

A Visitor Counting Sensor at the Biriya Forest

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The Biriya Fortress is a heritage site located in the heart of the Biriya Forest, the largest planted forest in the Galilee. The fortress was built by KKL-JNF in collaboration with the Society for the Preservation of Israel Heritage Sites and turned into a museum documenting the site's history. In 2005, a paved health trail was built in the forest, approx. 3.5 kilometers long. The trail attracted many walkers and became very popular, which led to its extension, undertaken in 2019.

After having developed the additional section, it appeared that not many people used the trail. CountRite Technologies had, therefore, been invited to run an experiment to determine the numbers of people walking on the trail and provide insights into how to attract more. The main advantage of the technology is that it uses a hidden system that neither requires electricity nor an internet connection. The counting system is operated by sensors, a treading surface and road loops, which are installed at three entrances: the picnic and recreation area at the fortress, the original health trail, and the eastern entrance to the new section. Information from the system is transmitted to an Internet cloud, and reports on the number of visitors can be viewed from a computer.

The results confirmed our assumption that few people had been walking on the new section of the trail. But after we added signage, including direction signs, there was a sizable increase in the number of walkers, and therefore, we extended the trail and turned it into a circular one so that it now reaches the Tombs of the Sages and the Biriya Fortress. Indeed, the CountRite system showed that in 2020, about 220,000 visitors enjoyed the health trail; a decidedly large number and far more than expected. At the end of 2020, lighting was installed, and the number of trail walkers increased. Data revealed that about 58 percent of the visitors walked on the health trail, about 24 percent visited the Biriya Fortress picnic and recreation area, and about 18 percent used the new eastern entrance to the trail.

In 2021, the upward trend in the number of people using the health trail continued due both to the coronavirus pandemic, as gyms were closed and people felt the need to get outdoors and move, and the lighting that had been installed, enabling people to walk on the trail at night. For example, in February 2021, 4,000 used the health trail in the hours between 5:00 p.m. and 11:59 p.m., as compared with 1,000 in February 2020. During February 18–20, 2021, while the

area was covered in snow, the total number of visitors rose to a daily peak of 10,000, more than twice as many as on other days of the same month.

The data obtained from the system lets us know the exact number of visitors to the site as well as specifying time segments and peak hours. This information helps us prepare plans to further upgrade visitor reception to the Biriya Fortress.

In view of this success, KKL-JNF's Northern Region is interested in installing similar counting systems at public reception sites, such as biking trails, visitor centers, and parks. The technology will provide the necessary data to help us better prepare for welcoming visitors at peak times, holidays and weekends.



Health Trail, 2021
Photo: Kamel Elian



Biriya Fortress in the snow, 2021
Photo: Kamel Elian