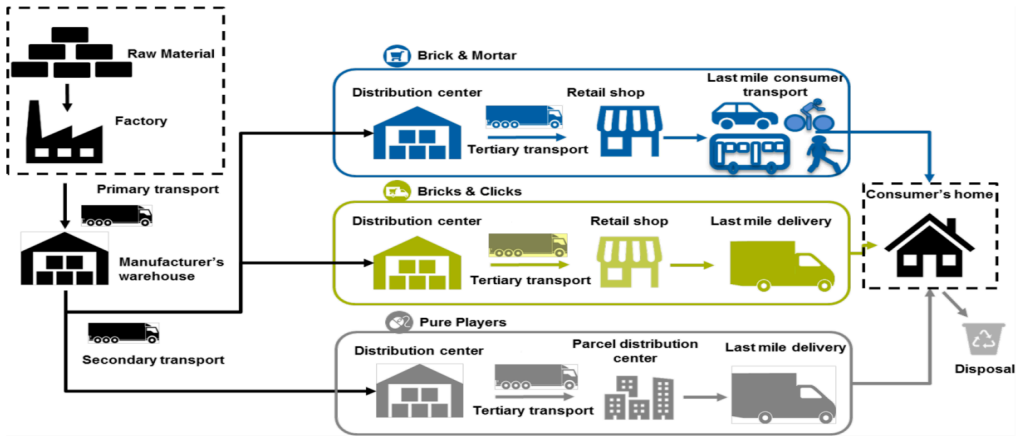
Growing Climate Solutions
Path to Positive
Southwest Florida

Go to the Store? Buy on-line? Or order and pick up at the store?

Over the past couple of weeks, millions of consumers have turned to on-line purchasing and delivery of consumer goods from companies like Amazon or Walmart. While the social distancing effort has dramatically reduced car trips and air pollution, a study published in late February by the journal of *Environmental Science and Technology*[1] challenged a long-held believe that on-line delivery of "fast moving goods", products used daily such as food, cleaning supplies and toiletries has a lower carbon footprint than shopping for these goods at 'brick and mortar' retailers.



The study, which focused specifically on "fast-moving goods" in the UK suggests that the relationship between shopping modes is more nuanced. The relative environmental impact of shopping online, "Clicks", versus buying online from a retail store, "Bricks and Clicks", or going to a "Brick and Mortar" store, depends on the mode of transportation used in each link of the product delivery, particularly in relation to the distance and type of transportation in the last mile between purchase and attainment. Whether one bikes to the store, or things are delivered by an electric powered truck matters. Other important variables include: the number of items bundled in one order,

[1] Academic Article Shahmohammadi, S. Steinmann, Z. Tambjerg, L. et al. (2020) "Comparative Greenhouse Gas Footprinting of Online versus Traditional Shopping for Fast-Moving Consumer Goods: A Stochastic Approach" Environmental Science and Technology 2020, 54, 3499-3509. Found at https://pubs.acs.org/doi/pdf/10.1021/acs.est.9b06252

the speed of delivery requested (rush delivery having a bigger impact) and the routing, packaging and returns.

The data from this UK research suggested that Bricks and Clicks had the **lowest** carbon footprint. The difference was not trivial either. In the UK, the pure online shopping model was found to have twice the greenhouse gas footprint than the traditional store model and between two and five times more than purchasing online from a brick and mortar retailer (Bricks and Clicks). The broad applicability to the USA is nuanced, as car travel in America's suburbia is typically longer, but this research suggests that simple assumptions about sustainable choices benefit from rigorous analysis.

Layperson's summary by Pullano, Nina) "What is the Most Eco-Friendly way to Shop? Counterintuitive Study Weighs in on Online Shopping, Inverse (February 26, 2020) https://www.inverse.com/science/is-online-shopping-eco-friendly