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More from Brian Gorman will be available in the November issue of vuPoint.

## A Single View of Traffic in New Jersey: PART I

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An Interview with Brian Gorman, Director of Technology and Administration, NJ Turnpike Traffic Management & Technology Center.

Activu sat down with Brian Gorman, Director of Technology and Administration at the NJ Turnpike Authority’s Traffic Management & Technology Center, to understand how the Authority and NJDOT have achieved a "Single View of Traffic" in New Jersey. Part I of our interview provides insight into how the operations center was developed, how they are improving traffic management, and how they've become a model for future TMCs. Part II of this interview will be available in the next issue of vuPoint, October 2009.

### [Do you have remote access to the operations center and do you view the content from home?](#)

I think it’s a bigger question than that, I’ll explain. The Activu product gives us visibility of our legacy applications, new applications, and also the video information that you see on the wall. But the bigger answer is, it gave us something probably far more important which is a virtual disaster recovery strategy. In many cases, we were dealing with applications that were over twenty years old. In the transportation environment, when we put money into the roadway we have a tendency to hold onto that asset for a very long period of time. Also, certain transportation technologies change relatively slowly. The same application which may give you counts of vehicles, speed volume and occupancy was out there twenty years ago and when you purchased that application, it came on Windows 95. Windows 95 is obviously not a current operating system. To buy the new version, which gives you exactly the same information with better looking screens, and may run on Windows XP, potentially may cost two hundred and fifty thousand dollars. Realistically what you get for the investment is to get off of Windows 95. So in some cases, we prefer to hold onto the technology because we can do something better with a quarter million dollars.

Activu has really given us the ability to work with those legacy products while maintaining our security levels. With virtual disaster recovery, not only do we have the ability to see all of the assets in the

operations center and work with the applications, we can literally take a laptop and go anywhere on our network. We are fortunate that when we did the E-ZPass deployment, we placed fiber in the ground. We have 440 miles of fiber that spans through the state of NJ. There's a little over one hundred and twenty locations where we have access nodes, at all the toll plazas and all the service areas, so we can actually go to any of those locations with a laptop, plug in and connect. So from those locations, we have the ability to operate the center. Realistically, where people require brick and mortar DR facilities, we can be flexible and as an example move over to our administration building, take over the conference rooms and run the ops center from there. On a daily basis and more important, managers and supervisors with operations responsibilities, can literally open their laptop when they get a phone call at three in the morning. While they're on the phone trying to resolve an issue, they're actually able to give real-time situational awareness to those that need answers. That is very important in our 24 x7 world. I'm not suggesting we stream 20 cameras over a VPN connection, but the one camera that they need to see, they can. And that is all being run through Activu. So Activu has given us that true DR capability.

**In what type of situation would you need to have that three-o'clock-in-the-morning phone call where you'd have to power up your laptop and take a look at what's going on?**

It's probably a compounding kind of situation where it could be a rollover of a truck, or another major incident, but it's certain to be an issue that's now causing a multi-mile back up. Now at 3 am we're only three hours away from the true beginnings of rush hour. Not only do we need information about incidents, but we have the opportunity to manage incidents more effectively. We try to be proactive in how we manage an incident. There are a lot of subtle things that we can do. If we have the ability to contain an incident to a shoulder and maintain travel lanes, we do that. There are times that emergency equipment may get parked in travel lanes. Realistically, that emergency equipment is support equipment and it is adding value but it's not always necessary for it to be in the travel lane. Even with proactive management we're still going to have some congestion because people are going to slow down and look, but it's going to be vastly different than pinching three lanes to one or pinching three lanes to two. If we have the ability to run three out of three lanes, we're going to be better off.

**You mentioned on the floor that you have decreased your response time.**

Well, we've done that in terms of messaging. It really has to do with the integration effect of bringing everybody together in one operations center. The DOT was previously located in two operation centers, one in Cherry Hill and one in Elmwood Park. The Turnpike had an operations center in New Brunswick and the Parkway had an operations center in Woodbridge. Communicating information between the different entities was challenging. As an example think about one of the supervisors looking at a truck fire and what needs to be done to deal with that incident. As you can imagine, in your job, you're doing triage, you're looking at that vehicle burning in front of you and you're going to think about fire safety, life safety, and public safety. It might not be in that order. But those are the top three things that are going to come to mind. Getting a message out to the public is really important, but it just didn't get in front of those other things. So if we have the ability to do things in parallel and use resources that are on "standby" to get that message out, we're far better off.

Before we were all in one location we use to send an email to DOT or DOT would send a message to us, or call to advise us. Sometimes in the really old days, we would send a fax. Getting those messages to other organizations fell into a list of priorities. We have a host of things that need to be handled ASAP, getting an ambulance, fire truck, and a rescue squad to the scene. We have to get maintenance vehicles there to cone off that lane. We have to have State Police there to help supervise traffic, and for public safety purposes. In the past as we managed all of those moving parts, getting a message over to the other agency, although it was important, was a matter of priority. Where does it fall in the triage? Having everybody all together actually gives us the efficiency to be able to get that done quickly. The biggest benefit in having people together is that our supervisors talk on a consistent basis. So when there's an incident going on, they're pointing at each other's screens, even though everyone has access to the same data you bring the value of the human interaction into the equation and we compound the value of technology.

### **What was here before you had this management center?**

That was actually a grassy area. We added the traffic management center. We needed a common space to support consolidation for Turnpike and Parkway, for our ops center personnel. There was no single space large enough to support those individuals. When we started to look at the program and had conversations with DOT, it made sense that DOT had a single view of traffic within the state. That was something that they wanted to begin to accomplish. If I bring in all the groups together in one place, we're able to really communicate much better.

### **How did you start the research when you made the decision to combine everybody and build the traffic management center?**

The Authority continued to further consolidate departments, from the two former agencies. We needed to bring the groups together to support our own business needs. We really didn't have a single place that we could put everyone. We could have carved up space someplace but it wouldn't have made as much sense as having DOT and the state police involved, having that big picture view, a single view of traffic for the state provided value to operations and to the public. We did something rather unique when we built the facility. Rather than having the architects come in and design something, with us trying to fit into the space, we did the reverse. We did a true needs-assessment from a user group perspective; we designed a program of what we wanted the building to accomplish. For example, when we did the floor design, we actually sat down with a scale model of what we thought we needed in square footage for a floor, scale models of the workstations, and the different constituent groups that actually would sit inside the facility. We sat down over lunch, once a week, for about 6 weeks and had them create the space. And from a consultative approach, we just asked one question. How do you believe that we can create a working environment that improves the flow of information and improves the quality of decisions that are coming out of this facility? In other words, how can form satisfy the function? And at the end of day one, we had a facility that looked like NASA because it was three rows and everything was lined up very vertically and actually, it's what everyone was use to seeing. Folks designed what they thought were best practices. During the six weeks we kept asking, how does this improve or foster communication? And that was the mantra that continued to press. After the 6 weeks,

we arrived at the configuration that you see out on the floor. It is interesting to note that not every seat is looking directly at the wall. That's simply because we also understood from visiting some other facilities that there really was a distinct difference in what people did and how they used the information. We came to understand that there's a true difference between what a supervisor should be doing and what the people on the floor should be doing. Now intuitively we knew this, but from a design concept of building a facility we really had to think about how we incorporated that into the design. What you see is a concept of a cock-pit environment on the floor. Everything that people need to do their jobs is directly in front of them. The video wall is there but it's just an adjunct to their job. However, for the supervisors the video wall is a big matrix picture of what's going on statewide. It is a big objective view and provides support information for interagency communication and deployment of assets. The alignment of putting those supervisors shoulder to shoulder is where we see human interaction even further empowering the value of the technology that we put into the building.

**I like the concept of all the supervisors up on a platform together, sort of a dotted line team. Did you see that model somewhere else or this came out of your 6 weeks of sitting down and figuring it out?**

This actually came out of our best practices review. We took a look at a couple other facilities that we thought had some significant element of best practices. When we went there to test the concept of interoperability, we talked to the folks in row one and said "How is it working with the other folks in the building." And they said, "Well, we don't talk to folks in row two or row three." The folks in row two said "We don't talk to anybody." And row three said, "No, we talk to row 1 sometimes but forget those guys in row 2." It was a universal thing and we wondered why we were told this was an interoperability center because nobody was talking. Yet when we talked to the building manager, he was enamored with how this all worked. What we discovered was that we got answers to the questions that we asked. Then we asked a different set of questions. When we asked the question about supervisors and how they integrate, we actually started understanding that it was the supervisors that were doing the communication. At those facilities, in many cases, the supervisors were in offices that were off on the side of the floor. And in some cases they were actually in offices in an adjacent building. Can it work? Yes, obviously, it works for them. But we had the opportunity to design the building to support our communication needs based on the program for that building. We had a chance to do something different and what you see is the reality of that design.

**Part II of our interview with Brian Gorman will be featured the November issue of vuPoint.**

## **About Brian Gorman**

Brian Gorman, Director of Technology, New Jersey Turnpike Authority

In 2003, Mr. Gorman joined the New Jersey Turnpike Authority in support of the consolidation of the Garden State Parkway and New Jersey Turnpike roadways. Mr. Gorman is responsible for the business technology infrastructure and for electronic communications. Upon joining the New Jersey Turnpike

Authority, Mr. Gorman was tasked with modernizing the technology infrastructure on both roads to support the consolidation initiative and provide opportunities for process improvements through the use of technology.

The New Jersey Turnpike Authority has made improvements in voice, microwave, traffic surveillance, land mobile radio technologies, and fiber optic technology, but most notably in the management of roadway assets.

In 2008, the opening of the new Statewide Traffic Management Center (STMC) integrated NJDOT, New Jersey Turnpike, Garden State Parkway, and NJ State Police Operational Dispatch Unit into one state-of-the-art facility, resulting in an immediate positive impact to roadway operations.

With a common command floor, the sharing of information and co-location of personnel is designed to facilitate a faster and more comprehensive response to any situation that may impede the free flow of traffic. Through the use of integrated technology, information is presented to a cross agency team to aid in solving regional transportation incidents more quickly and effectively.

Prior to joining the New Jersey Turnpike Authority, Mr. Gorman was Director of Information Technology with the New Jersey Sports & Exposition Authority.