

# CIVIC

Built By  Hack Oregon

**Mission:**

Making public information  
public knowledge.

## Vision

For cities who are making decisions today about the future of mobility, a running history of granular transportation data supporting analytics and applications is essential in allowing us to learn from the past. As an alternative to the current practice of localized, fractured, or inadequate data storage, municipalities can adopt a cloud-based, open standards approach to make the most of the data they are already collecting and begin to share insights across regions.



# Portland Goes First

## Goals - Transportation Team 2019

- Design and build a modern data solution for securely storing and sharing a running history of granular, hi-resolution transit data in the Portland Metro Area
- Collaborate with a cross-regional network to inform a useful model for an open standard
- Publish an API framework with open source tools and packages to enable repeatability across transit regions
- Demonstrate impact by working with local municipalities to inform evidence-based policy decisions



# What is TOAD?

The “Transit Operations Analytics Data”, or TOAD is a dataset capturing the most granular representation of what is happening in a transit system.

1. It includes:

- a. Real-time spatial and temporal information for every vehicle at 5 second intervals.
- b. What happened each time the bus stopped? Why did it stop?
- c. Is the bus on running on time? How late is the bus? Where is the bus?
- d. How many people are currently on the bus?

Note: this dataset is commonly referred to as “congestion” data



# TOAD vs. GTFS

## How is TOAD different from GTFS?

- GTFS is a data feed that provides *real-time* information
  - **Static:** Schedule, fare, and geographic information
  - **Real-time:** Arrival predictions, vehicle positions, and service advisories
- TOAD is a running *history* generated by aggregating real-time information
- TOAD includes more detailed information than GTFS
  - What happened each time the bus stopped
    - How many people got on and off the bus?
    - Was a stop for service or due to a disturbance?
    - Was the wheelchair ramp deployed?
    - Which doors opened? For how long?



# The Potential For TOADS

- As an open standard, GTFS powers many applications
  - Transit directions
  - Real-time trip planning
- An open standard, TOADS could power many other applications
  - Exploration of how transit patterns evolve with development / growth
  - Automated analysis of transit changes over time
  - Understanding of ridership statistics
  - Targeting of potential bottlenecks / opportunities for improvement



# TOADS and CIVIC Platform

## What do TOADS need to thrive?

- Collaborative open standard
- Repeatability of TOAD implementation
- Hosting and management
- Municipal champion(s)

## Benefits of CIVIC

- Non-profit, open-source cloud platform
- Facilitation of implementation, hosting, and management
- Analytic models for cross-regional analysis
- Beautiful visualizations 🗺️ 🧠 🌐





# Want a nest of TOADS?

**Get in touch!**

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/ Our transit systems could work better \  
\ if we worked together! /
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