

Live public street cams are tracking social distancing

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With advanced computer vision models and live public street cam video, a University of Michigan startup is tracking social distancing behaviors

in real time at some of the most visited places in the world.

[Voxel51's](#)

[new tool shows—quite literally—an uptick in public gathering in Dublin on St. Patrick's Day, for example, and at New Jersey's Seaside Heights boardwalk during a recent weekend of unusually good weather.](#)

[The tool uses the company's existing platform and underlying custom AI to continuously track vehicle, cyclist and](#)

[pedestrian traffic](#) at seven locations: New York's Times Square; Abbey Road in London; Fremont Street in downtown Las Vegas; Seaside Heights in New Jersey; a beach in Ft. Lauderdale and intersections in Dublin and Prague. Several other locations are in beta, and more will be added soon.

It assigns each place a "physical distancing index," or PDI score, once every 15 minutes.

Today, the researchers added information on case rates and death rates. They are in the process of adding additional curves to their graphs, such as weather.

"This pandemic is having an unprecedented impact on our daily lives and what we're trying to do is create a tool to improve public awareness," said Jason Corso, U-M professor of electrical and computer engineering and CEO of Voxel51, an Ann Arbor video analytics and data management company.

"The PDI score helps people understand and compare how the [coronavirus](#) is changing social behaviors over time and enables municipalities to visualize how they're doing from a public health

perspective. Even though the virus is spreading, overall, we can see that the public response to the stay-at-home mandates has been rather dramatic and impressive."

While other projects are also tracking lockdown compliance, what's different about Voxel51's approach is that it's real-time, video-based and protects privacy. Data sources like mobile phones don't protect privacy and only offer approximate locations.

On this new platform, viewers can click on a specific point in time on an individual city graph to see historic footage as well as additional details about policies such as school closures and stay-at-home orders.

The graphs provide insights into the difficulty in limiting human activity in the face of good weather and special celebrations: Fort Lauderdale is one of the top destinations for students on spring break. As shown on the detailed graph for Florida, despite the governor issuing a public emergency Feb. 29, crowds were at all-time highs in early March, yet started to fall dramatically after the mayor closed bars and nightclubs March 17. And New York City—hit hardest by the pandemic—has a tough time keeping its 8 million tightly packed residents completely shuttered in.

Voxel51 plans to add new locations regularly, as well as blog posts analyzing the data. The company is also accepting requests to add locations or specific installations of the system for local government and taxpayer usage. Views of different parks could help residents locate the least trafficked area to safely walk their dog, for example.

The new curves, including those on case rates and death rates, could be illuminating as the pandemic continues.

"We expect to find rich information in the joint analysis of the physical

distancing index and these other feeds," Corso said. "There is even a chance that the PDI can feed into a predictive model for cities not yet greatly affected and the potential for a renewed outbreak next year."

Provided by University of Michigan

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