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CASE STUDIES
AND
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INTRO

Parks and outdoor community facilities face an elevated risk for security events, susceptible to everything from terrorist attacks to vandalism. While crime rates have generally declined in the past 20 years, the rise of high-profile attacks in public spaces makes these areas more vulnerable than ever. Unfortunately, they're also some of the most difficult areas to secure. Managing video feeds in public facilities often requires a wide-range network with highly reliable coverage — no easy feat in the midst of site challenges like pools and other outdoor construction. Meanwhile, because they're used for a variety of different activities, the surveillance equipment in these spaces must be versatile enough to zoom in for precision views but also able to capture the whole facility in high detail.

These challenges were what the cities of Greenwood, Indiana, and Noblesville, Indiana, both faced when they decided to create large-scale recreational facilities for their respective residents. In Greenwood, for instance, a new water park and aquatics center demanded an innovative networking solution that would allow the area to be reliably monitored without coverage gaps. Noblesville, on the other hand, needed surveillance equipment that was both cost-effective and high quality so that every square inch of their new park — from the lawn area to a separate indoor facility — could be observed both in wide-shot and high-definition views. Both projects lay outside the purview of a traditional IT department, so they each did what any city would do in such an instance: they called in additional reinforcements, tapping Taylored for a state-of-the-art networking and security solution.

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CITY OF GREENWOOD

MAKES A BIG SPLASH WITH POOL-READY SECURITY

The park, a complete aquatics center featuring three separate water slides, a lazy river and a 25-meter lap pool, was meant to be more than a recreational area alone. City officials designed the spot as a community center, where residents could enjoy public events, take swimming lessons, participate in aquatics programs, host parties, or just cool off on a hot day. Understandably, the city wanted to ensure visitors' security while they took advantage of the park. Specifically, they needed a complete and reliable view of the facility — plus the ability to review security footage after an event.

THE CHALLENGE

Normally, this kind of installation would be an open-and-shut case. Taylored's installers and project managers can design and establish public networks like these in their sleep. Ordinarily, we would run the cables underground to supply cameras with the connections they needed to stream live footage back to the main location.

But this wasn't just any jobsite. By the time Taylored was engaged on the project, the concrete foundations and decking for the swimming areas were already constructed. But Wi-Fi signals can't travel through concrete barriers like these. Adding to the issue, if we were to install convention cabling, we'd have had to tear up the brand-new decking so the connections could be laid underground. The city had inadvertently created

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a network coverage black hole.

Actually, this happens a lot more than you might expect. Eager architects and developers design sites to correspond to all kinds of variables: the project activity in the area, the city's budget, the area's aesthetics. But as often as not, they don't design for technical requirements. Many times, networking is an afterthought. But in this case, there was another catch: Greenwood needed the security system completed before opening weekend, scheduled for Memorial Day 2015. That gave Taylored less than 30 days from the contract signing to design the network, purchase the equipment and get it all set up.

THE SOLUTION

As challenging as it was, networking the park was the kind of job Taylored's installers look forward to. The team openly admits that they love solving problems like this. After some discussion, it was decided that this park would forego traditional structured cabling in favor

of a Fluidmesh Network. This kind of network relies on a radio antenna, broadcasting a wide path wireless signal to devices installed throughout the park, rather than connecting them with cables. Those wireless links then pick up the signal and redirect it to nearby security cameras. In fact, the radio signal is strong enough to be received by outbuildings on the far end of the park, so that the whole space gets the same level of coverage.

Mesh architecture is a fairly new technique, having only been used for the last 10 years or so. But it represents a monumental shift in wireless networking and will likely be the infrastructure that powers the internet of things in the future. In fact, the Greenwood project marked the first time that Taylored had offered this technology to customers. Combining that innovation with powerful DVR servers and Honeywell and Milestone

software — as well as 27 indoor/outdoor surveillance cameras — allowed Taylored to create a flexible and reliable solution that can be accessed on-site or with any authorized mobile device.

Greenwood officials were so pleased with the final product that they engaged Taylored for a number of other security projects throughout the city, including access controls at Greenwood's Fire Headquarters facility and new surveillance and gate controls at the municipal airport. Rick Jones, the city's director of information technology, had this to say:

> " *Taylored Systems has made it much easier to monitor and control these systems across our City. This company has been a pleasure to work with and very helpful with tweaks and design changes that have had to be made along the way.* "
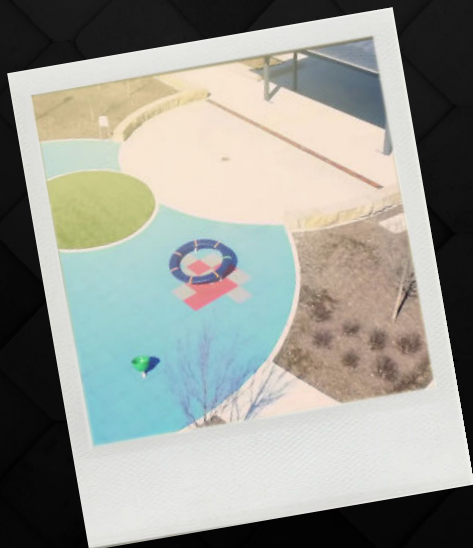
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FEDERAL HILLS COMMONS

HITS IT OUT OF THE PARK WITH VIDEO SURVEILLANCE AND PUBLIC WI-FI

Federal Hill Commons in Noblesville, Indiana, is now a bustling recreation area with a crowded events calendar. But it wasn't always that way. In 2013, the city began to notice that they had a problem — specifically, a growth problem. Bound to the west by the White River, residents had always believed that their downtown stopped just before the river. And that perception persisted, despite a spate of commercial development across the river on the western side of town.

To encourage economic growth in this area, the city began laying the groundwork for a larger gathering space: a park that could host regular events, like the city's weekly farmers market, and serve as a site for larger functions, such as concerts and outdoor movies. Because the park was conceived as a means to stimulate economic activity, it was absolutely vital that public reception remained positive. And that meant outfitting the site with a top-tier security system.

THE CHALLENGE

Although Noblesville has successfully built a number of different parks throughout the city, this was the first designed to host high-profile events and large crowds. Noblesville planned on dividing the site into a playground, an amphitheater, an indoor event facility and a market plaza. Due to the mixed-use nature of the space, the city needed a highly-efficient security system that would afford them both large panoramic views of

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event attendees as well as close-ups for high-definition surveillance. In case of a security event, they had to be able to zoom in on one area of the park without losing picture detail due to pixilation. And they needed to do it without completely surpassing their budget.

Adding to the complexity of the issue, Noblesville's population has surged in the last decade — in fact, from 2010 to 2015, Hamilton County was ranked as the second fastest-growing region in Indiana. Its population blossomed by over 13 percent in just five short years. Therefore, any security solution the city choose needed to position the area for continued growth. The city wanted something that would be as effective today as it will be five to 10 years from now.

THE SOLUTION

Taylored has a long history of working with clients in different settings. Because of this, we were able to provide the city of Noblesville with a variety of security options, allowing them to choose the one that fit their needs and budget. We presented them with three different alternatives: "good," "better" and "best" solutions for their cameras and equipment. Noblesville ultimately went with the "best" option: a selection of 4k and multi-sensor cameras and powerful servers capable of storing terabytes of video footage.

Because 4k technology afforded the city a wider observation range — together with an ultra high-definition resolution — they were actually able to save on their equipment costs for the project. In fact, this option allowed Taylored to install fewer cameras than we would with 1080p surveillance, and the city reaped the benefits and cost-savings of this cutting-edge equipment. Additionally, Taylored was able to leverage the city's existing fiber network and Wi-Fi infrastructure to ensure that there was network coverage for each camera — and to install public Wi-Fi in the park. We also got them set up with Milestone, a powerful video management software, to help with security administration.

Noblesville was so impressed with this solution that they now plan on migrating more cameras over to Milestone, which will provide the city's departments with instant access to all observation points in the city. And as for Federal Hill Commons, the park celebrated its grand opening on April 29, 2017, much to the excitement of residents and city officials alike. In an April, 2017, interview with Current in Noblesville, Parks Director Brandon Bennett said:

> *I like to think of this as the heartbeat of this side of town, of this side of the river, that's going to pump blood out to all the other areas. . . . You're starting to see land for sale in this area, and that's because it's going to be ripe for development.*

Taylored is proud to be a part of that progress.

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