

Q&A: Gauging the Real-World Value of Real-Time Bus Arrival Data

A discussion with Rick Wood, President/CEO of CHK America, about next-arrival data and customer-information challenges facing transit systems.

Real-time bus arrival technology delivered via the Internet, text-messaging, smart-phone apps or LED message boards at bus stops has been adopted by dozens of transit properties in the past several years.

Despite the obvious benefits of this technology, it does not fulfill *all* of the needs of *many* transit customers.

The key to maximizing the usefulness of real-time arrival data is to integrate it with **wayfinding information** so customers know *where* they're going as well as *when* they'll be leaving.

To gain insights into this integration process, **Steve Hirano**, president of **Transit Talent** and the former editor of Metro Magazine, spoke with **Rick Wood, President and CEO of CHK America**, a Santa Barbara, California-based provider of **customer information solutions** to transit systems.

TRANSIT TALENT: How do you rate the deployment of real-time bus-arrival data in regard to recent innovations in transit customer information systems?

RICK WOOD: Real-time data has been available for a while. They were testing it in the 1970s and '80s. What's happened is



Rick Wood is the President and CEO of CHK America.

that thanks to technology it's gotten easier to do. Now, you don't have to install expensive LED hardware and electrical lines, which lowers the cost.

In that sense, the ground-breaking part is that, instead of agencies pushing the data to you, you can request the data on your phone.

So, how expensive is it to deploy this technology?

Real-time bus information at a bus stop is a by-product of a good management information system, which includes everything from GPS units on buses to in-house software scheduling packages. All of that is a huge investment. But if you have the right management information system and infrastructure in place, then applications that access that infrastructure are readily available. That isn't the expensive part, compared to the infrastructure. Any kind of management system like that will do a lot more than just deliver real-time information. It's used to manage the entire network.

In your talks with officials at transit systems, how enthusiastic are they about providing real-time bus arrival information?

If they have the ability, they'd like to do it. The nice thing is, we add that information to our at-stop bus panels. So, if the transit system can deliver it, they can put it in any number of places at a bus stop, including on our information products. For example, we can add QR [Quick Response] codes or a text messaging phone number for any system that we work with that already has real-time at-stop information. It's easy to integrate that information with the at-stop signage or displays.

Knowing *when* the bus is going to arrive may be the most pertinent piece of information for bus riders who are familiar with the system, but new or occasional riders may be more interested in how to get to their destination, right?

Correct. However, this is where we're talking about a route and a stop vs. a network. Real-time information delivers one piece of information: when the next bus is going to arrive. And that's good. It takes the anxiety away from riders because they know, for example, that they haven't missed the bus; it just may be running late. But it doesn't do anything for you as far as being able to plan your trip from a bus stop or deviating from your plan.

So let's say, Steve, you're at a bus stop and you're going to meet a friend at McDonald's and he says, "Oh no, I'm at Walmart," which

is at a totally different place. At this point, when the next bus arrives is irrelevant. You've got to figure out how to change your whole travel plan. So, like I said, it gives you one very specific piece of information. People need to understand that it's not a planning tool.



CHK America can add QR codes to at-stop bus panels, allowing riders to easily access real-time arrival using their smart phones.

Do most riders know how to get where they're going when they reach the bus stop?

Yes, they use the Internet and system maps and schedules to plan their journeys. Or, they ride the same route every day and already know what their journey is. But studies indicate that if riders were more aware of their connection options and how the network functions, they would use more of the system. And that's one of the fundamental reasons that Chicago RTA's

Regional Transit Coordination Plan, a research project performed by Booz-Allen Hamilton, determined people's usage of the systems provided by the CTA, Pace and Metra was hindered — because they didn't understand how the network operated as a whole. Our project there, for example, focused on the hubs and transfers. When people get to the stop and see where they are, they say, "Oh, OK, I didn't realize that I could connect to that line from here." If you have travel option information at the bus stop, it tends to open the network to existing riders and encourages them to use more of it.

Now Steve, let's talk about new riders. They absolutely need to understand that they're doing the right thing, especially at the bus stop. That's where you're going to lose them. If someone gets to the bus stop, and they don't feel comfortable with that last stage — getting on the bus — you've lost them. If they have a different option, they probably won't use the system again.

As an industry, we need to attract and retain new riders, so the best and most important place to have clear, comprehensive information is at the bus stop. All you have to do is walk around cities that have it and you'll see people every day standing there looking at information and understanding the network. I see it every day here in Santa Barbara. I see it in London. It even happens to me when I travel around the country. To attract new riders — choice riders — having good information at the bus stop is where you're going to have the biggest impact.

How important is it for transit systems to integrate real-time data with their printed material, such as route maps and schedules, as well as bus stop signage and at-stop information panels?

If they can deliver it, then, yes, they should do that. But, again, it goes back to my point, real-time data answers a very specific question: When is the next bus going to arrive? But people have a difficult time understanding complex information. When that complex information is reduced to a small screen, like a cell phone, you have to be very careful in terms of how much you expect them to understand. A short text message saying, "Your bus is going to be here at 8:32," is fine. But trying to explain involved connection and travel options is asking a lot of anybody, especially with all of the distractions. That's when people tend to make mistakes.

And this all assumes that people have a phone capable of receiving text messages and that they can afford the texts. That's another issue, not just the cognitive overload, but also the actual cost on the customer end.

In regard to adding this information, can it be done inexpensively?

Final delivery of it at the stop isn't the expensive part. It's the infrastructure that's expensive. So, if you're a big system and you need to reprint 10,000 bus blades with that phone number, is that expensive? Compared with the infrastructure to get there, then, no. But is it expensive on the

face of it? Yes. It's got to be part of an overall passenger information improvement program. We can actually add that information to our printed panels. If we're already working with an agency and we want to add a phone number or a QR code, there's no real cost involved there.

Do you foresee a time when all bus routing, scheduling and real-time arrival information will be completely digital, without the need for printed materials?

No, because our cognitive ability to understand that much information digitally, until it's delivered through a chip in our head, is not possible. It's just too much information. But, to back up, it depends on where you are and what stage of the journey you're in. If you're asking me if digital will replace printed static material on the street, then, no. There are too many variables to cover and people's abilities to comprehend those variables are not good enough. They don't match the complexity of the problem.

Is there an example of a transit agency that you're working with that that you feel is doing it right or headed in the right direction integrating real-time arrival information maybe in a corridor setting or along with the printed information?

Yes, there are a lot of agencies that we're working with that are doing both. Washington, D.C., [Washington Metropolitan Area Transit Authority] is doing one of the best jobs in the country of

addressing at-stop information. They've undertaken a huge effort to do that. And they do also have real-time arrival information, but I don't know how far that's been deployed yet. But they are doing it. So D.C. is leading the industry as far as at-stop information goes. [\(click to see sample\)](#)

What advice would you give transit systems that have already deployed real-time arrival systems about the integration process?

I would advise them to consider it to be one important aspect of customer service, but not to expect next-arrival information to solve all of their customer information problems. It's not a silver bullet. You have to do all of the other methods of communicating effectively using your tools through marketing, published materials, comprehensive information at the stop. It's just one component of an overall customer information strategy.

Established in 1999,

CHK America is the premier provider of customer information



solutions for the U.S. public transportation industry and works with many of the nation's largest multimodal agencies, including Washington, D.C.'s WMATA, Chicago's RTA, CTA, Pace and Metra, and Los Angeles' Metro. To contact Rick Wood, you can e-mail rwood@mapsusa.com or call 805-682-8900, ext. 105.