

A deployment intended to thwart towel theft has yielded a fast ROI and paid off for the environment.

By Amy Lipton

Tags: [Asset Tracking](#), [Environment](#)

Jun 10, 2013—Casey Ashline, the executive director of [Riverside Health Fitness Center](#), in Bourbonnais, Ill., was searching for fitness equipment at an industry trade show several years ago, when she came across a display of the [Towel Tracker](#) RFID-based laundry solution. "I was immediately intrigued," she says.

"We're an upscale facility—our member dues are \$55 to \$65 a month—but even with such a nice clientele, we were losing about 150 to 200 towels a month to theft," Ashline explains. "Plus, members were using six to seven towels at a time instead of the one or two they actually needed."



Riverside Health Fitness Center

What intrigued her about Towel Tracker, Ashline says, is that "it automatically tracks the towels, so I knew it would prevent the towels from 'walking off the property.'"

In April 2012, the Towel Tracker solution was installed at the 70,000-square-foot, 2,900-member fitness center, owned and operated by the Riverside HealthCare Medical Center. "It has worked out extremely well," Ashline reports. The fitness center now loses only eight to 10 towels a month, to members who don't realize the towels are being tracked, or to those who inadvertently take them home.

"Our goal was just to cut towel loss by 50 percent," Ashline states, "but we ended up saving so much more." The fitness center has garnered significant unforeseen savings in related costs, including water, detergent and electricity for laundry, as well as labor to do the laundry and pick up the towels that were once strewn about the facility. Wear and tear on the club's washing machines and dryers has also been dramatically reduced. And, she adds, "Our towels last so much longer because they are not washed and dried so often!"

Ashline admits she wasn't aiming to "go green," stating, "I was looking to solve the theft problem, which Towel Tracker did. It just had so many green benefits."

The Way It Works

The Towel Tracker representatives were onsite at Riverside when the system was delivered, Ashline says. "They've been great," she states. "We didn't need any consultants or system integrators. They set it up and showed us how to use it—it only takes a

few hours."

The Towel Tracker solution comes with steel side-by-side towel-dispensing and -return cabinets, custom-built by [DeWys Manufacturing](#), that together measure 78.75 inches tall by 80.25 inches wide by 33 inches deep. The dispenser holds up to 300 fresh towels. Riverside opted for a light-gray finish (numerous color choices and wood-grain finishes are available). An [Impinj Speedway R420 Revolution](#) ultrahigh-frequency EPC Gen 2 RFID reader, constructed to withstand shock and vibration, is positioned at the top inside of each cabinet. The solution also includes two clean-towel carts and two return-towel carts.



The fitness center deployed the Towel Tracker RFID-based laundry solution.

A [Fujitsu WT-A522 Ultra-Rugged UHF EPC Gen 2 RFID tag](#), designed to survive repeated washings and dryings at high temperatures, is sewn into each towel. The towels are not included, but Towel Tracker worked directly with the fitness center's towel vendor to have the tags embedded. "We ordered new towels with the new system, and had them shipped directly to Towel Tracker to have the RFID tags sewn into them," Ashline says. "We also sent our old towels to Towel Tracker [to be RFID-tagged]."

The Towel Tracker system is "essentially a plug-and-play system," says John Molewyk, the president of Towel Tracker, based in Grand Rapids, Mich. It includes an SQL database integrated via middleware (software customized by Towel Tracker) into the membership-management system Riverside uses for member billing and related processes.

Each member is allowed to take a maximum of two towels per visit, but must first swipe a bar-coded club ID card to open the towel-dispensing cabinet. The RFID reader in the dispensing cabinet verifies that card's ID against the facility's member database before unlocking the hinged front door so the member can access the towels within.

Once the member removes the towels and shuts the door, the reader in the cabinet scans the tags embedded in the remaining towels, comparing this and the previous reading to determine which towels have been removed. The missing tag IDs are then assigned to the member's account in the membership-management system.

When the individual returns the towels, through a small hinged swinging door on the front of the return cabinet, the cabinet reader interrogates the towel tags and updates the database, removing the towels from the member's account. "It's just like checking library books in and out," Molewyck reports.



Thanks to the RFID system, the center now loses far fewer towels each month.

All tracking is carried out inside cabinets, Molewyck explains, so unlike RFID systems designed for warehouses and other open-air environments, Towel Tracker presents no issues regarding read range or signal interference, and does not require onsite testing. What's more, he says, "we don't have to do a lot of software customization, because we use a simple database that ties into any facility's system. We just have to write a few lines of code."

The Towel Tracker reps "have come back to tweak the software a few times" since the installation about a year ago, Ashline says. "If we make a change in our club-management software, they have to adjust their program to ours," she explains. "Typically, it's just minor tweaks, although we are moving to new software soon." Still, she notes, she doesn't anticipate any difficulties in terms of integration. "They've been great to work with. We haven't had any problems at all."

Spreading the Word

Ashline informed her employees about the solution a few weeks prior to the installation, and the Towel Tracker team provided training before rollout so staff members would be familiar with the solution by the time it was taken live. They were shown how to stock the towel shelves, empty the return bins and help members access the towels. "The staff was very excited about the Towel Tracker," she states, "because they could immediately see the benefits it would bring."

Ashline posted announcements in the fitness center to give members a heads-up approximately a week prior to the Towel Tracker implementation. Once the system was installed, she positioned an employee near the unit each day for about a week, to explain to members how the system works, as well as address any concerns. At first, members needed help scanning their ID cards to open the door to the towel cabinet.

"Initially, the members weren't too happy about it, I have to be totally honest," Ashline admits. "It's very easy to use, but they have to swipe their ID card to get towels, and the towel cabinet sits between the men's and women's locker rooms, so it's not as convenient as it was when towels were stacked on counters in both locker rooms."

Ashline was "very concerned" about how members would adjust to the new system. "It kept me awake for quite a few nights!" she says. "But each week seemed to get better and better, and we received fewer complaints. After four to six months, we rarely heard any negative comments. In fact, many members started paying us compliments for our innovative solution to the expensive process of supplying towels to members. People also started to appreciate the increased neatness" of the facility. "They could see [the system's] usefulness—there were fewer towels lying around."



**"Our goal was just to cut towel loss by 50 percent, but we ended up saving so much more."
—CASEY ASHLINE**

The fitness center's managers can submit queries and request reports to be generated automatically and e-mailed to them, Molewyck notes. So, for instance, they can easily identify guests who are "chronic towel 'borrowers'—people who have taken towels home, deliberately or inadvertently," he says,

A Riverside employee calls each member who fails to return missing towels, explaining that his or her member account will be charged \$10 per towel if it does not reappear within two weeks. "It is a delicate assignment," Ashline says, "because a lot of members don't receive the information well."

Occasionally, a member insists that someone else picked up the towel or that he or she returned the towel and the facility is in error, Ashline says. "In some cases, we back off charging in order to prevent losing the member," she adds. "But, it rarely happens again that a towel goes missing with that member!"

Clean and Green

The only frustration Ashline experienced with regard to Towel Tracker was having to wait a year to obtain approval for the purchase, because she discovered the solution just after the fitness center's annual budget had been finalized. "The administrative team was very interested in the idea," she says. But because the budget for that fiscal year had just been submitted earlier that month, she adds, "I had to wait another whole year to submit Towel Tracker in the budget."

The solution cost Riverside roughly \$30,000, including hardware, software, installation and a one-year parts and labor warranty. To help ensure its approval for the following budget cycle, Ashline says she conducted an informal survey "to benchmark how many towels our members were using, and how many loads of towels we were laundering every month. That investment sounds like a lot, but you get it returned in six months. The savings is enormous.... Once I exposed Towel Tracker to the administrative team at the hospital, there was no turning back."



**"The staff was very excited about the Towel Tracker, because they could immediately see the benefits it would bring."
—CASEY ASHLINE**

Instead of 525 loads of towels to wash per month, the fitness center now averages approximately 250 loads, a decrease of 53 percent—that's 2,961 loads per year instead of 6,300 loads, Molewyck points out. Fewer loads of towel laundry, he adds, is good for the environment, since it reduces the consumption of electricity, gas, water and chemical detergents.

In the past, Ashline says, "members tended to grab several towels at a time, and after their visits, all these towels ended up in the dirty-towel bin, regardless of whether they were really used or not." Now, she adds, thanks to the increased awareness and accountability, "they take only the towels they really need. They've modified their behavior, because they know their towels are being tracked, and because they're personally responsible for returning their towels to the return cabinet."

The system has also saved the facility on labor costs, Ashline notes. Employees "are able to do a lot besides constantly folding towels"—cleaning exercise equipment, for instance, and keeping the facility neater overall. By dramatically reducing the amount of time required for towel-tending, Ashline estimates, the center has achieved a savings of 11 hours a day.

"Since we implemented the system, we've lost several people by attrition," Ashline says, "and we've never needed to replace them. We've saved over \$2,900 a month in labor, \$1,958 in laundry expenses and \$949 in towel loss prevention, for a total savings of \$5,807 a month. At this rate, we've realized a return on investment in 5.34 months, and an annual cost savings of \$69,684."

Based on the impact the Towel Tracker deployment has had on Riverside in terms of energy savings, Ashline says, "we have initiated a 'green committee' and are looking at other ways to improve energy use. It would be fantastic if other clubs and hotels went this route. It is such a tremendous positive in every way. If everyone contributes to saving energy, as a country we will all be so much better off."

Editor's Note: For more information about how RFID can automate the tracking of linens, towels and uniforms, see [Coming Clean About RFID Laundry Systems](#).