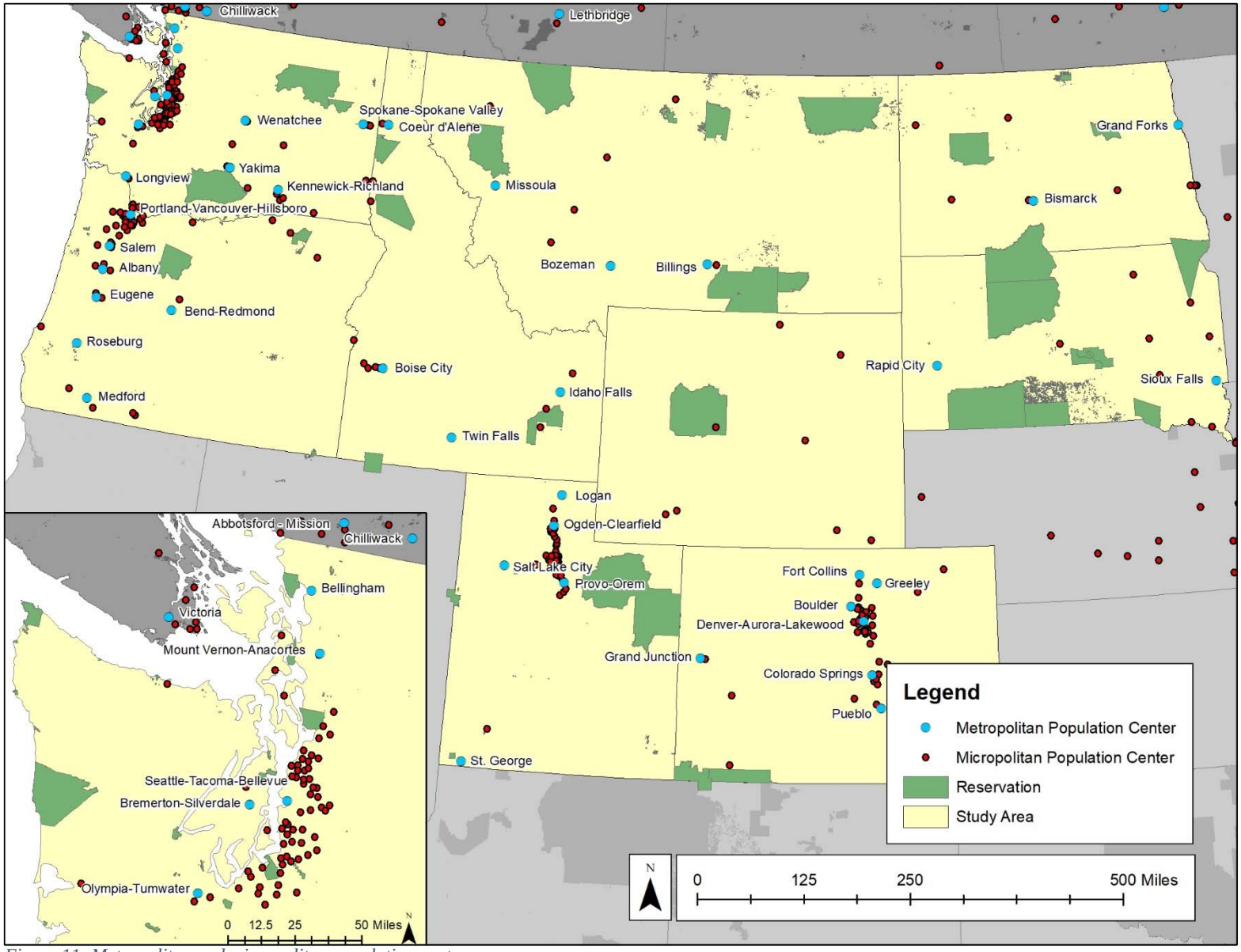

Figure 11: Metropolitan and micropolitan population centers

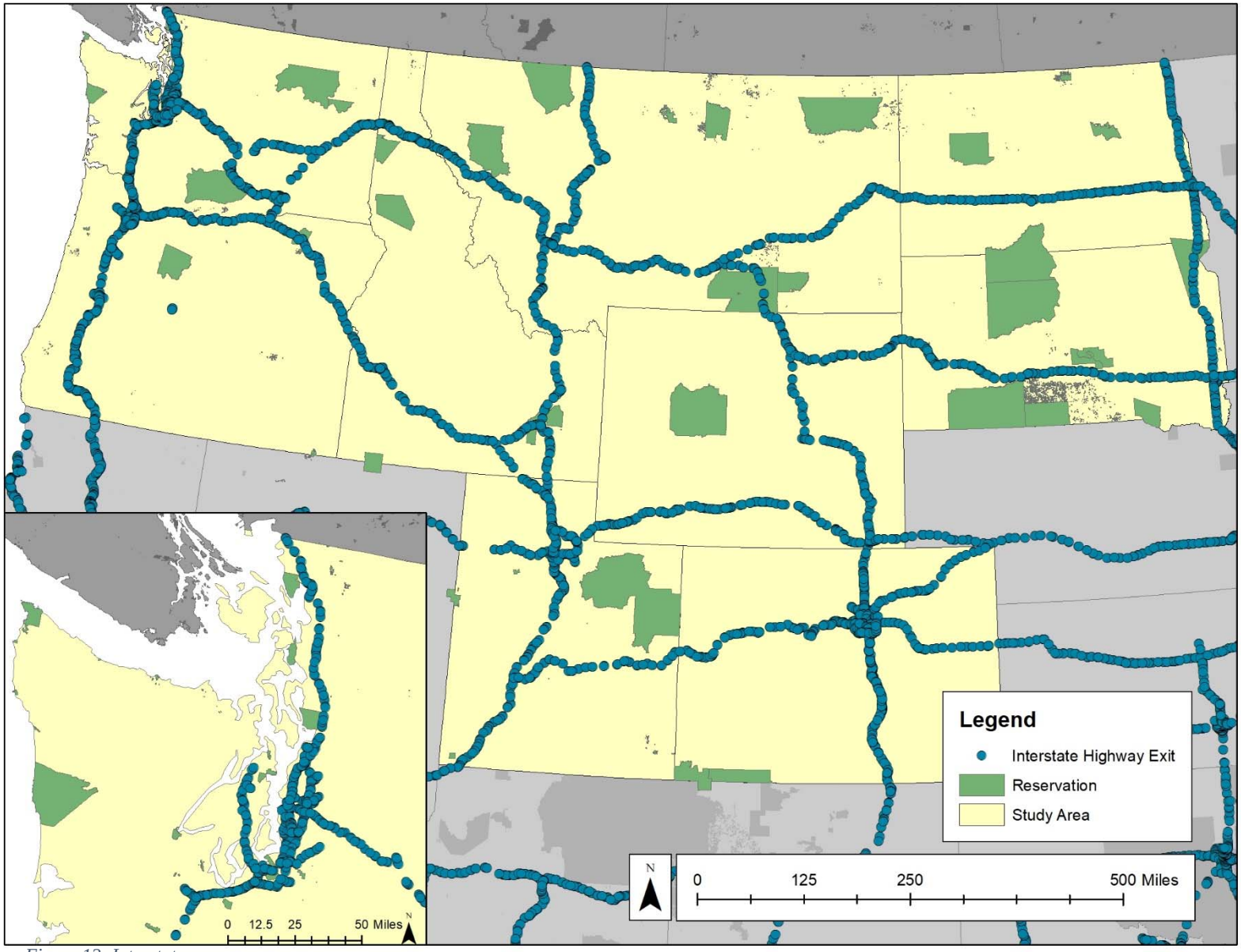

Figure 12: Interstate on-ramps

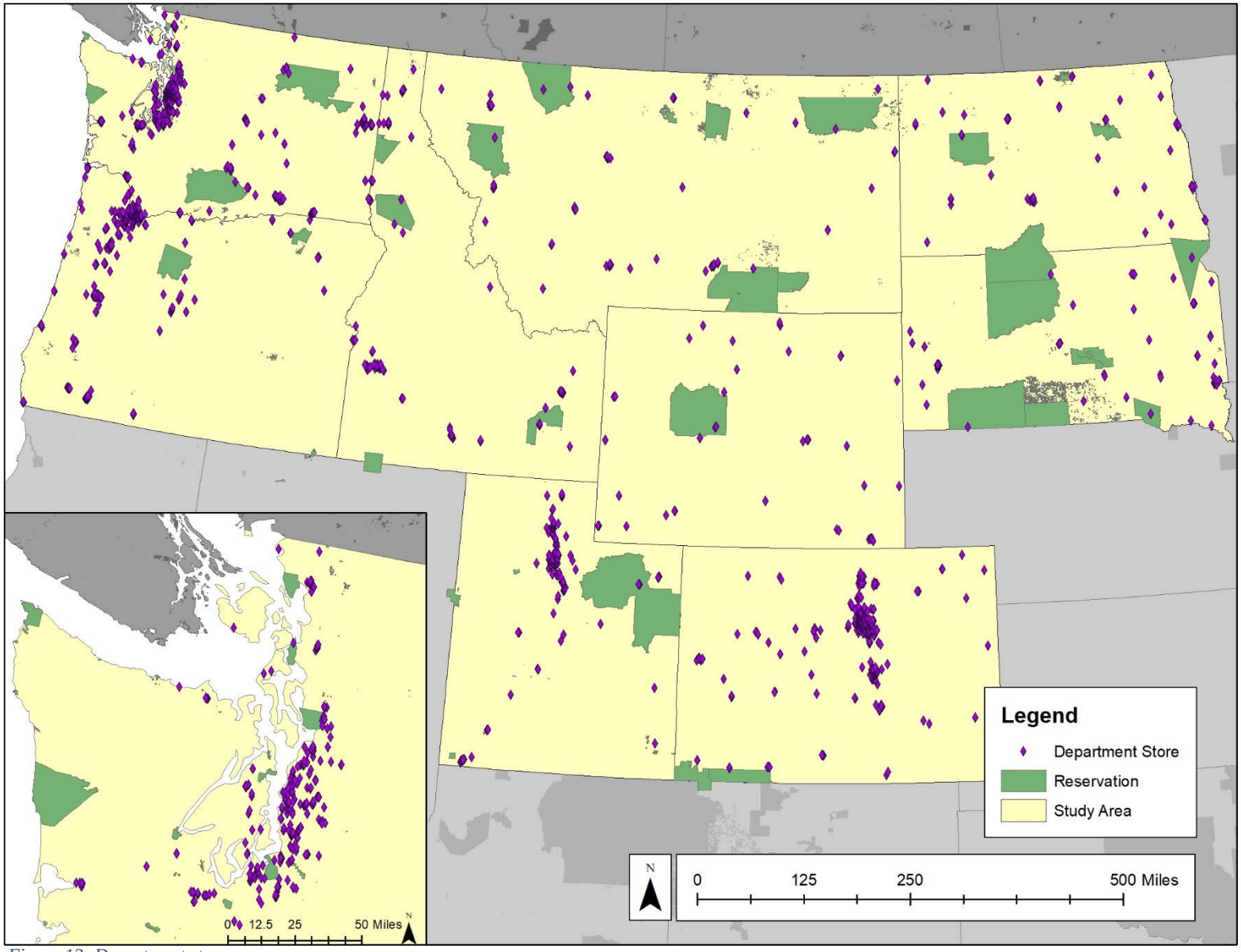

Figure 13: Department stores

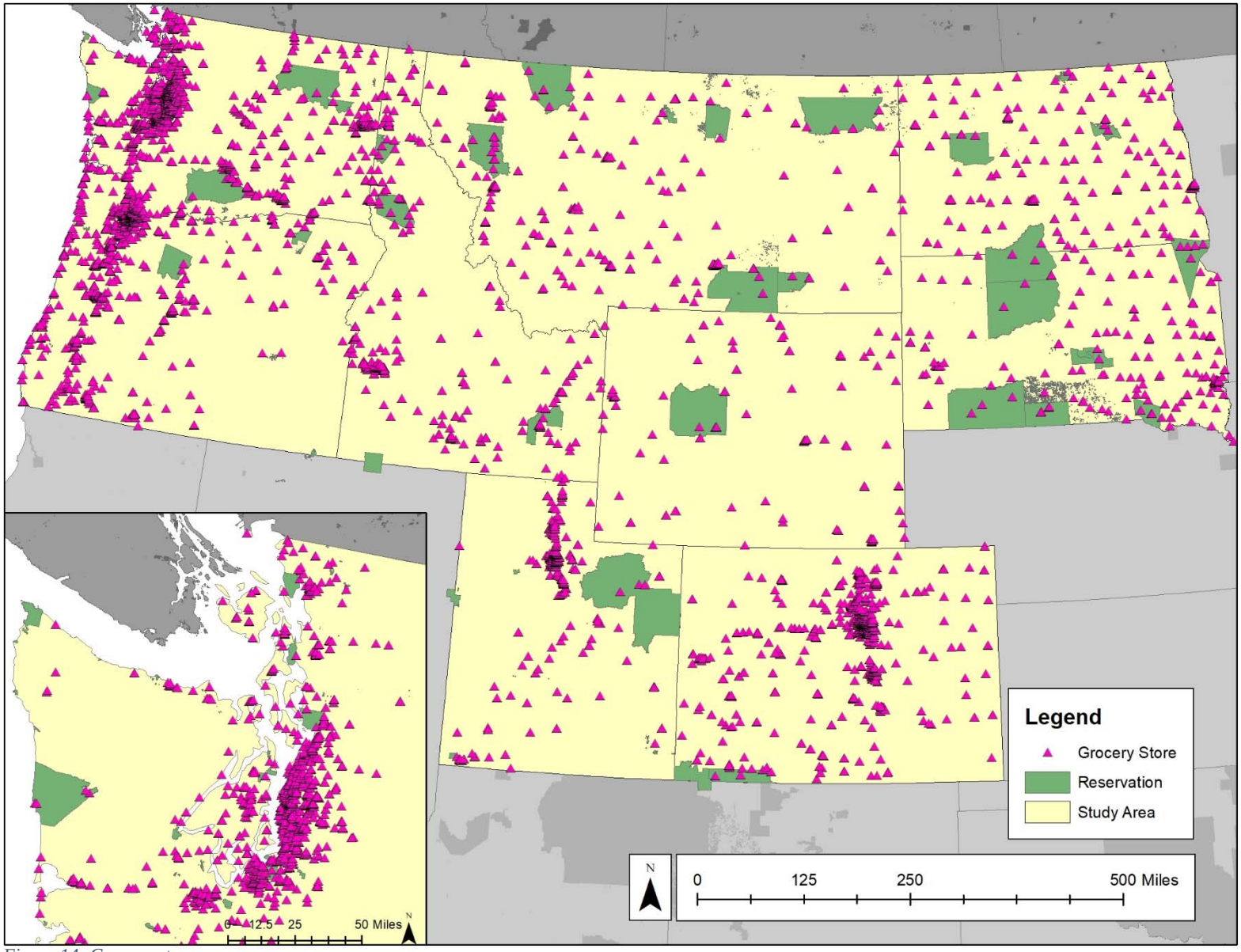

Figure 14: Grocery stores

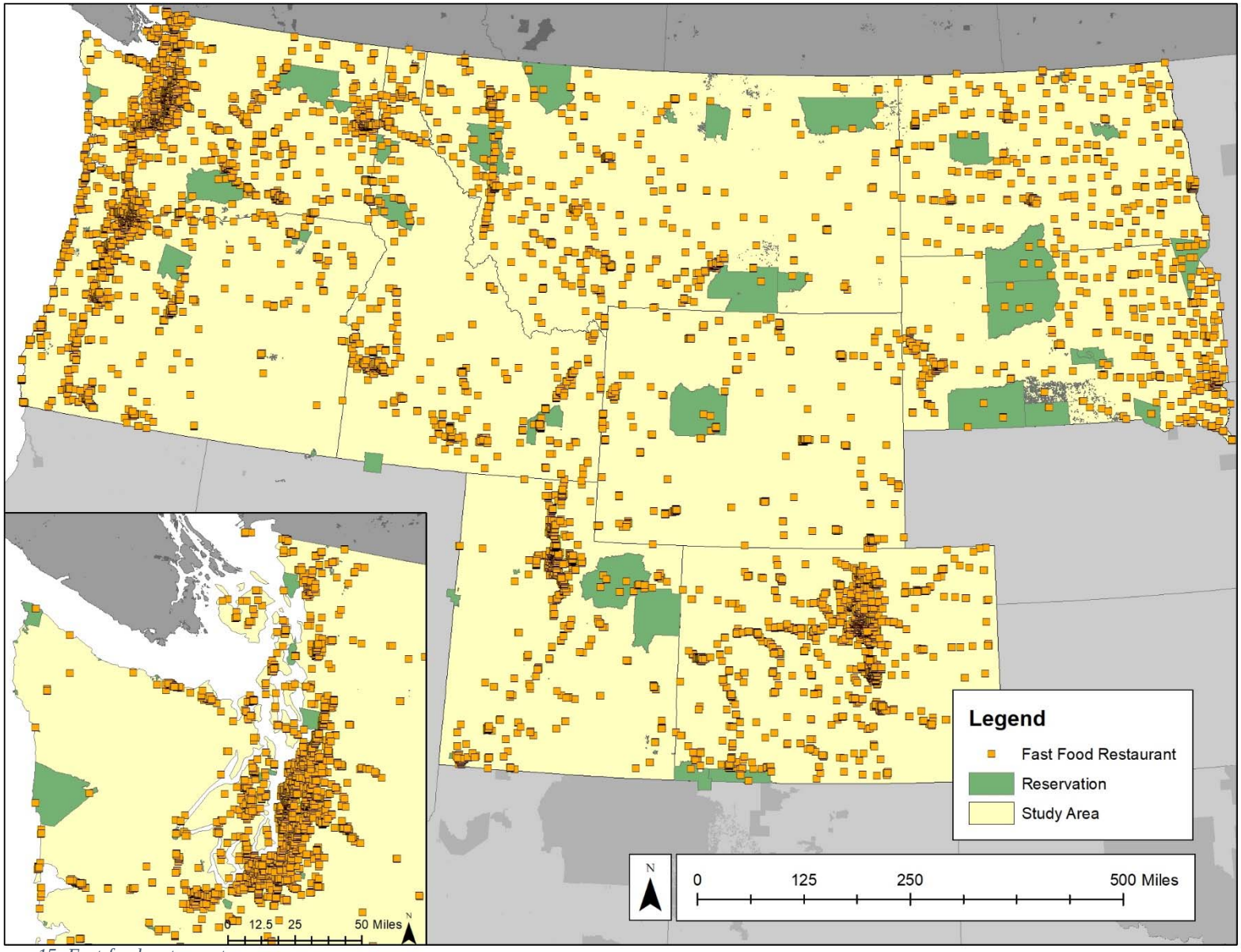

Figure 15: Fast-food restaurants