

CapMetro

Strategic Planning and Development

*Ridership Calculation and Use in
Planning Processes*

March 25, 2024

Agenda

How is ridership calculated?

How is ridership used and the importance?

How is ridership used in service planning process?

What are current ridership trends?



Ridership Calculation

Definition, Sources, Platform

Ridership

Unlinked Passenger Trips (Ridership definition)

- Passengers counted each time they board a vehicle no matter how many vehicles used to travel from origin to destination
- Captured with Automatic Passenger Counters

Linked Passenger Trips

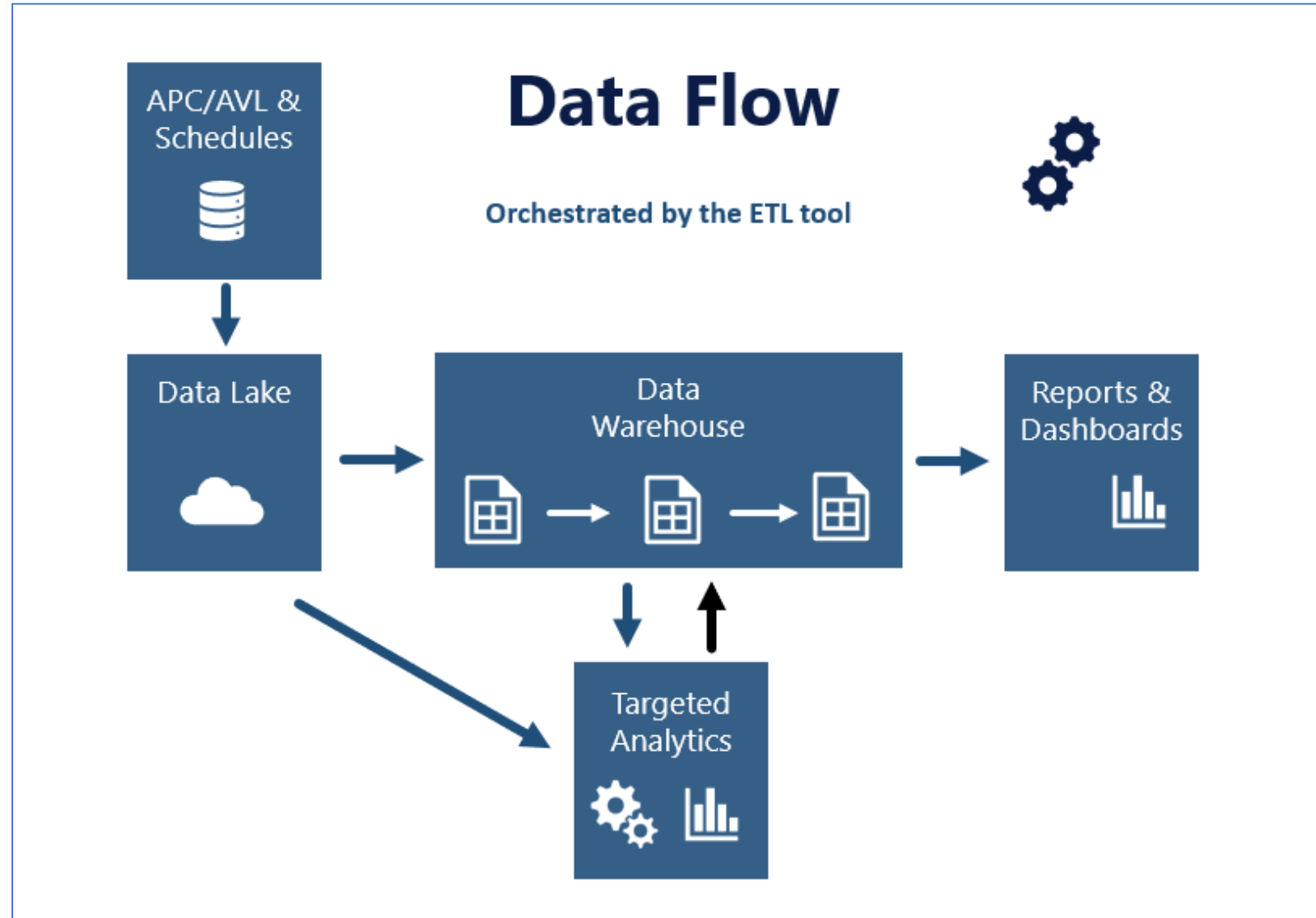
- Passengers counted once no matter how many vehicles used to travel from origin to destination
- Captured through Origin and Destination Survey (Sample)

Automatic Passenger Counters (APCs)

- Records Ons and Offs at each stop/station on bus/rail for each route and trip operated
- Once Daily this data flows into Data warehouse (Enterprise Data Analytics Platform)
- Can be aggregated in variety of ways

Data Management

Enterprise
Data
Analytics
Platform





Ridership Importance & Usage

Dashboards and Requests

Ridership Importance

Federal Reporting Requirement

- National Transit Database monthly & annual reporting
- Federal Funding Allocation (part of formula)
- APC Certification

Assess Transit Corridors

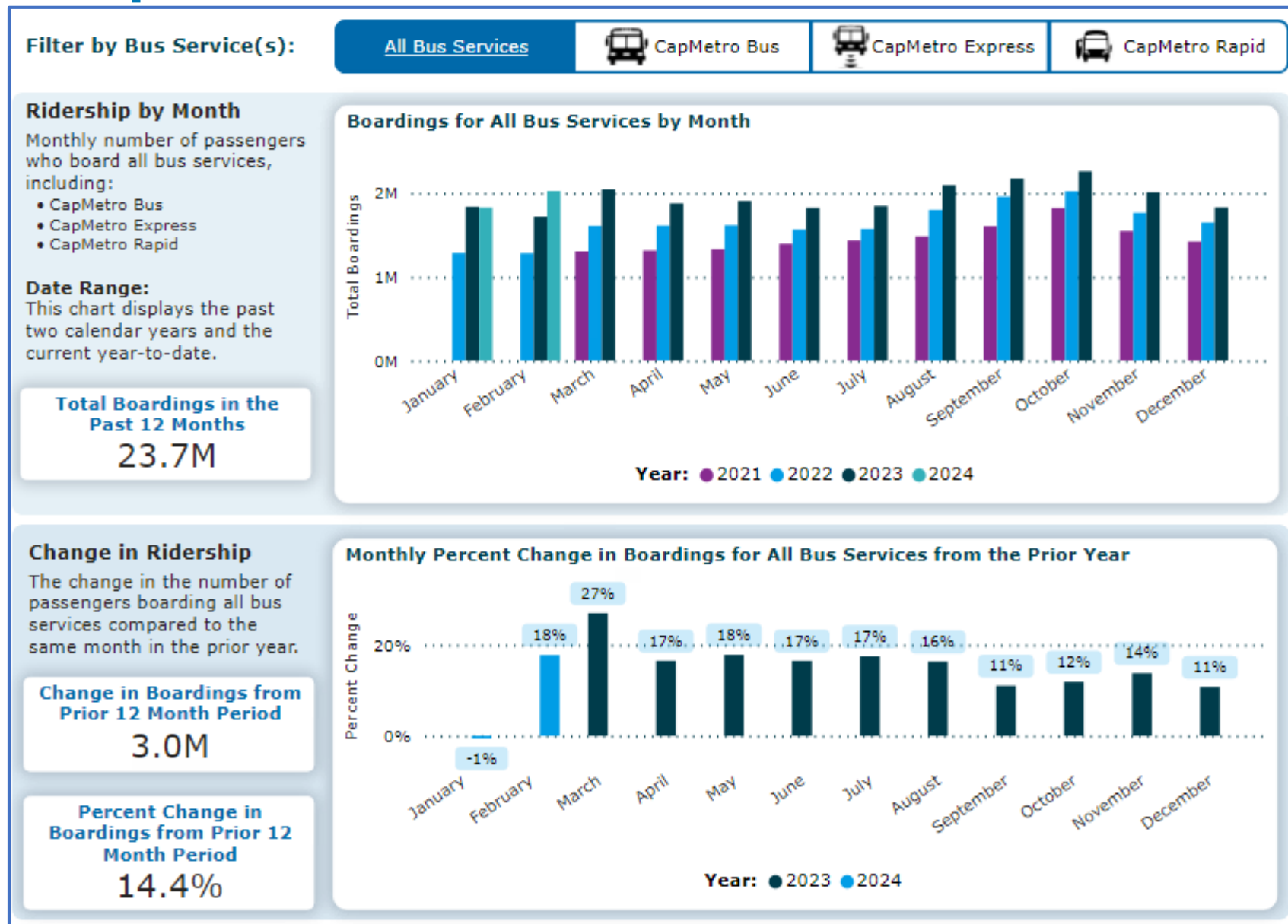
- Corridor Specific Transit Enhancement projects
- High-capacity transit Travel Demand Modeling (i.e. Project Connect)

Service Change Process

- Monthly/Daily ridership
- Trip level ridership
- Riders per hour
- Runtime Analysis
- Stop Level

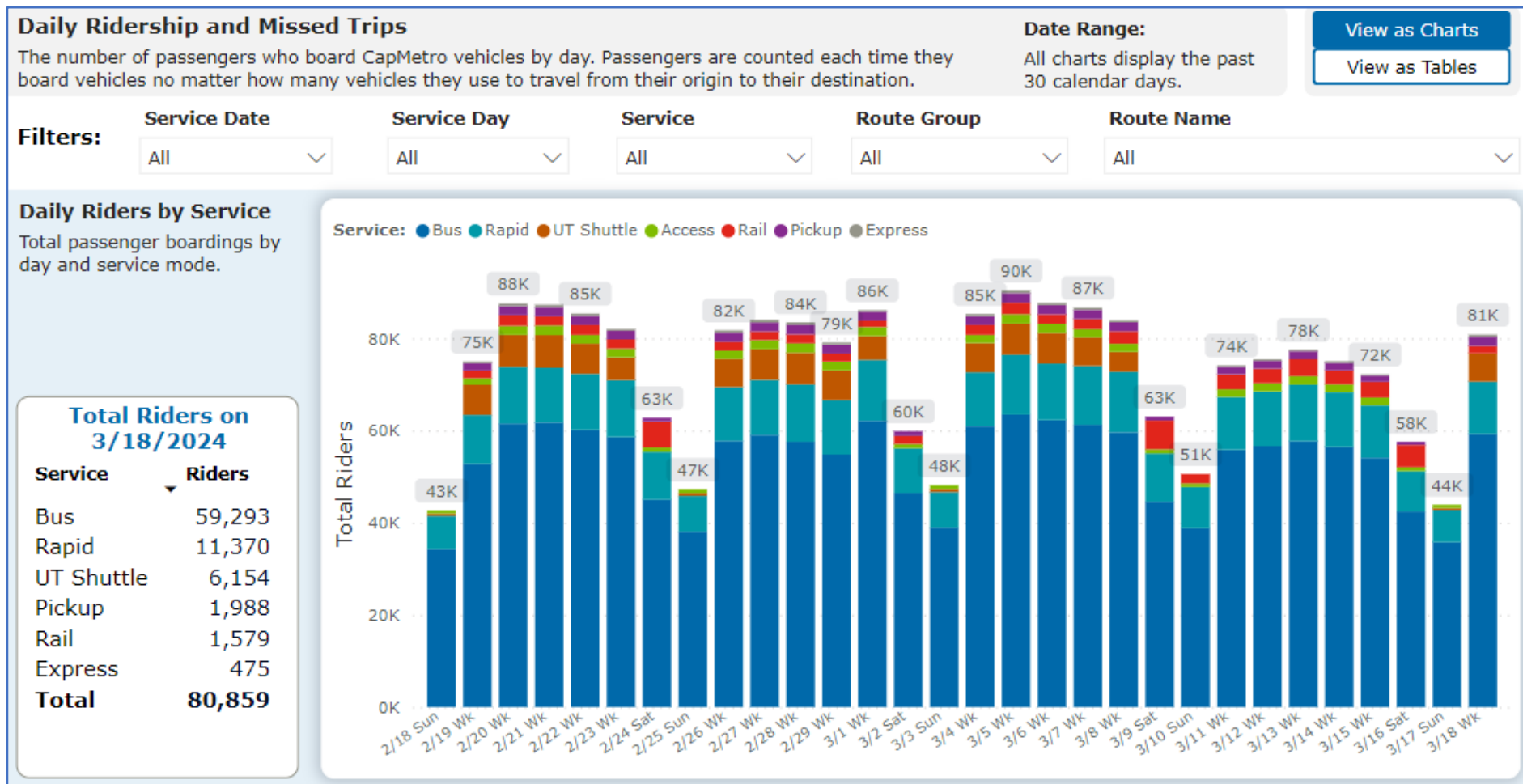
Monthly Ridership

- Public Dashboard
- Aggregate View of monthly ridership



Daily Ridership

- Instantly view last 30 days of System Ridership
- Filtering Capabilities to Route Group, Route Name, Service Day (type) and Date
- See if trends are forming



Passenger Load

- Using Service Standards, instantly view top routes with capacity challenges
- Example:
 - Route 642
 - 1/18/2024
 - 9:03am Trip
- Visualizes passenger loads along route
- Refreshes daily

Stop-Level Data for Selected Trip

Notes:

- To sort by Stop Time, click the Stop Time column header.
- Some stop-level data is estimated. This data is highlighted in light blue.

Estimated Data

Color	% of Load Limit
Green	0-59%
Yellow	60-79%
Orange	80-99%
Red	100% +

Stop Time	Stop Order	Stop ID	Stop Name	Boardings	Alightings	Passenger Load	Service Standards Load Limit	% of SSG Max Load
9:04:24 AM	1	5379	San Jacinto/23Rd (Midblock)	0	0	0	60	0%
9:06:23 AM	2	2079	DEAN KEETON/SPEEDWAY NE CORNER	0	1	0	60	0%
9:07:47 AM	3	5024	116 DEAN KEETON/UNIVERSITY	0	5	0	60	0%
9:10:00 AM	4	4096	27TH/WHITIS	0	0	0	60	0%
9:12:04 AM	5	5373	Nueces/27Th	0	0	0	60	0%
9:14:13 AM	6	4122	26TH/RIO GRANDE	7	1	6	60	10%
9:15:23 AM	7	4123	26Th/Pearl	3	0	9	60	15%
9:18:06 AM	8	4121	San Gabriel/25 1/2	35	0	44	60	73%
9:21:16 AM	9	4979	2204 SAN GABRIEL/22ND HALF	7	0	51	60	85%
9:23:26 AM	10	4120	22ND/PEARL	11	0	62	60	103%
9:28:49 AM	11	498	Guadalupe/W. 21St Street	4	38	28	60	47%
9:33:32 AM	12	4134	1951 San Jacinto/Trinity	0	0	28	60	47%
9:34:30 AM	13	4135	2001 SAN JACINTO/20TH	1	5	24	60	40%
9:35:20 AM	14	1253	2031 SAN JACINTO/21ST	0	4	20	60	33%
9:36:26 AM	15	5379	San Jacinto/23Rd (Midblock)	0	14	6	60	10%

Avg. Passenger Load by STOP

Passenger load is averaged by stop for all trips in the filter selection.

Color	Passenger Load
Green	0 - 4.99
Light Green	5 - 9.99
Yellow	10 - 14.99
Orange	15 - 19.99
Red	20+

5 Stops with Highest Avg. Passenger Load

22ND/PEARL

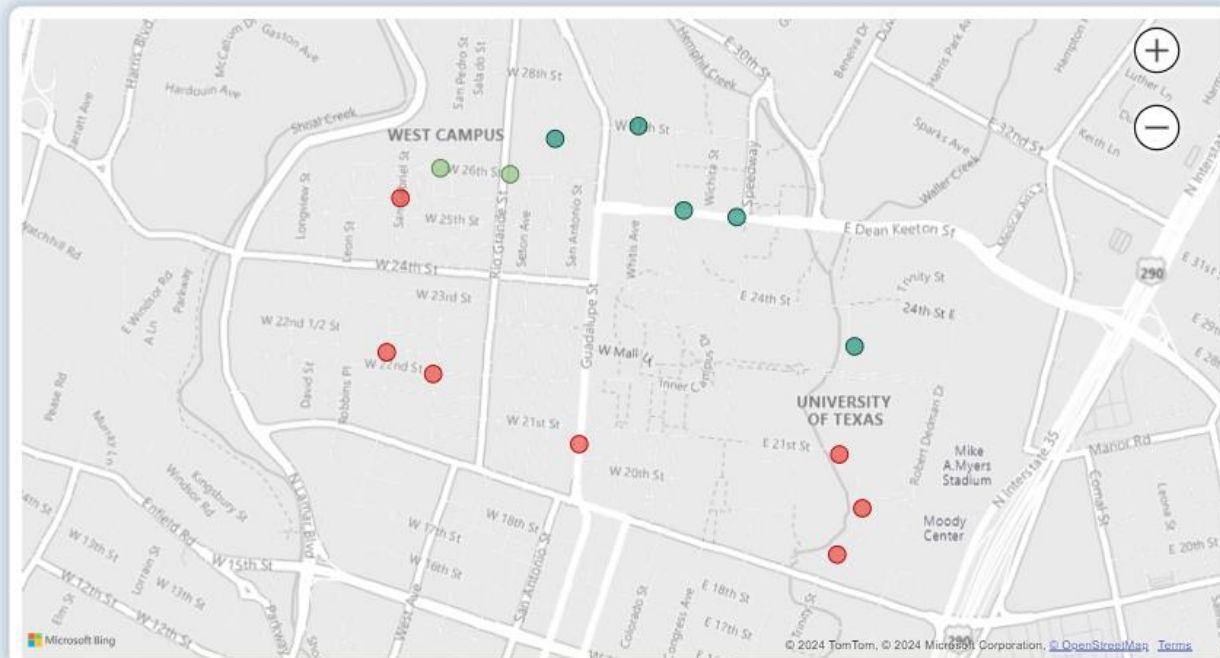
62

2204 SAN GABRIEL/22ND ...

51

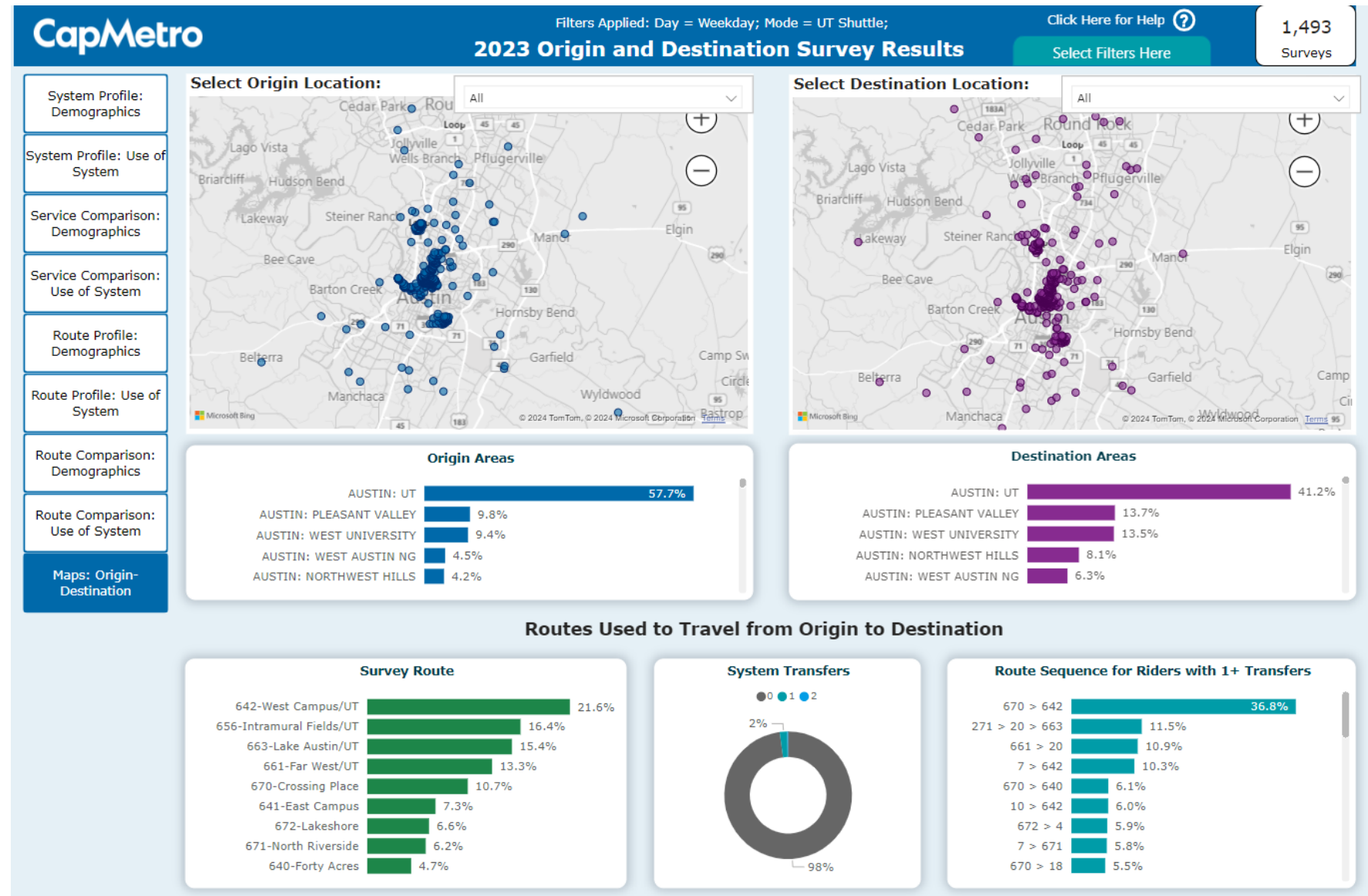
San Gabriel/25 1/2

44



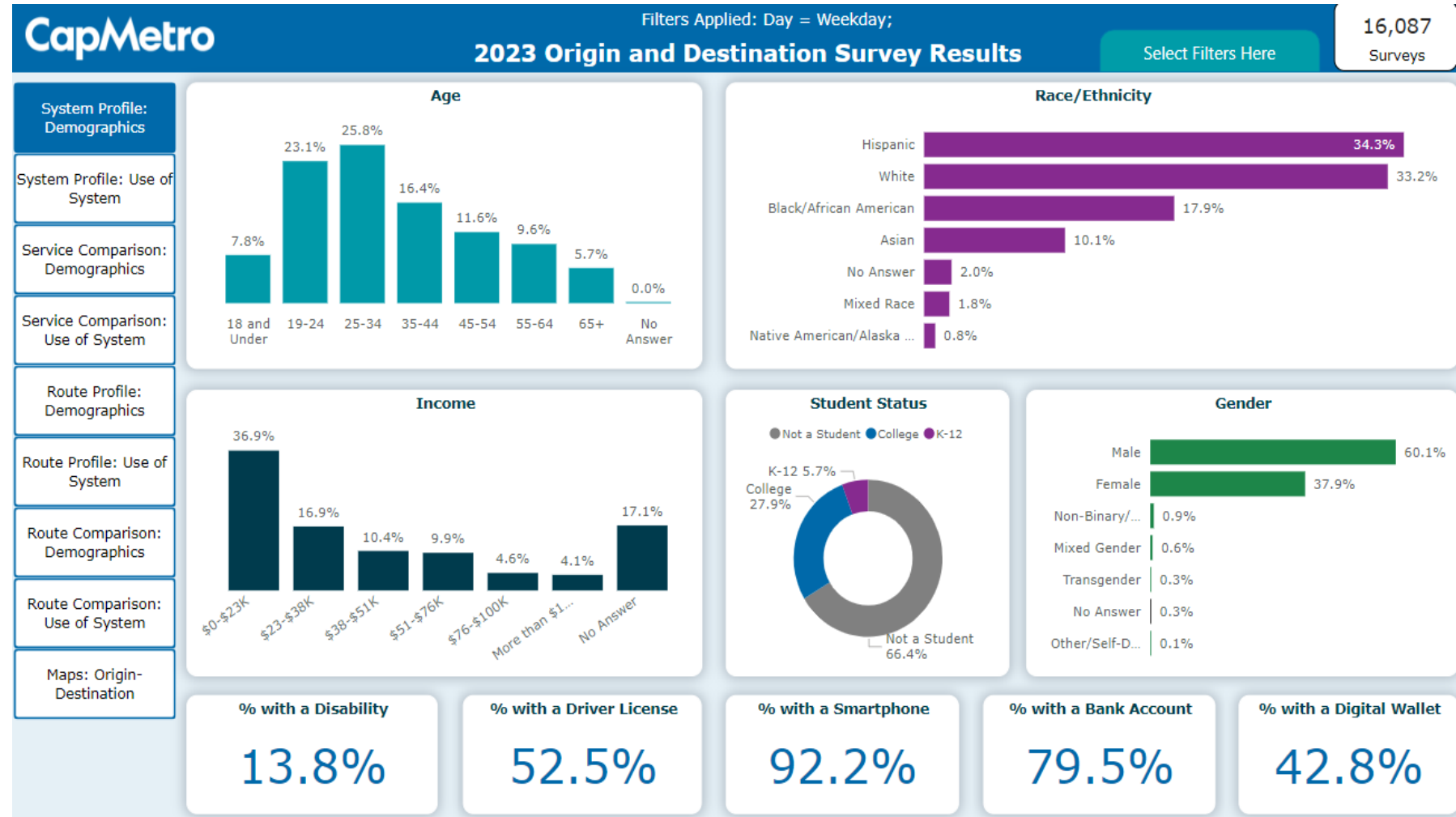
Origin & Destination Survey (Spring 2023)

- Customers Origin and Destination Areas
- Example
 - Weekday
 - UT Shuttle
- Mapping of ODs



Origin & Destination Survey (Spring 2023)

- How customers use the system
- Customer Demographics
- By route



Use Cases

Aggregate Analysis

- Ridership Trends
- Riders by Route and Day Type
- Riders by Trip
- Riders per hour

Stop Level Analysis

- Riders by Stop Marketing outreach efforts
- Riders by Time Period
- Riders by Geographic Area

Targeted Analysis

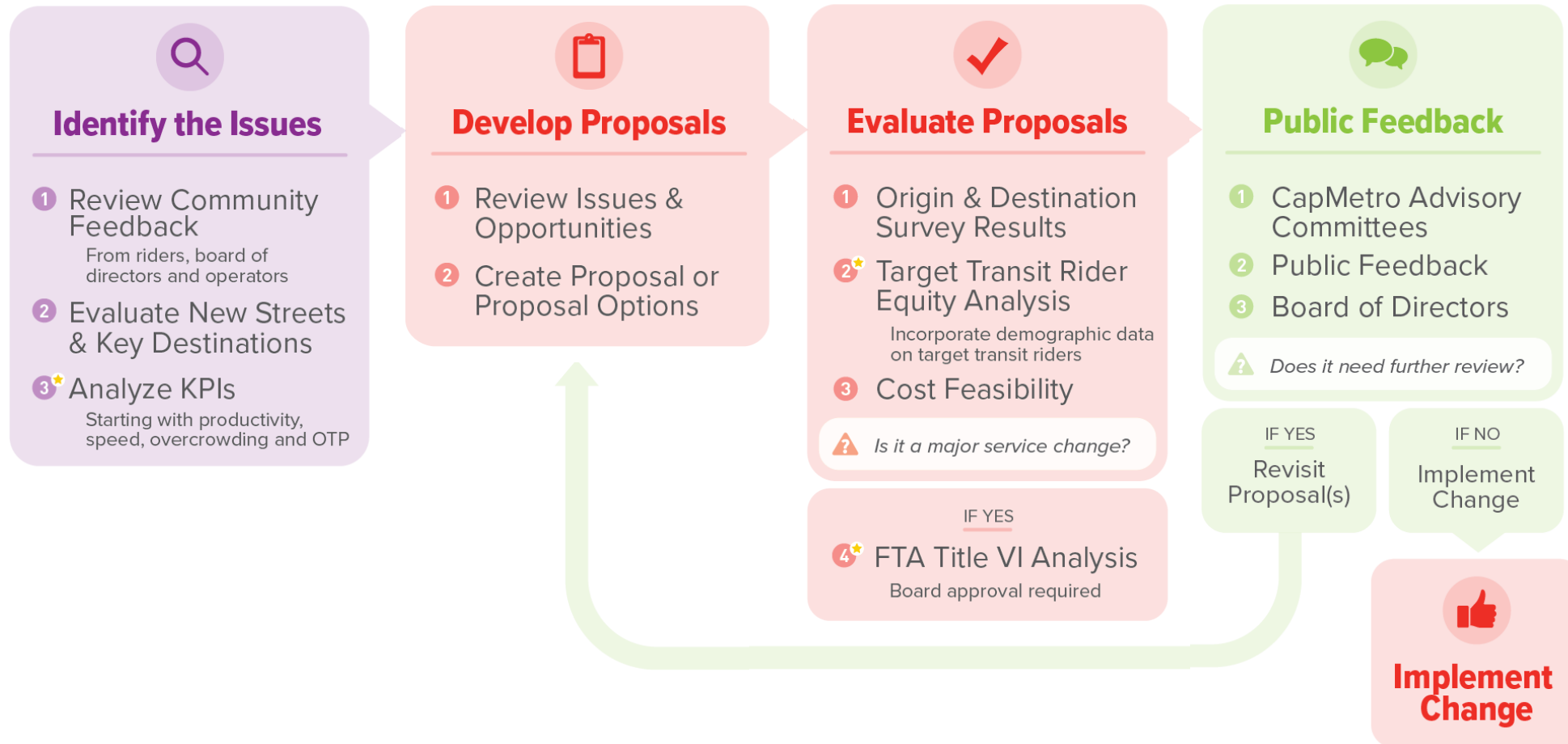
- Before and After Study of TSP
- Corridor Specific Transit Enhancement projects
- Project Connect
- Fare Analysis purposes



Planning Process Data Usage

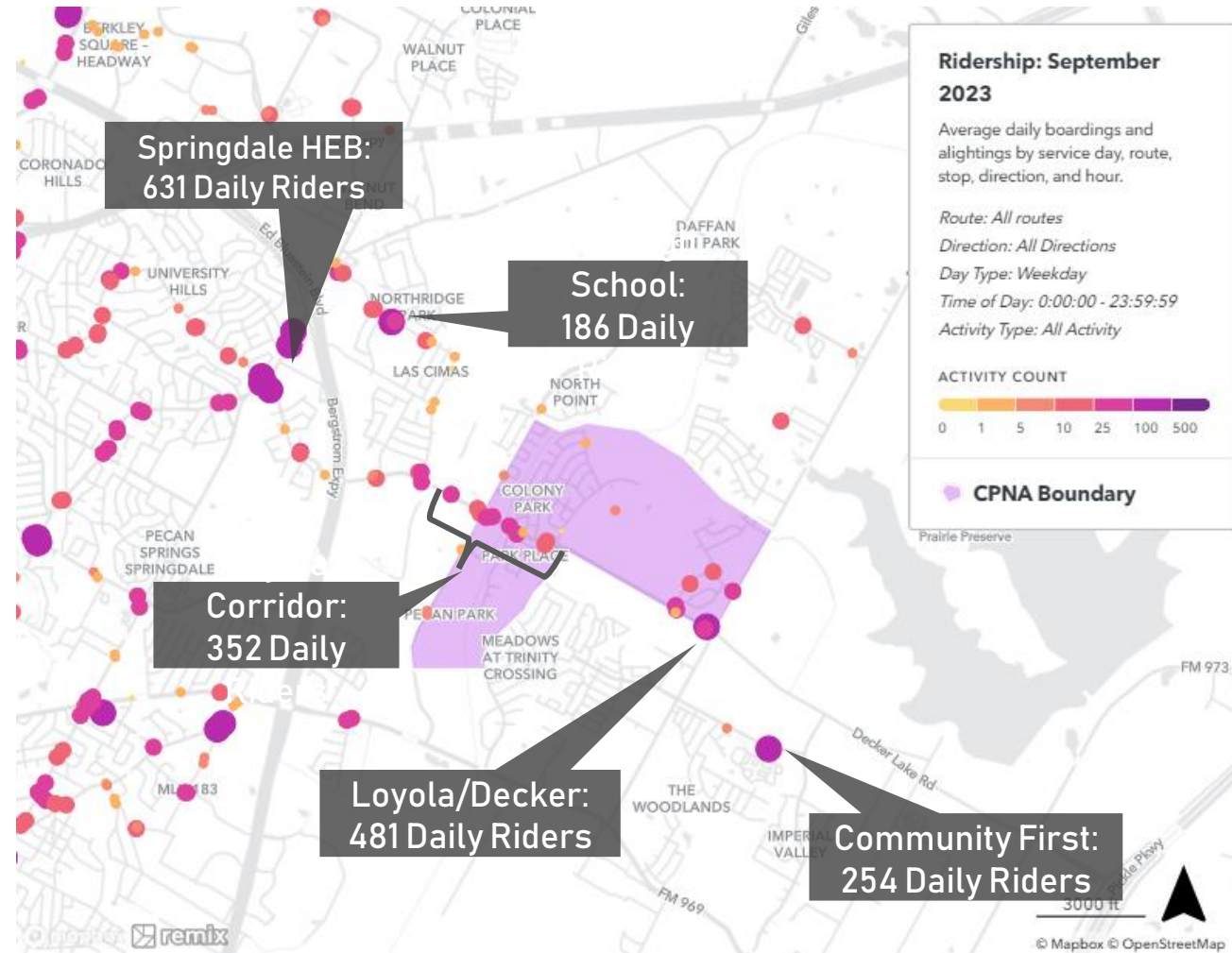
Service Changes

How is a service change proposal developed?



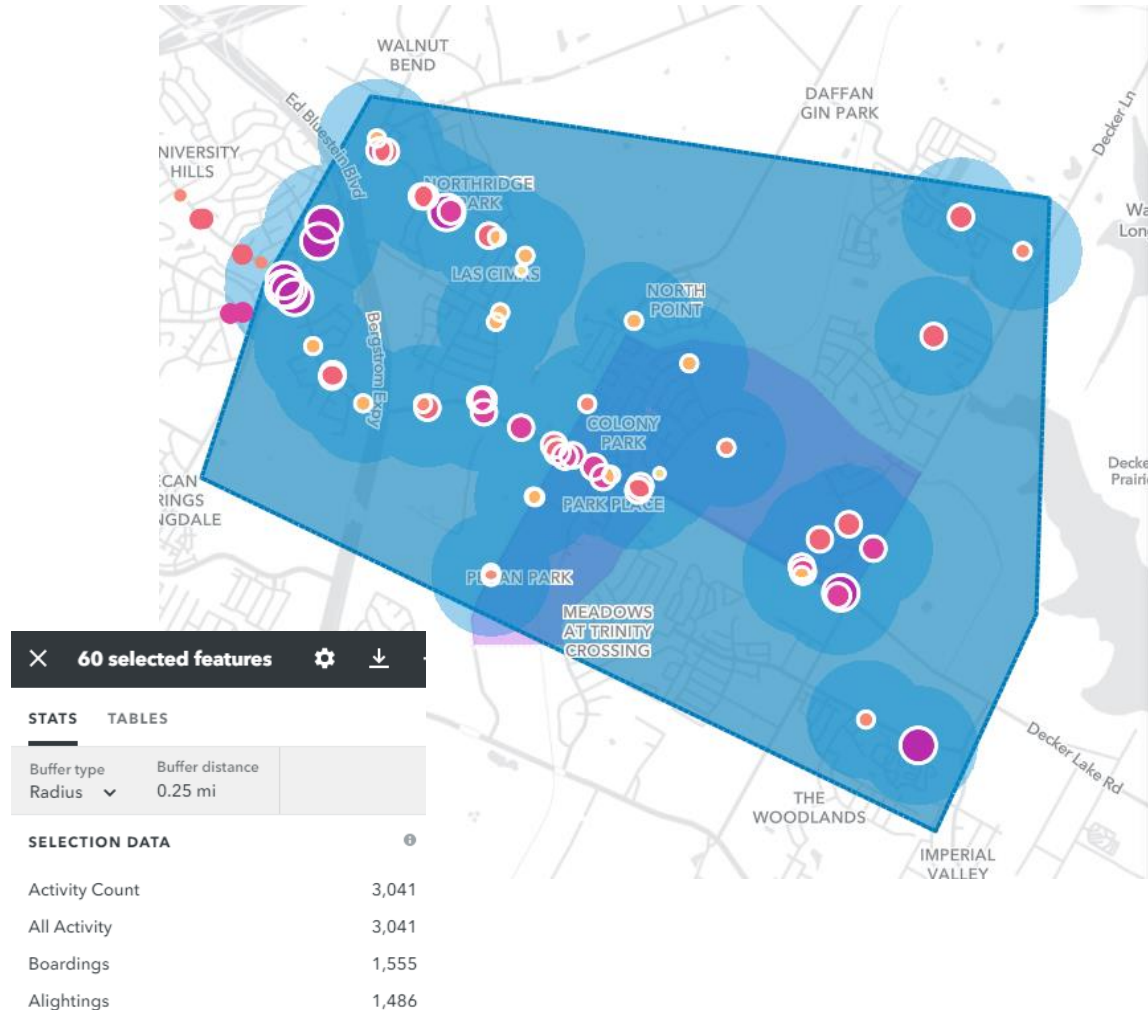
Daily Ridership Hot Spots

- Identifies high ridership stops using Remix software.
 - September 2023 data was formatted and uploaded into the Remix platform
- Allows for most current ridership data by stops to be used in addressing public comments and adjustments



Ridership for a Specific Area

- Remix polygon selection tool used to capture specific stops in an area
- Tool works to quickly sum the total activity count, boardings, and alightings for selection.

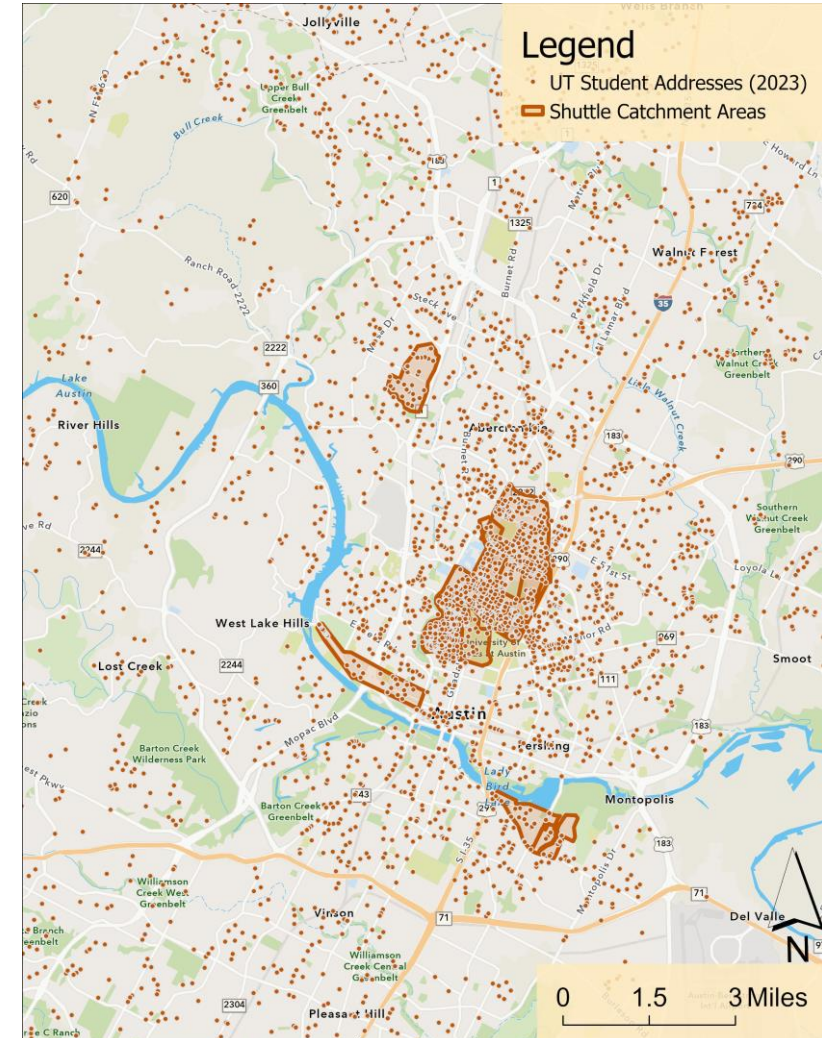


September 2023

UT Shuttle: Student Housing Trends

- Uses GIS to geocode thousands of student addresses provided by UT
- Assists with aligning UT Shuttle services with student housing trends
- Suggests service adjustments, as areas emerge or decline

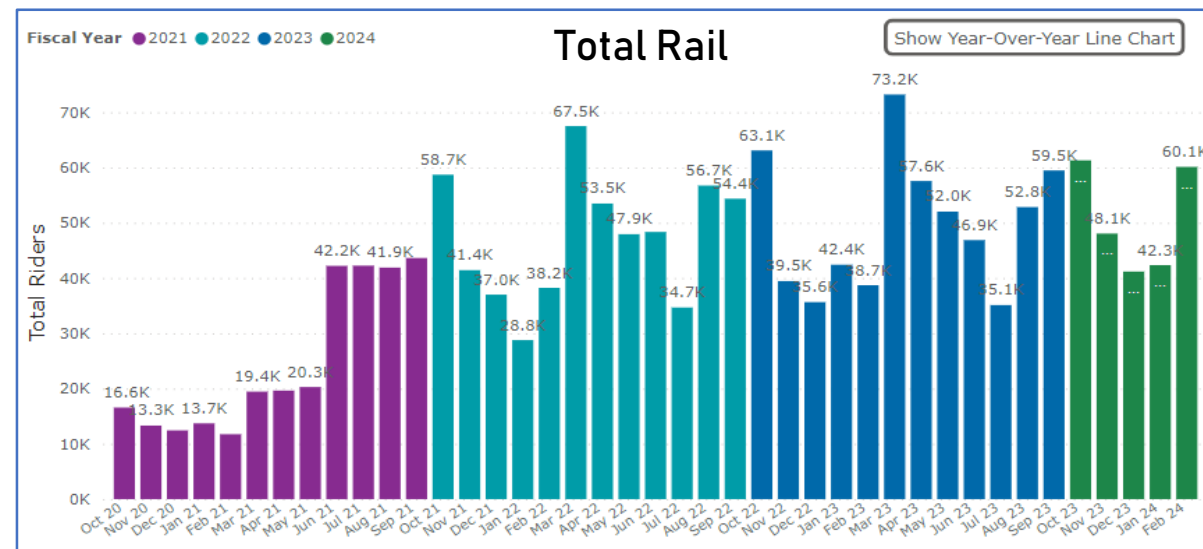
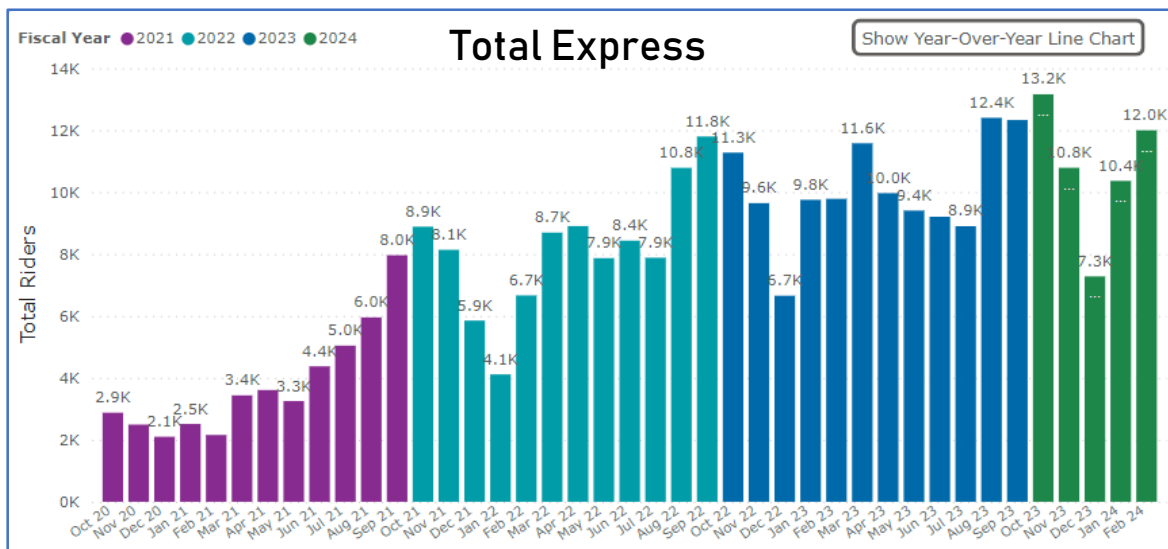
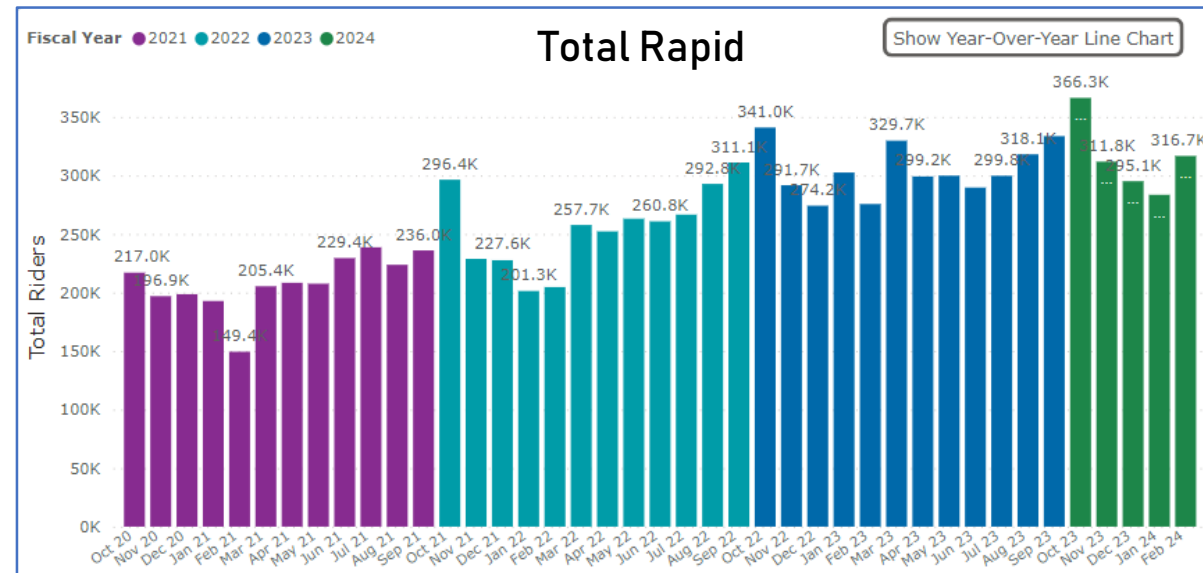
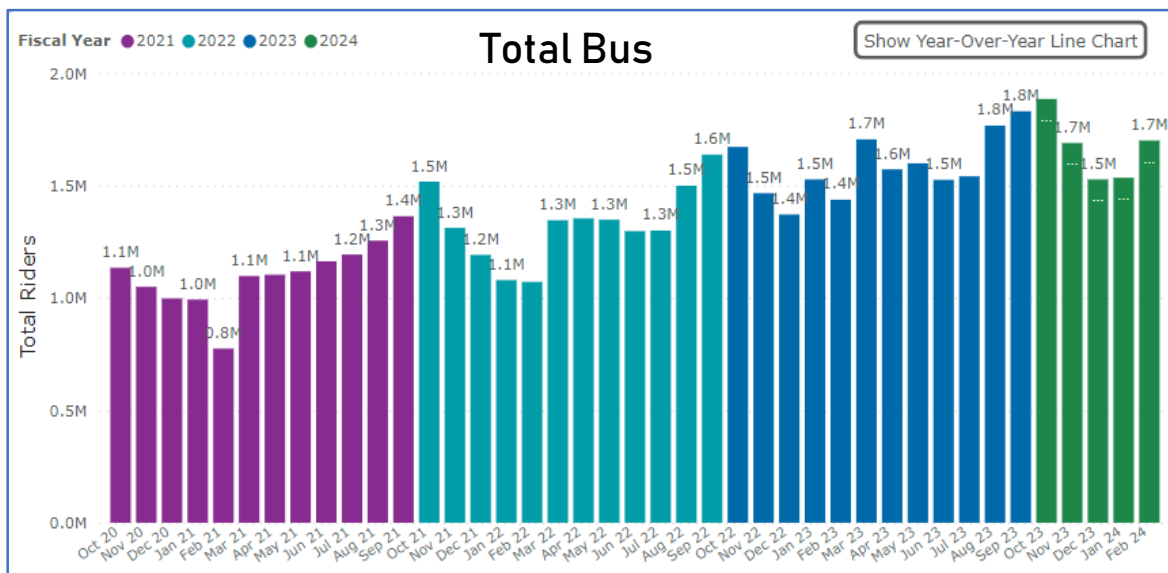
Catchment Area	2022	2023	1-Year % Change	1-Year # Change	5-Year % Change	5-Year # Change
UT Campus	15,506	15,389	-1%	-117	1%	220
West Campus	14,838	15,942	7%	1,104	18%	2,377
North Campus (Keeton to 38th)	4,142	4,039	-2%	-103	-3%	-140
Hyde Park (38th to Koenig)	2,710	2,630	-3%	-80	-33%	-1,272
Riverside/Oltorf	1,221	979	-20%	-242	-66%	-1,884
Lake Austin	1,200	1,473	23%	273	2%	31
Far West	986	870	-12%	-116	-34%	-458
Total	40,602	41,320	2%	719	-2.7%	-1,126



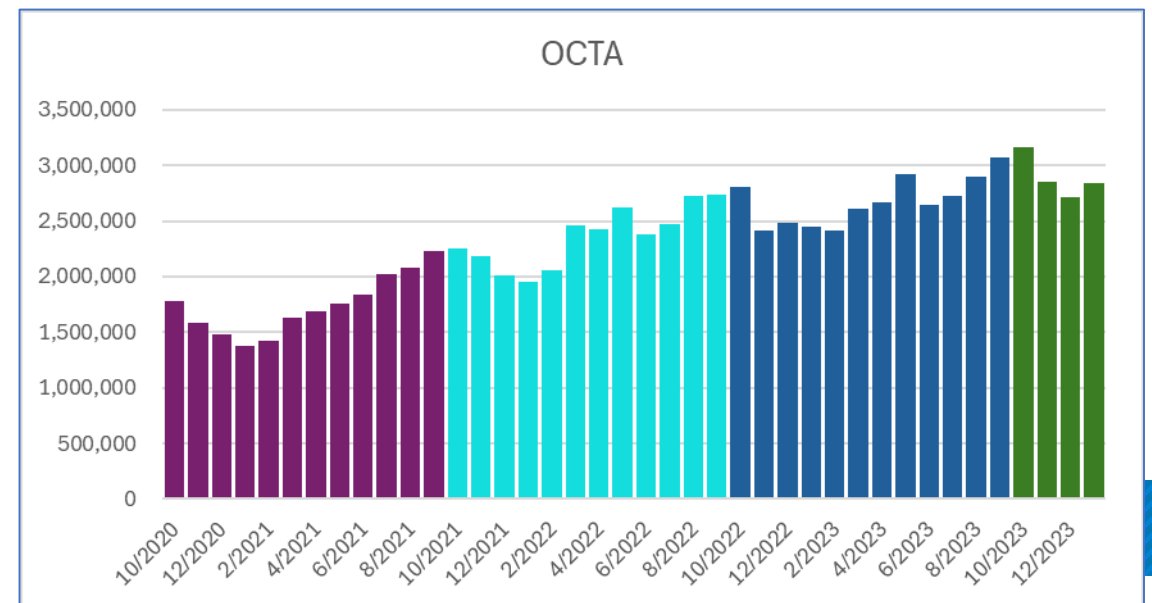
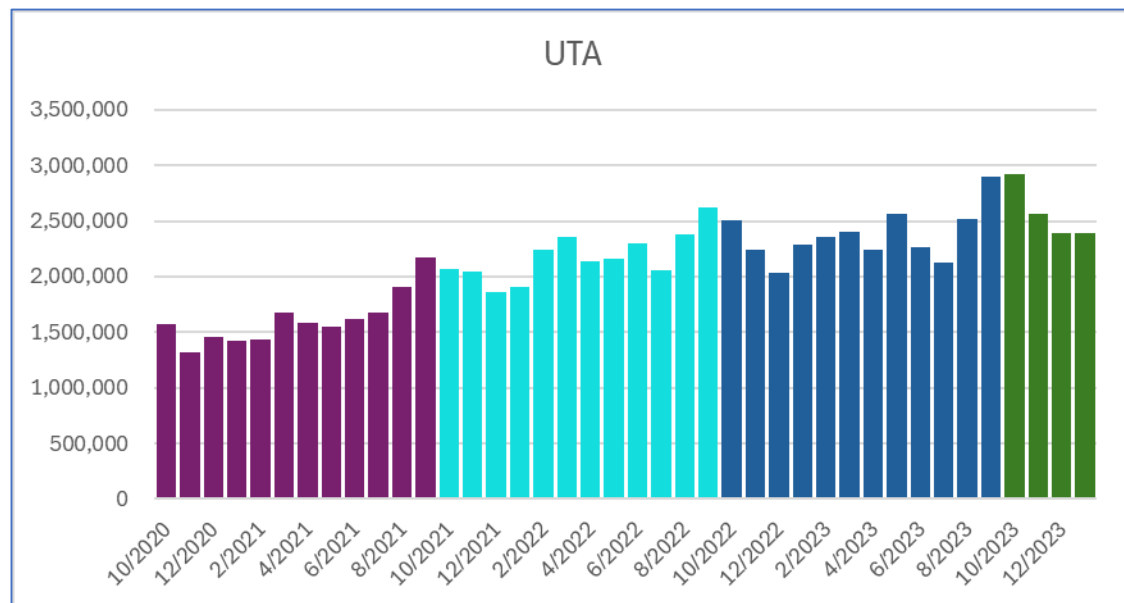
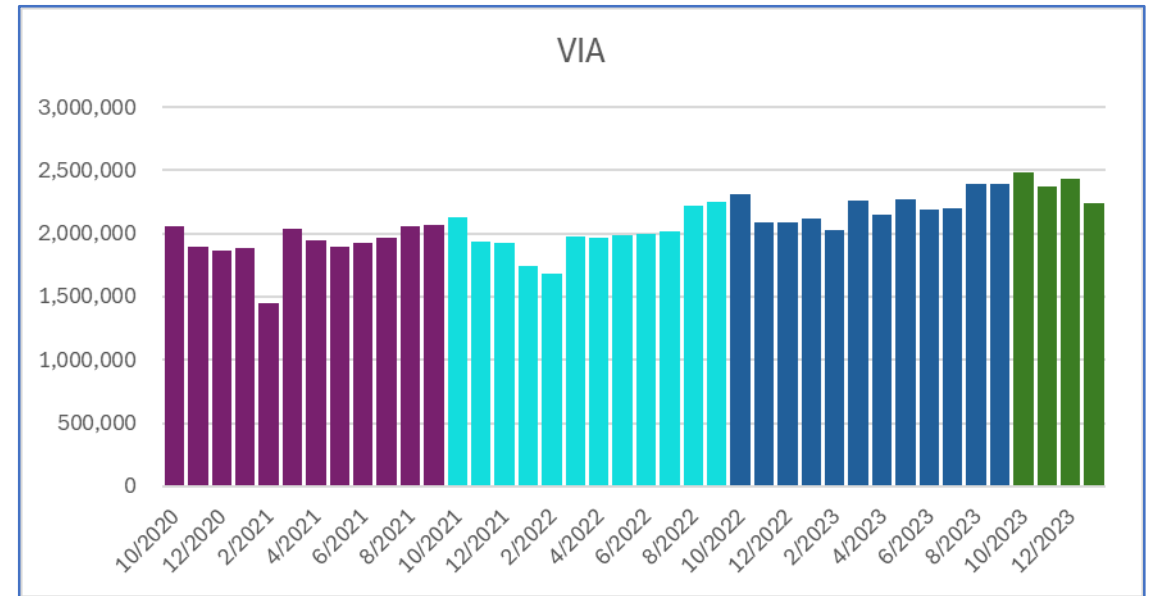
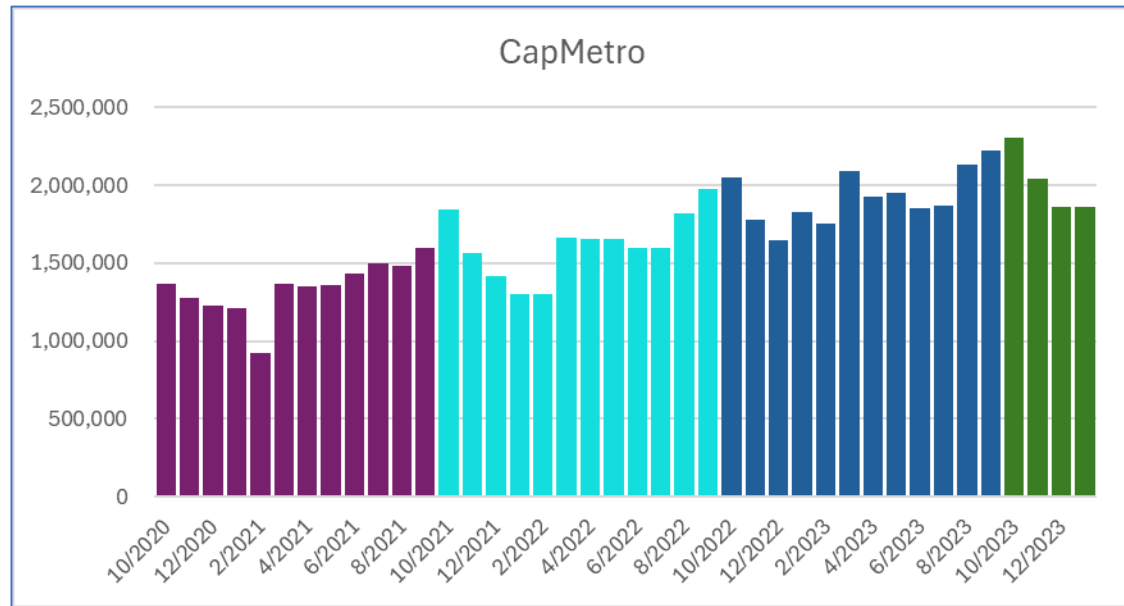


Ridership Trends

CapMetro & Peers



Peer Ridership Trends since 2021



Ongoing Efforts to Increase Ridership

Marketing (Near-term)

- Fall - "We Go Where You Go" campaign
- Spring - McKalla Station launch
- KUT campaign
- Pickup Zone (Exposition and Dove Springs)
- Outreach on UT Campus including advertisements

Service & Capital Program Planning (Long-term)

- PV and Expo Rapid Lines
- Transit Service Plan
- Service Change ongoing

Final Thoughts



Comprehensive data systems in existence and more in process



Analysis tools under continuous development & evolving



Service Network Update to utilize rich data sets for existing conditions analysis



Ongoing near-term decision-making and long-term planning



Ongoing outreach and service adjustments to improve ridership

CapMetro

Thank you!