Transit Technology

An Overview

Seamless Transit Experience Kick off Meeting
18 October 2019

Topics

- Vehicle Location and Real Time Info
- Mobile Ticketing
- Trip Planning
- Driver Training
- Travel Training
- Paratransit Eligibility
- Discussion

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Automatic Vehicle Location (AVL) and Real Time Bus Information

◈ Swiftly uses AVL equipment to back end process real time bus information

◈ Instead of using

REAL-TIME PASSENGER PREDICTIONS

Improve vehicle predictions by up to 30%

Improve accuracy

Reduce complaints and increase ridership with the most accurate real-time passenger predictions available.

Use existing hardware

Use the CAD/AVL hardware already installed in your vehicles or integrate AVL information from multiple sources.

Automatically collect data

Collect route data even if a driver forgets to log in with vehicle auto-assignment.
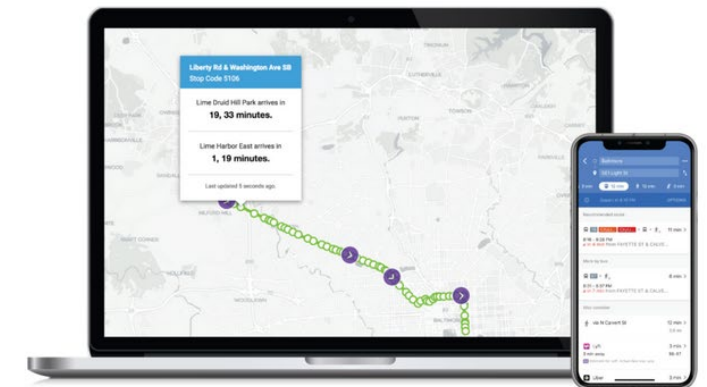
Benefits to Transit Agency

SPEED MAP

Make transit faster, more reliable, and more attractive to riders
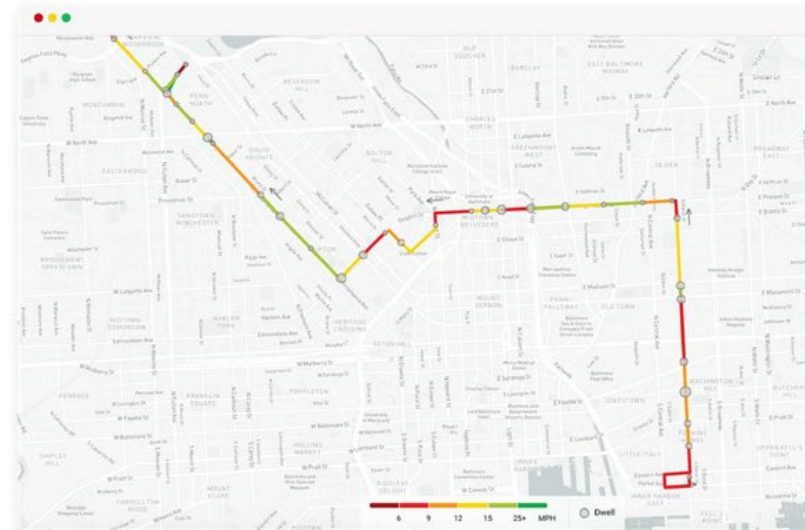
Identify slowdowns

Identify route segments and intersections causing avoidable performance issues.

Visualize speeds

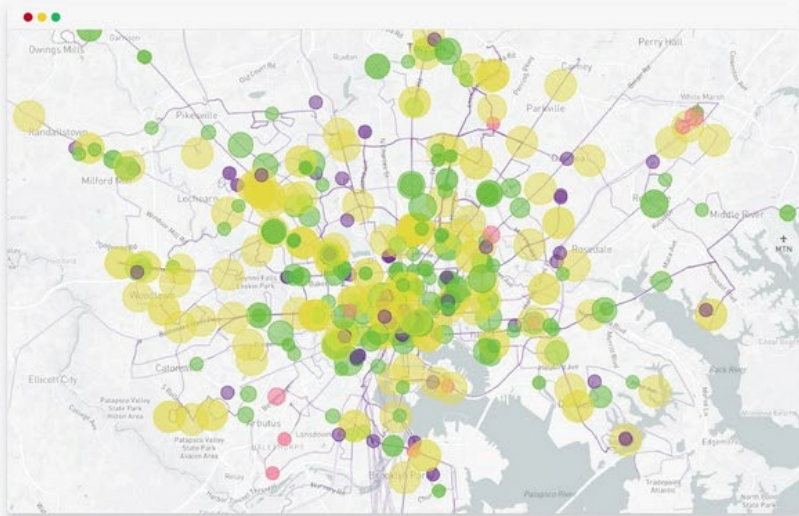Create intuitive visualizations of vehicle speeds and dwell times for any route and direction.

Communicate impact

Quantify and communicate the impact of infrastructure projects on vehicles speeds and dwell times.

Ticketing Types

◈ Cash

◈ Paper

◈ Mobile App—Visual Validation

◈ Mobile App—Near Field Reader

◈ Plastic fare card—Near Field Reader
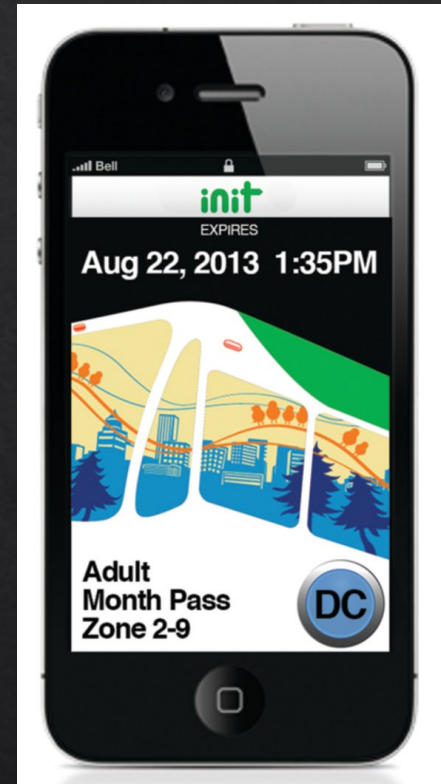
Tri Met (Portland)

◈ Proprietary app development

◈ No paper tickets

◈ No ticket vending machines

◈ Usable by neighboring agencies (SMART, C-Tran)

◈ Fare capping for day, monthly and annual passes

◈ No paper tickets

Lane Transit District

◇ Delerrock

◇ No fare cards

◇ No near field connectivity (or fare cards)

◇ Phasing out paper tickets

◇ Fare capping

Rouge Valley Transit, Cascades East Transit

◈ Same vendor as LTD (Delerrock)

◈ RVTD has existing transit district, so regional travel is not an issue

◈ CET uses zone based system

Tucson, Arizona

◈ Home to the University of Arizona as well as a busy commercial district

◈ Students, faculty and commuters alike take the Sun Link streetcar, Sun Tran bus system and the commuter Sun Shuttle to head to campus and navigate the city

◈ 16 million riders a year

◈ Seeking modern solution in order to evolve its operations

◈ Previously used Ticket Vending Machines (TVM)

Serving Riders Where They Are

*"We were trying to **boost our ridership** with millennials and commuters, and [mobile ticketing] is the fare payment option that they seem to prefer. The University of Arizona students and faculty were **very interested in this fare payment option**, and they make up a large percentage of our riders on the Sun Link streetcar," said Pat Richter, Director of Marketing at Sun Tran. The mobile solution from Passport not only gives **riders the opportunity to purchase fares anytime and anywhere**, it also gives Tucson the ability to **offer more fares** than those available at the TVMs. With Passport, Tucson can offer a single boarding pass, 1-day pass, 3-day pass, 30-day pass, an express fare and an annual fare.*

Detroit, Michigan

Dart

Dart is the way to pay for regional transit in Metro Detroit on SMART, DDOT and QLINE streetcar.

What is Dart?

A way to pay and ride on DDOT and SMART fixed route buses and the QLINE streetcar. Using Dart, allows you to pay once and go with a pass or using the new Dart app.
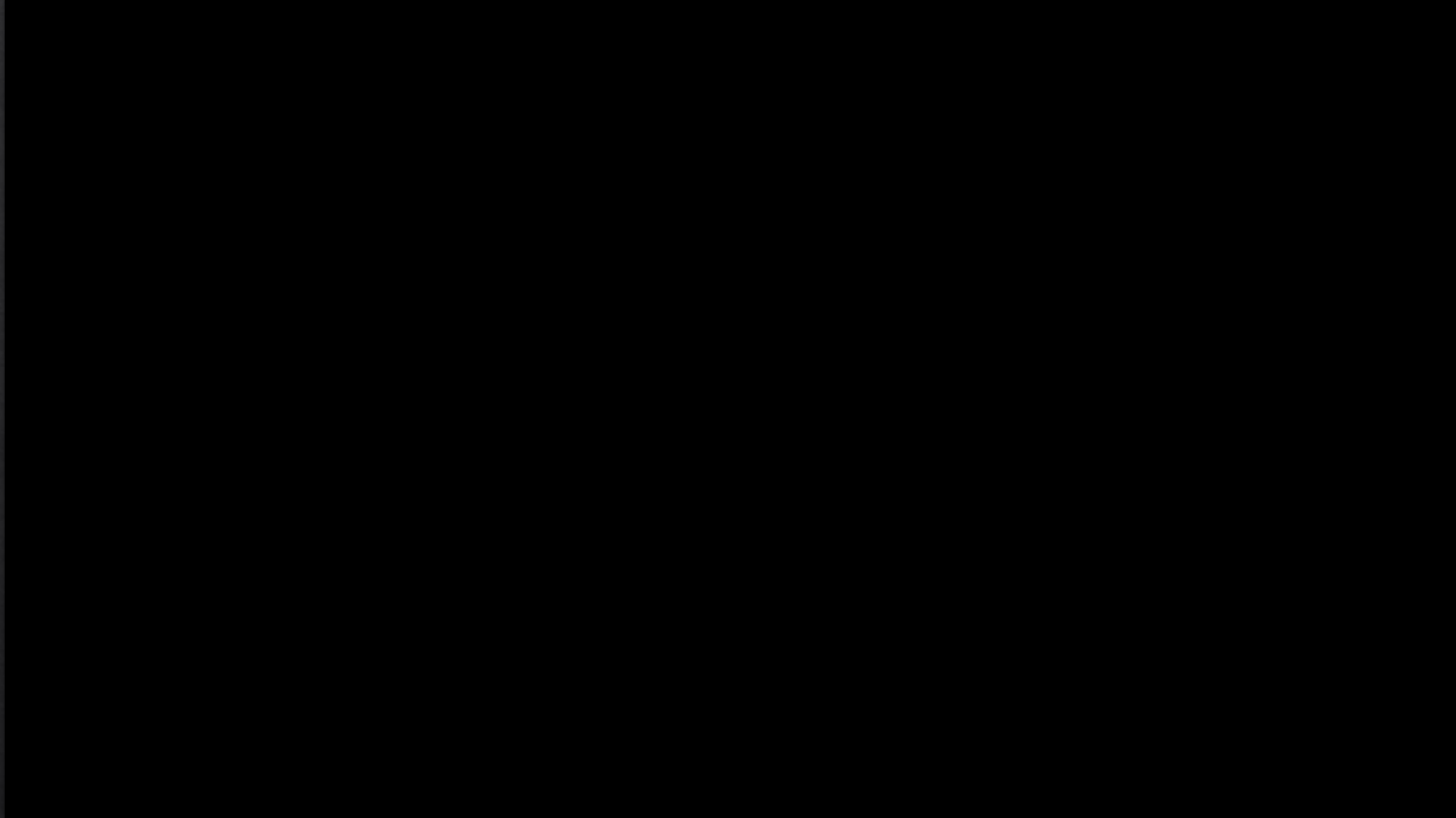
Dart Regional Passes

With more streamlined fare options, you have four new passes to choose from.

	4 HOUR	24 HOUR	7 DAY	31 DAY
Full	$2	$5	$22	$70
Reduced*	$0.50	$2	$10	$29
Unlimited Rides	✓	✓	✓	✓
Farebox Issued	✓	✓		
TAP-to-PAY				✓
Dart app	✓	✓	✓	✓

All passes are available for purchase at DDOT and SMART transit centers, QLINE Tech Center, select retail outlets, online or by mail at SMART.

Detroit, Michigan

Texas Examples

- Houston Metro
  - 14 cities, 58 million rides annually
  - Single ride, day pass, park and ride tickets
  - *"The idea is that, to encourage more transit ridership, the city should do everything it can to reduce the barriers to entry. One of those barriers is the logistics of acquiring the ticket. For someone visiting from out of town, there's a learning curve for understanding how to navigate the purchasing system. For regular commuters, the hassle of scrambling for change or waiting in line to refill a card could mean the difference between catching a bus and being on time to work or not."*

- Dallas
  - 13 cities across 700 square miles
  - Integrates with bus, rail and intercity options
  - Also has real time information embedded in the app

Benefits of Transit Technology

◈ "The survey found that users used public transit more and drove less as a result of using multimodal apps. About 38% of the sample reported driving less frequently as a result of a multimodal information app, while 4% reported driving more and the rest reported no change." (CalTrans, 2016)

◈ "Up to a quarter of potential riders report that convenience features such as combining modes of transit through an app, mobile ticketing, and location tracking would cause, or already have caused them, to use public transit more often" (Masabi Ltd.)

◈ "Importantly, they aren't spending large amounts of time or money updating infrastructure, instead they are utilizing the device already in the pockets of millions of riders: the smartphone." (Mastercard Transit Solutions)

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Driver Training

- Currently offered:
  - Defensive Driving,
  - Adult First Aid/CPR,
  - Passenger Assistance Safety & Sensitivity
- What would you like to see offered?
  - CDL classes
  - Mental Health First Aid
  - Americans with Disabilities Act related trainings
  - Other ideas?

Travel Training

◈ Currently available to Medicaid members using fixed route service

◈ What be helpful to your agency?

  ◇ Group training

  ◇ Targeted outreach in certain neighborhoods/newly established routes

  ◇ Targeted outreach to people who currently use paratransit

Paratransit Eligibility

* What is the current process?

* Does anyone use conditional eligibility?

* What would be helpful?
  * Unified process for determining eligibility
  * Singular entity to complete eligibility
  * Shared information regarding eligibility
  * In person assessment

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Now for Brainstorming

- ◈ What does success look like?
- ◈ What challenges or barriers do you anticipate?
- ◈ What is important to you/your agency?