

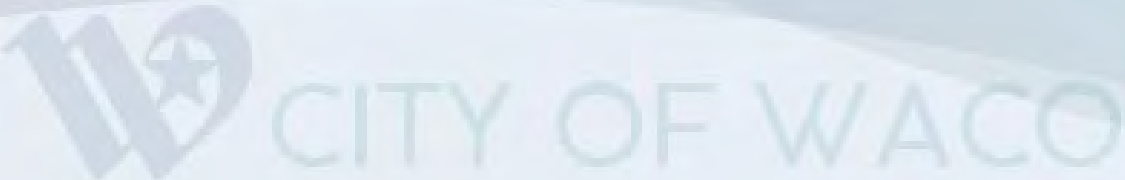
REIMAGINE WACO TRANSIT

Waco MPO Presentation

January 5, 2023



Project Partners



Project Goals and Overview

We are *Reimagining Waco Transit* for the first time in over **20 years!**

This initiative is an **equity driven** project that will examine how existing routes for the Waco Transit System can be modified to better connect and serve communities in Waco, TX.

GOALS OF THE PROJECT

1

IMPROVE CONNECTIVITY

2

MINIMIZE TRAVEL TIME

3

PROVIDE FREEDOM THROUGH TRANSIT



CITY OF WACO

Timeline

- **2013** – Initial study with recommendation to redesign Waco Transit system for improved economic development.
- **2017** – Bus Rapid Transit Study to determine feasibility for BRT service in Waco as a component of system redesign.
- **2021** – Kicked off current study to choose pathway for improved service and long-term BRT implementation.

COMMUNITY INPUT

WHAT DO YOU WANT?
COMMUNITY SURVEY

HOW CAN YOU HELP?
INTERACTIVE WORKSHOPS

WHAT DO YOU THINK?
COMMUNITY INPUT

OCTOBER 2021

JUNE 2022

A REIMAGINED
TRANSIT SYSTEM

WHAT'S ALREADY THERE?
EXISTING CONDITIONS

HOW CAN IT BE BETTER?
SCENARIO DEVELOPMENT

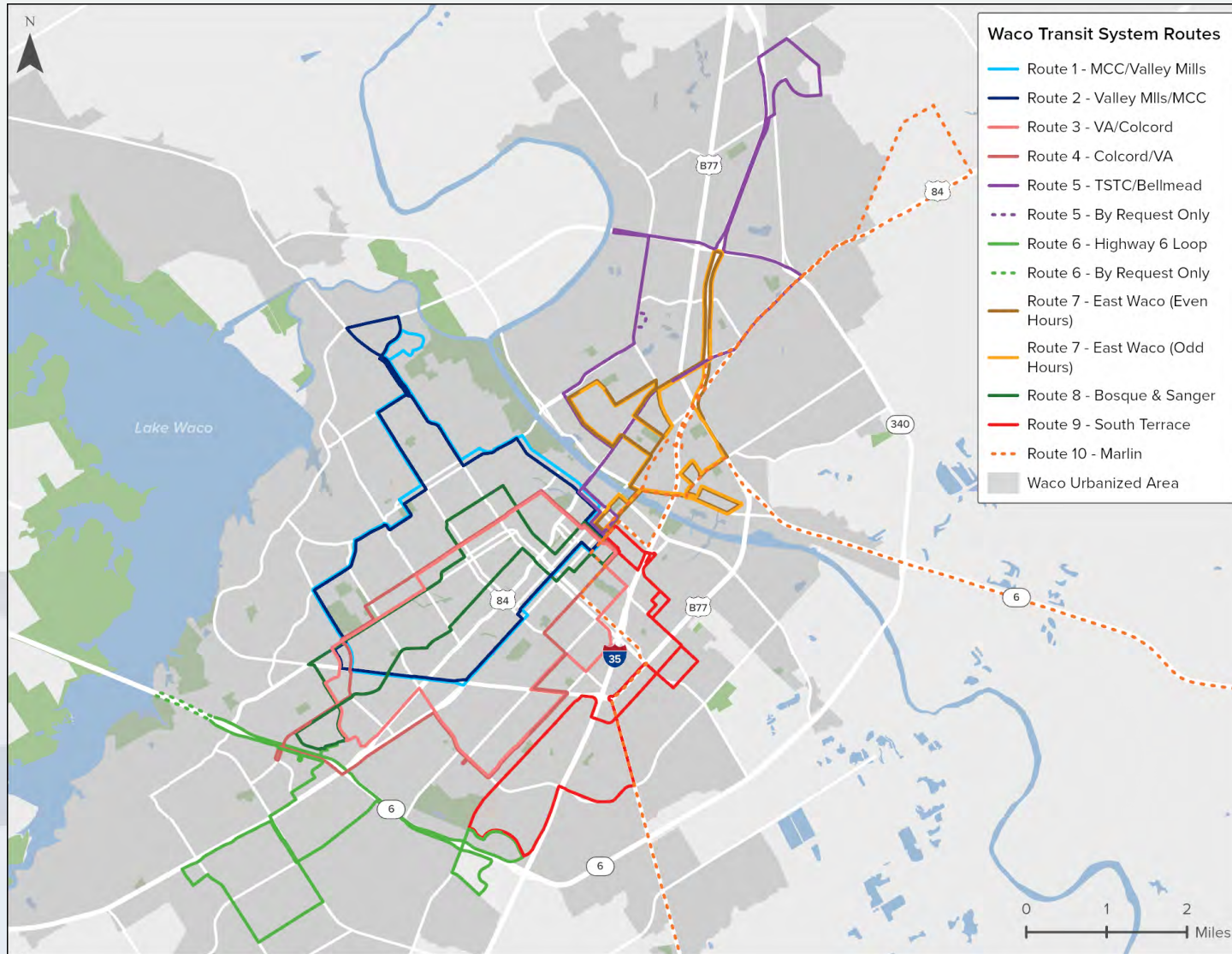
HOW DO WE DO IT?
IMPLEMENTATION

TRANSIT ANALYSIS

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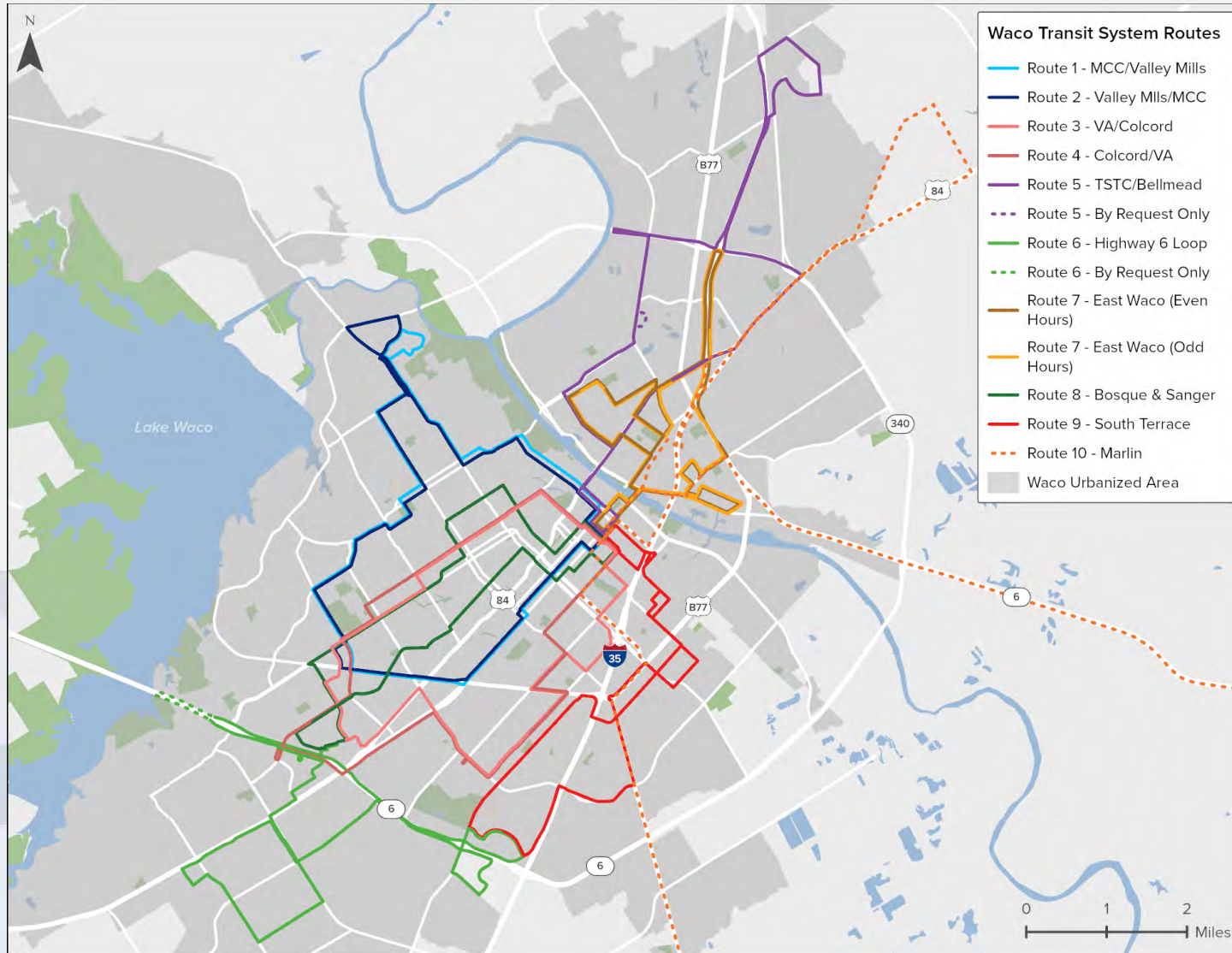
Existing Service

Existing Service



- 10 Fixed Routes
- Additional service
 - Baylor University Shuttle
 - Demand Response Service
- Many routes only run in one direction

Existing Service



- 5:15 am – 7:15 pm weekdays
- Saturday service varies by route
- Service frequency varies from 60-120min

Existing Service – Route Schedules

ROUTE	SERVICE DAY	SPAN (WEEKDAY)	SPAN (WEEKEND)	FREQUENCY
Route 1 – MCC/Valley Mills Dr.	Mon. – Sat.	5:15AM – 7:15PM	6:15AM – 8:15PM	60 min.
Route 2 – Valley Mills Dr./MCC	Mon. – Sat.	6:15AM – 7:15PM	7:15AM – 8:15PM	60 min.
Route 3 – VA/Colcord	Mon. – Sat.	6:15AM – 7:15PM	7:15AM – 8:15PM	60 min.
Route 4 – Colcord/VA	Mon. – Sat.	6:15AM – 7:15PM	7:15AM – 8:15PM	60 min.
Route 5 – TSTC/Bellmead	Mon. – Sat.	6:15AM – 7:15PM	7:15AM – 8:15PM	60 min.

- **Route** = Location
- **Service Day** = Scheduled Days of Service
- **Span** = Scheduled Hours of Service
- **Frequency** = Time between Buses

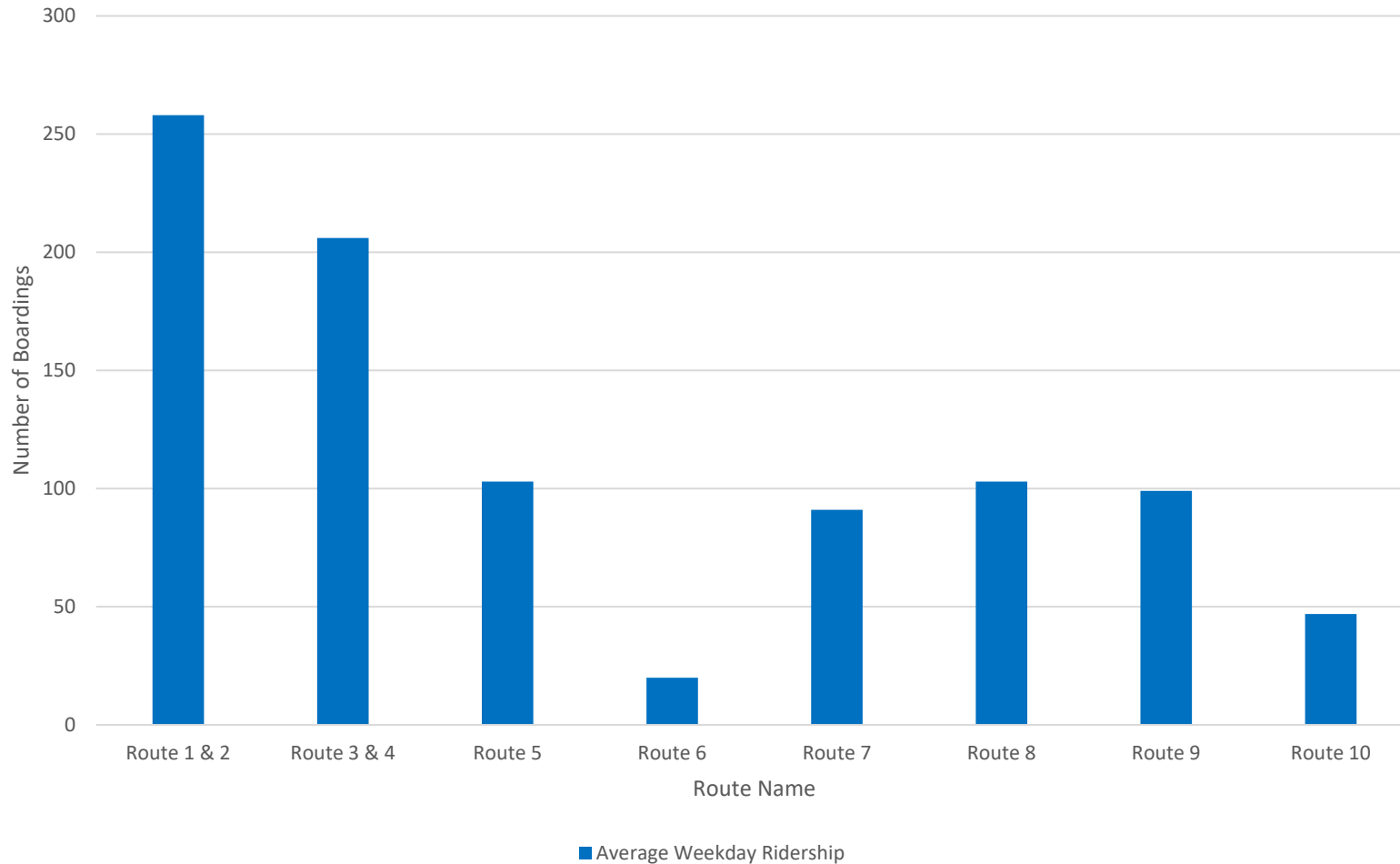
Existing Service – Route Schedules

ROUTE	SERVICE DAY	SPAN (WEEKDAY)	SPAN (WEEKEND)	FREQUENCY
Route 6 – Highway 6 Loop	Mon. – Sat.	6:42AM – 7:15PM	7:42AM – 8:15PM	60 min.
Route 7 (Odd Hours) – East Waco	Mon. – Sat.	5:15AM – 7:15PM	6:15AM – 8:15PM	120 min.*
Route 7 (Even Hours) – East Waco	Mon. – Sat.	5:15AM – 7:15PM	6:15AM – 8:15PM	120 min.*
Route 8 – Bosque & Sanger	Mon. – Sat.	6:15AM – 7:15PM	7:15AM – 8:15PM	60 min.
Route 9 – South Terrace	Mon. – Sat.	5:15AM – 7:15PM	6:15AM – 8:15PM	60 min.
Route 10 – Waco, Marlin & Robinson	Mon. – Sat.	5:50AM – 6:30PM	6:50AM – 5:30PM	Two AM and two PM trips

*Buses on Route 7 pass in both directions, giving route a 60-minute frequency.

Existing Ridership

Average Weekday Ridership

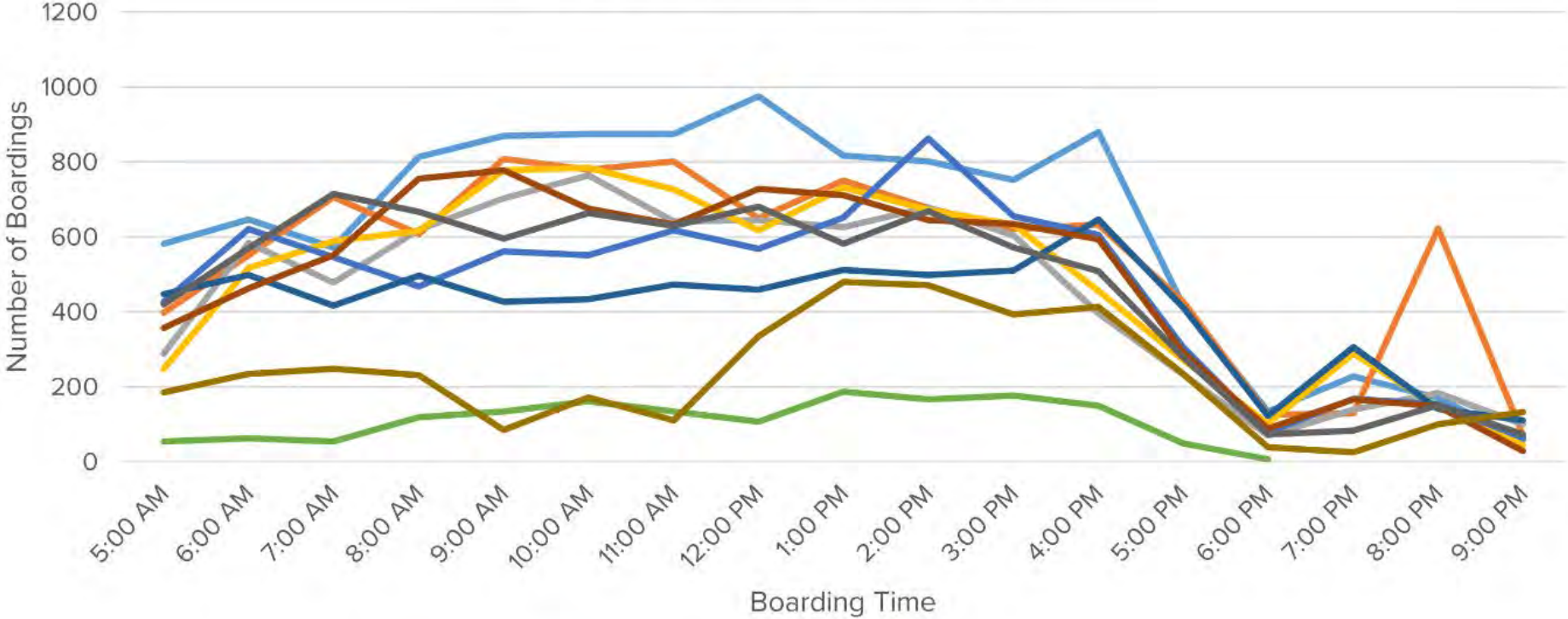


- Routes 1, 2, and 4 have highest average weekday ridership
- Median weekday ridership +/- 99 riders per day

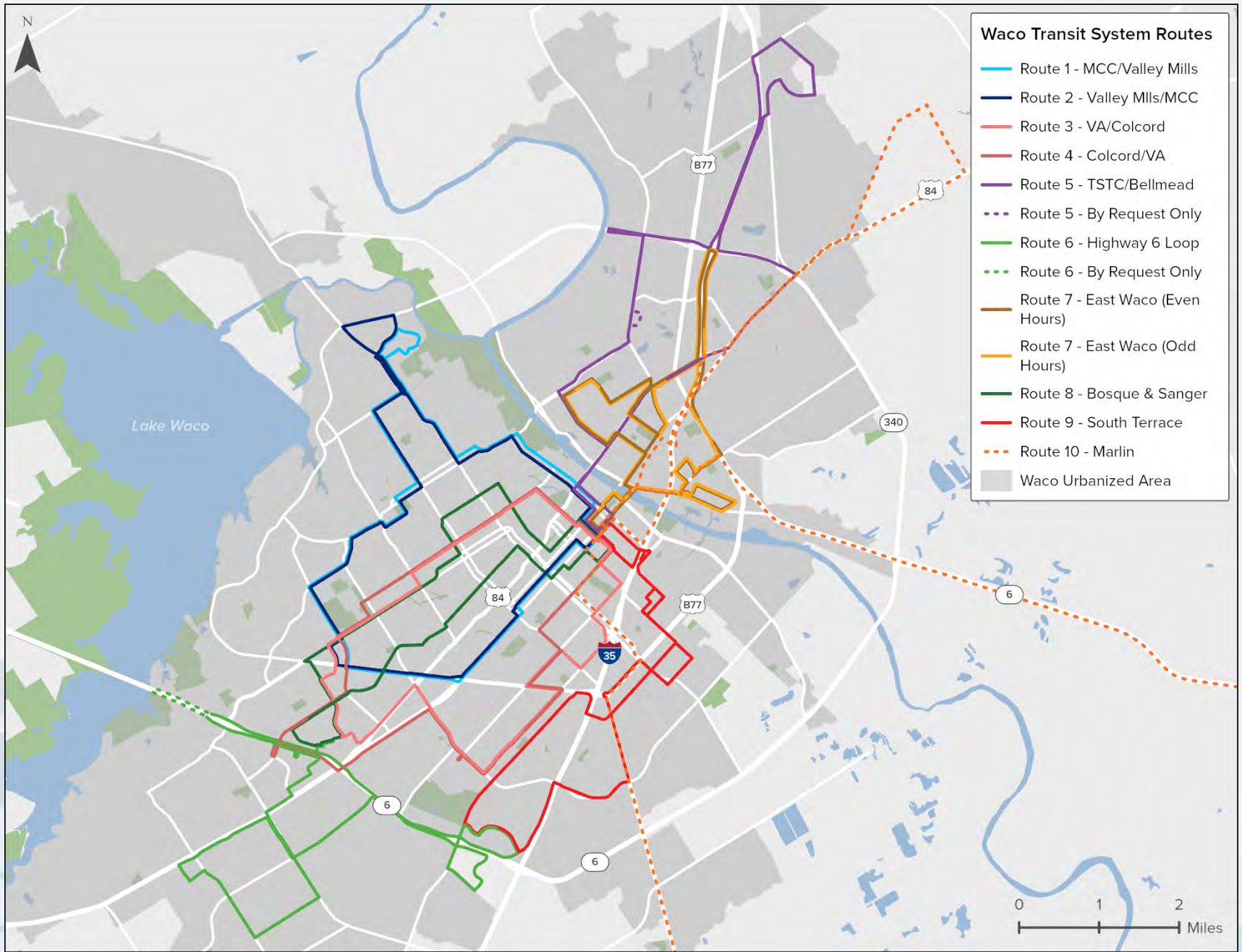
**Routes 5, 7, and 10 offer different routes at different times of the day, or by request. This graphic shows onboarding for each of those routes together.*

Existing Ridership

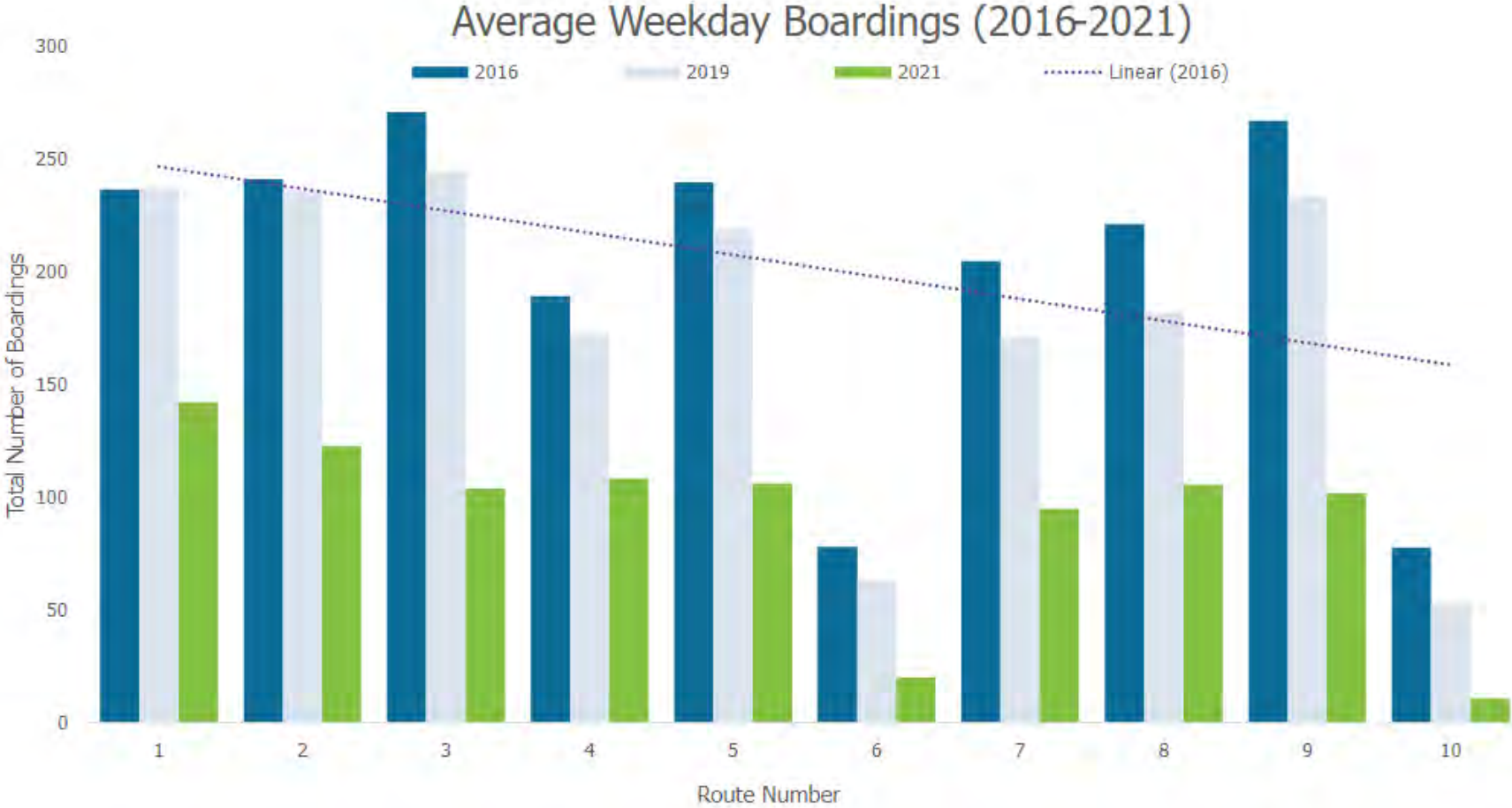
Route Boardings by Hour
(August 2021 - October 2021)



- Boardings consistent between 8:00 am and 4:00 pm

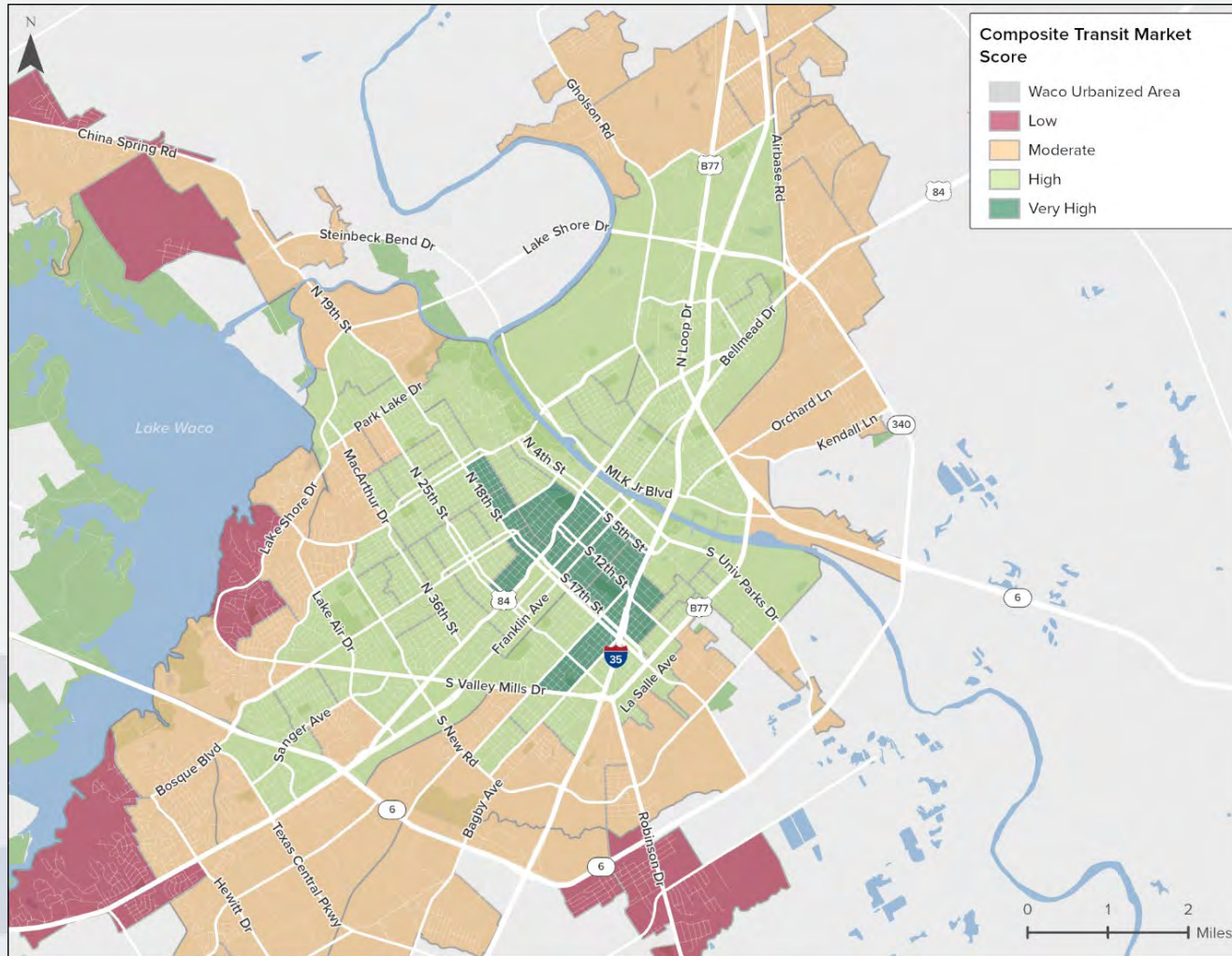


Existing Ridership Trends

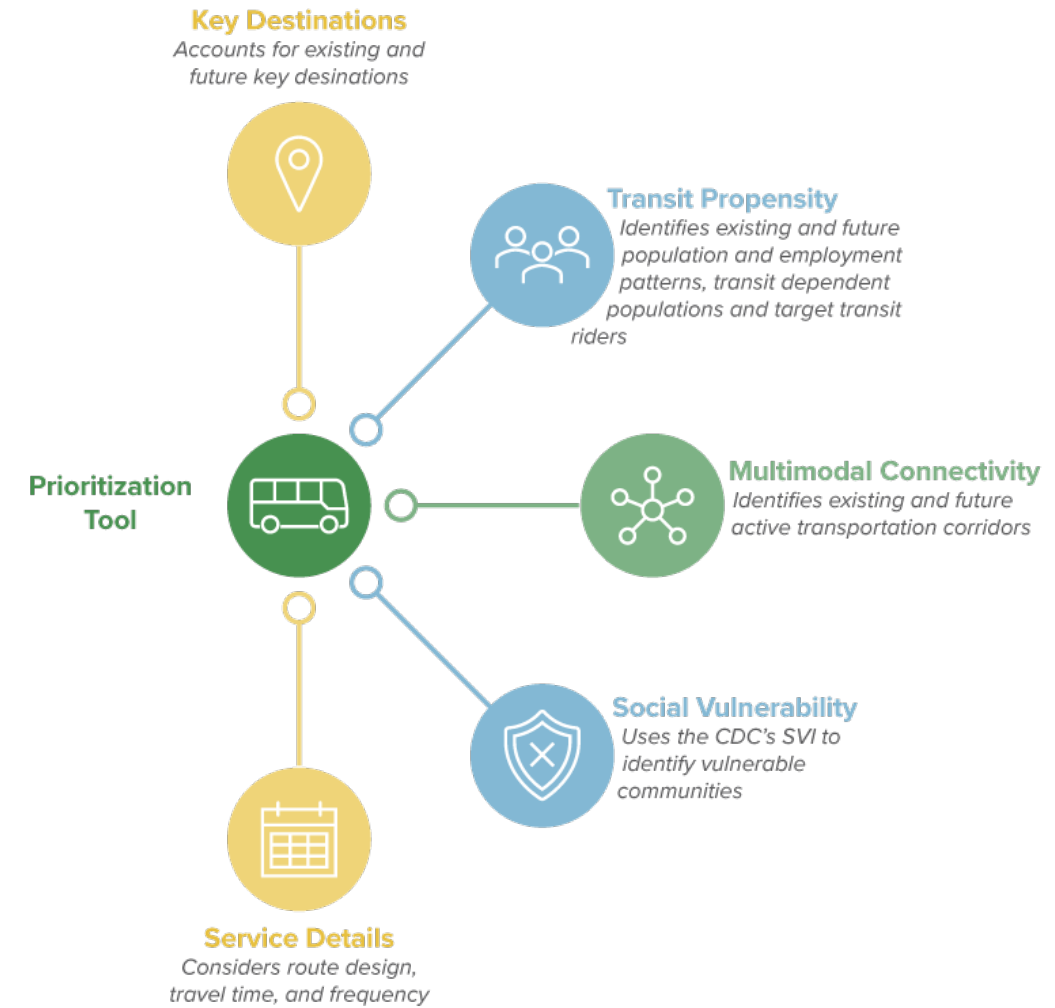


- Ridership continues to recover since COVID

Transit Market



Data Source: 2021 APC Data, 2019 US Census Data, Waco MPO TDM, Waco MPO ATP Data



Scenario Development



Reimagine Waco Transit

Scenario 1A: Full BRT Alignment



A realigned fixed route transit network that is designed to minimize travel time, improve connectivity and leverage the investment being made in a **full build out of the BRT system**.

Scenario 1B: MOS BRT Alignment



A hybrid scenario that **blends elements from both scenarios** to achieve the same goals of Scenario A but for a scaled back version of the BRT system.

Scenario 2: Blank Slate



A **“blank slate”** with focus on developing a network that balances the needs and the wants of the community by matching transit service with the underlying markets.

Includes Implementation of Bus Rapid Transit Now

Scenario 2



Reimagine Waco Transit

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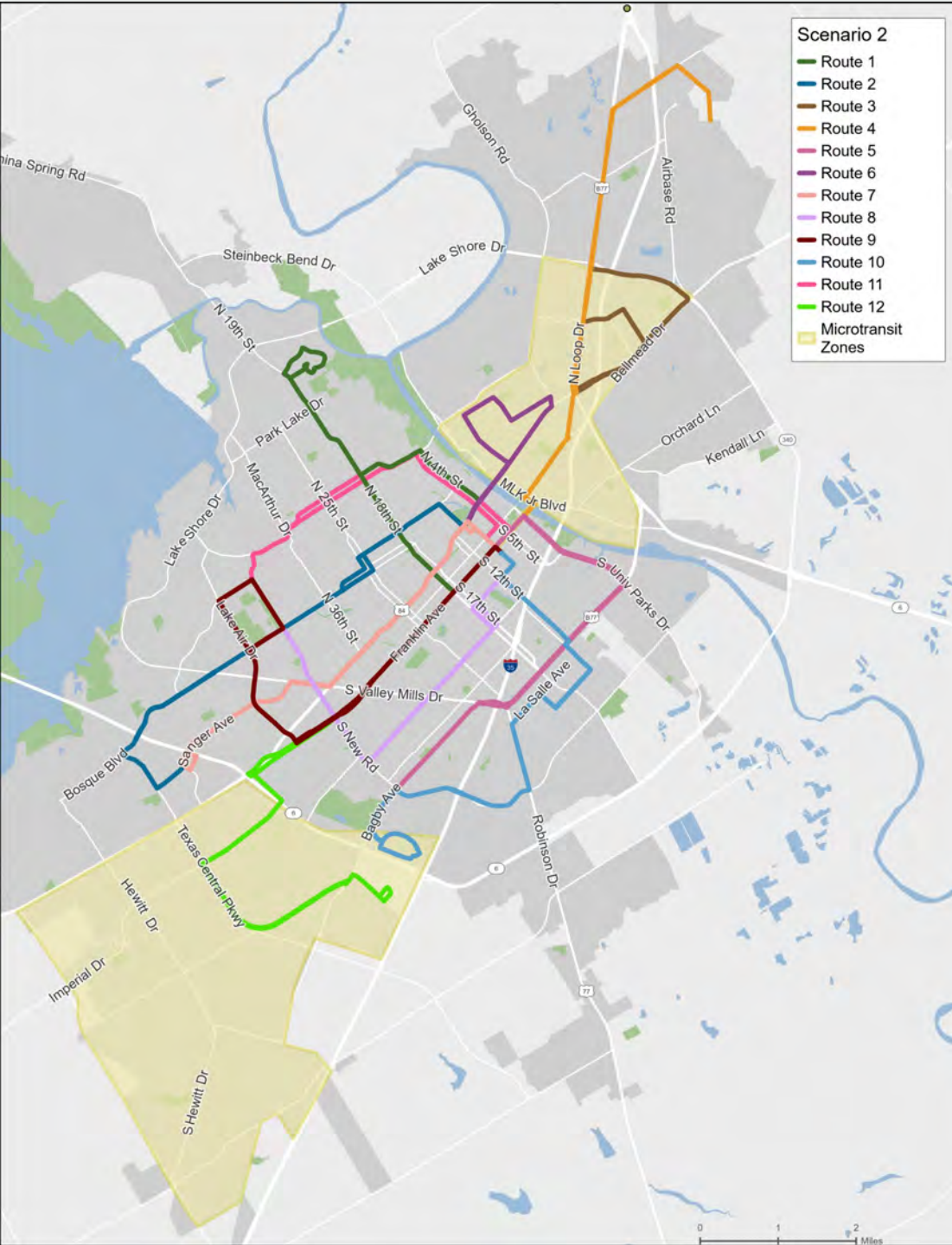
CITY OF WACO

Scenario 2

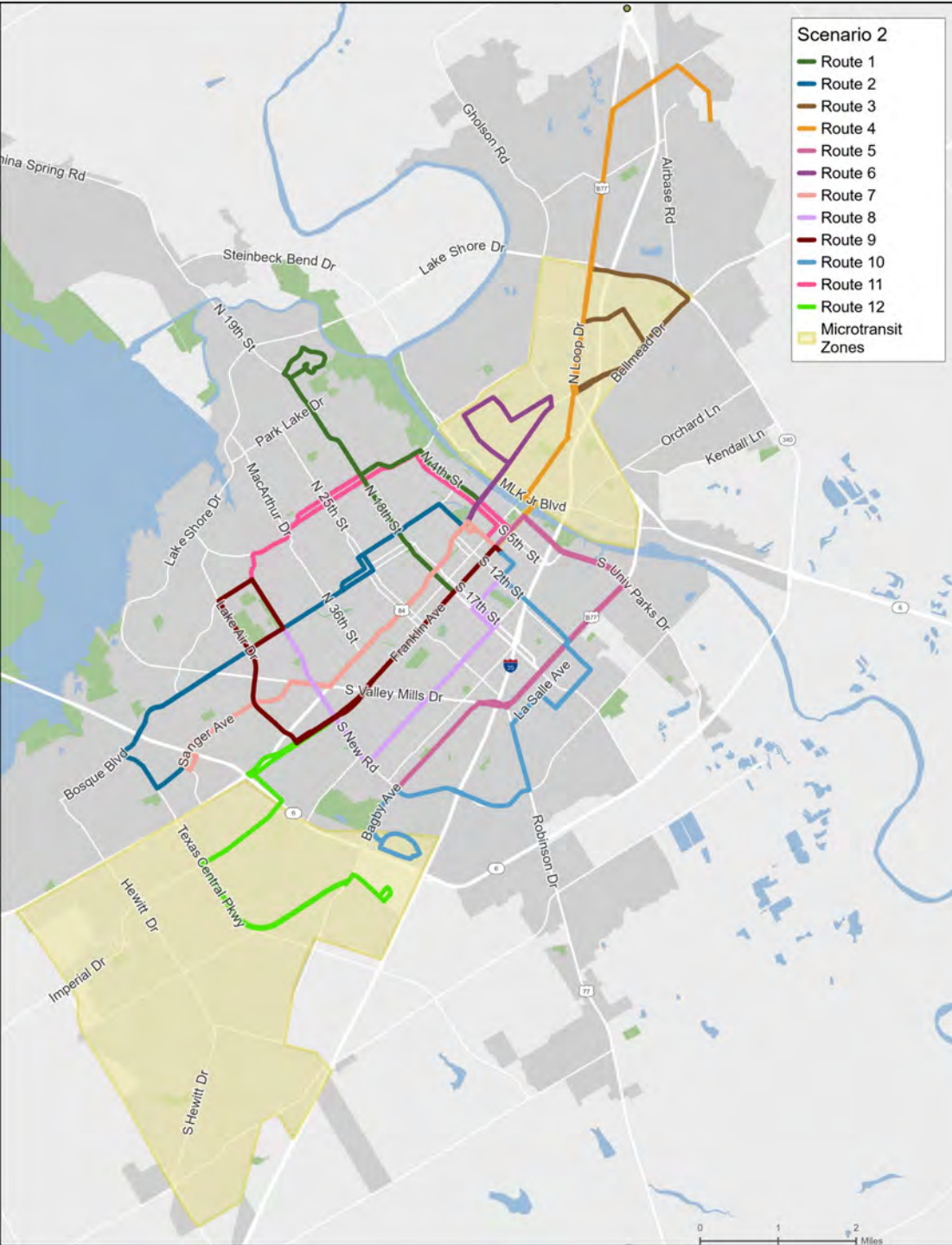
Scenario 2



Reimagine Waco Transit



- Blank Slate
- Future BRT implementation possible
- 2 Microtransit Zones:
 - East Waco
 - West Waco
- Key Improvements:
 - Expanded service
 - Improved frequency
 - Increased connectivity



Scenario 2

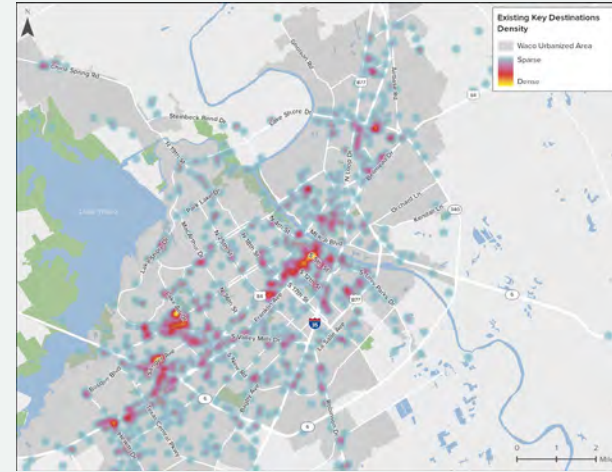


Reimagine Waco Transit

- Transit Market Scores used to determine higher frequency routes.
- 30-minute frequency along:
 - Route 1
 - Route 9
- All other routes at 1-hour frequency.

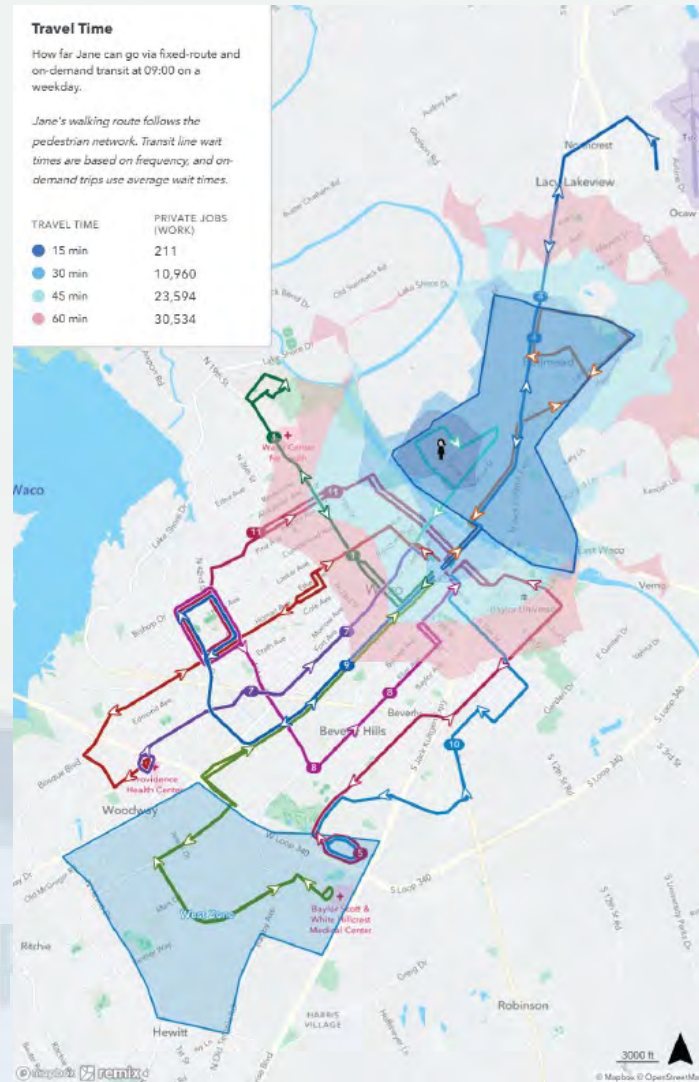
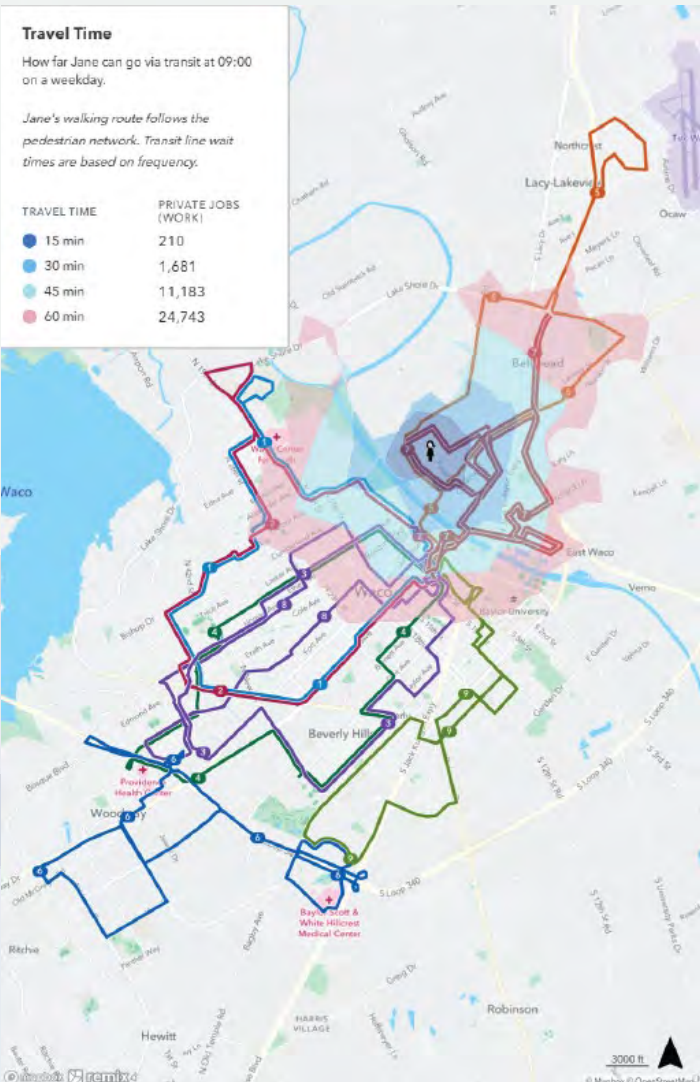
Microtransit

- Form of bus demand response service
- Flexible, capable of connecting riders directly to destination
- Cost-saving, no need to invest in fixed-route infrastructure
- Opportunity to serve areas of lower density
- Can serve as first/last mile solutions for destinations not well served by fixed routes
- Same fare as bus



SCENARIO 2 DESTINATION ACCESSIBILITY FROM Harlem St. & Turner St.

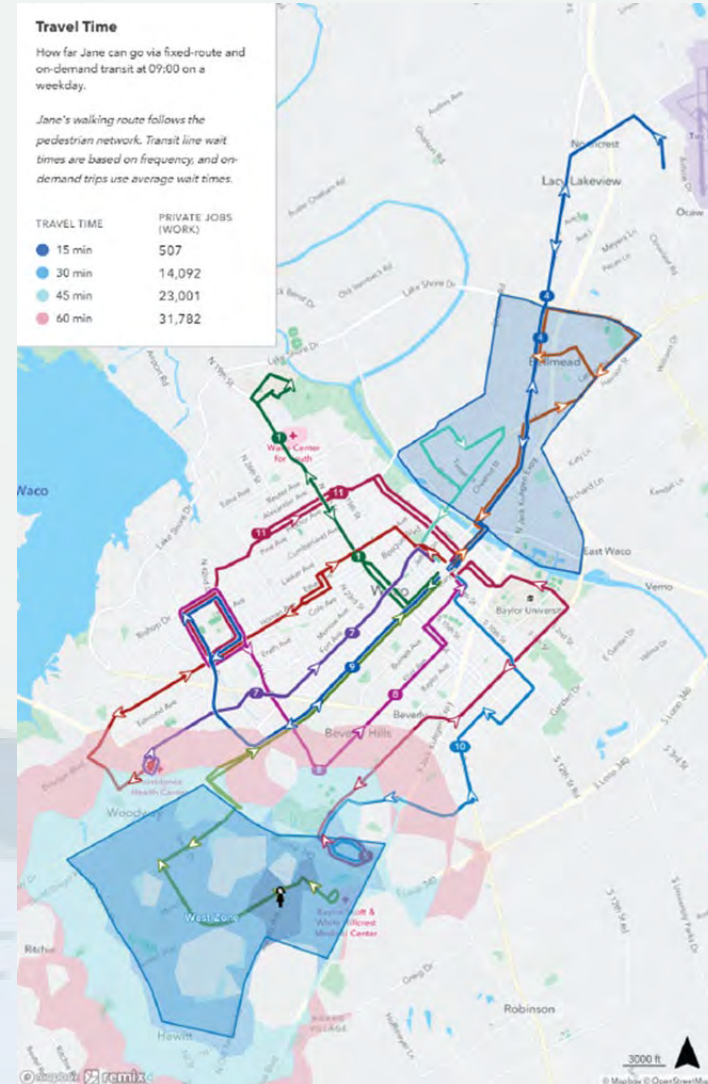
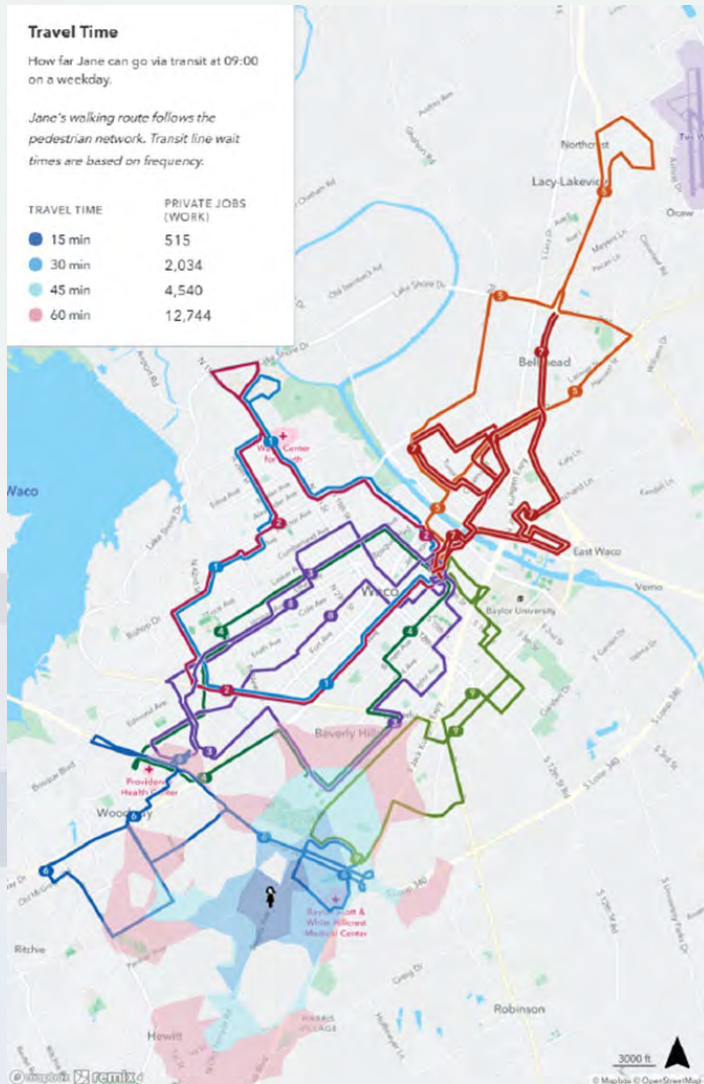
Existing vs Scenario 2



DESTINATION TYPE	PERCENT CHANGE IN SITES ACCESSIBLE WITHIN:			
	15 minutes	30 minutes	45 minutes	60 minutes
Population	0%	114%	84%	58%
Jobs	0%	552%	111%	23%
Hospitals	0%	0%	0%	0%
Urgent Care Facilities	0%	0%	0%	0%
Pharmacies	0%	400%	25%	0%
Childcare & K-12 Schools	0%	59%	66%	14%
Colleges (Universities)	0%	0%	100%	0%
Supermarkets	0%	100%	0%	0%

SCENARIO 2 DESTINATION ACCESSIBILITY FROM Bagby Avenue & Tuscany Dr.

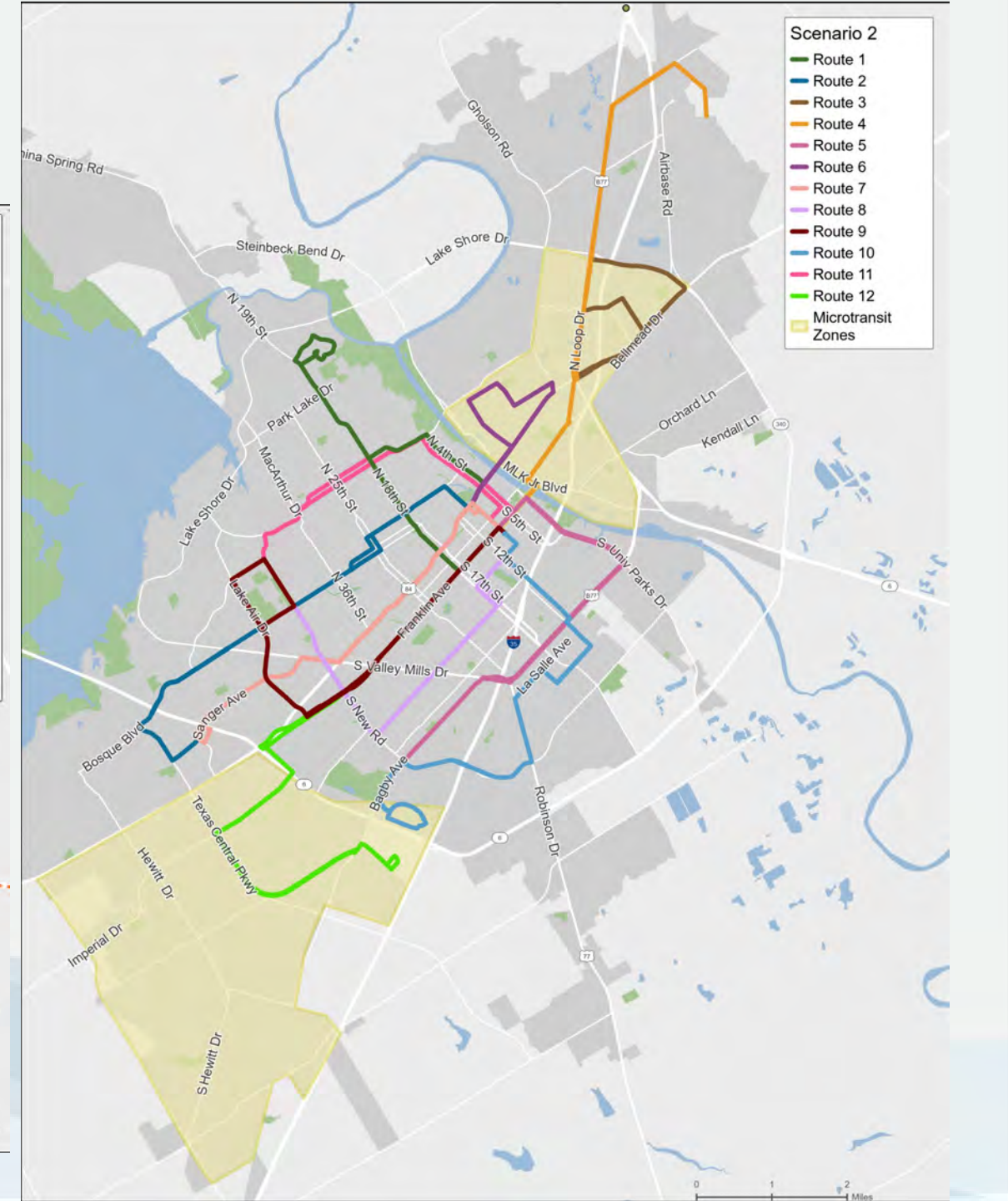
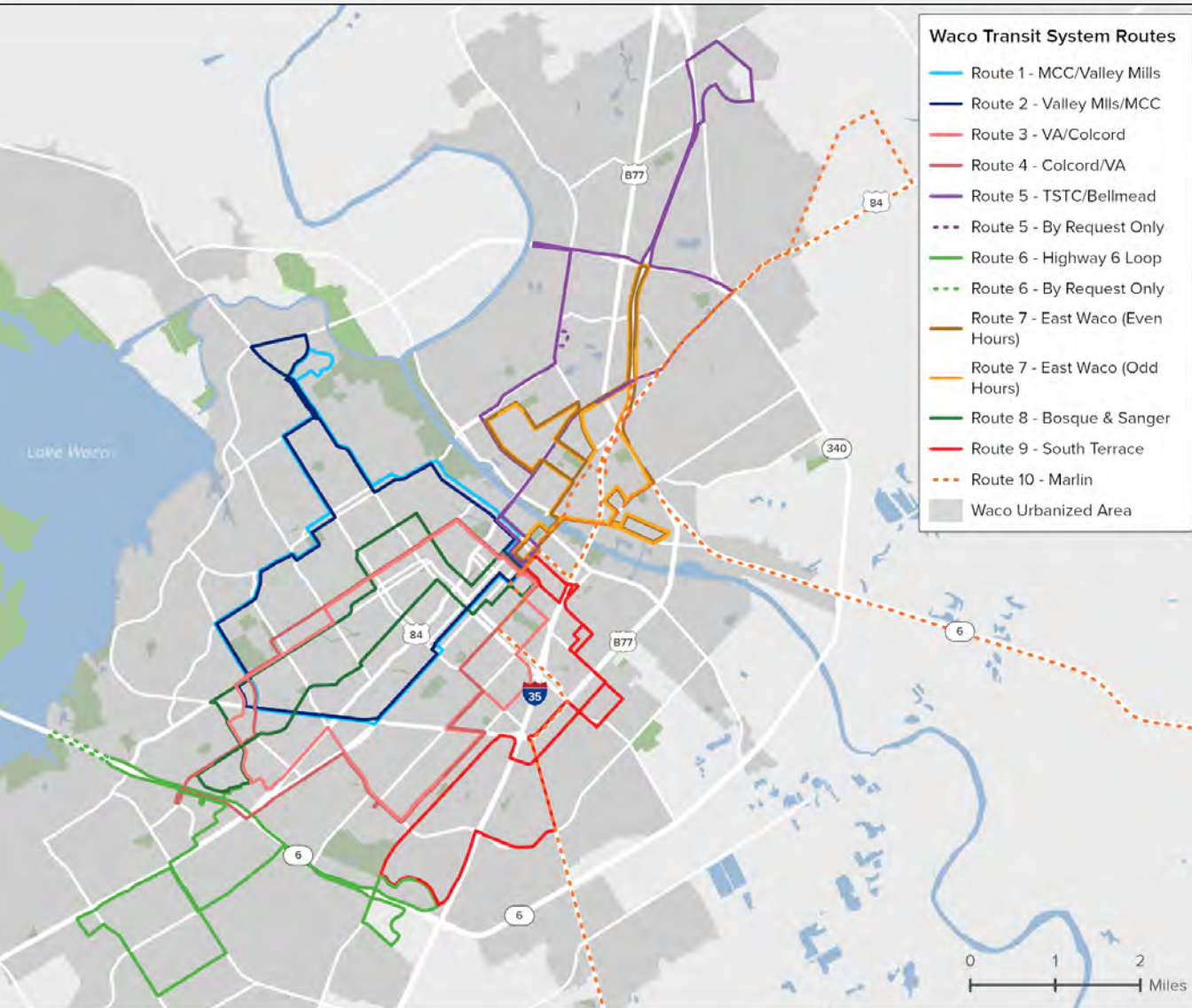
Existing vs Scenario 2



DESTINATION TYPE	PERCENT CHANGE IN SITES ACCESSIBLE WITHIN:			
	15 minutes	30 minutes	45 minutes	60 minutes
Population	0%	147%	365%	183%
Jobs	-2%	593%	407%	149%
Hospitals	0%	0%	50%	100%
Urgent Care Facilities	0%	0%	0%	0%
Pharmacies	0%	300%	1000%	200%
Childcare & K-12 Schools	0%	500%	1300%	286%
Colleges (Universities)	0%	0%	0%	0%
Supermarkets	0%	100%	100%	0%

Existing vs. Scenario 2

Existing vs. Scenario 2

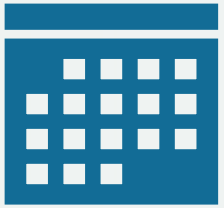


Existing vs. Scenario 2

	Existing	Scenario 2
Number of Routes	10	12
Number of Buses <i>(in Service)</i>	10	16
Microtransit Zones	0	2



Performance Metrics = Existing vs. Scenario 2



Less time between buses – allows riders to better plan trips (less time waiting, more time for work, play, etc.)



Less riding time between key destinations – faster service to key destinations like jobs, hospitals, schools











More routes with direct service – direct service to major destinations reduces inefficient time and delays on longer routes






















Door-to-door neighborhood service – microtransit allows riders to reach destinations more quickly with less public investment needed

Performance Metrics

Existing	Scenario 2	General Update/Change
Route 1 – MCC/Valley Mills	Route 1, 3, 5	  
Route 2 – Valley Mills/MCC		
Route 3 – VA/Concord	Route 2, 8	  
Route 4 – Concord/VA		
Route 5 – TSTC/Bellemead	Route 4	 

Performance Metrics

Existing	Scenario 2	General Update/Change
Route 6 – Highway 6 Loop	Route 1, 12, Microtransit Zone	   
Route 7 – East Waco (Even)	Route 3, 4, 6 and Microtransit Zone	   
Route 7 – East Waco (Odd)		
Route 8 – Bosque & Sanger	Route 1, 7, 9	  
Route 9 – South Terrace	Route 10, 11 and Microtransit Zone	   
Route 10 - Marlin	Route 3, and Microtransit Zone	   

Projected Ridership

Existing vs. Scenario 2

Ridership Projections	2021 Existing Daily Ridership	Total Daily 2040 (No Build)	Total Daily 2040 (Scenario 2)	% Change 2021 - 2040 (No Build)	% Change 2021 - 2040 (Scenario 2)
Total Systemwide Ridership	4,535	5,075	5,940	12%	31%
Ridership by Transit Dependents	222	249	343	12%	55%

Projected Costs

Fixed Route (FR)

Fixed Route (FR)			
Scenario:		Existing (FR)	2 (FR + MT)
Operations Cost (\$)*	Local Share (15%)	\$700K	\$1–\$1.2M
	Federal/Other Revenue Sources (85%)	\$3.6M	\$5.7–\$5.9M
	Total	\$4.3M	\$6.7-\$7.1M
Capital Cost (\$)**	Local Share (20%)	N/A	\$50K
	Federal/Other Revenue Sources (80%)	N/A	\$200K
	Total	N/A	\$250K

*Increase in operational cost due to increased frequency, changes in headway, etc. Assume a 20% Spare Ratio; final BRT costs to be determined; Individual vehicles assigned to each Microtransit (MT) zone.
 **Capital costs include infrastructure and buses; bus cost based on existing diesel fuel vehicles – projected cost of electrification of fleet to be analyzed separately.

Source: Planning Level, Industry Standard Estimates, AECOM, 2022

Initial Cost Estimate - Electrification

Planning-Level Cost Estimate for Electrification in 2022 (\$)				
	Unit Cost (\$)		Quantity	Total (\$)
Charger Management Software -Site Set-Up	\$5K		1	\$5K
Facilities Retrofit (Depot)	\$400K		1	\$400K
Charging Equipment*	\$150K		1	\$150K
Charge Management Software (per Charger)	\$2.5K		1	\$2.5K
Battery Electric Bus (BEB)	\$1.2M		2	\$2.4M
	Federal	Local		Total
Subtotal (Year 1 Startup \$)	\$2.32M	\$580K		\$2.9M

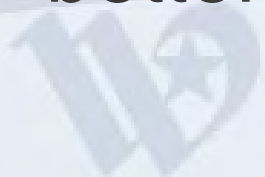
*Assumes 1 charger with 2 dispensers available to power 2 buses each.

Source: Planning Level, Industry Standard Estimates, AECOM, 2022

Cost Savings
Potential to Reduce O&M Cost Estimates up to 25%

Existing vs. Scenario 2

- Improved efficiency for Waco Transit with route interlining (no more one-way routes).
- Positions Waco to implement BRT.
- Introduces new and innovative technology to better meet public needs.
- Minimum 1-hour routes (with 30-minute frequency on 2 routes) throughout the system.
- Allows more users to access transit due to frequency and variety of options.



Next Steps

- Finalize Reimagine Waco Transit Report
 - Detailed Implementation Plan / Strategy
- Seek grant funding for implementation (2022-2024)

Council / Public Review

- Capital purchase for microtransit (2024)

Council / Public Review

- Implement Scenario 2 (2024-2025)

Council / Public Review

- Seek capital funds for BRT (2027-)

Council / Public Review

WACO

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