ba BART

Bay Area Rapid Transit

BART
Lessons
& Strategies

Putting the Web, Social Media and Developer Community to Work for Transit

Interview by Aaron Antrim
More Riders Consultant

San Francisco Bay Area Rapid Transit provides approximately 375,000 passenger trips every day. Since BART operates in the S.F. Bay Area region, just north of Silicon Valley, these passengers include many technologically creative and demanding people.

BART has often led the transit industry in their understanding, use of, and experimentation with online and mobile media. For example, BART responded to rider needs and the opportunities of their unique market by communicating through online social media, releasing schedule and arrival data in open formats, and reaching out to third-party software developers.

The agency was recently recognized by the San Francisco chapter of the American Marketing Association with a 2009 "Excellence in Digital Marketing" Award. BART's open data initiatives were featured in an Atlantic Monthly article on "iGovernment" in Winter 2009.

I was honored to have the opportunity to ask BART's web team, Timothy Moore and Melissa Jordan, about lessons they've learned and successful strategies and tactics for transit websites.

AARON ANTRIM: Hi Tim and Melissa. Thanks for agreeing to participate in this interview and share your work and insights with us. First of all, I want to compliment you both on the new BART website (www.bart.gov); it's really beautiful. The BART website looks different from a lot of other transit websites that I've seen. One thing I am curious about is what happened to the BART train on the home page?

TIM MOORE: That's a good question. I think it's really common for transit agencies to put shiny equipment or put a cool destination where there's some borrowed influence and good visuals front-and-center, but the bart.gov redesign was a very user-centered exercise where everything was about the customer, including the front-page visuals. We're literally putting customers front and center, and even using a lot of authentic rider-contributed

images. In fact, a lot of the images that we're using are licensed under creative commons, directly from Flickr. We're using them all over the site, particularly in the "Stations" section (www.bart.gov/stations/index.aspx), because using these real images adds a level of authenticity and reality to the presentation.

AARON: I'm looking at the image of the woman with her bike that you have up on the BART.gov home page right now, and I just wanted to say it's a great photo. It looks very candid.

TIM: Yeah, that's right. The real user doesn't have hot spots gleaming off their teeth and that kind of staged thing. It's just so fake and so transparent that trying to use real images really, I think, adds a lot of value. This particular photo was actually taken by a professional for a bike-to-work month tie-in, but it's a real customer and we do use a lot of rider-contributed photos on our homepage.

AARON: Looking at the "Stations" (www.bart.gov/stations/index.aspx) section, I see that the user can click through lots of rider contributed photos of each station. There are captions under each thumbnail that credit the amateur photographers who posted these on Flickr (www.flickr.com). Are they culled automatically from Flickr, or do you have some sort of system that you use to go out and gather these photos?

TIM: When we did it, we actually gathered them ahead of time and created the attributions and everything like that, just to work them into our CMS, to get them into the different sizes and stuff. We had a kind of specific presentation in mind for them. I can say typically there are multiple images for each

www.bart.gov homepage

www.moreriders.com

station, so upon refresh the order or the presentation should be different, depending on which station you're at.

AARON: Not to belabor the site design, I do want to comment how, even though there may not be pictures of rolling stock, it seems that many elements capture that iconic shape of the BART vehicle. It's very clever. Is there anything that you want to say about that choice?

TIM: The visual choices for the website design are actually the first implementation of a larger branding effort that seeks to bring all of our collateral and publications into a more coordinated and contemporary presentation. For example, the navigation features on the website are evocative of the wayfinding signage that you'll find in the station.

The colors are natural without being granola. We're using the rounded corners, I think, because they're friendlier, and they are as you say, evocative of the trains themselves. So, yeah, there was a certain amount of thought put into a lot of these elements. You'll also see detail like a station tile and very specific details of elements within the station that also give you that sense of, "Gee, I think I know where this is," or, "I think I've seen this before." It's just a curious presentation of some of these images, and, we thought, kind of a more interesting presentation.

AARON: I agree. Any particular reason why the branding effort started with the website rather than printed media or signage? I'm wondering if the web was identified and chosen as easier medium to experiment

with new concepts because it allows you to rapidly prototype, roll out to customers, and revise if necessary.

TIM: I wish could say that there was a larger scheme of thought put into that, but it just happened that bart.gov was the first thing that BART took on as part of the larger branding effort. What I can say, though, is that our entire design approach used a user-centered design process where there was a great deal of interaction with customers around these design concepts. We sought a lot of customer input on website design and functionality decisions.

AARON: Tell us more about that. What form did the input come in, and how much did you solicit? Did you do a survey like for the BART Mobile Applications study?
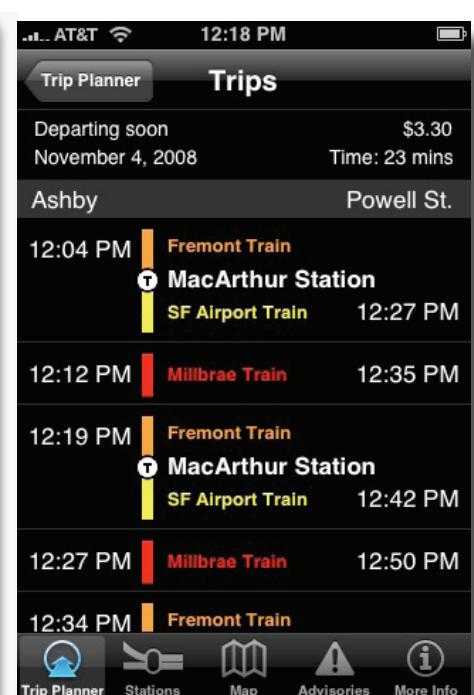
iBART is a free iPhone application for trip planning, arrivals, system map and service advisories; more at www. pandav.us

TIM: Initially we started with a survey and tried to get a sense of what was needed on the site, what was missing, what was good, and what was bad. It was a high level thing. Then, we set about creating functional requirements for the design initiative. As we went through various executions of the design we brought in customers and literally sat them down at a computer and ran them through mock-ups and wire frames, and looked at key tasks like planning a trip or finding a ticket type or getting station information or a map or real time information or delay advisories. Using our site traffic metrics, we could see what the most popular tasks were, and track that against what people wanted to do. We ran customers through the paces,

and adjusted what we did, retested, made sure we had it right and rolled it out. The reason we went to such great effort was because we had a site that was up for almost eight years, and that site had been tested and proven. So we really wanted to make sure that we weren't breaking anything with this new design.

AARON: How long did this iterative design process last? It sounds like it was very feedback intensive.

TIM: We would have two days of testing and then work for a couple of weeks and then came back for another two days to verify some of the changes. The entire redesign from sitting down initially to start and write the functional requirements to rolling out was about a year and a half.

AARON: We have talked a lot about the aesthetics of the website. There's probably lot more to talk about there, but I want to ask about some other innovations. Tell us about that button that says "Developer Resources" under "Schedules" (www.bart.gov/schedules/developers/index.aspx). Why did that happen?

TIM: Since we are in the San Francisco Bay area, we wanted to bring developer tools out of the basement and into the light. The developer section offers a lot of free data feeds for real time information, static schedules, service advisories and more. We also have a few tools that allow webmasters to embed BART trip planners on their own websites (www.bart.gov/schedules/developers/

Example BART Station homepage

embedded.aspx) or business owners to put up a BART estimated arrivals display in their café or building lobby (www.bart.gov/schedules/developers/etas.aspx). We also recently posted an App Center where we are listing more than a dozen apps that have been created with BART data that run on platforms includong iPhone, Android, Facebook, Twitter, Blackberry, and others. There's some really cool stuff in there.

AARON: Would you say you partner with developers, or would that be going too far? Or do you make resources available to developers and then sit back and see what happens?

TIM: We really just make resources available. We have such a creative and competent development community here. Our developer resources program and what's come out of it has grown organically. We have an email list of about 750 developers who we try to keep up-to-date on changes that we're making. They can also follow that through our RSS feed, but for the most part, these are folks who saw a story on Mashable, a story through Digg, or something on a Google list and came by to check it out. We have done a little bit of promotion. We have posters up in the stations that promote BART.gov/developers (www.bart.gov/schedules/developers/). Actually there's an example of it online. If you go to bart.gov/developers, you'll see an image of it.

MELISSA Jordan: That got a lot of attention, actually. I still notice tweets from people who see it for the first time on the train and say, "I didn't know BART had a developers section. That's cool."

AARON: Yeah. I see the poster here on the website. It sounds as if even if your relationship with developers isn't an official partnership, you have invested timeand energy in recruiting a development community, and I'm wondering what BART has received in return. Could you estimate percentage values for the portion of customers that get their schedule and real timealert information through third-party developer apps as compared to BART-supplied apps?

TIM: I have no idea. If there's anybody from DOT reading this article, I'd love for them to come in with some money to do some research on that. I have to tell you that our lives her are so tactical and day-to-day in just keeping up a website that this kind of larger stuff is really hard to come by. When we released this information we kind of joked that we were doing it on one percent time, which was an homage to Google's 20% time (www.googleblog.blogspot.

3rd party information kiosk offers arrivals display using BART real-time data feeds.

com/2006/05/googles-20-percent-time-in-action.html). We really aren't able to spend a lot of time in the promotion and measurements areas. I wish we could do more of that.

MELISSA: I think our philosophy, though, is that "more is better." Offering more options for customers is great. Customers have what we can provide, and they have a lot more choices because of what developers can provide.

AARON: You're really letting a market take care of things with a sort of hands-off laissez-faire approach.

TIM: Yeah. I guess that's true. But to a certain extent I think BART works to set expectations in the market. We have a Palm application (www.bart.gov/schedules/mobile/), an old pocket PC application, and an application for the iPod that we created that won a grand prize APTA award a couple of years ago. I think that these services set the bar for what customers expect, and gave an example of what could be done in these media, but with no in-house developers to create new applications

BART Developer page, www.bart.gov/schedules/developers/

for Android, Blackberry or other platforms, and in a timeof limited budgets, sharing data is a great way to foster these new services that directly benefit customers. I think that's the key thing.

AARON: I'm going to back up a little bit here. You very quickly summarized all the formats in which Bart makes information available. I'm wondering if you could re-list those for our readers, so they can understand the difference between the Google transit feed and the real-timearrival feed.

TIM: You're going to make me talk about standards, huh? Obviously we're using the Google Transit Feed specification for our static data (http://code.google.com/transit/spec/transit_feed_specification.html), and that's available not only to Google but to any developer who should happen to come to the site and download it. We have our RSS feeds (www.bart.gov/news/rss/index.aspx) for elevator advisories and delay advisories. As far as our real-timefeed is concerned (www.bart.gov/schedules/developers/etas.aspx), it doesn't really follow a standard. It's just an XML file with defined elements. We decided it was better to get this information out in a useful way, even though it didn't really conform to any standard, because frankly there was no de facto standard that we could find that anybody was actually using, and we didn't want to wait to get it out.

AARON: Not every agency that publishes a Google Transit Feed has released it. At my last count I think there were more than 30 agencies publicly releasing Google

Transit feeds at (www.code.google.com/p/googletransitdatafeed/wiki/PublicFeeds) the public feeds page, but many more agencies do not release their feed. I don't know if or why those agencies feel uncomfortable releasing their feed publicly. I'm wondering if there have been concerns that you've dealt with about releasing some of this data in open data formats. Why has the balance tipped in favor of publishing data at BART?

TIM: Well, to set the groundwork, BART has been sharing data with a Metropolitan Planning Organization, or an MPO, for ten years or more. So releasing BART data and seeing third parties present BART data was not really a foreign concept to us.

I can kind of kick through some of the concerns that I've heard from other agencies and our approach to those, if you want.

AARON: That would be great.

TIM: From a brand perspective, we reserve use of the BART registered trademark as a way to distinguish official communications from other uses of BART data. Customers are smart. They know where to find the authoritative information. At least that's how we feel. As far as loss of website traffic or whatever, if sharing data drives everyone away from your website, it means your website is not doing a good job. As I said before, BART is the authoritative source for BART information, and we take a more holistic approach than Google, for example, or others, to serving our customers. I'm not sure what else we can say about that.

AARON: That makes sense. What you say about customers being able

to smartly distinguishing authoritative versus non-authoritative information makes sense. The internet has been around for a long time, and not all information on the internet is authoritative. I think most people who use the internet understand that. It might also be worthwhile to point out that there is often third-party information available for agencies that don't share data common formats and the quality of that information might suffer because developers labor scrape information off agency websites. It can go out of date. That shows the demand is there; why not provide the tools to enable 3rd party apps to give accurate data?

TIM: When one of the early third-party BART information apps for iPhone came out, there was a little bit of confusion as to where this application was coming from. What we found after a couple of days was that the community takes care of itself. Customers were coming up and saying, on comment boards and elsewhere, and saying, "Hey, this is not BART's application. BART has opened up its data, and there are developers using that data." When other applications came into the fray, and there was more than one application there, it became much clearer these were third-party applications because it was obvious BART would not have developed and released many separate and duplicative applications. The issue just cleared itself up. I think you have to have a certain amount of faith in the market, and in the intelligence of customers to figure things out -- that was kind of the take-away from that experience.

MELISSA: Don't you think some agencies, if they don't understand data sharing completely, might think, "If we give it away, why will people still come to us?" They just have to offer something better, deeper, more interesting to people, and they'll keep coming to you.

AARON: Like lovely photos of stations and riders.

MELISSA: Funny things seen and heard on the train! You're not going to get that anywhere else.

TIM: I also want to talk about one other common objection to data sharing that agencies typically have. It's about the cash value of data. Basically transit agencies have been trying to monetize schedule data for years. At some point we kind of felt like we needed to weigh the benefits of actually getting information out and serving customers against the hope of revenue that has never materialized. I think if transit agencies could make money on schedule data, it stands to reason that they'd be making that money already.

AARON: Yeah, it seems like that approach has been tried a lot times and failed. I've never been to a restaurant that charges me to look at their menu before I want to order; in fact they are happy to share their menus on Yelp and in some of those directories that republish restaurant menus. BART has really been on the frontier of a lot of open data, along with TriMet (www.trimet.org) in the Portland metro area, [see http://tinyurl.com/trimet-innovation] interview with TriMet's GIS Manager and Chief Technology Officer on open data] and I'm wondering how your approach has changed as you've been testing the waters?

TIM: I don't know that it actually has changed that much. We have learned from looking at what other agencies are doing and seeing where the community is heading. I think it's instructive to see look at something like our developer license agreement, for example. When we started open data initiatives, we weren't always sure we were headed in the right direction, but we watched, learned from, and were validated by other agencies. We borrowed elements of our developer license agreement (www.bart.gov/dev/schedules/license.htm) from TriMet, and others have borrowed elements of their license agreement from us and TriMet, I'm sure. There is a sense that everybody's kind of arriving at the same conclusion about these things, and there's a certain amount of validation in that.

AARON: You've already talked about this topic, but I'm going to ask

another question about it. You're in the Bay area. Not only do many people use Twitter in the Bay area, but the developers of Twitter are probably riding your trains, for example. You've really been in a unique hotbed of technological innovation, and I'm sure that's changed your approach to some of this. I'm wondering if you could talk about that. Maybe share a few anecdotes?

TIM: Certainly there are customer expectations regardless of your market. We try to keep on top if it here with just research and interaction. For example, we did a Mobile Applications Survey (www.bart.gov/news/articles/2009/news20090126.aspx) to really get at what our customers wanted from their mobile devices and fed that back to the developer community so developers weren't operating in the dark. That's one way we try to keep abreast of what our customers are wanting from a technology perspective.

MELISSA: It feels like it's a high bar, and it keeps us on our toes, because we do have to be providing the best, latest technologies and ways to get information, because people expect that from us.

AARON: I read the BART Mobile Applications Rider Survey. Is that a survey that you did mainly for yourself and the internal development of applications, or was that more for the external development community? I noticed and thought it was an interesting and good choice that you released the results of that survey and announced them widely.

TIM: I think we always thought that we were going to release it completely. We always knew we were going to put it out, because we knew that the developers could use it. It was really an effort because we had some very specific questions that we wanted to get information on. I wanted to know if anybody was actually using

Example BART Station homepage

our Pocket PC app any more, because we saw that as something that could be cut. So we wanted to go out and verify that no one was using it. It just wasn't enough for a full survey, so we thought, "Let's put some of this other information in here and turn it out to everybody so that they can improve their products with it."

MELISSA: It's really valuable intelligence for us, too, as far as customer behavior. We got verbatim quotes and information, thousands of them --pages and pages that give us insight into how people use information, and what they need from us. It was great for that.

AARON: Have you seen any effect in terms of the course that the external development community is taking already?

TIM: I have seen that there has been an uptake on the use and integration of the real-timefeed. That was one of the elements, I believe, but I'm not sure that would not have happened already as people saw that the feed was available. There was some feedback on our mobile site. We're taking that back and working on improvements to our own mobile site and looking at solutions for the SMS channel that are a little bit more on-demand than our current messaging services. So it has informed our own course.

MELISSA: It was a huge surprise to us that so many people didn't even know we had a mobile site. I mean, many people were asking why we didn't have a mobile site, when we actually have one. Clearly, we needed

to get the word out better on that, and we've tried to promote it more and get the word out.

AARON: Any survey that gets people engaged is a successful survey, I think. One last question on this topic â€" I am curious if the real-timefeed information is being embedded in a lot of websites, or if you are seeing it more in mobile apps and embedded in applications?

TIM: So far I've seen more of it coming through in mobile applications.

AARON: Let's turn to twitter. I follow @SFBART on Twitter (www.twitter.com/SFBART) [approximately 3,800 followers as of June 5, 2009]. I think you were one of the first agencies to embrace Twitter, and now I think there are probably at least 50 different agencies across the U.S. on Twitter that I know of. What have you learned as part of this experiment? What have you figured out as far as how an agency can use Twitter?

MELISSA: I think it humanizes the brand. That comes up in quite a bit in the feedback we get from customers, that they do feel a more personal connection when they can communicate with you in real time, and know that you're listening and answering their questions. So it's helped to align with the strategic brand initiative that we have of making BART more approachable, friendly, modern, and dynamic.

AARON: I see you have almost 700 updates on there. How many tweets from users do you have to read through on a given day?

MELISSA: I don't HAVE to read through any, and some days, you just kind of let it flow by like a river and ignore it, but I use the search tool to look at mentions of BART. I think I'm pretty well seeing almost every mention of BART on Twitter, because I monitor that every day, so I probably read a couple hundred a day on a normal day but if something crazy happens then I might read up to 500.

AARON: Any direct customer feedback on the SFBART twitter presence?

MELISSA: I know we're back out in the field with another touching-base brand survey that we just did. I haven't seen the results of it, but we're getting positive feedback on Twitter. The messages that I get are like, "Thanks for answering my question," or "We're glad to see you're here." There is generally pretty good reception.

AARON: So if an agency was going to test the waters of Twitter, what would you tell them not to do? What would be the biggest mistake that they could make?

MELISSA: Just using it as a pure marketing, sales channel. You mentioned that a lot of transit agencies are on Twitter, and the majority of them, if you look at their follower versus following, are not really following people back. They're just pushing information out, and I think that is not the best use of the medium, which is multi-directional. It needs to be about conversations. So agencies should be following people

back and replying to messages and re-tweeting messages and engaging. If you just want to set it up and pump out your messaging the same way you would on an electronic sign or something that's not going to work very well.

AARON: That approach is what RSS is for, anyway. There's other mediums that are more appropriate.

TIM: That was the other suggestion that I was going to say is that I would definitely not hook twitter up to an RSS robot or something like that, because the authenticity of a real person is very valuable. I guess the sense that you're just on a feed or something's being blasted out at you, it's just like receiving a bunch of SPAM, and no one's going to want to follow that.

MELISSA: It's and opt-in medium, so if people aren't liking what they're getting they will quit you, quickly. I don't think that we've had a drop-off. It seems like we're still having a steady increase, so I think that's because we're doing it right.

AARON: We're nearing the end of the allotted time for the interview. What important things have I missed?

MELISSA: We have to say as well that we feel like we have a lot of support and encouragement here at BART for the things that we're doing. We're given the free reign to go out and try new things, that's takes support from your company. We have it, so that's good.

AARON: When you talk about your initiatives with other agencies, what's the response that you get?

TIM: I think there's a lot of curiosity, and folks are just interested, tactically, in how we're achieving some of the things that we achieve. When Melissa joined us almost a year ago she literally doubled the size of the web department, so we think there's a lot happening here, and I think a lot of folks are just trying to get a handle on what kind of resources are required, and how things are achieved, and how things are done.

MELISSA: I was just down on Tuesday speaking with an agency south of us, and their biggest concern was, "We're really busy. Everybody's got a lot on their plate. We're worried about taking on additional tasks when we don't have a lot of actual resources to do it." But if you're efficient, and you use the tools that are out there to help you, you can do most of the stuff in a fairly minimal amount of time.

AARON: Talk about that for a little bit. Do you use consultants for a fair amount of the projects that you undertake? And what kind of role do you see for consultants, and what relationships do you have with them?

TIM: We use a lot of services, like software services and platform services. In providing the site, we use a hosted content management system called Omniture Publish. Our servers are physically managed by Rackspace. We run trains. We don't run complex webhosting environments or content management systems. We're really looking at using consulting for the things that we don't do and are

looking to keep focused on the things that we do do, like serving customers and ultimately providing information in the clearest way that we can for them.

AARON: So, for a smaller agency that can't even dedicate one person for, a webmaster, are some of the projects that you undertake are things that, say, a marketing director can manage as one of their many tasks?

TIM: Well, we are in the marketing department. Organizationally, the website is managed by BART's marketing group. I would say that if it's a single person doing all of marketing, it's hard to say. I think it's about choices and priority. If your market is on-line and engaged in electronic channels, it might make more sense for you to do the work that we're doing rather than doing traditional advertising or brand management. It's hard to say.

MELISSA: You can't have a consultant take responsibility for your content for you, though, because it needs to come from the agency. You live in your community. You ride the trains and see the riders every day, so when it comes to the content side, I think that should grow up organically, internally. I would never have a consultant in to make a Twitter feed, for example.

AARON: It's so clear form the BART website that it really is initiated from and managed by the people who are right at the center of that community and understand BART and its riders, so that comes through loud and clear. Thank you both so much for your time.