



Assembling Logistic Network Nodes

Using open-source building footprints

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A cornerstone of supply chain analysis is mapping nodes within a logistics network. One distinct set of nodes is the buildings that serve as manufacturing sites and distribution centers.

supply chains · geospatial analysis
open-source spatial data

Geospatial analysis has a specific language for mapping nodes. Across a given geography, you assemble the coordinates for nodes. The coordinates are usually in latitude and longitude. The nodes act as origins and destinations for material moving within the supply chain.

In this article, we show how to assemble a set of building footprints in South Carolina. We set a minimum size of 100,000 square feet for the building footprints. (Note: there are definitely nodes within any logistics network that are under 100,000 square feet. Less than truckload (“LTL”) shipments are one example.)

We also examine how well square footage indicates a building’s status as a logistics node.

These days, it’s naive to avoid asking what effect ChatGPT or Claude has on any data analysis.

With a clean and complete geospatial dataset, ChatGPT or Claude offer a menu of analytic techniques. A trick that still provides some mystery is getting to that clean and complete geospatial dataset.

Sourcing Building Footprints

buildings over 100,000 square feet in South Carolina

Three open-source datasets provide building footprint coverage in the United States:

- Overture Maps Foundation (“Overture”)
- OpenStreetMap (“OSM”)
- Microsoft’s Building Footprints (“MSFT”)

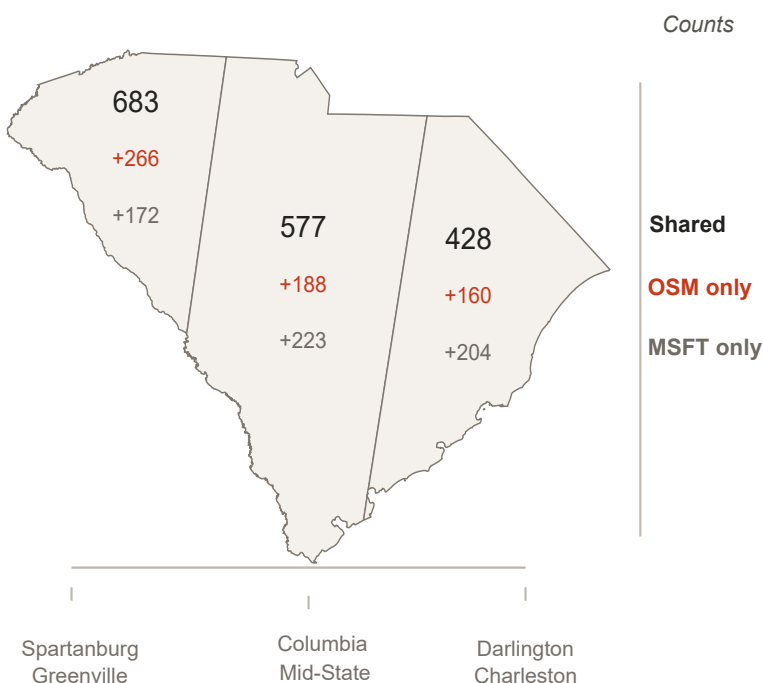
For South Carolina, Overture’s March 2026 release has sparse coverage relative to OSM and MSFT.

OSM and MSFT overlap but each contributes unique coverage.

South Carolina’s regions show the same coverage pattern for buildings over 100,000 square feet.

Coverage by source

Shared	1691	(58%)
OSM only	616	(21%)
MSFT only	606	(21%)
Total	2913	(100%)

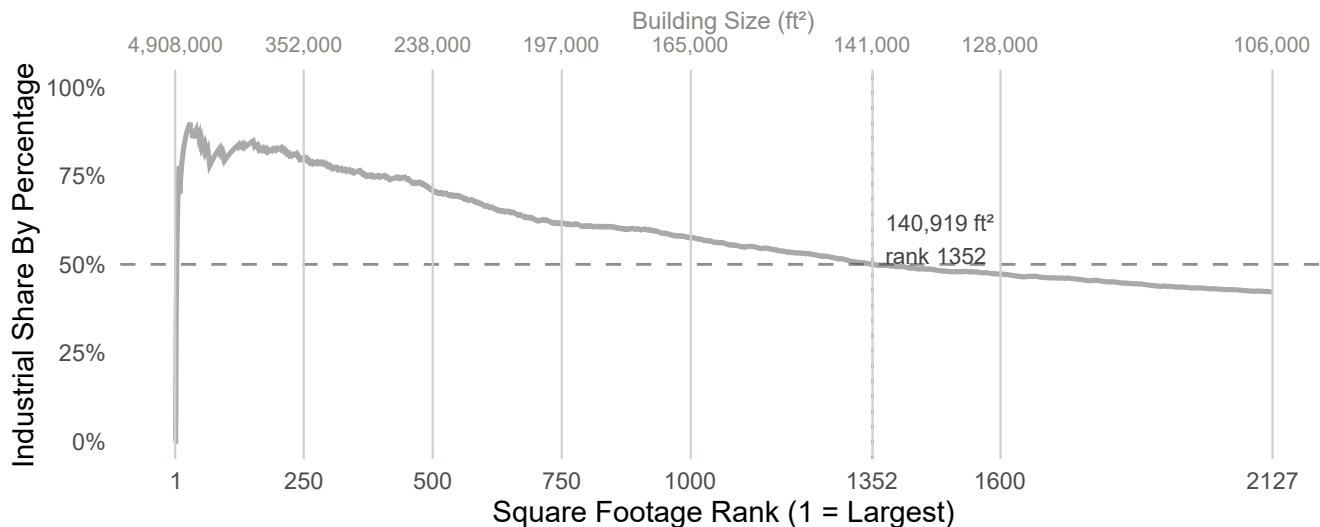


Logistic Node vs Square Footage

buildings over 100,000 square feet in South Carolina

Cumulative Industrial Share by Building Size Rank

Top axis shows approximate ft² at selected ranks



METHOD

Overture has a second database called places. "Places" provides building occupancy names and geographic points. For South Carolina, we matched 2,127 Overture points out of 2,913 MSFT/OSM building footprints.

Matched buildings were manually examined and coded as positive or negative as logistic nodes.

FINDINGS

What level of accuracy would you expect by using square footage to classify buildings as logistic nodes?

This plot frames the answer incrementally. In this sample, 250 buildings exceed 352,000 square feet. 75% are logistic nodes and 25% are not. Running manual QC on 250 buildings in Google Maps is doable.

Around 141,000 square feet, the negative/positive ratio for logistic nodes stands at 50/50. The full sample of 2,127 ends slightly below 50/50.