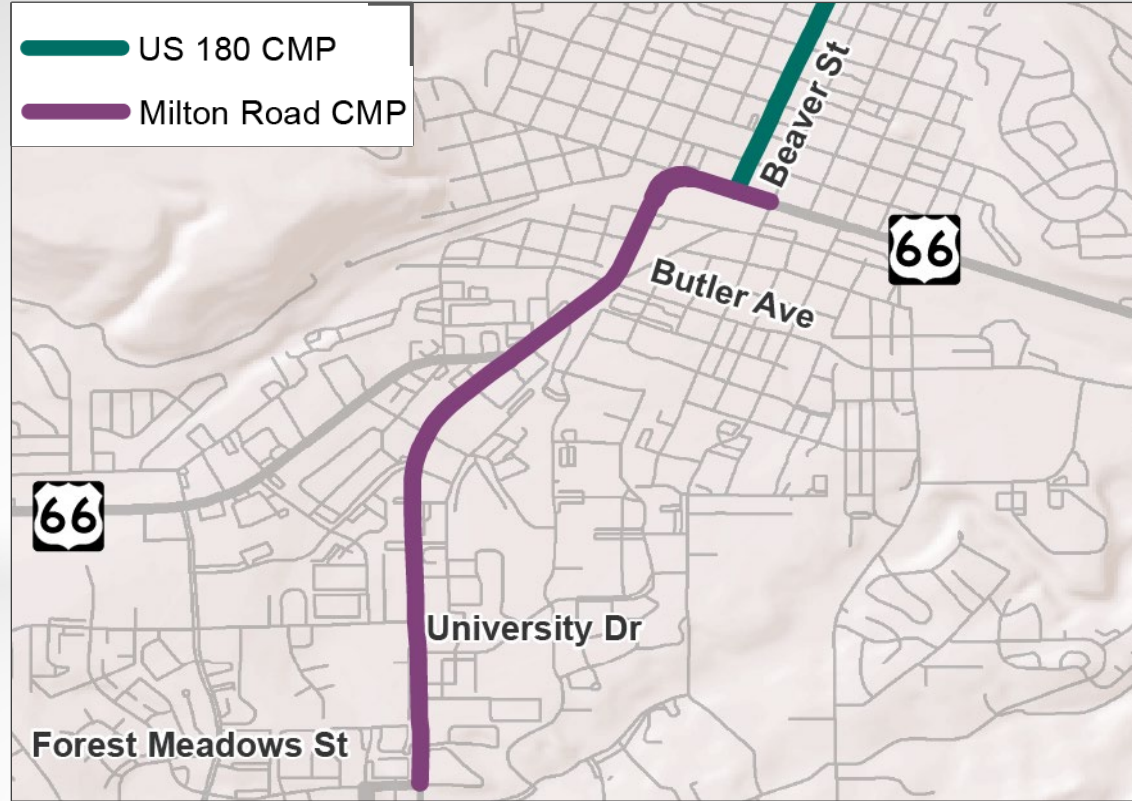


Milton Road Corridor Master Plan Final Recommendations



August 2022

Milton Rd. Corridor



Schedule

Alternatives Analysis

Fall 2017

Start

Summer 2018

Public Meeting
1

Fall-Winter
2020

Public Meeting
2

Jan 2021

Select
Recommended
Alternatives

Spring 2021

Refine
Recommended
Alternatives

Summer 2022

Final Report



Milton Rd. CMP Objectives

1

Address year-round congestion and safety on Milton Road

2

Identify the long-term (20-year) vision of the corridor

3

Obtain public and stakeholder input on alternatives, including multimodal alternatives

4

Scope out and further implement previous and new strategies, consistent with the long-term vision

5

Prioritize implementation projects for design.

6

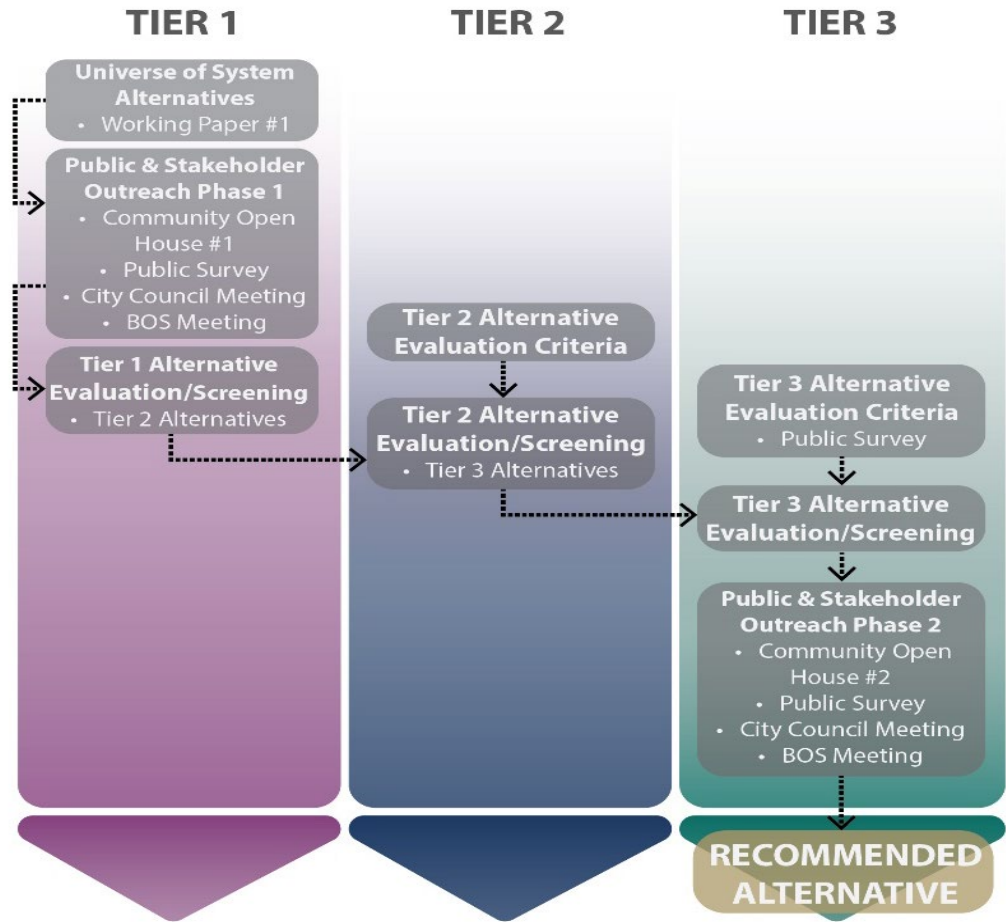
Assist NAIPTA in completing its Bus Rapid/Transit/High Capacity Transit system design.

7

Follow the Planning and Environmental Linkages (PEL) process to carry forward decisions into the design and NEPA.

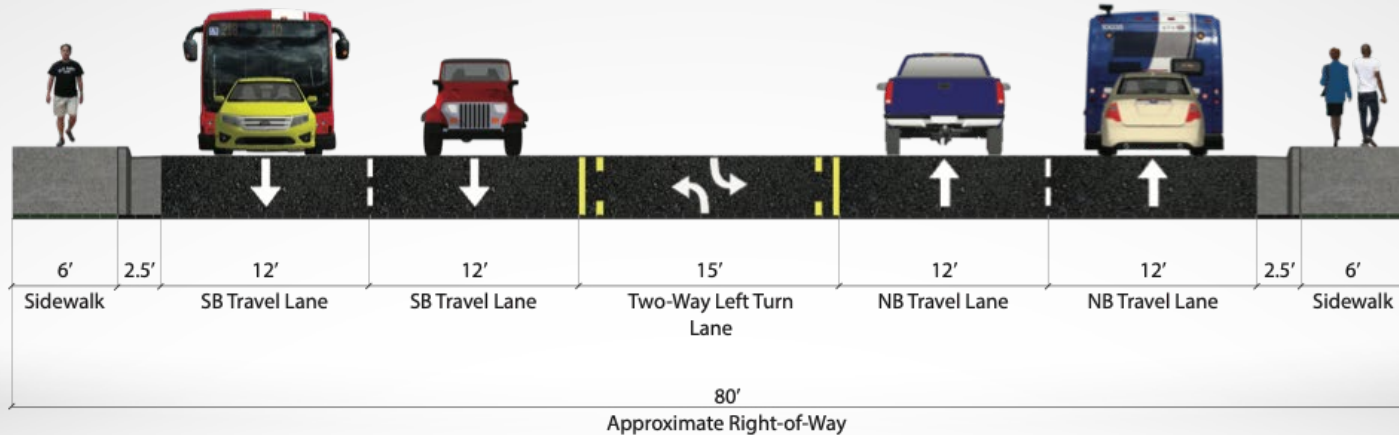
Alternatives Analysis Process

*Next slides show
Tier 3
Alternatives
Analyzed*



Tier 3 Alternatives

No-Build / No-Build Plus

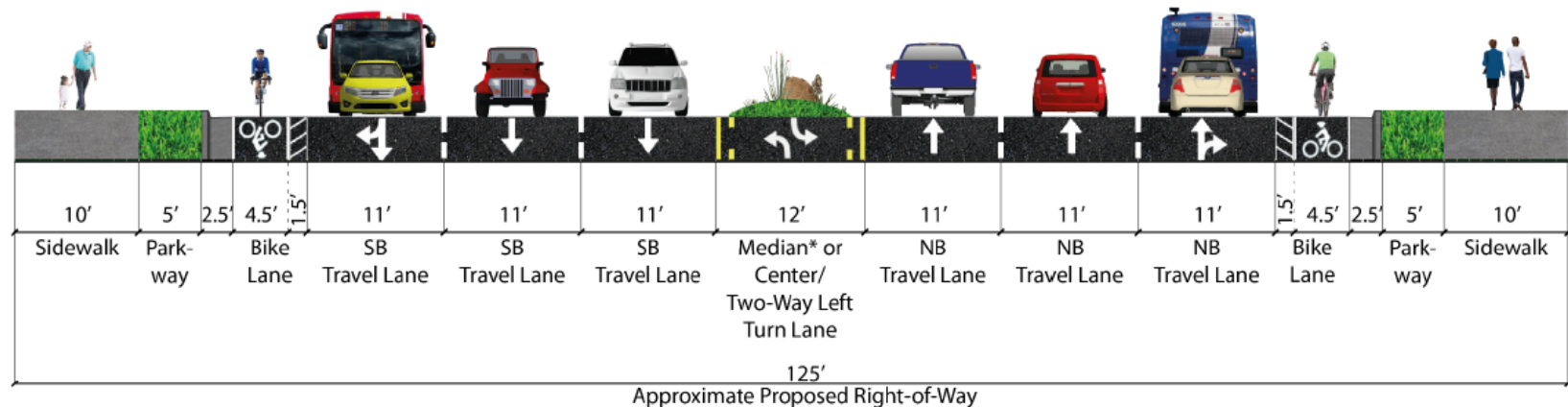


The “No-Build” would do nothing

The “No-Build Plus” would not add lanes, but would add “Spot Improvements”

Tier 3 Alternatives

System Alternative 5

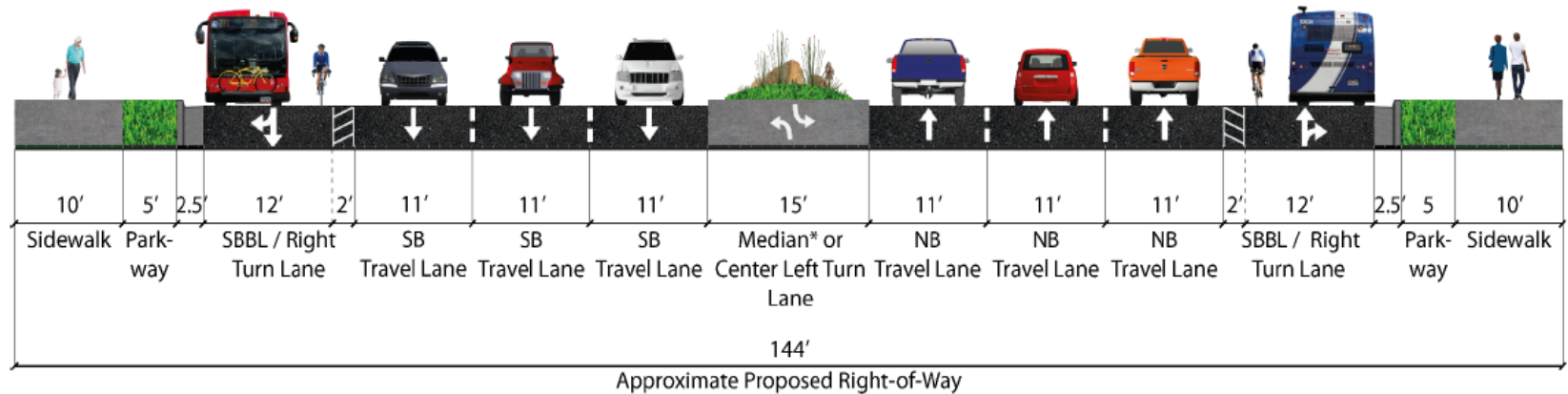


*Median treatment may vary along the study corridor.

**An ADOT design exception and FHWA approval would be required for the application of 11' travel lanes.

Tier 3 Alternatives

System Alternative 6a

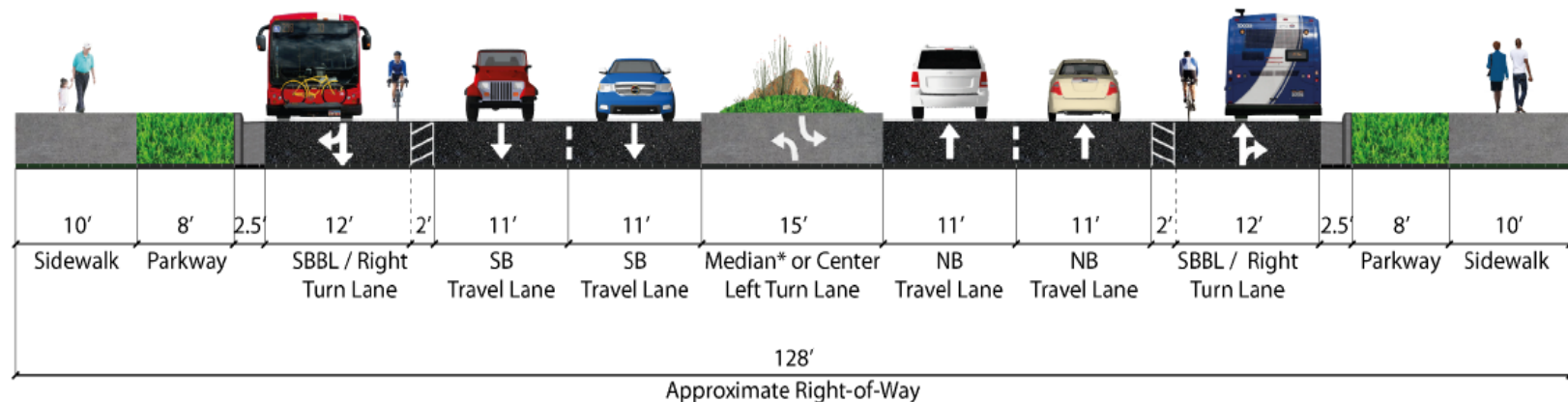


*Median treatment may vary along the study corridor.

**An ADOT design exception and FHWA approval would be required for the application of 11' travel lanes.

Tier 3 Alternatives

System Alternative 6b

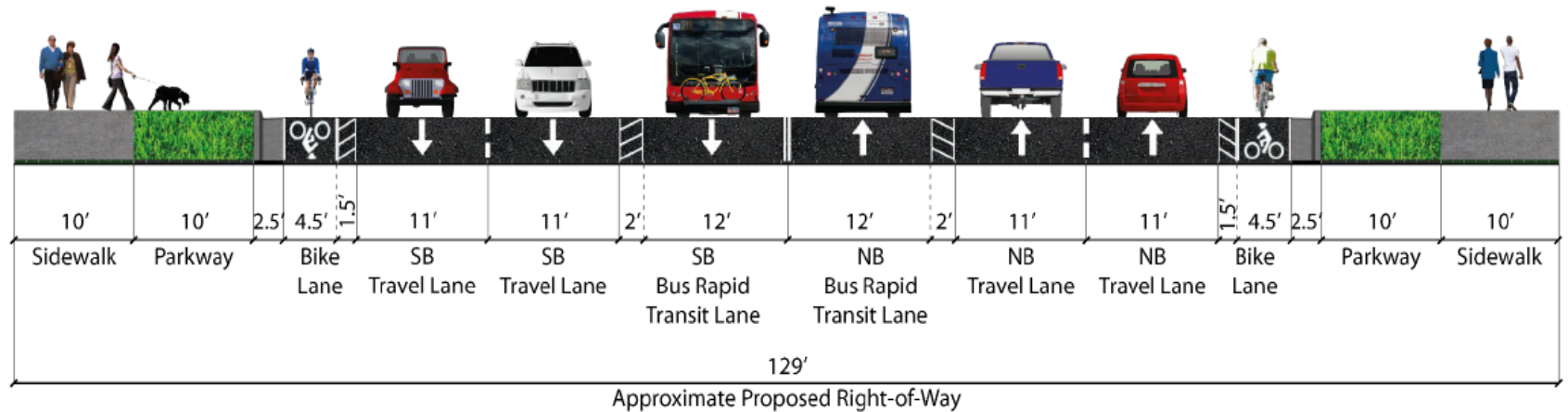


*Median treatment may vary along the study corridor.

**An ADOT design exception and FHWA approval would be required for the application of 11' travel lanes.

Tier 3 Alternatives

System Alternative 13 (Mid-Block)



*An ADOT design exception and FHWA approval would be required for the application of 11' travel lanes.

Milton Rd. Traffic Operations

Milton Road Tier 3 Travel Time Summary Table								
Alternative	AM Peak Hour				PM Peak Hour			
	Northbound		Southbound		Northbound		Southbound	
	Travel Time (min)	Travel Time % Change	Travel Time (min)	Travel Time % Change	Travel Time (min)	Travel Time % Change	Travel Time (min)	Travel Time % Change
No Build	9.9	-	5.2	-	6.6	-	6.6	-
No Build Plus	5.9	40.7%	5.6	-7.6%	6.9	-4.8%	8.1	-23.3%
5	5.5	44.5%	5.4	-3.7%	6.8	-2.7%	7.6	-15.3%
6a	5.5	44.3%	5.7	-10.1%	6.9	-4.8%	7.4	-11.9%
6b	6.9	30.5%	6.3	-20.4%	7.3	-11.2%	7.9	-19.7%
13	6.5	34.6%	6.5	-24.5%	7.6	-15.1%	7.3	-11.3%

Concern: Build Alternatives worsen travel time compared to No Build

Tier 3 Alternatives Analysis Results

Alternative	Cost	ROW Impacts (Sq Ft)	Buildings Impacted	Tier 3 Score	Tier 3 Rank
No Build	\$0	0	0	60.26	2nd
No Build Hybrid	TBD	0-Minimal	0-Minimal	N/A	N/A
No Build Plus	\$9,804,000	53,884	9+	56.55	5th
Alternative 5	\$85,417,000	253,662	21+	61.24	1st
Alternative 6a	\$95,463,000	398,689	32+	59.72	3rd
Alternative 6B	\$74,504,000	271,345	23+	58.90	4th
Alternative 13	\$77,334,000	286,207	23+	53.85	6th

Public Survey Results/Expectations: Zero / Minimal Building Impacts

Milton Rd. Public Survey Results

Milton Rd Survey Results - Recommended Alternative Scoring					
Alternative	Total Score	Public Rank	% Opposed	% Neutral	% Support
No Build	-470	6	73%	12%	15%
No Build +	-262	5	59%	18%	23%
Alternative 5	156	1	28%	22%	50%
Alternative 6A	-130	4	42%	30%	27%
Alternative 6B	24	2	34%	25%	41%
Alternative 13	-87	3	42%	24%	34%

Milton Rd Survey Results - Great Streets Scoring					
Alternative	Total Score	Public Rank	% Opposed	% Neutral	% Support
No Build	-577	6	81%	10%	9%
No Build +	-402	5	66%	22%	12%
Alternative 5	120	1	26%	29%	45%
Alternative 6A	-52	4	38%	32%	31%
Alternative 6B	32	2	30%	32%	39%
Alternative 13	18	3	34%	27%	39%

Milton Rd. Public Survey Results

Milton Rd Survey Results - How many buildings would you be willing to remove in order to add the following features?										
Alternative Feature	None (zero)	1 to 10	11 to 20	21 to 30	31+	None (zero)	1 to 10	11 to 20	21 to 30	31+
Add dedicated bus lanes	79	69	24	13	28	37.1%	32.4%	11.3%	6.1%	13.1%
Add travel lanes (for all vehicles)	84	51	29	19	32	39.1%	23.7%	13.5%	8.8%	14.9%
Add bicycle lanes	59	69	26	27	35	27.3%	31.9%	12.0%	12.5%	16.2%
Wider sidewalks	82	66	24	17	26	38.1%	30.7%	11.2%	7.9%	12.1%
Landscaped areas	86	60	22	16	27	40.8%	28.4%	10.4%	7.6%	12.8%
Total Building Impacts Responses:	390	315	125	92	148	36.4%	29.4%	11.7%	8.6%	13.8%
Applicable Alternatives:	(No Build, No Build Hybrid)	(No Build +)	N/A	(Alts 5, 6b, & 13)	(Alt 6a)	(No Build, No Build Hybrid)	(No Build +)	N/A	(Alts 5, 6b, & 13)	(Alt 6a)

For more public survey results, see the Public Involvement Summary Report

Milton Rd Vision Statement (Short-term)

The Vision for the Milton Road Corridor is to enhance community character while maintaining acceptable operations in a manner that respects all users, encourages walking, biking, and bus ridership, and promotes local business. The Vision for Milton Road balances improvement with preservation. The improvements to Milton Road will help create an environment of shared benefits. The Milton Road Corridor Master Plan has determined—through extensive analysis and public input—that ADOT cannot simply build its way out of congestion within this corridor. Therefore, it is recommended here that Milton Road be enhanced within the confines of the existing roadway prism. Specifically, this means that for at least a 20-year period (through 2041), no new through lanes are recommended for Milton Road. All multimodal improvements, as specified below, are designed to avoid or minimize encroachment and impacts to existing businesses or property to the best extent practicable.

Milton Rd. Recommended Alternative: *No-Build Hybrid*

Short-term Description:

- a) a hybrid of the No-Build and No-Build Plus alternatives;
- b) would not add new travel lanes or **right turn lanes* on Milton Road;
- c) would maintain traffic operations;
- d) would avoid or minimize impacts to private property;
- e) would retain existing roadway lanes and turn lanes;
- f) Improves pedestrian mobility with wider sidewalks for much of the corridor and *potential for some additional crossings***;
- g) Accommodates bicycles with a near continuous shoulder, but no standard bike facility; and
- h) Allows for *potential transit signal priority*** to enhance transit travel times at several intersections

*In the scenario a right turn lane is added as a result of development/redevelopment, and warranted through a formal ADOT Traffic Impact Analysis (TIA)/Traffic Engineering Guidelines and Processes (TGP), the width of the right turn lane would be in addition to the proposed back-of-curb facilities.

**Proposed crossings, crossing improvements, and transit signal prioritization are for future consideration only, and will be considered for implementation upon meeting ADOT warrant and/or TIA approval (concluding no negative impacts to vehicular operations)

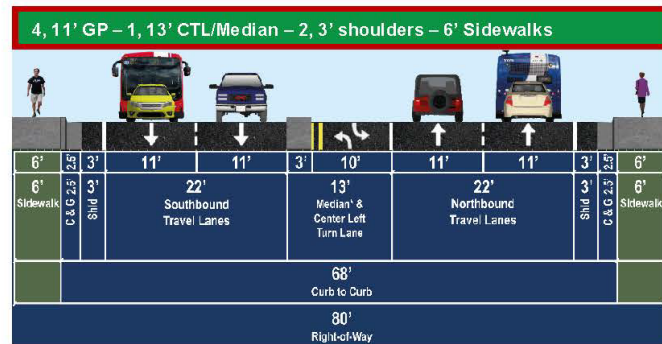
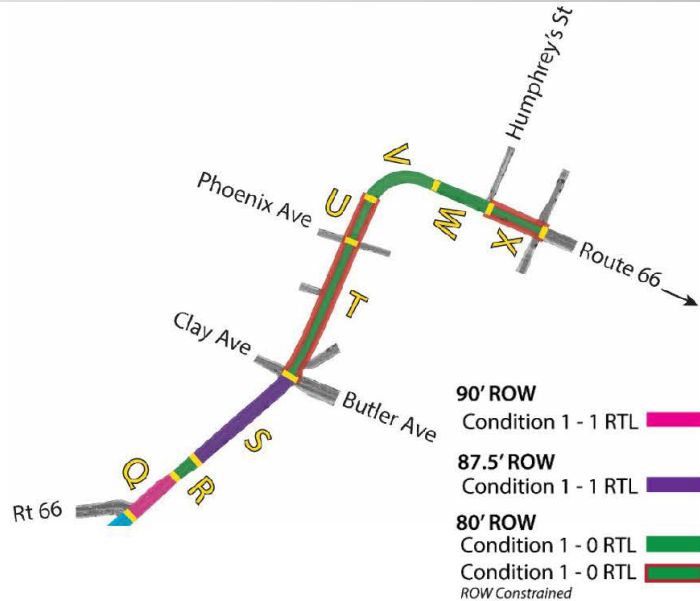
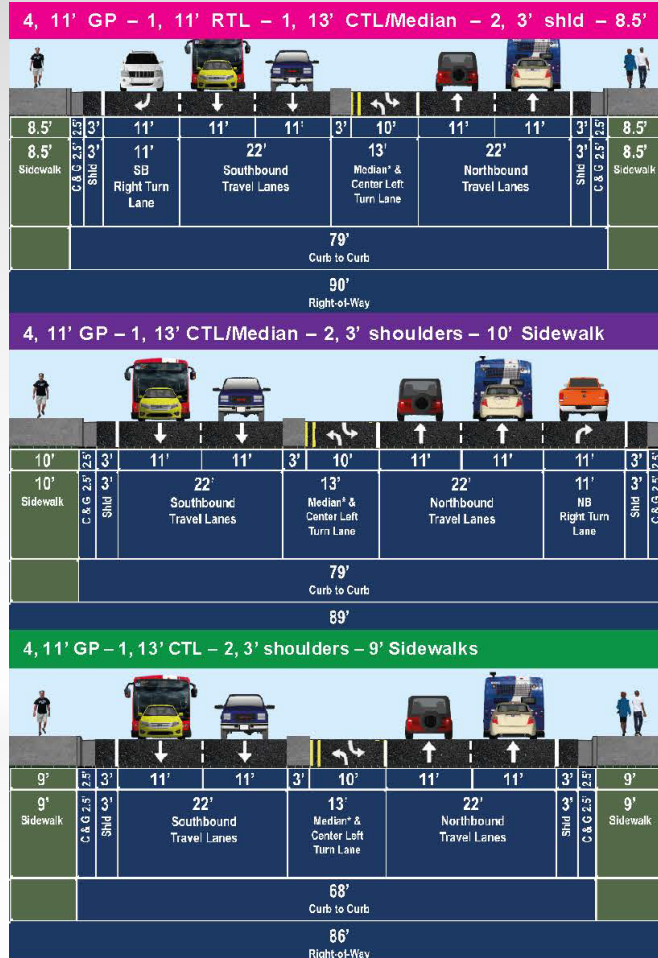
Application of Spot Improvement Specifications by Roadway Segmentation – *No Build Hybrid*

- ▶ Milton Rd. partitioned into 24 individual segments
- ▶ Each segment analyzed and recommended customized spot improvements/widths, each segment varying depending upon existing ROW and roadway features in each segment
- ▶ In response to strong public input – most segments do not require ROW acquisition

Short-Term Recommend Alternative, Forest Meadows St - Route 66



Short-Term Recommend Alternative, Route 66 – Beaver St



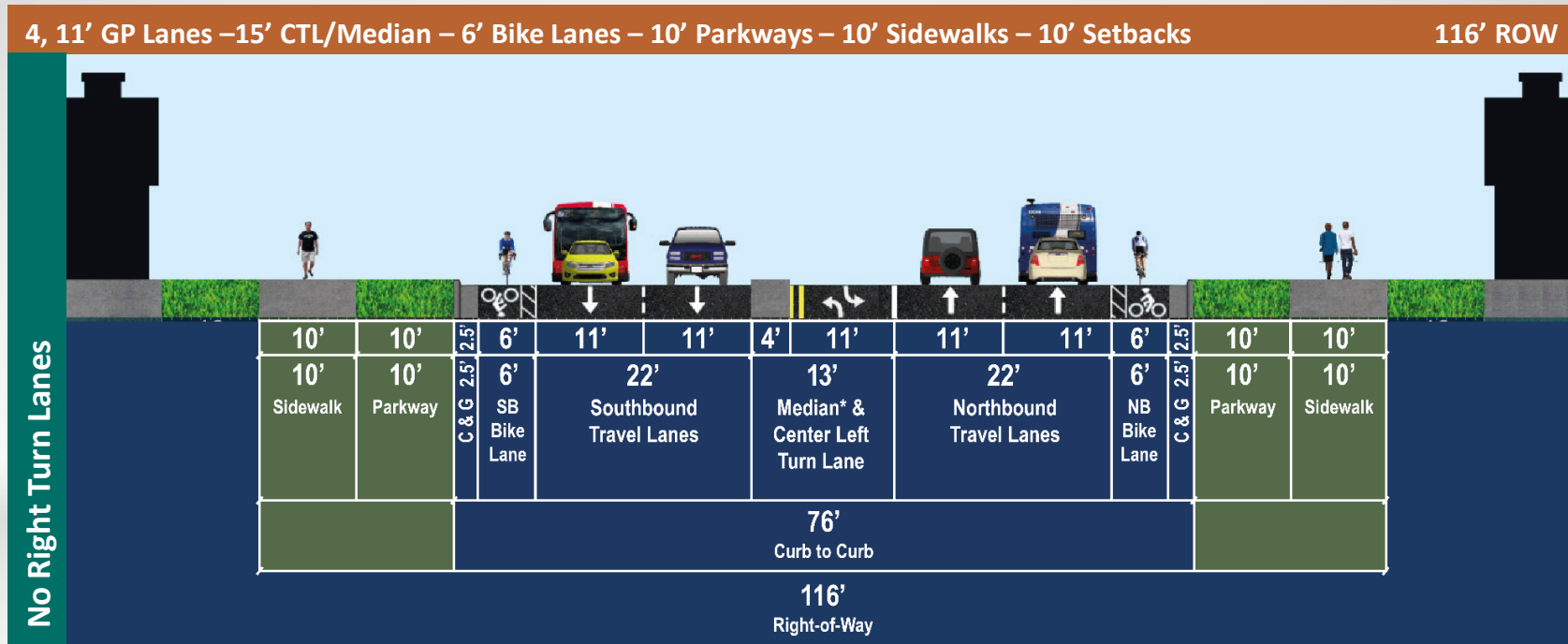
Milton Rd Vision Statement (Long-term)

The long-term vision includes expanded multimodal enhancements for robust walking and bicycle facilities in a well-landscaped corridor. The wide sidewalks, buffered bike lanes and generous parkways illustrated in the specific roadway cross-section create a safe, accessible and business-friendly environment. They allow for beautification that transforms Milton Road into a Great Street. Comfortable transit stops are easily accessed by people on their way to work, shop and tour Flagstaff. Traffic flow is managed by well-appointed medians and strategically located turn lanes. Over time and working with the private sector the City will develop complementary roadways and private parking circulation to aid access and mobility throughout the corridor. Roles are clear for ADOT, the City of Flagstaff, Mountain Line Transit, and the private-sector to collaboratively implement all aspects of this vision. Implementation of this vision is designed to occur incrementally, leveraging future development and redevelopment permitting processes for parcels along the Milton Road corridor to achieve the desired roadway enhancement. Projects of opportunity will be considered in the city site plan review and development permitting processes with necessary right-of-way being acquired at that time. Corridor Master Plan improvements to achieve the vision will be implemented through redevelopment of adjacent parcels and/or agency projects.

Long-term Recommended Alternative Description

- ▶ Includes four 11' travel lanes with two northbound and two southbound travel lanes;
- ▶ A wider, 15' raised median or center turn lane;
- ▶ Wider, 14' right turn lanes (where turn lanes exist today) to accommodate safer turning movements;
- ▶ A 6' buffered bike lanes to accommodate improved bike facilities;
- ▶ A consistent 10' landscaped area (aka parkway) between the sidewalk and the curb;
- ▶ A uniform 10' sidewalk throughout the corridor on both sides of Milton Road to accommodate multimodal users; and
- ▶ A 10' public utility easement that can also double as a landscaped area between sidewalk and building setbacks.

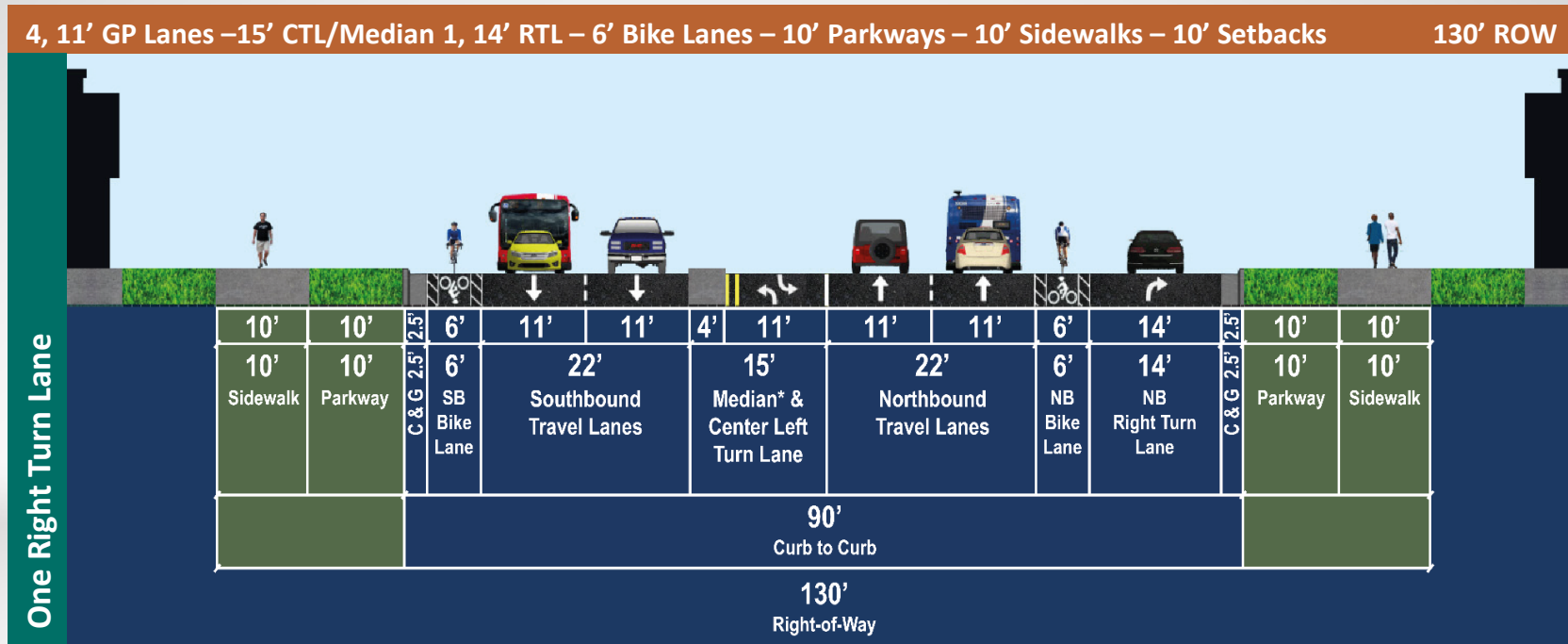
Long-Term Recommended Alternative Cross Section – No Right Turn Lanes (RTL)



*Median treatment will vary along the corridor. The width of the median will change from 2' to 13' depending on the presence of a center turn lane. The position of the median will also shift based on the directionality of the turn lane.

**An ADOT design exception and FHWA approval would be required for 11' travel lanes

Long-Term Recommended Alternative Cross Section – One Right Turn Lane (RTL)



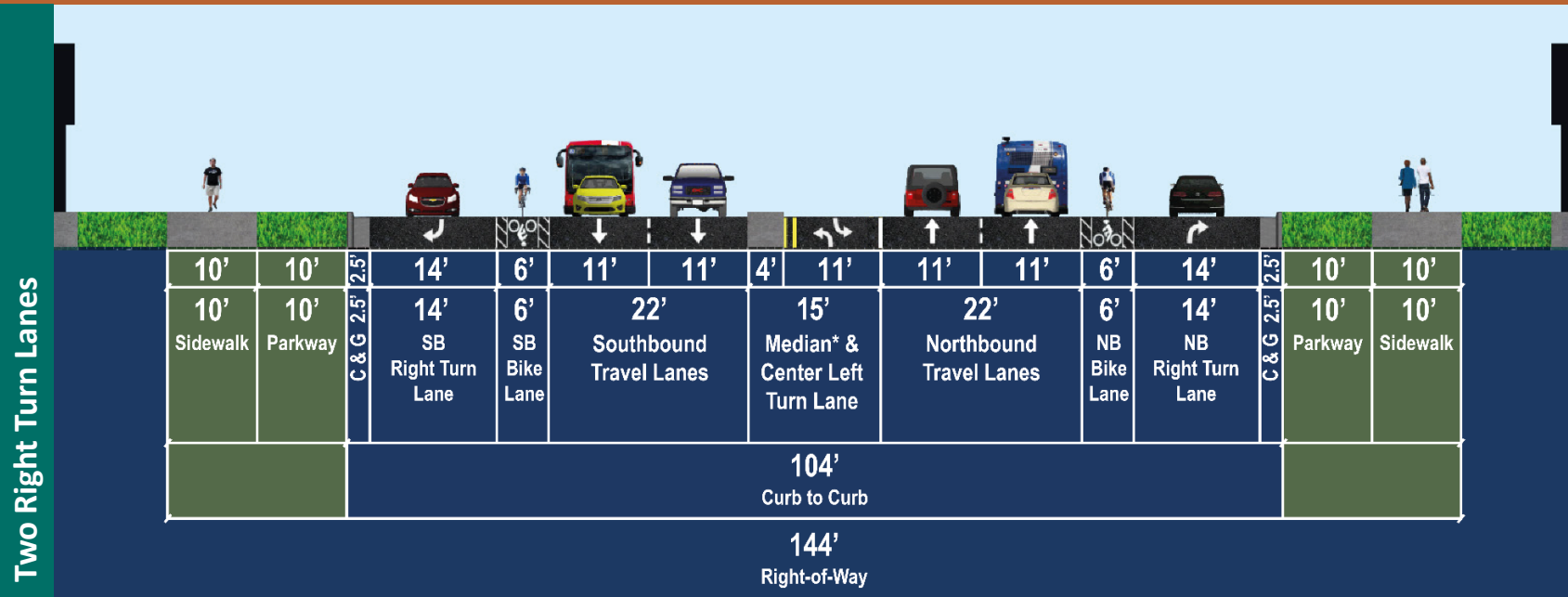
*Median treatment will vary along the corridor. The width of the median will change from 2' to 13' depending on the presence of a center turn lane. The position of the median will also shift based on the directionality of the turn lane.

**An ADOT design exception and FHWA approval would be required for 11' travel lanes

Long-Term Recommended Alternative Cross Section – Two Right Turn Lanes (RTL)

4, 11' GP Lanes – 15' CTL/Median – 2, 14' RTLs - 6' Bike Lanes – 10' Parkways – 10' Sidewalks – 10' Setbacks

144' ROW



*Median treatment will vary along the corridor. The width of the median will change from 2' to 13' depending on the presence of a center turn lane. The position of the median will also shift based on the directionality of the turn lane.

**An ADOT design exception and FHWA approval would be required for 11' travel lanes

Implementation

- ▶ Short-term Cost: *\$37,358,000
 - ADOT to construct “within the road” improvements as funding becomes available
 - Partners to fund “behind the curb” improvements as funding becomes available
- ▶ Long-term Cost: *\$95,092,000
 - Implemented through redevelopment of adjacent parcels and/or agency projects

**Funding has not yet been identified to implement the Short-term or Long-term Improvements.*

Questions?

www.azdot.gov/MiltonCorridorMasterPlan

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Consultant Project Manager

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Recommended Alternative Spot Improvements

Intersection/ Location	Recommended No-Build Hybrid Alternative Spot Improvements	1 –Short-Term Spot Improvement 2 –Long-Term Spot Improvement 3 –Short- & Long-Term Spot Improvement
Forest Meadows Street	<ul style="list-style-type: none"> • Include an adaptive traffic signal³ • Restrict U-Turns^{3%} • Improve existing standard crosswalks with high-visibility crosswalks (south and west leg)³ • Continue to ensure all curb ramps are ADA-compliant³ • Pedestrian staging area improvements by expanding the staging area at the northwest and southwest corners³ • Introduce bicycle signal detection and actuation³ 	
Saunders Drive	<ul style="list-style-type: none"> • Consider a redesign in west leg for a reduced turning radii² • Construct a 4-foot finger island/median and or/ensure median is constructed at the north leg² • Include high-visibility crosswalks across the east and future proposed west legs^{3#} • Continue to ensure all curb ramps are ADA-compliant³ 	
University Drive	<ul style="list-style-type: none"> • Construct a 4-foot finger island/median and/or ensure a median is constructed at the north leg² • Improve existing standard crosswalks with high-visibility crosswalks (north and east leg)³ • Continue to ensure all curb ramps are ADA-compliant³ • Restrict U-Turns^{3%} • Bicycle signal detection and actuation³ 	
University Avenue	<ul style="list-style-type: none"> • Right-in, right-out (impacted by the introduction of the University Drive intersection and roundabout with Beulah Blvd)^{3%} • Tighten the SB to WB turn radius to improve pedestrian condition (currently being implemented/constructed by property owner)² • Continue to ensure all curb ramps are ADA-compliant³ 	

Notes:

#Proposed crossings and crossing improvements are for future consideration only, and will be considered for implementation upon meeting ADOT warrant and/or TIA approval

+Proposed transit signal priority is for future consideration only, and will be considered for implementation upon meeting ADOT warrant and/or TIA that concludes no negative impacts to vehicular operations.

% Proposed signal phasing adjustments and turn restrictions are for consideration only, and will be considered for implementation upon meeting ADOT warrant and/or TIA approval.

Recommended Alternative Spot Improvements

Intersection/ Location	Recommended No-Build Hybrid Alternative Spot Improvements	1 –Short-Term Spot Improvement 2 –Long-Term Spot Improvement 3 –Short- & Long-Term Spot Improvement
Chambers Drive	<ul style="list-style-type: none"> • Include northbound and southbound transit stops³ • Continue to ensure all curb ramps are ADA-compliant³ • Add high-visibility crosswalk on the east leg^{1#} • Southbound and westbound left turn restrictions^{3%} • Restrict U-Turns^{3%} • Ensure median are constructed at the north and south legs of the intersection¹ • Construct a traffic signal at the intersection (for future consideration upon meeting warrant and/or Traffic Impact Analysis (TIA) approval)² 	
Plaza Way	<ul style="list-style-type: none"> • Lengthen the storage for northbound left turn lane³ • Dedicated right and left turn phase for vehicles^{3%} • Improve existing standard crosswalks with high-visibility crosswalks (all legs)³ • Restrict U-Turns^{3%} • Continue to ensure all curb ramps are ADA-compliant³ • Bicycle signal detection and actuation³ • Improve the south leg pedestrian crossing by shortening the crossing length through the inclusion of a pork chop at the southeast corner³ 	

Notes:

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Recommended Alternative Spot Improvements

Intersection/ Location	Recommended No-Build Hybrid Alternative Spot Improvements	1 –Short-Term Spot Improvement 2 –Long-Term Spot Improvement 3 –Short- & Long-Term Spot Improvement
Riordan Street	<ul style="list-style-type: none"> Dedicated right and left turn phase for vehicles^{3%} Improve existing standard crosswalks with high-visibility crosswalks (all legs)³ Restrict U-Turns^{3%} Continue to ensure all curb ramps are ADA-compliant³ Bicycle signal detection and actuation³ 	
Route 66	<ul style="list-style-type: none"> Dedicated right and left turn phase for vehicles^{3%} Improve existing standard crosswalks with high-visibility crosswalks (west and south legs)³ Restrict U-Turns^{3%} Introduce transit signal prioritization ITS infrastructure³⁺ Continue to ensure all curb ramps are ADA-compliant³ Bicycle signal detection and actuation³ Include northbound and southbound transit stops³ Pedestrian staging area improvements by expanding the staging area at the northwest and southwest corners³ Improve the west leg pedestrian crossing by shortening the crossing length through the inclusion of a pork chop at the southwest corner³ 	

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Recommended Alternative Spot Improvements

Intersection/ Location	Recommended No-Build Hybrid Alternative Spot Improvements	1 –Short-Term Spot Improvement 2 –Long-Term Spot Improvement 3 –Short- & Long-Term Spot Improvement
Malpais Lane	<ul style="list-style-type: none"> • Restrict left turns in and out, or enforce right in, right out only to eliminate NB Milton Road left turns to WB Malpais Lane (one of top intersections in districts for crashes, left turns)^{3%} • Introduce west leg high-visibility crosswalks across Malpais Lane^{3#} • Restrict U-Turns^{3%} • Continue to ensure all curb ramps are ADA-compliant³ • Improve the west leg pedestrian crossing by shortening the crossing length through the inclusion of a pork chop at the southwest corner² • Reconstruct the west leg of the intersection to better perpendicularly align with Milton Road² • Include northbound and southbound transit stops³ • Grade separated pedestrian overpass over the north leg of the intersection aligned with the north drive of Jack-in-the-Box (Not an ADOT funded project and not part of the CMP Master Plan funding process)³ 	
Butler/Clay Avenue	<ul style="list-style-type: none"> • Improve existing standard crosswalks with high-visibility crosswalks (west and south legs)³ • Restrict U-Turns^{3%} • Introduce transit signal prioritization ITS infrastructure³⁺ • Continue to ensure all curb ramps are ADA-compliant³ • Relocate south leg stop bar closer to the existing intersection curb returns³ • Pedestrian staging area improvements by expanding the staging area at all corners³ • Bicycle signal detection and actuation³ 	

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Recommended Alternative Spot Improvements

Intersection/ Location	Recommended No-Build Hybrid Alternative Spot Improvements	1 –Short-Term Spot Improvement 2 –Long-Term Spot Improvement 3 –Short- & Long-Term Spot Improvement
Mikes Pike Street	<ul style="list-style-type: none"> Introduce high-visibility crosswalk at the east leg across Mikes Pike Street^{3#} Reconstruct the southeast corner to allow right turn only lane to continue through the Butler/Clay Avenue intersection¹ Right in, right out only^{3%} Continue to ensure all curb ramps are ADA-compliant³ 	
Tucson Avenue	<ul style="list-style-type: none"> Introduce high-visibility crosswalks across Tucson Avenue on the west leg^{3#} Continue to ensure all curb ramps are ADA-compliant³ 	
Phoenix Avenue	<ul style="list-style-type: none"> Construct Traffic Signal (for future consideration upon meeting warrant and/or Traffic Impact Analysis (TIA) approval)³ Grade separated crossing (north leg)³ Continue to ensure all curb ramps are ADA-compliant³ Introduce transit signal prioritization ITS infrastructure (if signal is implemented)³⁺ Introduce high-visibility crosswalks (across Phoenix Ave only on both the east and west legs)^{3#} Restrict U-Turns (if traffic signal is implemented)^{3%} Include northbound and southbound transit stops³ 	
Santa Fe Avenue	<ul style="list-style-type: none"> Continue to ensure all curb ramps are ADA-compliant³ Introduce high-visibility crosswalks across Santa Fe Avenue^{3#} Implement northbound Milton Road left turn restrictions^{3%} 	

Notes:

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% Proposed signal phasing adjustments and turn restrictions are for consideration only, and will be considered for implementation upon meeting ADOT warrant and/or TIA approval.

Recommended Alternative Spot Improvements

Intersection/ Location	Recommended No-Build Hybrid Alternative Spot Improvements	1 –Short-Term Spot Improvement 2 –Long-Term Spot Improvement 3 –Short- & Long-Term Spot Improvement
Humphrey's Street	<ul style="list-style-type: none"> Continue to ensure all curb ramps are ADA-compliant³ Improve existing standard crosswalks by including high-visibility crosswalks³ Dual Left Turn on Milton Rd to NB Humphrey's St (requires two NB travel lanes on Humphrey's Street)² Improve the pedestrian crossing environment by implementing leading pedestrian intervals^{3#} Introduce transit signal prioritization ITS infrastructure³⁺ Restrict U-Turns^{3%} 	
Beaver Street	<ul style="list-style-type: none"> Continue to ensure all curb ramps are ADA-compliant³ Improve existing standard crosswalks by including high-visibility crosswalks³ Introduce transit signal prioritization ITS infrastructure³⁺ Restrict U-Turns^{3%} 	

Notes:

#Proposed crossings and crossing improvements are for future consideration only, and will be considered for implementation upon meeting ADOT warrant and/or TIA approval

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