New Study Reveals In-Store Shopping is up to 60 Percent More Favorable for the Environment than Online Shopping

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INDIANAPOLIS, Dec. 19, 2019 /PRNewswire/ -- Simon®, a global leader in premier shopping, dining, entertainment and mixed-use destinations today published a whitepaper outlining the environmental impact of shopping online versus brick-and-mortar. The study, conducted with Deloitte, shows that mall shopping can be up to sixty percent more environmentally sustainable than online shopping.

A number of factors, including increased returns and additional packaging, contributed to E-commerce's negative environmental impact. Whereas, the lower emissions associated with brick-and-mortar locations were driven by shoppers making a greater number of purchases per trip and combining their mall visits with other activities as part of their trip chain.

An initial study conducted by Deloitte in 2016 assessed the greenhouse gas emissions associated with all material, energy and waste attributable to a product in its lifecycle. Simon updated the analysis with new data to incorporate recent trends in shopper behaviors for both online and mall shopping. To ensure comparability, the life cycle assessment assumed that the consumer purchased the same basket of goods online as they would in a brick-and-mortar location. The updated study demonstrates that shopping at a mall is approximately three times[1] more environmentally sustainable than just three years ago due to changing consumer behaviors - both online and in-store.

"What this update shows is how consumer choices significantly influence environment sustainability impacts, such as greenhouse gases. In only a span of three years, we can see the impacts of an increasing rate of returns for online orders, and how mall shoppers are buying more items per trip as well as combining the trip with other errands. The sustainability impacts are predictable. As shoppers, if we can combine purchases and shop mindfully, we can significantly reduce transportation resources associated with multiple deliveries and product returns," said Kyle Tanger, Managing Director, Sustainability, Deloitte.

Key findings from the study:

- **Shopping online leads to five times more returned products** which considerably increases the environmental impact. An extensive literature search shows that approximately 40 percent of online purchases are returned versus seven percent in the case of brick-and-mortar.
- **Shopping online creates five times more emissions from packaging for online orders** (corrugated boxes, bubble wrap, etc.) compared with the emissions associated with use of plastic/paper bag consumers typically bring home from the mall.[2]
- **Mall shoppers buy, on average, three and a half products per trip** and visit other places on their way to the mall, which is often referred to as trip chaining and lowers the emissions specifically related to their mall visit, because their trip is divided between multiple stops.

"Simon continues to focus on improving the sustainability of its own properties. Through careful energy efficiency and renewable energy investments, we have reduced the greenhouse gas emissions at our properties by over 21 percent in five years. However, sustainable shopping can only be achieved in collaboration with retailers and shoppers. Especially during holiday shopping, we encourage consumers to consider the environmental impact of their shopping behaviors," said Mona Benisi, Vice President of Sustainability, Simon. "Equipped with the information from this study, shoppers can be more aware about the way they shop, return goods and how they plan their trips to the mall. As a result, they can not only reduce their environmental impact, but also increase the pleasure of shopping by making it a shared experience."

[1] In the original 2016 analysis, Simon found online shopping to have a 7 percent greater greenhouse gas impact than mall shopping for the same

basket. Because of changes to customer visits data and US EPA greenhouse gas emissions factor methodologies, Simon updated this analysis to be compliant with life-cycle assessment protocol and revealed a 23 percent larger greenhouse gas footprint for online shopping.

[2] An additional consideration of the analysis was the impact of quick home delivery through online shopping. While it is likely that additional airfreight could be required for quick delivery, which significantly increases emissions, there is incomplete industry data for how the percentage of residential parcel delivery modes has changed. Therefore, airfreight changes that could have added GHG emissions to online shopping was excluded from the analysis until more detailed data are available.

About Simon
Simon is a global leader in the ownership of premier shopping, dining, entertainment and mixed-use destinations and an S&P 100 company (Simon Property Group, NYSE:SPG). Our properties across North America, Europe, and Asia provide community gathering places for millions of people every day and generate billions in annual sales. For more information, visit simon.com.

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