



hop
fastpass™
SIMPLE. FAST. SECURE.

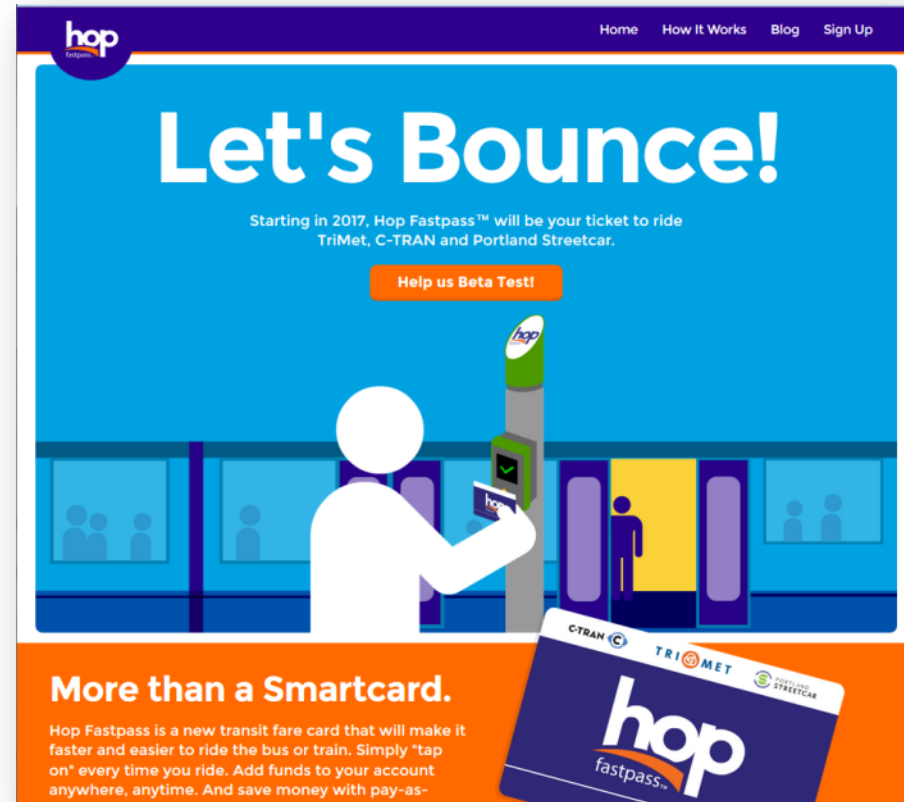
Project Update

October 10, 2016

Chris Tucker, Director of Revenue Operations
Rhyan Van Horn, Manager, Revenue
Processing & Merchant Services

Agenda

- Project Overview
- Testing
- Applications
- Marketing
- Lessons Learned
- Schedule



Project Overview

- [Video #1](#): What is Hop Fastpass
- [Video #2](#): Why Are We Doing This?
- System Integrator: Init -- Account-based, open/closed loop, open architecture
- 1000 Feig/Init readers installed system wide
- Redundant data centers, Enterprise Oracle, Data Guard, Net App, RAC
- DESFire EV1 low-memory and Ultralight C
- 4G LTE network
- Regional: TriMet, C-TRAN and Streetcar



Open Payments

- EMV
- PCI-DSS Compliant
- Wells Fargo
- First Data
- TransArmor



3rd Parties

- S&B: integrating 250 TVMs issuing limited-use account based tickets
- Moovel: Account management and fare inspection app, Ingenico handheld
- The Brigade: Consumer and institution websites
- Ready Credit: Integrating with Blackhawk, Green Dot, Western Union, Plaid Pantry – almost anywhere you can buy a gift card. 500+ stores
- Enghouse: IVR
- TriMet: Open Source Point of Sale system
- Google & Apple?: Closed-loop NFC



Fare Policy

- **Capping – Earn a 1-Day and 1-Month pass one ride at a time.**
- **Employers/Institutions -- Maintain 1-month, College Term and 1-year pass**
- **Title VI Analysis: Potential Disparate/Disproportion Burden**
 - Open payments
 - \$5 Minimum load
 - Autoload (credit/debit)
 - Eliminating cash transfers



Accounting Infrastructure

- **MOBILEvario backend**
 - Transaction generation
 - Processes: revenue recognition, revenue sharing
 - Summarization and export
- **Sage 300 for Accounts Receivable**
- **Data Warehouse for Reports**
- **Automated reconciliations**



Project Status

- **Card Readers installed on all buses and rail stations**
 - Streetcar reader installation complete in October
- **Integration of core systems nearly complete**
 - Development continues on call center systems, reports, websites and mobile apps
- **Employee Field Testing with 200+ completed**
 - Excellent feedback about seamlessness of cards and readers
 - Identified desirable updates on card reader language and website flow
- **Development of websites and mobile apps will continue into early 2017**



Integrated Lab Testing

Integrated Lab Testing successful

- ~95% of tests passed
- Successful Hop card loads:
 - ✓ Retail network
 - ✓ Mobile app
 - ✓ Consumer website
 - ✓ Call center system
 - ✓ Automated 800#
 - ✓ TriMet store point of sale



Beta Testing

- **Customer and Institution Beta testing to begin first half of 2017**
 - A few thousand friendly users providing feedback
 - A small group of institutions providing feedback
- **Rollout will be in “short bursts” focusing on quality and readiness**



Consumer Website



[GET A CARD](#) [TOOLS](#) [HELP](#) [MY ACCOUNT](#) [SIGN OUT](#)

Chris Tucker

[My Hop Cards](#)

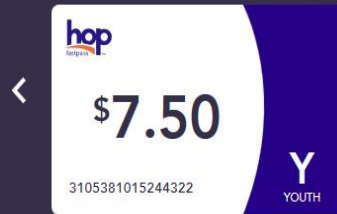
[Profile Settings](#)

[Payment Methods](#)

[+ Add a Hop Card](#)

[🔍 Check Hop Card balance](#)

First Encoded Hop Card!



TRANSFER TIME LEFT: N/A

DAILY CAPS REACHED (RIDE FREE):

PASSES AND TICKETS: Streetcar annual

LOST OR STOLEN

REMOVE CARD

ADD VALUE

FARE CAPPING

CARD HISTORY

Add value to: First Encoded Hop Card!

SET UP AUTOLOAD

ONE TIME PAYMENT

Choose Amount:

☒ \$5 ☐ \$10 ☐ \$15 ☐ \$20 ☐ \$25 ☐ \$30 ☐ Custom Amount:

Choose Payment Source

Primary Payment Source

Add new payment method to your account (limit 3)



The Consumer App



SECURITY PIN NUMBER

The security PIN is used for purchases and customer support.

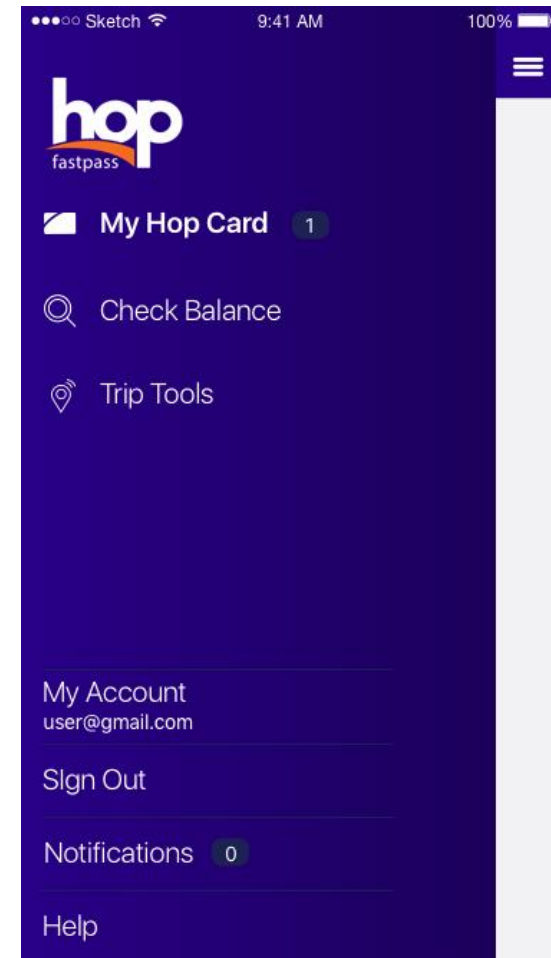
PIN	1234	
Confirm	1234	

ACCOUNT INFORMATION

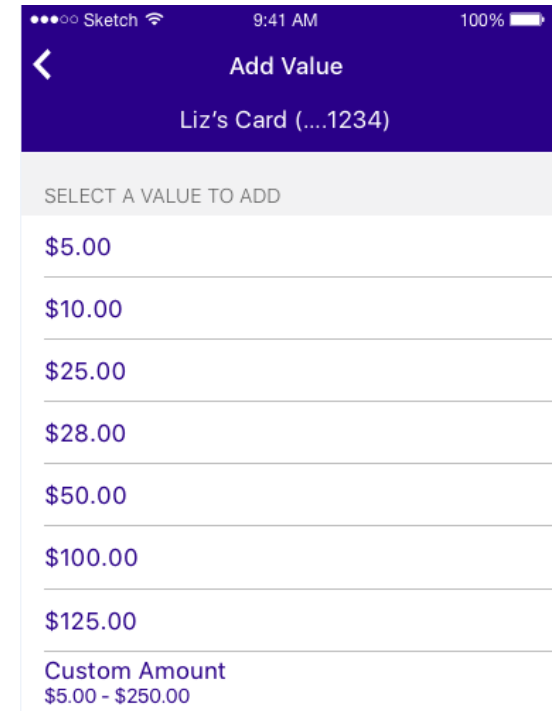
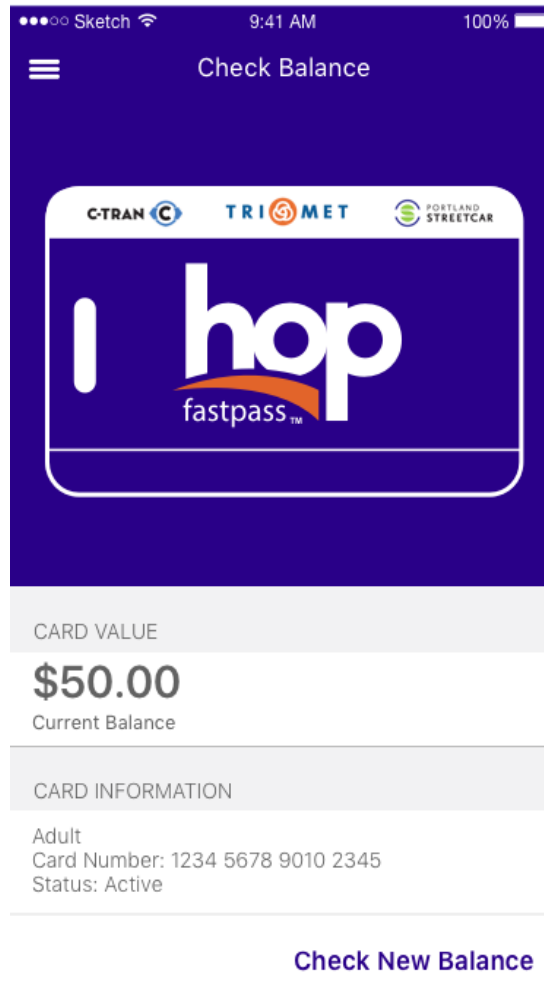
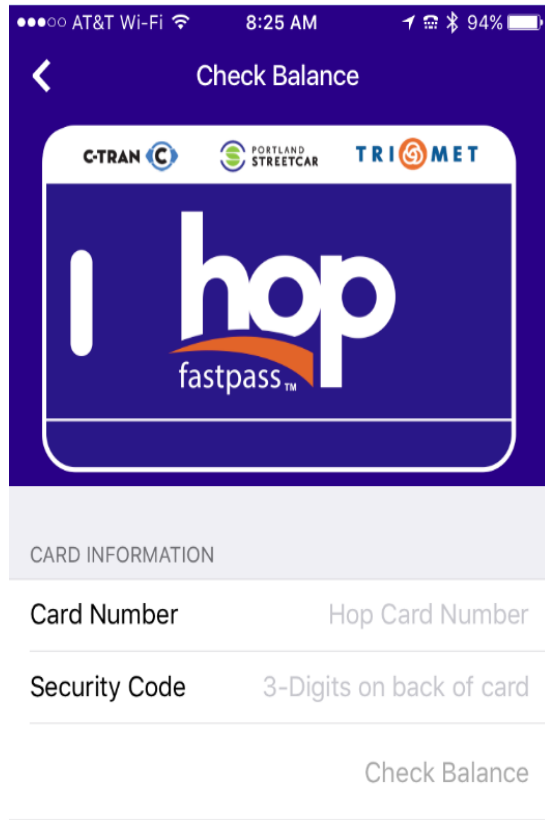
First Name	Liz
Last Name	Frist
Address	123 Maine St
Address	Line 2 (optional)
City	Portland
State	Oregon >
Country	United States >
Zip Code	97205
Phone Number	509-123-5678
Extension	Extension (optional)

☐ I accept the Terms and Conditions and verify I am over the age of 14. >

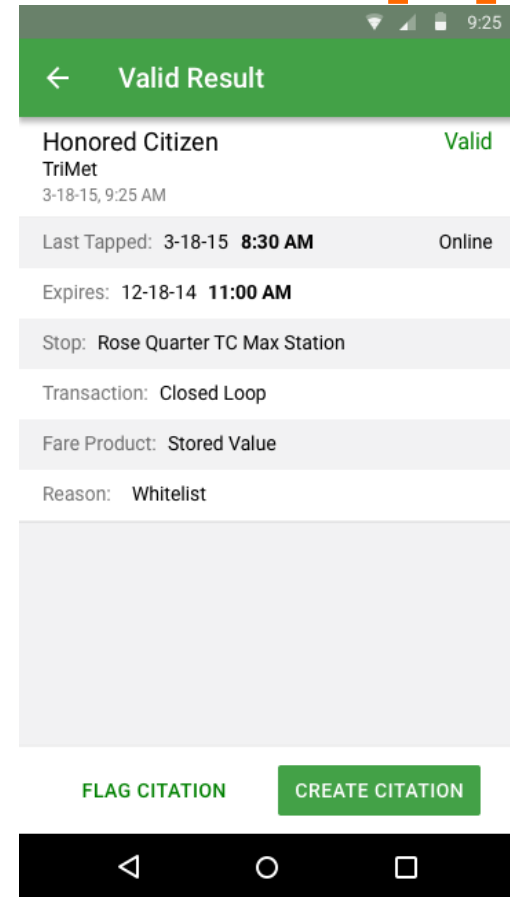
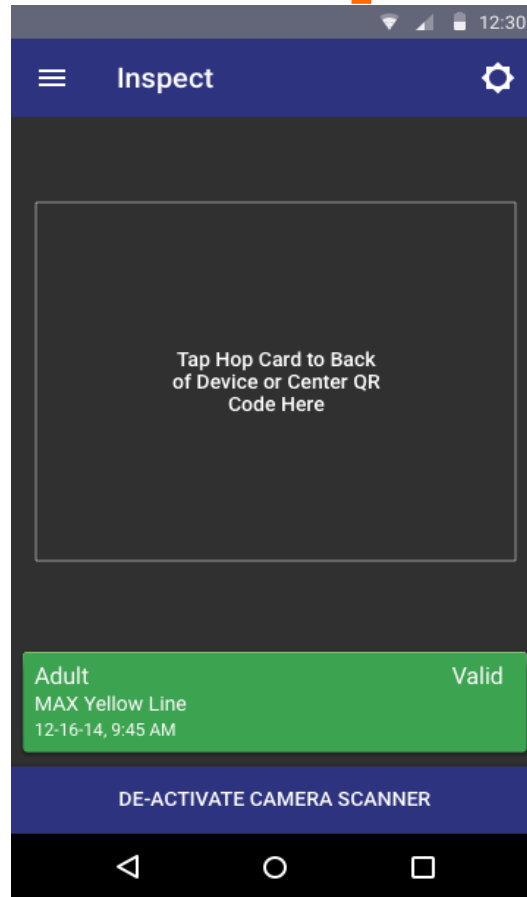
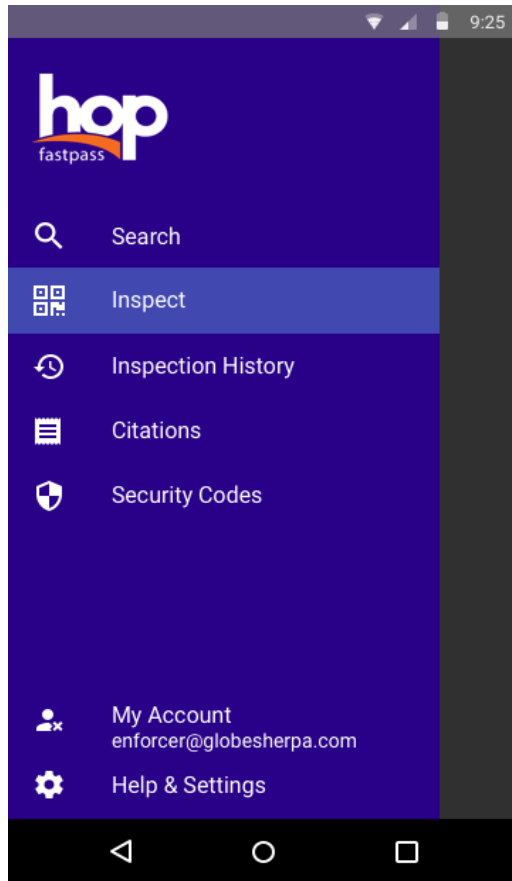
Create Account



The Consumer App



The Fare Inspection App



Phase I: Educate & Increase Awareness



**PAY WITH YOUR PASS.
PAY WITH YOUR PHONE.
PAY HOW YOU WANT.**

Hop Fastpass® card lets you choose how to pay your fare. Fund your Hop Fastpass® card to get all the benefits of a pay-as-you-go monthly pass. Tap your phone with Apple Pay, Android Pay or Samsung Pay. Or pay with cash. The choice is always yours. Learn all the benefits at the website below, then start riding.

myhopcard.com CTRAN TRI MET



**FILL UP YOUR CARD,
WHEREVER YOU ARE.**

Hop Fastpass® card makes it easy to pay. By phone, app, web, auto-load or at the corner store. With so many convenient ways to load funds on your card - including more than 300 brick locations - topping up is a piece of cake. And starting in 2017, you get those benefits and so much more. Just visit the website below and learn them all.

myhopcard.com CTRAN TRI MET



**TAP. GO. SAVE.
HOWEVER YOU RIDE.**

Pay as you go with Hop Fastpass® card. Starting in 2017, you earn a monthly pass one trip at a time. So you can get the savings of a pass without the up-front cost. And paying only for the rides you take will mean big savings over a year. Get the whole story at the website below and start saving.

myhopcard.com CTRAN TRI MET



**EVEN IF YOUR
CARD'S LOST,
YOUR MONEY ISN'T.**

With Hop Fastpass® card, your money is safe. When you register your card, you're covered. Unlike a paper pass, your balance is protected - your money won't be lost if your card is lost or stolen. Discover all the benefits the Hop Fastpass® card is bringing in 2017 at the website below and start riding.

myhopcard.com CTRAN TRI MET

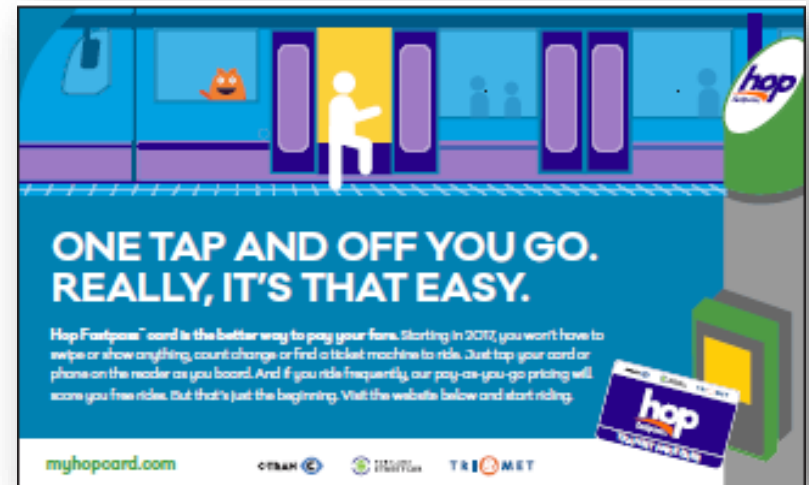


**ONE TAP AND OFF YOU GO.
REALLY, IT'S THAT EASY.**

Hop Fastpass® card is the better way to pay your fare. Starting in 2017, you won't have to swipe or show anything, count change or find a ticket machine to ride. Just tap your card or phone on the reader as you board. And if you ride frequently, our pay-as-you-go pricing will score you free rides. But that's just the beginning. Visit the website below and start riding.

myhopcard.com CTRAN TRI MET

Phase II : Teaser



Meet the *Hopsters*



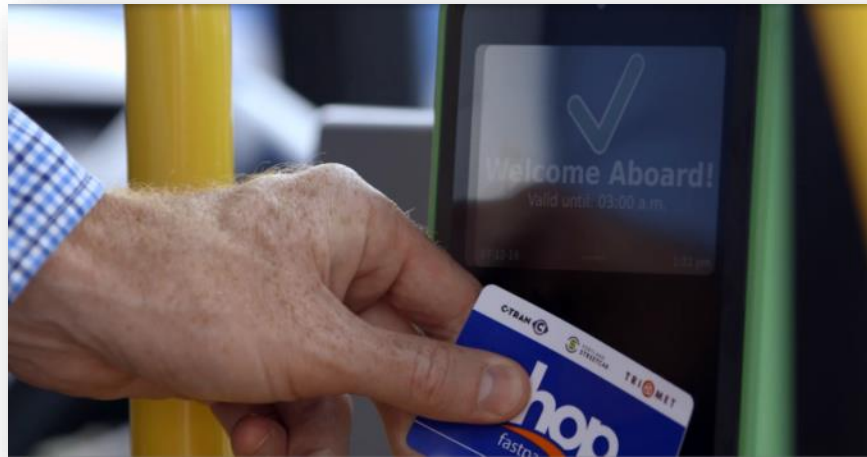
Outreach Events

- Culturally sensitive outreach
- Food Basket distribution at Bienestar de la Familia
- Over 200 events in Portland and Vancouver metro area
- Pop up events (i.e. farmers markets, film festivals)
- Ride Connection events
- Ticket Exchanges



Communicating with our Employees

- Use all channels
- Develop FAQs
- Develop How-To videos
- Potential “Family Day”
- Dual Chip Cards
- Employee Kit



Lessons Learned

- **Pure Account-Based System: Write Last Transaction to Card**
- **Tight redundant back office spec: should have required Enterprise Oracle**
- **Integration: Complete 75% - 90% of APIs before 3rd party dev starts**
- **Challenging to keep all 3rd parties on the same schedule**
- **Designing the Institutional website well takes longer than consumer site**
- **Open payments as difficult as we expected:**
 - Certifications
 - Tokenization
 - PCI-DSS
 - EMV

Lessons Learned Cont.

- As expected, we needed our strong staff and consultant engineers: technical and financial
- What will motivate your vendors?
- Account-based faster than expected (Redirected Verizon to closest site)
 - Real-time fare calculation <300ms bus and rail (sometimes <200ms)
- Glass reader screen has trade-offs
- Open APIs work very well (e.g. TVMs)
- Accounting: Doing it right was as hard as we expected
- Trades list works well

Lessons Learned Cont.

- Fare inspection in offline mode requires extensive logic
- Hire QSA (PCI and Security) each step of the way – it's made it easier
- Portable validators are great for demos and road shows

Internal Schedule

TIMELINE	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17
200 Employees Testing (TriMet, C-TRAN & Streetcar)												
Project Team Scripted Field Testing												
Rollout of TriMet Photo ID Badges												
Customer Beta Testing (Rider's Club)												
Institutions Beta Testing (e.g. PSU, OHSU, Elemental, etc)												
Increase Beta Testing Participants (up to 10,000)												
Estimated Public Launch (Hop Cards in Retail Stores)												



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Questions?