



Community Transportation

DIGITAL YOUR MAGAZINE. YOUR STORY.

Returning Transit to the Community: Perfecting the Passenger Experience

Publisher

Dale J. Marsico, CCTM

Editor-in-Chief

Scott Bogren

Editor

Rich Sampson

Contributors

Sheena Archer
 Sarah Clark
 Anthony Frederick
 Kristen Force
 Pamela Friedman
 Wade Roush

Circulation

Please direct all circulation questions to
fastmail@ctaa.org

Finance

Don Browner

Editorial Offices

1341 G Street, NW - 10th Floor
 Washington, DC 20005
 Email: cteditor@ctaa.org
 Web: www.ctaa.org/ct

Advertising Sales

Bill Shoemaker, A.H.I.
 118 Church Street, P.O. Box 519
 Selbyville, DE 19975
 Phone: 302.436.4375
 Fax: 302.436.911
 Email: convене@aol.com

CONTENTS

FEATURES

- 12** **Shaping Communities for Transit:** *This article will explore three different, but equally interconnected aspects of the passenger experience: transit stations and stops, what's located near them, and how riders access them. For each element, this article offers a set of concepts and strategies to improve the places and infrastructure that deliver passengers to transportation systems that are achievable and scalable.*
- 20** **Welcome to Google Transit:** *There's been a dramatic shift over the last five years in the way people plan trips on public transportation and the way transit agencies communicate with their riders – and Google is the main instigator.*
- 30** **The 8-Second Rule: Successfully Guiding Passengers to Their Destinations:** *Effective community and public transit agencies deploy information and signage in specific, studied methods in order to ease passengers' use of the system. The ability for new and return transit customers to have the precise information they need to reach their destinations is key to the passenger experience.*
- 33** **Explaining the Ins and Outs of Passenger Information Technology:** *One of the most important decisions facing transit agencies regarding passenger information systems is not whether to implement a system, but which type of technology or combination of technology they should choose. With the large range of technologies available, agencies must give careful thought to which options would be most useful to their ridership demographic.*
- 35** **Smartcards Ease the Fare Payment Process for Passengers:** *Although seamless smartcard electronic payment systems can benefit transit passengers and operators – as well as other potential users – transit operators face substantial challenges in integrating smartcard-based AFC equipment from different manufacturers because of the lack of interoperability.*
- 38** **Employers as Customers of Transit:** *Much of this edition of DigitalCT has focused on the most direct customers of transit: the passengers. However, of equal importance are the businesses, organizations and services that become the primary destinations of transit riders. Here's a look at a handful of communities where transit systems and employers worked together to meet the mobility needs of the business community, the source customer for transit commuters.*

DEPARTMENTS

- 3** **From the Editor-in-Chief**
- 5** **Voices from the Community**
- 8** **An Inside Look at DigitalCT**
- 40** **Transit Notes**
- 44** **Accessibility & DigitalCT**
- 45** **About Us/Insurance Store**

Returning Transit to the Community



Click anywhere on the above image to view Editor-in-Chief Scott Bogren's video editor's note.



**Integrated Transit Technologies.
Used by More than 400 Agencies.**



Proven. End-to End-Solution. Customer-focused.

- ▶ Fixed Route
- ▶ Mobility Management
- ▶ Traveler Information Services
- ▶ Paratransit

888-840-8791 routematch.com

Providing Exceptional Customer Service in Transit

Mike Noel had directly trained more than 10,000 community and public transit managers and personnel on issues as wide-ranging as safety and security to leadership and accountability. He has more than 30 years in the transit field, including direct transit management prior to focusing on training with Lazaro-Noel. Before sitting down to talk with CT Editor-in-Chief Scott Bogren about the customer service aspects of *Perfecting the Passenger Experience*, Mike agreed to provide CT readers with what he regards as the his top ten transit customer service considerations.

Click on the microphone icon to the right to listen to the interview.

Top 10 Transit Customer Service Considerations

1. Create a culture of customer service. Great transit organizations set high expectations and hold themselves accountable and measure the quality of services they provide.
2. Recognize that internal morale = customer service. Great transit organizations recognize that customer service is largely a reflection of how well coworkers treat each other.
3. Value your customers. Great transit organizations understand that it is customers and not subsidies that make possible everyone's paycheck.
4. Understand the pivotal role the dispatcher plays. Great transit organizations recognize, train and holds accountable the dispatchers who set either a positive or negative tone with both customers and bus operators.
5. Recognize the entire community as transit customers. Great transit organizations recognize the value they bring to the entire community by providing business with customers, schools with students, medical facilities with patients and social agencies with clients.
6. Understand the marketing concepts of *moments of truth and power of generalization*. Great transit organizations understand that the image they present in the equipment, facilities and personnel is constantly being judged and that a single good or bad experience becomes the long-term impression people will have of the organization.
7. Hire customer-focused individuals. Great transit organizations focus as much on hiring service-oriented individuals as they do on safety related matters.
8. Recognize the seven basic needs of all transit customers and how different customers prioritize these needs. Great transit organizations know that they must be: Reliable, Safe, Convenient, Clean, Understandable, Affordable and Friendly.
9. Understand that transit operations are stressful and that employees need to live and work in a supportive and caring environment. Great transit organizations recognize that employees need to be cool, calm, in-control and respectful and provide the support and tools to help them manage their stress.
10. Recognize that technology is a tool for improved customer service, but motivated, friendly employees are the key to being a great organization. Great transit organizations will always look for ways to improve sharing of information, but will not lose their sensitivity to be people focused.



May 21 -
May 22, 2012

Delivering Workplace Connectivity:

Baltimore,
Md.

May 21 - May 22,
2012

Register at
ctaa.org/expo

MOBILITY & BEYOND

www.ctaa.org/expo

This conference brings together transportation providers, mobility “facilitators” and workforce development leaders to discuss promising approaches to designing and delivering job access solutions for workers, trainees, job seekers, and businesses.

Keynote address:

Prospering in Place: Linking Jobs, Development, and Transit

Maria Choca-Urban, Director
Transportation & Community Development
Center for Neighborhood Technology

JOBLINKS
Employment Transportation



■ Demand Response Solutions

NOVUS gives you the tools to run your demand response organization efficiently, productively, cost-effectively and securely from any location.

From call taking to scheduling to dispatching, NOVUS is easy to use and designed with your needs in mind.

NOVUS for Demand Response:

- Intuitive, web-based and easy-to-use system
- Powerful, yet simplistic automated scheduling tools
- Scalable for any size transportation organization
- Provides secure access to remote offices, organizations and employees
- Create the perfect balance between customer service and productivity levels that's right for your operation
- Accurate and meaningful statistics every time
- Coordinated service capabilities provide a tightly integrated end-to-end solution

For more info, please visit:

www.trapezgroup.com/novus

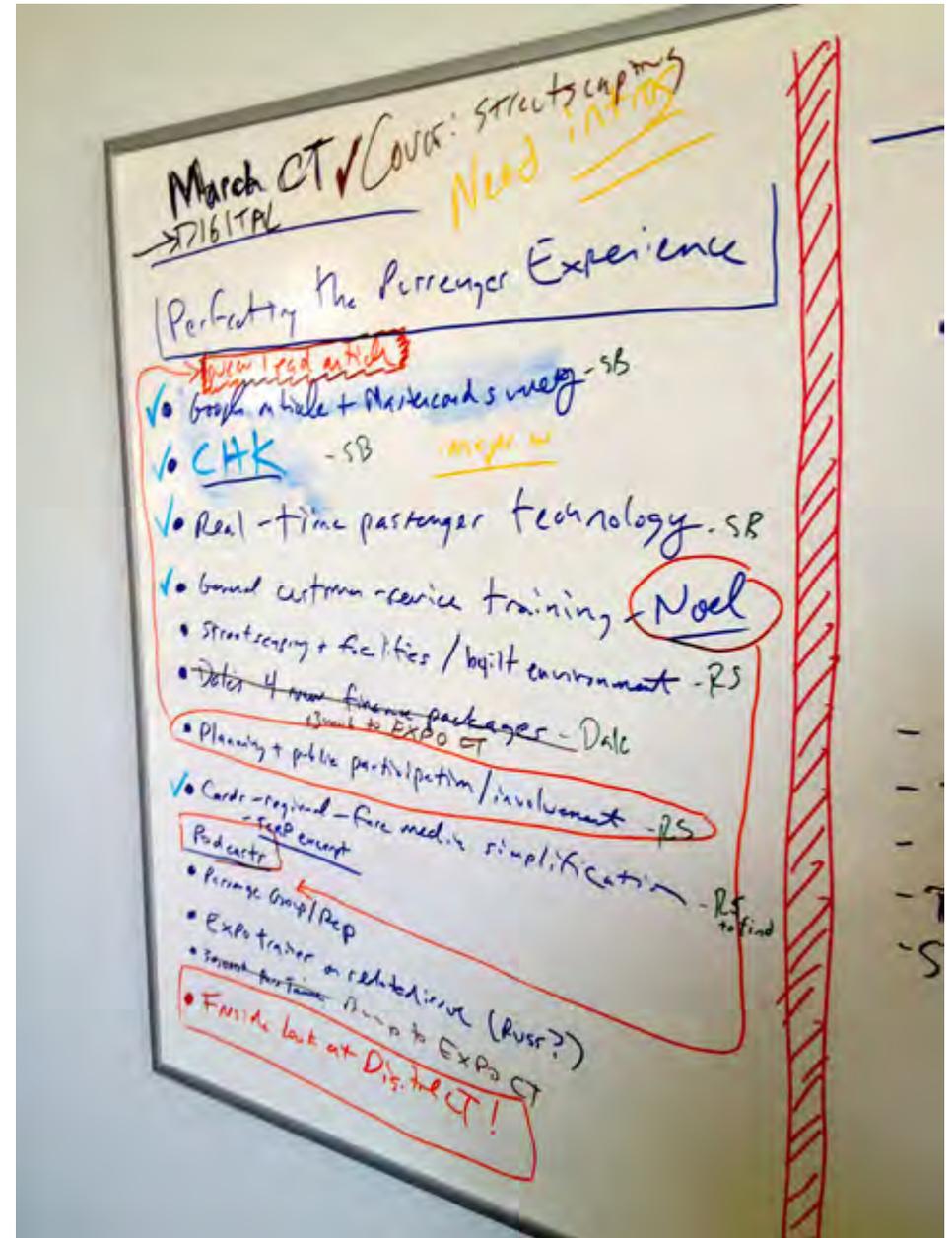


NOVUSTM
for Demand Response

An Inside Look at DigitalCT

As you might imagine, each edition of DigitalCT includes considerable planning, article development and idea shaping. The articles in this edition, **Returning Transit to the Community: Perfecting the Passenger Experience**, provide numerous ideas, successes, innovations and promising practices on this vital topic. To give you an inside look at the magazine planning process, CT Editor Rich Sampson and Editor-in-Chief Scott Bogren recorded one of their magazine planning sessions — one in which they discuss some topics and extensions that are implied, but not overtly covered in this edition.

Click on the microphone icon below to listen to the discussion.



The CT white board resides in Scott's office and represents the planning and evolution of a DigitalCT edition.

For full details on EXPO 2012 in Baltimore, MD, visit www.ctaa.org/expo



Design Your EXPO Training

For the first time, you can customize your EXPO training experience! If you're a mobility manager or work for a state DOT, work in tribal transit or you're a transit advocate, we've developed specialized tracks for you that put together the workshops that will help you the most. Select a topic and a customized set of workshops are selected.



Have
TRANSIT
Questions?

?

?

?

Get
FREE
Research
Reports

@

tcrponline.org

Whatever your challenge, whatever you want to know, chances are The Transit Cooperative Research Program (TCRP) has already studied and researched it. We've compiled over 500 reports and products on a broad range of subjects in public transportation. Get the information you need to make your critical decisions. The resources are here. Use them.

Transit Cooperative Research Program
Solutions for Transit Professionals

The Transit Cooperative Research Program (TCRP) is sponsored by the Federal Transit Administration.



075970_TCRP_Community Transport • 2.5" x 7.5" • Color
InDesign • Fonts: Outlined • Brett 03/13/12

CT **FAST** MAIL

The perfect compliment to *Digital CT* is our bi-weekly E-Newsletter, *CT Fast Mail*. Delivering the latest news on transit policy from the nation's capitol, developments from across the country, research and analysis publications and information on resources and technical assistance from the Community Transportation Association and other partners, *CT Fast Mail* is the most direct location for the most relevant news and updates in the industry.

And it's free to sign-up! Simply send an email to fastmail@ctaa.org and you'll be connected with the next issue of *CT Fast Mail*. In the meantime, view the latest edition at www.ctaa.org.

FRESH IDEAS IN PUBLIC TRANSPORTATION

Transit Planning/Mobility Management
Multimodal Facility Design
Vehicle Maintenance Facilities
Transit Oriented Development

As a full service transportation firm, we bring new ideas to community transportation including recommendations for coordinating regional multi-agency mobility services.

Call Marlene Connor or Jim McLaughlin for your next transit solution at 1.877.293.6335



Rockland Maintenance, Storage & Administrative Facility - Rockland, NY

BUFFALO / MINNEAPOLIS / NEW YORK METRO / PHOENIX / RICHMOND / WASHINGTON, DC

COMMUNITY DEVELOPMENT TRANSPORTATION LENDING SERVICES

Financing



TRANSPORTATION FACILITIES & MULTIMODAL CENTERS

A special loan fund to develop transportation facilities and multi-modal centers to improve community mobility and enhance economic development

PLANNING & TECHNICAL ASSISTANCE AVAILABLE

CDTLS can provide funding in support of transportation facility construction or renovation. Across the country local transit services are building facilities and promoting economic development through transportation. Sustainable economic development can be dependent on an intermodal transportation system that includes rail or bus. Financing is meant to facilitate or enhance community transportation activities and to promote intermodal activities and mobility.

CDTLS is dedicated to improving mobility opportunities and enhancing economic development through community transportation.

Why use CDTLS?

- Flexible financing options
- Negotiable interest rates
- Key partnerships

Financing available with negotiable terms and low interest rates.

Eligible Applicants: Private companies, non-profit organizations, and state or local governments supporting community transportation and intermodal activities.

Criteria: Adequate collateral and a priority of promoting economic development in low-income areas.

For further information or a loan application **contact:**

Dale J. Marsico, CCTM
1341 G Street, NW, 10th Floor
Washington, DC 20005
Tel: 202.415.9682
Fax: 202.737.9197
E-mail: marsico@ctaa.org
Web: www.ctaa.org

EQUAL OPPORTUNITY LENDER

TRANSPORTATION FACILITIES & MULTI-MODAL CENTERS

Shaping Communities for Mobility

By Rich Sampson

This article will explore three different, but equally interconnected aspects of the passenger experience: transit stations and stops, what's located near them, and how riders access them. For each element, we'll offer a set of concepts and strategies to improve the places and infrastructure that deliver passengers to transportation systems that are achievable and scalable to meet the mobility needs of every community, where enhanced utility, convenience and ease-of-use come together to make interconnected mobility options irresistible to entire populations.

Somewhere in America – likely at this very minute – someone is de-boarding a bus or rail stop in one of our largest metropolitan areas to find his or her way home from work encumbered by construction, poor street lighting or a multi-lane, high-speed thoroughfare. Elsewhere, a person returning to their rural community or small town from a regional medical facility now finds what energy they have left following their intensive treatment session is needed to brush away overgrown vegetation on a muddy, unpaved path alongside a curving, banked roadway shoulder.

Every trip provided by our nation's community and public transportation systems is a crucial link to jobs, health care, local economies and community services. But, in-



creasingly, the environment and places where riders access and experience these transportation connections are vital components of our overall mobility network. Considerations such as streetscaping, nearby establishments and services, passenger information systems, shelters, accessibility and numerous other aspects that come together at a transit nexus – in communities of all sizes and demographics – are not merely passenger amenities, but essential elements that generate transit ridership, stimulate economic growth, maintain vibrant neighborhoods and improve public health.

Beyond the Trip

Many mobility professionals will correctly define their role in the community as getting people where they need to go. At the heart of that mission is providing transportation services that are responsive to the needs of the community they serve, and are efficient and responsible stewards of the resources available to them, operating buses, vans, trains and taxis to bring those connections to life. Others – especially those in the growing and vital field of mobility management – may consider their job to be helping people navigate those myriad options on an individual basis. In concert, these professionals – and



the organizations and programs they represent – help millions of people live productive and enjoyable lives.

And yet that work may not overcome all the challenges inherent in getting around many areas of a community, in an independent and comfortable manner. In urban, small-urban and rural communities, many transit services ask their riders to meet their trip at a specified stop, station or destination. What happens at that location, or in between that site and where they are coming or going to, profoundly impacts a passenger's journey – as well as causing some to forgo transit altogether. Passengers who already rely on transit systems should expect the place where they catch their bus, train or van to be safe, convenient and functional, while also improving the utility of their trip by accessing nearby retail, services, entertainment and other destinations before or after their journey. While new riders are more likely to try transit options when gas prices are high – or, perhaps they switch to a more accessible employment location – elements such as the pathway to the station or stop, real-time information systems and co-located car- and

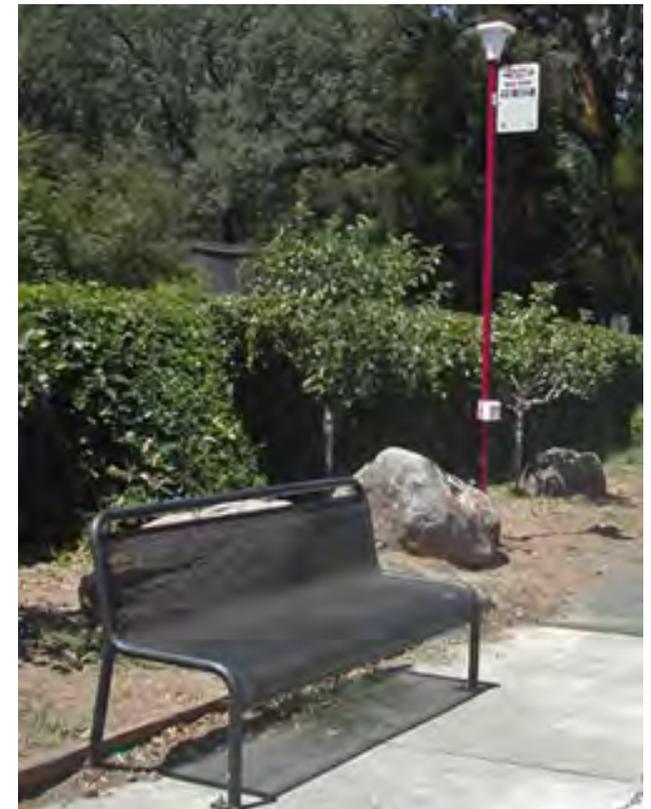
bike-sharing programs can make them permanent commuters.

Whether the intent is to satisfy current riders or attract new passengers, the underlying rationale is the same: create an environment where customers feel secure, productive, comfortable and welcomed. In the late 19th and early 20th centuries, passenger rail terminals and stations were often constructed as monuments to travel; places of awe, wonder and purpose that said as much about the community they served as the type of travel they hosted. That spirit is what must define transit facilities once again. While many observers might claim that these aspects of the passenger experience are only germane to the largest cities, communities of all sizes can design and implement scalable, responsive and efficient strategies to help riders move through the built environment more effectively. The following practices and approaches represent projects and enhancements that have been demonstrated in communities large and small, domestic and international.

At the Station/Stop

Whether it's a massive intermodal facility, or a single neighborhood pick-up location, the place where people reach their transit service is the most identifiable and permanent component of the transit network. It's where the train stops, the bus drops off and the van unloads. But that space can, and should, be much more than just a barren slab of concrete next to a rail line or a pole and metal flag on the side of a road. It's a

place where people come – day after day – to begin or end their trip, and usually both. Accordingly, it should have the marks of both permanence of place and respect of the customer.



A Place to Wait

Transit stops and stations need to include – at the very least – some level ground for riders to assemble and wait for the vehicle to arrive. All mobility services depend on their passengers showing up on time; that's easier for them to accomplish when they know they won't have to be subject to the weather, risk

Wilson Blvd + Barton St			Clarendon Blvd + Barton St		
38B	Westbound to: Ballston Station	0 :35 55	77	Shirlington Station to Court House Metro	10 :36
41	Court House Metro - Columbia Pike/Dinwiddie	3 :16 34	41	Columbia Pike/Dinwiddie - Court House Metro	11 :28 44
77	Court House Metro to Shirlington Station	16	38B	Eastbound to: Farragut Square	11 :90
Barton St + Clarendon Blvd			Wilson Blvd & Franklin Rd		
41	Court House Metro - Columbia Pike/Dinwiddie	3 :16 34	BINES DOCKS 7 4		
4B	Westbound to: Seven Corners	14	M Court House		
77	Court House Metro to Shirlington Station	16	OR	New Carrollton	0
Barton St + Clarendon Blvd			OR	Vienna	6
4B	Eastbound to: Rosslyn Station	9 :58	OR	New Carrollton	8
			OR	New Carrollton	10
			OR	Vienna	15

Mobility option display systems – such as this one in use in Arlington, Va. – can display departure information for multiple transportation modes, such as the rail, bus and bikesharing options shown here in the vicinity of the Court House Metro station.

their safety via other moving vehicles and have a place to rest their legs after a long day or wait out a bus or train running a few minutes behind schedule. These areas need not be elaborate or exotic – unless the surrounding community prefers them to be and supports their development accordingly. Instead, a smooth, clean, accessible surface with a bench sheltered from the elements is what most riders expect.

Access to Information

More than ever, current and potential transit passengers have abundant information at their disposal to make better decisions and

maximize their limited time. Accordingly, they appreciate knowing as much as possible about the status of their transit trip: is the bus on time; where does this rail line offer connections; can I find another vanpool home if I have to work late? Modern technology offers a range of real-time platforms that deliver riders the information they crave, and is more affordable and scalable than ever. Of course, each station or stop doesn't need to provide details on every possible travel permutation, or host a massive schedule board with whirring departure and arrival alerts. Rather, it should prominently display a web address or phone number where custom-

ers can tap into updated status alerts, easier every day through advanced smart phones and portable tablet computers. If possible, a WiFi connection is helpful at stops with even moderate levels of traffic. *(For more, read The 8-Second Rule and Welcome to Google Transit in this edition of DigitalCT. – ed)*

Safe and Secure

When transit planners or municipal engineers head out to assess the passenger experience situation at a given transit stop, they're often visiting during the middle of the day, when daylight is plentiful and things are operating normally. But transportation providers often do some of their most urgently-needed work in the small hours of the morning or evening, when light is provided by streetlights, and other drivers can become easily tired or distracted. That's why it's important for these stops to provide some illuminated refuge, along with other protective elements such as reflective striping, pullover lanes and clear paths to nearby sidewalks and trails.



Even though this bus stop is located on the side of a local road, there is sufficient lighting to add to a sense of safety for riders.



The Ideal Location

For many, the model of aligning transit systems with economic development projects at, or adjacent to, stations and stops conjures the image of a busy rail facility with high-rise apartment buildings above it and a slew of trendy retail and restaurants within a stone's throw. And, of course, that is a common reality of the well-publicized transit-oriented development concept that has been deployed in numerous metropolitan regions across the nation. But that theory is not the only way mobility options foster vital and dynamic community centers and districts of economic activity (DigitalCT's Scott Bogren recently presented at a Congressional briefing on this topic; [click here to listen to that session](#) – ed).

Development and transit can take the form of a rural transit center that also serves as the regional stop for intercity bus routes, as is the case at Prairie Hills Transit's recently-opened facility in Spearfish, S.D. (see our feature on the Prairie Hills Regional Intermodal Facility [here](#)) The location also hosts a childcare program to facilitate a much-needed service for both transit workers and riders. Meanwhile, the Menominee Tribe in Wisconsin not only centralizes its tribal transit service in a unified transfer location to provide easier connections, but also integrated its local health care programs in the same vicinity to improve efficiency while also providing better service. Examples like these – and many others – demonstrate that a thoughtful process of connecting transit options and high-demand destinations is a



The Menominee Tribe's transportation facility also connects with nearby health care and community service programs.

domain not only limited to the largest of cities. Here are a few hallmarks of such transit-focused projects:

Co-locate = Convenience

While an enjoyable ride on a transit van, train or bus can be an enriching part of any day, passengers' travel experience is even more well-received when it cuts down on the distance traveled and improves convenience. That's why transit hubs – often those where the most routes and options come together – are the most natural places to position vital community and social services, such as public health care programs, child and adult day care, senior services, housing organizations and post office branches. Beyond increasing the utility of each trip more for riders, publicly-supported organizations can pool resources to cut down on administrative and overhead costs, more quickly and easily share information and best practices, and – most importantly – respond better to their customers' needs.



Improved passenger conditions can be found in communities of all sizes, such as this one in Altamont, N.Y.

Commerce on a Traveler's Scale

One of the greatest misconceptions of transit-oriented development efforts is that these projects demand high-volume traffic to meet the needs of big-box retailers and large-scale chain restaurants. And, in certain areas, that's an economic truism. But far more transit-fueled spaces can sustain a healthy community of retail, restaurants, entertainment venues and other commercial properties on a more manageable level by focusing on the specific needs of their passengers. Most transit riders – whether they're in the biggest metropolitan areas or smallest towns – are looking for a quick and easy place to pick up groceries for that night's dinner, a drug store to refill a prescription after visiting the doctor or a new pair of socks after a child's misadventure with grape juice at day care. These are the types of businesses that can thrive when paired with well-utilized transit routes.



Live Near the Bus

Any kind of community or public transportation will find its largest and most dependable source of ridership to be the people who live closest to its routes, whether they're going to work, health care, community services or out to eat. Even if transportation providers aren't involved by providing land nearby stops or stations to residential projects or working with their counterparts in zoning offices and planning departments to make such transit-oriented housing more achievable, they can still find a role in reaching out to housing developers and community associations to align their routes with residents'

needs and ensure transit elements such as bus stops and shelters fit within neighborhood objectives. This is even more vital in suburban, small-urban and rural communities, where zoning regulations and guidelines for housing are less predictable and enforceable than in larger-urban areas.

A Good Walk (or Ride), Unspoiled

Community and public transportation options are customarily evaluated on the overall benefit they produce in the community and society: how many people can access jobs, health care, business establishments, services and other such destinations, as well as



Dedicated trails and paths for bikers and pedestrians are often welcome compliments to transit routes and corridors, as seen here in San Diego, Calif.

broader outcomes like environmental protection and congestion mitigation. But, increasingly, transit services are rightly beginning to receive credit for benefits they produce in personal health. Significant portions of those who find their way to a train, van or bus do so by walking or biking to the stop or station. But for the presence of these mobility options, most of those people would have either rode in a private vehicle to their des-

tinuation – either driven themselves or rode along with someone else – or not made the trip altogether. While the former might help reduce congestion if they shared a ride, it would only produce marginal private health benefits in the short walk to or from the vehicle’s parking spot. Not travelling at all is even worse, for not only will the individual not receive any exercise benefits from a walk or bike ride, but also misses out on the abil-

ity to work, remain active in the community and receive health care, especially beneficial when it’s of the preventative variety. The long-term consequences for both the individual and the community are higher medical expenses down the road and lower life expectancies, both of which impact the society in public health costs and lost productivity.

When transit is considered part of a larger personal mobility network that includes options to walk and bike, it can be a powerful instrument of societal change. Transportation and mobility professionals can engage this extended platform of travel options by focusing on how their riders reach their stations and stops, including the following strategies:

Creating Healthy Pathways

Sidewalks, trails and pathways are often second-class citizens in transportation infrastructure when they should be second-nature to planners and designers. Few elements of the built environment contribute as strongly to transit ridership as the ability of passengers to reach the place where they get their ride. And while transportation providers are certainly not responsible for the availability and condition of bicycle and pedestrian facilities, they are no less at their mercy. By working with municipal roads and infrastructure departments – as well as new commercial and residential developers – transit professionals can take a larger role in the installation and maintenance of sidewalks and paths.



All bus stops should include ways for passengers to reach them. Contrast the image above with the more accessible version to the center of the page.

Encouraging Active Riders

The ability of a transit system’s vehicles – regardless of mode – to navigate their route safely and on-schedule is the primary job of any mobility provider. At the same time, those networks can help a greater number of their passengers to reach their service by walking or biking by providing accommodations that support individual mobility. Most



transit vehicles are already adapted to carry bikes, either inside the vehicle or on a rack at the front of a bus, but the bulk of transit stops and stations don’t provide locations to easily secure bicycles. At those same locations, the paths to reach walking and biking trails can receive better directional signage and wayfinding tools. And any rider – whether they walked, biked or hopped a ride – might appreciate a water fountain or beverage vending machine nearby for a refreshing drink.

Learning to Share

Within the last half-decade, community-driven programs that allow registered participants to share automobiles and bicycles have experienced dramatic growth, especially when they’re stationed at transit nodes. Bike-sharing campaigns expand the destinations reachable for transit passengers while incorporating some low-intensity physical activity. And when car-sharing stations are located near transit, participants usually end up



Car share (top) and bike share (above) programs are growing in popularity.

walking or biking at least some distance to reach the vehicle. Quite simply, when transit centers are viewed equally as multi-option mobility focal points as well as generators of improved individual well-being, the overall importance of community and public transportation skyrockets.

Livability Is An Essential Element

Mobility today is about far more than operating vehicles over roads and rails. Increasingly, community and public transportation occupies a space in the community as a nexus for mobility, economic vitality, individual health and societal growth. The core of what it means to be a transportation provider – offering responsive and efficient service for all – hasn't changed, but has expanded. New strategies, tactics, tools and resources can come together to make our transit networks even stronger and more vital than ever before.

Communities of all kinds and sizes have opportunities to grow their ridership, drive local and regional economies, support

healthy lifestyles and maximize the value of services and programs. The foundational element in this expanded role for community and public transit is the same as it ever was: providing options and services that respond to the needs of the community, as efficiently and effectively as possible. **CT**



Article Summary

Improve amenities at transit stations and stops by:

- Offering a sheltered, safe spot to wait for the bus, train or van
- Instituting real-time passenger information systems
- Improving lighting and security measures

Make transit centers hubs for community activity by:

- Co-locating community and social programs at transit nodes
- Encouraging appropriately-scaled retail and commercial outlets near transit facilities
- Supporting residential developments along transit routes and transit-supportive zoning policies

Link transit riders with healthy lifestyles by:

- Developing well-designed biking and walking paths to transit stops and stations
- Promoting passengers to walk or bike to their ride through enhanced amenities
- Actively engaging bike- and car-sharing programs to broaden the reach of transit

Finally, a full line of Low Floor buses.



ARBOC Specialty Vehicles' line of Low Floor Buses continue to receive unparalleled customer acceptance with the "Spirit of Mobility", and the "Spirit of Freedom", the Simple Low floor, in both Transit and Private Fleets.

Now, ARBOC SV is poised to revolutionize the mid-size low floor market with the newest offering, the "Spirit of Liberty".

ARBOC A Specialty Vehicles
For more information Please Contact us at
Phone - (574) 825-4880
Fax - (574) 825-1750
Parts & Service - (574) 825-1721
51165 Greenfield Pkwy, Middlebury, IN 46540
www.arbocsv.com



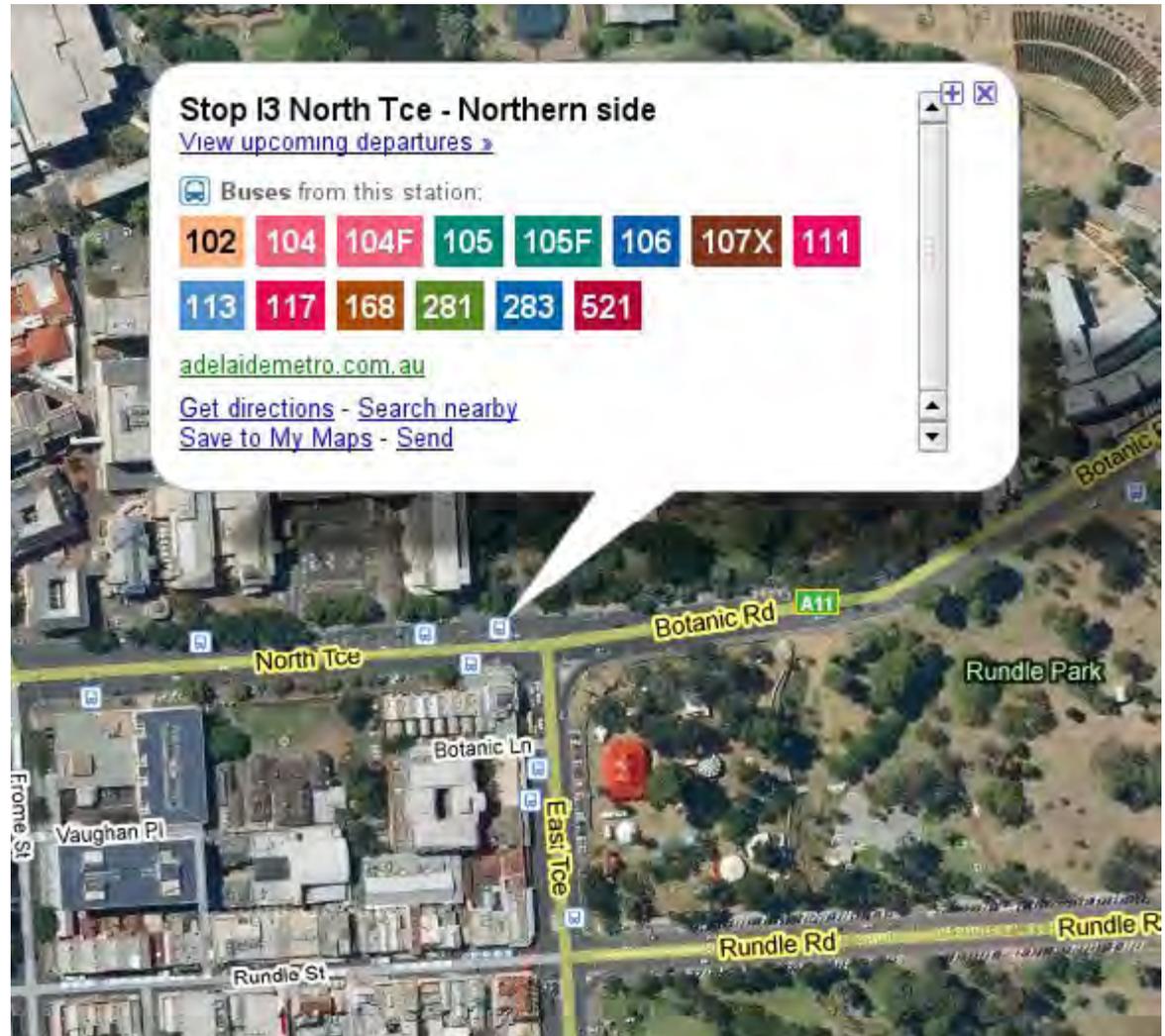
Welcome to Google Transit: How (and Why) the Search Giant is Remapping Public Transportation

By Wade Roush

In this article, re-printed with permission from Xconomy, a technology writer explains Google's transformative influence on the way community and public transportation share vital schedule data with their passengers and their communities. You may think you've read all there is to read on Google Transit — but this excellent article is bound to surprise you!

You can't talk to a Googler for very long without hearing them recite the company's mission statement: to organize the world's information and make it universally accessible and useful. Not only does it sound noble, but it's an all-purpose answer for the sorts of nosey questions tech journalists pose, like why Google would want to buy a company that compiles restaurant reviews (i.e. [Zagat](#)), or why it cares about flight reservation systems for airlines (ITA), or why it's spending \$30 million to encourage private companies to send robots to the Moon (the Google Lunar X Prize).

Of course, Google's mission statement long ago ceased to be a full explanation of its intentions, or of its true impact. Google might like to be seen as a mere arranger of information – the meekly efficient librarian who puts



Google's activism in public transit is having widespread ripple effects.

the books back in the stacks every night. But the reality is that the company is too big, too wealthy, and too ambitious to step lightly on the world's data. There isn't a marketplace or a category of knowledge that Google can "organize" without remaking it in the process.

In areas like book publishing, video entertainment, and mobile communications, Google's expanding reach has been exhaustively covered by the press. But there's one area where Google (NASDAQ: [GOOG](#)) has exercised a transformative influence almost completely outside the spotlight of media attention: public transportation. The changes are easy to overlook, especially if you never step out of your car, or if you only ride the bus or subway in your own city. But there's been a dramatic shift over the last five years in the way people plan trips on public transportation and the way transit agencies communicate with their riders – and Google is the main instigator.

This revolution, as with almost everything the company does, is proceeding at Internet scale. More than 475 transit agencies in the U.S. and around the world now submit their operating schedules to Google, which publishes the data as part of its Google Maps service. So whether you're accessing a map from a desktop browser or a smartphone, you can figure out how to get where you're going by bus or train, not just by car. To see arrival and departure times for thousands of bus and train lines, you can simply click on the little blue icons that connote transit stops (at least,

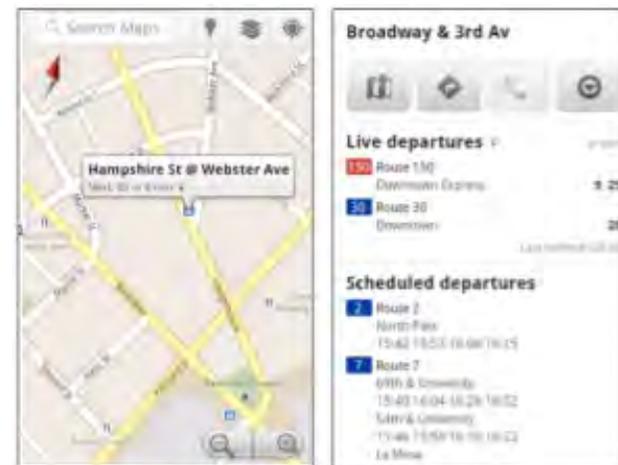
you can if you're using a desktop browser or an Android phone).

Live Departure Times in Google Maps for Mobile

The file format that Google invented in 2006 to make all this possible, called GTFS, has become the de facto world standard for sharing transit data. And now Google is pushing a related standard that enables agencies to alert riders about service delays in real time – thus answering that age-old question, "When's my bus coming?" So far, Google is displaying these live transit updates for only four U.S. cities (Boston, Portland, OR, San Diego, and San Francisco) and two European cities (Madrid, Spain, and Turin, Italy). But it hopes to add many, many more.

Google's activism in public transit is having widespread ripple effects. Most importantly, the company's services are making it easier for public-transit users to plan their bus or train trips to minimize waits and missed connections. In theory, better experiences for riders translate into higher ridership, greater revenues for transit agencies, and less congestion on streets and highways.

On top of that, Google's leadership has opened up space for a whole ecosystem of transit-app startups. It's not as if Google invented the idea of putting transit data online – that's been going on since at least 1994, when a pair of University of California students created a website called [Transitinfo.org](#) to tie together data from 26 tran-



Better experiences for riders translates into higher ridership.

sit agencies around the Bay Area (it's now called 511 Transit). But the emergence of a common standard for publishing transit schedules has enabled independent developers who started out building apps tailored to their local systems to think much bigger.

Just look at [Embark](#), a Y Combinator-funded startup in San Francisco. The company's first mobile trip-planning app in 2008 covered only the Bay Area Rapid Transit (BART) system. Now the startup makes apps for 12 transit systems in nine metropolitan areas, including London.

"After BART we tried to make this something we could scale to other cities, and without a foundation based on standards that would have been pretty hard," says David Hodge, Embark's co-founder and CEO. "I don't imagine anyone else [but Google] could have set a standard."



Google thinks people should drive less.

The rise of GTFS has also helped to spur a larger “open government data” movement that cuts across areas like health care, energy, and education. And at transit agencies that were initially slow to publish their route and schedule information in digital form, including New York City’s MTA and Washington, D.C.’s Metro system, it has created irresistible pressure to open the data vaults and cooperate with outside developers.

But the most interesting thing about Google Transit – the company’s catch-all name for its transit agency data feeds – may be what it says about the company’s politics. Simply put, Google thinks people should drive less. That’s why it has its own bus fleet for shuttling San Francisco-based employees to the Googleplex in Mountain View every day; that’s why it’s researching robot cars; and that’s why driving directions on Google Maps are now supplemented by walking and biking directions as well as public transit schedules.

If Google engineers could manage it, they’d probably try to undo the last seven decades of

urban sprawl. Short of that, they think making mass transportation more efficient is one of the best ways to curb traffic congestion and carbon emissions.

“The biggest thing holding us back in the U.S. is land-use patterns,” says Brian Ferris, a Google Transit engineer based in Zurich, Switzerland. “European cities are more compact, so public transportation dollars go a lot farther. In the U.S., huge parts of our cities were built after the automobile came to prominence. But we can’t change American cities tomorrow. What we can do is flip it around and ask how we can use information to make better decisions about where to live and how to commute.”

The Dream Is Alive in Portland

For the first three years of its life, GTFS stood for Google Transit Feed Specification. In 2009, Google proposed changing the name so that the G would henceforth stand for General – a sign of either magnanimity or pride, depending on your point of view. In any case, the creation of the standard, and the un-Googleing of the name, make an interesting story.

Like so many current Google products, Google Transit emerged from “20 percent time,” the company’s way of encouraging employees to work on side projects that might bear unexpected fruit. The 20-percenter in this case was Chris Harrelson, a software engineer who’d joined Google Research after finishing a PhD at UC Berkeley on routing problems in public

transportation systems. In mid-2005, Harrelson was monkeying with ways to incorporate transit data into Google Maps. That was when he heard from Tim and Bibiana McHugh, married IT managers at TriMet, the transit agency for Portland, Ore. The McHughs were big believers in open data, and they wanted to partner with Google to make planning a trip around Portland by public transit as easy as planning a drive.

Harrelson was game, and he worked with Tim McHugh to write a program to export TriMet’s data into a file that could easily be fed into Google’s geospatial database. In December 2005, Google turned on Google Transit, with Portland as the first city providing bus and light-rail schedules within Google Maps. Harrelson added data for Seattle’s transit system in 2006, using the same data-dump format McHugh had devised. In 2007, Google published the format as the Google Transit Feed Specification.

There was nothing particularly complex about GTFS. Agencies willing to share their schedules simply needed to create about a dozen text files full of comma-delimited data showing the latitudes and longitudes of each stop on their system, the times buses and trains were supposed to arrive at each stop, and a few other details. Here are the first four lines from the stop-times file for TriMet:

```

trip_id,arrival_time,departure_
time,stop_id,stop_sequence,
stop_headsign,pickup_type,drop_
off_type,shape_dist_traveled,
timepoint
2666662,08:53:00,08:53:00,13170,
1,45th Ave,0,0,0,0,1
2666662,08:54:26,08:54:26,7631,2
,45th Ave,0,0,877.4,0
2666662,08:56:31,08:56:31,7625,3
,45th Ave,0,0,2163.1,0
    
```

The entire GTFS feed for TriMet adds up to only 169 megabytes. “Portland deserves a lot of credit in this space,” says Google’s Ferris. “What I like about GTFS is that it is, at the end of the day, just the raw data. You can build almost anything with that.”

In the public transit world, the impact of GTFS was immediate and electrifying. Transit agencies that had been casting about for more efficient ways to get route information and advisories to their customers suddenly had a consistent way to share their raw schedule data with outside developers, who would in turn repack- age it for riders. Before that, each agency had taken its own approach to such data requests, and usually ended up having to reformat its data over and over, depending on the intended use.

“I was providing schedules in different for- mats to different people,” recalls Timothy Moore, long-time website manager for BART. “I was giving 511 Transit one look. I was giving some guy creating shopping-mall kiosks another look. I was thinking that if I could just release



The first iPhone app for transit was 2008's iBART.

it in one format, it would make my life a lot easier. So when Google released GTFS in 2007 we were, I think, the first ones besides the origi- nators to jump on.” Because BART was an early GTFS adopter, it was the only transit agency with a dedicated iPhone app on the day Apple turned on the iTunes App Store in 2008. (It’s called iBART and was developed by Embark, then known as Pandav.)

In truth, not every transit agency has been

equally enthusiastic about standardization.

“The default position of a transit agency is to protect its data and not open it up in a way that is accessible for developers,” says Embark co-founder Hodge. In some cases, agencies had relationships with outside vendors who claimed contractual rights to schedule data. In others, agencies didn’t want to give the data away for fear of losing Google AdSense ad revenue on their own websites.

But to Moore, selling or advertising against schedule data is like charging for menus in a restaurant. “I have watched transit agencies try to monetize schedules for years and no- body has been successful,” he says. “Markets like the MTA and the D.C. Metro fought shar- ing this data for a very long time, and it seems to me that there was a lot of fallout from that with their riders. This is not our data to hoard – that’s my bottom line.”

It took “the power of Google,” in Hodge’s words, to break the logjam. By 2009, so many transit agencies had begun to use GTFS – and the data was turning up in so many places other than Google Maps – that Joe Hughes, a U.K.-based software engineer work- ing on Google Transit, proposed renaming the standard. “Given the wide use of the format...the ‘Google’ in GTFS is increasingly a misnomer, one that makes some potential users shy away from adopting GTFS,” Hughes wrote in a forum post for Google Transit contributors. And he wanted the change to be more than cosmetic: Hughes said it was

time to hand ongoing development of the specification over to the larger community of transit agencies and app developers.

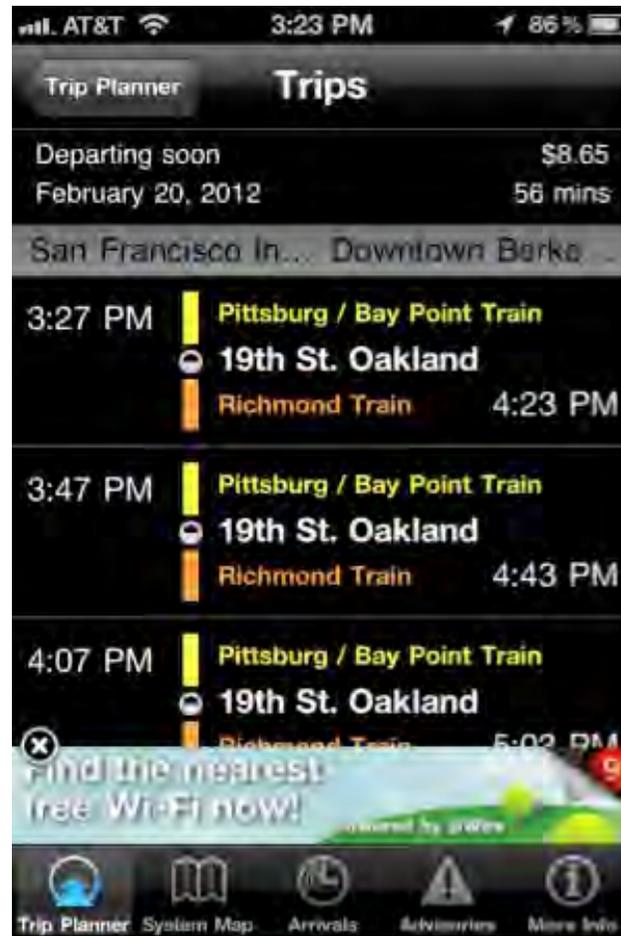
On the Bus

It's safe to say there's been more innovation in the world of public-transit trip planning in the last four years than in the previous four decades. Take the example of OneBusAway, a real-time guide to the Seattle-area transit system created by Googler Brian Ferris back when he was a graduate student at the University of Washington.

In its first, pre-GTFS iteration, OneBusAway was a mere side project for Ferris, something to fill his evenings during a summer research fellowship at Intel. The system used the old-fashioned File Transfer Protocol (FTP) to grab data from servers at King County Metro Transit. Riders could then get bus arrival times by keying in a stop number on their mobile phone.

But once Ferris decided to scale up the system to incorporate data from Sound Transit and other regional systems – and to base his whole PhD dissertation on the project – he needed to standardize. So he followed TriMet's example. “The first major rewrite of OneBusAway for multi-agency support was to natively support GTFS,” Ferris says. “I didn't want to have to keep reinventing the wheel.”

The change allowed Ferris to extend the system to the entire Puget Sound area. Today OneBusAway offers real-time bus, light-rail,



There's been more innovation in public transit trip planning in the past four years than in the previous four decades

and ferry arrival information for nine agencies in the region, and is accessible by Web, phone, and SMS, as well as smartphone apps for iOS, Android, and Windows Phone. Area commuters use it to plan 50,000 trips per week. While Ferris himself has moved on to Google, King County Metro Transit, Sound Transit, Pierce Transit, and UW recently committed \$150,000 to keep the app running at least through the end of 2012. That's music to

the ears of at least one Seattleite: Xconomy's own Curt Woodward, who tells me that OneBusAway is “indispensable...hands down the only good way of navigating the bus system in Seattle.”

“I felt with OneBusAway that I was having a real impact on people,” Ferris says. “People would stop me on the street and say, ‘This is changing the way I live, the way I get around.’ Open data and standardization is what made that possible.”

Embark's founder tells a similar story. Because its first application, iBART, used GTFS, the company was well positioned to build similar transit apps for other cities. “It certainly wasn't easy going,” says David Hodge, who started the company with Ian Leighton three and a half years ago. “We had to convince a lot of transit agencies to give us their data. But it would have been much more of an uphill battle,” if these agencies hadn't already been using GTFS to send their data to Google Transit.

Embark's iBART app on the iPhone

Embark's free, ad-supported apps also prove that a little openness can support a lot of innovation. The startup's iBART app and its sister apps for transit systems in Boston, Chicago, London, Long Island, New Jersey, New York, Philadelphia, and Washington are arguably far cooler than anything Google has developed. One nice feature: the apps keep working – that is, you can still input a starting

point and a desired ending point and get back a route and schedule recommendation – even when you’re underground and cut off from the Internet. The app sends you a push notification if your usual train is running late. Embark even adjusts its estimates of walking times between stations according to measurements of local citizens’ customary walking pace. (This varies quite a bit between cities, interestingly.)

“We think there is a lot of room for people like us to make applications that are very tailored for specific regions, and to add features that Google may not be interested in,” says Hodge. This month, Embark’s New York City app beat out 41 other apps for the \$5,000 grand prize in the MTA App Quest. And back in its home city, San Francisco, the startup’s app continues to win more users: about 3 percent of all trips taken on BART begin with a query on iBART, Hodge says. “If you think about how many people are planning trips, that’s a bunch,” he says.

Still, it’d be wrong to attribute all of these changes to Google

Survey: Half of US Commuters Would Use Their Mobile Phone for Transit Payments

By Sarah Clark

A survey conducted for [MasterCard](#) has found that many of the top frustrations cited by US commuters are to do with how they pay and that the majority recognise the benefits contactless payments can provide to improve the commuting experience.

The survey found that:

- 65 percent of U.S. commuters who use cash to pay for mass transit worry about not having enough on hand to pay for their trip and 36 percent have been unable to take mass transit at some time because they did not have enough cash on hand.
- 44 percent have missed a bus, train or subway while waiting in line to buy or add money to a fare card.
- 42 percent of those who use cash for mass transit say worrying about needing correct change is one of their top frustrations when paying for their commute.
- 75 percent wish there was one payment card that could be used to access all mass transit systems near or within their local city.
- 66 percent say they would be likely to use a tap-and-go payment method to pay for mass transit if it were an option.
- 47 percent say they would use their mobile phone to pay for mass transit.
- Survey respondents estimated they could shave nearly an hour a week – an average 11 minutes per day – from their commute if they were able to use some form of tap-and-go payment.
- 31 percent say they feel they spend too much time waiting in line to buy or add money to their fare card, 43 percent feel the ticketing machines are often slow, out of order or difficult to use and 26 percent are frustrated by the process they must go through to replace a lost fare card. 21 percent have been frustrated by not knowing where or how to pay in unfamiliar mass transit systems.
- Major benefits seen by respondents for tap-and-go payments included easier transferring between different types of mass transit (64 percent), easier payments in unfamiliar stations (65 percent) and reducing lines and speeding passage through transportation centres (59 percent).

“From our survey, we know that commuters want a better way to buy their fare and open loop contactless payment options such as MasterCard PayPass eliminate the need to wait in line, fumble for exact change or carry multiple fare cards so that it is easier to board and be on your way,” says MasterCard’s Catherine Murchie.

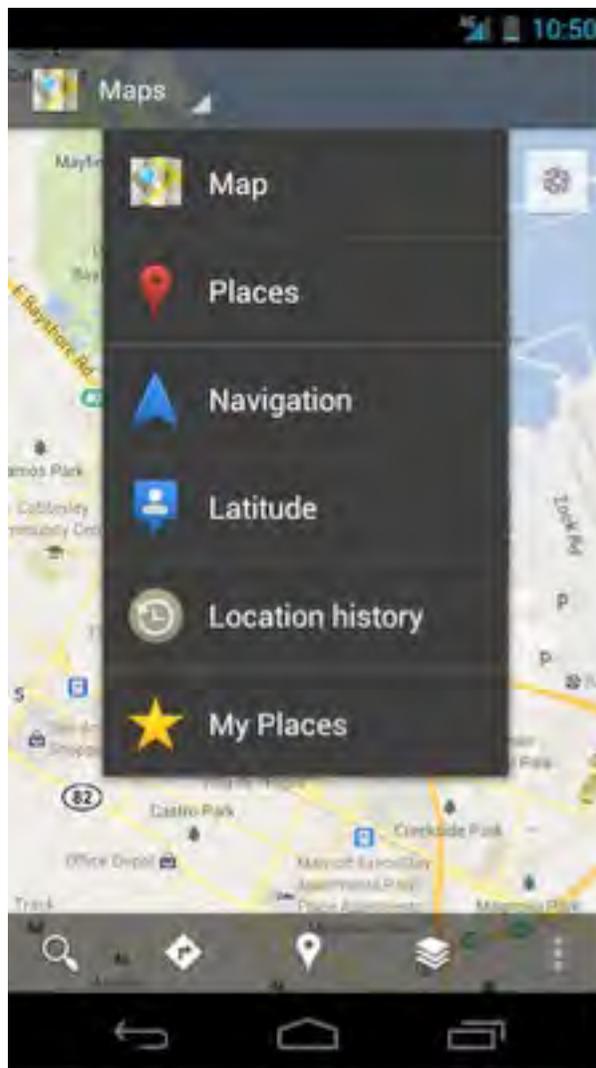
This article was originally published on the website Near Field Communications World on March 20, 2012.

and GTFS. Hodge says Embark and other transit-app startups are “riding a number of waves,” the biggest being the arrival of the mobile app store concept in North America and Europe, largely thanks to Apple. Wave number two is the spread of cheap and accurate location-finding technology such as GPS. Then there’s the general ubiquity of Internet-connected smartphones, which are quickly weaning people from their 2005-era habit of printing out a map at home before they leave on a trip. “Our thesis is that in the age of the smartphone, you shouldn’t have to think about how to get somewhere,” says Hodge. Clearly, millions of consumers now share that thesis.

Events Occur In Real Time

As important as it was to get transit schedules off of printed bus-station placards and onto the Internet, that was just the first step in the modernization of trip planning. GTFS applies only to “static” data – the ideal, theoretical schedule to which bus drivers and train conductors try to adhere. But as any rider of public transit knows, theory and reality often – quite often – diverge.

If your morning bus to work was running 10 minutes late and you knew that in advance, you could have one more cup of coffee at home before grabbing your umbrella and saying goodbye to the kitty. That’s the whole concept behind Live Transit Updates, a feature added to Google Maps for six cities last June. If you’re in Boston, Portland, San Diego, San Francisco, Madrid, or Turin and you click on



No more waiting on the corner wondering when the bus is coming.

the Google Maps icon for a public transit stop, you’ll see live departure times – meaning, the predicted time the next bus or train will leave, based on real-time location data for vehicles traversing the system.

If there are service alerts, detours, or system-wide delays, you’ll see those too. “No more waiting on the corner wondering when the bus is coming,” says Martha Welsh, a strategic partner development manager on the Google Transit team. “Having that information gives people a little bit more control over their lives.”

The real-time updates do make Google Transit far more useful. But there’s a reason Google hasn’t announced any new partners in the Live Transit Updates program since it was introduced eight months ago: the technology behind it is much more complex and expensive to implement. Observers say they doubt that the revolution Google sparked when it introduced GTFS will have a sequel in the realm of real-time data – or if it does, it will be much more gradual.

For starters, transit agencies that want to provide live updates need to collect live data – i.e., the latitude and longitude of every bus and train, logged at the most frequent possible intervals. This usually means installing a GPS device on every vehicle and wirelessly transmitting the data back to a control center. Agencies must then condense this data into files full of locations and timestamps, publish the files to the Internet, and republish them as soon as there’s new data, so that Google can crunch the numbers and continuously update its predicted arrival times.

To enable all that, Google introduced a new standard in 2011 called GTFS-realtime. It builds on GTFS, but is a different animal,

since it includes new feed types for trip updates, service alerts, and vehicle positions, as well as provisions for constantly refreshing this data throughout the day. In an advisory to agencies, Google puts it this way: “Because GTFS-realtime allows you to present the actual status of your fleet, the feed needs to be updated regularly – preferably whenever new data comes in from your Automatic Vehicle Location system.”

That bland statement contains a world of hurt. “It takes a lot more to create and maintain a GTFS-realtime feed than it does for a GTFS feed,” says BART’s Moore. “It’s frankly a little complicated. I think it’s going to be interesting to see how agencies adapt to that standard.”

To get technical for a moment, GTFS-realtime is based on “protocol buffers,” a method for updating records in a dataset by sending



short messages. Google engineers invented protocol buffers because they needed something faster and more streamlined than XML, the usual language for exchanging data on the Web. The problem is that it takes a real programmer to master the concept. A transit agency may be lucky enough to have a spreadsheet jockey like Tim McHugh who can generate GTFS files, but it probably doesn’t have developers trained in Google’s peculiar database philosophy.

On top of that challenge, many agencies outsource the problem of automatically determining vehicle locations and generating arrival-time predictions to commercial vendors. While they might be able to figure out GTFS-realtime, these vendors aren’t always eager to feed their data straight to Google. “In many cases, there are sticky contractual arrangements about who owns the data and the predictions,” says Moore.

When it comes to the future of GTFS-realtime, “the jury is still out,” says Embark’s Hodge. “There are expectations baked into it that would require transit authorities to track their vehicles in ways that most of them don’t, and to make predictions in ways that most of them can’t. I like the idea of a real-time data standard. I just think GTFS-realtime is too ahead of its time to be truly adoptable.”

The main concern that Hodge, Moore, and others seem to be expressing is that Google designed GTFS-realtime to suit its own ambitions, rather than the needs or capabilities of

the transit agencies. It’s the first sign of friction in what, since the release GTFS in 2007, has been a virtual lovefest.

Ferris, the creator of OneBusAway, is now one of the lead engineers at Google responsible for maintaining and extending GTFS and GTFS-realtime. He says Google is doing its best to respect the limitations of transit agencies while still leaving room for future innovation. “Realtime is a whole order of magnitude more complex than static scheduling – there is just no way around it,” he says. “We wanted to push the envelope in what we support. We wanted something more complex in terms of using a protocol buffer definition optimized for streaming, which gets us a lot more data. But it’s always a tension. We don’t want the spec to be this massive thing that could take five weeks just to parse through. We want this to be a spec that anyone can work with and propose features and make that happen, without us being the elephant in the room.”

The Best Computer Is the One You Have With You

The reality, of course, is that Google can’t enter any room without being the elephant. And in many ways, that’s a positive thing. When Google bought a small geographical information systems (GIS) startup called Keyhole back in 2004, it wound up disrupting the whole digital-mapping industry, where expensive, professional desktop software had previously ruled. Now anybody can open a free Google map on their smartphone, browse

a virtual globe in Google Earth, or get detailed directions from Penzance to Tintagel. (If you ask Google Transit to show you how to get from Union Square in San Francisco to Pioneer Square in Seattle entirely on public

transportation, it will oblige; see demo on p. 28)

Few other companies could have brought about such a swift change – or moved so

quickly to take advantage of advances in mobile and location-finding technology.

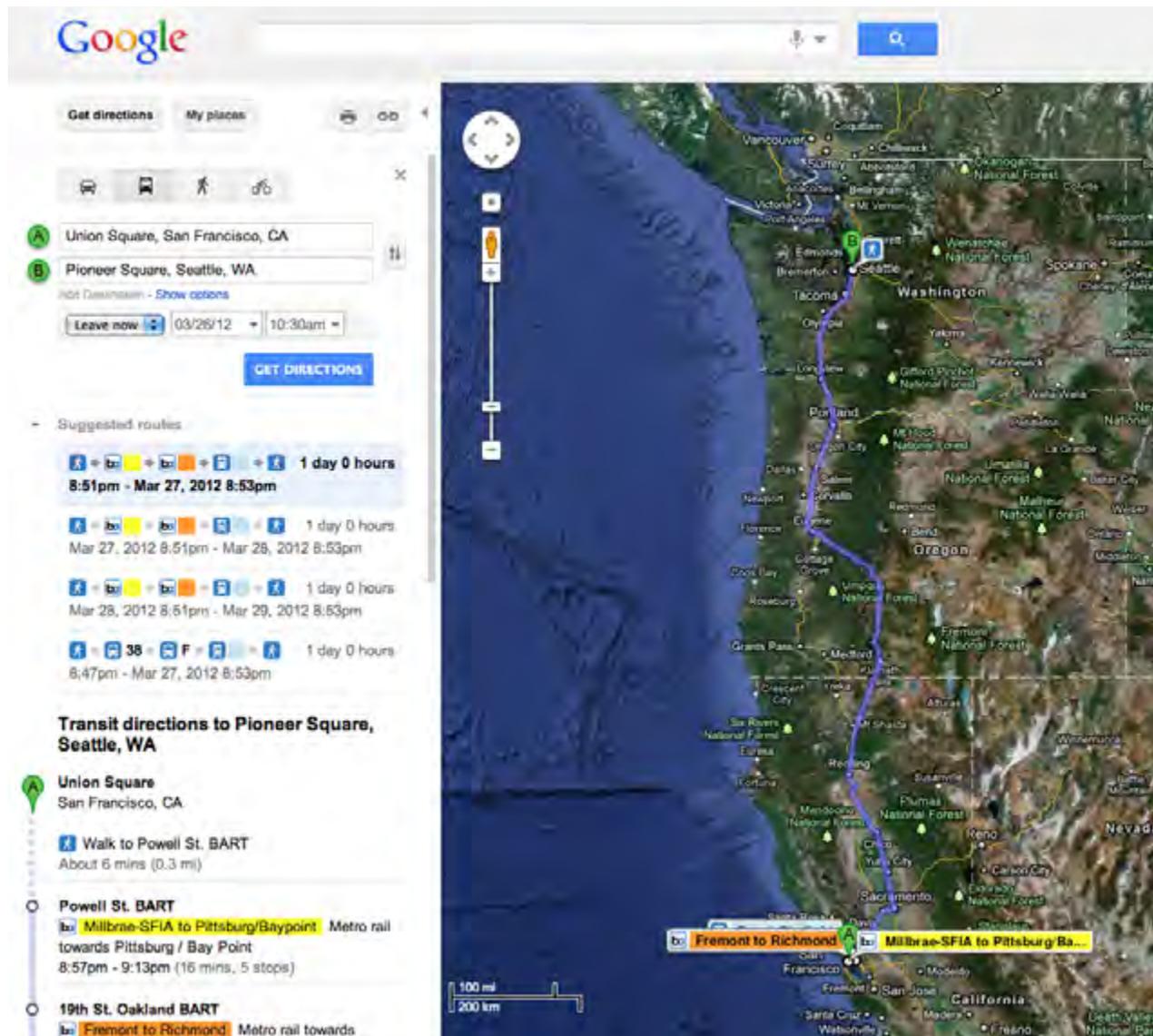
“For me, personally, Google Earth on the phone is something I could only dream of in the year 2000,” says Chikai Ohazama, a Keyhole co-founder who’s now director of product management for the Google’s Mobile Geo team. “You barely had broadband penetration. There was no 3D graphics on desktops, let alone phones. But today all the dreams we had have come true on the phone.”

Indeed, if there’s an overarching logic to Google’s involvement in transit data, and location information more generally, the smartphone is its organizing premise. Like its rival Apple, Google sees your phone as an intelligent gateway to a growing world of content, applications, and local information. Since it’s the computer you always have with you, it’s the one you’re most likely to use to navigate your way across town, and to zero in on a particular store or restaurant once you get there.

“We like to say a phone has eyes, ears, skin, and a sense of location,” Katie Watson, head of Google’s communications team for mobile technologies, told me last year. “It’s always with you in your pocket or purse. We really want to leverage that.”

In fact, to understand Google’s vision for mobile maps at its fullest, you have to experi-

Google Transit can take you from San Francisco’s Union Square to Seattle’s Pioneer Square, all on transit.



ence it through Google's mobile operating system, Android. If you're browsing a map on an Android phone, you can see transit data instantly by tapping on the blue icon for your local bus, train, or streetcar stops. (These icons aren't [clickable](#) on other mobile platforms.) And only on an Android phone can you access related features like 3D maps, a terrain layer, indoor views, turn-by-turn or stop-by-stop navigation, and Places, Google's Yelp-like catalogue of business locations. Yes, Google Maps still works on iPhones, Windows phones, BlackBerry devices, and Symbian devices – but the experience feels impoverished by comparison.

“What's really great about Google Maps for mobile is that it offers one-stop shopping,” says Google's Martha Welsh. “It's not just about getting from Point A to Point B, it's really about the opportunity to explore and interact with your environment.”

So far, Google isn't making aggressive use of its map- or navigation-related products to serve advertisements. (On the Web, you'll see an occasional keyword-based ad on Google's street-view and indoor-view pages for businesses, but I've never come across an ad on a Google mobile map or a transit data page.) That's not to say that Google has ruled out monetizing these services. It's just that for now, they're offered as part of the larger family of free products – from Gmail to Chrome to Picasa – that make Google so sticky.

The more transit data Google can provide

to its mobile users, the more confident they'll feel that the bus or train will get them to their destination on time (which is why the company is so committed to GTFS-realtime). And the better they'll feel about leaving the car at home—or not buying one in the first place.

Indeed, if you listen to a public-transit enthusiast like Brian Ferris – who says he hasn't owned a car in almost eight years – you begin to wonder what other forms of anti-driving persuasion the company may plan to apply.

One natural extension of Google Transit, Ferris suggests, would be a software tool that shows people hunting for a house or an apartment how long their commute to work would be by bus or car—or how much they'll pay for car insurance and parking in each neighborhood.

“If we can capture information about all the external costs we don't represent now...[and]

if we can give you as much information as possible when it comes time to make a decision about where to live or whether to get into a cab versus a car versus a bus, those are the ways we can encourage people to use public transit,” says Ferris. It's all just another example of “organizing the world's information,” he says. But like so many of Google's ideas, it may be one that will help reorganize the world along the way. **CT**

Wade Roush is Xconomy's chief correspondent and editor of Xconomy San Francisco. You can e-mail him at wroush@xconomy.com or follow him on Twitter at twitter.com/wroush.



Summary

- Google's support for GTFS stems from company-wide belief in reducing automobile dependency
- Development of GTFS standard opens Google Transit to more than 475 transit systems worldwide
- Portland's Tri-Met serves as the test case for open data, on-line trip planning
- Introduction of GTFS yields greater innovation in transit trip planning from other developers
- Live Transit Updates marks the emergence of real-time data into Google Transit
- Smartphone and tablet computers allow for even greater utility of Google Transit options
- Google Transit may expand connections to housing opportunities near transit

The 8-Second Rule: Successfully Guiding Passengers to Their Destinations

By Kristen Force

Effective community and public transit agencies deploy information and signage in specific, studied methods in order to ease passengers' use of the system. The ability for new and return transit customers to have the precise information they need to reach their destinations is key to the passenger experience.

A map is usually the first tool that comes to mind when helping customers navigate a transit system. However, if simply providing a system map is the extent of the guidance your agency provides, you're not likely to be capturing all of the ridership possible.

A more system-wide approach that factors in how people make decisions and process information is the most effective solution, recommends Rick Wood, President and CEO of CHK America, Inc. His Santa Barbara, Calif.-based company designs clear, concise and easy-to-understand customer information solutions for public transit agencies, employing an 8-seconds premise. That is, based on studies conducted by the company, customers will only allow 8 seconds to view a piece of information, in which time if they don't begin receiving useful answers to their questions they will become frustrated, resulting in customer anxiety or dissatisfaction.



Route and schedule maps are one component of an overall service information strategy.

Be Cognizant of How People Solve Problems

Solving the public transportation puzzle can be overwhelming to customers, especially in unfamiliar environments, such as a transit system in a different city or with an unfamiliar route in their own city. The distractions caused by other people, sounds, traffic and weather can further add to a customer's cognitive load, which is the total amount of mental activity occurring in one's working memory at a given moment. The greater the cognitive load, the more impaired

decision-making becomes. In public transportation, cognitive overload is an all-too-common barrier for customers attempting to navigate systems that appear too complex to be used confidently and easily.

This potentially stress-inducing environment makes effective communication between the transit agency and customer essential. While route and schedule maps are critical sources of information for customers, they should be one component of an overall strategy for providing

service information. The most effective route and schedule tools account for a riders' problem solving abilities, tendencies and preferences for layout and design. Customers look for answers on maps, on at-stop panels and in summary-of-service guides, all of which need to provide fundamental elements of information to assist passengers in successfully planning and completing their trip.

"The design of information pieces should break down large tasks into smaller, more manageable steps," Wood says. "Each element should be clearly identifiable so that customers take one step at a time to achieve their overall endeavor."

The first problem usually facing customers is identifying where they are currently located within the system. Applying CHK's 8-second rule, customers must feel confident in their ability to solve this problem within those initial few seconds.

"Customers should be able to start to understand maps and other tools as they approach them," Wood explains. "Poor information definitely limits use of a system. Lost riders and under-utilized systems are bad situations for transit agencies that can be minimized with better design and communication."

Not only is a well-developed system of information crucial for current customers, it's also vital for infrequent and new riders, who must be encouraged every step of their journey if they



APPROXIMATE DEPARTURE TIMES FROM THIS STOP

2 Eastbound to UCLA/ Westwood			3 Northbound to Santa Monica/ UCLA		
Weekday lines-variant	Saturday suburb	Sunday downtown	Weekday lines-variant	Saturday suburb	Sunday downtown
AM 6:24	AM 6:41	AM 7:11	AM 6:09	AM 6:23	AM 6:41 B
6:38	7:11	7:41	6:23	6:33	7:11 B
6:50	7:36	8:11	6:38	7:23	7:41 B
7:04	8:01	8:41	6:52	7:47	8:11 B
7:19	8:26	9:11	7:06	7:56	8:41 B
7:32	8:51	9:36	7:20	8:12	9:11 B
7:47	9:16	10:01	7:35	8:26	9:41 B
8:02	9:42	10:22	7:50	8:41	10:11 B
8:17	10:02	10:42	8:05	8:56	10:36 B
8:32	10:22	11:02	8:20	9:11	11:00 B
8:47	10:42	11:22	8:35	9:26	11:18 B
9:02	11:02	11:42	8:50	9:41	11:40 B
9:16	11:22	11:42	9:05	9:57	11:58 B
9:31	11:42	12:20	9:20	10:12	12:18 B
9:46	12:02	12:41	9:35	10:27	12:33 B
10:00	12:20	1:00	9:50	10:42	12:48 B
10:20	12:41	1:19	10:05	10:57	12:59 B
10:40	1:00	1:37	10:20	11:12	1:14 B
11:00	1:19	1:56	10:35	11:27	1:29 B
11:20	1:37	2:15	10:50	11:42	1:44 B
11:40	1:56	2:34	11:05	11:57	1:59 B
11:59	2:15	2:53	11:20	12:12	2:14 B
PM 12:19	2:34	3:12	11:35	12:27	2:29 B
12:39	2:53	3:31	11:50	12:42	2:44 B
12:56	3:12	3:50	12:05	12:57	2:59 B
1:15	3:31	4:09	12:20	1:12	3:14 B
1:35	3:50	4:28	12:35	1:27	3:29 B
1:52	4:09	4:47	12:50	1:42	3:44 B
2:10	4:28	5:06	1:05	1:57	3:59 B
2:28	4:47	5:25	1:20	2:12	4:14 B
2:46	5:06	5:44	1:35	2:27	4:29 B
3:03	5:25	6:03	1:50	2:42	4:44 B
3:18	5:44	6:22	2:05	2:57	4:59 B
3:33	6:03	6:39	2:20	3:12	5:14 B
3:48	6:22	6:58	2:35	3:27	5:29 B
4:03	6:41	7:13	2:50	3:42	5:44 B
4:18	7:03	7:33	3:05	3:57	5:59 B
4:33	7:26	7:56	3:20	4:12	6:14 B
4:48	7:48	8:13	3:35	4:27	6:29 B
5:03	8:13	8:33	3:50	4:42	6:44 B
5:18	8:45	9:43	4:05	4:57	6:59 B
6:18	9:15	10:13	4:20	5:12	7:14 B
			4:35	5:27	7:29 B
			4:50	5:42	7:44 B
			5:05	5:57	7:59 B
			5:20	6:12	8:14 B
			5:35	6:27	8:29 B
			5:50	6:42	8:44 B
			6:05	6:57	8:59 B
			6:20	7:12	9:14 B
			6:35	7:27	9:29 B
			6:50	7:42	9:44 B
			7:05	7:57	9:59 B
			7:20	8:12	10:14 B
			7:35	8:27	10:29 B
			7:50	8:42	10:44 B
			8:05	8:57	10:59 B
			8:20	9:12	11:14 B
			8:35	9:27	11:29 B
			8:50	9:42	11:44 B
			9:05	9:57	11:59 B
			9:20	10:12	12:14 B
			9:35	10:27	12:29 B
			9:50	10:42	12:44 B
			10:05	10:57	12:59 B
			10:20	11:12	1:14 B
			10:35	11:27	1:29 B
			10:50	11:42	1:44 B
			11:05	11:57	1:59 B
			11:20	12:12	2:14 B
			11:35	12:27	2:29 B
			11:50	12:42	2:44 B
			12:05	12:57	2:59 B
			12:20	1:12	3:14 B
			12:35	1:27	3:29 B
			12:50	1:42	3:44 B
			1:05	1:57	3:59 B
			1:20	2:12	4:14 B
			1:35	2:27	4:29 B
			1:50	2:42	4:44 B
			2:05	2:57	4:59 B
			2:20	3:12	5:14 B
			2:35	3:27	5:29 B
			2:50	3:42	5:44 B
			3:05	3:57	5:59 B
			3:20	4:12	6:14 B
			3:35	4:27	6:29 B
			3:50	4:42	6:44 B
			4:05	4:57	6:59 B
			4:20	5:12	7:14 B
			4:35	5:27	7:29 B
			4:50	5:42	7:44 B
			5:05	5:57	7:59 B
			5:20	6:12	8:14 B
			5:35	6:27	8:29 B
			5:50	6:42	8:44 B
			6:05	6:57	8:59 B
			6:20	7:12	9:14 B
			6:35	7:27	9:29 B
			6:50	7:42	9:44 B
			7:05	7:57	9:59 B
			7:20	8:12	10:14 B
			7:35	8:27	10:29 B
			7:50	8:42	10:44 B
			8:05	8:57	10:59 B
			8:20	9:12	11:14 B
			8:35	9:27	11:29 B
			8:50	9:42	11:44 B
			9:05	9:57	11:59 B
			9:20	10:12	12:14 B
			9:35	10:27	12:29 B
			9:50	10:42	12:44 B
			10:05	10:57	12:59 B
			10:20	11:12	1:14 B
			10:35	11:27	1:29 B
			10:50	11:42	1:44 B
			11:05	11:57	1:59 B
			11:20	12:12	2:14 B
			11:35	12:27	2:29 B
			11:50	12:42	2:44 B
			12:05	12:57	2:59 B
			12:20	1:12	3:14 B
			12:35	1:27	3:29 B
			12:50	1:42	3:44 B
			1:05	1:57	3:59 B
			1:20	2:12	4:14 B
			1:35	2:27	4:29 B
			1:50	2:42	4:44 B
			2:05	2:57	4:59 B
			2:20	3:12	5:14 B
			2:35	3:27	5:29 B
			2:50	3:42	5:44 B
			3:05	3:57	5:59 B
			3:20	4:12	6:14 B
			3:35	4:27	6:29 B
			3:50	4:42	6:44 B
			4:05	4:57	6:59 B
			4:20	5:12	7:14 B
			4:35	5:27	7:29 B
			4:50	5:42	7:44 B
			5:05	5:57	7:59 B
			5:20	6:12	8:14 B
			5:35	6:27	8:29 B
			5:50	6:42	8:44 B
			6:05	6:57	8:59 B
			6:20	7:12	9:14 B
			6:35	7:27	9:29 B
			6:50	7:42	9:44 B
			7:05	7:57	9:59 B
			7:20	8:12	10:14 B
			7:35	8:27	10:29 B
			7:50	8:42	10:44 B
			8:05	8:57	10:59 B
			8:20	9:12	11:14 B
			8:35	9:27	11:29 B
			8:50	9:42	11:44 B
			9:05	9:57	11:59 B
			9:20	10:12	12:14 B
			9:35	10:27	12:29 B
			9:50	10:42	12:44 B
			10:05	10:57	12:59 B
			10:20	11:12	1:14 B
			10:35	11:27	1:29 B
			10:50	11:42	1:44 B
			11:05	11:57	1:59 B
			11:20	12:12	2:14 B
			11:35	12:27	2:29 B
			11:50	12:42	2:44 B
			12:05	12:57	2:59 B
			12:20	1:12	3:14 B
			12:35	1:27	3:29 B
			12:50	1:42	3:44 B
			1:05	1:57	3:59 B
			1:20	2:12	4:14 B
			1:35	2:27	4:29 B
			1:50	2:42	4:44 B
			2:05	2:57	4:59 B
			2:20	3:12	5:14 B
			2:35	3:27	5:29 B
			2:50	3:42	5:44 B
			3:05	3:57	5:59 B
			3:20	4:12	6:14 B
			3:35	4:27	6:29 B
			3:50	4:42	6:44 B
			4:05	4:57	6:59 B
			4:20	5:12	7:14 B
			4:35	5:27	7:29 B
			4:50	5:42	7:44 B
			5:05	5:57	7:59 B
			5:20	6:12	8:14 B
			5:35	6:27	8:29 B
			5:50	6:42	8:44 B
			6:05	6:57	8:59 B
			6:20	7:12	9:14 B
			6:35	7:27	9:29 B
			6:50	7:42	9:44 B
			7:05	7:57	9:59 B
			7:20	8:12	10:14 B
			7:35	8:27	10:29 B
			7:50	8:42	10:44 B
			8:05	8:57	10:59 B
			8:20		



Local Bus Service		Light Rail Service	
Line	Frequency	Line	Frequency
1	15 min	1	15 min
2	15 min	2	15 min
3	15 min	3	15 min
4	15 min	4	15 min
5	15 min	5	15 min
6	15 min	6	15 min
7	15 min	7	15 min
8	15 min	8	15 min
9	15 min	9	15 min
10	15 min	10	15 min

rarely uses them all together. Wood stresses that colors must be easily distinguishable to convey a clear message to customers.

For route maps, relationships matter more than scale. For example, stops and stations should be in the right location relative to rivers, highways and other landmarks but exact distances are less important. For stops with significant pedestrian traffic, Wood recommends using an area or neighborhood map with a 5-minute walking circle centered on the stop or station. Also, by including well-known land-



For route maps, relationships matter more than scale.

marks and points of interest, the customer feels more at ease as they see recognizable sites both on the map and from the bus window.

Finally, bus stops are the last decision point for customers who must feel confident that the bus they are about to board will get them where they need to go. In the absence of information at this critical final step, customers question whether the bus will even show up or when it does, if it's the right bus to get them to their destination. Transit agencies that display well-designed information panels directly at bus stops are providing an important resource for customers. Information panels should include a diagrammatic representation of the routes serving the stop, offer an easy-to-understand

service summary, and include clear indications of where connections can be made.

“At-stop information panels allow customers to quickly identify where they are and where they can go,” says Wood. “Including a legend and timetables also further facilitates the customers’ decision-making processes.”

Does your transit system provide initial answers to basic passenger questions within the first 8 seconds of being viewed? It’s challenging, but vital, for transit agencies to translate their complex system of services and functionality into easy-to-understand diagrams, tables and other informational tools for customers. When each communications piece is part of a system-wide solution the result is a network of transit routes that are confidently navigated by novice and experienced riders alike. Remember, confident riders turn into repeat riders, which results in increased ridership. **CT**

Kristen Force is a former trade magazine editor and freelance writer in Washington, D.C., with an extensive background in writing on public transportation and automotive topics. She is the former executive editor of Government Fleet Magazine and F&I Magazine, which are trade publications covering transportation and automotive topics, respectively.

Explaining the Ins and Outs of Passenger Information Technology

By Sheena Archer

The most effective uses of passenger information technology in community and public transit involve multiple technologies working in concert – each designed with the passenger experience in mind. In this user-friendly article and accompanying informational video, Mentor Engineering highlights its MyRide system.

It's no secret that waiting for buses and trains affects rider satisfaction. Studies have shown that waiting – whether it is for a bus or in line to buy a coffee – is psychologically painful. This is due to the minutes already lost while waiting and not knowing how much longer the wait will continue. The good news is that the stress of waiting can be relieved, very simply, when the person waiting knows how much longer their wait is going to last.

Transit agencies, too, understand this connection.

“Studies have shown that when people are informed of how long they are expected to wait, they overestimate what this time will be like to endure,” says Chris Pettigrew, transit product manager at passenger information systems provider, Mentor Engineering. “Despite this, the sense of control gained by knowing how long that wait will be, leads to significantly greater customer satisfaction. There are even examples



of situations when on-time performance actually decreased after a passenger information system was installed, however, riders perceived the service as being better because they were informed about how long their wait times were going to be.”

One of the most important decisions facing transit agencies regarding passenger information systems is not whether to implement a system, but which type of technology or combination of

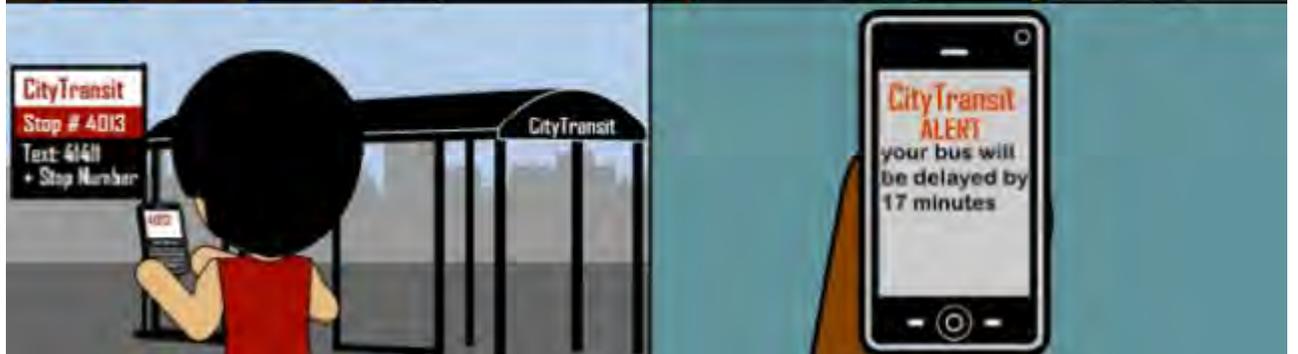
technology they should choose. With the large range of technologies available, agencies must give careful thought to which options would be most useful to their ridership demographic. For example, an agency in a university town with a young rider base might be wise to focus its efforts around information accessible with smart phones and cell phones – like smart phone apps or text messaging. An agency with a different demographic may be better off to focus their efforts around installing real-time wayside signs.

Also critical, in terms of which technologies are appropriate, is an agency's budget and size. Technology choices for agencies range from the virtually free option of releasing their transit data to the public and relying on community-spirited developers to build transit apps, to pricier options of real-time text messaging services or wayside signs.

For a unique way to learn about some of the various options available, watch this [animated video \(or click on the graphic on p. 33\)](#). It steps through several different methods of providing transit passengers with real-time information, all shown from the viewpoint of the riders.

The passenger information system shown in this demo is Mentor *MyRide*[™], a product developed by Mentor Engineering. As Pettigrew explains, "We developed *MyRide* to give agencies an affordable option that is easy to implement. Many agencies don't have the budget or the IT and technical resources to build their own passenger information systems. With *MyRide*, agencies can apply their own branding to the product and have a system up and running quickly and easily. This is a real benefit for smaller or mid-size operations."

There are several transit agencies in the midst of deploying the passenger information system featured in this video. They include YoloBus in Yolo County, California; Johnson City Transit System (JCT) in Tennessee; Greater Lafayette CityBus in Indiana and Metro Transit in Oklahoma City. **CT**



Smartcards Ease the Fare-Payment Process for Passengers

Excerpt from TCRP Report 115, Smartcard Interoperability Issues for the Transit Industry.

Smartcards are a secure, widely accepted medium for cashless payments for a wide spectrum of financial transactions, including automatic fare collection (AFC) activities within transit districts. Smartcard electronic payment media systems are operating on transit systems across the nation. Use of smartcards can greatly increase the level of convenience and facilitate transfers for transit riders and can increase efficiency and reduce costs for transit providers. Smartcards used on public transit can have widespread application outside of transit. They can be linked to other modes of transportation (e.g., parking and highway tolls) and other industries such as retail, banking, and security.

Although seamless smartcard electronic payment systems can benefit transit passengers and operators, as well as other potential users, transit operators face substantial challenges in integrating smartcard-based AFC equipment from different manufacturers because of the lack of interoperability. Some examples of the complicating factors are application of multiple fare-payment systems



and technologies, transit agencies' different operating needs and fare mechanisms, inadequate communication protocols and information exchange among transportation clearinghouses, absence of a single API to foster interoperability, and intellectual property barriers that do not allow for open architecture. These problems need to be remedied, before widespread deployment can proceed.

The TCRP researchers, Acumen Building Enterprise, Inc., in association with Booz Allen Hamilton, Inc., identified the key institutional issues that may present barriers to implementing an interoperable transit fare-payment program, described the commonalities and differences in the information exchanged between agencies, outlined the data elements and information exchanged that are critical for implementing smartcard



interoperability, delineated the information flow, and examined critical data management issues and policies. The research team discussed the development of a prototype for a proposed public domain API that demonstrates a “proof of concept” for ISO 14443 Type A and B compliant cards.

Use of contactless smartcards for electronic fare payment for transit in the United States will probably increase over time. There is a strong desire to create interoperability within transit smartcard implementations for greater patron convenience, which would indirectly stimulate greater use of mass transit. Unfortunately, interoperability is not an attribute of the existing systems and will require some effort to attain.

TRB defines interoperability for this research project as “the ability of different agencies to coordinate and share information

so that passengers can travel in a seamless fashion.” This definition covers technological barriers that may preclude one agency’s smartcard reader from reading a smartcard issued by another agency as a result of protocol or radio frequency incompatibility. It also addresses the need for uniformity in how data are stored on the card and what information is included on the card.

To accomplish interoperability at a technological level, use of international standards must be required. ISO/IEC 14443 is an international standard that covers the physical and radio frequency characteristics and the initialization, anti-collision, and transmission protocols for contactless smartcards. Strict adherence to ISO/IEC 14443 in transit implementations would make data exchange possible because it would ensure that transit contactless cards and readers would have a uniform basic communication channel.

To allow interoperable access to the data on the card, ISO/IEC 7816-4 defines a set of commands or application protocol data units that allow data interchange at the higher application level. This allows identity to be read, updated, and authenticated in a standard non-proprietary fashion. This standard was developed for contact smartcards; however, early contactless devices chose proprietary protocols to provide for application-level data exchange. The research done for this report found that the lack of standard use was a significant obstacle to interoperability of

existing implementations in transit systems.

How data are represented on the card, or card format, is another area that needs standardization. Several standards are available for this purpose, one being the Regional Interoperability Standard for Electronic Transit Fare Payments (RIS). The RIS is under review for adoption by APTA’s Universal Transit Farecard Standards (UTFS) Task Force. Compelling the use of such a standard would ensure that every agency would store data on the card in the same way; this would allow a card to be “understood” from agency to agency, provided the agencies were inclined to share the security information needed to authenticate access to the cards. A standard such as the RIS or UTFS typically includes related procedures and specifications to govern the transmission of data from the automatic fare collection (AFC) equipment to and from the agency central computer system and regional clearinghouse.

Another area that could benefit from standardization would be the integration of the contactless smartcard reader to the host computer that typically operates a fare gate or ticket vending machine (TVM). Today, the programming interface for contactless smartcard readers is predominantly proprietary. This usually requires that the fare gate or TVM application software be rewritten if the contactless reader is replaced with a different model. A standard application programming interface (API) can solve this through

the definition of standard functions and data types. Once an API is established, the hardware manufacturers can produce equipment with software drivers that conform to the API. As part of this project, an API and software drivers were developed to demonstrate this concept. The API approach provides an option for transit systems to reduce the cost of technological obsolescence in smartcard-based AFC deployments.

This work is intended to guide the planning of new deployments and systems. Several systems with smartcard infrastructures exist; most of these systems were planned and implemented before the current standards. The cost of transitioning one of these systems to a standards-based system will differ from system to system and cannot be generalized effectively. Perhaps the most prudent approach for such systems would be to wait and see if the acceptance of contactless bankcards may provide an effective alternative to a system rebuild.

Sufficient standards exist to provide interoperability in the use of smartcards in transit environments. The adoption of a standard API may help reduce the cost of maintaining AFC application software as contactless smartcard technology develops and matures. The key to interoperability in the future of smartcard-based AFC systems for transit lies in compelling the use of these standards. **CT**



TCRP Report 115: Smartcard Interoperability Issues for the Transit Industry defines interoperability; identifies key information needed by public agencies to implement smartcard payment systems interoperability; describes the necessary information flows; and outlines a set of functions needed for a standard public domain application programming interface (API) that may be used in the development of a uniform application protocol data unit (APDU). The report includes a prototype for an API and an APDU that demonstrates this “proof of concept” for International Orga-

nization for Standardization (ISO)-compliant Type A and Type B cards.

Employers as Customers of Transit

By Pamela Friedman

Much of this edition of DigitalCT has focused on the most direct customers of transit: the passengers. However, of equal importance are the businesses, organizations and services that become the primary destinations of transit riders. Here's a look at a handful of communities where transit systems and employers worked together to meet the mobility needs of the business community, the source customer for transit commuters.



Barnes Jewish and St. Louis Children's Hospital has provided transit pass subsidies for employees since 2006. The passes offer unlimited travel for employees commuting to the hospital via St. Louis Metro Bus or MetroLink during the month of purchase. The organization offers a \$20 subsidy; employees who purchase a monthly metro pass by payroll deduction are

eligible to receive a discount. More than half of hospital employees participate, including many who travel from rural communities outside of the St. Louis region. Hospital sponsored transit fairs, offered twice annually, provide Metro vendors an opportunity to share information about current and upcoming transit events with commuters. The location of a Metro hub center on hospital grounds enhances the program's popularity while showcasing the hospital as an attractive place to work, which in turn has positively impacted recruitment and retention efforts.

Bluegrass Industrial Park, Louisville, Ky.

A number of employers in Louisville, Ky., partnered with the Transit Authority of River City (TARC) and the Kentuckiana Regional Planning and Development Agency (KIPDA) to develop an express bus route that transports workers originating from west and south Louisville from downtown to the Bluegrass Industrial Park. Establishing the bus route eliminated the necessity for commuters to make three bus transfers in order to reach the area from the city. The express route operates during peak hours, making 10 runs from the central business district to the park. Approximately 200 commuters daily use the service to access the park. In addition, one local circulator operates within the industrial park and workers can use a free transfer from the express route to ride it. The circulator oper-



ates six a day, traveling from one central location to multiple stops within the park. When commuting patterns began to change and workers traveling from the central business district and west Louisville needed better alternatives to reach the park, TARC worked with industrial park employers to expand a core route to service the south end of the park. The route currently operates about 18 hours a day, making 20 trips, Monday through Friday.

The Charlotte Area Hotel Association (CAHA) represents some of the largest hotels doing business in the city of Charlotte, N.C. CAHA was created in 2002, partly in response to an invitation to participate in a program sponsored by the Charlotte Area Transit System (CATS). CATS' Employment Transportation Coordinator



program allows eligible employers to purchase discount transit passes and pass them on to employees. CAHA purchases the bus passes on behalf of member hotels and makes them available to employees and their families at a 20 percent discount. CAHA manages all accounting and administration activities, saving the hotels valuable staff time and money. Upon recommendation from CAHA, CATS developed a bilingual wall poster that hotels can mount in employee lounges. The poster encourages employees to participate in the bus pass program by stating that discount bus passes are available via the hotel's HR Department, and includes information on the amount of the discount. CATS also supplies updated route maps and other promotional materials for the hotels to distribute along with the passes each month.

Laughlin, Nevada, is home to seven major casino resorts. The desert climate and the approximate five-mile distance between the residential area and the resort corridor make transportation

a necessity for residents working in the casinos. Southern Nevada Transit Coalition (SNTC) – which operates the Silver Rider bus – began providing fixed-route service in December 2002. Currently there are two routes; one operating for 19-hours a day, the other 24-hours a day, providing residents and visitors with hourly service throughout the night. The extended hours of operation accommodate the travel needs of second- and third-shift casino workers. Ridership figures for fixed route service are a strong indicator of the community's dependence on transit to access work and other life activities. In 2010, Laughlin's 8,258 residents took approximately 262,500 rides.

Texas Instruments (TI) has promoted alternative commute programs among its employees since the 1970s. When the Dallas/Ft. Worth area was designated a non-attainment region in the early 1990s, TI expanded its transportation benefits program into what has become the company's Commute Solutions program. A

major component of the program is a partnership with the Dallas Area Rapid Transit system (DART) to provide subsidized passes for employees based in the Dallas metropolitan area. The passes provide unlimited local and express service on buses, trains and the Trinity Railway Express. More than 900 employees in the Dallas area participate in the program, which has been subsidized by TI since 2005. TI also provides free shuttles between nearby mass transit stations and TI campuses. Additional incentives to encourage employee participation in commute alternatives include a TI-subsidized vanpool program in partnership with DART. Currently, more than 500 employees are able to participate. In addition, more than 400 employees participate in personal carpools, enabled by a TI rideshare database. Participants are eligible for preferred parking at most TI sites. **CT**



Fairbanks' Metropolitan Area Commuter System Adds Two New Commuter Routes

With the debut of the system's new White and Orange lines on March 14, the Metropolitan Area Commuter System – which serves Fairbanks, Alaska – expanded its service area, with routes stretching to the east and south designed to serve commuters. The White Line connects downtown Fairbanks with the town of Salcha about 35 miles to the north, and also serves Eielson Air Force Base as well as the community called North Pole (*which isn't located at the geographic North Pole*). Meanwhile, the Orange Line serves South Fairbanks and other communities south of the city. Both routes provide service in both directions during the morning and evening commute periods.

The new routes complement the system's existing Red, Yellow, Green, Blue and Purple lines to form a seven-route network, and is the northernmost transit system in the United States. The operation began in 1977 to unify previously independent bus routes. Salcha is now considering constructing a

park-and-ride lot to serve commuters traveling even longer distances. The new routes are supported by federal investment through the Congestion Mitigation and Air Quality (CMAQ) program, as well as state and local funds.

“The idea is to get people to-and-from work,” says Fairbanks Borough Transportation Manager, Adam Barth. “It will save them gas and give residents work options in Fairbanks. These are lines we've been looking at for a while. Salcha has been very supportive and it seems like the next step to expand the systems.”



Tri-Borough Shuttle Links Commuter Rail Station, Employment Destinations

A free shuttle bus service – dubbed the Tri-Borough Shuttle – connects New Jersey Transit's Ridgewood commuter rail station with job centers in Montvale, Woodcliff Lake and Park Ridge in the Pascack Valley. Utilizing two 16-passenger vehicles, the service

provides multiple round-trips during the morning and evening rush hours, along with a mid-day run. When the vehicles are not providing the shuttle trips, they are used to provide demand-response service for seniors and people with disabilities. The shuttle is operated by Bergen County's Community Transportation Division, a branch of the county's Department of Human Services.

A number of local leaders and elected officials worked for several years to make the service a reality. Montvale's Mayor Roger Fyfe and Councilwoman Leah LaMonica, former New Jersey Assemblywoman Charlotte Vandervalk and Bergen County Planning Board Chairman John DePinto and staff member Lorraine Hutter all had a hand in planning the shuttle and securing state and local investment, including support from New Jersey Transit. Many area businesses commented the shuttle service would make it easier to recruit employees and avoid the need to construct new parking areas.

“I think it's a home run,” said Bergen County Executive Kathleen Donovan. “It's a huge boost to all of us. The service will mean fewer cars on the road and with that, reduced emissions. It really is wonderful.”

University of Southern Maine Provides Free Transit Trips to All Students

Any student at the University of Southern Maine can ride for free on any route operated by the Citylink transit system, which



serves Lewiston and Auburn. Free monthly passes are available at the University's Campus Student Success Center and are good for unlimited travel on Citylink buses. The passes represent an \$18 value and are eligible to all students enrolled at the University. Students must obtain a new pass each month.

"With the latest surge in the price of gas, riding the bus has become a great way of getting to campus and around town," said USM Director of Communications Dan Philbrick. "Both the Lewiston-Auburn Transit Committee and Western Maine Transportation have been great to work with. We recently collaborated with both groups to establish a bus stop on campus, which has made it both safer and more convenient for our students. Providing bus passes to our students seemed to be a logical next step to encourage the use of public transportation and this campus resource."



Muskegon Area Transit System to Institute Mobility Management Program

Designed to improve coordination among community and public transportation resources in Muskegon County (Mich.), as well as crafting solutions to unmet transportation needs, Muskegon County's Board of Commissioners recently approved a new mobility management program to be overseen by the county's Muskegon Area Transit System. The transit agency will have a new mobility manager to administer the program, who will develop an inventory of services in the region, investigate investment strategies and orchestrate better coordination between the system and other service providers. The program will be supported by a mix of federal and state investment.

The County's Community Development Director Bob Lukens – who oversees the Muskegon Area Transit System – recommended the agency institute a mobility management program as early as 2004, and

outside studies in recent years have affirmed the need for such an effort. The system has expanded service to include evening trips on weekdays and installed permanent bus stop signs, which have helped increase ridership in 2011 to over 734,000 riders. An expansion of the system to the community is also in consideration.

"Mobility Management uses multiple transportation providers to offer the most efficient and effective services to all individuals," says Lukens. "We're excited about the potential for the county to coordinate with federal agencies, non profits and other local transportation providers."



Transit Options to Expand in Boulder

Building on the success of its initial route that links the mining communities of Gold Hill and Ward with Boulder (Colo.), The Climb bus system – part of the regional transit network operated by Via – will launch a second route between Boulder and Jamestown this August. The new line will also serve James Canyon, Lefthand Canyon and Lee Hill Road, a 14-mile trip that takes around half an hour to travel over winding

mountain roads. Both routes connect with the HOP fixed-route bus service in the city of Boulder – which Via operates under contract – at the downtown Boulder Transit Center.

Via – which recently changed its name from Special Transit – provides demand-response paratransit service in five counties in-and-around the Boulder region, as well as travel training and mobility management programs. Incorporating The Climb into the agency’s portfolio of mobility options was a natural progression as the name change was underway. Boulder County provides local grant support to operate The Climb service.

“It’s an important service, and we can help stabilize it to keep it going for years to come,” said Mary Cobb, director of communications for Via, of The Climb. “At the same time, we want The Climb to maintain its own identity and its own brand and its own unique service to the mountain communities. For us, this is a natural program to add to our family of services.”

New Millford Hospital, Senior Center Partner to Provide Seniors Mobility

Through a partnership between the New Millford (Conn.) Hospital and the New Millford Senior Center, seniors in the region will now have access to the Hospital’s Senior Suppers program. With investment provided by the Connecticut Community Foundation and facilitated by the Western Connecticut Health Network Foundation, the New Millford Com-



munity Center will offer free trips to area seniors to attend the Senior Suppers every other Wednesday. The Hospital provides nutritious meals made from scratch for \$5 to seniors with proper identification under the program, which also includes light entertainment, visits from local dignitaries and leaders and informational programming on health care, home maintenance and other topics.

Each trip is limited to 12 passengers, and reservations must be arranged in-advance. Although no fares are required, the partnership will accept donations to support the service. Located in Litchfield, New Millford Hospital serves western and northwestern Connecticut along with parts of southeastern New York at an 85-bed facility. Meanwhile, New Millford Senior Center offers a range of programs, including health and wellness activities, educational and social programs, classes and support groups, as well as transportation options for seniors in the town of New Millford.

Prairie Hills Transit Wins FTA Pacesetting Award

Acknowledging the innovative intermodal facility opened in 2011 by Prairie Hills Transit in Spearfish, S.D., the Federal Transit Administration’s Region VIII office awarded the system its 2012 Pacesetting Project Award. The intermodal center not only is the focal point for local and regional transit service provided by Prairie Hills Transit, but also offers intercity bus connections and a child-care program. The system also allows local organizations and clubs use of its conference room for meetings.

“The South Dakota Department of Transportation believes that the new transit facility in Spearfish is an asset to the community, and one that will become more important in the future. SDDOT was pleased to be able to assist Prairie Hills Transit in realizing their goal of building a community focused transit center,” said Bruce Lindholm of the South Dakota DOT.



DriveCam, MV Transportation Partner to Improve Safety

With safety as one of its hallmarks, MV Transportation has had programs in place to prevent collisions and protect its drivers and passengers. However, over the years, MV found that a larger investment did not necessarily mean a safer fleet. To get to the root cause of the problem, MV needed to improve its safety infrastructure throughout the entire company – top to bottom, coast to coast.

Although DriveCam was helping to improve MV’s safety results, MV knew it could do better. “Like many companies, we thought we could manage this type of program ourselves,” stated Alex Guariento, MV’s Senior Vice President of Safety. “But we quickly learned we lacked uniformity and the ability to benchmark against other companies.” That’s when the decision was made to transition MV’s entire fleet of 5,000+ vehicles to DriveCam’s Managed Services Program, which provided uniform and timely review, better importing tools, easier field access to event clips, and more intelligent reporting and dashboards. The change produced terrific results. As stated by Kevin Klika, MV Transportation’s COO, “We’ve always seen good results with DriveCam, but with Managed Services, our ROI has increased dramatically. We look forward to even better results in the future.”

The transition to Managed Services resulted in MV’s managers no longer wasting their

New Benefits for Members! Join Today!

Becoming a member of the Community Transportation Association of America presents an ever-growing pool of benefits and services, including:

- New Certified Safety and Security Manager (CSSM) Training
- Access to the Insurance Store at CTAA
- The Latest Policy Analysis and an Effective Voice in Washington
- Technical Assistance Programs and Information Resources
- Discounted PASS Driver Training and Certification

Become a member of the Community Transportation Association today by contacting our Membership Director, Caryn Souza, at 202.294.6527 or souza@ctaa.org, or visit www.ctaa.org/join.



time on non-risky events, but rather, concentrating on the key behaviors that create the risky driving in their fleet. Specifically, they could now track and apply attention where it should be driven – at their drivers. By having driver-specific information, MV inherently gained aggregate information so it could now look at systemic issues throughout the company.

DriveCam is one part of a comprehensive safety program infrastructure initiated throughout MV Transportation. The initiatives included the development of a comprehensive safety policy manual for all of its divisions – featuring 35 best practices for guidance throughout its field operation and an in-depth Maintenance Safety Manual.

CT

Intermodalism...
Economic Development...
Land Use and Values...

*The only publication
telling the real story of
today's passenger rail revival*



RAIL
CONNECTING COMMUNITIES BY MOVING PEOPLE™

For subscription information
contact Scott Bogren at
bogren@ctaa.org

Sign up for our
monthly FastMail for
RAIL Enewsletter by
emailing
fastmailrail@ctaa.org

DigitalCT and Full Accessibility

As with everything we do at CTAA, we strive to ensure that our publications are fully accessible to everyone. In the production of this digital publication, we only employ widely used technology that comes standard with most computers. The pdf files we create are those most commonly used by readers of such files. That said, we know that we can always improve this publication's accessibility and we'd like your help. We want everyone to be able to make best use of this digital magazine. If we can provide any of the articles or content in a different format, please let us know at cteditor@ctaa.org.

ANNOUNCING

The Competitive Edge: Making Community and Public Transit the Best Alternative for Medical Transportation

Today there is never-before-seen complexity in the non-emergency medical transportation field. Limited funding combined with growing patient loads has states seeking intermediaries that can control costs through competition. Community and public transportation providers must become efficient, safe, cost-effective and accountable to maintain these important medical transportation services. The Community Transportation Association, in response to requests from its members, is introducing a new initiative this fall —the Competitive Edge — which will give community and public transit providers the tools, resources and benefits they need to make them central players in this new medical transportation environment. Here's what the Competitive Edge encompasses:

1

The Competitive Edge Training

CTAA has developed an all-new training course that combines and emphasizes the following topics:

- Value: Determining the true cost of service
- Pricing: Lowering your costs to be competitive
- Negotiation: Winning through persuasion
- Accountability: Building a recordkeeping and reporting process
- Training: Focusing on the patient

Access to the Transit Industry's Best Resources and Training

You don't need to have all the answers, you need to have access to them when you need them. Here's how the Competitive Edge helps:

- Peers and Information Sharing: CTAA will put you in contact with your industry peers, where you can learn from experience
- On-Line Library and Resource Holdings: The most timely resources, news and research, all housed on CTAA's medical transportation website
- CTAA staff: Our professional staff are always available to offer analysis and insight
- Important training and certification programs such as the Certified Safety and Security Manager, PASS Driver Certification, and the soon-to-be released Medi-PASS Driver Certification.

2

Valuable CTAA Member Benefits

As part of the Competitive Edge initiative, the Association has developed a cohesive set of benefits to ensure your operation is efficient and cost-effective:

- The Insurance Store: Through an exclusive agreement with Arthur J. Gallagher Insurance, members can access the best coverage at the lowest price
- Energy Program: CTAA members pay less for fuel and energy with our FleetCards program and other energy management initiatives

3

Please go to www.ctaa.org/competitiveedge to learn how you can bring the Competitive Edge to your state. As always, CTAA training staff are available to help tailor this new program to your precise needs. Please call Charles Dickson at 202.247.8356 or email dickson@ctaa.org for all the details on this unique opportunity!

ABOUT US

Community Transportation Magazine is the voice of the Community Transportation Association, a national association dedicated to making mobility alternatives available to all Americans. The Association's Board of Directors provides national leadership and direction for the Association. The Board relies on the special expertise of its State and Tribal Delegate Council to assist in their important efforts.

OUR BOARD OF DIRECTORS: Ann Gilbert, President; Barbara Cline, CCTM, Vice President; Moses Stites, CCTM, Treasurer; William McDonald, Secretary; Ann August; Charles Carr; Rochelle Cotey; Santo Grande, CCTM; Robert P. Koska; Dave Marsh; John McBeth; Dave O'Connell; Fred Schmidt, PhD.; David White and William Osborne. Ex-Officio Directors: Dan Dirks CCTM; Jo Ann Hutchinson, Reginald Knowlton, CCTM; Richard Doyle; Roland Mross.

OUR STATE & TRIBAL DELEGATE COUNCIL: Alabama • Taylor Rider; Alaska • David Levy; Arizona • Jeff Meilbeck; Arkansas • Betty Bradshaw; California • Jeff Webster; Colorado • Hank Braaksma, CCTM; Delaware • Ken Bock, CCTM; Florida • Cathy Brown; Georgia • Robert Hiett; Hawaii • Don Medeiros, CCTM; Idaho • Cecelia Hockett, CCTM; Illinois • Tom Zucker, CCTM; Indiana • Rebecca Allen, CCTM; Iowa • Shirley Helgevold; Kentucky • Beecher Hudson; Louisiana • Donna Lavigne; Maine • Jim Wood; Maryland • Nancy Norris, CCTM; Massachusetts • Jack Mastrangelo; Michigan • Dan Wedge; Minnesota • Mike Ness; Mississippi • John Johnson; Missouri • Dorothy Yeager, CCTM; Montana • Ron Wenger; Nebraska • Kathi Schildt; Nevada • Debbie Dauenhauer; New Hampshire • Van Chesnut; New Jersey • Steve Fittante, CCTM; New Mexico • David Harris, AICP; New York • Damon Mustaca, CCTM; North Carolina • Vincent Brown, CCTM; North Dakota • Darrell Francis, CCTM; Ohio • Kristina Reider; Oklahoma • Charla Sloan, CCTM; Oregon • Elaine Wells; Pennsylvania • William Peterson, CCTM; Rhode Island • Doug Wood; South Carolina • Lynnda Bassham; South Dakota • Ronald Baumgart; Tennessee • Chris Kleehammer; Texas • Margie Lucas; Utah • Todd Beutler, CCTM; Vermont • Jim Moulton; Virginia • Curtis Andrews; Washington • Kelly Scalf; West Virginia • David Bruffy; Wisconsin • Greg Seubert; and Wyoming • Sean Solan. Tribal Delegates: Eastern Band of Cherokee Indians • Kathi Littlejohn; Navajo Nation • Lee Bigwater; Sitka Tribe of Alaska • Camille Ferguson

An Exciting Member Benefit: Take Control of Your Insurance

The Insurance Store at CTAA offers a menu of insurance and employee benefits products and services available to CTAA members through leading insurance professionals at Arthur J Gallagher Risk Management Services, Inc. and Gallagher Benefit Services, Inc., subsidiaries of Arthur J. Gallagher & Co.

Through group buying power, CTAA members can obtain more comprehensive coverage, superior customer service, state-of-the-art risk management services and more competitive insurance pricing for their employees and their systems.

Take control of your insurance; own it, don't rent it.

Technical Assistance

How do you know if you have the right amount of insurance? *The Insurance Store at CTAA* can provide you tools to help evaluate your current program through a variety of techniques including coverage analysis and comparison, loss analysis and forecasting. Contact us now for a comprehensive confidential insurance review.

Risk Management Services

Our goal is to help you manage your overall cost of risk, and obtaining insurance coverage is only one part of that. *The Insurance Store at CTAA* can support your objectives by managing the claims-handling process, by helping you identify major areas of exposure, and by bringing you additional ways of managing risk.

Visit The Insurance Store at CTAA for Full Details