

# Service Design Standards



# Introduction

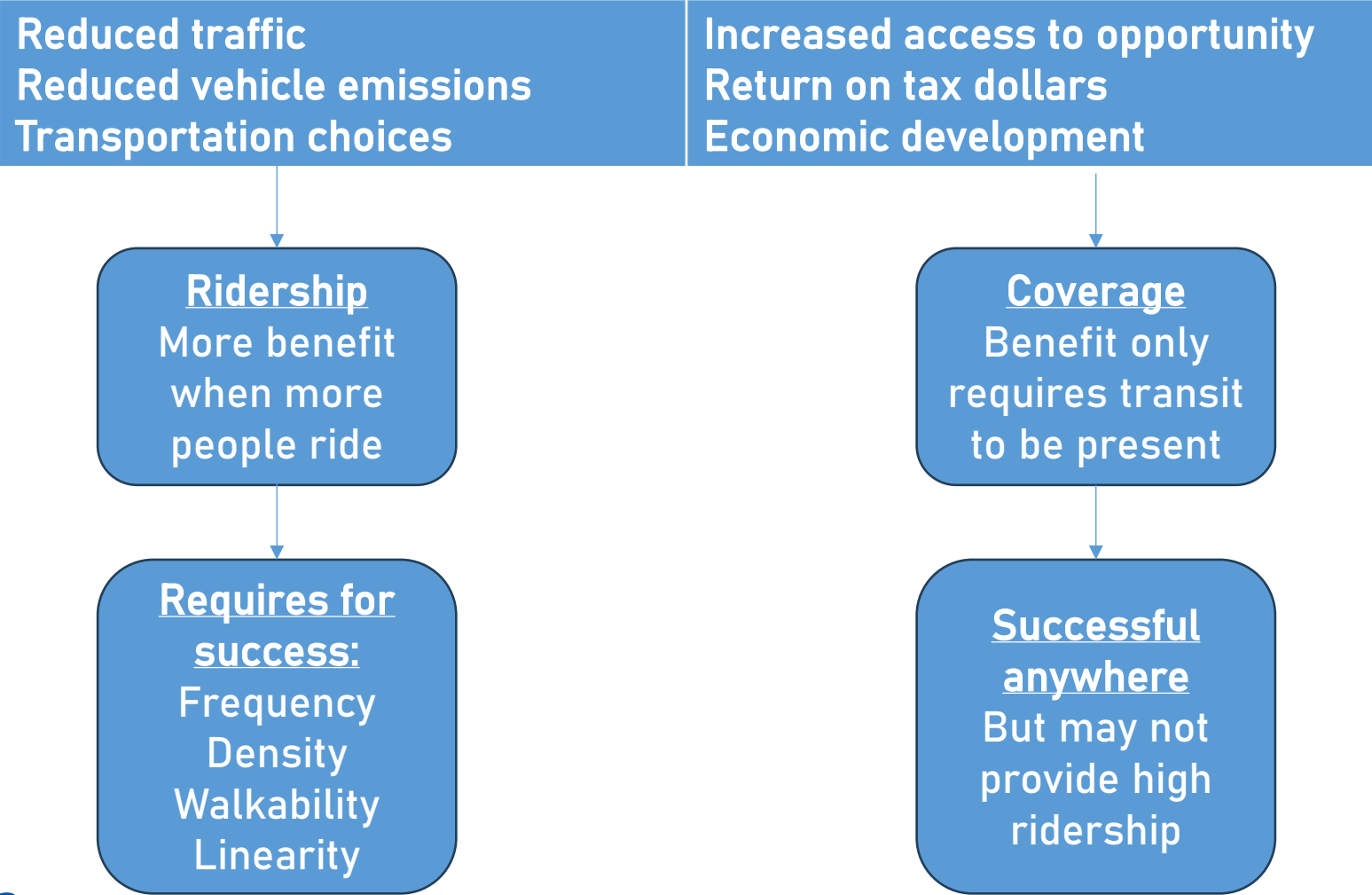
## Objectives of the Service Design Standards:

Board Strategic Priorities	Financial	Resources
<ul style="list-style-type: none"><li>• Safety &amp; Security</li><li>• Service Availability</li><li>• Service Quality</li><li>• Network Quality</li><li>• Reliability</li><li>• Accessibility</li><li>• Access</li></ul>	Maximum service and quality that is warranted within financial capacity	Maximum service and quality that is warranted within vehicle and operator availability

*Guidelines:  
rules of thumb,  
best practices*

*Standards:  
agency policy*

# Benefits and Key Considerations of Transit Services



# Service Planning Process

*ongoing*

## Initial Review

- Service Design Standards
- ADA
- Title VI
- Staff availability
- Stop amenities
- CBAs
- End of Line (EOL) availability
- Impacts to existing riders
- Urgent operational issues
- Public engagement

*2-year cycle*

## Five-Year Service Plan































































- Phased by year
- Initial Review
- Upcoming projects
- System analysis
- Guides implementation
- Stakeholder engagement

*4-year cycle*

## Long-Range Transit Plan

- Unconstrained
- 10-year phases
- Major investments
- New lines/services
- Coordination with MPOs, cities
- Stakeholder engagement

# UTA Service Types

	Frequent Service Network (15 minute or better all-day service including weekends)								
Mode	 <b>Regional Rail</b> (FrontRunner)	 <b>Light Rail</b> (TRAX)	 <b>Streetcar</b> (S-Line)	 <b>RapidBus</b>	 <b>Enhanced Bus</b>	 <b>Frequent Bus</b>	 <b>Local Bus</b>	 <b>Limited Stop Bus</b>	 <b>Innovative Mobility Solutions</b>
Frequency	 Frequent (Peak Hours) 30 mins	 Most Frequent ≤15 mins	 Frequent 15 mins	 Very Frequent ≤15 mins	 Frequent 15 mins	 Frequent 15 mins	 Less Frequent (Varies)	 Less Frequent (Varies)	 On-Demand (varies)
Corridor Investment	 Highest Permanence	 Highest Permanence	 High Permanence	 Moderate to High Permanence	 Moderate Permanence	 Corridor Commitment, Maintains Flexibility	 Flexible	 Flexible	 Most Flexible
Market Demand / Activity Density	 Connects urban and suburban centers	 Serves high volume corridors and connects centers	 Serves dense urban areas	 Serves medium-high volume corridors	 Serves medium-high volume corridors	 Serves medium volume corridors	 Serves low to medium volume corridors	 Bidirectional all-day limited stop service	 Serves low density areas or operates at lower-demand times (such as late night)
Passenger Capacity <sup>1</sup>									
Transit Access Shed	 5+ Miles	 1/2 to 1+ Mile	 1/3 Mile	 1/2 Mile	 1/2 Mile	 1/4 Mile	 1/4 Mile	 1/4 Mile	
Stop/Station Amenities									

1. Based on vehicle capacity and frequency

# Transit Service Standards

## Tiers of Service

Minimum level of service; reflects current conditions

*TPI: Transit Propensity Index*  
*PPH: Passengers per Hour*

	Weekday	Saturday	Sunday	Min. TPI	Min. PPH
Tier 1	4:00-6:00 30-min 6:00-19:00 15-min 19:00-24:00 30-min	4:00-6:00 30-min 6:00-19:00 15-min 19:00-24:00 30-min	6:00-21:00 30-min	300	20
Tier 2	6:00-21:00 30-min	6:00-21:00 60-min		200	10
Tier 3	6:00-21:00 60-min			100	5 (Flex) 10 (Fixed)
Tier 4	<i>Limited, exact schedule varies</i>			100	20

# Transit Service Standards

- **Straight and Split Shifts:**
  - Follow Tiers of Service to maximize number of straight shifts
  - Move between tiers, rather than make individual trip changes
- **Cycle times generally not longer than three hours**
- **Detours:**
  - Short-term: less than one Change Day period; coordinated by Operations
  - Long-term: more than one Change Day period; handled by service change process

# Transit Service Standards

## On-Time Performance

- Bus, TRAX, FrontRunner: 0:00 - 4:59
- Flex: 0:00 - 14:59
- Paratransit: -10:00 - 20:00 pickup, 0:00 - 30:00 drop-off
- UVX: -1:00 - 2:59

*Per policy, Service Planning evaluates potential routing changes when reliability averages below 88%*

## Headway Adherence

Posted Headway	Min. Scheduled Headway	Max. Scheduled Headway
15 min.	10 min.	20 min.
30 min.	20 min.	40 min.
60 min.	50 min.	70 min.

# Commuter Rail (FrontRunner)

## Tier 2

Weekday	Saturday	Sunday
5:00 AM – 10:00 PM 30/60 minutes	8:00 AM – 12:00 AM 60 minutes	No service

- On-Time Performance: 0:00 – 4:59
- Transit Load: should not exceed 150% more than half the time
- Stop Spacing: requires study
- Route Spacing: requires study
- Percent exclusivity: 100%
- Intersection Priority: Grade separated, automated grade crossings
- Amenities: Platform, shelter, emergency communication, seating, trash can, signage, bicycle access, car sharing, lighting, branding, and digital signage

### Infill stations:

- Requires study
- Urban: at least 2,100 boardings per day
- Suburban: at least 1,100 boardings per day

# Light Rail/Streetcar (TRAX/S-Line)

## Tier 1

Weekday	Saturday	Sunday
4:00 AM – 12:00 AM 15 minutes	4:00 AM – 12:00 AM 15 minutes	5:00 AM – 12:00 AM 30 minutes

- On-Time Performance: 0:00 – 4:59
- Transit Load: add cars when load regularly exceeds 100%  
Add trains when 4-car train regularly exceeds 150%
- Route Spacing: requires study
- Percent Exclusivity: 100% with limited exceptions
- Amenities: Platform, shelter, emergency communication, seating, trash can, signage, bicycle access, car sharing, lighting, branding, and digital signage

### Intersection Priority:

- Urban: Priority or preemption as available
- Suburban: Automated crossing gates

### Stop Spacing:

- Urban: 0.25-0.5 mi
- Suburban: 0.75-1.0 mi

### Infill Stations:

- Requires study
- Urban: at least 1,400 boardings per day
- Suburban: at least 700 boardings per day

# Bus Rapid Transit (BRT)

FTA definition of BRT:

- Frequent, bi-directional, all-day service
- Stations with shelter and customer information
- Infrastructure investments (dedicated lanes, signal priority, queue jumps)
- Unique, consistent branding vehicles and stations

Corridor-Based BRT: UVX, OGX, MVX, South Davis Connector

- Includes some but not all BRT features (i.e. may include signal priority, but not majority exclusive lanes)

Tier 1

Weekday	Saturday	Sunday
4:00 AM – 12:00 AM 15 minutes or better	4:00 AM – 12:00 AM 15 minutes or better	6:00 AM – 9:00 PM 30 minutes

# Rapid Bus

OGX (BRT), UVX (BRT) MVX (BRT)

- Transit Propensity: 300 or greater
- Service Productivity: 20 or greater
- On-Time Performance: 0:00 – 4:59
  - UVX: -1:00 – 2:59

## Route Spacing:

- Central Business District: 0.125 – 0.25 mi
- Urban: 0.25 – 0.5 mi
- Suburban: 0.5 – 1.0 mi
- Rural: as needed

## Stop Spacing:

- Urban: 0.25 – 0.5 mi
- Suburban: 0.5 – 1.0 mi

- Transit Load: should not exceed more than 100% more than half the time
- Percent Exclusivity: exclusive lanes preferred
- Intersection Priority: may include exclusive lanes, queue jumps, signal priority
- Amenities: Pole, ADA pad, signage, seating, trash can, shelter, lighting, and digital signage

# Enhanced Bus

5600 West, South Davis Connector (BRT)

## Differences from Rapid Bus:

- Stops and/or stations with enhanced amenities
- Generally operate in mixed traffic
- May include infrastructure/technology improvements (not required)

## Tier 1

Weekday	Saturday	Sunday
4:00 AM – 12:00 AM 15 minutes or better	4:00 AM – 12:00 AM 15 minutes or better	6:00 AM – 9:00 PM 30 minutes

- Transit Propensity: 300 or greater
- Service Productivity: 20 or greater
- On-Time Performance: 0:00 – 4:59
- Transit Load: should not exceed 100% more than half the time

- Percent Exclusivity: 0% - 50%
- Intersection Priority: encouraged, not required
- Amenities: Pole, ADA pad, signage, seating, trash can, shelter, and lighting

# Frequent Bus

## Tier 1

Weekday	Saturday	Sunday
4:00 AM – 12:00 AM 15 minutes or better	4:00 AM – 12:00 AM 15 minutes or better	6:00 AM – 9:00 PM 30 minutes

- Transit Propensity: 300 or greater
- Service Productivity: 20 or greater
- On-Time Performance: 0:00 – 4:59
- Transit Load: should not exceed 100% more than half the time

### Stop Spacing:

- Urban: 0.25 – 0.5 mi
- Suburban: 0.5 – 1.0 mi

- Percent Exclusivity: encouraged, not required
- Intersection Priority: encouraged, not required
- Amenities: Pole, ADA pad, signage, seating, trash can, and shelter

# Local Bus

Tiers 2, 3, 4

Weekday	Saturday	Sunday
6:00 AM – 9:00 PM 30 minutes (Tier 2) 60 minutes (Tier 3)	6:00 AM – 9:00 PM 60 minutes (Tier 2)	

- Transit Propensity: 100 or greater (Tier 3); 200 or greater (Tier 2)
- Service Productivity: 10 or greater
- On-Time Performance: 0:00 – 4:59
- Transit Load: should not exceed 100% more than half the time
- Stop Spacing: between 1/8 mile (660 ft) and 1/3 mile (1760 ft)
- Percent Exclusivity: not required
- Intersection Priority: not required
- Amenities: Pole, ADA pad, and signage

## Flex Routes

- Tier 3 bus
- Riders can call in advance to schedule deviations up to 3/4 mile
- Regular local fare; additional charge for deviations

# Limited Stop Bus

Tiers 2, 3

Weekday	Saturday	Sunday
6:00 AM – 9:00 PM 30 minutes (Tier 2) 60 minutes (Tier 3)	6:00 AM – 9:00 PM 60 minutes (Tier 2)	

- Transit Propensity: 100 or greater (Tier 3); 200 or greater (Tier 2)
- Service Productivity: 5 or greater (flex bus); 10 or greater (fixed bus)
- On-Time Performance: 0:00 – 4:59
- Transit Load: should not exceed 100% more than half the time
- Stop Spacing: fewer stops than local service; spacing depends on need

Route Spacing:

- Central Business District: 0.125 – 0.25 mi
- Urban: 0.25 – 0.5 mi
- Suburban: 0.5 – 1.0 mi
- Rural: as needed

# Innovative Mobility Zones and Services

- UTA On Demand
- Autonomous shuttles
- Bike share
- TNC partnerships

More detailed standards for these modes are in development

# Other Services

## Paratransit:

Complementary service for riders with disabilities to bi-directional fixed-route transit service

- Coverage provided within  $\frac{3}{4}$  mile of fixed-route service
- Includes bus & light rail  
Does not include flex route, on-demand, or regional rail service
- Requires in-person interview and assessment
- On Time: -10:00 – 20:00 for pick up; 0:00 – 30:00 for drop-off

# Other Services

## Sponsored services:

### Event service:

- Added vehicles, extended hours, or alternative routes and schedules
- Cannot disrupt baseline service, exceed available capacity, or be inconsistent with existing plans/direction

### Sponsored service:

- Funded by third party
- Service agreement with UTA—must be consistent with existing plans/direction

# Other Services

## Other services:

Include but not limited to:

- Partnership with TNC (Uber, Lyft)
- Employer-sponsored shuttles
- Transportation Management Associations (TMA)

# Stop Placement

- **Signalized, marked, and/or grade separated crossings**
  - Traffic lights
  - Crosswalks
  - Pedestrian bridges
  - No crossing: 3-lane max cross section; low traffic volumes
- **Good points of access**
  - Sidewalk access from trip origin to bus stop
  - Pedestrian-oriented, connected street network
  - Permeable pedestrian access to neighborhoods/residences
- Existing stops preserved but may not be improved until conditions are met

# Title VI Compliance

- UTA will conduct Title VI analysis and mitigate any potentially discriminatory changes
- Public meeting and 30-day public engagement period