

appendix: H
COST ESTIMATES SUMMARY
AND METHODOLOGY

Table A: Estimated Unit Costs

Treatment Type	Unit	Cost Per Unit (1)	Contingency for Conceptual Estimate (15%)	Engineering Cost (20%)	Inspection (10%)	Mobilization and Insurance (5%)	Maintenance and Protection of Traffic (10%)	Total Cost
Intersection Treatments								
Enhanced Intersection with Roundabout (135' diameter)	L.S.	\$ 750,000	\$ 112,500	\$ 150,000	\$ 75,000	\$ 37,500	\$ 75,000	\$ 1,200,000
Enhanced Intersection with Small Modern Roundabout (100' diameter)	L.S.	\$ 250,000	\$ 37,500	\$ 50,000	\$ 25,000	\$ 12,500	\$ 25,000	\$ 400,000
Improved Intersection with Two Stage Bike Turn Lane and Striping	L.S.	\$ 200,000	\$ 30,000	\$ 40,000	\$ 20,000	\$ 10,000	\$ 20,000	\$ 320,000
Improved Intersection with Striping/Pedestrian Ramps (Local)	L.S.	\$ 40,030	\$ 6,005	\$ 8,006	\$ 4,003	\$ 2,002	\$ 4,003	\$ 64,048
Improved Intersection with Striping/Pedestrian Ramps (Collector)	L.S.	\$ 52,245	\$ 7,837	\$ 10,449	\$ 5,225	\$ 2,612	\$ 5,225	\$ 83,592
Improved Intersection with Striping/Pedestrian Ramps (Arterial)	L.S.	\$ 66,045	\$ 9,907	\$ 13,209	\$ 6,605	\$ 3,302	\$ 6,605	\$ 105,672
Improved Intersection with Striping/Pedestrian Ramps (T-Intersection-Local)	L.S.	\$ 21,645	\$ 3,247	\$ 4,329	\$ 2,165	\$ 1,082	\$ 2,165	\$ 34,632
Intersection Realignment	L.S.	\$ 220,000	\$ 33,000	\$ 44,000	\$ 22,000	\$ 11,000	\$ 22,000	\$ 352,000
Driveway Reconstruction	L.S.	\$ 1,200	\$ 180	\$ 240	\$ 120	\$ 60	\$ 120	\$ 1,920
Access Improvements	L.S.	\$ 1,500	\$ 225	\$ 300	\$ 150	\$ 75	\$ 150	\$ 2,400
Bike Treatments (See Also Pedestrian Treatments "Shared Path")								
6' Protected Bike Lane including "raised curb"	L.F.	\$ 225	\$ 34	\$ 45	\$ 23	\$ 11	\$ 23	\$ 360
6' Bike Lane with 2' Stripped Buffer	L.F.	\$ 30	\$ 5	\$ 6	\$ 3	\$ 2	\$ 3	\$ 48
Pedestrian Treatments								
6' Detached Sidewalk including Landscaping	L.F.	\$ 100	\$ 15	\$ 20	\$ 10	\$ 5	\$ 10	\$ 160
6' Attached Sidewalk	L.F.	\$ 37	\$ 6	\$ 7	\$ 4	\$ 2	\$ 4	\$ 59
Shared Path including "raised curb"	L.F.	\$ 250	\$ 38	\$ 50	\$ 25	\$ 13	\$ 25	\$ 400
Mid-Block Pedestrian Crossing	L.S.	\$ 40,000	\$ 6,000	\$ 8,000	\$ 4,000	\$ 2,000	\$ 4,000	\$ 64,000
Signalized Pedestrian Crossing	L.S.	\$ 80,000	\$ 12,000	\$ 16,000	\$ 8,000	\$ 4,000	\$ 8,000	\$ 128,000
Roadway Treatments								
Planted Medians	L.F.	\$ 400	\$ 60	\$ 80	\$ 40	\$ 20	\$ 40	\$ 640
Striping	L.F.	\$ 5	\$ 1	\$ 1	\$ 1	\$ 0	\$ 1	\$ 8
Roadway and Drainage Improvements								
1 1/2" Mill and Overlay	L.F.	\$ 163	\$ 24	\$ 33	\$ 16	\$ 8	\$ 16	\$ 261
Curb & Gutter	L.F.	\$ 35	\$ 5	\$ 7	\$ 4	\$ 2	\$ 4	\$ 56
Drainage Improvements and Stormwater Management	L.F.	\$ 80	\$ 12	\$ 16	\$ 8	\$ 4	\$ 8	\$ 128
Ditch Crossing Improvements (replace existing structure and widen crossing)	L.S.	\$ 150,000	\$ 22,500	\$ 30,000	\$ 15,000	\$ 7,500	\$ 15,000	\$ 240,000
Transit Improvements								
Bus Stop Enhancements	L.S.	\$ 9,000	\$ 1,350	\$ 1,800	\$ 900	\$ 450	\$ 900	\$ 14,400

Table B: Estimated Unit Costs - Phase 2

<i>Length of Segment Excluding Main Intersections (Linear Feet)</i>	<i>3700</i>		<i>1320</i>		<i>Street Segments</i>		<i>2480</i>		<i>2760</i>		<i>3450</i>	
	<i>Overland Trail to Ponderosa Dr. (Includes Overland Intersection)</i>		<i>Ponderosa Dr. to Taft Hill Rd. (includes Ponderosa Intersection)</i>		<i>Taft Hill Rd. to Constitution Dr. (Includes Taft Hill Intersection)</i>		<i>Constitution Dr. to Shields St. (includes Constitution and Shields Intersections)</i>		<i>Plum Street</i>			
Treatment Type												
Intersection Treatments												
Enhanced Intersection with Roundabout												
Enhanced Intersection with Small Modern Roundabout												
Improved Intersection with Two Stage Bike Turn Lane and Striping												
Improved Intersection with Striping/Pedestrian Ramps (Local)	1		1					2				
Improved Intersection with Striping/Pedestrian Ramps (Collector)												
Improved Intersection with Striping/Pedestrian Ramps (Arterial)												
Improved Intersection with Striping/Pedestrian Ramps (T-Intersection)							4					
Intersection Realignment							1					
Driveway Reconstruction												
Access Improvements (Except SF Home Driveway)												
Bike Treatments (See Also Pedestrian Treatments "Shared Path")												
6' Protected Bike Lane including "raised curb"												
6' Bike Lane with 2' Stripped Buffer												
Pedestrian Treatments												
6' Detached Sidewalk including Landscaping	1000		800		1400							
6' Attached Sidewalk	1600		200									
Shared Path including "raised curb"												
Mid-Block Pedestrian Crossing												
Signalized Pedestrian Crossing												
Roadway Treatments												
Planted Median												
Striping	2700				1000							
Roadway and Drainage Improvements												
1 1/2" Mill and Overlay												
Curb & Gutter	2600		1000		1400							
Drainage Improvements and Stormwater Management					1400							
Ditch Crossing Improvements												
Transit Improvements												
Bus Stop Enhancements	2				2			2			5	
Total Cost per Street Segment	\$ 514,768	\$ 259,888	\$ 1,008,928	\$ 156,896	\$ 72,000							
								Total Cost of Phase 2 Improvements	\$ 2,012,480			
								Low Probable Cost	\$ 1,408,736			
								High Probable Cost	\$ 2,616,224			
								Cost per Mile of Project (~2.6 miles)	\$ 774,031			
								Low Probable Cost	\$ 541,822			
								High Probable Cost	\$ 1,006,240			

Assumptions:

Conceptual cost estimates were completed for the recommended traffic calming measures in order to provide a magnitude of cost. It is important to point out that the estimates were not completed based on topographic survey and preliminary or final engineering drawings, which would be required for accurate costing and implementation. Quantities and unit costs were extracted from conceptual plan drawings in order to define the basic limits of work for the estimates, but are limited in accuracy due to the plan format and detail. All of the conceptual traffic calming measures are assumed to be completed within the existing legal right-of-way and that roadway improvements can be contained within the existing paved section. It is also assumed that the roadway cross-sections and profiles do not need to be modified and that drainage is currently adequate to serve the proposed section.

Table C: Estimated Unit Costs - Phase 3

Treatment Type	Street Segments				
	3700 Overland Trail to Ponderosa Dr. (Includes Overland Intersection)	1320 Ponderosa Dr. to Taft Hill Rd. (includes Ponderosa Intersection)	2480 Taft Hill Rd. to Constitution Dr. (Includes Taft Hill Intersection)	2760 Constitution Dr. to Shields St. (includes Constitution and Shields Intersections)	3450 Plum Street
Intersection Treatments					
Enhanced Intersection with Roundabout	1				
Enhanced Intersection with Small Modern Roundabout		1			
Improved Intersection with Two Stage Bike Turn Lane and Striping			1	2	
Improved Intersection with Striping/Pedestrian Ramps (Local)	1				1
Improved Intersection with Striping/Pedestrian Ramps (Collector)			1		
Improved Intersection with Striping/Pedestrian Ramps (Arterial)				1	1
Improved Intersection with Striping/Pedestrian Ramps (T-Intersection)	7	1	5	1	
Intersection Realignment	1		1		
Driveway Reconstruction	22	4	14		
Access Improvements (Except SF Home Driveway)	3	9	3	19	9
Bike Treatments (See Also Pedestrian Treatments "Shared Path")					
6' Protected Bike Lane including "raised curb"		1220	3000	3145	
6' Bike Lane with 2' Stripped Buffer	7400	1735	1360		6400
Pedestrian Treatments					
6' Detached Sidewalk including Landscaping	3840	1220	4320	2800	
6' Attached Sidewalk					2200
Shared Path including "raised curb"			200	2240	
Mid-Block Pedestrian Crossing		1			
Signalized Pedestrian Crossing				2	
Roadway Treatments					
Planted Median	860		860	600	
Stripping	3840	1420	2570	2700	
Roadway and Drainage Improvements					
1 1/2" Mill and Overlay	3800	1420	2570	2800	
Curb & Gutter	7600	2840	5140	2700	
Drainage Improvements and Stormwater Management	3700	1420	2570	2700	
Ditch Crossing Improvements			1	1	1
Transit Improvements					
Bus Stop Enhancements	6	1			
Total Cost per Street Segment	\$ 5,435,272	\$ 1,982,488	\$ 4,977,328	\$ 5,430,744	\$ 868,760
				Total Cost of Phase 3 Improvements	\$ 18,694,592
				Low Probable Cost	\$ 13,086,214
				High Probable Cost	\$ 24,302,970
				Cost per Mile of Project (~2.6 miles)	\$ 7,190,228
				Low Probable Cost	\$ 5,033,159
				High Probable Cost	\$ 9,347,296

Assumptions:

Conceptual cost estimates were completed for the recommended traffic calming measures in order to provide a magnitude of cost. It is important to point out that the estimates were not completed based on topographic survey and preliminary or final engineering drawings, which would be required for accurate costing and implementation. Quantities and unit costs were extracted from conceptual plan drawings in order to define the basic limits of work for the estimates, but are limited in accuracy due to the plan format and detail. All of the conceptual traffic calming measures are assumed to be completed within the existing legal right-of-way and that roadway improvements can be contained within the existing paved section. It is also assumed that the roadway cross-sections and profiles do not need to be modified and that drainage is currently adequate to serve the proposed section.

Existing Study Area Transit Service												
Route	Route Length, round-trip (mi)	Peak Frequency (hr)	Peak Hours	Peak Span	Off-Peak Frequency (hr)	Off-Peak Hours	Off-Peak Span	Running Speed (MPH)	Running Time (Min)	Recovery Time (Min) at 25%		
2		6.7	0.500 6 AM - 10 PM	16	0.000	N/A	0	18	22.5	5.6		
31		2.6	0.167 7 AM - 7 PM	12	0.000	N/A	0	13	11.9	3.0		
32		6.5	0.500 7 AM - 7 PM	12	0.000	N/A	0	16	24.2	6.1		
33		7.8	0.500 7 AM - 6 PM	11	0.000	N/A	0	18	25.8	6.5		
HORN		6.0	0.167 7 AM - 7 PM	12	0.000	N/A	0	16	22.7	5.7		
Interim Design Transit Service												
Route	Route Length, round-trip (mi)	Peak Frequency (hr)	Peak Hours	Peak Span	Off-Peak Frequency (hr)	Off-Peak Hours	Off-Peak Span	Running Speed (MPH)	Running Time (Min)	Recovery Time at 15% (Min)		
2		7.4	0.500 7 AM - 7 PM	12	0.000	N/A	0	18	24.7	3.7		
3		8.0	0.250 7 AM - 7 PM	12	0.500	7 PM - 10 PM	3	18	26.7	4.0		
31		2.6	0.167 7 AM - 7 PM	12	0.000	N/A	0	13	12	1.8		
HORN		6.3	0.167 6:30 AM - 5 PM	10.5	0.333	5 PM - 8 PM	3	16	23.6	3.5		
Foothills Campus Shuttle		11.1	1.000 7 AM - 7 PM	12	0.000	N/A	0	16	41.6	6.2		
Recommended Design Transit Service												
Route	Route Length, round-trip (mi)	Peak Frequency (hr)	Peak Hours	Peak Span	Off-Peak Frequency (hr)	Off-Peak Hours	Off-Peak Span	Running Speed (MPH)	Running Time (Min)	Recovery Time at 15% (Min)		
2		7.4	0.250 7 AM - 7 PM	12	0.500	7 PM - 10 PM	3	18	24.7	3.7		
3		8.0	0.167 7 AM - 7 PM	12	0.500	7 PM - 10 PM	3	18	26.7	4.0		
31		2.6	0.083 7 AM - 5 PM	10	0.167	5 PM - 7 PM	2	13	12	1.8		
HORN		6.5	0.167 6:30 AM - 5 PM	10.5	0.333	5 PM - 8 PM	3	16	24.4	3.7		
Foothills Campus Shuttle		5.0	0.500 7 AM - 7 PM	12	0.500	N/A	0	16	18.8	2.8		
Planning for Redevelopment Transit Service												
Route	Route Length, round-trip (mi)	Peak Frequency (hr)	Peak Hours	Peak Span	Off-Peak Frequency (hr)	Off-Peak Hours	Off-Peak Span	Running Speed (MPH)	Running Time (Min)	Recovery Time at 15% (Min)		
Standard Service												
2		7.4	0.250 7 AM - 7 PM	12	0.500	7 PM - 10 PM	3	18	24.7	3.7		
31		2.6	0.083 7 AM - 5 PM	10	0.167	5 PM - 7 PM	2	13	12	1.8		
HORN		6.5	0.167 6:30 AM - 5 PM	10.5	0.333	5 PM - 8 PM	3	16	24.4	3.7		
Foothills Campus Shuttle		5	0.500 7 AM - 7 PM	12	0.500	N/A	0	16	18.8	2.8		
BRT												
BRT EB		3.1	0.167 7 AM - 7 PM	12	0.500	7 PM - 10 PM	3	16	11.6	1.7		
BRT WB		3.1	0.167 7 AM - 7 PM	12	0.500	7 PM - 10 PM	3	16	11.6	1.7		

Existing									
Cycle Time (Min)	Adj. Cycle Time (Min)	Peak Veh. Req.	Off-Peak Veh. Req.	Weekday Revenue Miles	Peak Revenue Hours	Off-Peak Revenue Hours	Weekday Revenue Hours	Annual Revenue Hours (x256)	Annual Revenue Miles (x256)
28.1	30	1		216	16			16	
14.9	15	2		185	24			24	
30.3	30	1		155	12			12	
32.3	30	1		171	11			11	
28.4	30	3		435	36			36	
		8		1,162	99			99	
								25,344	297,472
Interim Design									
Cycle Time (Min)	Adj. Cycle Time (Min)	Peak Veh. Req.	Off-Peak Veh. Req.	Weekday Revenue Miles	Peak Revenue Hours	Off-Peak Revenue Hours	Weekday Revenue Hours	Annual Revenue Hours (x256)	Annual Revenue Miles (x256)
28.4	30	1		178	12	0		12	
30.7	30	2	1	432	24	3		27	
13.8	15	2		187	24	0		24	
27.1	30	3	2	454	31.5	6		38	
47.8	60	1		133	12	0		12	
		9	3	1,384	103.5	9		113	
		1		222				14	
								3,456	56,832
Recommended Design									
Cycle Time (Min)	Adj. Cycle Time (Min)	Peak Veh. Req.	Off-Peak Veh. Req.	Weekday Revenue Miles	Peak Revenue Hours	Off-Peak Revenue Hours	Weekday Revenue Hours	Annual Revenue Hours (x256)	Annual Revenue Miles (x256)
28.4	30	2	1	400	24	3		27	
30.7	30	3	1	624	36	3		39	
13.8	15	3	2	343	30	4		34	
28.1	30	3	2	468	31.5	6		38	
21.6	30	1	1	120	12	0		12	
		12	7	1,955	133.5	16		150	
		4		793				51	
								12,928	203,008
Planning for Redevelopment									
Cycle Time (Min)	Adj. Cycle Time (Min)	Peak Veh. Req.	Off-Peak Veh. Req.	Weekday Revenue Miles	Peak Revenue Hours	Off-Peak Revenue Hours	Weekday Revenue Hours	Annual Revenue Hours (x256)	Annual Revenue Miles (x256)
28.4	30	2	1	400	24	3		27	
13.8	15	3	2	343	30	4		34	
28.1	30	3	2	468	31.5	6		37.5	
21.6	30	1	1	120	12	0		12	
				1331	97.5	13		110.5	
				169				11.5	
								2,944	43,264
13.3	15	2	1	241	24	3		27	
13.3	15	2	1	241	24	3		27	
		4		482	48	6		54	
								13,824	123,392

COST CALCULATIONS - West Elizabeth P2 Interim

07/19/2016

Assumptions

Fixed Route Operations	2015	2016	2017	2018	2019	2020
Cost of Maintenance per Revenue Mile	\$ 1.37	\$ 1.40	\$ 1.43	\$ 1.46	\$ 1.48	\$ 1.51
Cost of Fuel per Revenue Mile (7.5% Increase)	\$ 0.74	\$ 0.76	\$ 0.77	\$ 0.79	\$ 0.80	\$ 0.82
Cost of Insurance & Medical per Revenue Mile	\$ 0.13	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.15	\$ 0.15
Cost of Personnel per Revenue Hour	\$ 34.84	\$ 35.89	\$ 36.96	\$ 38.07	\$ 39.21	\$ 40.39
Associated Dial A Ride -Cost (# of trips) per Rev Mile	\$ 0.81	\$ 0.89	\$ 0.98	\$ 1.07	\$ 1.17	\$ 1.28
Offsetting Fixed Route Fares per Revenue Mile	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)
Offsetting DAR Fares per Rev Mile	\$ (0.05)	\$ (0.06)	\$ (0.07)	\$ (0.08)	\$ (0.09)	\$ (0.10)
Support Services - Per Revenue Mile Cost	\$ 2.43	\$ 2.48	\$ 2.54	\$ 2.59	\$ 2.65	\$ 2.70
Support Services - Per Revenue Hour Cost	\$ 31.67	\$ 32.34	\$ 33.03	\$ 33.73	\$ 34.45	\$ 35.18
Colorado State University Expense per Service Hour	\$ 73.50	\$ 74.97	\$ 76.47	\$ 78.00	\$ 79.56	\$ 81.15
Operating Expense per Service Hour - support	\$ 100.80	\$ 103.42	\$ 106.11	\$ 108.87	\$ 111.69	\$ 114.60
Operating Expense per Service Hour - no support	\$ 72.00	\$ 73.87	\$ 75.79	\$ 77.76	\$ 79.78	\$ 81.86
					97.6	

Templates for Pricing Service

Enter Value

Revenue Hours	3,456	*increment above existing service levels
Revenue Miles	56,832	*increment above existing service levels
Associated DAR	0	
Dispatch	0	

Without Overhead	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour	\$ 120,411	\$ 124,024	\$ 127,745	\$ 131,578	\$ 135,525	\$ 139,591
Cost Per Revenue Mile	\$ 127,720	\$ 130,275	\$ 132,880	\$ 135,538	\$ 138,249	\$ 141,014
Cost for Dispatch Only	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offsetting Fares (Fixed & DAR)	\$ (22,733)	\$ (22,733)	\$ (22,733)	\$ (22,733)	\$ (22,733)	\$ (22,733)
Total Cost	\$ 225,399	\$ 231,566	\$ 237,892	\$ 244,383	\$ 251,041	\$ 257,872

With Overhead - Miles and Hours	2015	2016	2017	2018	2019	2020
Revenue Hours	\$ 120,411	\$ 124,024	\$ 127,745	\$ 131,578	\$ 135,525	\$ 139,591
Revenue Miles	\$ 127,720	\$ 130,275	\$ 132,880	\$ 135,538	\$ 138,249	\$ 141,014
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost for Support Services	\$ 126,686	\$ 129,382	\$ 132,135	\$ 134,948	\$ 137,820	\$ 140,753
Offsetting Fares (Fixed & DAR)	\$ (22,733)	\$ (22,733)	\$ (22,733)	\$ (22,733)	\$ (22,733)	\$ (22,733)
Total Cost	\$ 352,085	\$ 360,948	\$ 370,028	\$ 379,330	\$ 388,861	\$ 398,625

With Overhead, Hours Only	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour with Overhead	\$ 348,365	\$ 357,419	\$ 366,708	\$ 376,238	\$ 386,017	\$ 396,049
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offsetting Fares (Fixed & DAR)	\$ (22,733)	\$ (22,733)	\$ (22,733)	\$ (22,733)	\$ (22,733)	\$ (22,733)
Total Cost	\$ 325,632	\$ 334,686	\$ 343,975	\$ 353,506	\$ 363,284	\$ 373,316

CSU Funded Service	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour with Limited Overhead	\$ 254,016	\$ 259,096	\$ 264,278	\$ 269,564	\$ 274,955	\$ 280,454
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Cost	\$ 254,016	\$ 259,096	\$ 264,278	\$ 269,564	\$ 274,955	\$ 280,454

Assumptions

Fixed Route Operations	2015	2016	2017	2018	2019	2020
Cost of Maintenance per Revenue Mile	\$ 1.37	\$ 1.40	\$ 1.43	\$ 1.46	\$ 1.48	\$ 1.51
Cost of Fuel per Revenue Mile (7.5% Increase)	\$ 0.74	\$ 0.76	\$ 0.77	\$ 0.79	\$ 0.80	\$ 0.82
Cost of Insurance & Medical per Revenue Mile	\$ 0.13	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.15	\$ 0.15
Cost of Personnel per Revenue Hour	\$ 34.84	\$ 35.89	\$ 36.96	\$ 38.07	\$ 39.21	\$ 40.39
Associated Dial A Ride -Cost (# of trips) per Rev Mile	\$ 0.81	\$ 0.89	\$ 0.98	\$ 1.07	\$ 1.17	\$ 1.28
Offsetting Fixed Route Fares per Revenue Mile	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)
Offsetting DAR Fares per Rev Mile	\$ (0.05)	\$ (0.06)	\$ (0.07)	\$ (0.08)	\$ (0.09)	\$ (0.10)
Support Services - Per Revenue Mile Cost	\$ 2.43	\$ 2.48	\$ 2.54	\$ 2.59	\$ 2.65	\$ 2.70
Support Services - Per Revenue Hour Cost	\$ 31.67	\$ 32.34	\$ 33.03	\$ 33.73	\$ 34.45	\$ 35.18
Colorado State University Expense per Service Hour	\$ 73.50	\$ 74.97	\$ 76.47	\$ 78.00	\$ 79.56	\$ 81.15
Operating Expense per Service Hour - support	\$ 100.80	\$ 103.42	\$ 106.11	\$ 108.87	\$ 111.69	\$ 114.60
Operating Expense per Service Hour - no support	\$ 72.00	\$ 73.87	\$ 75.79	\$ 77.76	\$ 79.78	\$ 81.86
					97.6	

Templates for Pricing Service

	Enter Value	
Revenue Hours	12,928	*increment above existing service levels
Revenue Miles	203,008	*increment above existing service levels
Associated DAR	0	
Dispatch	0	

Without Overhead	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour	\$ 450,428	\$ 463,942	\$ 477,861	\$ 492,198	\$ 506,964	\$ 522,174
Cost Per Revenue Mile	\$ 456,226	\$ 465,351	\$ 474,658	\$ 484,151	\$ 493,834	\$ 503,711
Cost for Dispatch Only	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offsetting Fares (Fixed & DAR)	\$ (81,203)	\$ (81,203)	\$ (81,203)	\$ (81,203)	\$ (81,203)	\$ (81,203)
Total Cost	\$ 825,451	\$ 848,089	\$ 871,315	\$ 895,145	\$ 919,595	\$ 944,682

With Overhead - Miles and Hours	2015	2016	2017	2018	2019	2020
Revenue Hours	\$ 450,428	\$ 463,942	\$ 477,861	\$ 492,198	\$ 506,964	\$ 522,174
Revenue Miles	\$ 456,226	\$ 465,351	\$ 474,658	\$ 484,151	\$ 493,834	\$ 503,711
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost for Support Services	\$ 459,914	\$ 469,703	\$ 479,699	\$ 489,908	\$ 500,335	\$ 510,983
Offsetting Fares (Fixed & DAR)	\$ (81,203)	\$ (81,203)	\$ (81,203)	\$ (81,203)	\$ (81,203)	\$ (81,203)
Total Cost	\$ 1,285,366	\$ 1,317,792	\$ 1,351,014	\$ 1,385,053	\$ 1,419,930	\$ 1,455,665

With Overhead, Hours Only	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour with Overhead	\$ 1,303,142	\$ 1,337,011	\$ 1,371,759	\$ 1,407,410	\$ 1,443,988	\$ 1,481,517
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offsetting Fares (Fixed & DAR)	\$ (81,203)	\$ (81,203)	\$ (81,203)	\$ (81,203)	\$ (81,203)	\$ (81,203)
Total Cost	\$ 1,221,939	\$ 1,255,807	\$ 1,290,556	\$ 1,326,207	\$ 1,362,785	\$ 1,400,314

CSU Funded Service	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour with Limited Overhead	\$ 950,208	\$ 969,212	\$ 988,596	\$ 1,008,368	\$ 1,028,536	\$ 1,049,106
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Cost	\$ 950,208	\$ 969,212	\$ 988,596	\$ 1,008,368	\$ 1,028,536	\$ 1,049,106

COST CALCULATIONS - West Elizabeth P4 Redevelopment (Standard Service) 07/19/2016

Assumptions

Fixed Route Operations	2015	2016	2017	2018	2019	2020
Cost of Maintenance per Revenue Mile	\$ 1.37	\$ 1.40	\$ 1.43	\$ 1.46	\$ 1.48	\$ 1.51
Cost of Fuel per Revenue Mile (7.5% Increase)	\$ 0.74	\$ 0.76	\$ 0.77	\$ 0.79	\$ 0.80	\$ 0.82
Cost of Insurance & Medical per Revenue Mile	\$ 0.13	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.15	\$ 0.15
Cost of Personnel per Revenue Hour	\$ 34.84	\$ 35.89	\$ 36.96	\$ 38.07	\$ 39.21	\$ 40.39
Associated Dial A Ride -Cost (# of trips) per Rev Mile	\$ 0.81	\$ 0.89	\$ 0.98	\$ 1.07	\$ 1.17	\$ 1.28
Offsetting Fixed Route Fares per Revenue Mile	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)
Offsetting DAR Fares per Rev Mile	\$ (0.05)	\$ (0.06)	\$ (0.07)	\$ (0.08)	\$ (0.09)	\$ (0.10)
Support Services - Per Revenue Mile Cost	\$ 2.43	\$ 2.48	\$ 2.54	\$ 2.59	\$ 2.65	\$ 2.70
Support Services - Per Revenue Hour Cost	\$ 31.67	\$ 32.34	\$ 33.03	\$ 33.73	\$ 34.45	\$ 35.18
Colorado State University Expense per Service Hour	\$ 73.50	\$ 74.97	\$ 76.47	\$ 78.00	\$ 79.56	\$ 81.15
Operating Expense per Service Hour - support	\$ 100.80	\$ 103.42	\$ 106.11	\$ 108.87	\$ 111.69	\$ 114.60
Operating Expense per Service Hour - no support	\$ 72.00	\$ 73.87	\$ 75.79	\$ 77.76	\$ 79.78	\$ 81.86
					97.6	

Templates for Pricing Service

Enter Value

Revenue Hours	2,944	*increment above existing service levels
Revenue Miles	43,264	*increment above existing service levels
Associated DAR	0	
Dispatch	0	

Without Overhead	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour	\$ 102,573	\$ 105,650	\$ 108,820	\$ 112,085	\$ 115,447	\$ 118,911
Cost Per Revenue Mile	\$ 97,229	\$ 99,173	\$ 101,157	\$ 103,180	\$ 105,243	\$ 107,348
Cost for Dispatch Only	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offsetting Fares (Fixed & DAR)	\$ (17,306)	\$ (17,306)	\$ (17,306)	\$ (17,306)	\$ (17,306)	\$ (17,306)
Total Cost	\$ 182,496	\$ 187,518	\$ 192,671	\$ 197,959	\$ 203,385	\$ 208,954

With Overhead - Miles and Hours	2015	2016	2017	2018	2019	2020
Revenue Hours	\$ 102,573	\$ 105,650	\$ 108,820	\$ 112,085	\$ 115,447	\$ 118,911
Revenue Miles	\$ 97,229	\$ 99,173	\$ 101,157	\$ 103,180	\$ 105,243	\$ 107,348
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost for Support Services	\$ 100,407	\$ 102,544	\$ 104,726	\$ 106,955	\$ 109,231	\$ 111,556
Offsetting Fares (Fixed & DAR)	\$ (17,306)	\$ (17,306)	\$ (17,306)	\$ (17,306)	\$ (17,306)	\$ (17,306)
Total Cost	\$ 282,902	\$ 290,061	\$ 297,397	\$ 304,914	\$ 312,616	\$ 320,509

With Overhead, Hours Only	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour with Overhead	\$ 296,755	\$ 304,468	\$ 312,381	\$ 320,499	\$ 328,829	\$ 337,375
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offsetting Fares (Fixed & DAR)	\$ (17,306)	\$ (17,306)	\$ (17,306)	\$ (17,306)	\$ (17,306)	\$ (17,306)
Total Cost	\$ 279,450	\$ 287,162	\$ 295,075	\$ 303,194	\$ 311,523	\$ 320,070

CSU Funded Service	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour with Limited Overhead	\$ 216,384	\$ 220,712	\$ 225,126	\$ 229,628	\$ 234,221	\$ 238,905
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Cost	\$ 216,384	\$ 220,712	\$ 225,126	\$ 229,628	\$ 234,221	\$ 238,905

COST CALCULATIONS - West Elizabeth P4 Redevelopment (BRT)

07/19/2016

Assumptions

Fixed Route Operations	2015	2016	2017	2018	2019	2020
Cost of Maintenance per Revenue Mile	\$ 1.37	\$ 1.40	\$ 1.43	\$ 1.46	\$ 1.48	\$ 1.51
Cost of Fuel per Revenue Mile (7.5% Increase)	\$ 0.74	\$ 0.76	\$ 0.77	\$ 0.79	\$ 0.80	\$ 0.82
Cost of Insurance & Medical per Revenue Mile	\$ 0.13	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.15	\$ 0.15
Cost of Personnel per Revenue Hour	\$ 34.84	\$ 35.89	\$ 36.96	\$ 38.07	\$ 39.21	\$ 40.39
Associated Dial A Ride -Cost (# of trips) per Rev Mile	\$ 0.81	\$ 0.89	\$ 0.98	\$ 1.07	\$ 1.17	\$ 1.28
Offsetting Fixed Route Fares per Revenue Mile	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)	\$ (0.40)
Offsetting DAR Fares per Rev Mile	\$ (0.05)	\$ (0.06)	\$ (0.07)	\$ (0.08)	\$ (0.09)	\$ (0.10)
Support Services - Per Revenue Mile Cost	\$ 2.43	\$ 2.48	\$ 2.54	\$ 2.59	\$ 2.65	\$ 2.70
Support Services - Per Revenue Hour Cost	\$ 31.67	\$ 32.34	\$ 33.03	\$ 33.73	\$ 34.45	\$ 35.18
Colorado State University Expense per Service Hour	\$ 73.50	\$ 74.97	\$ 76.47	\$ 78.00	\$ 79.56	\$ 81.15
Operating Expense per Service Hour - support	\$ 100.80	\$ 103.42	\$ 106.11	\$ 108.87	\$ 111.69	\$ 114.60
Operating Expense per Service Hour - no support	\$ 72.00	\$ 73.87	\$ 75.79	\$ 77.76	\$ 79.78	\$ 81.86
					97.6	

Templates for Pricing Service

	Enter Value	
Revenue Hours	13,824	*increment above existing service levels
Revenue Miles	123,392	*increment above existing service levels
Associated DAR	0	
Dispatch	0	

Without Overhead	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour	\$ 481,646	\$ 496,096	\$ 510,980	\$ 526,310	\$ 542,100	\$ 558,364
Cost Per Revenue Mile	\$ 277,303	\$ 282,849	\$ 288,506	\$ 294,276	\$ 300,161	\$ 306,165
Cost for Dispatch Only	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offsetting Fares (Fixed & DAR)	\$ (49,357)	\$ (49,357)	\$ (49,357)	\$ (49,357)	\$ (49,357)	\$ (49,357)
Total Cost	\$ 709,592	\$ 729,588	\$ 750,129	\$ 771,229	\$ 792,905	\$ 815,172

With Overhead - Miles and Hours	2015	2016	2017	2018	2019	2020
Revenue Hours	\$ 481,646	\$ 496,096	\$ 510,980	\$ 526,310	\$ 542,100	\$ 558,364
Revenue Miles	\$ 277,303	\$ 282,849	\$ 288,506	\$ 294,276	\$ 300,161	\$ 306,165
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cost for Support Services	\$ 355,118	\$ 362,676	\$ 370,394	\$ 378,277	\$ 386,328	\$ 394,550
Offsetting Fares (Fixed & DAR)	\$ (49,357)	\$ (49,357)	\$ (49,357)	\$ (49,357)	\$ (49,357)	\$ (49,357)
Total Cost	\$ 1,064,710	\$ 1,092,264	\$ 1,120,523	\$ 1,149,507	\$ 1,179,233	\$ 1,209,722

With Overhead, Hours Only	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour with Overhead	\$ 1,393,459	\$ 1,429,675	\$ 1,466,831	\$ 1,504,954	\$ 1,544,067	\$ 1,584,196
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Offsetting Fares (Fixed & DAR)	\$ (49,357)	\$ (49,357)	\$ (49,357)	\$ (49,357)	\$ (49,357)	\$ (49,357)
Total Cost	\$ 1,344,102	\$ 1,380,318	\$ 1,417,474	\$ 1,455,597	\$ 1,494,710	\$ 1,534,839

CSU Funded Service	2015	2016	2017	2018	2019	2020
Cost Per Revenue Hour with Limited Overhead	\$ 1,016,064	\$ 1,036,385	\$ 1,057,113	\$ 1,078,255	\$ 1,099,820	\$ 1,121,817
Cost for Associated DAR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Cost	\$ 1,016,064	\$ 1,036,385	\$ 1,057,113	\$ 1,078,255	\$ 1,099,820	\$ 1,121,817