8.3 Transportation Alternatives Memo

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WHAT TRANSPORTATION CAN BE.

MEMORANDUM

Date:	April 28, 2022	**TG:**	20305.00
To:	Aidan Dixon - TRPC		
From:	Jon Pascal, PE – Transpo Group Paul Sharman, PE – Transpo Group		
cc:	Katrina Van Every - TRPC		
Subject:	Martin Way Corridor Study Final Memorandum		

Background

The Thurston Regional Planning Council (TRPC) is currently conducting a corridor study for Martin Way within the Cities of Olympia and Lacey. The study has a common vision for Martin Way and will identify opportunities to develop the identity and character of the corridor as it grows into the future.

Transpo Group was hired to assist TRPC by evaluating and identifying a suite of multimodal transportation solutions to support the future development and changing needs of land uses in the Martin Way Corridor study area. The scope of Transpo Group's efforts included:

- Development of corridor treatment alternatives,
- Identification of criteria upon which to evaluate the various treatment alternatives,
- Supporting TRPC's operations and modeling analysis of each alternative, and
- Development of planning level cost estimates for each alternative

The following sections of this memorandum discuss the results of each of key scope item.

1. Corridor Treatment Alternatives

The character of Martin Way changes much between the western study endpoint at Pacific Avenue SE and the eastern endpoint of Duterrow Road SE. The vision for the corridor is an attractive mixed-use, high-density residential and commercial area. Over time, it will transition away from automobile-dominated use to a more pedestrian-friendly streetscape that also encourages bicycling and supports high-capacity transit. Because the corridor is five miles long and conditions change based on jurisdiction and development patterns, the project team divided the corridor into five segments:

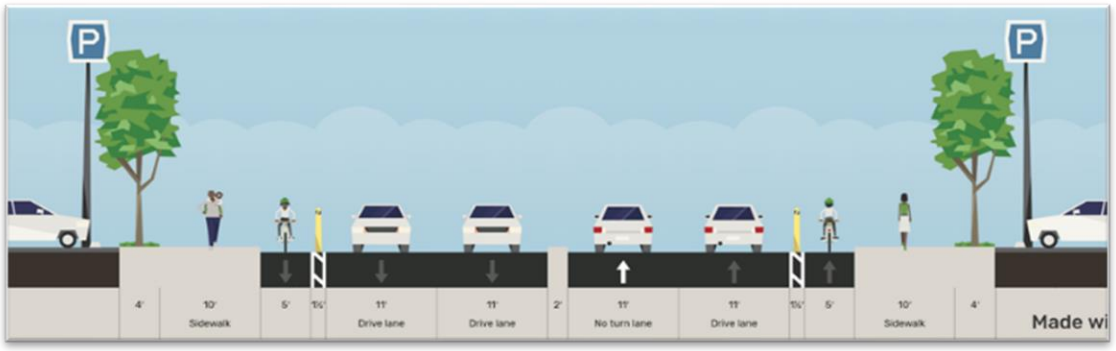
1. Pacific Avenue SE to Lilly Road NE
2. Lilly Road NE to College Street SE
3. College Street SE to Carpenter Road SE
4. Carpenter Road SE to Marvin Road NE
5. Marvin Road NE to Duterrow Road SE.

Transpo Group engaged in a series of meetings with the project's steering committee, consisting of members from agency partners, to discuss potential corridor treatments. TRPC, Transpo Group staff and the steering committee decided on the creation of three alternatives for each of the five corridor segments. The first alternative, Minimum, includes low-cost investments that do not change the roadway right-of-way (ROW) or the existing curb-to-curb space. Minor changes such as restriping or installing semi-permanent barriers could occur. The second alternative, Moderate,

includes higher cost capital projects such as construction of sidewalks and full restriping of the existing roadway. The Moderate Alternative does not include changes to the existing curb to curb roadway space. The final alternative, Aggressive, could include any capital project change to the roadway.

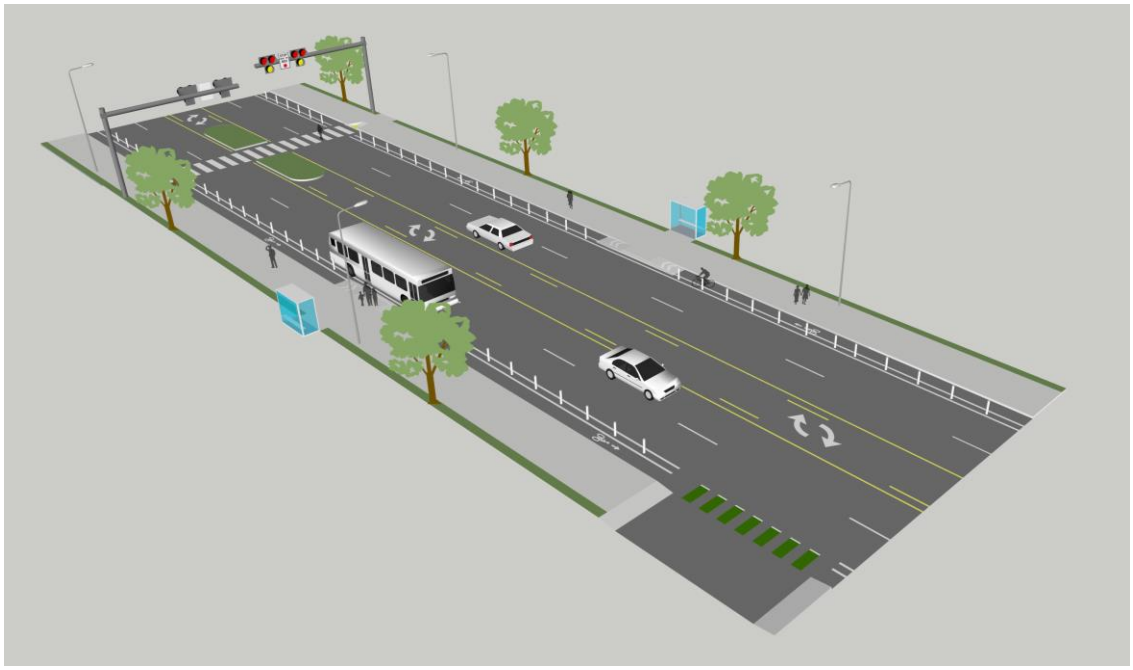
Roadway cross sections were created for each of the alternatives (minimum, moderate, aggressive) for each corridor segment. These cross sections are all shown in Attachment A, while a sample is shown in Figure 1.

Figure 1 - Sample Roadway Cross Section



The roadway segment cross-sections were reviewed by TRPC and the steering committee members before final adjustments were made to the conceptual layout of each roadway segment under each corridor alternative. Upon completion of the cross sections, full 3D visualizations were developed for each alternative for each roadway segment, for a total of 15 visualizations. A sample visualization is included as Figure 2 while the complete corridor visualizations and detailed summaries of what each alternative includes are provided in Attachment A.

Figure 2 - Sample Roadway Visualization

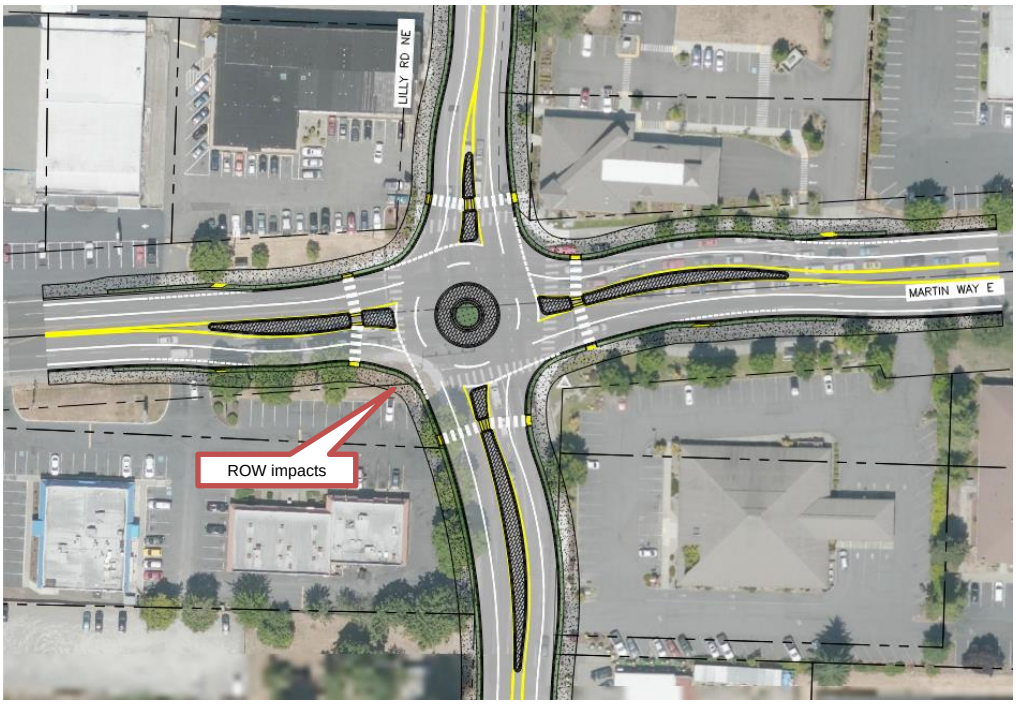


The visualizations were developed to help showcase the general look and feel of the corridor and provide a sense of how the corridor would accommodate all roadway users. In addition to corridor visualizations, Transpo Group was scoped to conduct analysis and to develop conceptual designs at five key study intersections along Martin Way:

1. Pacific Avenue / Martin Way
2. Lilly Road NE / Martin Way
3. Sleater Kinney Road NE / Martin Way
4. Carpenter Road SE / Martin Way
5. Dutterow Road SE / Martin Way

Intersection concepts were developed based on the results of the operations analysis (discussed below) and feedback from the steering committee and TRPC staff. A sample conceptual design for a roundabout at Lilly Road NE and Martin Way E is shown in Figure 3.

Figure 3 - Sample Intersection Conceptual Design



The full set of the intersection conceptual designs are provided in Attachment B.

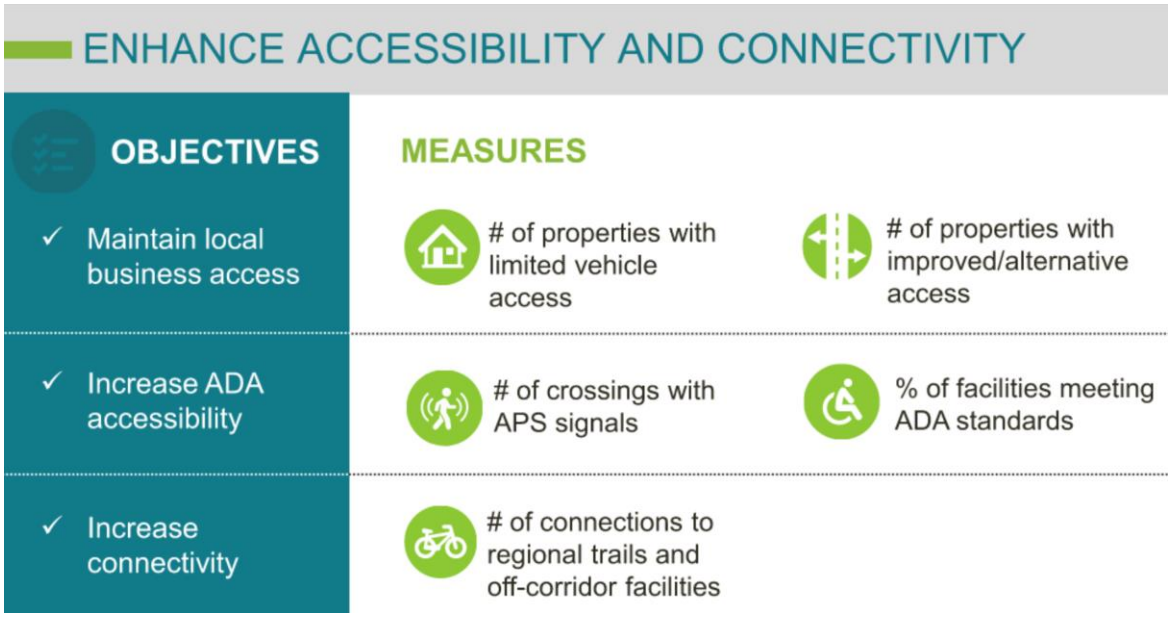
2. Evaluation Criteria

To evaluate the various corridor alternatives, a set of overall project goals was first established by the project team and steering committee. The goals would be the basis for evaluating any corridor improvements. The goals:

1. Improve Local Mobility and Safety for all Users
2. Balance Needs & Accommodate Regional Mobility
3. Enhance Accessibility and Connectivity

Each of the goals included two or three operational objectives upon which the success of the goal would be determined. The objectives were further broken into one or two measures which would

consist of clear objective criteria to calculate the level of success each alternative had within each goal. The objectives and measures for each project goal are shown below.



The specific measures were developed in coordination with TRPC and the steering committee. The measures were based on readily available data; however, some data points were not easily captured, and the final method of scoring made some slight adjustments to the measures. The measures were scored as either; Poor, Low, Moderate, or High. The scoring methodology used is summarized in Table 1.

Table 1. Evaluation Criteria Scoring Methodology

Objective	Measure[1]	Poor	Low	Moderate	High
Increase Mobility Through Walking	% corridor with comfortable pedestrian facilities (sidewalk)	0-25%	25-50%	50-80%	80+%
	Distance Between protected pedestrian crossings	>0.6 miles	0.4-0.6 miles	0.25-0.4 miles	<0.25 miles
Increase Access to Transit	Proximity of nearest transit stop to major trip generators	>0.6 miles	0.4-0.6 miles	0.25-0.4 miles	<0.25 miles
	# transit stops with space for comfortable amenities	<25% stops have shelters	25-50% stops have shelters	50-80% stops have shelters	80+% stops have shelters
Enhance Bicycle Connectivity and Comfort	% corridor with designated bicycle facility on both sides	0-25%	25-50%	50-80%	80+%
	% bicycle facilities protected from vehicle travel way	0-25%	25-50%	50-80%	80+%
Provide improved transit speed and reliability	Transit travel time during PM peak period[2]	>2x travel speed	1.7-2x travel speed	1.25-1.7x travel speed	<1.25 x travel speed
	Variance in transit travel time speeds during PM peak period[2]	>100%	70-100%	35-70%	0-35%
Avoid degradation of corridor operations	travel times during PM peak hour[2]	>2.5 x free flow travel time	2-2.5 x free flow travel time	1.5-2 x free flow travel time	<1.5 x free flow travel time
	# of major intersections operating below LOS D	>2	2	1	0
Maintain Local Business Access	# of properties with limited vehicle access	0-25%	25-50%	50-80%	80+%
	# of properties with improved/alternative access	0-25%	25-50%	50-80%	80+%
Increase ADA accessibility	# of crossings with APS signals	0-25%	25-50%	50-80%	80+%
	% facilities meeting ADA standards[3]	0-25%	25-50%	50-80%	80+%
Increase connectivity	# of connections to regional trails and off-corridor facilities[4]	Very difficult for bikes and peds to access regional locations safely	Somewhat difficult for bikes and peds to access regional locations safely	Most regional locations accessible by bike and ped	Regional locations safely accessible by both bike and ped

1. Scores of Poor, Low, Moderate and High were generally averaged between the two measures for each Objective. For instance, a measure that scored Low and a measure that scored Moderate within the same objective would be averaged to Low.
2. From TRPC corridor VISSIM model results
3. Based on Google Earth Streetview at crossing locations – looked at curb ramps, signal push buttons and general sidewalk layout.
4. This was estimated as general overall connectivity for bikes and pedestrians to access important locations. This was done subjectively.

Measures were scored using model output data from TRPC when available, otherwise measures were scored using Google Earth Satellite and Streetview.

3. Operations Analysis

Transpo Group evaluated operations at five intersections along the Martin Way Corridor: Pacific Avenue SE, Lilly Road NE, Sleater Kinney Road NE, Carpenter Road SE and Duterrow Road SE. Existing traffic volumes were gathered from the City of Olympia, the City of Lacey and from TRPC modelling staff. Existing intersection operations were analyzed to understand how the corridor

currently operates. Forecast intersection volumes were obtained from TRPC's 2045 travel demand model and used to evaluate how each intersection is expected to operate in the future and compared to existing operations. When Level of Service (LOS) deficiencies occurred in the future condition, possible intersection improvements were identified and conceptual designs were prepared (as described in Section 1 of this memorandum).

Transpo Group also provided forecast 2045 signal timing to TRPC traffic modelling staff, who updated their 2045 Dynameq model of the entire Martin Way corridor for each proposed alternative. The corridor operations were evaluated based on the changes included within each corridor alternative (i.e. minimum, moderate and aggressive treatments). TRPC modeling staff were able to provide detailed modeling results to Transpo Group including vehicle and transit travel times, variation in travel times, and corridor volumes. These modeling outputs were used as inputs into the evaluation criteria summarized in Section 2 of this memorandum to help score each alternative. The full traffic operations analysis summary results can be found in Attachment C while Table 2 summarizes the existing and forecast 2045 intersection LOS.

Table 2. Existing and Forecast 2045 Intersection LOS

	Existing			2045 Forecast[3]		
Intersection	**Control**	**LOS[1]**	**Delay[2]**	**LOS**	**LOS[1]**	**Delay[2]**
Weekday PM Peak Hour						
Pacific Avenue / Martin Way	Signal	B	12	RAB	A	8
Lilly Road NE / Martin Way	Signal	C	31	RAB	B	10
Sleater Kinney Road NE / Martin Way	Signal	D	53	Signal[4]	D	50
Carpenter Road SE / Martin Way	Signal	D	38	Signal	E	73
Dutterow Road SE / Martin Way	Signal	D	37	Signal	D	53

1. Level of service, based on Highway Capacity Manual 6th Edition methodology.
2. Average delay in seconds per vehicle.
3. 2045 Forecasts shown for Moderate intersection improvements. Other analysis results can be found in Attachment C.
4. The intersection of Sleater Kinney Road and Martin Way may also warrant the construction of a roundabout. The roundabout was not included in this analysis due to budget constraints but is worth considering in future analyses.

4. Planning Level Cost Estimates

The final element included in Transpo Group's scope was to provide a planning level cost estimate for each of the three alternatives for each of the five roadway segments. The planning level costs are based on a combination of WSDOT unit bid costs and recent construction projects within the general South Puget Sound area. These cost estimates do not include any stormwater, utilities, environmental mitigation or ROW acquisition. The proposed improvements and expected costs for each roadway segment of Martin Way are summarized in Table 3 through Table 7. A full breakdown of these costs is provided in Attachment D.

Table 3. Cost Estimates - Martin Way Corridor Segment 1 – Pacific to Lilly

Alternative	Description of Improvements	Cost Estimate
Minimum	Restripe for buffered bike lanes, some access management	$ +600,000
Moderate	Expand Sidewalks to 10 ft Restripe for buffered bike lanes Add mid-block crossings Minor Access Management	
	RABs at Pacific Ave SE and Lilly Rd NE	$ +18,000,000
Aggressive	Expand Sidewalks to 10 ft Protected Bike Lanes Add mid-block crossings Expanded Access Management BAT Lane	
	RAB at Pacific Ave SE, buffered bike lanes and transit signal priority at Lilly Rd NE	$ +29,000,000

Table 4. Cost Estimates - Martin Way Corridor Segment 2 – Lilly to College

Alternative	Description of Improvements	Cost Estimate
Minimum	Restripe for buffered bike lanes, some access management	$ +850,000
Moderate	Expand Sidewalks to 10 ft Restripe for buffered bike lanes Add mid-block crossings Minor Access Management	
	Bike upgrades at Lilly and Sleater Kinney Rd NE	$ +8,000,000
Aggressive	Expand Sidewalks to 10 ft Protected Bike Lanes Add mid-block crossings Expanded Access Management BAT Lane	
	RAB at Lilly, Transit Signal Proprotu and bike improvements at Sleater Kinney Rd NE	$ +26,000,000

Table 5. Cost Estimates - Martin Way Corridor Segment 3 – College to Carpenter

Alternative	Description of Improvements	Cost Estimate
Minimum	Convert shoulders to shared-use pathway Widen and add physical barrier between pathway for improved safety/comfort	
	Bike Crossing Improvements at Carpenter Rd NE	$ +17,000,000
Moderate	Convert shoulders to shared-use pathway Widen and add physical barrier between pathway for improved safety/comfort	
	Bike Crossing Improvements at Carpenter Rd NE	$ +17,000,000
Aggressive	Construct 10 ft Sidewalks Protected Bike Lanes Access Management BAT Lanes	
	Protected Intersection at Carpenter Rd NE	$ +36,000,000

Table 6. Cost Estimates - Martin Way Corridor Segment 4 – Carpenter to Marvin		
Alternative	**Description of Improvements**	**Cost Estimate**
Minimum	Restripe for buffered bike lanes, some access management Bike Crossing Improvements at Carpenter Rd NE	$ +750,000
Moderate	Expand Sidewalks to 10 ft Restripe for buffered bike lanes Minor Access Management Bike Crossing Improvements at Carpenter Rd NE	$ +3,500,000
Aggressive	Expand Sidewalks to 10 ft Protected Bike Lanes Expanded Access Management BAT Lanes Protected Intersection at Carpenter Rd NE	$ +40,000,000

Table 7. Cost Estimates - Martin Way Corridor Segment 5 – Marvin to Duterrow		
Alternative	**Description of Improvements**	**Cost Estimate**
Minimum	Restripe for buffered bike lanes Bike Crossing Improvements at Duterrow Rd SE	$ +350,000
Moderate	Add Bike lane by sidewalk on north side Add buffered bike lane on south side (restripe only) Add sidewalk to south side Add mid-block crossings Bike Crossing Improvements and Signal upgrades at Duterrow Rd SE	$ +16,000,000
Aggressive	Protected bike lanes on both sides Add sidewalk on south side of street Add mid-block crossings Access management Bike Crossing Improvements, Signal Upgrades and EB Transit Queue Jump at Duterrow Rd SE	$ +17,000,000

5. Alternatives Evaluation Results and Summary

The alternatives evaluation results summarize how each Alternative performs with respect to the project goals and objectives. The results are summarized in Attachment E. Generally, Minimum corridor treatments result in minor bicycle and pedestrian improvements. The Minimum treatments generally keep the look and feel of the corridor the same and also have similar corridor level performance. The cost estimates vary between $350,000 and $850,000 for each segment (apart from Segment 3).

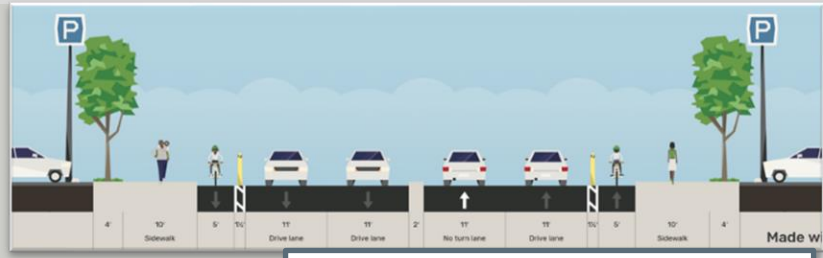
Moderate corridor treatments result in more significant improvements that are more consistent with the project goals and objectives. The improvements enhance access to transit, create bicycle and pedestrian connections with comfortable facilities, and balances local business access with access management treatments. The cost estimates for Moderate treatments vary from $3.5 million to $18 million by segment.

Aggressive corridor treatments result in the greatest overall improvements along the corridor, while meeting each of the project goals and objectives. The Aggressive improvements provide robust bicycle and pedestrian connectivity and safety improvements, increased access for transit, improved transit speed and reliability, and help redefine the corridor into a more pedestrian-friendly streetscape that encourages bicycling and supports high-capacity transit. However, this alternative generally comes at sizeable increase in cost compared to the other alternatives and may result in significant corridor vehicular congestion where existing vehicle lenes are re-purposed

for transit and HOV usage only. The cost estimates for the Aggressive treatments vary from $17 million to $40 million per segment.

ATTACHMENT A – SEGMENT VISUALIZATIONS AND CROSS SECTIONS 10/28/21

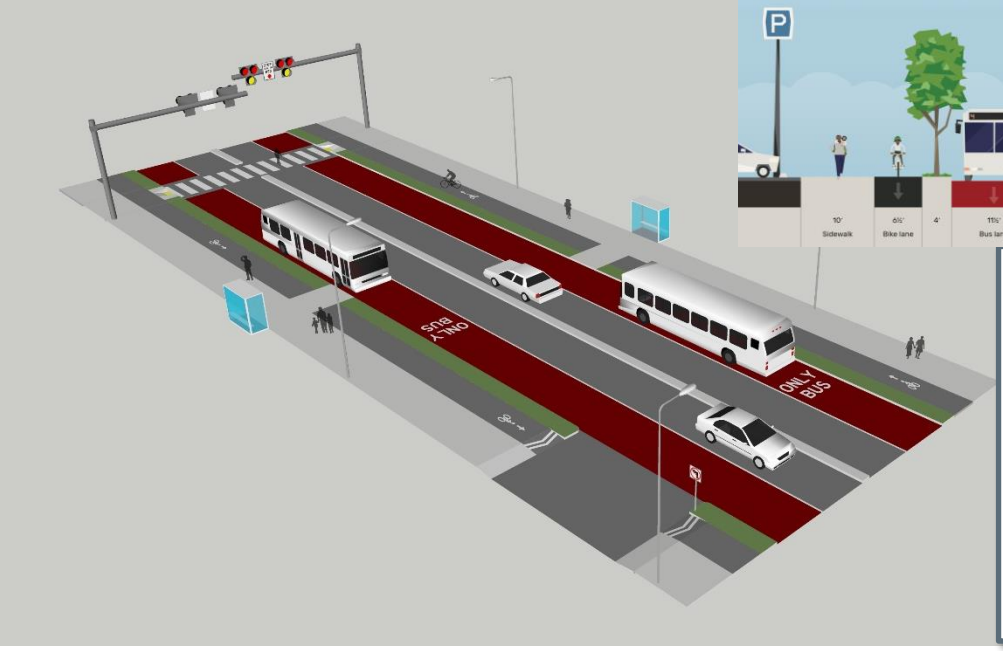
SEGMENT 1 (PACIFIC TO LILLY) - MODERATE

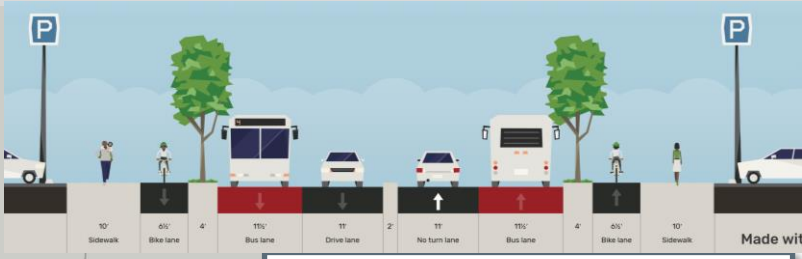


- Buffered bike lanes
- 10’ sidewalks
- Streetscape improvements
- Mid-block crossings
- Minor access management

ATTACHMENT A

SEGMENT 1 (PACIFIC TO LILLY) - AGGRESSIVE





- Protected bike lanes
- 10’ sidewalks
- BAT lanes
- Streetscape improvements
- Mid-block crossings
- Access management

ATTACHMENT A

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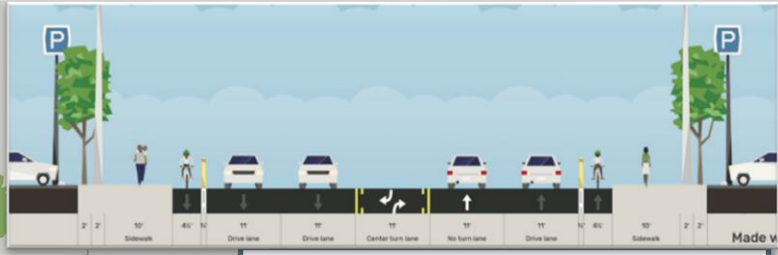
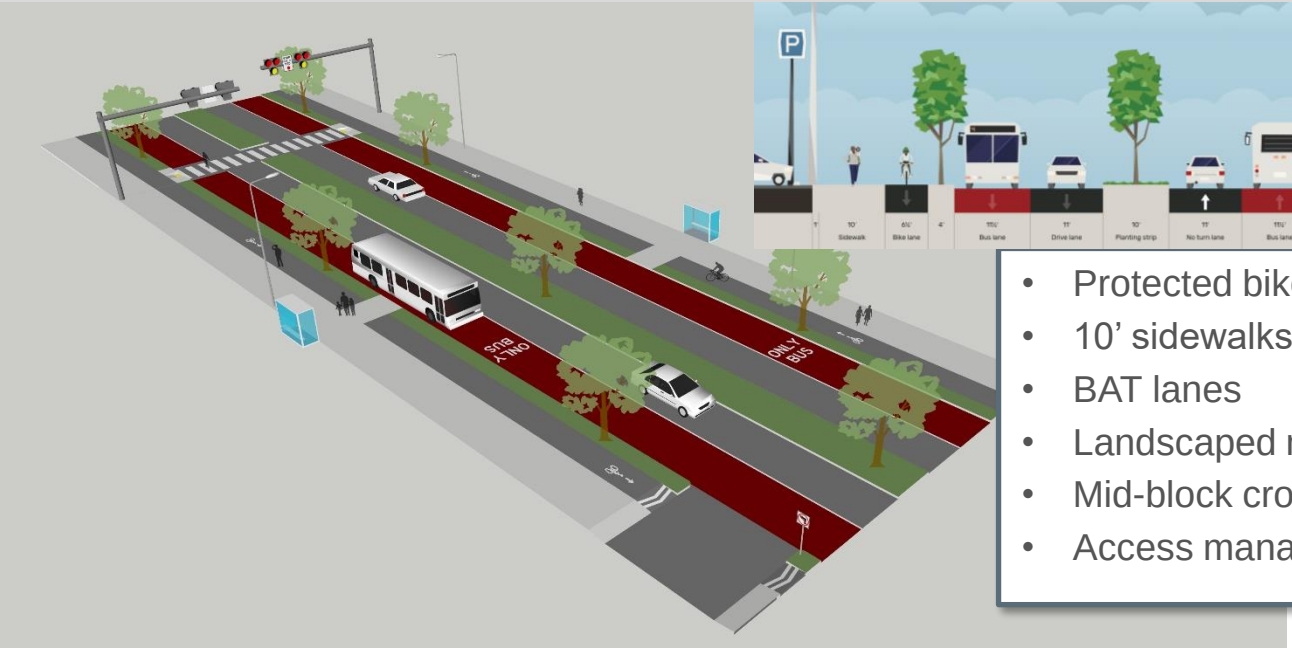
SEGMENT 2 (LILLY TO COLLEGE) - MODERATE

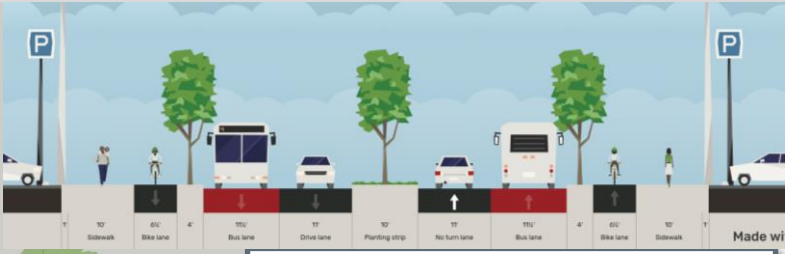


- Buffered bike lanes
- 10’ sidewalks
- Mid-block crossings
- Minor access management

ATTACHMENT A

SEGMENT 2 (LILLY TO COLLEGE) - AGGRESSIVE





- Protected bike lanes
- 10’ sidewalks
- BAT lanes
- Landscaped median
- Mid-block crossings
- Access management

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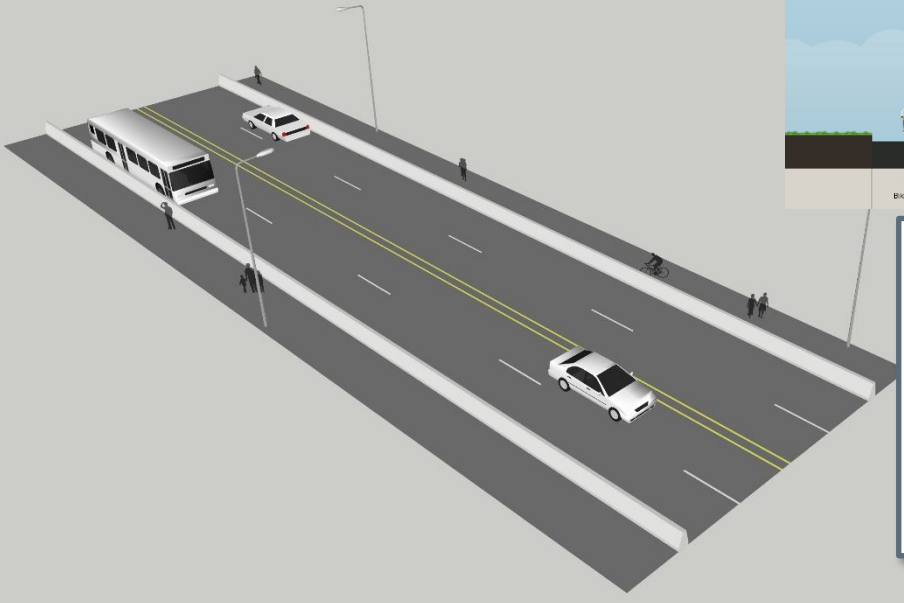
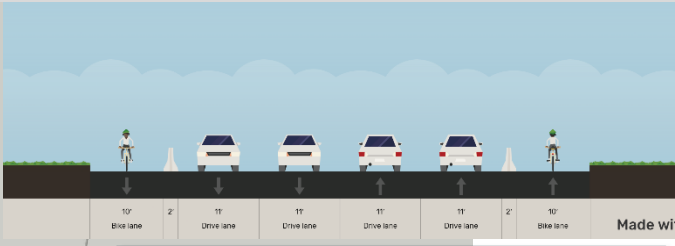
SEGMENT 3 (COLLEGE TO CARPENTER) - MODERATE

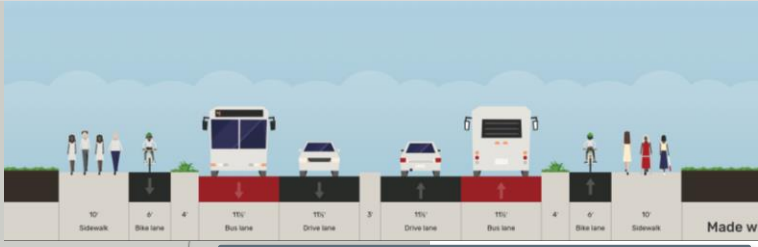




- Convert roadway shoulders to shared-use pathways
- Widen and add physical barrier between pathway for improved safety/comfort

ATTACHMENT A

SEGMENT 3 (COLLEGE TO CARPENTER) - AGGRESSIVE



- Protected bike lanes
- 10’ sidewalks
- BAT lanes
- Access management

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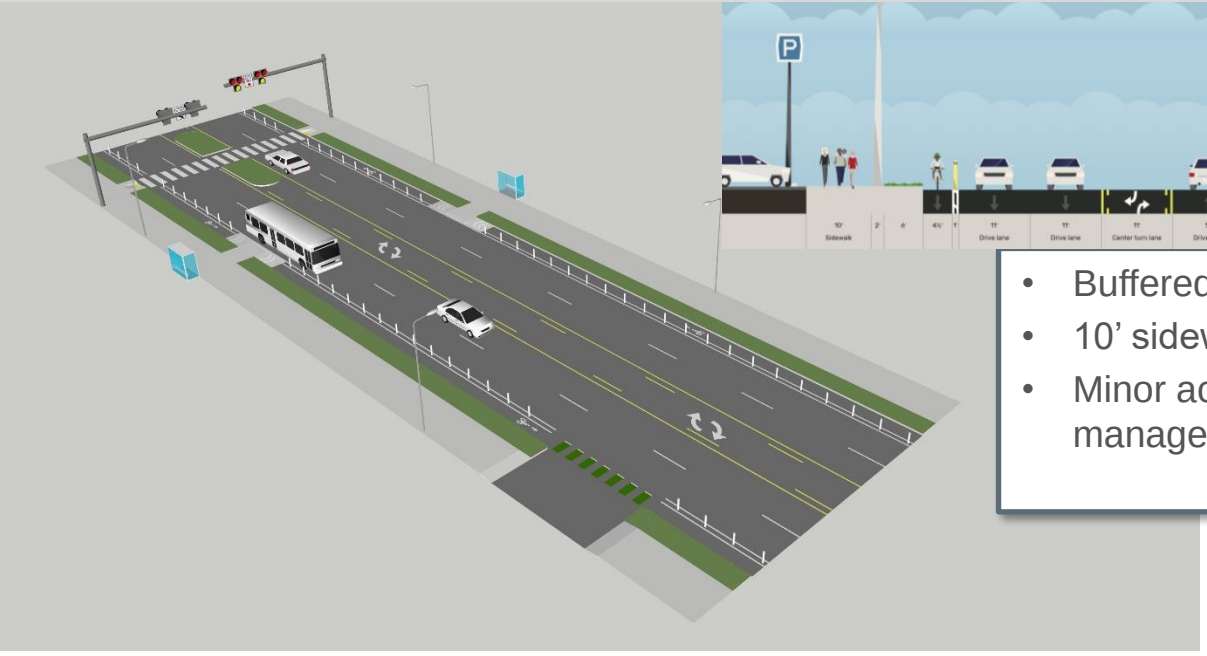
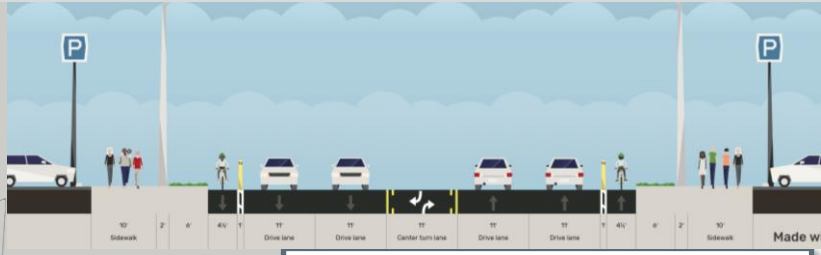
SEGMENT 4 (CARPENTER TO MARVIN) - MODERATE

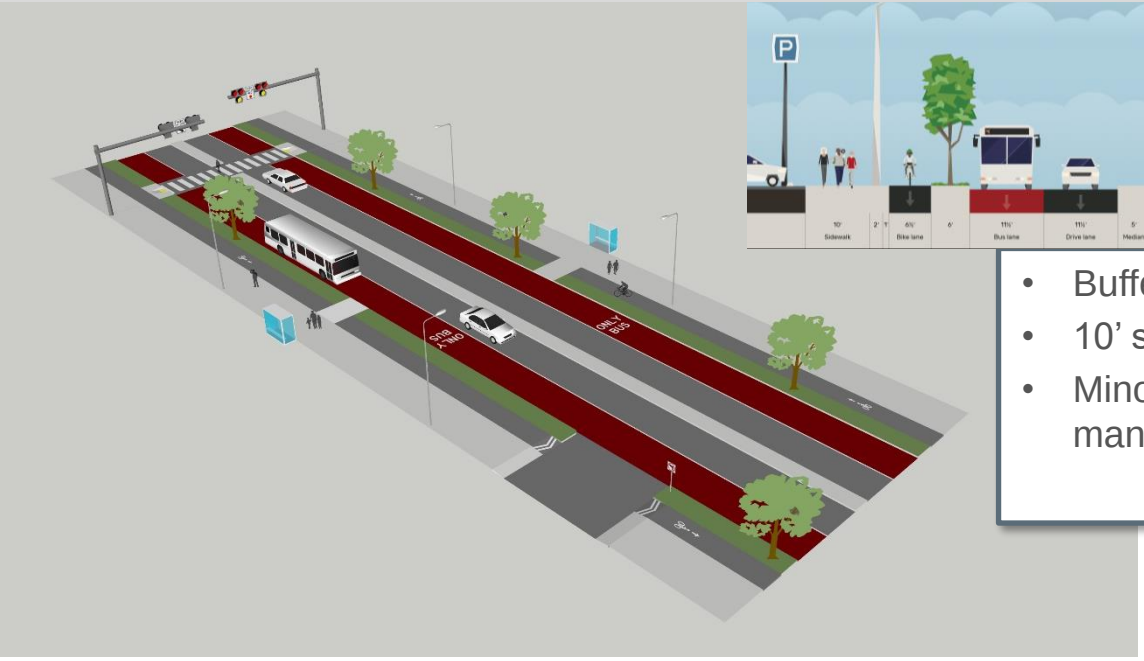


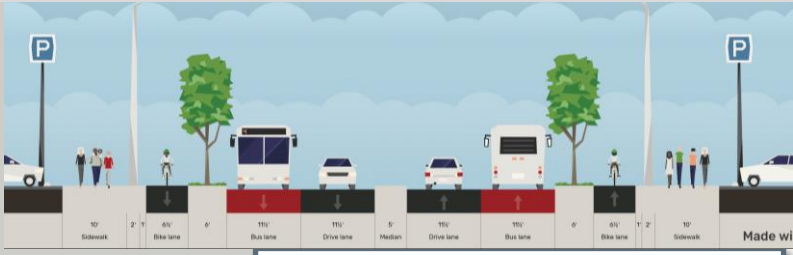


- Buffered bike lanes
- 10’ sidewalks
- Minor access management

ATTACHMENT A

SEGMENT 4 (CARPENTER TO MARVIN) - AGGRESSIVE





- Buffered bike lanes
- 10’ sidewalks
- Minor access management

ATTACHMENT A

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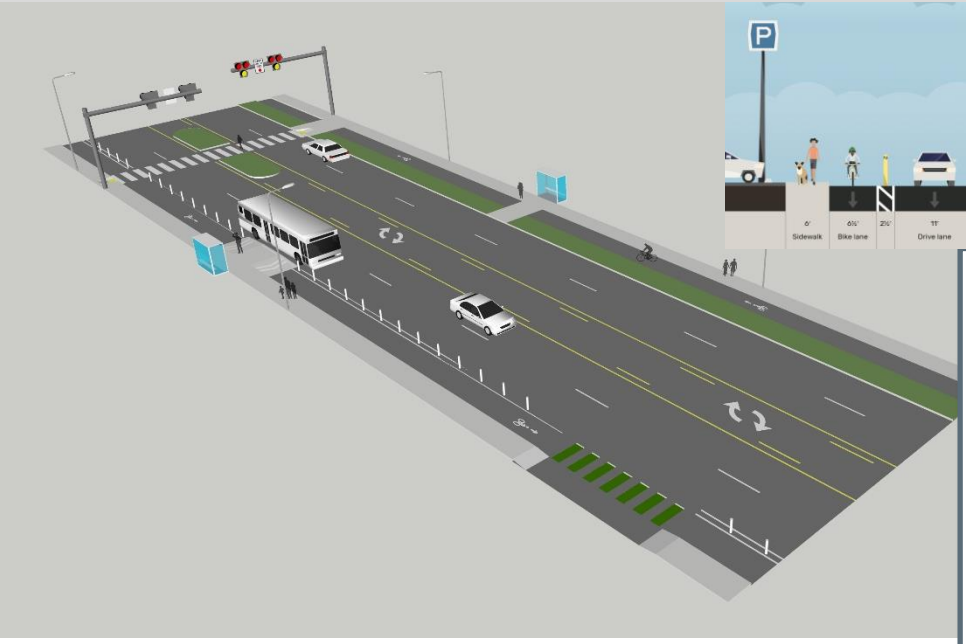
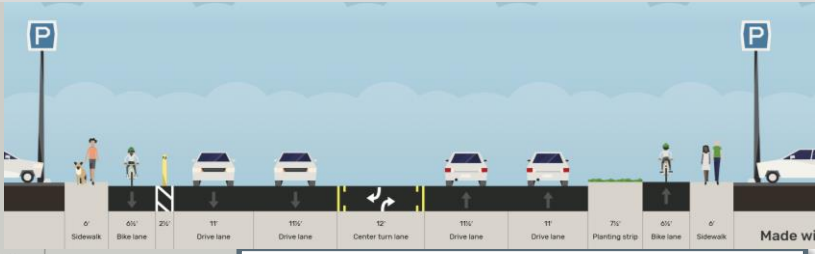
SEGMENT 5 (MARVIN TO DUTTEROW) - MODERATE





- Add bike lane by sidewalk on north side
- Add buffered bike lane on south side (restripe rest of roadway to maintain same curb to curb distance)
- Add sidewalk on south side
- Mid-block crossings

ATTACHMENT A

SEGMENT 5 (MARVIN TO DUTTEROW) - AGGRESSIVE

- Protected bike lanes on both sides
- Add sidewalk on south side
- Mid-block crossings
- Landscaped median
- Access management

ATTACHMENT A

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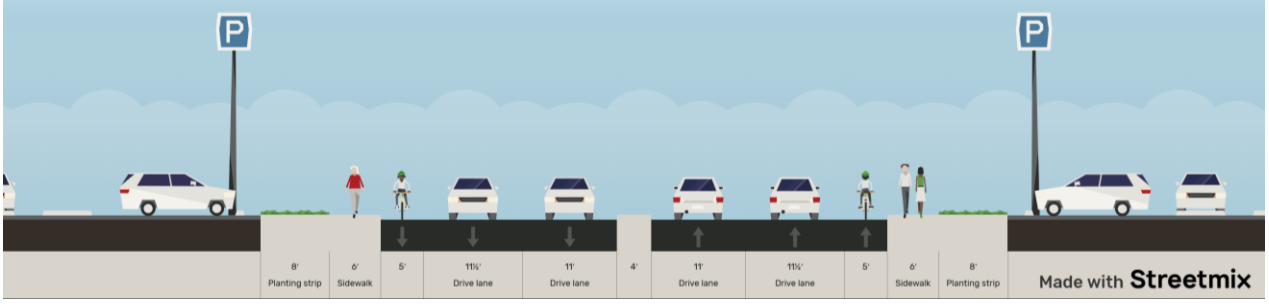
SEGMENT 1 (PACIFIC TO LILLY) - EXISTING



Existing:

- Two lanes each direction, some medians, bike lanes, narrow sidewalks
- ROW available from 100’-120’
- Existing Segment ~87’

ATTACHMENT A

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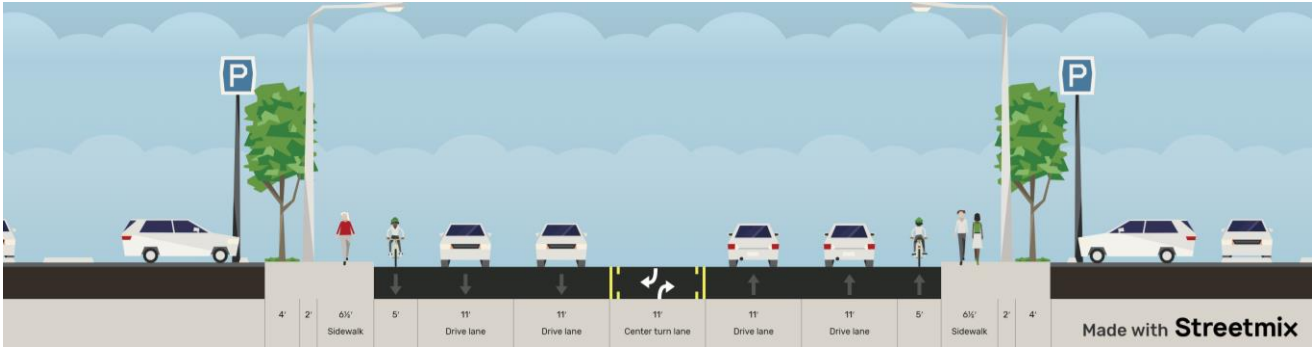
SEGMENT 2 (LILLY TO COLLEGE) - EXISTING



Existing:

- Two lanes, TWLT, narrow sidewalk, bike lanes
- Existing widths ~90’
- Available ROW 125’-145’

ATTACHMENT A

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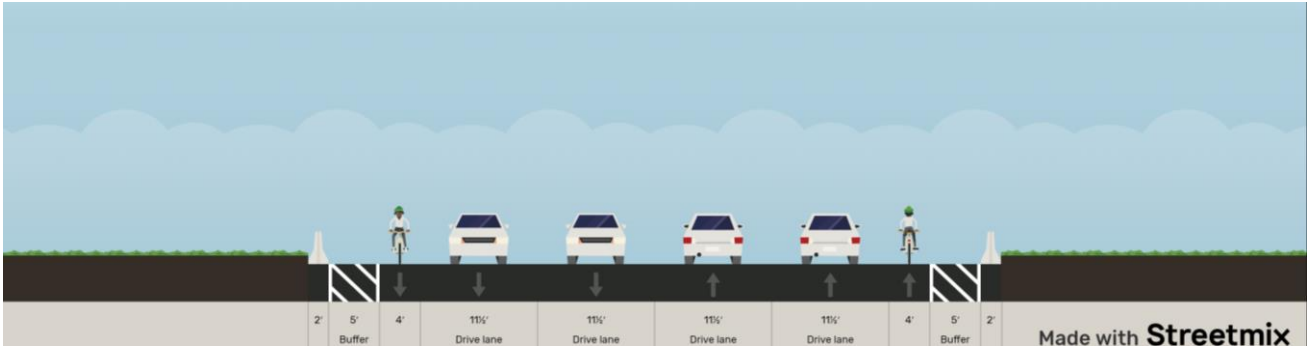
SEGMENT 3 (COLLEGE TO CARPENTER) - EXISTING



Existing:

- 2 lanes each direction, wide shoulder, limited sidewalks
- Available ROW varies from 120’ – 145’

ATTACHMENT A

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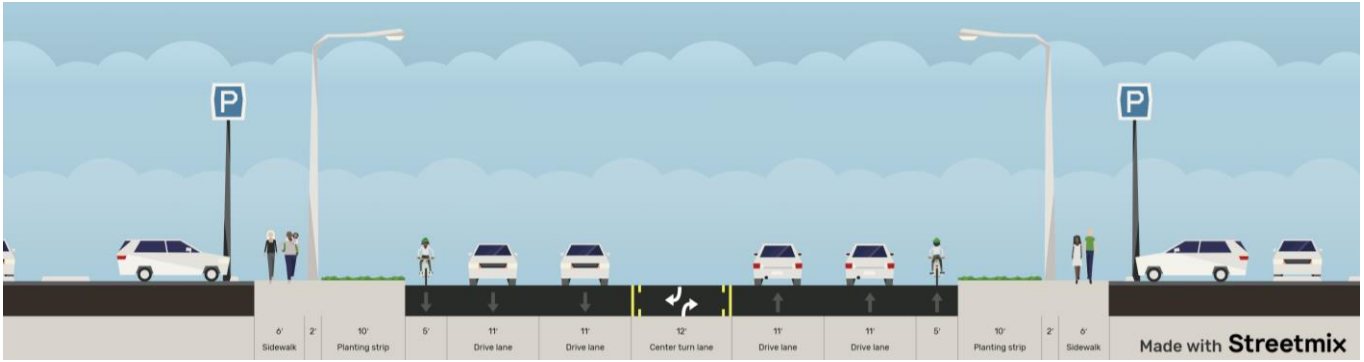
SEGMENT 4 (CARPENTER TO MARVIN) - EXISTING



Existing:

- Two lanes, TWLT, narrow sidewalk, bike lanes
- Existing widths ~105’
- Available ROW 120’-145’

ATTACHMENT A

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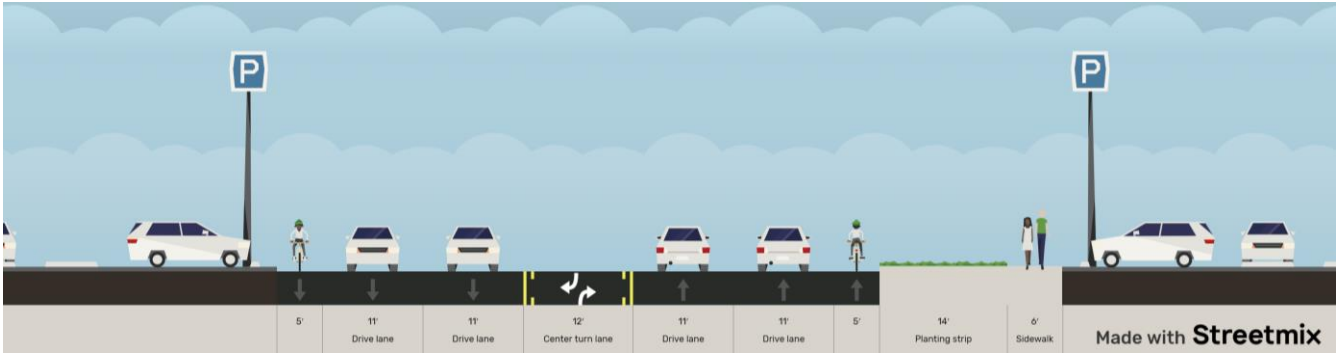
SEGMENT 5 (MARVIN TO DUTTEROW) - EXISTING



Existing:

- Two lanes, TWLT, sidewalk on one side, bike lanes
- Existing widths ~86’
- Available ROW 120’

ATTACHMENT A

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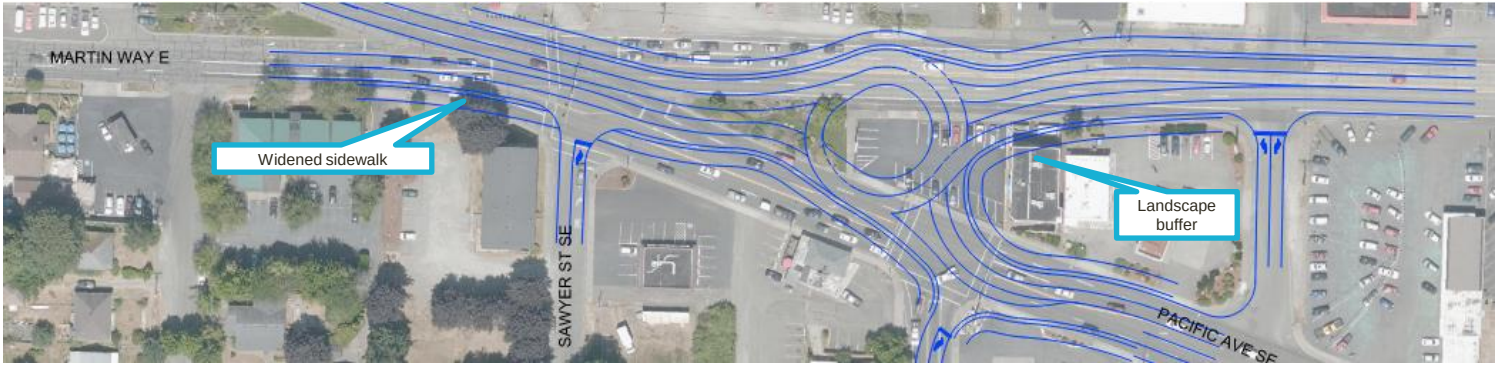
ATTACHMENT B – INTERSECTION CONCEPTUAL DESIGNS - 02/24/2022

MARTIN WAY AND PACIFIC AVE - ROUNDABOUT



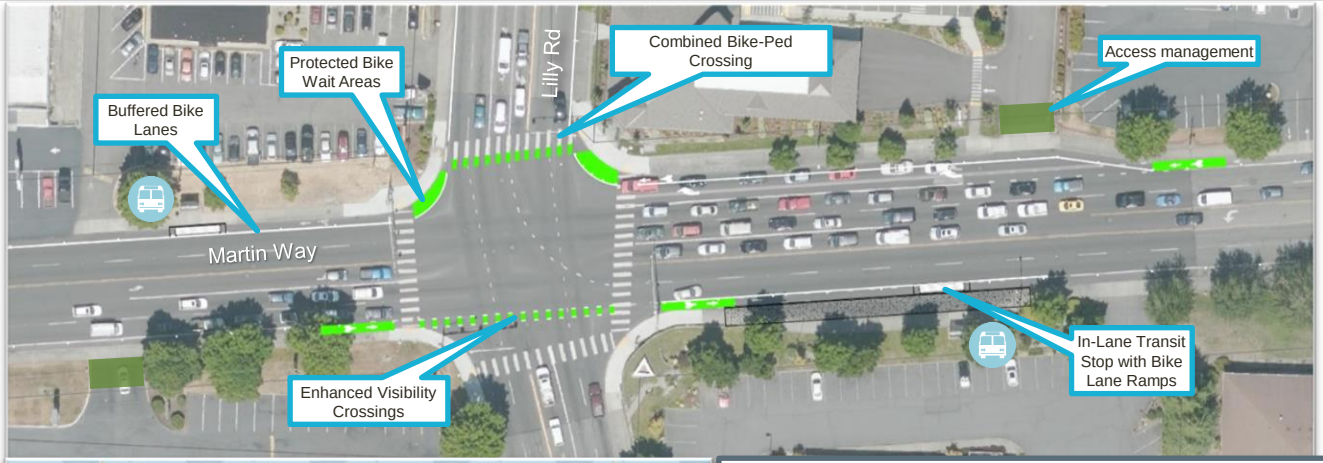
Other locations considered

- Identifies approximate footprint based on engineering design standards
- Includes accommodation for widened sidewalk and landscape buffer
- Option in blue results in less ROW impacts

ATTACHMENT B

transpogroup

MARTIN WAY AND LILLY RD

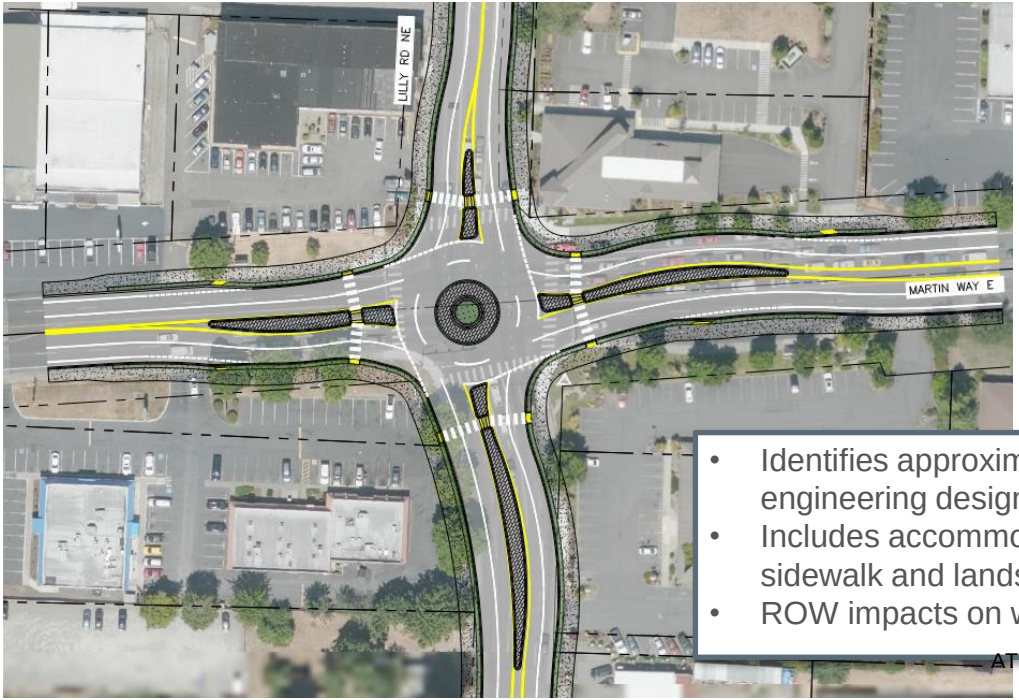


- Buffered bike lanes
- Enhanced visibility at crossings
- Combined bike-ped crossing
- Access management
- In-lane transit stops with bike lane ramps

ATTACHMENT B

transpogroup

MARTIN WAY AND LILLY RD - ROUNDABOUT

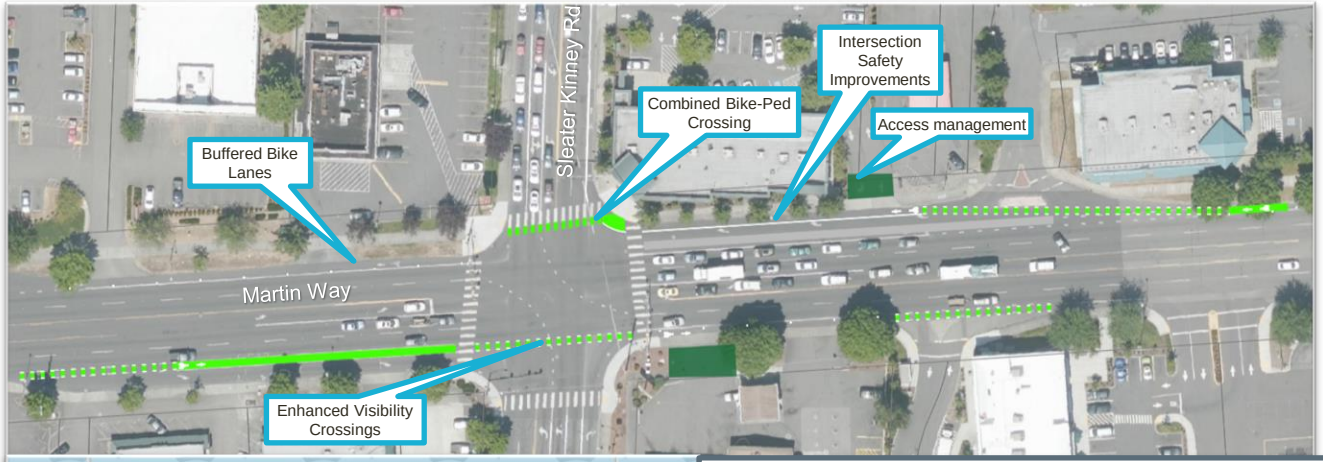


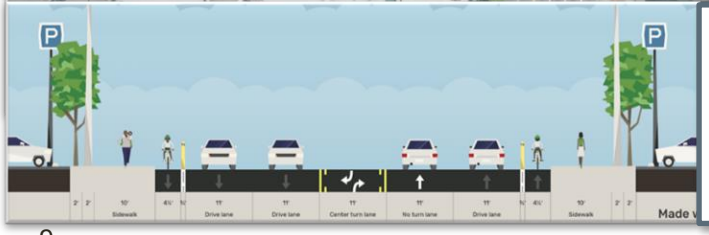
- Identifies approximate footprint based on engineering design standards
- Includes accommodation for widened sidewalk and landscape buffer
- ROW impacts on west side of Lilly Road

ATTACHMENT B

transpogroup

MARTIN WAY AND SLEATER KINNEY RD



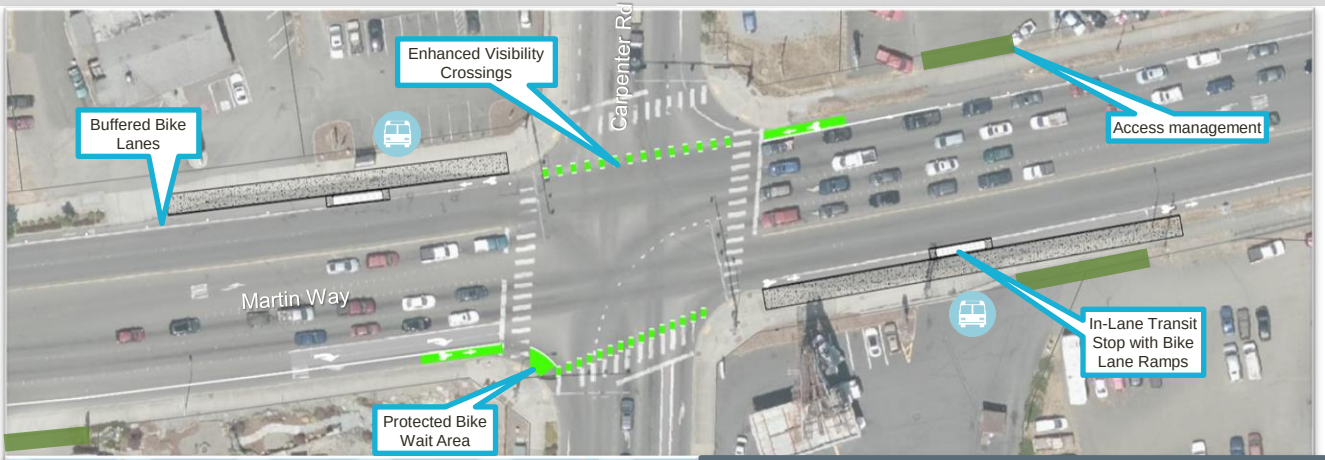


- Buffered bike lanes
- Enhanced visibility at crossings
- Combined bike-ped crossing
- Access management
- Intersection safety improvements

ATTACHMENT B

transpogroup

MARTIN WAY AND CARPENTER RD

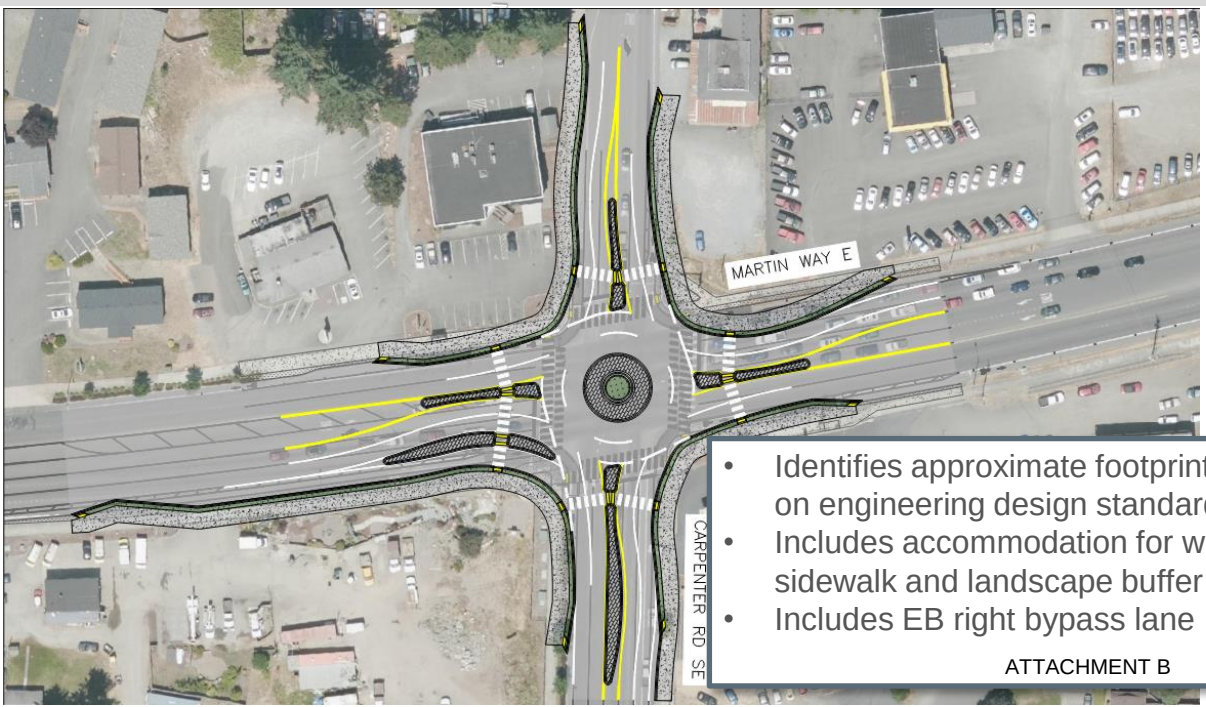


- Buffered bike lanes
- Enhanced visibility at crossings
- Combined bike-ped crossing
- Access management
- In-lane transit stops with bike lane ramps

ATTACHMENT B

transpogroup

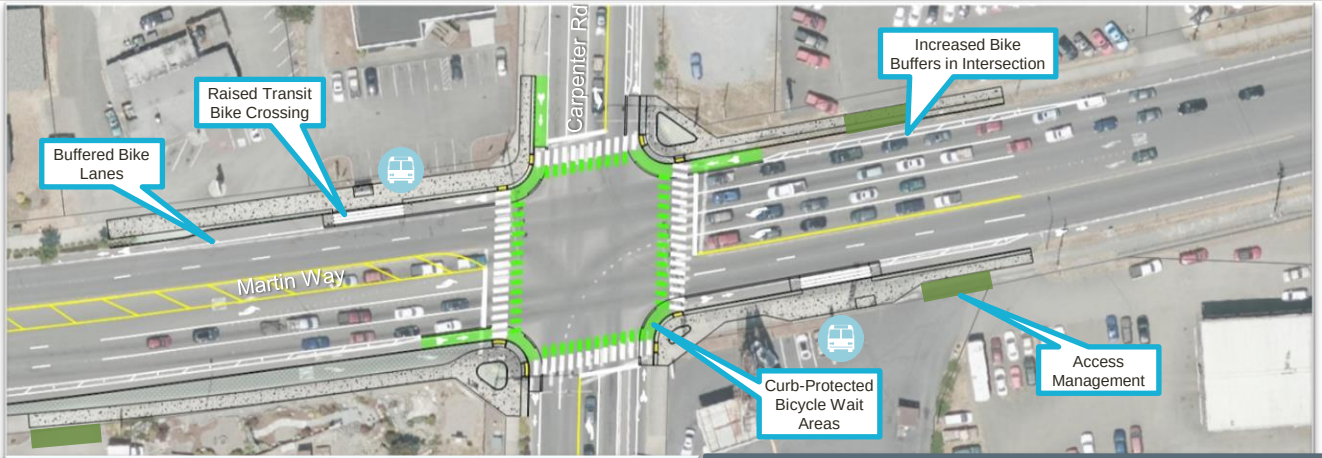
MARTIN WAY AND CARPENTER RD - ROUNDABOUT

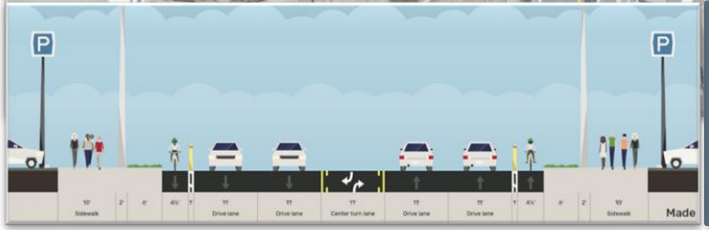


- Identifies approximate footprint based on engineering design standards
- Includes accommodation for widened sidewalk and landscape buffer
- Includes EB right bypass lane

ATTACHMENT B

MARTIN WAY AND CARPENTER RD - PROTECTED





- Buffered bike lanes
- Curb-protected bicycle wait areas
- Intersection safety improvements
- Access management
- In-lane transit stops with bike lane ramps

ATTACHMENT B

transpogroup

ATTACHMENT C – TRAFFIC OPERATONS ANALYSIS RESULTS

Martin Way Corridor Analysis Intersection Operations Summary

Weekday PM Peak Hour			Existing 2021		Existing 2021 Scenario Testing			Existing Scenario Testing Change in Delay	Future 2045		Future - Existing Change in Delay	Future 2045 RAB Scenario Testing				Future 2045 Scenario Testing Change in Delay
Intersection	**Traffic Control**	**Notes and Assumptions**	**LOS**	**Delay**	**LOS**	**Delay**	**Notes**		**LOS**	**Delay**		**LOS**	**Delay**	**V/C**	**Notes**	
1. Pacific Ave SE/4th Ave E	Signal		B	12					B	19	7	A	8	0.74		-11
Eastbound Approach		Evaluated in HCM 2000 due to signal timing restrictions of HCM 6th Edition. Optimized splits under future conditions	A	5					A	8	3	A	4	0.58		-4
Westbound Approach			B	18					D	38	20	B	11	0.74		-27
Southeastbound Approach			-	-					-	-	-	-	-	-	Multi-lane RAB	-
Northwestbound Approach			B	17					B	15	-2	A	9	0.56		-6
Northbound Approach (Sawyer St SE)												A	9	0.02		9
Southbound Approach (Sawyer St SE)												B	12	0.02		12
2. Lilly Rd NE/Martin Way E	Signal		C	31	C	31		0	C	32	1	B	10	0.78		-22
Eastbound Approach			C	22	C	22		0	C	25	3	A	10	0.48		-15
Westbound Approach		Optimized splits under future conditions.	B	19	C	20	Removed WBR turn pocket; optimized timing	1	C	20	1	A	9	0.54	Multi-lane RAB	-11
Northbound Approach			D	44	D	44		0	D	40	-4	A	9	0.55		-31
Southbound Approach			D	36	D	36		0	D	38	2	B	12	0.78		-26
3. Sleater Kinney Rd/Martin Way E	Signal		D	53	E	76		23	D	50	-3					
Eastbound Approach			C	28	F	86		58	D	42	14					
Westbound Approach		Optimized splits under future conditions.	F	122	F	139	Removed EBR turn pocket only; optimized timing	17	F	115	-7					
Northbound Approach			B	20	B	20		0	C	21	1					
Southbound Approach			D	48	D	48		0	D	48	0					
3. Sleater Kinney Rd/Martin Way E	Signal		D	53	E	61		8	D	50	-3					
Eastbound Approach			C	28	D	37		9	D	42	14					
Westbound Approach		Optimized splits under future conditions.	F	122	F	141	Removed WBR turn pocket only; optimized timing	19	F	115	-7					
Northbound Approach			B	20	B	20		0	C	21	1					
Southbound Approach			D	48	D	48		0	D	48	0					
3. Sleater Kinney Rd/Martin Way E	Signal		D	53	E	76		23	D	50	-3					
Eastbound Approach			C	28	F	86		58	D	42	14					
Westbound Approach		Optimized splits under future conditions.	F	122	F	141	Removed EBR and WBR turn pockets; optimized timing	19	F	115	-7					
Northbound Approach			B	20	B	20		0	C	21	1					
Southbound Approach			D	48	D	48		0	D	48	0					
4. Carpenter Rd NE/Martin Way E	Signal		D	38	F	85		47	E	73	35	B	13	0.85		-60
Eastbound Approach			C	34	E	73		39	E	70	36	B	12	0.85		-58
Westbound Approach		Optimized splits under existing conditions due to estimated existing counts. Optimized splits under future conditions.	D	43	F	106	Protected intersection; removed EBR turn lane	63	E	76	33	B	11	0.72	Multi-lane RAB with NBR pocket and EBR bypass lane	-65
Northbound Approach			C	35	F	94		59	E	66	31	B	14	0.61		-52
Southbound Approach			D	49	F	81		32	F	84	35	B	16	0.69		-68
4. Carpenter Rd NE/Martin Way E	Signal		D	38	F	85		47	E	73	35	B	16	0.93		-57
Eastbound Approach			C	34	E	73		39	E	70	36	B	12	0.85	Multi-lane RAB with EBR bypass lane (no NBR pocket). Meets standard but some movements are at LOS D and V/C ratio is very close to 1.0.	-58
Westbound Approach		Optimized splits under existing conditions due to estimated existing counts. Optimized splits under future conditions.	D	43	F	106	Protected intersection; removed EBR turn lane	63	E	76	33	B	12	0.73		-64
Northbound Approach			C	35	F	94		59	E	66	31	C	33	0.93		-33
Southbound Approach			D	49	F	81		32	F	84	35	B	16	0.70		-68
4. Carpenter Rd NE/Martin Way E	Signal		D	38	F	85		47	E	73	35	F	131	1.61		58
Eastbound Approach			C	34	E	73		39	E	70	36	F	284	1.61		214
Westbound Approach		Optimized splits under existing conditions due to estimated existing counts. Optimized splits under future conditions.	D	43	F	106	Protected intersection; removed EBR turn lane	63	E	76	33	B	11	0.71	Multi-lane RAB (no NBR pocket; no EBR bypass lane)	-65
Northbound Approach			C	35	F	94		59	E	66	31	B	14	0.67		-52
Southbound Approach			D	49	F	81		32	F	84	35	B	16	0.69		-68
5. Duterrow Rd SE/Meridian Rd NE/Martin Way E	Signal		D	37					D	53	16					
Eastbound Approach		Optimized splits under existing conditions due to differences between street view imagery and dial card. Optimized splits under future conditions.	D	38					E	60	22					
Westbound Approach			D	41					D	49	8					
Northbound Approach			D	49					F	84	35					
Southbound Approach			B	18					C	21	3					

ATTACHMENT C

ATTACHMENT D – COST ESTIMATE WORKSHEETS

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 1 - Pacific to Lily (Minimum) - 2/8/2022

Transpo Job No.: 1.20305.00
Prepared by: MHA

Description of Work

Restripe for buffered bike lanes, some access management (Corridor is 6550FT Long)

L = 6550

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Curb Ramp	0	EA	$ 3,500.00	$ -	$ -
14	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
15	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,200.00	$ 4.00
16	4" White Plastic Line	52400	LF	$ 3.00	$ 157,200.00	$ 24.00
17	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
18	Solid Green Pavement Marking	300	SY	$ 100.00	$ 30,000.00	$ 4.58
19	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
21	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
22	Flexible guide post	655	EA	$ 105.00	$ 68,775.00	$ 10.50
23	Rectangular Rapid Flash Beacon with Push Buttons	0	EA	$ 20,000.00	$ -	$ -
24	Mobilization (10%)	1	LS	$ 28,217.50	$ 28,217.50	$ 4.31
25	Traffic Control (12%)	1	LS	$ 33,861.00	$ 33,861.00	$ 5.17
	Sub Total				$ 344,253.50	$ 52.56
				Contingency (30%)	$ 103,276.05	
				Soft Costs (30%)	$ 103,276.05	
				TOTAL	$ 550,000.00	assumes no ROW

Segment Quantities

4" Plastic Line = Bike Lane Buffer (4 x L) + Traffic Lane Lines (4 x L)
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
Estimate # of Driveways = 10
Flexible Guide Post = 10ft spacing

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 1 - Pacific to Lily (Moderate) - 2/8/2022

Transpo Job No.: 1.20305.00
Prepared by: MHA

Description of Work

Expand Sidewalks to 10 ft/Restripe for buffered bike lanes/Add mid-block crossings/Minor Access Management (Corridor is 6550FT Long)

L = 6550

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0.13	AC	$ 35,000.00	$ 4,678.09	$ 0.71
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	131	EA	$ 1,500.00	$ 196,500.00	$ 30.00
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	2426	SY	$ 185.00	$ 448,796.30	$ 68.52
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Curb Ramp	8	EA	$ 3,500.00	$ 28,000.00	$ 4.27
14	Detectable warning surface	8	SF	$ 60.00	$ 480.00	$ 0.07
15	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,200.00	$ 4.00
16	4" White Plastic Line	52400	LF	$ 3.00	$ 157,200.00	$ 24.00
17	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
18	Solid Green Pavement Marking	300	SY	$ 100.00	$ 30,000.00	$ 4.58
19	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Plastic crosswalk	2360	SF	$ 10.50	$ 24,780.00	$ 3.78
21	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
22	Flexible guide post	655	EA	$ 105.00	$ 68,775.00	$ 10.50
23	HAWK Signal	4	EA	$ 200,000.00	$ 800,000.00	$ 122.14
24	Mobilization (10%)	1	LS	$ 178,540.94	$ 178,540.94	$ 27.26
25	Traffic Control (12%)	1	LS	$ 214,249.13	$ 214,249.13	$ 32.71
	Sub Total				$ 2,178,199.46	$ 332.55
				Contingency (30%)	$ 653,459.84	
				Soft Costs (30%)	$ 653,459.84	
				TOTAL	$ 3,500,000.00	assumes no ROW

Segment Quantities

4" Plastic Line = Bike Lane Buffer (4 x L) + Traffic Lane Lines (4 x L)
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
Estimate # of Driveways = 10
6" Cement Concrete Sidewalk = [(10FT x 0.5FT x 6550FT) x 2] / 27
RRFB Crossings = About 4 potential locations
Flexible Guide Post = 10ft spacing

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 1 - Pacific to Lily (Aggressive) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Expand Sidewalks to 10 ft/Protected Bike Lanes/Add mid-block crossings/Expanded Access Management/BAT Lane (Corridor is 6550FT Long)

L = 6550

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	11644	SY	$ 20.00	$ 232,888.89	$ 35.56
3	Removal of Cement Conc. Curb and Gutter	13100	LF	$ 7.00	$ 91,700.00	$ 14.00
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0.27	AC	$ 35,000.00	$ 9,356.19	$ 1.43
6	Topsoil	5822	SY	$ 25.00	$ 145,555.56	$ 22.22
7	Seeding, Fertilizing, and Mulching	5822	SY	$ 40.00	$ 232,888.89	$ 35.56
8	Street Trees/Grates	131	EA	$ 1,500.00	$ 196,500.00	$ 30.00
9	Crushed surfacing base course	2948	TON	$ 50.00	$ 147,375.00	$ 22.50
10	HMA CL. 1/2IN. PG 58H-22"	2948	TON	$ 210.00	$ 618,975.00	$ 94.50
11	Cement Concrete Sidewalk	15283	SY	$ 185.00	$ 2,827,416.67	$ 431.67
12	Cement Concrete Curb and Gutter	26200	LF	$ 100.00	$ 2,620,000.00	$ 400.00
13	Cement Concrete Curb Ramp	8	EA	$ 3,500.00	$ 28,000.00	$ 4.27
14	Detectable warning surface	8	SF	$ 60.00	$ 480.00	$ 0.07
15	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,200.00	$ 4.00
16	4" White Plastic Line	39300	LF	$ 3.00	$ 117,900.00	$ 18.00
17	8" White Plastic Line	0	LF	$ 4.00	$ -	
18	Solid Green Pavement Marking	0	SY	$ 100.00	$ -	$ -
19	Solid Red Pavement Marking	16739	SY	$ 100.00	$ 1,673,888.89	$ 255.56
20	Plastic crosswalk	3760	SF	$ 10.50	$ 39,480.00	$ 6.03
21	Plastic Traffic Letter	30	EA	$ 100.00	$ 3,000.00	$ 0.46
22	Flexible guide post	0	EA	$ 105.00	$ -	
23	HAWK Signal	4	EA	$ 200,000.00	$ 800,000.00	$ 122.14
24	Mobilization (10%)	1	LS	$ 981,160.51	$ 981,160.51	$ 149.80
25	Traffic Control (12%)	1	LS	$ 1,177,392.61	$ 1,177,392.61	$ 179.75
	Sub Total				$ 11,970,158.19	$ 1,827.51
				Contingency (30%)	$ 3,591,047.46	
				Soft Costs (30%)	$ 3,591,047.46	
				TOTAL	$ 19,200,000.00	assumes no ROW

Segment Quantities
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Cement Conc. Driveway = (# of Access Points) x (30ft x 10ft)/ 9 (ft2/yd2)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
6" Cement Concrete Sidewalk = [(10FT x 6550FT) x 2] / 27 (ft3/yd3)
RRFB Crossings = About 4 potential locations
Red Pavement Marking = (L x 23) / 9 (ft2/yd2)
HAWK Signal Cost (About 1/2 Cost of Traffic Signal Cost)
Flexible Guide Post = 10ft spacing
Median Island = (2 New Curb/Gutters) + (1ft Wide Sidewalk)

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 2 - Lily to College (Minimum) - 2/8/2022

Transpo Job No.: 1.20305.00
Prepared by: MHA

Description of Work

Restripe for buffered bike lanes, some access management (Corridor is 5245FT Long)

L = 5245

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Curb Ramp	0	EA	$ 3,500.00	$ -	$ -
14	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
15	Plastic Bike Lane Symbol	52	EA	$ 400.00	$ 20,980.00	$ 4.00
16	4" White Plastic Line	41960	LF	$ 3.00	$ 125,880.00	$ 24.00
17	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
18	Solid Green Pavement Marking	240	SY	$ 100.00	$ 24,000.00	$ 4.58
19	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
21	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
22	Flexible guide post	525	EA	$ 105.00	$ 55,072.50	$ 10.50
23	HAWK Signal	0	EA	$ 200,000.00	$ -	$ -
24	Mobilization (10%)	1	LS	$ 22,593.25	$ 22,593.25	$ 4.31
25	Traffic Control (12%)	1	LS	$ 27,111.90	$ 27,111.90	$ 5.17
	Sub Total				$ 275,637.65	$ 52.55
				Contingency (30%)	$ 82,691.30	
				Soft Costs (30%)	$ 82,691.30	
				TOTAL	$ 440,000.00	assumes no ROW

Segment Quantities

4" Plastic Line = Bike Lane Buffer (4 x L) + Traffic Lane Lines (4 x L)
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
Estimate # of Driveways = 8
Flexible Guide Post = 10ft spacing
Curb and Gutter for Medians at HAWK Signal/Crossings = 300ft per crossing

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 2 - Lily to College (Moderate) - 2/8/2022

Transpo Job No.: 1.20305.00
Prepared by: MHA

Description of Work

Expand Sidewalks to 10 ft/Restripe for buffered bike lanes/Add mid-block crossings/Minor Access Management (Corridor is 5245FT Long)

L = 5245

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0.05	AC	$ 35,000.00	$ 1,873.02	$ 0.36
6	Topsoil	333	SY	$ 25.00	$ 8,333.33	$ 1.59
7	Seeding, Fertilizing, and Mulching	333	SY	$ 40.00	$ 13,333.33	$ 2.54
8	Street Trees/Grates	105	EA	$ 1,500.00	$ 157,350.00	$ 30.00
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	1360	SY	$ 185.00	$ 251,565.74	$ 47.96
12	Cement Concrete Curb and Gutter	900	LF	$ 100.00	$ 90,000.00	$ 17.16
13	Cement Concrete Curb Ramp	6	EA	$ 3,500.00	$ 21,000.00	$ 4.00
14	Detectable warning surface	6	SF	$ 60.00	$ 360.00	$ 0.07
15	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,200.00	$ 5.00
16	4" White Plastic Line	52400	LF	$ 3.00	$ 157,200.00	$ 29.97
17	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
18	Solid Green Pavement Marking	240	SY	$ 100.00	$ 24,000.00	$ 4.58
19	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Plastic crosswalk	1950	SF	$ 10.50	$ 20,475.00	$ 3.90
21	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
22	Flexible guide post	525	EA	$ 105.00	$ 55,072.50	$ 10.50
23	HAWK Signal	3	EA	$ 200,000.00	$ 600,000.00	$ 114.39
24	Mobilization (10%)	1	LS	$ 142,676.29	$ 142,676.29	$ 27.20
25	Traffic Control (12%)	1	LS	$ 171,211.55	$ 171,211.55	$ 32.64
	Sub Total				$ 1,740,650.78	$ 331.87
				Contingency (30%)	$ 522,195.23	
				Soft Costs (30%)	$ 522,195.23	
				TOTAL	$ 2,800,000.00	assumes no ROW

Segment Quantities

4" Plastic Line = Bike Lane Buffer (4 x L) + Traffic Lane Lines (4 x L)
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
Estimate # of Driveways = 8
6" Cement Concrete Sidewalk = [(10FT x 0.5FT x 6550FT) x 2] / 27
RRFB Crossings = About 3 potential locations
Flexible Guide Post = 10ft spacing
Curb and Gutter for Medians at HAWK Signal/Crossings = 300ft per crossing
Landscape in Median area = (100ft x 10ft) /9 per crossing

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 2 - Lily to College (Aggressive) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Expand Sidewalks to 10 ft/Protected Bike Lanes/Add mid-block crossings/Expanded Access Management/BAT Lane (Corridor is 5245FT Long)

L = 5245

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	9907	SY	$ 20.00	$ 198,144.44	$ 37.78
3	Removal of Cement Conc. Curb and Gutter	10490	LF	$ 7.00	$ 73,430.00	$ 14.00
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0.11	AC	$ 35,000.00	$ 3,746.05	$ 0.71
6	Topsoil	10490	SY	$ 25.00	$ 262,250.00	$ 50.00
7	Seeding, Fertilizing, and Mulching	10490	SY	$ 40.00	$ 419,600.00	$ 80.00
8	Street Trees/Grates	159	EA	$ 1,500.00	$ 238,409.09	$ 45.45
9	Crushed surfacing base course	15342	TON	$ 50.00	$ 767,081.25	$ 146.25
10	HMA CL. 1/2IN. PG 58H-22"	15342	TON	$ 210.00	$ 3,221,741.25	$ 614.25
11	Cement Concrete Sidewalk	14556	SY	$ 185.00	$ 2,692,777.78	$ 513.40
12	Cement Concrete Curb and Gutter	31470	LF	$ 100.00	$ 3,147,000.00	$ 600.00
13	Cement Concrete Curb Ramp	6	EA	$ 3,500.00	$ 21,000.00	$ 4.00
14	Detectable warning surface	6	SF	$ 60.00	$ 360.00	$ 0.07
15	Plastic Bike Lane Symbol	52	EA	$ 400.00	$ 20,980.00	$ 4.00
16	4" White Plastic Line	31470	LF	$ 3.00	$ 94,410.00	$ 18.00
17	8" White Plastic Line	0	LF	$ 4.00	$ -	
18	Solid Green Pavement Marking	0	SY	$ 100.00	$ -	$ -
19	Solid Red Pavement Marking	13404	SY	$ 100.00	$ 1,340,388.89	$ 255.56
20	Plastic crosswalk	1410	SF	$ 10.50	$ 14,805.00	$ 2.82
21	Plastic Traffic Letter	30	EA	$ 100.00	$ 3,000.00	$ 0.57
22	Flexible guide post	0	EA	$ 105.00	$ -	
23	HAWK Signal	3	EA	$ 200,000.00	$ 600,000.00	$ 114.39
24	Mobilization (10%)	1	LS	$ 1,311,912.37	$ 1,311,912.37	$ 250.13
25	Traffic Control (12%)	1	LS	$ 1,574,294.85	$ 1,574,294.85	$ 300.15
	Sub Total				$ 16,005,330.97	$ 3,051.54
				Contingency (30%)	$ 4,801,599.29	
				Soft Costs (30%)	$ 4,801,599.29	
				TOTAL	$ 25,600,000.00	assumes no ROW

Segment Quantities
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Cement Conc. Driveway = (# of Access Points) x (30ft x 10ft)/ 9 (ft2/yd2)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
6" Cement Concrete Sidewalk = [(10FT x L) x 2] / 27 (ft3/yd3)
RRFB Crossings = About 3 potential locations
Red Pavement Marking = (L x 23) / 9 (ft2/yd2)
HAWK Signal Cost (About 1/2 Cost of Traffic Signal Cost)
Flexible Guide Post = 10ft spacing
Median Island = (2 New Curb/Gutters) + (10ft Wide Planter Area)

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 3 - College to Carpenter (Minimum) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Convert shoulders to shared-use pathway/Widen and add physical barrier between pathway for improved safety/comfort (Corridor is 6600FT Long)

L = 6600

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Barrier	13200	LF	$ 12.00	$ 158,400.00	$ 24.00
5	Clearing and Grubbing	0.07	AC	$ 35,000.00	$ 2,356.90	$ 0.36
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	11880	TON	$ 50.00	$ 594,000.00	$ 90.00
10	HMA CL. 1/2IN. PG 58H-22"	11880	TON	$ 210.00	$ 2,494,800.00	$ 378.00
11	Traffic Barrier	13200	LF	$ 300.00	$ 3,960,000.00	$ 600.00
12	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
13	Cement Concrete Curb and Gutter	13200	LF	$ 100.00	$ 1,320,000.00	$ 200.00
14	Cement Concrete Curb Ramp	0	EA	$ 3,500.00	$ -	$ -
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,400.00	$ 4.00
17	4" White Plastic Line	46200	LF	$ 3.00	$ 138,600.00	$ 21.00
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	HAWK Signal	0	EA	$ 200,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 869,455.69	$ 869,455.69	$ 131.74
26	Traffic Control (12%)	1	LS	$ 1,043,346.83	$ 1,043,346.83	$ 158.08
	Sub Total				$ 10,607,359.42	$ 1,607.18
				Contingency (30%)	$ 3,182,207.83	
				Soft Costs (30%)	$ 3,182,207.83	
				TOTAL	$ 17,000,000.00	assumes no ROW

Segment Quantities
New HMA/Base Course Area = (4 x L)
4" Plastic Line = (7 x L)
Curb and Gutter = (2 x L)
Traffic Barrier = (2 x L)

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 3 - College to Carpenter (Moderate) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Convert shoulders to shared-use pathway/Widen and add physical barrier between pathway for improved safety/comfort (Corridor is 6600FT Long)

L = 6600

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Barrier	13200	LF	$ 12.00	$ 158,400.00	$ 24.00
5	Clearing and Grubbing	0.07	AC	$ 35,000.00	$ 2,356.90	$ 0.36
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	11880	TON	$ 50.00	$ 594,000.00	$ 90.00
10	HMA CL. 1/2IN. PG 58H-22"	11880	TON	$ 210.00	$ 2,494,800.00	$ 378.00
11	Traffic Barrier	13200	LF	$ 300.00	$ 3,960,000.00	$ 600.00
12	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
13	Cement Concrete Curb and Gutter	13200	LF	$ 100.00	$ 1,320,000.00	$ 200.00
14	Cement Concrete Curb Ramp	0	EA	$ 3,500.00	$ -	$ -
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,400.00	$ 4.00
17	4" White Plastic Line	46200	LF	$ 3.00	$ 138,600.00	$ 21.00
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	HAWK Signal	0	EA	$ 200,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 869,455.69	$ 869,455.69	$ 131.74
26	Traffic Control (12%)	1	LS	$ 1,043,346.83	$ 1,043,346.83	$ 158.08
	Sub Total				$ 10,607,359.42	$ 1,607.18
				Contingency (30%)	$ 3,182,207.83	
				Soft Costs (30%)	$ 3,182,207.83	
				TOTAL	$ 17,000,000.00	assumes no ROW

Segment Quantities
New HMA/Base Course Area = (4 x L)
4" Plastic Line = (7 x L)
Curb and Gutter = (2 x L)
Traffic Barrier = (2 x L)

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 3 - College to Carpenter (Aggressive) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Construct 10 ft Sidewalks/Protected Bike Lanes/Access Management/BAT Lanes (Corridor is 6600FT Long)

L = 6600

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Barrier	13200	LF	$ 12.00	$ 158,400.00	$ 24.00
5	Clearing and Grubbing	0.35	AC	$ 35,000.00	$ 12,373.74	$ 1.87
6	Topsoil	5867	SY	$ 25.00	$ 146,666.67	$ 22.22
7	Seeding, Fertilizing, and Mulching	5867	SY	$ 40.00	$ 234,666.67	$ 35.56
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	31185	TON	$ 50.00	$ 1,559,250.00	$ 236.25
10	HMA CL. 1/2IN. PG 58H-22"	31185	TON	$ 210.00	$ 6,548,850.00	$ 992.25
	Traffic Barrier	0	LF	$ 300.00	$ -	
11	Cement Concrete Sidewalk	14556	SY	$ 185.00	$ 2,692,777.78	$ 408.00
12	Cement Concrete Curb and Gutter	52800	LF	$ 100.00	$ 5,280,000.00	$ 800.00
14	Cement Concrete Curb Ramp	0	EA	$ 3,500.00	$ -	$ -
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,400.00	$ 4.00
17	4" White Plastic Line	39600	LF	$ 3.00	$ 118,800.00	$ 18.00
18	8" White Plastic Line	0	LF	$ 4.00	$ -	
19	Solid Green Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Solid Red Pavement Marking	16867	SY	$ 100.00	$ 1,686,666.67	$ 255.56
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	30	EA	$ 100.00	$ 3,000.00	$ 0.45
23	Flexible guide post	0	EA	$ 105.00	$ -	
24	HAWK Signal	0	EA	$ 200,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 1,846,785.15	$ 1,846,785.15	$ 279.82
26	Traffic Control (12%)	1	LS	$ 2,216,142.18	$ 2,216,142.18	$ 335.78
	Sub Total				$ 22,530,778.85	$ 3,413.75
				Contingency (30%)	$ 6,759,233.65	
				Soft Costs (30%)	$ 6,759,233.65	
				TOTAL	$ 36,000,000.00	assumes no ROW

Segment Quantities
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
6" Cement Concrete Sidewalk = [(10FT x L) x 2] / 27 (ft3/yd3)
Red Pavement Marking = (L x 23) / 9 (ft2/yd2)
New HMA/Base Course Area = (21 x L)
4" Plastic Line = (6 x L)
Curb and Gutter = (8 x L)
Traffic Barrier = (2 x L)

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 4 - Carpenter to Marvin (Minimum) - 2/8/2022

Transpo Job No.: 1.20305.00
Prepared by: MHA

Description of Work

Restripe for buffered bike lanes, some access management (Corridor is 8290FT Long)

L = 8290

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
14	Cement Concrete Curb Ramp	0	EA	$ 3,500.00	$ -	$ -
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	83	EA	$ 400.00	$ 33,160.00	$ 4.00
17	4" White Plastic Line	66320	LF	$ 3.00	$ 198,960.00	$ 24.00
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	360	SY	$ 100.00	$ 36,000.00	$ 4.34
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	829	EA	$ 105.00	$ 87,045.00	$ 10.50
24	HAWK Signal	0	EA	$ 200,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 35,516.50	$ 35,516.50	$ 4.28
26	Traffic Control (12%)	1	LS	$ 42,619.80	$ 42,619.80	$ 5.14
	Sub Total				$ 433,301.30	$ 52.27
				Contingency (30%)	$ 129,990.39	
				Soft Costs (30%)	$ 129,990.39	
				TOTAL	$ 690,000.00	assumes no ROW

Segment Quantities

4" Plastic Line = Bike Lane Buffer (4 x L) + Traffic Lane Lines (4 x L)
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
Estimate # of Driveways = 12
Flexible Guide Post = 10ft spacing
Curb and Gutter for Medians at HAWK Signal/Crossings = 300ft per crossing

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 4 - Carpenter to Marvin (Moderate) - 2/8/2022

Transpo Job No.: 1.20305.00
Prepared by: MHA

Description of Work

Expand Sidewalks to 10 ft/Restripe for buffered bike lanes/Minor Access Management (Corridor is 8290FT Long)

L = 8290

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0.17	AC	$ 35,000.00	$ 5,920.82	$ 0.71
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	2456	SY	$ 185.00	$ 454,414.81	$ 54.81
12	Cement Concrete Curb and Gutter	1200	LF	$ 100.00	$ 120,000.00	$ 14.48
14	Cement Concrete Curb Ramp	8	EA	$ 3,500.00	$ 28,000.00	$ 3.38
15	Detectable warning surface	8	SF	$ 60.00	$ 480.00	$ 0.06
16	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,200.00	$ 3.16
17	4" White Plastic Line	52400	LF	$ 3.00	$ 157,200.00	$ 18.96
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	360	SY	$ 100.00	$ 36,000.00	$ 4.34
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	2600	SF	$ 10.50	$ 27,300.00	$ 3.29
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	829	EA	$ 105.00	$ 87,045.00	$ 10.50
24	HAWK Signal	4	EA	$ 200,000.00	$ 800,000.00	$ 96.50
25	Mobilization (10%)	1	LS	$ 174,256.06	$ 174,256.06	$ 21.02
26	Traffic Control (12%)	1	LS	$ 209,107.28	$ 209,107.28	$ 25.22
	Sub Total				$ 2,125,923.98	$ 256.44
				Contingency (30%)	$ 637,777.19	
				Soft Costs (30%)	$ 637,777.19	
				TOTAL	$ 3,400,000.00	assumes no ROW

Segment Quantities

4" Plastic Line = Bike Lane Buffer (4 x L) + Traffic Lane Lines (4 x L)
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
Estimate # of Driveways = 8
6" Cement Concrete Sidewalk = [(10FT x 0.5FT x 6550FT) x 2] / 27
RRFB Crossings = About 4 potential locations
Flexible Guide Post = 10ft spacing
Curb and Gutter for Medians at HAWK Signal/Crossings = 300ft per crossing
Landscape in Median area = (100ft x 10ft) /9 per crossing

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 4 - Carpenter to Marvin (Aggressive) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Expand Sidewalks to 10 ft/Protected Bike Lanes/Expanded Access Management/BAT Lanes (Corridor is 8290FT Long)

L = 8290

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	15659	SY	$ 20.00	$ 313,177.78	$ 37.78
3	Removal of Cement Conc. Curb and Gutter	16580	LF	$ 7.00	$ 116,060.00	$ 14.00
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0.42	AC	$ 35,000.00	$ 14,802.06	$ 1.79
6	Topsoil	11053	SY	$ 25.00	$ 276,333.33	$ 33.33
7	Seeding, Fertilizing, and Mulching	11053	SY	$ 40.00	$ 442,133.33	$ 53.33
8	Street Trees/Grates	166	EA	$ 1,500.00	$ 248,700.00	$ 30.00
9	Crushed surfacing base course	24248	TON	$ 50.00	$ 1,212,412.50	$ 146.25
10	HMA CL. 1/2IN. PG 58H-22"	24248	TON	$ 210.00	$ 5,092,132.50	$ 614.25
11	Cement Concrete Sidewalk	22561	SY	$ 185.00	$ 4,173,805.56	$ 503.47
12	Cement Concrete Curb and Gutter	66320	LF	$ 100.00	$ 6,632,000.00	$ 800.00
14	Cement Concrete Curb Ramp	8	EA	$ 3,500.00	$ 28,000.00	$ 3.38
15	Detectable warning surface	8	SF	$ 60.00	$ 480.00	$ 0.06
16	Plastic Bike Lane Symbol	83	EA	$ 400.00	$ 33,160.00	$ 4.00
17	4" White Plastic Line	49740	LF	$ 3.00	$ 149,220.00	$ 18.00
18	8" White Plastic Line	0	LF	$ 4.00	$ -	
19	Solid Green Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Solid Red Pavement Marking	21186	SY	$ 100.00	$ 2,118,555.56	$ 255.56
21	Plastic crosswalk	2040	SF	$ 10.50	$ 21,420.00	$ 2.58
22	Plastic Traffic Letter	30	EA	$ 100.00	$ 3,000.00	$ 0.36
23	Flexible guide post	0	EA	$ 105.00	$ -	
24	HAWK Signal	4	EA	$ 200,000.00	$ 800,000.00	$ 96.50
25	Mobilization (10%)	1	LS	$ 2,167,539.26	$ 2,167,539.26	$ 261.46
26	Traffic Control (12%)	1	LS	$ 2,601,047.11	$ 2,601,047.11	$ 313.76
	Sub Total				$ 26,443,978.99	$ 3,189.86
				Contingency (30%)	$ 7,933,193.70	
				Soft Costs (30%)	$ 7,933,193.70	
				TOTAL	$ 42,300,000.00	assumes no ROW

Segment Quantities
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Cement Conc. Driveway = (# of Access Points) x (30ft x 10ft)/ 9 (ft2/yd2)
6" Cement Concrete Sidewalk = [(10+10+2+2+1+1+5] x L / 27 (ft3/yd3)
RRFB Crossings = About 4 potential locations
Red Pavement Marking = (L x 23) / 9 (ft2/yd2)
HAWK Signal Cost (About 1/2 Cost of Traffic Signal Cost)
Median Island = (2 New Curb/Gutters) + (5ft Wide Sidewalk)

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 5 - Marvin to Dutterow (Minimum) - 2/8/2022

Transpo Job No.: 1.20305.00
Prepared by: MHA

Description of Work

Restripe for buffered bike lanes (Corridor is 6020FT Long)

L = 6020

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
14	Cement Concrete Curb Ramp	0	EA	$ 3,500.00	$ -	$ -
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	60	EA	$ 400.00	$ 24,080.00	$ 4.00
17	4" White Plastic Line	12040	LF	$ 3.00	$ 36,120.00	$ 6.00
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	360	SY	$ 100.00	$ 36,000.00	$ 5.98
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	602	EA	$ 105.00	$ 63,210.00	$ 10.50
24	HAWK Signal	0	EA	$ 200,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 15,941.00	$ 15,941.00	$ 2.65
26	Traffic Control (12%)	1	LS	$ 19,129.20	$ 19,129.20	$ 3.18
	Sub Total				$ 194,480.20	$ 32.31
				Contingency (30%)	$ 58,344.06	
				Soft Costs (30%)	$ 58,344.06	
				TOTAL	$ 310,000.00	assumes no ROW

Segment Quantities

4" Plastic Line = Bike Lane Buffer (4 x L) + Traffic Lane Lines (4 x L)
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
Estimate # of Driveways = 12
Flexible Guide Post = 10ft spacing
Curb and Gutter for Medians at HAWK Signal/Crossings = 300ft per crossing

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 5 - Marvin to Dutterow (Moderate) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Add Bike lane by sidewalk on north side/Add buffered bike lane on south side (restripe only)/Add sidewalk to south side/Add mid-block crossings (Corridor is 6020FT Long)

L = 6020

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	4013	SY	$ 115.00	$ 461,533.33	$ 76.67
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0.10	AC	$ 35,000.00	$ 3,493.39	$ 0.58
6	Topsoil	7358	SY	$ 25.00	$ 183,944.44	$ 30.56
7	Seeding, Fertilizing, and Mulching	7358	SY	$ 40.00	$ 294,311.11	$ 48.89
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	8804	TON	$ 50.00	$ 440,212.50	$ 73.13
10	HMA CL. 1/2IN. PG 58H-22"	8804	TON	$ 210.00	$ 1,848,892.50	$ 307.13
11	Cement Concrete Sidewalk	19650	SY	$ 185.00	$ 3,635,250.00	$ 603.86
12	Cement Concrete Curb and Gutter	1200	LF	$ 100.00	$ 120,000.00	$ 19.93
14	Cement Concrete Curb Ramp	8	EA	$ 3,500.00	$ 28,000.00	$ 4.65
15	Detectable warning surface	8	SF	$ 60.00	$ 480.00	$ 0.08
16	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,200.00	$ 4.35
17	4" White Plastic Line	52400	LF	$ 3.00	$ 157,200.00	$ 26.11
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	360	SY	$ 100.00	$ 36,000.00	$ 5.98
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	2640	SF	$ 10.50	$ 27,720.00	$ 4.60
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	602	EA	$ 105.00	$ 63,210.00	$ 10.50
24	HAWK Signal	4	EA	$ 200,000.00	$ 800,000.00	$ 132.89
25	Mobilization (10%)	1	LS	$ 812,644.73	$ 812,644.73	$ 134.99
26	Traffic Control (12%)	1	LS	$ 975,173.67	$ 975,173.67	$ 161.99
	Sub Total				$ 9,914,265.68	$ 1,646.89
				Contingency (30%)	$ 2,974,279.71	
				Soft Costs (30%)	$ 2,974,279.71	
				TOTAL	$ 15,900,000.00	assumes no ROW

Segment Quantities

4" Plastic Line = Bike Lane Buffer (4 x L) + Traffic Lane Lines (4 x L)
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Green Bike Crossing Marking = L/[(# of Driveways)*(30YD^2 per Driveway)]
Estimate # of Driveways = 8
6" Cement Concrete Sidewalk = [(6FT x L)] / 27
RRFB Crossings = About 4 potential locations
Flexible Guide Post = 10ft spacing
Curb and Gutter for Medians at HAWK Signal/Crossings = 300ft per crossing

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Segment 5 - Marvin to Dutterow (Aggressive) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Protected bike lanes on both sides/Add sidewalk on south side of street/Add mid-block crossings/Access management (Corridor is 6020FT Long)

L = 6020

Bid Number	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	4013	SY	$ 115.00	$ 461,533.33	$ 76.67
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0.10	AC	$ 35,000.00	$ 3,493.39	$ 0.58
6	Topsoil	10033	SY	$ 25.00	$ 250,833.33	$ 41.67
7	Seeding, Fertilizing, and Mulching	10033	SY	$ 40.00	$ 401,333.33	$ 66.67
8	Street Trees/Grates	60	EA	$ 1,500.00	$ 90,300.00	$ 15.00
9	Crushed surfacing base course	8804	TON	$ 50.00	$ 440,212.50	$ 73.13
10	HMA CL. 1/2IN. PG 58H-22"	8804	TON	$ 210.00	$ 1,848,892.50	$ 307.13
11	Cement Concrete Sidewalk	19650	SY	$ 185.00	$ 3,635,250.00	$ 603.86
12	Cement Concrete Curb and Gutter	1200	LF	$ 100.00	$ 120,000.00	$ 19.93
14	Cement Concrete Curb Ramp	8	EA	$ 3,500.00	$ 28,000.00	$ 4.65
15	Detectable warning surface	8	SF	$ 60.00	$ 480.00	$ 0.08
16	Plastic Bike Lane Symbol	66	EA	$ 400.00	$ 26,200.00	$ 4.35
17	4" White Plastic Line	52400	LF	$ 3.00	$ 157,200.00	$ 26.11
18	8" White Plastic Line	0	LF	$ 4.00	$ -	
19	Solid Green Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	2640	SF	$ 10.50	$ 27,720.00	$ 4.60
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	
24	HAWK Signal	4	EA	$ 200,000.00	$ 800,000.00	$ 132.89
25	Mobilization (10%)	1	LS	$ 829,144.84	$ 829,144.84	$ 137.73
26	Traffic Control (12%)	1	LS	$ 994,973.81	$ 994,973.81	$ 165.28
	Sub Total				$ 10,115,567.04	$ 1,680.33
				Contingency (30%)	$ 3,034,670.11	
				Soft Costs (30%)	$ 3,034,670.11	
				TOTAL	$ 16,200,000.00	assumes no ROW

Segment Quantities
Plastic Bike Symb. = L/200 * 2 (2 each 200FT)
Cement Conc. Driveway = (# of Access Points) x (30ft x 10ft)/ 9 (ft2/yd2)
6" Cement Concrete Sidewalk = (6 x L) / 27 (ft3/yd3)
RRFB Crossings = About 4 potential locations
Red Pavement Marking = (L x 23) / 9 (ft2/yd2)
HAWK Signal Cost (About 1/2 Cost of Traffic Signal Cost)
Median Island = (2 New Curb/Gutters) + (10ft Planter Area)

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 1 - Pacific (Moderate/Aggressive) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Install a Roundabout

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
14	Cement Concrete Curb Ramp	0	EA	$ 3,500.00	$ -	$ -
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	0	EA	$ 400.00	$ -	$ -
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Roundabout	1	EA	$ 5,000,000.00	$ 5,000,000.00	$ 5,000,000.00
25	Mobilization (10%)	1	LS	$ 500,000.00	$ 500,000.00	$ 500,000.00
26	Traffic Control (12%)	1	LS	$ 600,000.00	$ 600,000.00	$ 600,000.00
	Sub Total				$ 6,100,000.00	$ 6,100,000.00
				Contingency (30%)	$ 1,830,000.00	
				Soft Costs (30%)	$ 1,830,000.00	
				TOTAL	$ 9,800,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 1 - Lily (Mininum) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Buffered Bike Lane, enhanced visibility crossings

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Driveway	33	SY	$ 120.00	$ 4,000.00	$ 4,000.00
14	Cement Concrete Curb Ramp	2	EA	$ 3,500.00	$ 7,000.00	$ 7,000.00
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	0	EA	$ 400.00	$ -	$ -
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	131	SY	$ 100.00	$ 13,111.11	$ 13,111.11
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Roundabout	0	EA	$ 5,000,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 2,411.11	$ 2,411.11	$ 2,411.11
26	Traffic Control (12%)	1	LS	$ 2,893.33	$ 2,893.33	$ 2,893.33
	Sub Total				$ 29,415.56	$ 29,415.56
				Contingency (30%)	$ 8,824.67	
				Soft Costs (30%)	$ 8,824.67	
				TOTAL	$ 50,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 1 - Lily (Moderate) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Install a Roundabout

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Driveway	0	SY	$ 120.00	$ -	$ -
14	Cement Concrete Curb Ramp	0	EA	$ 3,500.00	$ -	$ -
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	0	EA	$ 400.00	$ -	$ -
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	0	SY	$ 100.00	$ -	$ -
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Roundabout	1	EA	$ 5,000,000.00	$ 5,000,000.00	$ 5,000,000.00
25	Mobilization (10%)	1	LS	$ 500,000.00	$ 500,000.00	$ 500,000.00
26	Traffic Control (12%)	1	LS	$ 600,000.00	$ 600,000.00	$ 600,000.00
	Sub Total				$ 6,100,000.00	$ 6,100,000.00
				Contingency (30%)	$ 1,830,000.00	
				Soft Costs (30%)	$ 1,830,000.00	
				TOTAL	$ 9,800,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 1 - Lily (Aggressive) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Enhanced bicycle crossings from buffered bike lane, Transit Signal Priority, Signal Upgrades

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Driveway	33	SY	$ 120.00	$ 4,000.00	$ 4,000.00
14	Cement Concrete Curb Ramp	2	EA	$ 3,500.00	$ 7,000.00	$ 7,000.00
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	0	EA	$ 400.00	$ -	$ -
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	131	SY	$ 100.00	$ 13,111.11	$ 13,111.11
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Signal Upgrades	1	EA	$ 150,000.00	$ 150,000.00	$ 150,000.00
25	Mobilization (10%)	1	LS	$ 17,411.11	$ 17,411.11	$ 17,411.11
26	Traffic Control (12%)	1	LS	$ 20,893.33	$ 20,893.33	$ 20,893.33
	Sub Total				$ 212,415.56	$ 212,415.56
				Contingency (30%)	$ 63,724.67	
				Soft Costs (30%)	$ 63,724.67	
				TOTAL	$ 340,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 3 - Sleater Kinney (Mininum/Moderate) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Buffered Bike Lane, enhanced visibility crossings

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Driveway	67	SY	$ 120.00	$ 8,000.00	$ 8,000.00
14	Cement Concrete Curb Ramp	2	EA	$ 3,500.00	$ 7,000.00	$ 7,000.00
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	0	EA	$ 400.00	$ -	$ -
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	1847	SY	$ 100.00	$ 184,666.67	$ 184,666.67
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Roundabout	0	EA	$ 5,000,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 19,966.67	$ 19,966.67	$ 19,966.67
26	Traffic Control (12%)	1	LS	$ 23,960.00	$ 23,960.00	$ 23,960.00
	Sub Total				$ 243,593.33	$ 243,593.33
				Contingency (30%)	$ 73,078.00	
				Soft Costs (30%)	$ 73,078.00	
				TOTAL	$ 390,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 3 - Sleater Kinney (Aggregate) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Enhanced bicycle crossings from buffered bike lane, Transit Signal Priority, Signal Upgrades

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Driveway	67	SY	$ 120.00	$ 8,000.00	$ 8,000.00
14	Cement Concrete Curb Ramp	2	EA	$ 3,500.00	$ 7,000.00	$ 7,000.00
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	0	EA	$ 400.00	$ -	$ -
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	1847	SY	$ 100.00	$ 184,666.67	$ 184,666.67
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Signal Upgrades	1	EA	$ 150,000.00	$ 150,000.00	$ 150,000.00
25	Mobilization (10%)	1	LS	$ 34,966.67	$ 34,966.67	$ 34,966.67
26	Traffic Control (12%)	1	LS	$ 41,960.00	$ 41,960.00	$ 41,960.00
	Sub Total				$ 426,593.33	$ 426,593.33
				Contingency (30%)	$ 127,978.00	
				Soft Costs (30%)	$ 127,978.00	
				TOTAL	$ 680,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 4 - Carpenter (Mininum/Moderate) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Buffered Bike Lane, enhanced visibility crossings, in-lane bus stops

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Driveway	67	SY	$ 120.00	$ 8,000.00	$ 8,000.00
14	Cement Concrete Curb Ramp	2	EA	$ 3,500.00	$ 7,000.00	$ 7,000.00
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	4	EA	$ 400.00	$ 1,600.00	$ 1,600.00
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	131	SY	$ 100.00	$ 13,111.11	$ 13,111.11
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Roundabout	0	EA	$ 5,000,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 2,971.11	$ 2,971.11	$ 2,971.11
26	Traffic Control (12%)	1	LS	$ 3,565.33	$ 3,565.33	$ 3,565.33
	Sub Total				$ 36,247.56	$ 36,247.56
				Contingency (30%)	$ 10,874.27	
				Soft Costs (30%)	$ 10,874.27	
				TOTAL	$ 60,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 4 - Carpenter (Aggressive) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Protected Intersection

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	111	SY	$ 185.00	$ 20,555.56	$ 20,555.56
12	Cement Concrete Curb and Gutter	100	LF	$ 100.00	$ 10,000.00	$ 10,000.00
13	Cement Concrete Driveway	100	SY	$ 120.00	$ 12,000.00	$ 12,000.00
14	Cement Concrete Curb Ramp	10	EA	$ 3,500.00	$ 35,000.00	$ 35,000.00
15	Detectable warning surface	8	SF	$ 60.00	$ 480.00	$ 480.00
16	Plastic Bike Lane Symbol	8	EA	$ 400.00	$ 3,200.00	$ 3,200.00
17	4" White Plastic Line	3200	LF	$ 3.00	$ 9,600.00	$ 9,600.00
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	249	SY	$ 100.00	$ 24,888.89	$ 24,888.89
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Roundabout	0	EA	$ 5,000,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 11,572.44	$ 11,572.44	$ 11,572.44
26	Traffic Control (12%)	1	LS	$ 13,886.93	$ 13,886.93	$ 13,886.93
	Sub Total				$ 141,183.82	$ 141,183.82
				Contingency (30%)	$ 42,355.15	
				Soft Costs (30%)	$ 42,355.15	
				TOTAL	$ 230,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 5 - Duterrow (Minimum) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Buffered Bike Lane, enhanced visibility crossings

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Driveway	33	SY	$ 120.00	$ 4,000.00	$ 4,000.00
14	Cement Concrete Curb Ramp	2	EA	$ 3,500.00	$ 7,000.00	$ 7,000.00
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	0	EA	$ 400.00	$ -	$ -
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	131	SY	$ 100.00	$ 13,111.11	$ 13,111.11
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Signal Upgrades	0	EA	$ 150,000.00	$ -	$ -
25	Mobilization (10%)	1	LS	$ 2,411.11	$ 2,411.11	$ 2,411.11
26	Traffic Control (12%)	1	LS	$ 2,893.33	$ 2,893.33	$ 2,893.33
	Sub Total				$ 29,415.56	$ 29,415.56
				Contingency (30%)	$ 8,824.67	
				Soft Costs (30%)	$ 8,824.67	
				TOTAL	$ 50,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 5 - Duterrow (Moderate) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Buffered Bike Lane, enhanced visibility crossings, Signal Upgrades

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Driveway	33	SY	$ 120.00	$ 4,000.00	$ 4,000.00
14	Cement Concrete Curb Ramp	2	EA	$ 3,500.00	$ 7,000.00	$ 7,000.00
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	0	EA	$ 400.00	$ -	$ -
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	131	SY	$ 100.00	$ 13,111.11	$ 13,111.11
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Signal Upgrades	1	EA	$ 150,000.00	$ 150,000.00	$ 150,000.00
25	Mobilization (10%)	1	LS	$ 17,411.11	$ 17,411.11	$ 17,411.11
26	Traffic Control (12%)	1	LS	$ 20,893.33	$ 20,893.33	$ 20,893.33
	Sub Total				$ 212,415.56	$ 212,415.56
				Contingency (30%)	$ 63,724.67	
				Soft Costs (30%)	$ 63,724.67	
				TOTAL	$ 340,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

transpogroup
WHAT TRANSPORTATION CAN BE.

Prelim Cost Estimate - Intersection 5 - Duterrow (Aggressive) - 2/8/2022

Transpo Job No.: 1.20305.00

Prepared by: MHA

Description of Work

Enhanced Bicycle Crossings, EB Transit Queue Jump, Signal Upgrades

L = 1

Bid Numbe	Item Description	Quantity	Unit	Unit Cost	Total	Cost/LF
1	Removal of Cement Conc. Pavement	0	SY	$ 115.00	$ -	$ -
2	Removal of Cement Conc. Sidewalk	0	SY	$ 20.00	$ -	$ -
3	Removal of Cement Conc. Curb and Gutter	0	LF	$ 7.00	$ -	$ -
4	Removal of Traffic Island	0	SY	$ 17.00	$ -	$ -
5	Clearing and Grubbing	0	AC	$ 35,000.00	$ -	$ -
6	Topsoil	0	SY	$ 25.00	$ -	$ -
7	Seeding, Fertilizing, and Mulching	0	SY	$ 40.00	$ -	$ -
8	Street Trees/Grates	0	EA	$ 1,500.00	$ -	$ -
9	Crushed surfacing base course	0	TON	$ 50.00	$ -	$ -
10	HMA CL. 1/2IN. PG 58H-22"	0	TON	$ 210.00	$ -	$ -
11	Cement Concrete Sidewalk	0	SY	$ 185.00	$ -	$ -
12	Cement Concrete Curb and Gutter	0	LF	$ 100.00	$ -	$ -
13	Cement Concrete Driveway	33	SY	$ 120.00	$ 4,000.00	$ 4,000.00
14	Cement Concrete Curb Ramp	4	EA	$ 3,500.00	$ 14,000.00	$ 14,000.00
15	Detectable warning surface	0	SF	$ 60.00	$ -	$ -
16	Plastic Bike Lane Symbol	0	EA	$ 400.00	$ -	$ -
17	4" White Plastic Line	0	LF	$ 3.00	$ -	$ -
18	8" White Plastic Line	0	LF	$ 4.00	$ -	$ -
19	Solid Green Pavement Marking	249	SY	$ 100.00	$ 24,888.89	$ 24,888.89
20	Solid Red Pavement Marking	0	SY	$ 100.00	$ -	$ -
21	Plastic crosswalk	0	SF	$ 10.50	$ -	$ -
22	Plastic Traffic Letter	0	EA	$ 100.00	$ -	$ -
23	Flexible guide post	0	EA	$ 105.00	$ -	$ -
24	Signal Upgrades	1	EA	$ 150,000.00	$ 150,000.00	$ 150,000.00
25	Mobilization (10%)	1	LS	$ 19,288.89	$ 19,288.89	$ 19,288.89
26	Traffic Control (12%)	1	LS	$ 23,146.67	$ 23,146.67	$ 23,146.67
	Sub Total				$ 235,324.44	$ 235,324.44
				Contingency (30%)	$ 70,597.33	
				Soft Costs (30%)	$ 70,597.33	
				TOTAL	$ 380,000.00	assumes no ROW

Segment Quantities

ATTACHMENT D

ATTACHMENT E – ALTERNATIVES EVALUATION WORKSHEETS

SEGMENT 1 - PACIFIC TO LILLY

Goal	Objectives	Existing	Minimum	Moderate	Aggressive	Measures	Alternative: Minimum Value	Minimum Score	Moderate Value	Moderate Score	Aggressive Value	Aggressive Score
Improve Local Mobility and Safety for all Users	Increase mobility through walking					% corridor with comfortable pedestrian facilities	25%	2	100%	5	100%	5
						Distance Between protected pedestrian crossings	0.31 mi	3	0.24 mi	4	0.20	4
	Increase access to transit					Proximity of nearest transit stop to major trip generators	0.25 mi	4	0.25 mi	4	0.25 mi	4
						# transit stops with space for comfortable amenities	8/11	4	8/11	4	11/11	5
	Enhance bicycle connectivity and comfort					% corridor with designated bicycle facility on both sides	100%	5	100%	5	100%	5
						% bicycle facilities protected from vehicle travel way	0%	1	25%	2	100%	5
Balance Needs & Accommodate Regional Mobility	Provide improved transit speed and reliability					Travel time during PM peak period	3.76		3.87		3.81	
						Variance in transit travel time speeds during PM peak period	-45%		-42%		-30%	
	Avoid degredation of corridor operations					travel times during PM peak hour	4.00		3.99		5.74	
						# of major intersections operating below LOS D	0		0		0	
Enhance Accessibility and Connectivity	Maintain local business access					# of properties with limited vehicle access	25%	1	50%	3	50%	3
						# of properties with improved/alternative access	25%	1	50%	3	90%	4
	Increase ADA accessibility					# of crossings with APS signals	0/18	1	2/20	1	4/22	1
						% facilities meeting ADA standards	10%	1	30%	2	50%	3
	Increase connectivity					# of connections to regional trails and off-corridor facilities	2	5	2	5	2	5
	Planning Level Cost Estimate		$ 600,000	$ 18,000,000	$ 29,000,000	Total Score		28		38		44

ATTACHMENT E

SEGMENT 2 - LILLY TO COLLEGE

Goal	Objectives	Existing	Minimum	Moderate	Aggressive	Hybrid*	Measures	Alternative: Minimum Value	Minimum Score	Moderate Value	Moderate Score	Aggressive Value	Aggressive Score
Improve Local Mobility and Safety for all Users	Increase mobility through walking						% corridor with comfortable pedestrian facilities	100%	5	100%	5	100%	5
							Distance Between protected pedestrian crossings	0.25 mi	4	0.20 mi	4	0.17	5
	Increase access to transit						Proximity of nearest transit stop to major trip generators	< 0.1 mi	5	< 0.1 mi	5	< 0.1 mi	5
							# transit stops with space for comfortable amenities	8/9	4	8/9	4	9/9	5
	Enhance bicycle connectivity and comfort						% corridor with designated bicycle facility on both sides	100%	5	100%	5	100%	5
							% bicycle facilities protected from vehicle travel way	0%	1	25%	2	100%	5
Balance Needs & Accommodate Regional Mobility	Provide improved transit speed and reliability						Travel time during PM peak period	3.63		3.12		2.76	
							Variance in transit travel time speeds during PM peak period	-47%		-50%		-44%	
	Avoid degredation of corridor operations						travel times during PM peak hour	3.47		3.45		5.14	
							# of major intersections operating below LOS D	0		0		0	
Enhance Accessibility and Connectivity	Maintain local business access						# of properties with limited vehicle access	25%	1	50%	3	50%	3
							# of properties with improved/alternative access	10%	1	50%	3	90%	4
	Increase ADA accessibility						# of crossings with APS signals	10/18	3	12/20	3	14/22	3
							% facilities meeting ADA standards	40%	2	60%	3	80%	4
	Increase connectivity						# of connections to regional trails and off-corridor facilities	3/3	5	3/3	5	3/3	5
	Planning Level Cost Estimate		$ 850,000	$ 8,000,000	$ 26,000,000			Total Score	36		42		49

ATTACHMENT E

SEGMENT 3 - COLLEGE TO CARPENTER

Goal	Objectives	Existing	Minimum	Moderate	Aggressive	Measures	Alternative: Minimum Value	Minimum Score	Moderate Value	Moderate Score	Aggressive Value	Aggressive Score
Improve Local Mobility and Safety for all Users	Increase mobility through walking	●	●	●	●	% corridor with comfortable pedestrian facilities	50%	3	100%	5	100%	5
						Distance Between protected pedestrian crossings	0.25 mi	4	0.21 mi	4	0.18 mi	5
	Increase access to transit	●	●	●	●	Proximity of nearest transit stop to major trip generators	~0.19 mi	5	~0.19 mi	5	~0.19 mi	5
						# transit stops with space for comfortable amenities	3/6	3	3/6	3	6/6	5
	Enhance bicycle connectivity and comfort	●	●	●	●	% corridor with designated bicycle facility on both sides	100%	5	100%	5	100%	5
						% bicycle facilities protected from vehicle travel way	0%	1	25%	2	100%	5
Balance Needs & Accommodate Regional Mobility	Provide improved transit speed and reliability	●	●	●	●	Travel time during PM peak period	4.91		4.34		3.71	
						Variance in transit travel time speeds during PM peak period	-44%		-48%		-39%	
	Avoid degredation of corridor operations	●	●	●	●	travel times during PM peak hour	5.11		4.77		6.09	
						# of major intersections operating below LOS D	1		1		1	
Enhance Accessibility and Connectivity	Maintain local business access	●	●	●	●	# of properties with limited vehicle access	60%	3	80%	4	80%	4
						# of properties with improved/alternative access	60%	3	80%	4	100%	5
	Increase ADA accessibility	●	●	●	●	# of crossings with APS signals	14/22	3	16/24	3	18/26	3
						% facilities meeting ADA standards	40%	2	60%	3	80%	4
	Increase connectivity	●	●	●	●	# of connections to regional trails and off-corridor facilities	1/1	5	1/1	5	1/1	5
	Planning Level Cost Estimate		$ 17,000,000	$ 17,000,000	$ 36,000,000	Total Score		37		43		51

ATTACHMENT E

SEGMENT 4 - CARPENTER TO MARVIN

Goal	Objectives	Existing	Minimum	Moderate	Aggressive	Measures	Alternative: Minimum Value	Minimum Score	Moderate Value	Moderate Score	Aggressive Value	Aggressive Score
Improve Local Mobility and Safety for all Users	Increase mobility through walking					% corridor with comfortable pedestrian facilities	100%	5	100%	5	100%	5
						Distance Between protected pedestrian crossings	0.32 mi	3	0.26	4	0.22	4
	Increase access to transit					Proximity of nearest transit stop to major trip generators	< 0.1 mi	5	< 0.1 mi	5	< 0.1 mi	5
						# transit stops with space for comfortable amenities	9/13	3	9/13	3	13/13	4
	Enhance bicycle connectivity and comfort					% corridor with designated bicycle facility on both sides	100%	5	100%	5	100%	5
						% bicycle facilities protected from vehicle travel way	0%	1	25%	2	100%	5
Balance Needs & Accommodate Regional Mobility	Provide improved transit speed and reliability					Travel time during PM peak period	5.16		4.79		3.89	
						Variance in transit travel time speeds during PM peak period	-48%		-45%		-32%	
	Avoid degredation of corridor operations					travel times during PM peak hour	5.16		4.76		5.96	
						# of major intersections operating below LOS D	1		1		1	
Enhance Accessibility and Connectivity	Maintain local business access					# of properties with limited vehicle access	25%	1	50%	3	50%	3
						# of properties with improved/alternative access	35%	2	65%	3	90%	4
	Increase ADA accessibility					# of crossings with APS signals	26/26	5	28/28	5	30/30	5
						% facilities meeting ADA standards	60%	3	80%	4	100%	5
	Increase connectivity					# of connections to regional trails and off-corridor facilities	0/0	5	0/0	5	0/0	5
	Planning Level Cost Estimate		$ 750,000	$ 3,500,000	$ 40,000,000	Total Score		38		44		50

ATTACHMENT E

SEGMENT 5 - MARVIN TO DUTTEROW

Goal	Objectives	Existing	Minimum	Moderate	Aggressive	Measures	Alternative: Minimum Value	Minimum Score	Moderate Value	Moderate Score	Aggressive Value	Aggressive Score
Improve Local Mobility and Safety for all Users	Increase mobility through walking					% corridor with comfortable pedestrian facilities	75%	4	100%	5	100%	5
						Distance Between protected pedestrian crossings	0.29 mi	4	0.23	4	0.19	5
	Increase access to transit					Proximity of nearest transit stop to major trip generators	< 0.1 mi	5	< 0.1 mi	5	< 0.1 mi	5
						# transit stops with space for comfortable amenities	5/5	5	5/5	5	5/5	5
	Enhance bicycle connectivity and comfort					% corridor with designated bicycle facility on both sides	100%	5	100%	5	100%	5
						% bicycle facilities protected from vehicle travel way	0%	1	25%	2	100%	5
Balance Needs & Accommodate Regional Mobility	Provide improved transit speed and reliability					Travel time during PM peak period	1.75		1.91		2.49	
						Variance in transit travel time speeds during PM peak period	-77%		-76%		-81%	
	Avoid degredation of corridor operations					travel times during PM peak hour	3.19		3.15		3.45	
						# of major intersections operating below LOS D	0		0		0	
Enhance Accessibility and Connectivity	Maintain local business access					# of properties with limited vehicle access	25%	1	50%	3	50%	3
						# of properties with improved/alternative access	50%	3	75%	4	90%	4
	Increase ADA accessibility					# of crossings with APS signals	19/19	5	21/21	5	23/23	5
						% facilities meeting ADA standards	60%	3	80%	4	100%	5
	Increase connectivity					# of connections to regional trails and off-corridor facilities	0/0	5	0/0	5	0/0	5
	Planning Level Cost Estimate		$ 350,000	$ 16,000,000	$ 17,000,000		Total Score	41		47		52

ATTACHMENT E