

Strategic Planning and Development

Ridership Calculation and Use in Planning Processes

March 25, 2024



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





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



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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



CapMetro

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-Le Selecte Notes:	evel Data for d Trip	Stop Time	Stop Order	Stop ID	Stop Name	Boardings	Alightings	Passenger Load	Service Standards Load Limit	% of SSG Max Load
• To sort by Stop Time, click the Stop Time column header.		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%
Some stop-level data is estimated. This data is highlighted in light blue. Estimated Data		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%
	% of Load	9:21:16 AM	9	4979	2204 SAN GABRIEL/22ND HALF	7	0	51	60	85%
Color	Limit	9:23:26 AM	10	4120	22ND/PEARL	11	0	62	60	103%
	0-59%	9:28:49 AM	11	498	Guadalupe/W. 21St Street	4	38	28	60	47%
	60-79%	9:33:32 AM	12	4134	1951 San Jacinto/Trinity	0	0	28	60	47%
	80-99%	9:34:30 AM	13	4135	2001 SAN JACINTO/20TH	1	5	24	60	40%
	100% +	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%



Origin & Destination Survey (Spring 2023)

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



Routes Used to Travel from Origin to Destination

2%

System Transfers

0 1 2

- 98%



Route Sequence for Riders with 1+ Transfers 670 > 642 36.8% 271 > 20 > 663 11.5% 661 > 20 10.9% 7 > 642 10.3% 670 > 6406.1% 10 > 6426.0% 5.9% 672 > 47 > 671 5.8% 670 > 18 5.5%

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Origin & Destination Survey (Spring 2023)

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







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 county, boardings, and alightings for selection.





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



CapMetro Trends since FY2021









Peer Ridership Trends since 2021





500,000

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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







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





Thank you!