

ABSTRACT

Geographic Information Systems (GIS) mapping applications have proven to be an integral part in school site planning. However, most school site planning does not take walkability into account. This study describes a method to measure how walking access to schools was affected by the closure of elementary schools in the San Juan County. Recent studies in students walking to school in the US have found that there has been a major decrease overall (National Household Travel Society 2013). Using population density and dasymetric mapping, the number of students in each parcel in the San Juan School County was estimated. A walkability service area was derived from a network dataset using the functional classification of roadways from the Federal Highway Administration (FHWA). Accessibility was calculated $\frac{1}{4}$ miles away from the school using the service areas before and after school closure. It was determined that after school closure pedestrian accessibility and total distance walked to school did not change significantly. Network analysis represents a direct approach that assesses accessibility and physical barriers of the urban environment. Combining the walkability service area and the population per parcel, student accessibility was calculated. The use of this methodology will allow a better assessment for the school site planning and can be used to develop initiatives that will promote walking to and from school.