

REIMAGINE WACO TRANSIT

Waco City Council Presentation

June 21, 2022



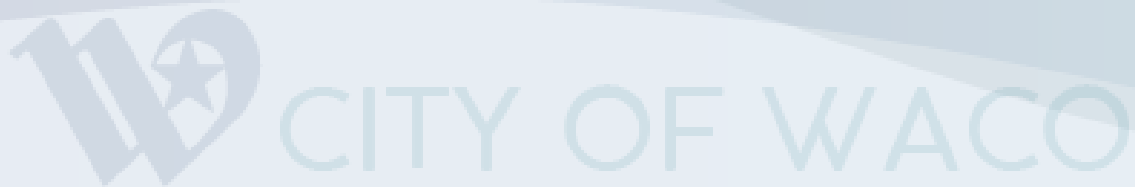
Presentation Agenda

- Project Goals & Overview
- Project Timeline
- Transit Market Score
- Scenario Development
- Public Involvement
- Projected Ridership
- Projected Costs
- Next Steps



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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



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Timeline

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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Public Involvement (Phase I)

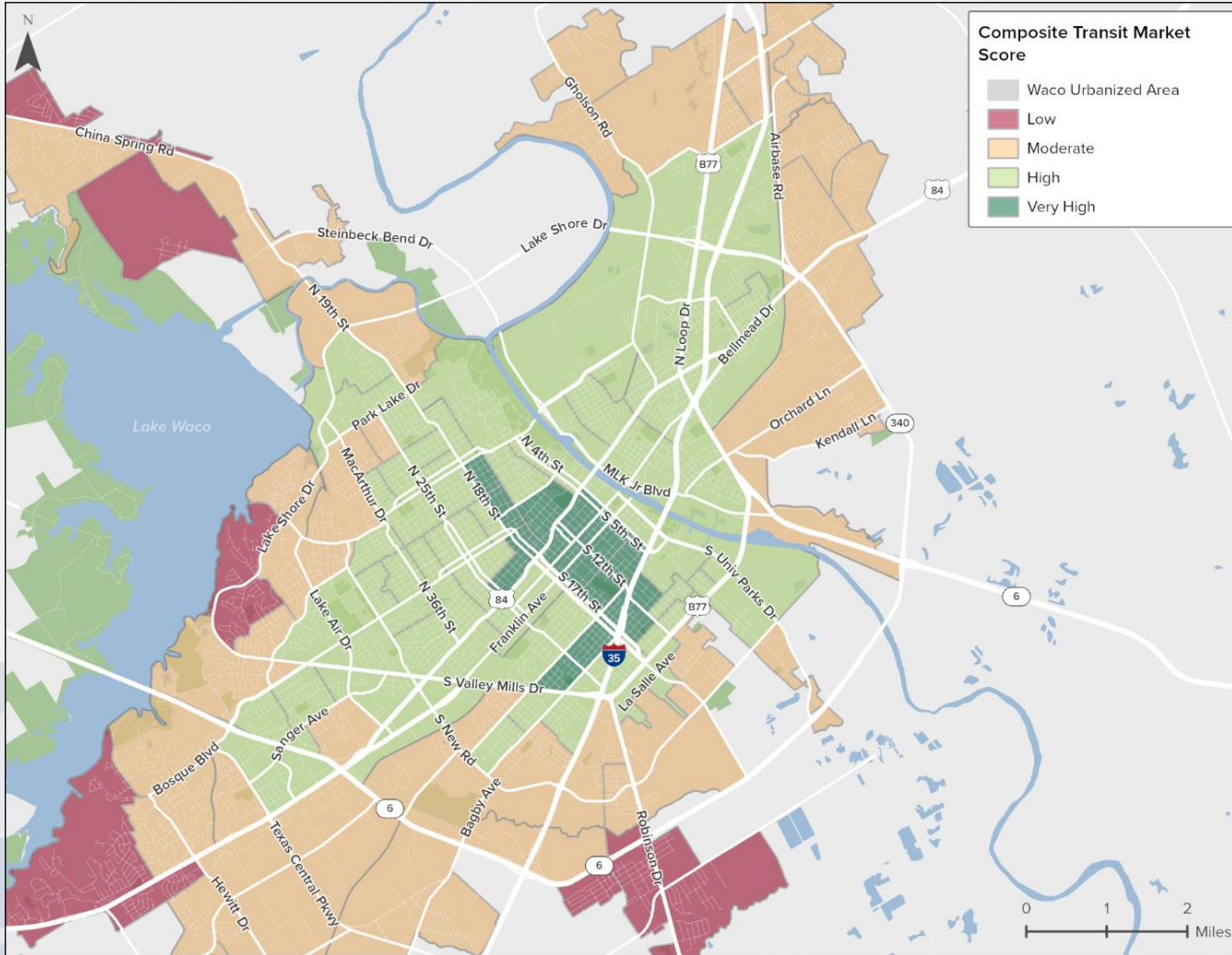
- Community survey responses collected in person and online
- Responses collected at:
 - Community Centers
 - Churches
 - Libraries
 - Waco Transit Center
 - Farmers Market
- Phase II included:
 - Community Meetings
 - Pop-up events
 - One on one with business community

Scenario Development

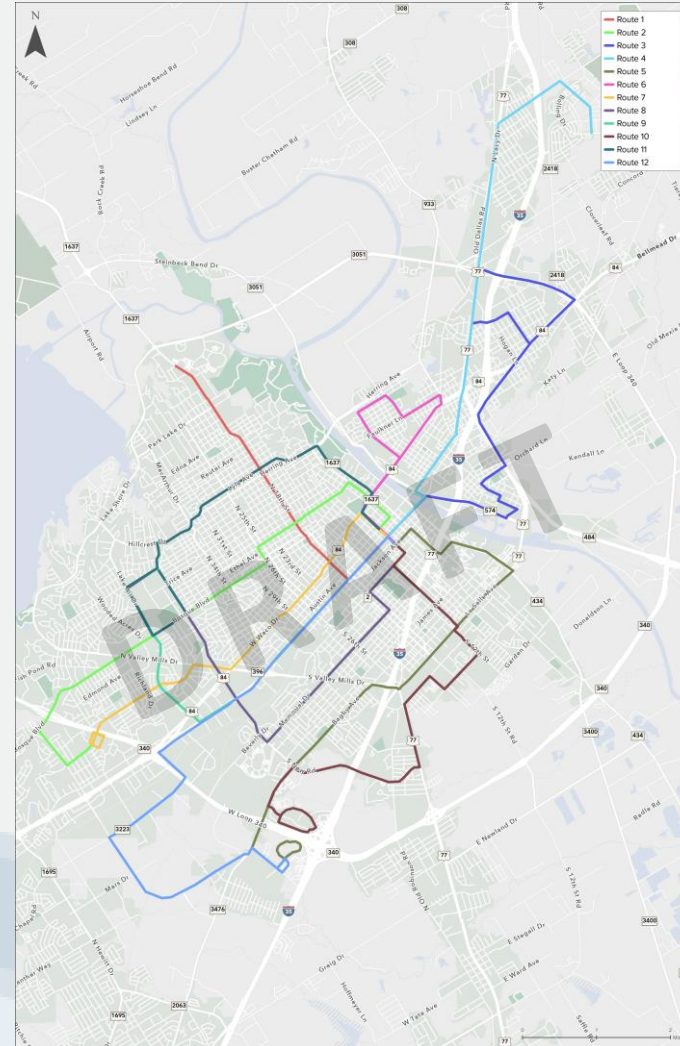


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Transit Market



Operator Feedback



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Operator Feedback

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.

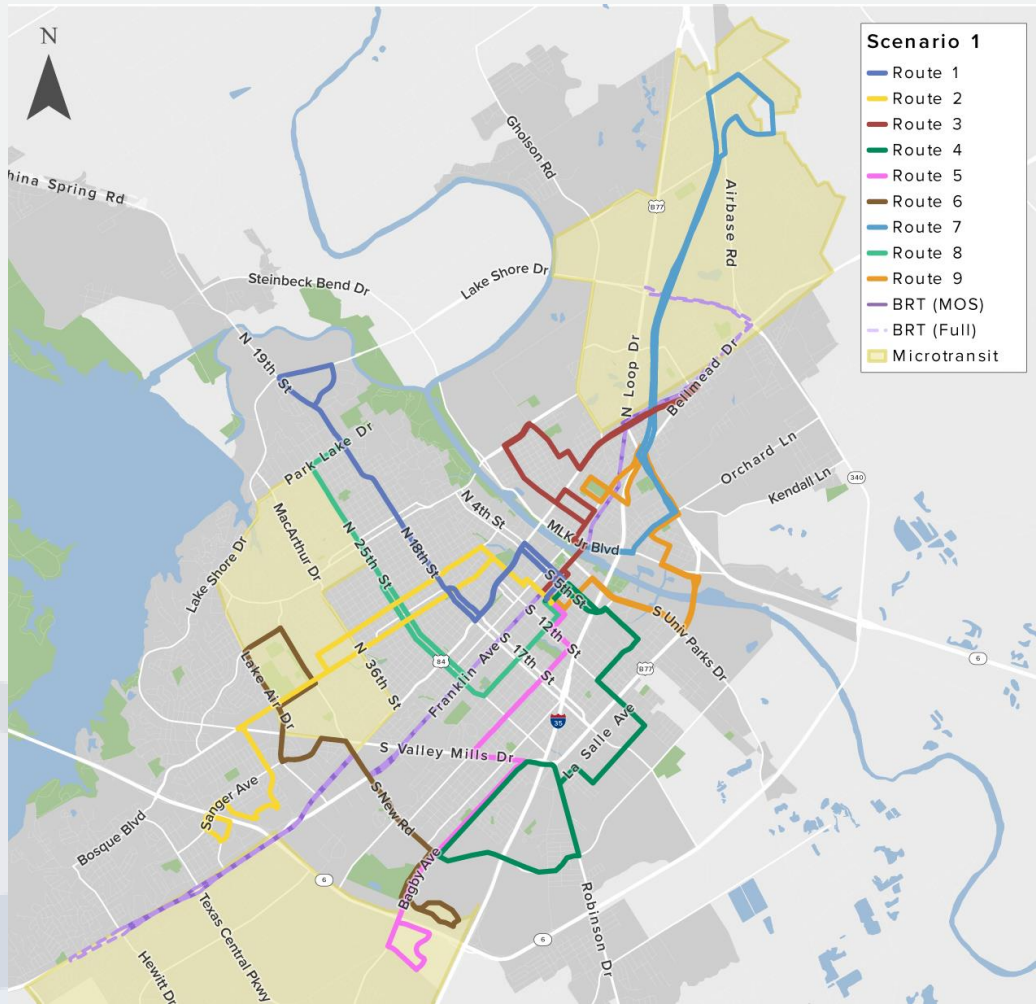
Includes Bus Rapid Transit



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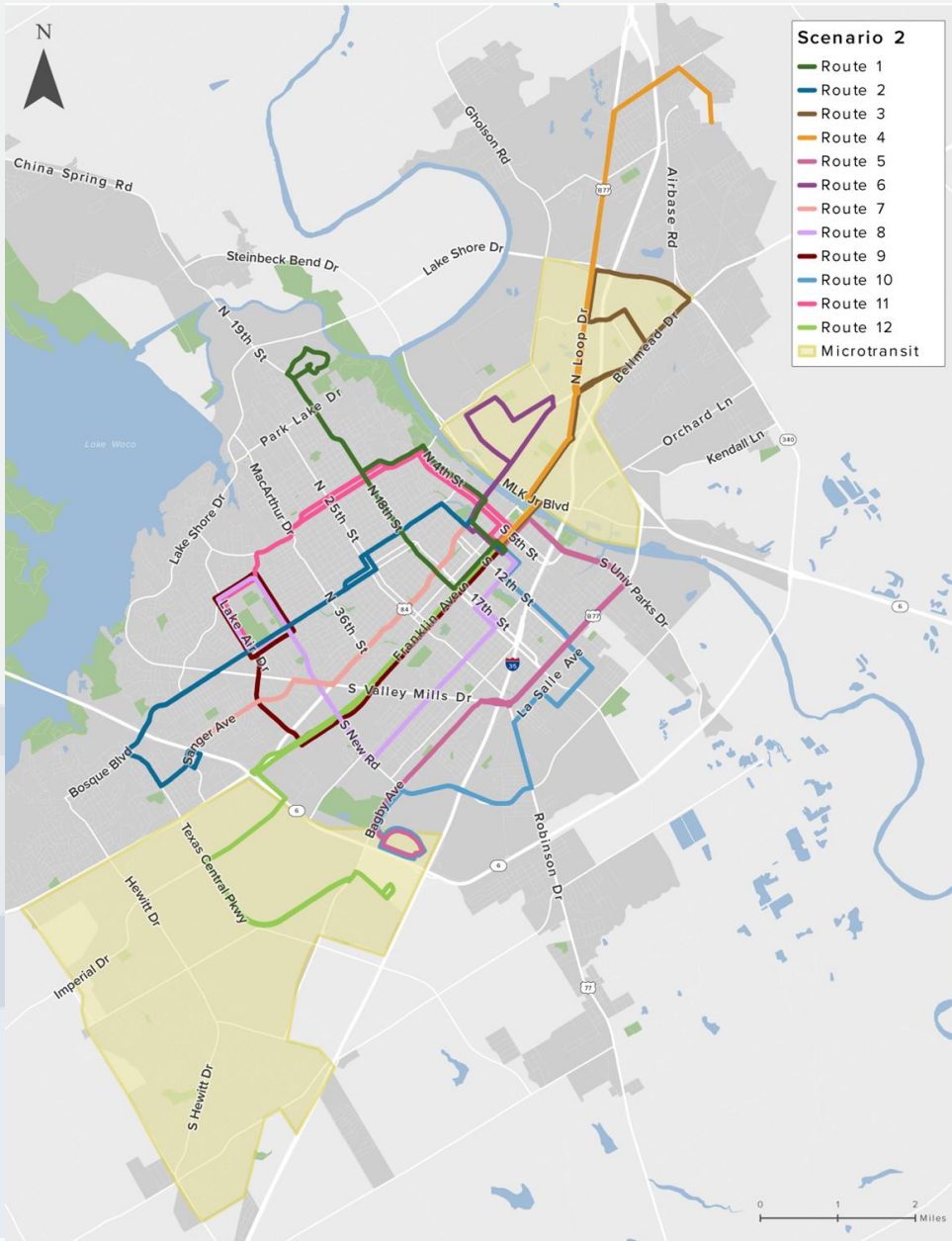
- Scenario 1A = Full BRT
- Scenario 1B = Minimum Operable Segment (MOS) BRT
- 3 Microtransit Zones
- Key Improvements
 - Bi-Directional service
 - Increased connections to key destinations
 - Increased frequency

Scenario 1A & 1B



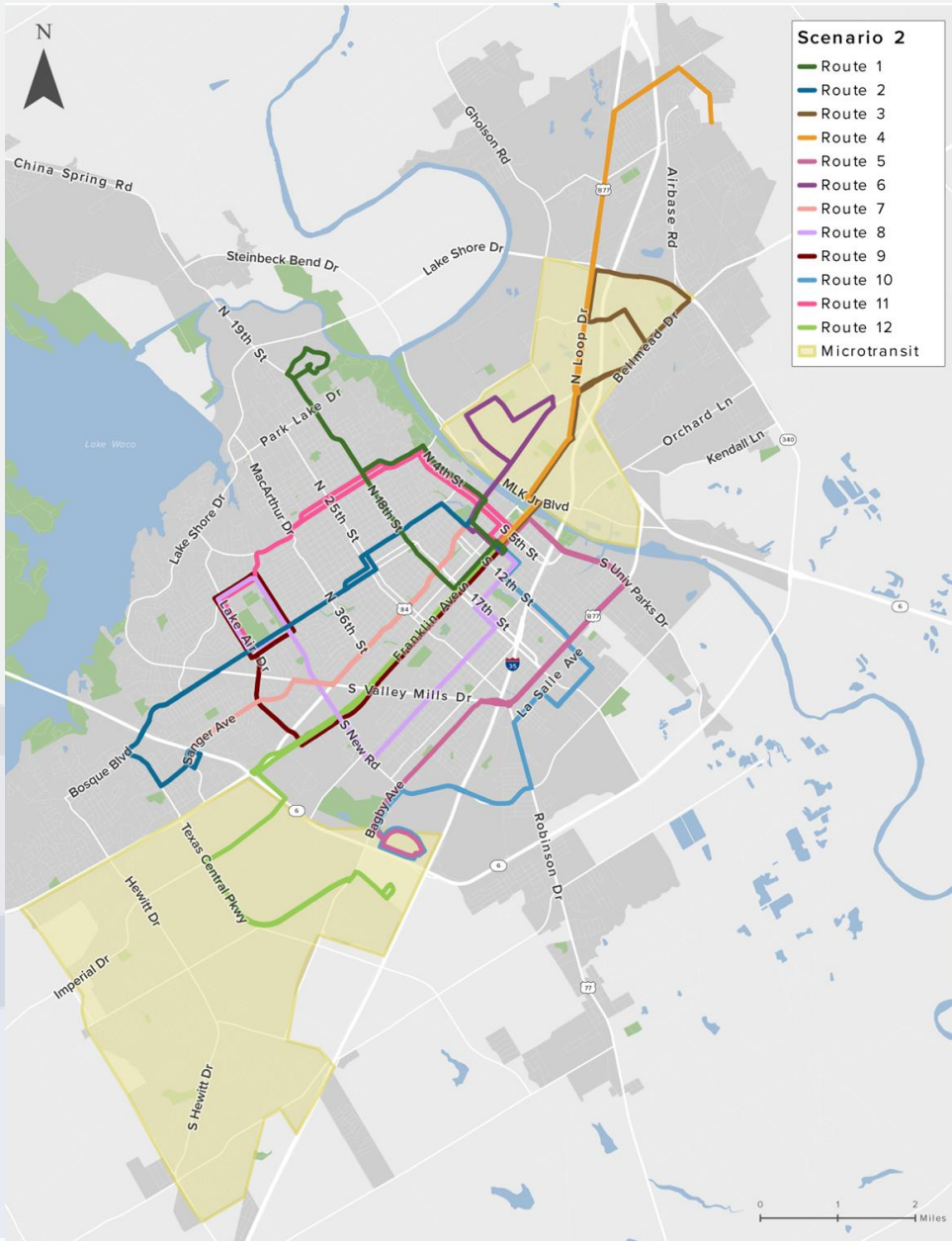
- Transit Market Scores used to determine higher frequency routes.
- 30-minute frequency along:
 - Route 1
 - Route 2
 - Route 3
- 15-minute frequency along:
 - BRT Line
- All other routes at 1-hour frequency.

Scenario 2



- Blank Slate
- No Initial BRT
- 2 Microtransit Zones
- Key Improvements:
 - Expanded service
 - Improved frequency
 - Increased connectivity

Scenario 2



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

Public Involvement (Phase 2)

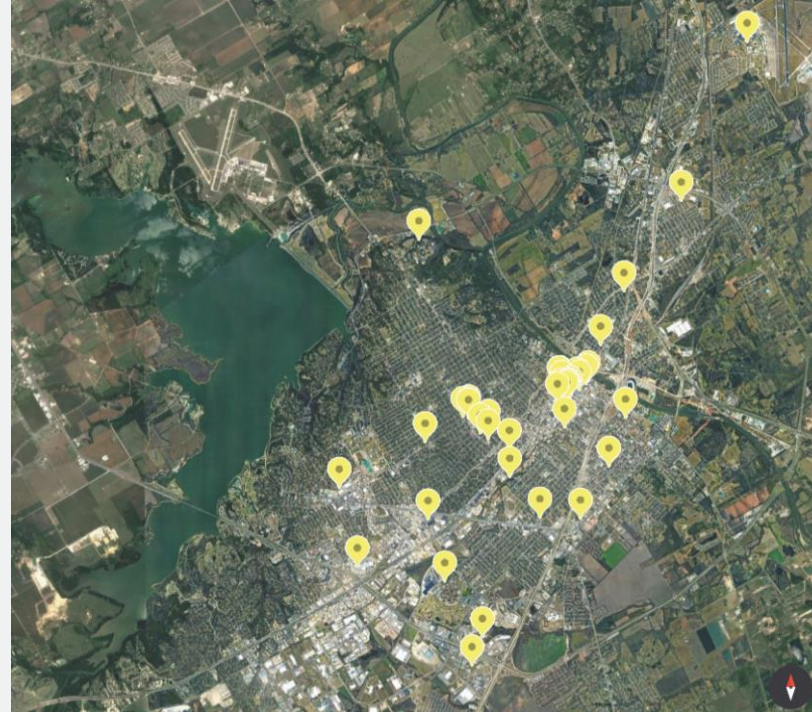
What We Did:

- Community survey responses collected in person and online
- Responses collected at:
 - Business Community Outreach Meeting: **April 21st 10:00am**
 - Open House: **April 28th 12:00pm and 6:00pm**
 - Neighborhood Leaders' Network meeting

Public Involvement (Phase 2)

What We Did:

- Local Businesses + Restaurants, Schools, Supermarkets and Grocery Stores
- 26 Locations Visited



Locations of Engagement

Public Involvement (Phase 2)

What We Learned:

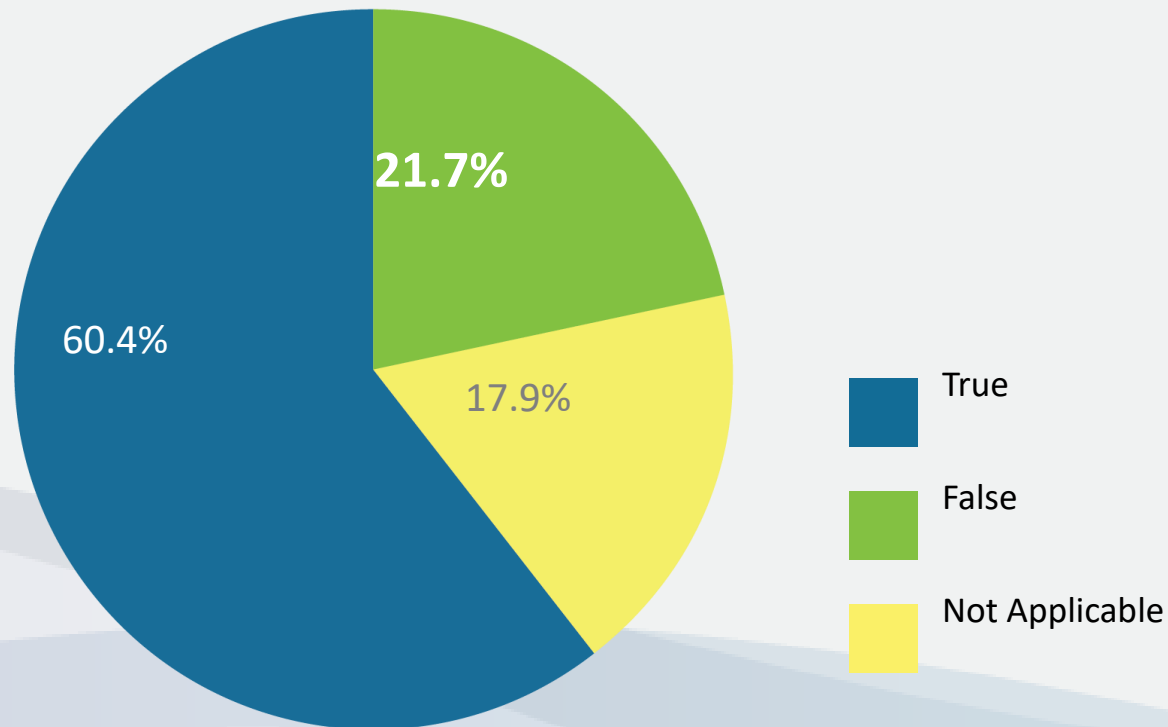
- Scenario 1A + 1B:
 - **True** or **False**: The proposed transit recommendations in this scenario will save me time.
- Feedback from survey:
 - Increased frequency desired



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Public Involvement (Phase 2)

What We Learned:



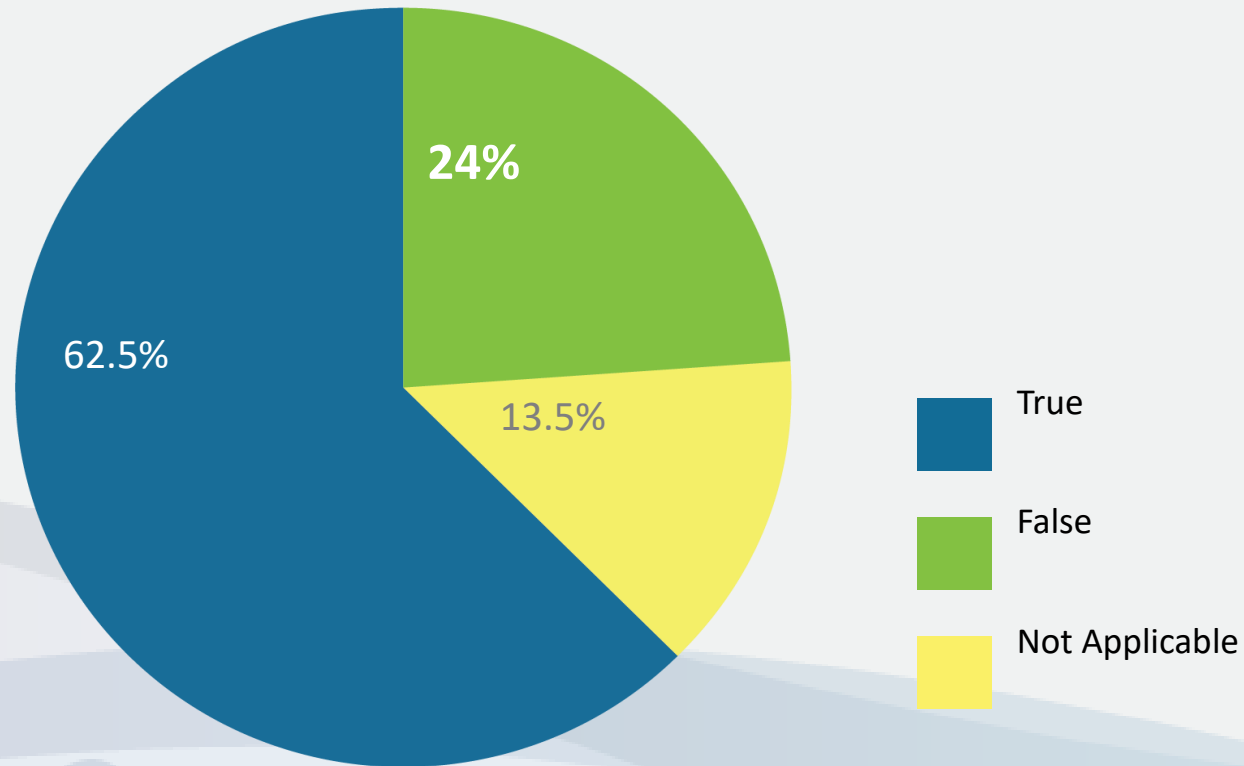
Public Involvement (Phase 2)

What We Learned:

- Scenario 2:
 - **True** or **False**: The proposed transit recommendations in this scenario will save me time.
- Feedback from survey:
 - Wider span of hours desired

Public Involvement (Phase 2)

What We Learned:



Public Involvement (Phase 2)

What We Learned:

- General Waco Transit Comments:
 - Is there anything more we should know about Waco transit?
 - Continued timed transfers downtown
 - Prefer safe, well lit bus stops over flag stops
 - Ensure all buses and stops are wheelchair accessible



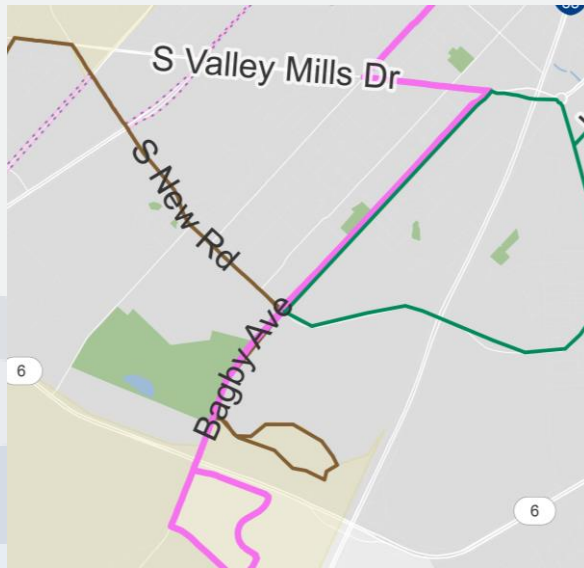
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Public Involvement (Phase 2)

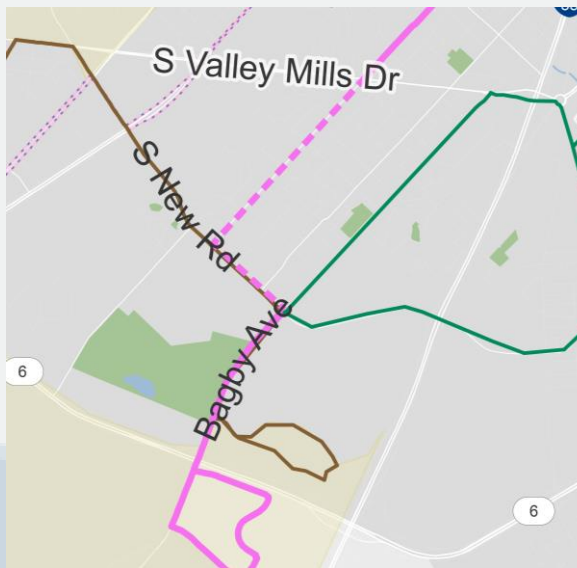
What We Learned:

- Proposed routes amended based on public feedback

Coverage on Memorial Drive



Before
Scenario 1A + 1B



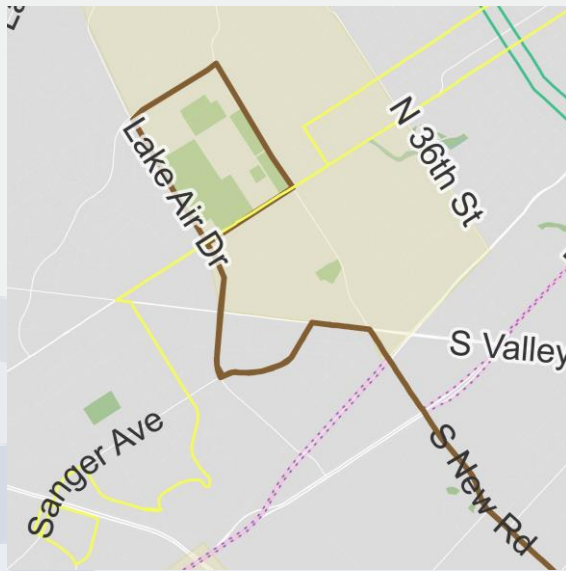
After
Scenario 1A + 1B

Public Involvement (Phase 2)

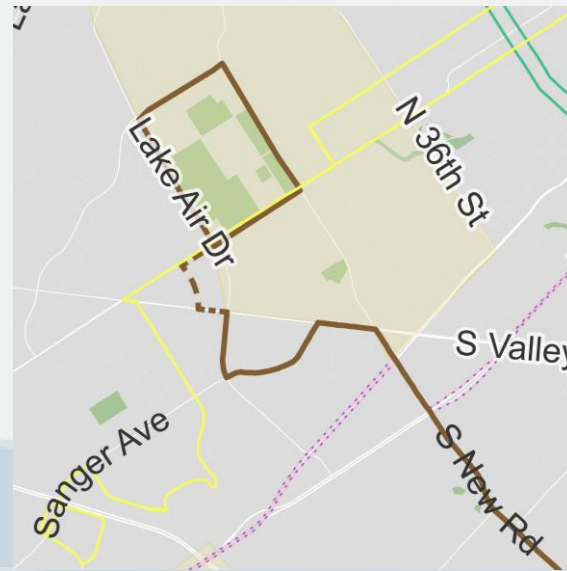
What We Learned:

- Proposed routes amended based on public feedback

Coverage near HEB



Before All Scenario



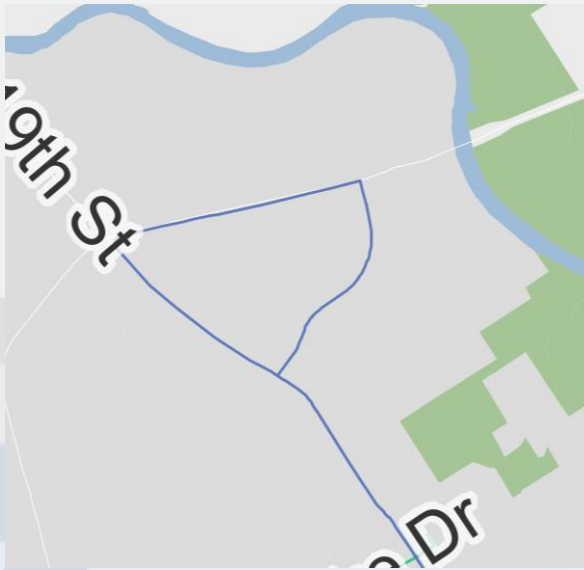
After All Scenario

Public Involvement (Phase 2)

What We Learned:

- Proposed routes amended based on public feedback

Coverage on Lake Shore Drive



Before Both Scenario

After Both Scenario

Projected Ridership

Scenario 1(A+B) and Scenario 2

Ridership Projections	2021 Existing Daily Ridership	Total Daily 2040 (No Build)	Total Daily 2040 (Scenario 1)	Total Daily 2040 (Scenario 2)
Total Systemwide Ridership	4,535	5,075	6,202	5,940
Ridership by Transit Dependents	222	249	357	343



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Projected Ridership Growth

Scenario 1 (A+B) and Scenario 2

Ridership Projections	% Change 2021 - 2040 (No Build)	% Change 2021 - 2040 (Scenario 1)	% Change 2021 - 2040 (Scenario 2)
Total Systemwide Ridership	12%	37%	31%
Ridership by Transit Dependents	12%	61%	55%

Projected Costs

Scenario	Fixed Route (FR)			
	Operations Cost (\$)*		Capital Cost (\$)***	
	Local Share (15%)	Other Revenue Sources (85%)	Local Share (20%)	Other Revenue Sources (80%)
Existing <i>(FR)</i>	\$700K	\$3.6M	N/A	N/A
1a <i>(FR + BRT + MT)</i>	\$900K – \$1.1M	\$5.5–\$6.2M	\$75K	\$300K
1b <i>(FR + BRT + MT)</i>	\$900K – \$1.1M	\$5.5–\$6.2M	\$75K	\$300K
2 <i>(FR + MT)</i>	\$1.2–\$1.4M	\$6.7–\$7.6M	\$50K	\$200K

*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.

Projected Costs

	Bus Rapid Transit (BRT)			
Scenario	Operations Cost (\$)		Capital (\$) **	
	Local Share (15%)	Other Revenue Sources (85%)	Local Share (20%)	Other Revenue Sources (80%)
Existing (FR)	N/A	N/A	N/A	N/A
1a (FR + BRT + MT)	400K	2.2M	5.4M	21.6M
1b (FR + BRT + MT)	350K	2M	5M	20M
2 (FR + MT)	N/A	N/A	N/A	N/A

*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.

Projected Costs

	Local Share	Total		% Increase Total Operation Cost*
Scenario	Operations (\$)	Operations (\$)*	Capital (\$)***	Total Increase from Existing
Existing (FR)	\$700K	\$4.3M	N/A	N/A
1a (FR + BRT + MT)	\$1.4M	\$9–10M	\$27M	112% - 133%
1b (FR + BRT + MT)	\$1.3M	\$8.8-9.7M	\$25M	106% - 127%
2 (FR + MT)	\$1.2M	\$8–9.4M	\$250K	89% - 121%

*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.

Initial Cost Estimate- Electrification

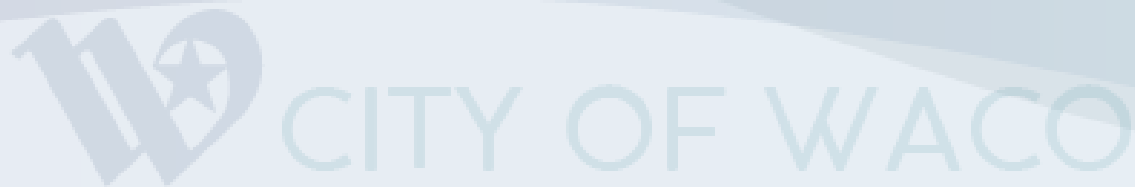
Planning-Level Cost Estimate for Electrification in 2022 (\$)			
	Unit Cost (\$)	Quantity	Total (\$)
Charger Management Software -Site Set-Up	\$5K	1	\$5K
Facilities Retrofit (Depot)	\$400K	1	\$400K
Charging Equipment*	\$150K	1	\$150K
Charge Management Software (per Charger)	\$2.5K	1	\$2.5K
Battery Electric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

*Assumes 1 charger with 2 dispensers available to power 2 buses each.
Source: Planning Level, Industry Standard Estimates, AECOM, 2022

Operational Cost Considerations:

Diesel vs. Electric Bus

- Operations and Maintenance Training
 - Minimum of 80 hours for preventative maintenance, diagnostics, component repair, operator instructions, and developing training material
- Electric Utility Coordination with Local Provider(s)
 - Rate schedule and time of day charging influences costs; discuss rate options to increase efficiency and affordability



Operational Cost Considerations:

Diesel vs. Electric Bus

- Charging Infrastructure and Location
 - Type of chargers, speed of charging, and their location can influence costs
 - Service planning can optimize charging which can minimize project costs

Potential Cost Savings:

Electric Buses

Can Reduce

O&M Cost

Estimates

up to 25%

or approx. 300K

per year for Waco



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Next Steps

- Present Findings to City Council – June 21, 2022
- Finalize Reimagine Waco Transit Plan – June - July 2022

Implementation Estimates	
Scenario 1 A+B	Approx. 5 years
Scenario 2	Approx. 2-5 years

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

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