Good morning. My name is Josh Cohen from TransLoc and I'm going to talk to you about a regional project we did for GoTriangle, which is a partnership of public transportation agencies and organizations funded to promote commuter benefits in the Triangle.

Here's why we're here. The not-so-humble iPhone (this is the first version of the iPhone). Did you know that it just celebrated it's fifth birthday? It will be heading off to Kindergarten this fall, that's how young it is.

Despite it's age, the iPhone—along with Google Transit—has revolutionized transit. It has made transit more accessible to more riders than ever before. It has made transit cooler than ever before. And it has the power to take transit farther than it's ever been.

And here's what should be another recognizable item.

The QR code. And can anyone tell me when these were invented? It was actually 1994, by a Toyota subsidiary for tracking its parts. Now, you can download our app from it.

Before I get started, a little information about TransLoc.

We are based in Raleigh, NC and our goal is to make mass transit easy. Last month, over 2 million riders used TransLoc--on the web, on mobile phones, on mobile apps, and on flat-screen monitors at stops. They used TransLoc to get real-time info on their bus and to access important announcements that might impact their trip. We help put transit on a more equal footing with the car. You can look on your phone or on the web and see where your bus is, when it will arrive, and where that route goes.

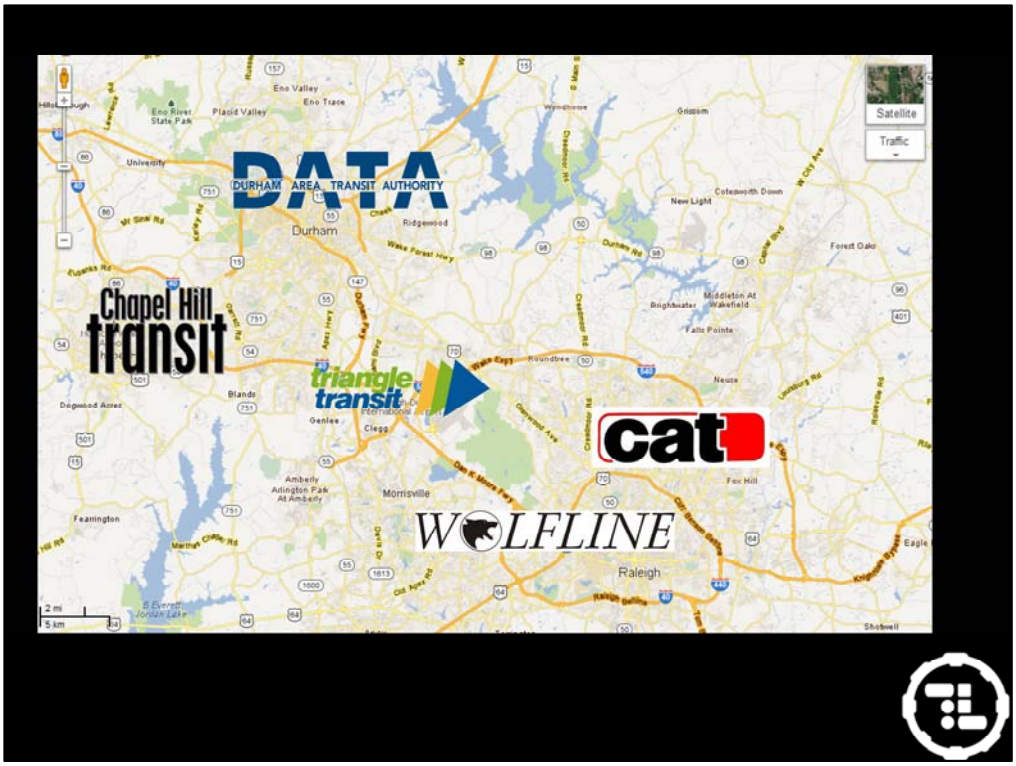
We have two philosophies that guided us on this project.

One is that nothing beats being a user of your own product. So we encourage our employees to use transit as much as possible, whether that's commuting or just going to lunch. Here is a collection of some of our transit passes, from our local commutes as well as our travels. We use our own experience using transit ourselves to make our product better. On my commute the other day, I struck up a conversation with another passenger because the bus was late. And he said the bus was still up the road a ways. And I said, yeah, it'll be here in 8 minutes. And he said, how'd you know that? Turns out that he was familiar with the app, but that he never zoomed in close enough to see the stop level detail and so he didn't know about the predictions. This insight from a rider on how he uses our product couldn't be gained from sitting in the office. You have to get out and talk to riders.

The second philosophy is that something that is nicely designed will get more use.

Giving your riders real-time information on apps is kind of like your front porch. It's not the heart of the home like the kitchen or where you sleep, but it is the first thing many people see. Same thing with your transit system. Apps aren't as important as your drivers or buses, but for many riders it will be the first thing they see, primarily because of the public nature of it. Prior to this technology, I had to go out on a street corner to see a bus moving. Now, I can do that on my mobile phone. So, more people will be seeing your transit system than ever before. And if that's the case, you really want to make sure it looks good to help attract those riders.

And that leads right into what I want to talk about today: how we integrated data from five different transit agencies into one user interface.



So, let's orient you. This is the Research Triangle Region of North Carolina. Raleigh, the state capital and home to NC State University and Capital Area Transit. Duke University is up here in Durham with DATA. And the University of North Carolina at Chapel Hill is here in Chapel Hill and Chapel Hill Transit. Together these transit agencies have about 320 vehicles.

This is our backyard and where we live. Like many areas, we have a regional lifestyle where people live, work, and play all in different parts of triangle. When I take transit, I take DATA from my house in Durham and connect with a regional Triangle Transit Express bus that takes me to Raleigh.

Because of the regional nature of our area, Triangle Transit coordinated a regional marketing program called GoTriangle. So let's dive into the problem:

Between 2006-2009, Raleigh, NCSU, and Chapel Hill all got real-time passenger info BUT each with a different AVL vendor so systems didn't talk to each other
In 2010, DATA, TT, and Cary wanted to offer similar tools to their riders BUT Triangle Transit was concerned there could be up to six different AVL vendors in our area that all wouldn't talk to each other, making it really hard for riders to make transfers.
Triangle Transit found in their due diligence that AVL providers and web and mobile developers have very different strengths that didn't often overlap.

So, Triangle Transit decided to split up the RFP. Purchase AVL for DATA, Triangle Transit, and Cary and then produce a separate RFP for an integrated, regional passenger information system that took real-time data from all the AVL vendors to provide a consistent look and feel that represented our forward-thinking region.

They had two main goals.

The first goal was to increase customer satisfaction. As a bus rider myself, I've had those moments before where I don't know where the bus is. There have been studies that have shown that perceived waiting times at a bus stop are higher than actual waiting times. *Rabi G. Mishalani and Mark M. McCord, Ohio State University, John Wirtz, Edwards and Kelcey, Inc., Chicago, IllinoisJournal of Public Transportation, Vol. 9, No. 2, 2006*

Triangle Transit wanted to increase customer satisfaction but they had a concern that many of you may share. If they invested in this real-time information, would everyone, including transit dependent riders, have access to it?

Yes, because Triangle Transit invested in both LED signs and static signs that go at the stop.

But they also recognized that smartphone usage was going to continue to grow.

Smartphone ownership within demographic groups, 2011-2012

% of adults within each group who own a smartphone (indicates statistically significant difference between 2011 and 2012):*

	May 2011	February 2012	Change
All adults	35%	46%	+11*
Gender			
Men	39	49	+10*
Women	31	44	+13*
Age			
18-24	49	67	+18*
25-34	58	71	+13*
35-44	44	54	+10*
45-54	28	44	+16*
55-64	22	31	+9*
65+	11	13	+2
Race/Ethnicity			
White, non-Hispanic	30	45	+15*
Black, non-Hispanic	44	49	+5
Hispanic	44	49	+5
Household Income			
Less than $30,000	22	34	+12*
$30,000-$49,999	40	46	+6
$50,000-$74,999	38	49	+11*
$75,000+	59	68	+9*
Education level			
Less than High School	18	25	+7
High School Grad	27	39	+12*
Some College	38	52	+14*
College+	48	60	+12*
Geography			
Urban	38	50	+12*
Suburban	38	46	+8*
Rural	21	34	+13*

Source: Pew Research Center's Internet & American Life Project April 26-May 22, 2011 and January 20-February 19, 2012 tracking surveys. For 2011 data, n=2,277 adults ages 18 and older, including 755 interviews conducted on respondent's cell phone. For 2012 data, n=2,253 adults and survey includes 901 cell phone interviews. Both 2011 and 2012 data include Spanish-language interviews.

As this graph from the Pew Research Trust shows, the smartphone penetration rate is increasing with all income levels, all races, all education levels. The smartphone is here to stay. More importantly, as more and more riders have this technology, their expectations for technology are rising.

And when you look at the area that has the highest level of smartphone riders currently, it leads in well to Triangle Transit's second goal

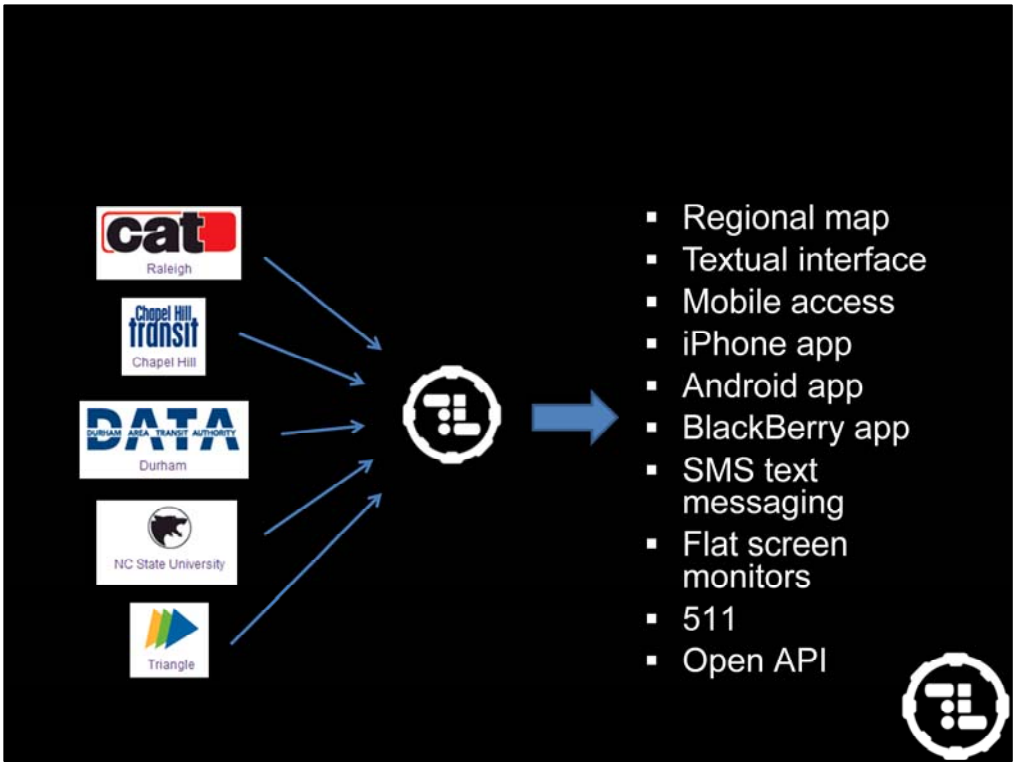
The second goal was to attract choice riders. They wanted this project and the mobile apps to signal to riders that the community views transit as an asset--as something to invest in that will produce returns like lower traffic, better air, reduced fossil fuel consumption.

To do so, transit has to overcome what I call the “chocolate cake problem.”

I was talking with my friend Glenn Kurtz, VP of Alternative Transportation at Lanier Parking and he said something funny but true, "**It seems when you have a car, you drive it, even if other options are available. It is like having a big piece of chocolate cake placed in front of you after every meal. You just eat it**." Like the cookie in the lunch yesterday.

Getting people to consider not using their single-occupancy vehicle can be tough. It's so convenient and comfortable! You can look out your window, see your car in your driveway, and know that your car will take you to work. But transit introduces other variables: will it be on time, where is the stop, what happens if I have to go home early.

So what can be done to help reduce some of those advantages that cars have? We need to put transit on a more equal footing with cars.

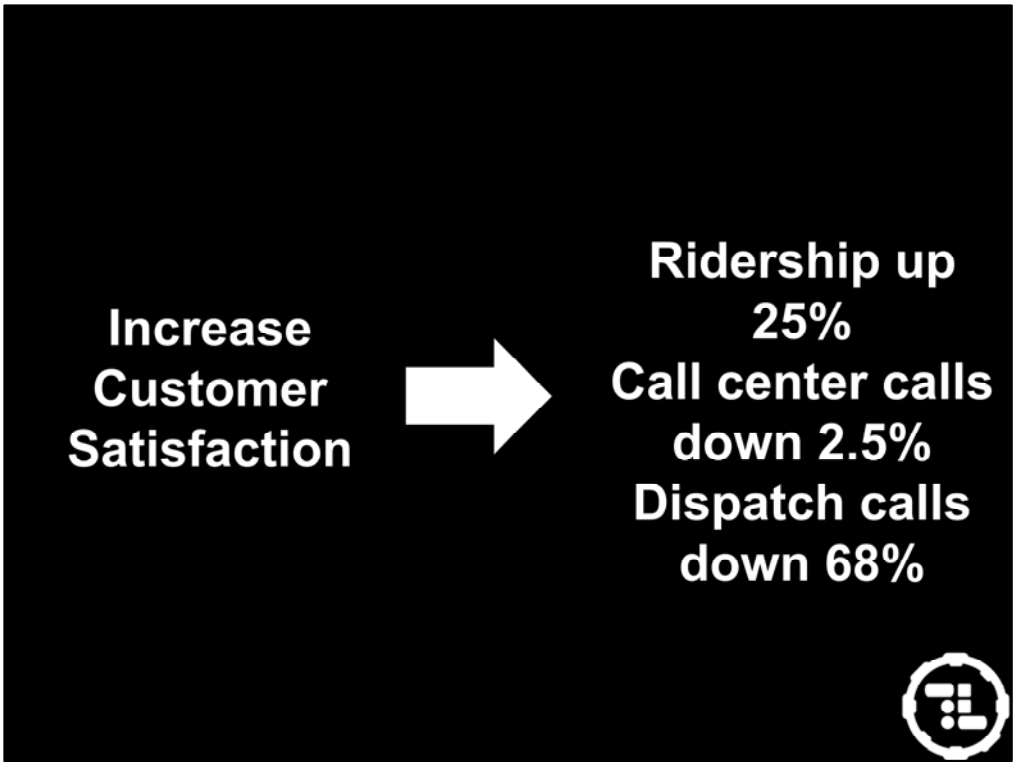


Triangle Transit is doing that by giving riders a way to see five different transit agencies in the same place on the web, mobile web, iPhone, Android, BlackBerry, SMS, flat-screen monitors in building lobbies.

If you want the app yourself, go to live.gotriangle.org

This actually takes you to the mobile website, but at the bottom, it will give you a link to download the app for your smartphone. While we're here, let me just give you a quick data point on mobile apps vs. mobile web. Mobile apps—the downloadable ones from the iTunes App Store, Android Market, or BlackBerry AppWorld, are different than just making your site available in a mobile phone browser. And the data we have on it is clear. The first full month we released our iPhone app, we received 350,000 hits on the iPhone app, but it didn't cannabalize existing usage on the mobile web. So that means either existing users are using the system more because of the app, new users are using the system because of the app, or, more likely, a combination of both. Regardless, I think you'll all agree that an additional 350,000 people interacting with your agency each month is a good thing.

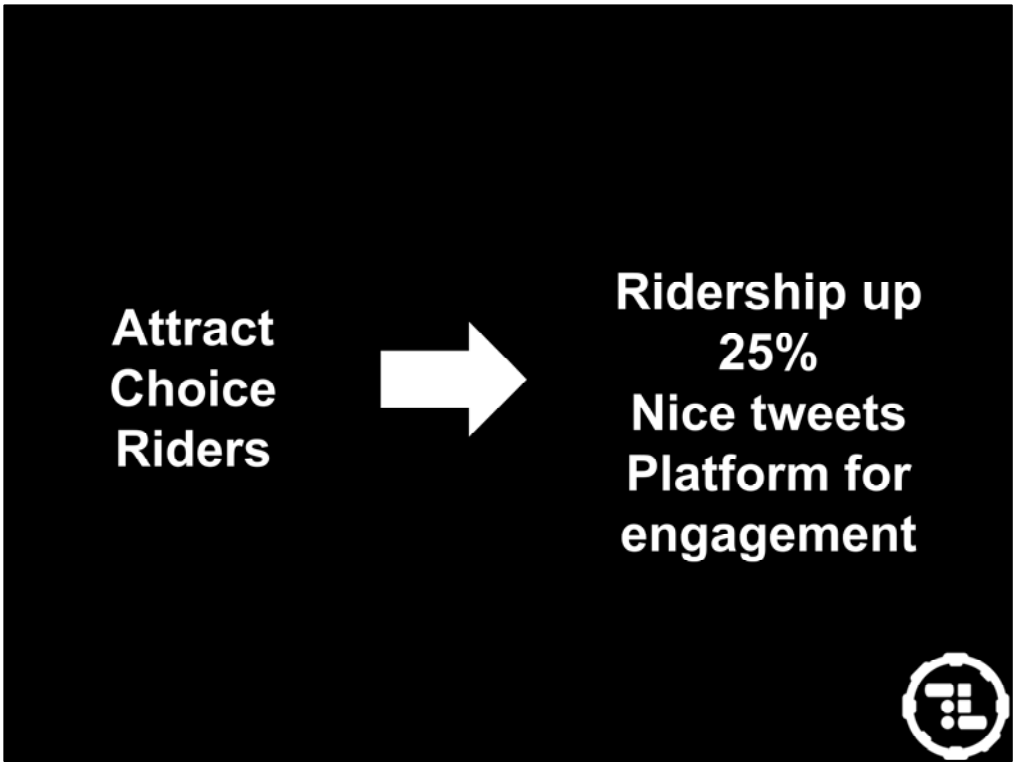
Now, let's take a look at some of the results of this project.



The first of Triangle Transit's goals was to increase customer satisfaction. So far, in the 3 months from December until the end of February, ridership has been up 25%, call center calls have been down 2.5%, and dispatch calls to other agencies are down 68% because they can now get all this information in one place. We can't take credit for all of the ridership increase, but certainly hope that we had an impact on call center calls decreasing while ridership increased since riders now had real-time info in the palm of their hands.

One note here: trip planning was not part of the scope of the project so it's certainly possible that integrating in real-time info with trip planning may further decrease call center calls.

As far as the second goal of attracting choice riders…



Obviously, it's going to take more than a few months to see if Triangle Transit and their constituent agencies have achieved their goal of attracting more choice riders, but initial indications are positive. I mentioned the 25% increase in ridership and many of those are likely choice riders. They've also received lots of nice tweets. I'll read just a couple just so you get the idea:

@citybeautiful21 Getting great use out of the **@Transloc** app riding **@triangletransit@gotriangle** TXFRs easier than ever.
MT **@thedustin**: gotriangle has real-time bus tracking via mobile & web apps! changing my world!

And it's been a platform for engagement with their riders. They've branded it #GoLive and it's been something to talk about with their riders. They've also encouraged riders to create apps with the data as there is an Open API.

So far, so good, they are on the right track to achieve their goals.

I hope this has been helpful to see how one of your peer agencies solved the problem of how to create a unified mobile app presence, despite there being several different AVL vendors already in the market.

I've included my contact information here and also that of Brian Fahey, who was the project manager for the project from Triangle Transit. Thank you.