DDS Demand Response Transit Data Collection

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November 2026

Outline

01 – About Cal-ITP / Caltrans Data & Digital Services (DDS)

02 – Overview of Transit Data and GTFS

03 – Cataloging Demand Response Transit

04 – Options for Collecting Demand Response Transit Data



Cal-ITP Objectives

CAL-ITP: CALIFORNIA INTEGRATED TRAVEL PROJECT

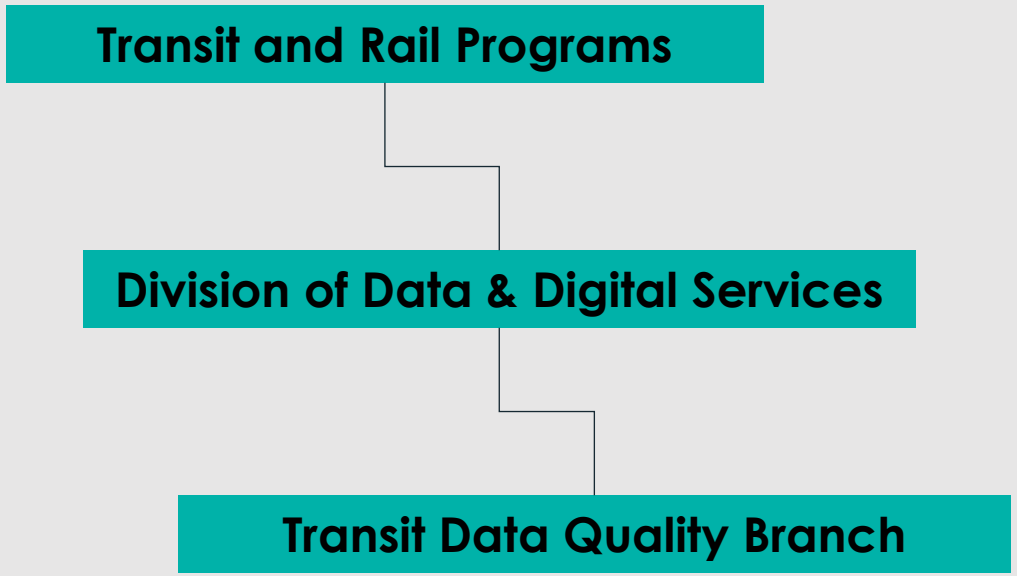
Making travel simpler and more cost-effective by...

1. Enabling contactless payments
2. Automating discounts
3. Providing accurate and complete information for trip planning in real time



Transit Data Quality in Caltrans

- Established as a part of the California Integrated Travel Project (Cal-ITP).
- Currently being moved to within the new Transit and Rail Programs



Transit Data Quality Branch Initiatives

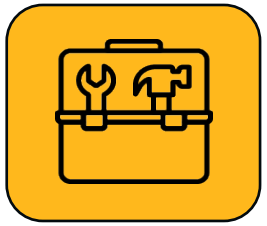
DATA COLLECTION

- Maintenance of Statewide Database of Transit and Transit Data Sources
- Collection and Processing of National Transit Database Data
- Collection of Payments Data from Cal-ITP Payments Partners
- Collecting finer grained data than currently available in existing reporting



DATA QUALITY

- Assessment of Data Quality at Transit Agencies
- Alerting Transit Agencies About Serious Data Quality Problems
- Provision of Technical Assistance to Agencies to Improve Data Quality
- Campaigns to Improve Optional Data



DATA WAREHOUSE

- Maintenance of Data Pipeline and Warehouse to Process Data
- Partnering with IT and Contractors to Improve Data Pipeline and Warehouse
- Enabling Big-Data Analyses of Transit Data Quality and Transit Operations



Transit Data Collection

GATHERING ALL OF THE TRANSIT DATA

- List of Transit Agencies
- List of Services that Transit Agencies Operate
- List of Data Sources Transit Agencies Publish
- Operational Transit Data
- National Transit Database Data
- Aggregating and republishing as Open Data
- Stop Amenities Data
- Stop Ridership Data

289

Transit Agencies
in California

Sharing Standardized Data

ENABLING BROAD SHARING OF DATA

Transit Agency Staff and/or Data Systems

Upload of data to stable link

Government entities

Trip Planners (Google Maps, Apple Maps, Transit App, Etc.

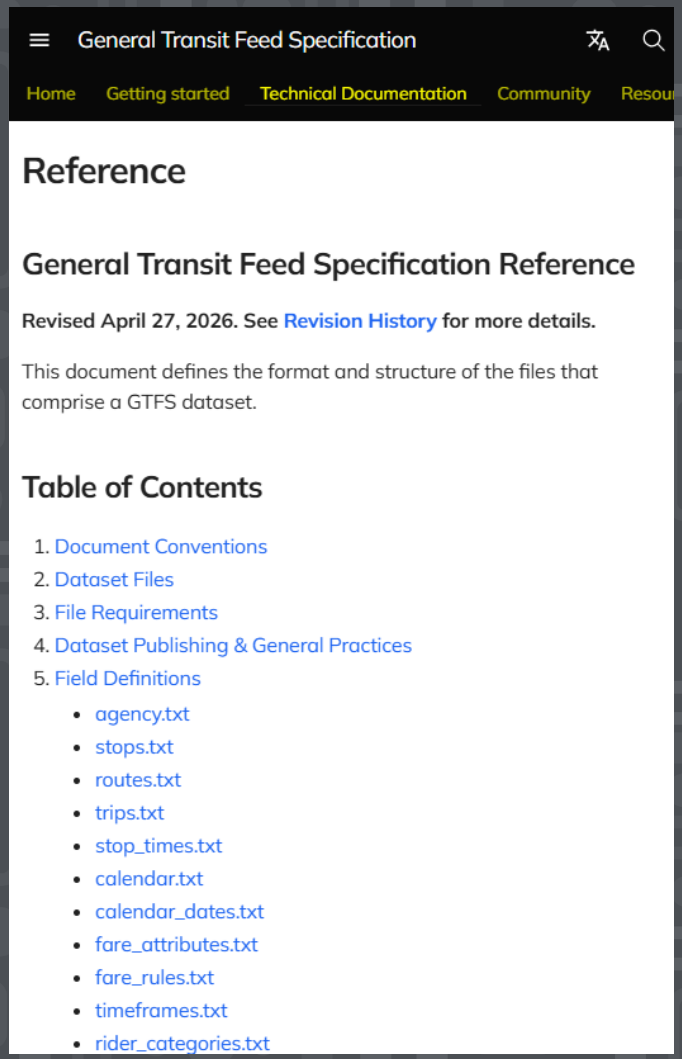
The General Public

Other Data Consumers. Researchers, General Public, AI?

GTFS Background

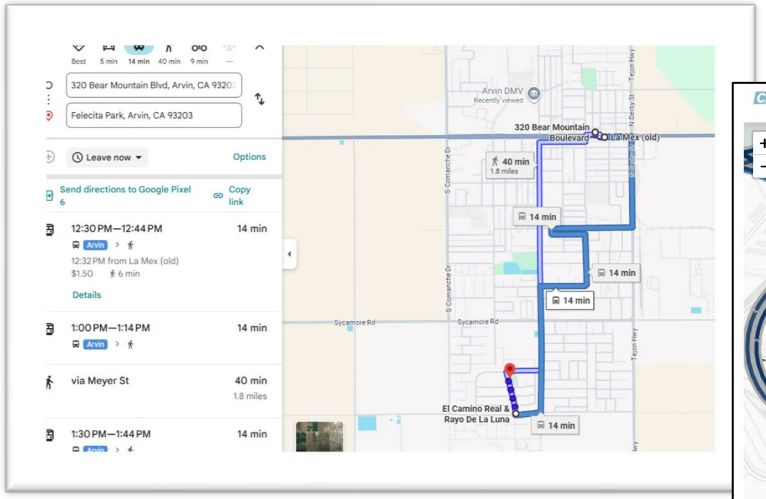
GENERAL TRANSIT FEED SPECIFICATION

- A data standard for describing a transit agency's operations from a rider's perspective
- Includes schedule and realtime
- Created in 2006
- GTFS Adoption Widespread Across California Transit agencies
  - 97% adoption of GTFS Schedule
  - 68.6% adoption of GTFS Realtime

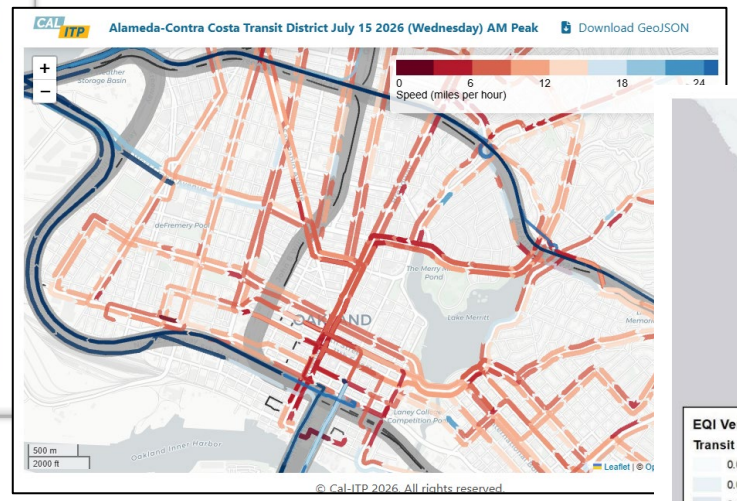


Multiple Uses of Data

ENABLING BROADCAST SHARING OF DATA



Helping the General Public:
Consumer-facing Trip Planners (Google Maps, Apple Maps, Transit App, etc)



Helping Transit Agencies:
Open Data Publishing and Open Data Products such as California Transit Speedmaps

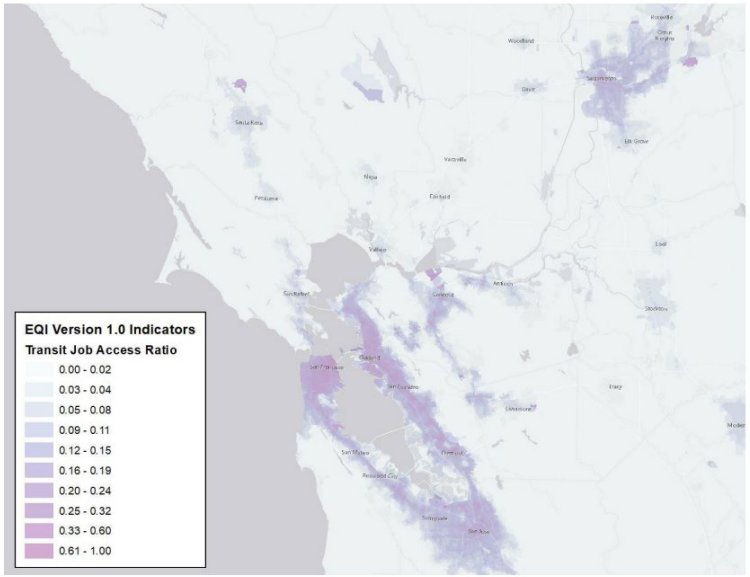


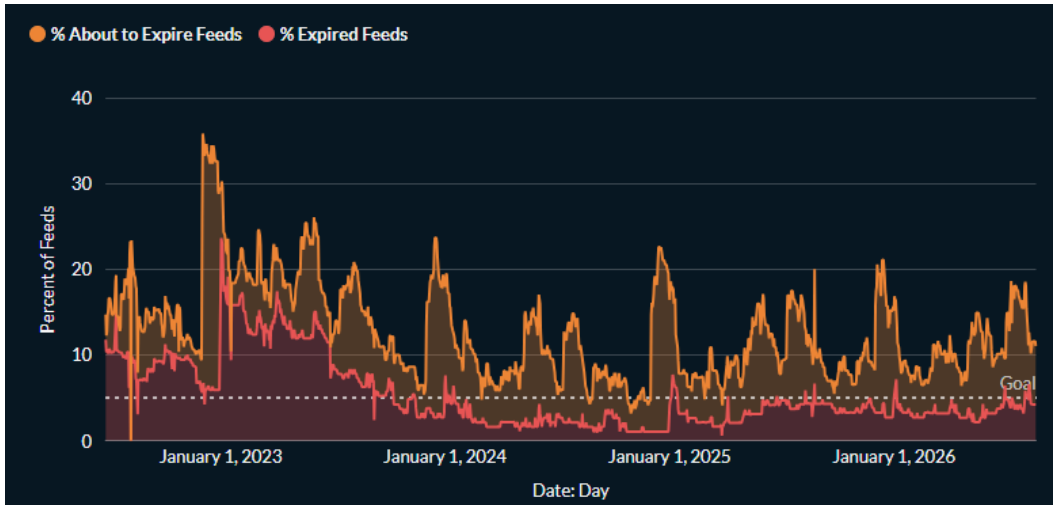
Figure A1-8. EQI Transit Access to Work Destinations Indicator Northern California

Helping Researchers:
Caltrans Transportation Equity Index (EQI)

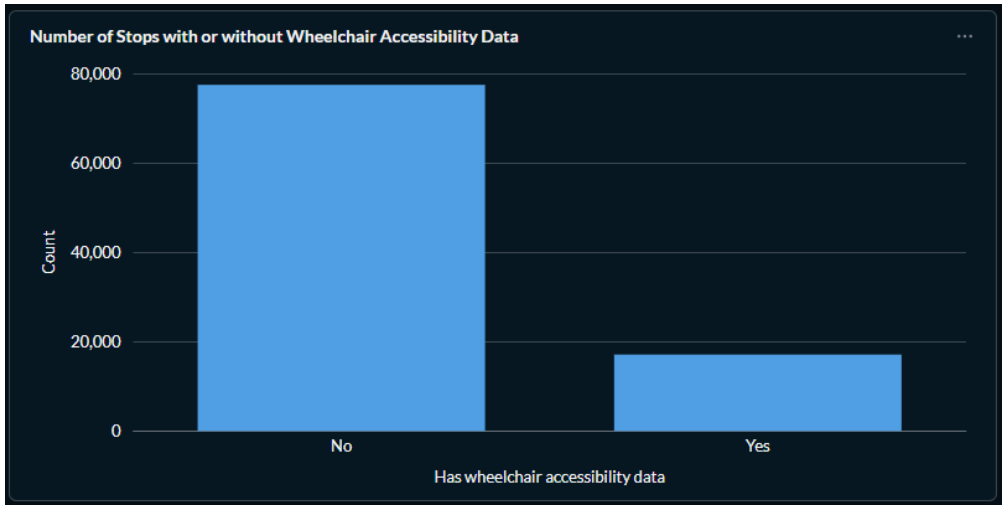
Beyond GTFS Compliance

HAVING GTFS DATA IS NOT ENOUGH

At any moment about 10% of GTFS is about to expire within 30 days

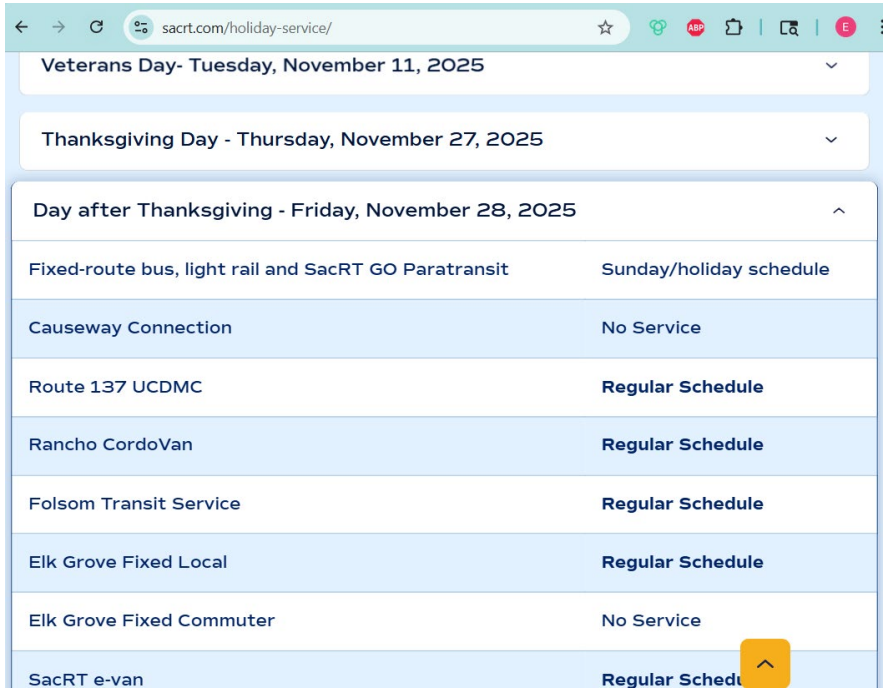


Only 18% of transit stops statewide have information about wheelchair accessibility

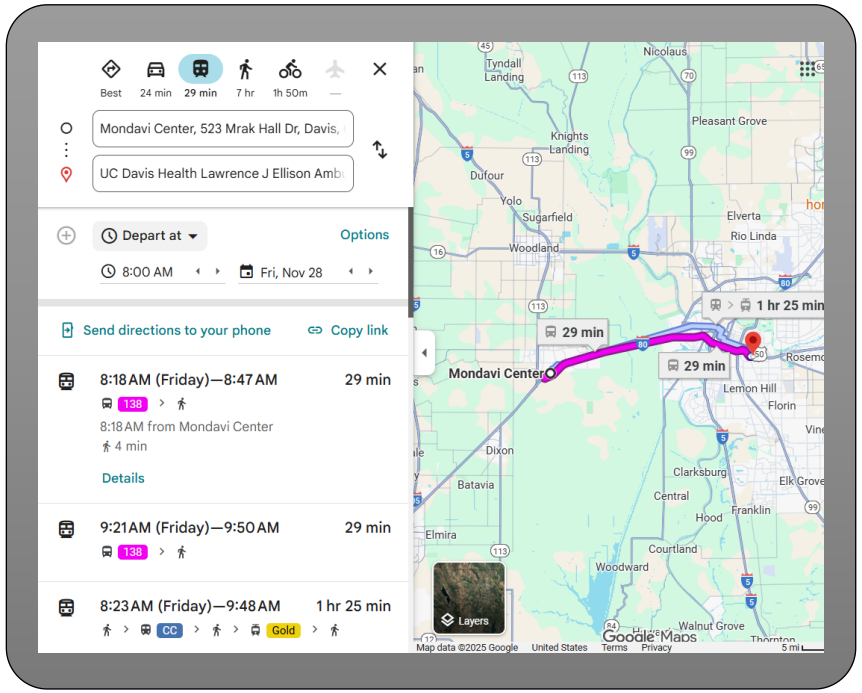


What does Cal-ITP Check?

Transit Agency Website



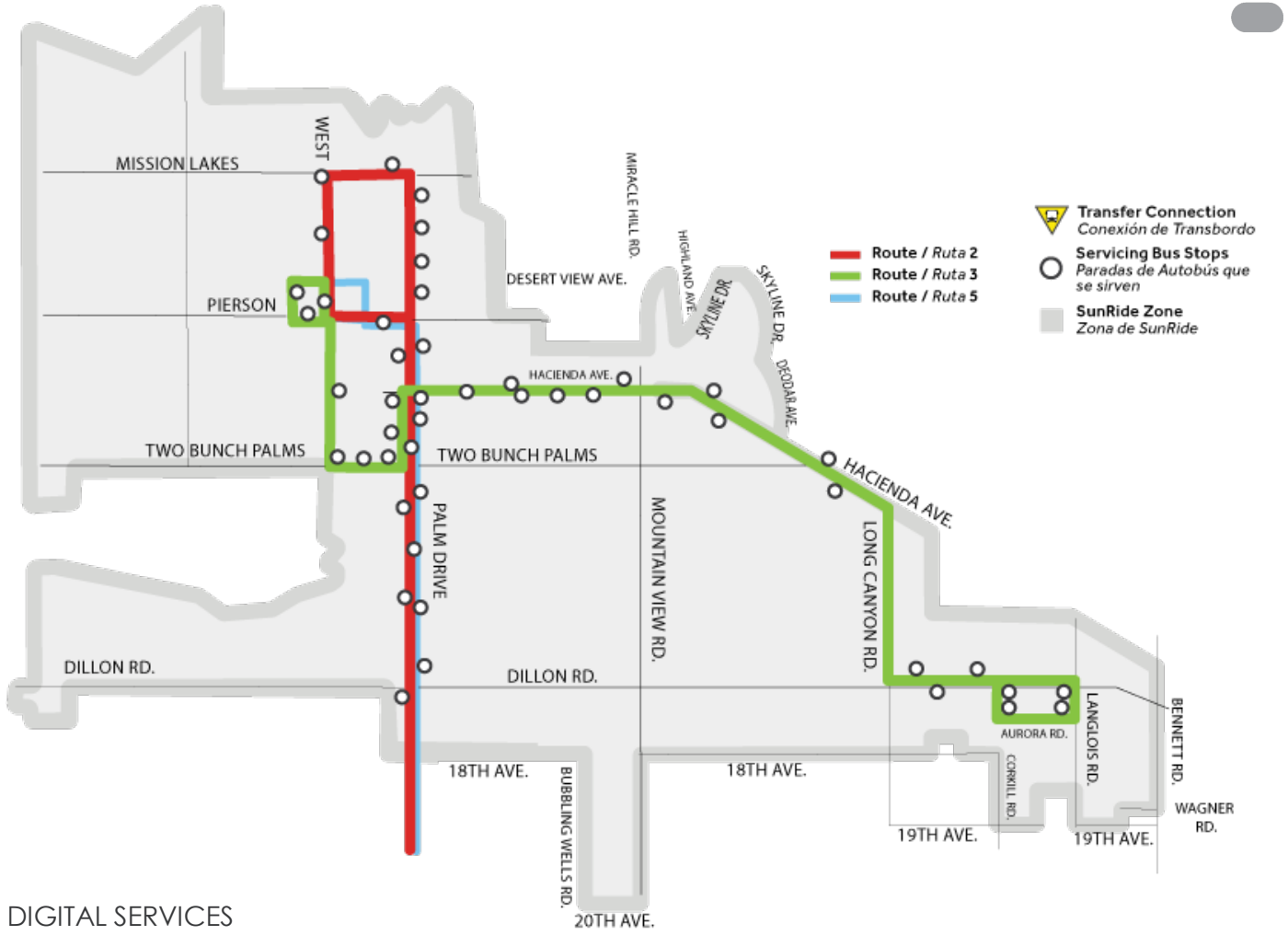
Google Maps (via GTFS)



What is Demand Response Transit?

AN EXAMPLE ON SUNLINE TRANSIT

- Lines and Dots represent fixed-route service
- Shaded area represents demand response service



Demand Response Eligibility Types

WHO CAN USE DEMAND RESPONSE TRANSIT?

Public

- Open to any member of the Public

Conditional

- Open to a segment of the public
- FTA segments include:
  - Age
  - Disability
  - Low income

Private

- Restricted to enrollment in a typically private entity
  - Employees
  - Students

Cataloging Transit

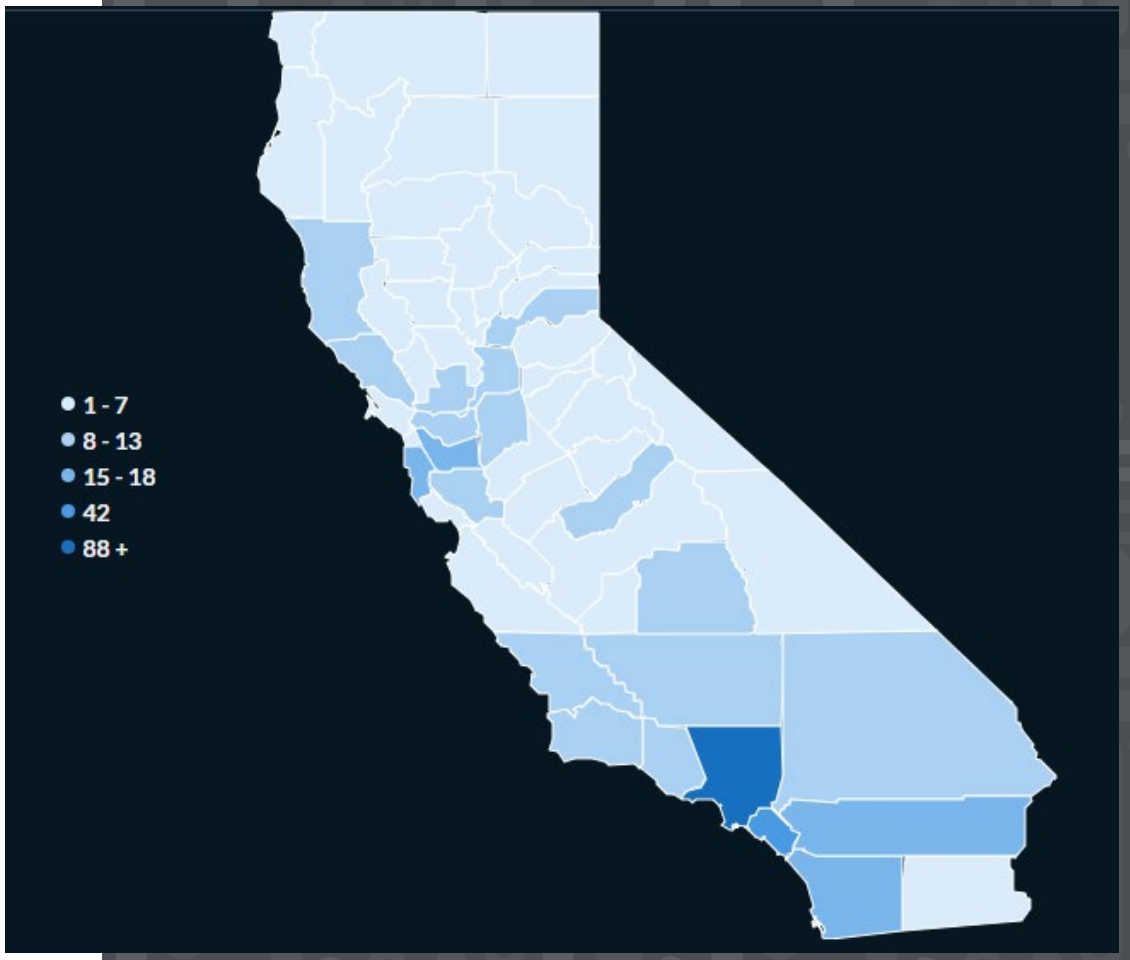
WHAT IS OUR DEFINITION OF A TRANSIT AGENCY?

- A public entity (excluding universities not receiving federal transit funding)
- Offering Public or Conditional Transit Service
- Currently active or seasonal
- We also catalog transit agencies' services by mode and rider requirements

198	Humboldt Transit Authority	Independent Agency	https://hta.org/
199	Imperial County Transportation Commission	Independent Agency	https://www.imperialctc.org/transit-se
200	Kern County	County	https://kerntransit.org/
201	Kings County Area Public Transit Agency	Independent Agency	https://www.kartbus.org/
202	Lake Transit Authority	Independent Agency	https://laketransit.org/
203	Lassen Transit Service Agency	Independent Agency	http://www.lassentransportation.com/
204	Livermore-Amador Valley Transit Authority	Independent Agency	https://www.wheelsbus.com/
205	Long Beach Transit	Independent Agency	https://ridelbt.com/
206	Los Angeles County	County	https://pw.lacounty.gov/transit/Shuttl
207	Los Angeles County Metropolitan Transportation Authority	Independent Agency	https://www.metro.net/
208	Los Angeles World Airports	Independent Agency	https://www.flylax.com/flyaway-bus
209	Madera County	County	https://www.maderactc.org/transport
210	Marin County Transit District	Independent Agency	https://marintransit.org/
211	Mariposa County	County	https://www.mariposacounty.org/

Statewide Presence

- Every County has at least 1 demand response service
- Los Angeles County has 88 Demand Response Services!



Rider Experience: Detailed Data

COLLECTING DATA FROM INCONSISTENT SOURCES

- Different website formats for each transit operator
- Different rider requirements, fares, times of day, holidays, etc
- Printed Maps not computer-readable

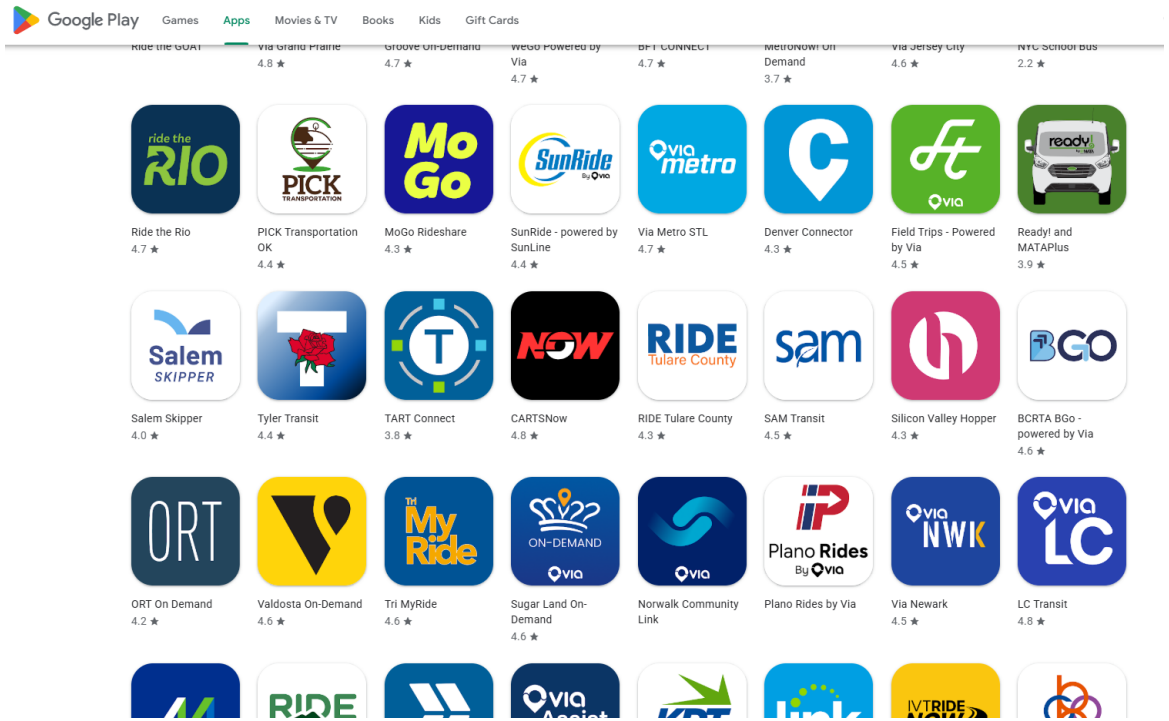


ECTA CONNECT City-to-City Dial-A-Ride Service Area in Ventura County

Rider Experience: Reservation Systems

YOU NEED AN APP… FOR EACH CITY

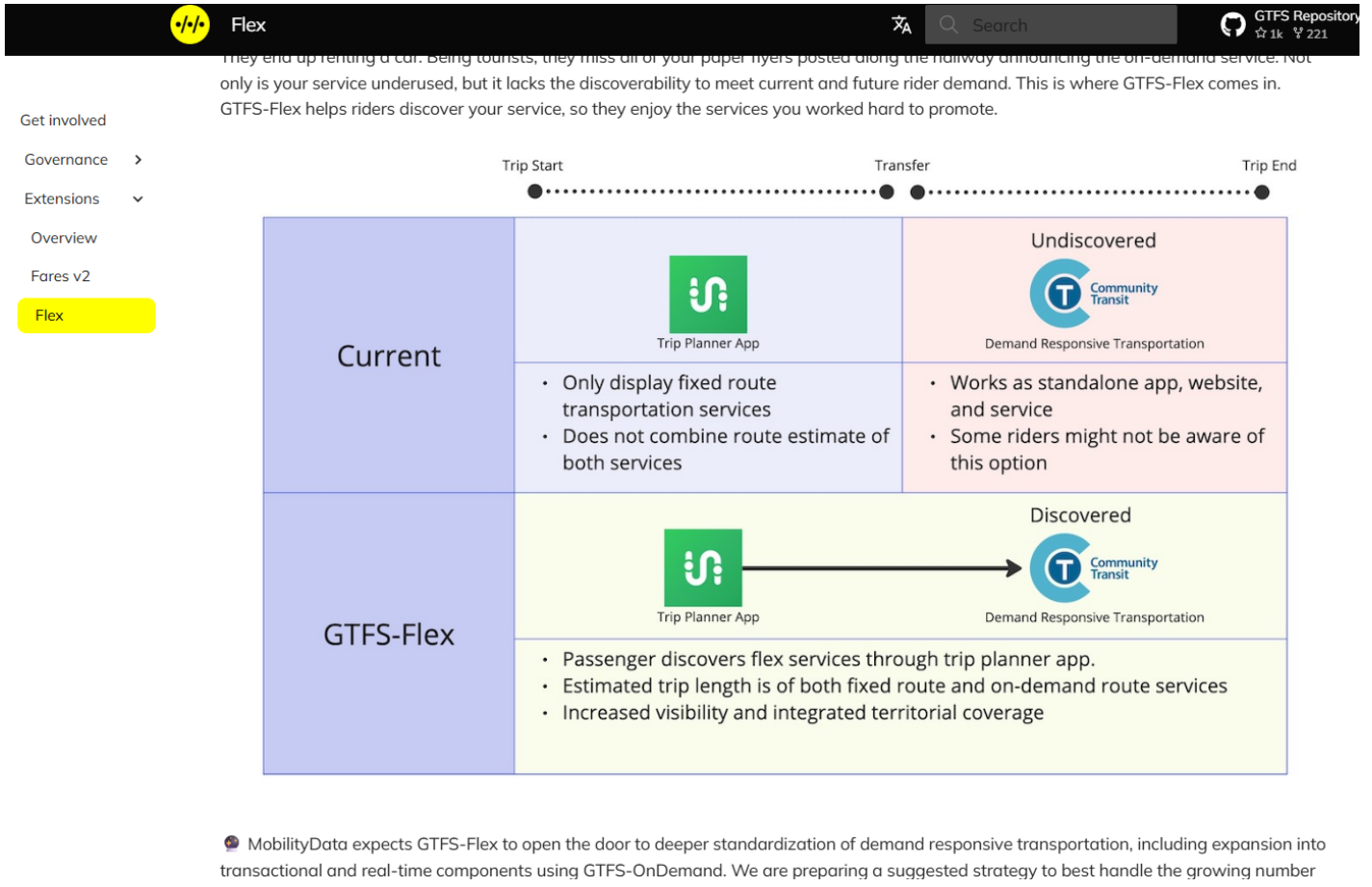
- Slightly different experience between systems
- Different experience often vendor-dependent



GTFS Flex: Hope for standardization

AGGREGATING FROM MULTIPLE AGENCIES

- Standard data definitions for demand response transit
- Zones of Service
- Booking Rules
- Deep Links to Booking Apps



GTFS Flex Data Maturity

Innovation

Working with MobilityData to formalize GTFS-Flex Data Specification (2022-2024)

Early Adopters

Gather existing GTFS Flex Data from Early Adopters and Vendor Partners

Mainstream Support

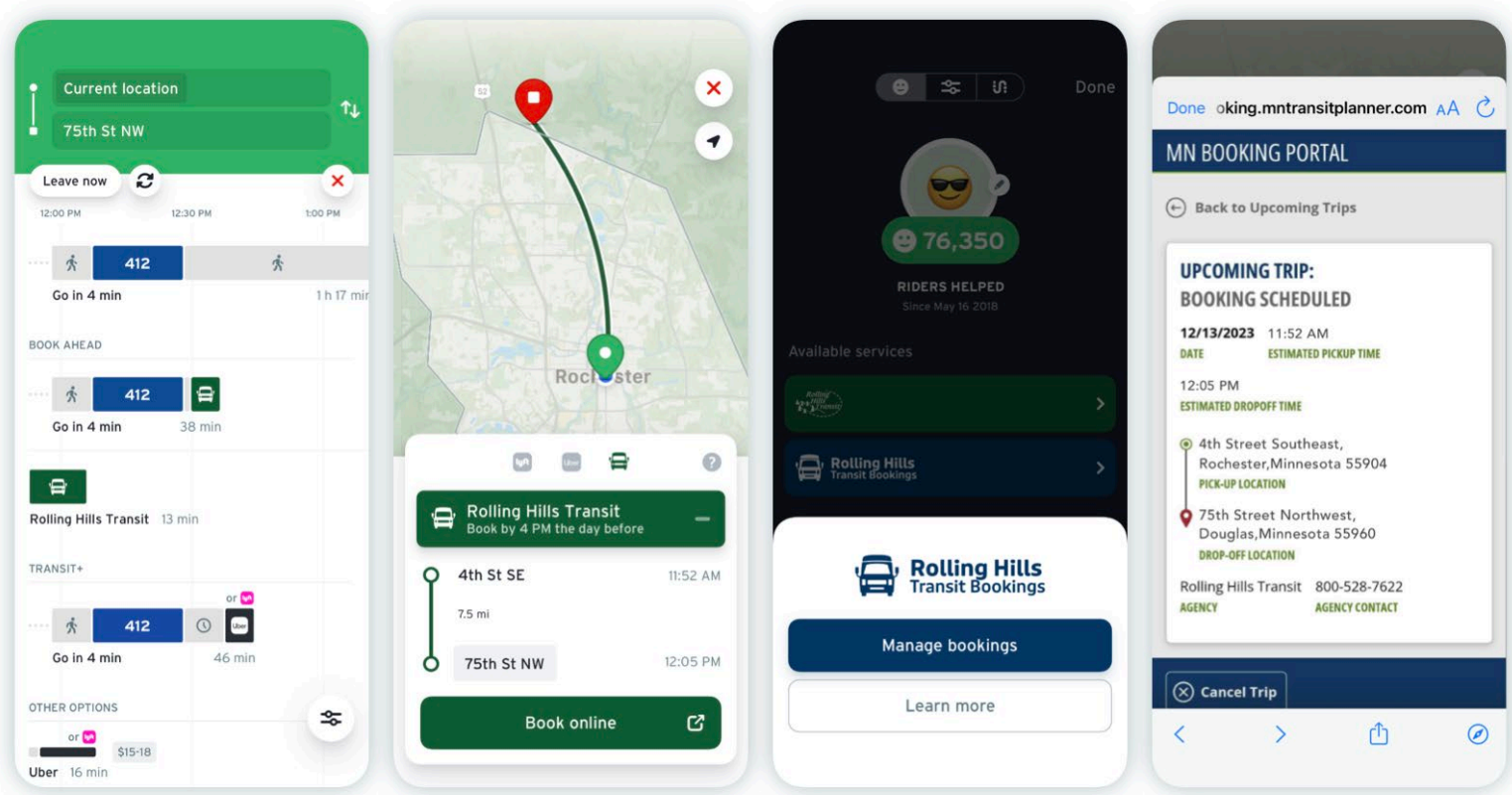
Offering Demand Response Transit Planning Software to 5311 Agencies

Mandates

Working to require GTFS Flex as part of National Transit Database reporting

Future Trip Planning

DEMAND RESPONSE TRANSIT INTEGRATED WITH FIXED-ROUTE TRANSIT



Thank You

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