Mobility & Access on American Indian Reservations in the Western United States

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Discussion/Conclusions

Locational characteristics among reservations vary greatly. For example, with a distance of 265 miles (288 minutes) to a Metropolitan Population Center, the Fort Belknap Reservation is among the most isolated of the communities, but it is also adjacent to 47 miles (10 minutes) from the nearest Metropolitan Population Center. Another isolated community, the Siletz Reservation, is 21 miles (27 minutes) away from its nearest Interstate Highway, and is only 23 miles (58 minutes) from the nearest Metropolitan Population Center. By comparison, the Coeur d’Alene and Flathead reservations are located within 10 miles of a Metropolitan Population Center, and both are a short drive from major metropolitan areas.

Given the variability, one measure was evident: distances and drive times to Wal-Mart were on average shorter than those for the other destinations. Only four of the reservations were farther than 110 miles from their nearest Wal-Mart, with the Goshute Reservation being the farthest at a distance of 121 miles (177 minutes).

References


Methods

Network distances (miles) and drive times (minutes) of each reservation to all places of interest were obtained using Google Maps (maps.google.com). The addresses for each reservation’s tribal headquarters were used as starting points for the Google routing queries. Metropolitan population centers with over 100,000 residents, as well as micropolitan population centers, with at least 10,000 residents, were identified using Core-Based Statistical Areas (CBSAs) from the US Census Metropolitan and Micropolitan Statistical Area Population Tables, 2010-2014. For large-population centers, the downtown of the largest cities within the nearest Metropolitan CSA was designated as the urban area. A Metropolitan CSA was closer in proximity to the reservation if it was smaller, as the destination for the routing queries. The closest Interstate roadway to each reservation was identified through visual inspection of maps. The concept maps were also used to identify the network distance and drive times to the nearest Walmart for each reservation. No distinction was made between types of Walmart stores (e.g., Supercenters, Discount Stores). All Google Maps queries were conducted between September 13 and September 20, 2017.

A major advantage in using Google Maps is its usability, which is contingent solely on having access to the Internet and web browsing software. It is also quite easy to use. Another advantage of Google Maps is that it calculates drive times based on posted speed limits, which in turn are a reflection of road or geographic conditions (such as quality of paving, changes in elevation, number of twists and turns along the route, etc.). Thus travel with challenging conditions requires slower speeds. Under these circumstances the number of miles between a reservation and a destination may be less but the actual drive time may be very high.

Though Google Maps is a powerful tool for routing algorithm to a geographic center that is also charged without informing or using those charges. Thus an exact replication of the study would only rely on using the same routing algorithm or algorithms employed by Google Maps between September 13 and September 20, 2017, when all queries were originally conducted.