

REIMAGINE WACO TRANSIT

Waco City Council Presentation

July 19, 2022



Presentation Agenda

- Existing Service
- Scenario 2
- Existing vs. Scenario 2



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Project Partners



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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



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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

WHAT'S ALREADY THERE?
EXISTING CONDITIONS

HOW CAN IT BE BETTER?
SCENARIO DEVELOPMENT

HOW DO WE DO IT?
IMPLEMENTATION

JUNE 2022

A REIMAGINED
TRANSIT SYSTEM

TRANSIT ANALYSIS

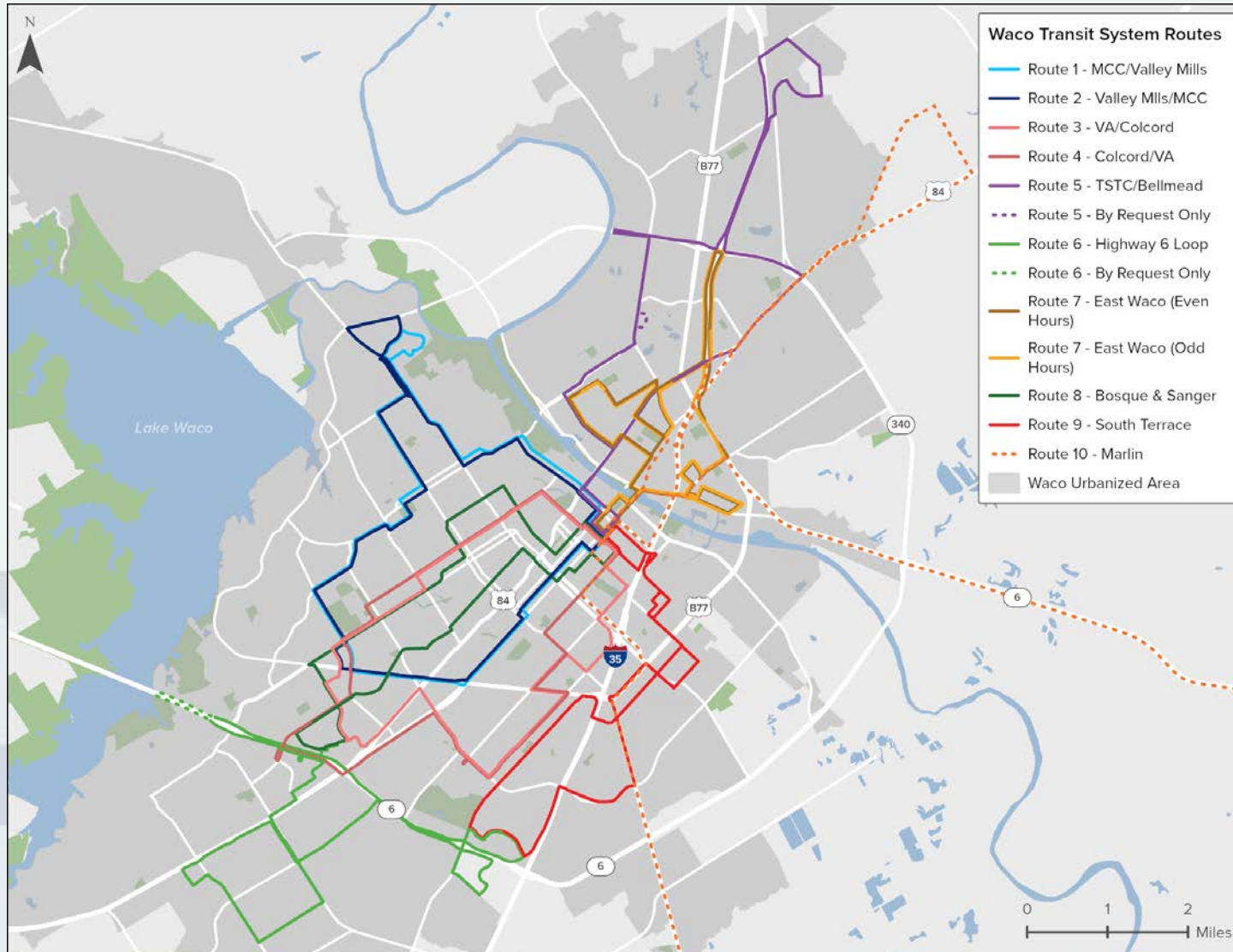
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Existing Service



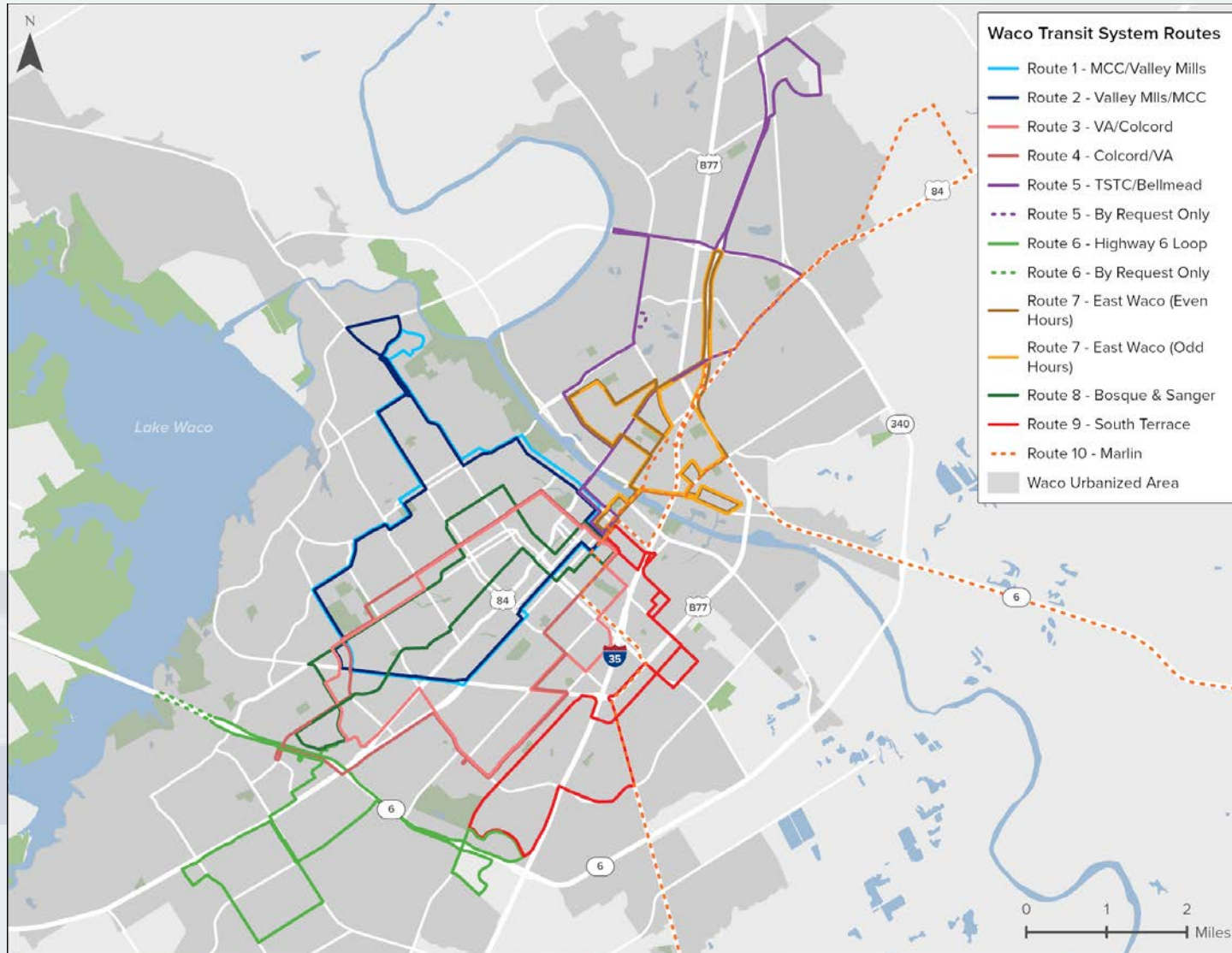
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Existing Service



- 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.

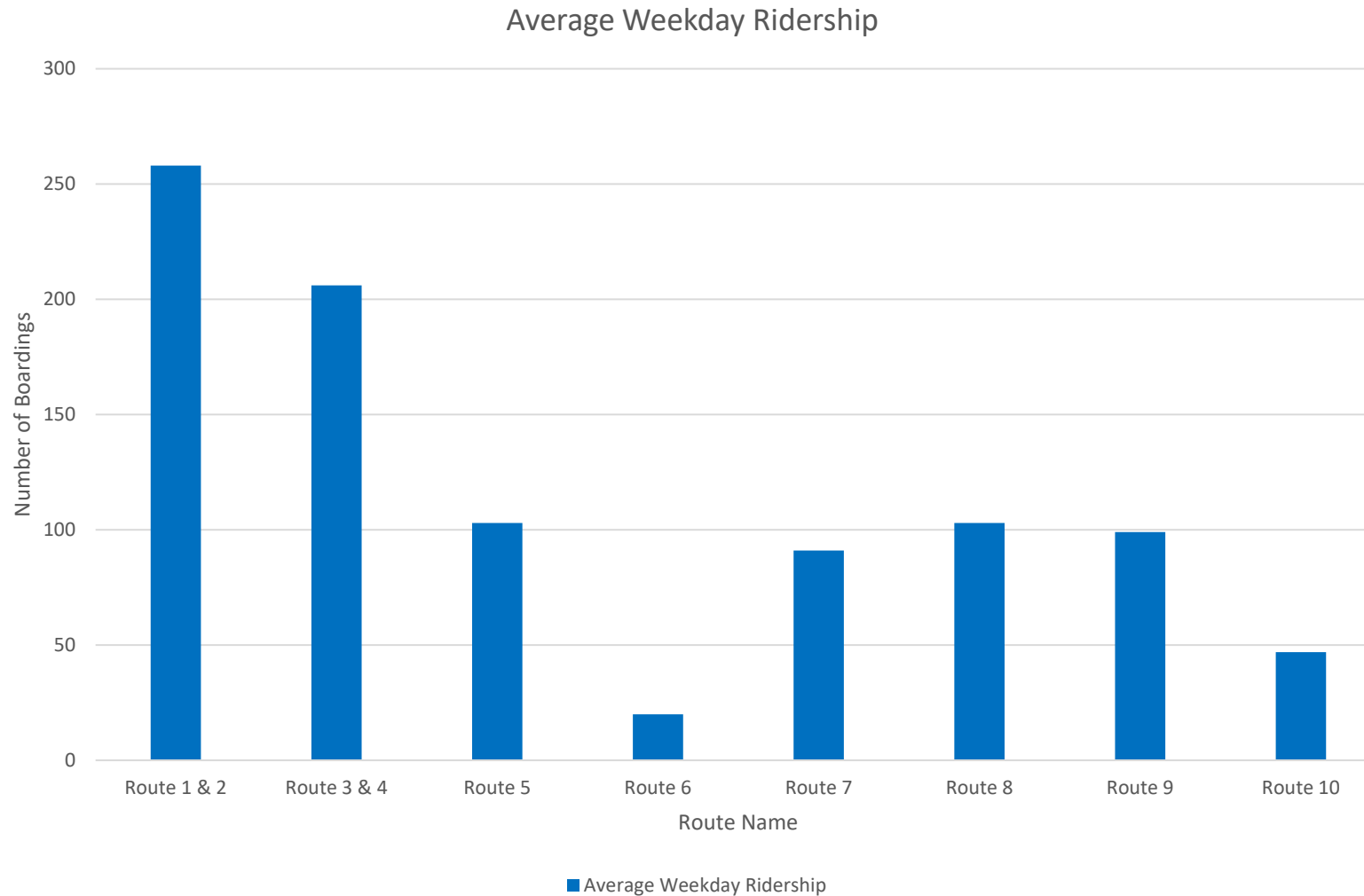
- **Route** = Location
- **Service Day** = Scheduled Days of Service
- **Span** = Scheduled Hours of Service
- **Frequency** = Time between Buses

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.

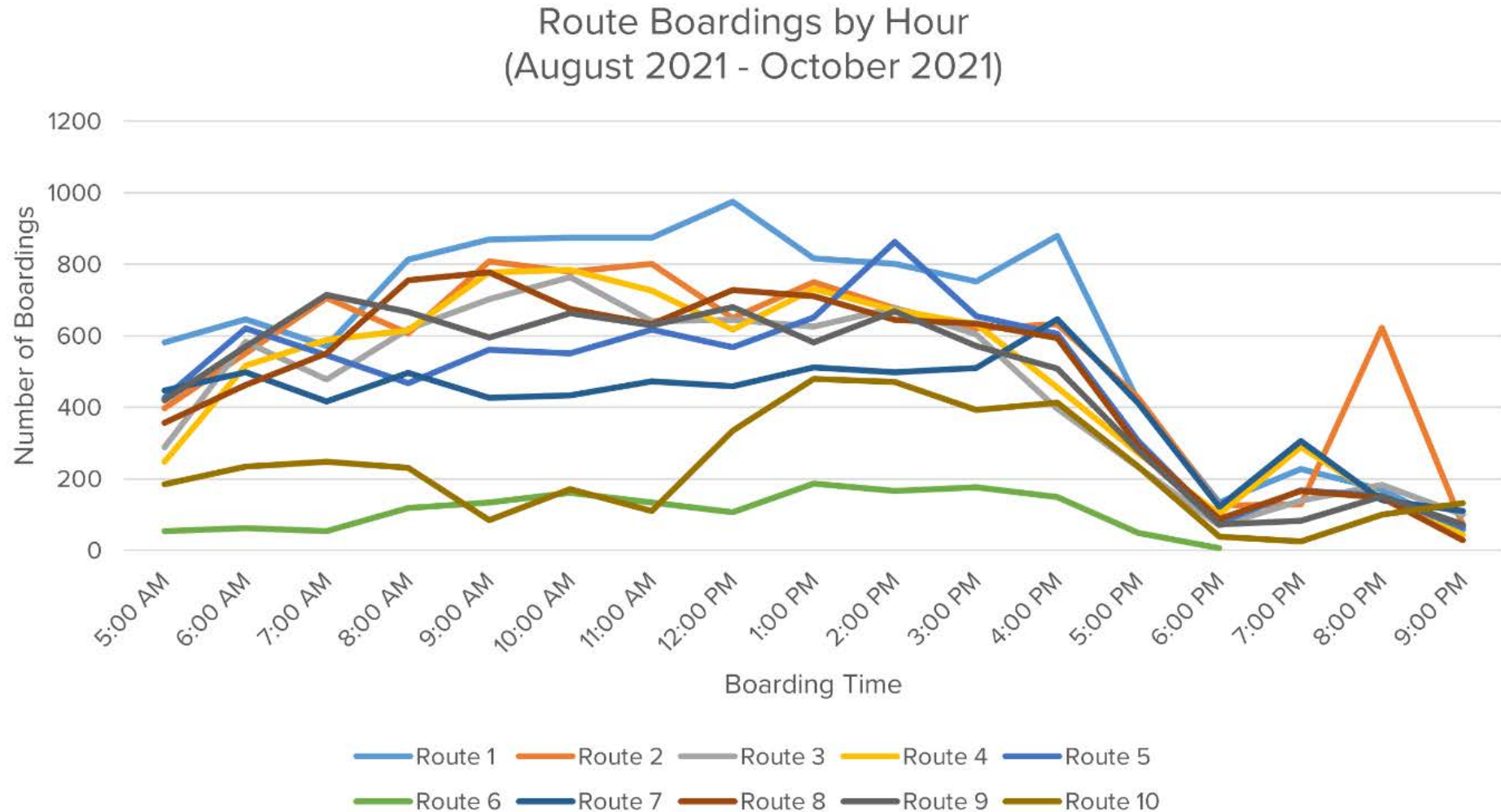
Existing Ridership



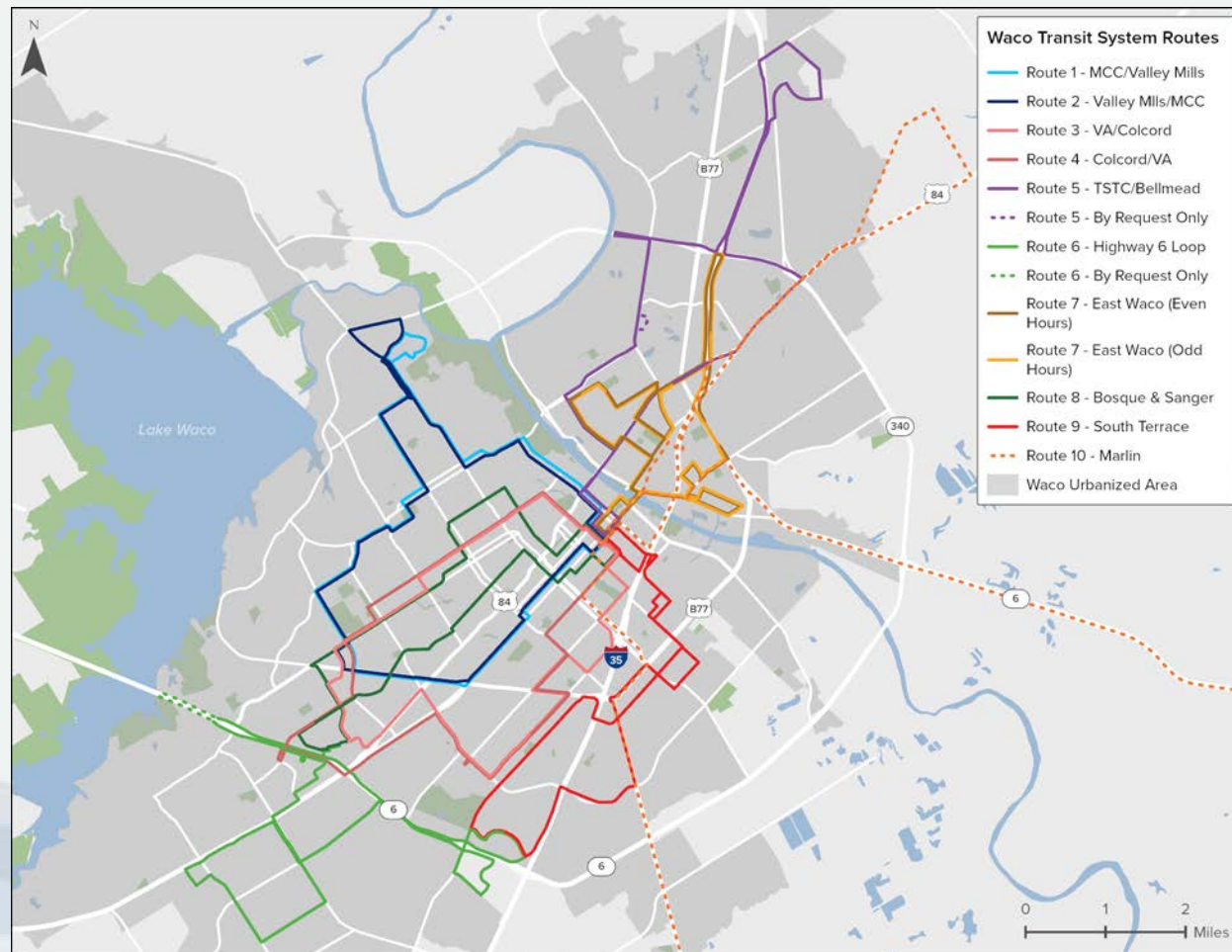
- Routes 1, 2, and 4 have highest average weekday ridership
- Median weekday ridership +/- 99 riders per day

**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

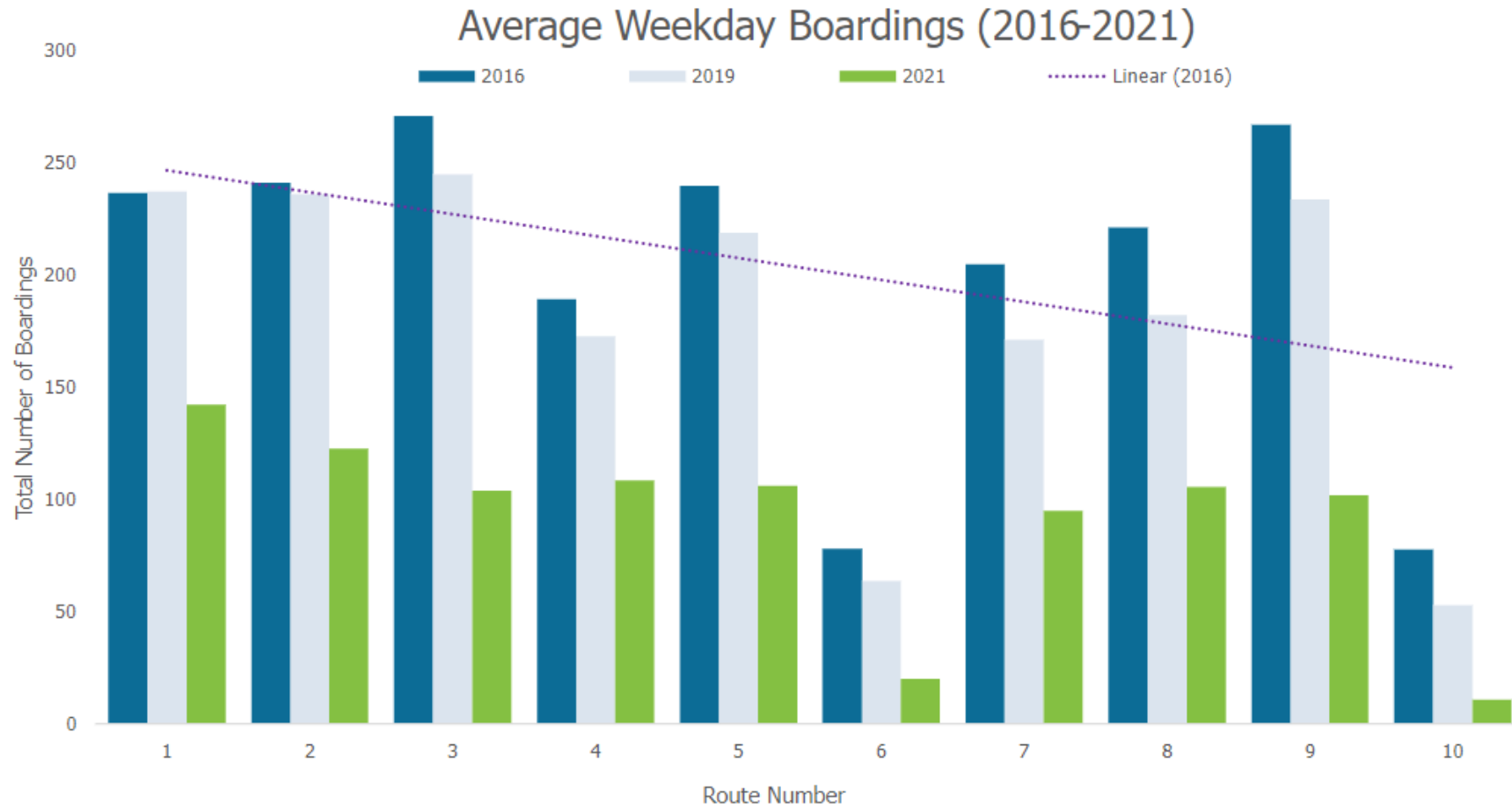


- Boardings consistent between 8:00 am and 4:00 pm



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Existing Ridership Trends



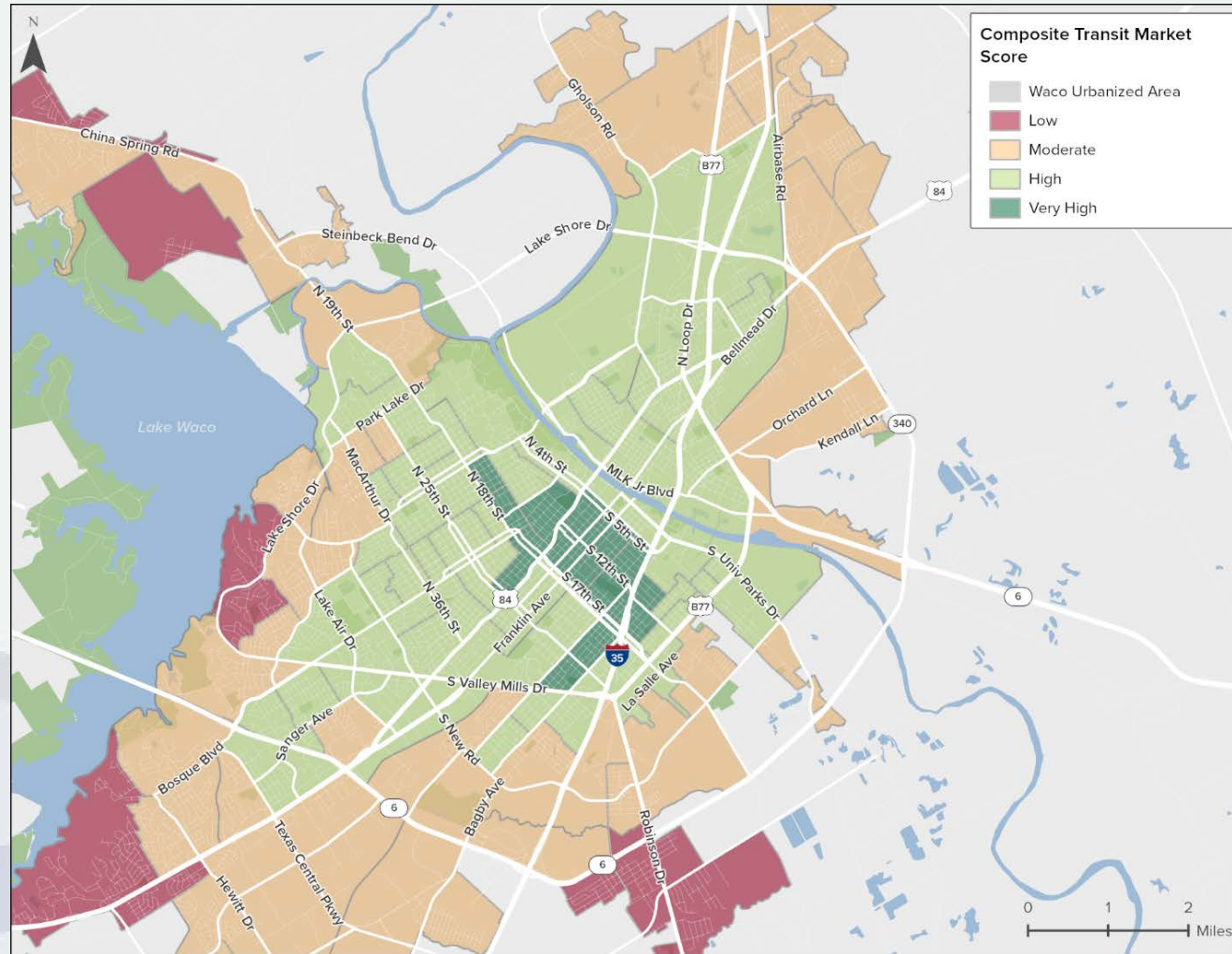
- Ridership continues to recover since COVID

Scenario 2

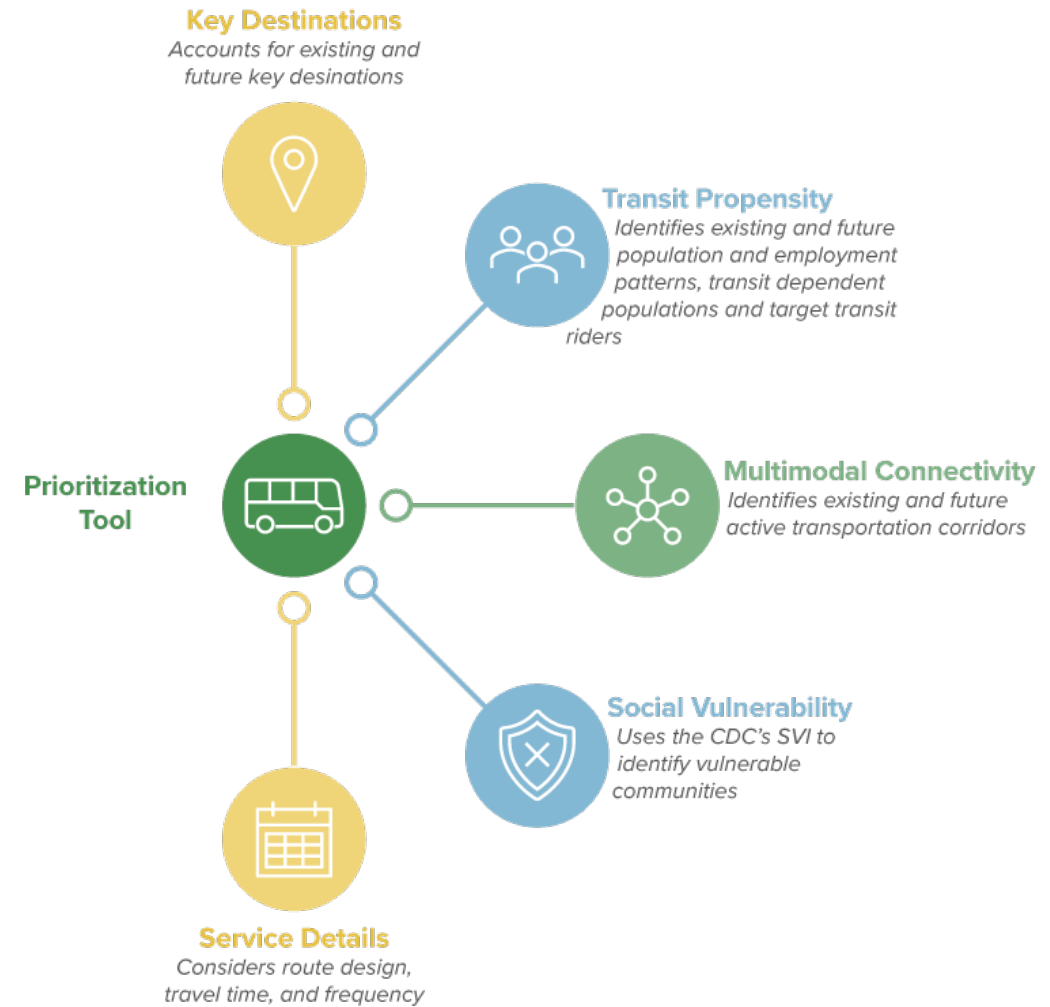


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Transit Market



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

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



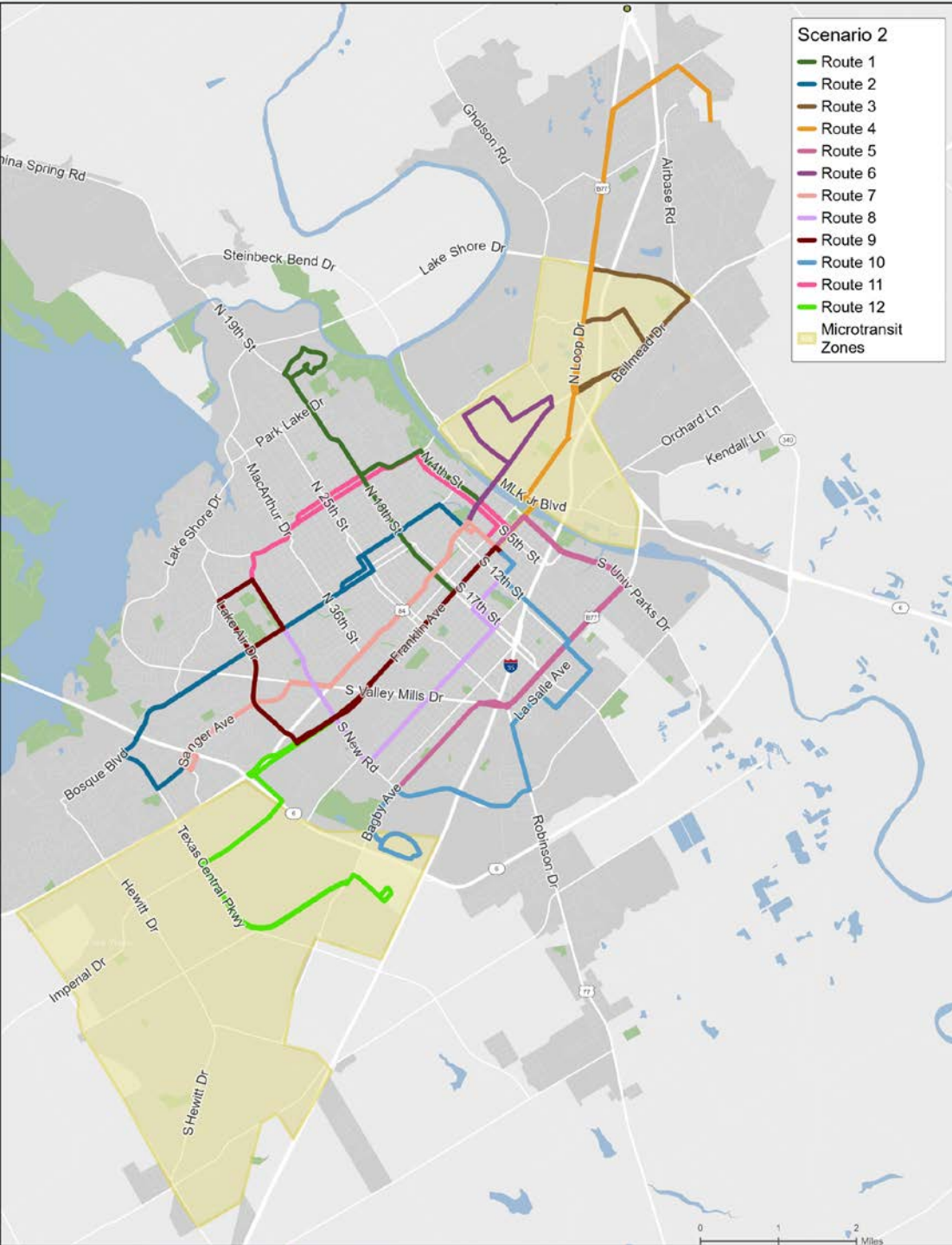
A hybrid scenario that **blends elements from both scenarios** to achieve the same goals of Scenario A but for a scaled back version of the BRT system.

Scenario 2:

Blank Slate

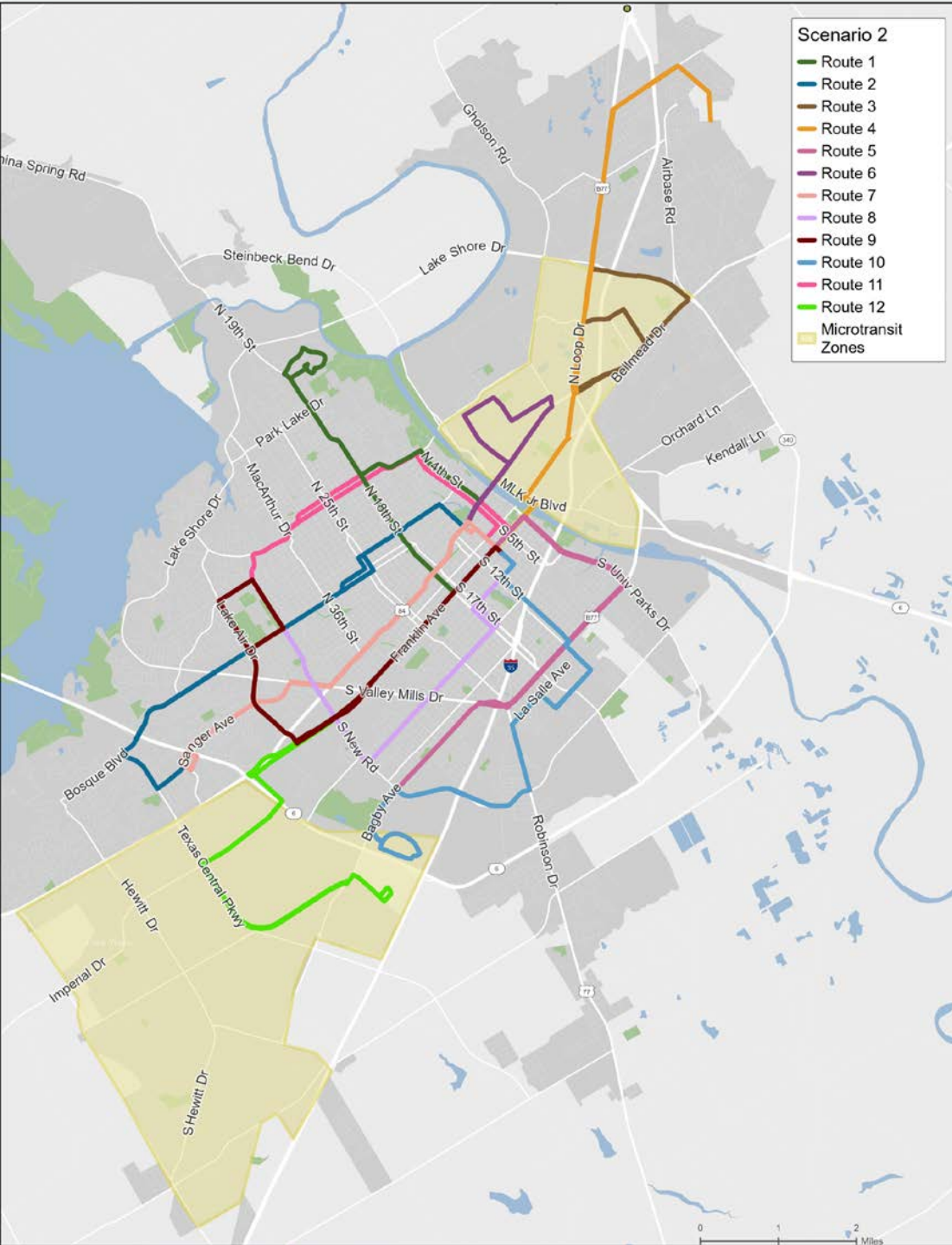


A **“blank slate”** with focus on developing a network that balances the needs and the wants of the community by matching transit service with the underlying markets.



Scenario 2

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



Scenario 2

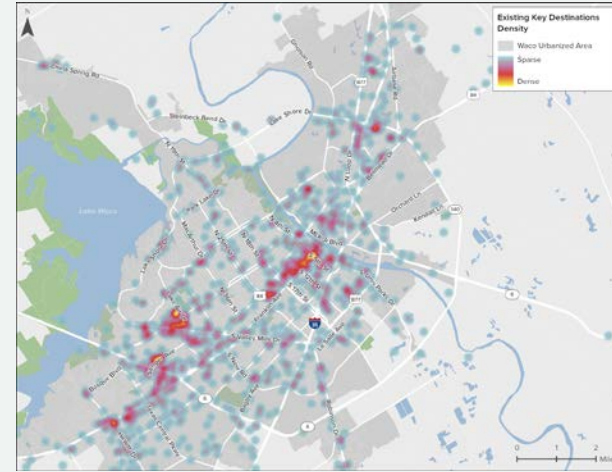


Reimagine Waco Transit

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

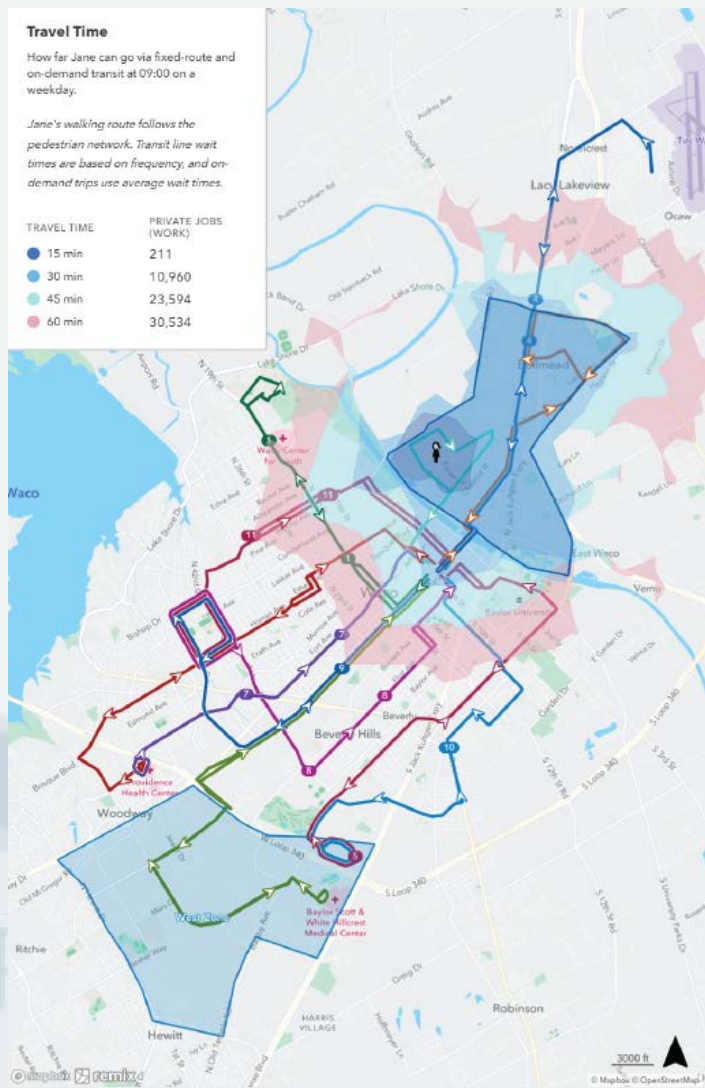
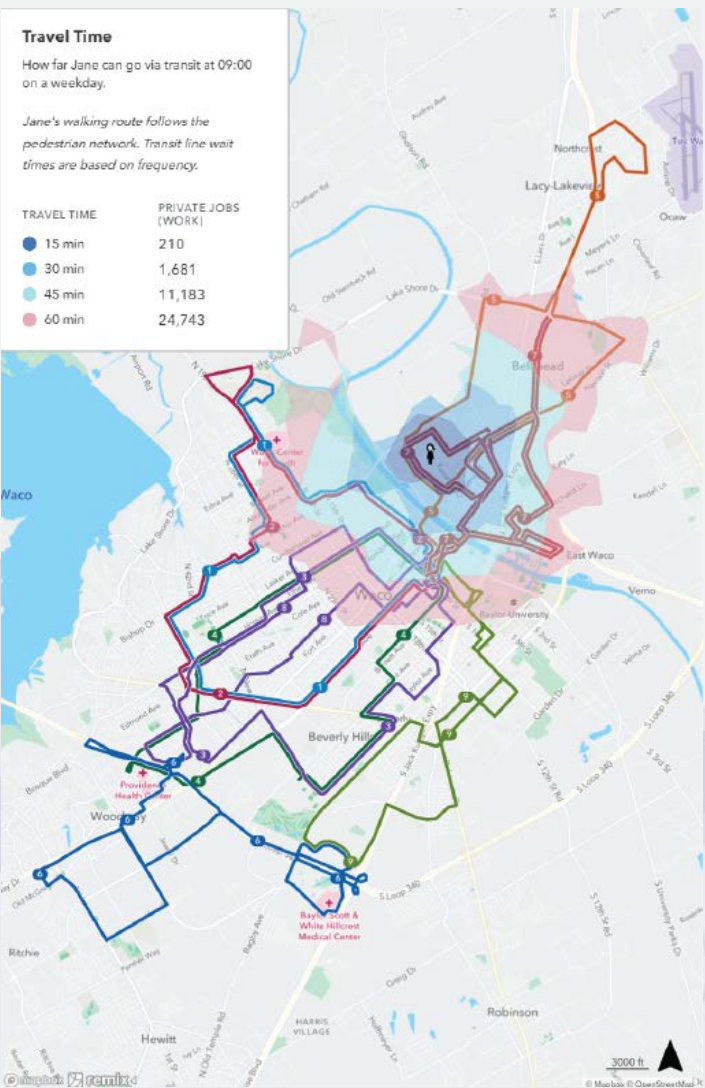
Microtransit

- 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.

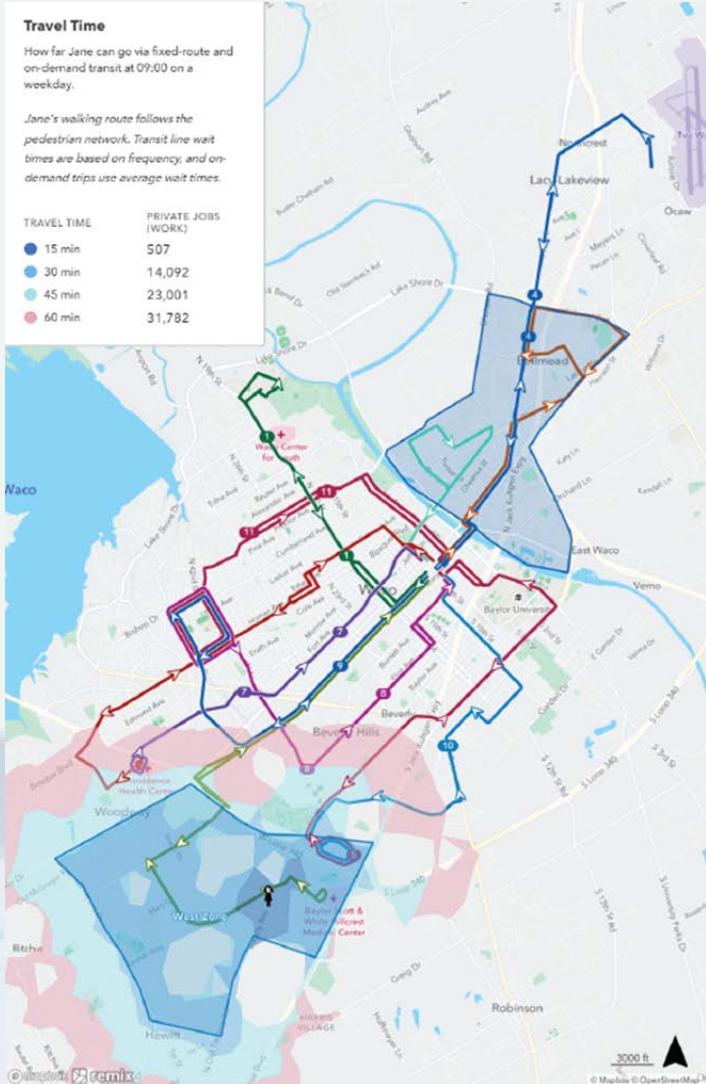
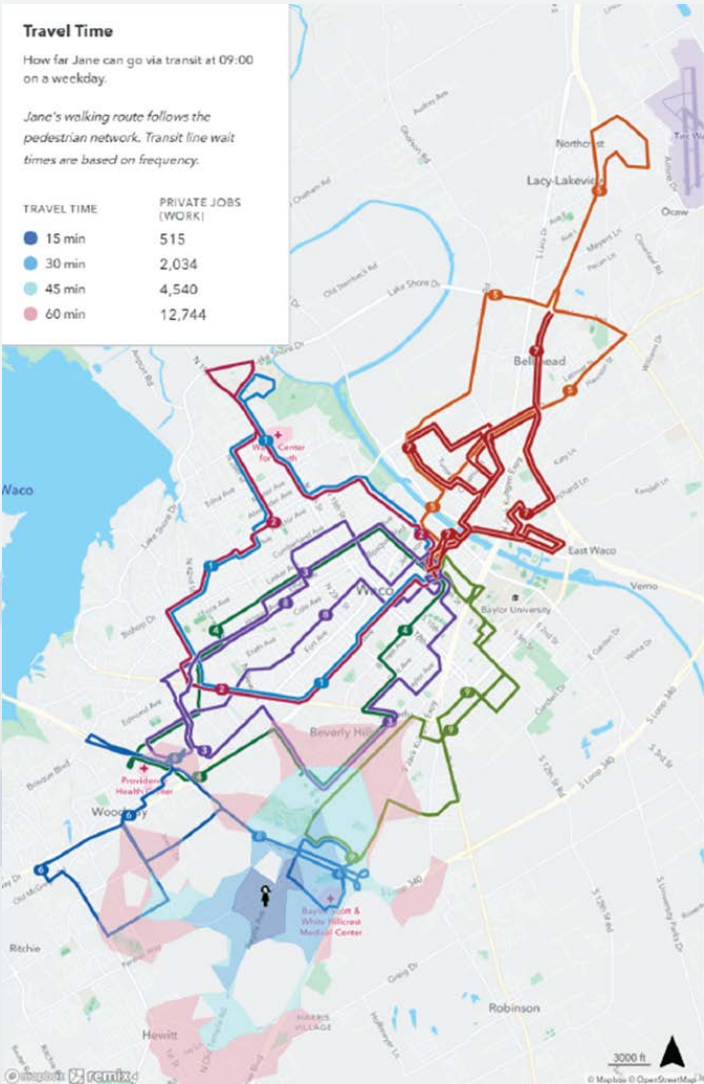
Existing vs Scenario 2



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



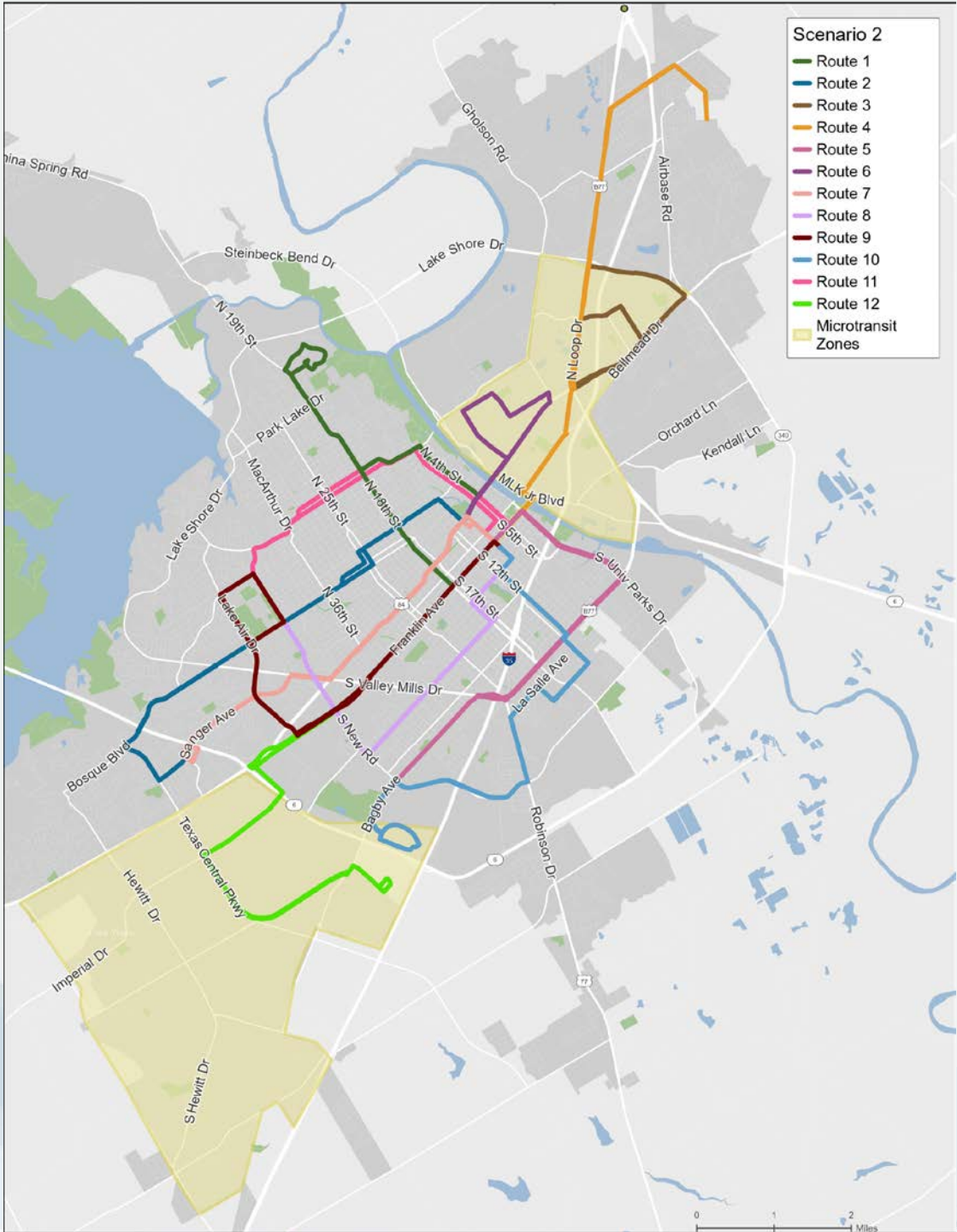
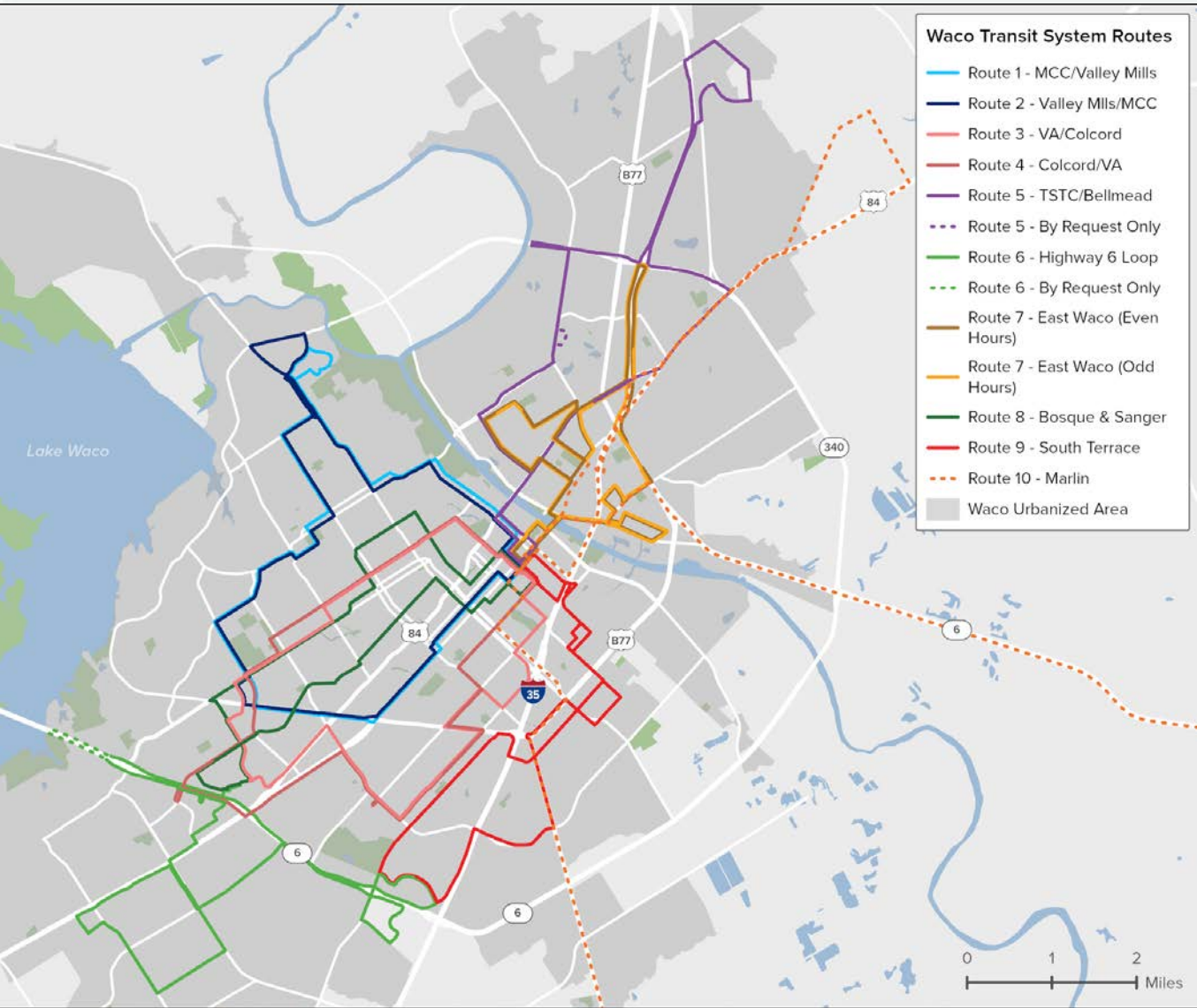
DESTINATION TYPE	PERCENT CHANGE IN SITES ACCESSIBLE WITHIN:			
	15 minutes	30 minutes	45 minutes	60 minutes
Population	0%	147%	365%	183%
Jobs	-2%	593%	407%	149%
Hospitals	0%	0%	50%	100%
Urgent Care Facilities	0%	0%	0%	0%
Pharmacies	0%	300%	1000%	200%
Childcare & K-12 Schools	0%	500%	1300%	286%
Colleges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

Existing vs. Scenario 2



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Existing vs. Scenario 2

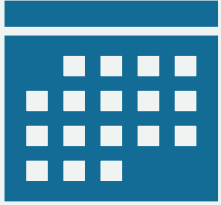


Existing vs. Scenario 2

	Existing	Scenario 2
Coverage Area* <i>(sq. miles)</i>	65	43
Number of Routes	10	12
Number of Buses <i>(in Service)</i>	10	16
Microtransit Zones	0	2

* Based upon standard walking shed around bus routes (1/4 mile)

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	   



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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)			
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 (Summer 2022)
 - 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

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