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## Abstract

Tornadoes are destructive forces of nature that can have major impacts on our lives, especially if they hit a major city. Therefore, in recent years, scientists have been analyzing how GIS can be used to study tornado impacts near towns and cities. This document looks at the amount of damage New Castle, Indiana, would see if a tornado, similar to a tornado that hit the city in 1917, struck today. To see what would happen, a path of the tornado was made, then placed in GIS and joined with 2018 parcel data of the city. The results showed that a tornado would affect large numbers of properties in the city, with up to 718 parcels affected and damages exceeding \$50 million USD (2018 dollars). Limits on the data include the inexact nature of mapping tornado paths and the old data used. The results, however, showed that not only would a tornado strike in New Castle be devastating, but that GIS can show just how exactly devastating a tornado strike is.

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