Project of the Month: Gateway to Monroe County: Greater Rochester International Airport Project

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New Airport Entrance Canopy, Greater Rochester International Airport

Rochester, NY In October 2018, the Greater Rochester International Airport (ROC) completed a comprehensive $79 million terminal transformation bringing 21st Century technology to today's air travelers. ROC participated in the New York State Upstate Airport Economic Development and Revitalization initiative introduced by governor Andrew Cuomo.

Cheryl Dinolfo,
Monroe County executive

"The Greater Rochester International Airport is fortunate to have the commitment and leadership of gov. Cuomo and support from our state representatives for investing in airports," said Monroe County executive Cheryl Dinolfo. "Airports are economic engines, not only enabling travel and transportation, but also providing jobs and contributing millions of dollars annually to the economic growth of a community."

ROC aggressively competed for New York State Department of Transportation (NYSDOT) grant funding by submitting a thorough proposal along with over 70 letters of support from airlines, the

Transportation Security Administration (TSA), area business and higher education establishments to initiate a large-scale terminal renovation and revitalize ROC's strength in the competitive aviation industry. Along with the one-time state funding source, ROC committed Passenger Facility Charge (PFC) revenue, Federal Aviation Administration (FAA) Airport Improvement (AIP) funding and local funds.

This project was constructed with a very aggressive schedule in phases including nights and weekends, in order to minimize the impacts to the traveling public. Construction progressed continually despite adverse weather conditions and the need to build around the continual procession of arriving and departing passengers. Community relations were maintained via a ROC renovation website that provided continuous project updates and information on detours and traffic patterns.

Andy Moore, airport director, Greater Rochester
International Airport

Why invest in airports?

Airports across the nation are essential pieces to any economic development strategy. Monroe County executive Dinolfo has prioritized creating jobs and attracting investment to Monroe County a centerpiece of her administration, and ROC is no exception to that. In fact, according to the latest study available by the New York State Department of Transportation (NYSDOT 2011), ROC creates and sustains 10,000 jobs, generates $295 million in income and contributes $800 million annually to the local economy.

These aren't just individuals that work at the airport or for one of the airlines. They are business executives working in sales, finance, advertising, real estate, and the list goes on. A modern airport is critical for individuals conducting business and communities intent on attracting new companies to invest there must have the amenities those companies are looking for.

Furthermore, it's about vibrancy. As Dinolfo puts it, "We want companies to invest here because they feel the vibrancy of our community. We want them to feel a community that is on the upswing–where there is a strong potential for growth because of the strong human, economic, social, and cultural capital that exists here. That feeling of vibrancy is now evident as soon as you step off the plane."

In the short-term, there is a tangible economic impact to the renovation project itself. The ROC renovation created almost 900 local construction and engineering jobs throughout the two-year project period and featured 20 bid packages, 14 prime contractors and 50 subcontractors.

Terminal Landscape, Access and Approach

Grand opening of new SMART Phone Lot, Greater Rochester International Airport

Located off Interstate I-390 and State Rd. 204 (Brooks Ave.), ROC leadership felt the airport signage was inefficient in notifying drivers they had in fact arrived on property. A new monument sign installed at the entrance now gives travelers a sense of arrival. Updated road wayfinding signage and energy efficient LED street light fixtures guide drivers to car rental return, arrivals, departures and parking facilities. A new SMART Phone Lot located pre-terminal has reduced curbside road congestion and provides ample parking along with an electric vehicle charging station, free Wi-Fi and a large LED flight information display screen with up to date flight arrival information and airport messaging.

New Airport Entrance Canopy, Greater Rochester International Airport

New Airport Entrance Canopy

The new Airport Entrance Canopy provides passengers, greeters, and other airport patrons with a safe, comfortable, and convenient facility. In addition, it improves upon the original canopy's protection and coverage, while adding complimentary systems that serve to improve safety, security, add visual interest, and sustainability to the airport.

The new terminal entrance canopy between the parking garage and the terminal now provides full coverage of the departures and arrivals roadway at curbside; replacing an old 30,000 s/f canopy that previously only covered the sidewalk and a fraction of the departures roadway.

"With a tremendously unique and innovative design, the new airport canopy is recognized by travelers all across the country," said executive Dinolfo. "Not only is the canopy the signature piece of the airport revitalization project, but the BUY AMERICA requirement involved 75 jobs for Americans here in Monroe County and many more elsewhere in the U.S. In times of inclement weather –a given considering the weather in Rochester–the canopy has proven to be a real asset."

Under its term agreement with Monroe County, Passero Associates was contracted to provide planning, design, bidding, and construction support services for the installation of the canopy structure.

The 87,000 s/f airport entrance canopy was constructed using over 1,050 tons of U.S. steel and is covered with a PTFE Teflon based tensile membrane fabric. Tensile fabric was chosen over glass because of its durability, strength and water-resistant nature. The material provides a 30-year life expectancy while providing protection from the elements and allowing the structure to be painted in

LED lights.

For instance, the canopy was lit green on St. Patrick's Day and can be illuminated red, white & blue for Fourth of July, etc.

The canopy lighting is designed using white LED fixtures aiming downward to illuminate the driving and walking surfaces. Programmable colored LED lights are used to "paint" the underside and top of the canopy and to create a welcoming and aesthetically pleasing appearance to passengers. The canopy can be painted any color the airport chooses to reflect a holiday or season.

Terminal entrance canopy benefits include reduction of operating and maintenance costs. The canopy saves materials and valuable time by reducing the need for ice control, snow removal, and other maintenance costs related to the project. LED lights and solar panels reduce the energy consumption previously used by the original incandescent lights.

Another benefit surrounding the airport's commitment to sustainability is the installation of a pump station to utilize a 40,000-gallon rainwater collection system for landscaping and irrigation on airport property. New landscaping beds have been constructed between the canopy and the parking garage to take advantage of this new system.

Gates, Greater Rochester International Airport

Terminal Renovations

Under its term agreement with Monroe County, CHA Consulting, Inc. (CHA) was contracted to furnish engineering, design and construction administration services for the terminal renovations program.

The terminal renovation portion of the overall project consisted of reconfiguration and expansion of the passenger security checkpoint, creation of a new passenger arrivals meeting area, expansion of the main terminal building near concessions, enhancement of concession offerings, implementation of communication technology for the deaf and hearing impaired and significant upgrades to the HVAC infrastructure.

A redesigned six-lane passenger security checkpoint was constructed with input from the Transportation Security Administration allowing for 40% more space for passenger queuing, enplanement growth, carry-on luggage and extra space for passengers who use wheelchairs, strollers, etc.

"Convenient passenger screening is an essential for today's travelers and will help us improve the overall experience at our airport," said Andy Moore, ROC airport director. "Passenger traffic at ROC was up 6% in 2018 as compared to the year prior."

The terminal renovation project created two passenger interactive play zones in partnership with Strong National Museum of Play; the National Toy Hall of Fame near Concourse A; and the World Video Game Hall of Fame near Concourse B. These are conveniently located next to a new diner and sports bar at ROC. Exposure of the Strong Museum is essential to tourism since it is one of the must-see attractions in the region.

"The Strong National Museum of Play is an anchor destination in our region, attracting more than 550,000 visitors annually from all 50 states who help to support local jobs and our economy," said executive Dinolfo. "We are thrilled to bring the quintessential Strong experience to our airport for the enjoyment of all travelers who are young at heart. This first-in-the-nation partnership helps put our airport on the map."

Passenger Security Checkpoint, Greater Rochester International Airport

The project addressed relocation of concessions to allow passengers to more easily see the options available and experience regional food offerings. New shared lounge space was designed in the expanded main terminal expansion with floor to ceiling glass windows overlooking the airport's north ramp for aircraft viewing. Over 1,000 new charging stations were deployed throughout this area and both concourses.

Lastly, newly installed systems at ROC help meet the airport's energy efficiency goals through the installation of HVAC energy management and lighting management systems. The Flight Information Display Systems (FIDS) system provides a gate activity data stream to the Building Management System (BMS) which adjusts gate holding area ventilation rates to reduce energy consumption during idle periods.

Terminal Concorse, Greater Rochester International Airport

Innovative 21st Century
Smart Technology

Many innovative 21st Century smart technology initiatives were implemented throughout the ROC renovation.

"As we worked to build a next-generation airport to help attract more visitors and more jobs to our community, we wanted to incorporate the latest communications technologies to maximize accessibility and inclusivity for all guests," said executive Dinolfo. "From smart LED lighting that will

help travelers navigate the gate area to new hearing and counter loops for hard-of-hearing guests, our airport promises to be one of the most traveler-friendly facilities of its kind in the nation."

ROC was the first airport in Upstate New York to install and test facial recognition and bag left behind technology at the terminal entrance canopy. This enhances safety and security while bringing the airport closer to a smart building approach. It also demonstrates the ability to implement this technology in any setting to improve the security of public premises.

Monroe County is home to the highest deaf per capita population in the world, as well as the National Technical Institute for the Deaf (NTID) at the Rochester Institute of Technology (RIT). For this reason, the project introduced cutting-edge American Sign Language (ASL) to-Voice technology to assist the deaf with conducting transactions at airline ticketing counters, gate counters, car rentals and concession locations. Units are in the process of being deployed and will serve to translate ASL for improved communications between passengers and agents.

New hearing loops and counter loops have been installed throughout the airport as well to assist hearing impaired travelers. These hearing loops include a specially-designed amplifier, which is connected to the terminal public address system and to a wire that is embedded in the floor. An electrical current is sent through the wire resulting in the generation of an electromagnetic field, which is received by a tele coil (or t-coil) feature, installed in a user's hearing aid or cochlear implant. Counter Loops or point of service units, consisting of a microphone at specific terminal counter locations throughout the airport. The Counter Loop captures the sound of the customer service agent speaking, amplifies it, and delivers a wireless signal to a passenger's hearing aid via their t-coil. Counter Loops are also located at every ticketing counter, car rental counter and gate counter to assist passengers with hearing loss.

Other innovative technologies include communicative LED lighting in the gate holding area, as well as the creation and deployment of a passenger network called, "ROCview" accessible for free to passengers over free Wi-Fi that allows passengers to view in real time, from anywhere in the terminal on their personal devices or mounted tablets throughout the terminal, live gate cameras to view gate activity remotely without having to feel as if you need to sit within viewing distance of your gate.

ROCview is designed specifically for travelers and provides a menu not only to view live gate camera's but also food concession options and menus, terminal amenity maps, hearing assistive technology location maps, free games for passengers to play and flight information display integration. ROCview operates on a 50 GB bandwidth Wi-Fi network that is free to passengers and allows for more simultaneous users at increased speeds. Passengers can also access ROCview, the airport passenger information network using mobile devices while in the airport or via fixed tablets throughout the terminal.

As a result of these efforts, ROC was named the 2018 Most Innovative Small/Medium Hub Airport in the U.S., according to the American Association of Airport Executives (AAAE).

"As the birthplace of cutting-edge technologies for generations, Monroe County is no stranger to innovation," said executive Dinolfo. "That's why we are proud to invest in a next-generation airport for our community, which will better meet the needs of local employers to help welcome even more visitors and jobs to our region. This national award is a testament to our innovative vision for our job-creating ROC Airport renovation project."

One of two passenger interactive play zones, Greater Rochester International Airport

Community Relations:
Creating a Better
Passenger Experience

The traveling public was at the forefront in planning, designing and during construction of the renovations at ROC. Throughout the project the ROC Airport team maintained a designated website for weekly construction updates, impacts and feedback. Social media presence and ongoing project media events informed the traveling community of progress.

The ROC renovation project was completed on time and within the project budget in an aggressive 24 months. The entrance canopy has enhanced the overall passenger experience by providing a more safe and comfortable entrance to the building, especially during the cold winter months when exposure to the elements can be challenging.

The overall design revitalized airport circulation through a larger passenger security checkpoint, relocated concessions, new concourse design, reduced access points to the sterile areas, a new deplaning exit path and a single arrivals meeting area on the baggage claim level.

Health and safety are as vital to a project as cost, quality or productivity. Airports are most concerned with safety and security for both the traveling public and employees. As part of the project team's commitment to engineer safe solutions, the highest priority on safety training, policies and procedures was enforced. There were no major safety incidents and only 16 working hours lost due to a minor accident during the course of the construction.

"Under the guidance of Monroe County executive Cheryl Dinolfo, the project team did an incredible job of bringing our transformational Airport renovation project to fruition, while managing day-to-day airport operations with minimal impact on local travelers during construction," said Moore, ROC Airport director. "Thanks to county executive Dinolfo and governor Cuomo, ROC is poised for future growth and our Airport will continue to play an integral part in attracting more visitors, conferences and investment to our region."