

NAIPTA RELIES ON THINGTECH TO TRANSPORT MILLIONS OF RIDERS PER YEAR

At NAIPTA, IoT-enabled Enterprise Transit Asset Management provides integrated fleet & facilities management and maintenance solution to meet compliance for FTA's Final Rule and the FAST Act.

CASE STUDY





INDUSTRY

Government

COMPANY

NAIPTA

BUDGET

\$7.5 million (FY2017)

RIDERSHIP

1,958,138 Riders (FY2016)

FLEET

26 buses

8 paratransit vans

FACILITIES

168 Bus Stops

78 Bus Shelters

2 Connection Centers

1 Main Office and 9 off-site pass sales locations

3 maintenance shops, Bus Storage Facility, Automated Bus Wash

NAIPTA is the transit agency in northern Arizona operating the Mountain Line, Mountain Lift and Mountain Link systems in Flagstaff. NAIPTA also coordinates services with Campus Shuttle Service at Northern Arizona University. NAIPTA currently manages a fleet of fixed route and paratransit vehicles, as well as 178 stops and 2 connection centers. Established in 2001, NAIPTA has grown into a system that employs nearly 100 people and transports more than 2 million riders a year.

Helping riders get to where they want to go is the mission of [NAIPTA](#) (Northern Arizona Intergovernmental Public Transit Authority).

Although it sounds simple, balancing environmental, ridership, coverage, safety, and security goals adds enormous pressure and complexity to NAIPTA operations.

Flagstaff, Arizona, where NAIPTA provides public transit services, is located on Interstate 40 within a tourism sector that includes Grand Canyon National Park, historic Route 66, and the Barringer Crater. How could NAIPTA help to make travel a smooth process for tourists, reduce the traffic impact of tourism on local communities, and become the transit mode of choice by millions of riders per year?

The answer to this question is two-fold: first, make it a priority to provide efficient, frequent and affordable transit services that connect communities and NAIPTA riders to where they want to go. Second, keep up the safety, security, and maintenance of NAIPTA's transit assets, bus stops, shelters, facilities and connection centers.

Problem

Named [America's Best Transit System in 2013](#) by the American Public Transportation Association (APTA), NAIPTA is the transit agency in northern Arizona operating fixed route bus and paratransit services to nearly [2 million riders](#) a year. Maintaining a commitment to that level of leading excellence isn't easy.

But the investment has paid off in ridership growth, proving that NAIPTA is the best way to move around Flagstaff.

The facilities division of NAIPTA is responsible for ensuring that quality of service keeps pace with rising ridership. Wade Forrest, Facilities Manager NAIPTA, oversees cleaning, maintenance, snow removal, and equipment compliance with state and federal regulations. He's responsible for servicing 78 bus shelters and 2 connection centers, which field workers must service once a week. With ridership on the rise, the workload for Wade's team has increased, resulting in the need for better visibility into work orders and the time needed to complete them.

Pretty much every task that field workers performed was recorded on a paper-based checklist, which included a 12-point-inspection that needed to be covered at each stop. At close of business, Forrest goes through the tedious, arduous process of manually entering data (i.e. action taken, action needed, no action needed) into an Excel spreadsheet that organizes tasks by route and stop number.

While this time-intensive process helps prepare for their FTA (Federal Transit Administration) triennial site review, it is inefficient, more prone to error, and offers limited visibility into the time and resources spent on regular-scheduled maintenance being performed.

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Wade Forrest, Facilities Manager NAIPTA

Solution

After initially conducting a request for information (RFI) for enterprise transit asset management (TAM) solutions, NAIPTA sidelined the project for a year or so. Once funding was procured, a request for proposals (RFP) was issued.

ThingTech is the leader in the Industrial Internet of Things (IoT) and Enterprise Asset Management markets and has applied these technologies to the transit industry —providing flexible, intelligent, intuitive software solution that enables transit agencies to automate asset collection, forecast capital replacement requirements, calculate state of good repair, automate NTD reporting requirements, and optimize work order management and operations through predictive analytics and machine learning. The solution is cloud-based and mobile ready for access to asset analytics, notifications, and real-time insight of asset performance and utilization.

“ThingTech was the favorite by far,” Forrest says. Transit agencies that receive Chapter 53 funds from the Department of Transportation must put a TAM plan in place for maintaining assets within a transit network by [October 20, 2018](#). “We felt like they had a good understanding of transit, especially with TAM requirements and how the FTA likes to see things reported.”

With ThingTech’s TAM solution, NAIPTA can efficiently record each task associated with a work order and calculate how much time was needed to complete it. This means that field workers submitting paper forms can now track their productivity from a mobile device, allowing NAIPTA to save time and lower operational costs. By digitally transforming TAM processes, ThingTech provides NAIPTA with the ability to achieve predictive maintenance; going beyond meeting minimum FTA reporting requirements to deliver a system truly designed to help keep assets in a state of good repair.

Results

Positioned to reach peak performance in 2018, NAIPTA is now capturing approximately 85% of the work that the facilities team is performing at

each stop. Unlike before, Forrest now has real-time visibility into the number of work orders completed. In 2017, Wade’s team processed over 2,000 work orders. This is data that can now be used to make smarter decisions to be a more efficient organization.

For example, in October 2017, Forrest’s team emptied 215 trash cans, an obscure metric that’s been largely ignored. However, according to Forrest, “sometimes it’s the little things like that that can determine if trash cans are put at future locations.”

ThingTech’s TAM solution has given NAIPTA the ability to mine data for future use. The next step in NAIPTA’s IoT initiative is to integrate their asset management data with other business applications. Access to the financial data for assets, for example, will allow the finance department to consolidate financials and track depreciation values. Also, when the city planning department wants to develop new bus stops along a new route, this data can be used to plan for costs and resources with more accuracy.

As transit agencies like NAIPTA look to balance ridership, coverage, frequency, safety and security goals to the best of their ability, ThingTech can help. From automating data collection to optimizing maintenance schedules and capital planning, ThingTech’s IoT solutions can help you minimize costs, achieve your vision, and meet compliance to FTA regulations. Your road to an ROI starts here. [Contact us](#) anytime to discuss your smart cities or asset management projects, or to [schedule a free consultation](#).

Learn more.

To find out more about our IoT-enabled field service solutions, please visit our website <http://www.thingtech.com/public-transit-new/>