

## Bi-County Transportation Study

### Appendix C: Overview of Project Cost Estimates

Estimates Provided as of June 3, 2011

Given the varying level of information and inputs, the cost estimates for each of the potential Bi-County transportation improvements were developed using the most accurate information currently available, while also applying as consistent a methodology as possible across all estimates. For instance, the Study included soft costs such as engineering and construction management by applying a standard percentage to each project's capital cost. The Study also included contingency as a percentage of the capital cost, but this percentage varied across the projects according to the level of detail currently known about the project. Below is a description of the methods used to generate each cost estimate. All estimates use \$2010 for consistency and assume implementation at the same time.

**US 101 Candlestick Interchange and Geneva Avenue Extension.** These two projects are currently undergoing a Caltrans Project Study Report (PSR), led by the City of Brisbane. As part of this effort, the project has generated conceptual engineering capital cost estimates. The Bi-County Transportation Study used these capital cost estimates as the basis for the overall cost estimates but also added PS&E and other soft costs consistent with all Bi-County project cost estimates. The estimates for both of these projects exclude the BRT elements, even though those elements are part of the PSR costs. Those costs were accounted for within the Harney BRT cost estimate.

**Sierra Point Interchange Widening, Harney Way Widening, Harney BRT, Geneva BRT/TPS, Palou TPS, Yosemite Slough Bridge.** These estimates were generated by the Bi-County Study, using unit measurements based on designs/inputs from other sources (e.g., other feasibility studies, the Bayview Transportation Improvement Project, the Van Ness BRT environmental study, etc.). The Study applied a set of unit costs consistently across all Bi-County project estimates; these unit costs may not match those used in the original project information sources. All assumptions and sources are noted in the cost estimates.

**T-Third Light Rail Extension.** The Bi-County estimate for this project used SFMTA's previously completed Conceptual Engineering Report as a basis for the unit measurements. However, the Study removed the portion of the costs relating to station platforms and station amenities. The station platforms and amenities costs related to the T-Third extension were instead incorporated within the Bayshore Intermodal Station cost estimate.

**Oakdale Caltrain Station.** This estimate was taken from SFCTA's previously completed feasibility study for this project, which created its estimate from a conceptual design showing key station elements such as vertical circulation, Caltrain platforms, and pedestrian access from adjacent neighborhoods.

**Bicycle-Pedestrian Connections Project.** This estimate was based on the cost of similar bike-ped projects in the region.

**Bayshore Intermodal Station.** This estimate was based on the total cost of the Oakdale Caltrain Station (see above), with specific additional elements such as BRT vertical circulation and Light Rail Transit platforms.

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

**Project #1: US 101 Harney/Geneva Interchange**

**Assumptions:** 1) PSR cost estimate for capital and ROW costs. Soft costs based on MT&Co percentages  
Contingency already included in PSR cost estimate, so not recalculated in soft costs

**Summary:**

1)	Construction	\$119,200,000			
2)	Right of Way	\$6,900,000			
3)	Vehicles	-			
4)	Engineering & Misc	\$68,600,000			
<b>Total Cost:</b>		<b>\$194,700,000</b>	<b>Year 2010</b>		<u>Cost/Mile</u> \$325,000,000

**1) CONSTRUCTION**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Construction (PSR Estimate)	LS	\$119,153,500	1	\$119,153,500	N/A
<b>Total Construction Cost:</b>				<b>\$119,153,500</b>	

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
ROW (PSR Estimate)	LS	\$6,895,000	1	\$6,895,000	N/A
<b>Total Right of Way Cost:</b>				<b>\$6,895,000</b>	

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
<b>Total Vehicles Cost:</b>				<b>\$0</b>

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$17,870,000	1	\$17,870,000
PS&E Design (15%)	LS	\$17,870,000	1	\$17,870,000
Construction Management (15%)	LS	\$17,870,000	1	\$17,870,000
Mobilization (10%)	LS	\$11,920,000	1	\$11,920,000
Public Art (2%)	LS	\$2,380,000	1	\$2,380,000
Contingency (30%)	LS		1	
R/W Engineering (10% of R/W Cost)	LS	\$690,000	1	<u>\$690,000</u>

**Total Engineering & Miscellaneous Cost: \$68,600,000**



BAYSHORE  
TRANSIT  
CENTER

GENEVA AVE EXTENSION  
(PROJECT #3)

ROUTE 101

THOMAS MELLON Cir

EXECUTIVE  
PARK Blvd

HARNEY Way

HARNEY WAY WIDENING  
(PROJECT #4)

101/GENEVA AVE/HARNEY WAY  
CANDLESTICK POINT INTERCHANGE

SFCTA BI-COUNTY TRANSPORTATION STUDY

PROJECT #1: 101/Candlestick Point Interchange

SCALE: 1"=500'

2/8/10

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #2: Sierra Point/101 SB ramps widening

- Assumptions:**
- 1) Widen SB off-ramp to 2 lanes after gore area, widen SB on-ramp to 2 lanes with 1,000' auxiliary lane (required for >1500 VPH) and ramp metering equipment. Future 101 auxiliary project to widen off-ramp to 2-lane exit from the freeway. (Project #2 Length = 3,000', 0.6 mile)
  - 2) Relocate Changeable Message Sign for on-ramp widening, install new street lights along ramps.
  - 3) Concrete barrier required between widened on-ramp and adjacent Sierra Point Pkwy.
  - 4) Assume roadway excavation beyond existing edge of pavement is contaminated with ADL, and vegetated areas 5' beyond new edge of pavement is wetlands/habitat to be mitigated.
  - 5) Assume new pavement section required for widening beyond existing traveled way section (Thin shld)
  - 6) All work within existing State R/W. See hand-written quantity detail worksheets for cost breakdowns.

**Summary:**

1)	Construction	\$1,800,000		
2)	Right of Way	\$400,000		
3)	Vehicles	-		
4)	Engineering & Misc	\$1,700,000		
<b>Total Cost:</b>		<b>\$3,900,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u> \$7,000,000

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	LS	\$0	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	36,000	\$72,000	\$120,000
Imported Borrow	CY	\$15	0	-	-
Pavement Section	SF	\$13	52,000	\$676,000	\$1,127,000
Curb, Gutter and Sidewalk	LS	\$0	0	-	-
Concrete Barrier	LF	\$60	1,600	\$96,000	\$160,000
Signalization (Ramp Metering)	LS	\$120,000	1	\$120,000	\$200,000
Drainage (15% of Roadway)	LS	\$145,000	1	\$145,000	\$242,000
Minor Items (20% of Roadway)	LS	\$193,000	1	\$193,000	\$322,000
			<u>Subtotal</u>	<u>\$1,300,000</u>	<u>\$2,170,000</u>

<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Bridge	SF	\$0	0	-	-
Retaining Wall	SF	\$60	0	-	-
			<u>Subtotal</u>	<u>\$0</u>	<u>\$0</u>

<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$0	0	-	-
Traction Power Substation	LS	\$0	0	-	-
OCS	LS	\$0	0	-	-
Communications (Station & Line)	LS	\$0	0	-	-

Subtotal                      \$0                      \$0

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	LS	\$0	0	-	-
Escalator/Elevator/Stairs @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	EA	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	SF	\$10	30,000	\$300,000	\$500,000
Trees	EA	\$2,000	0	-	-
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$300,000	\$500,000

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$100,000	1	\$100,000	\$167,000
Lighting/Changeable Message Sign	LS	\$90,000	1	\$90,000	\$150,000
Hazardous Materials Removal	CY	\$80	650	\$52,000	\$87,000
			Subtotal	\$242,000	\$404,000

**Total Construction Cost:            \$1,842,000            \$3,074,000**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$0	0	-	-
Utility Relocation	LS	\$50,000	1	\$50,000	\$83,000
Environmental Mitigation	SF	\$30	12,500	\$375,000	\$625,000

**Total Right of Way Cost:            \$425,000            \$708,000**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-

**Total Vehicles Cost:            \$0**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$280,000	1	\$280,000
PS&E Design (15%)	LS	\$280,000	1	\$280,000
Construction Management (15%)	LS	\$280,000	1	\$280,000
Mobilization (10%)	LS	\$180,000	1	\$180,000
Public Art (2%)	LS	\$40,000	1	\$40,000
Contingency (30%)	LS	\$550,000	1	\$550,000
R/W Engineering (10% of R/W Cost)	LS	\$40,000	1	\$40,000

**Total Engineering & Miscellaneous Cost:            \$1,650,000**



**SFCTA BI-COUNTY TRANSPORTATION STUDY**  
**PROJECT #2: Sierra Point/101 SB Ramp Widening**



# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc.

June 1, 2011

### Project #3: Geneva Avenue Extension

**Assumptions:** 1) PSR cost estimate for capital and ROW costs. Soft costs based on MT&Co percentages  
Contingency already included in PSR cost estimate, so not recalculated in soft costs

**Summary:**

1)	Construction	\$57,000,000	
2)	Right of Way	\$0	
3)	Vehicles	-	
4)	Engineering & Misc	\$33,000,000	
<b>Total Cost:</b>		<b>\$90,000,000</b>	<b>Year 2010</b>

### 1) CONSTRUCTION

**Total Construction Cost: \$56,985,500**

### 2) RIGHT OF WAY

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF				
Utility Relocation	LS				
Environmental Mitigation	LS				

**Total Right of Way Cost:**

### 3) VEHICLES

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Articulated Section	EA	\$515,000	0	-

**Total Vehicles Cost: \$0**

### 4) ENGINEERING & MISCELLANEOUS

(Percentage of Total Construction Except R/W Engineering)

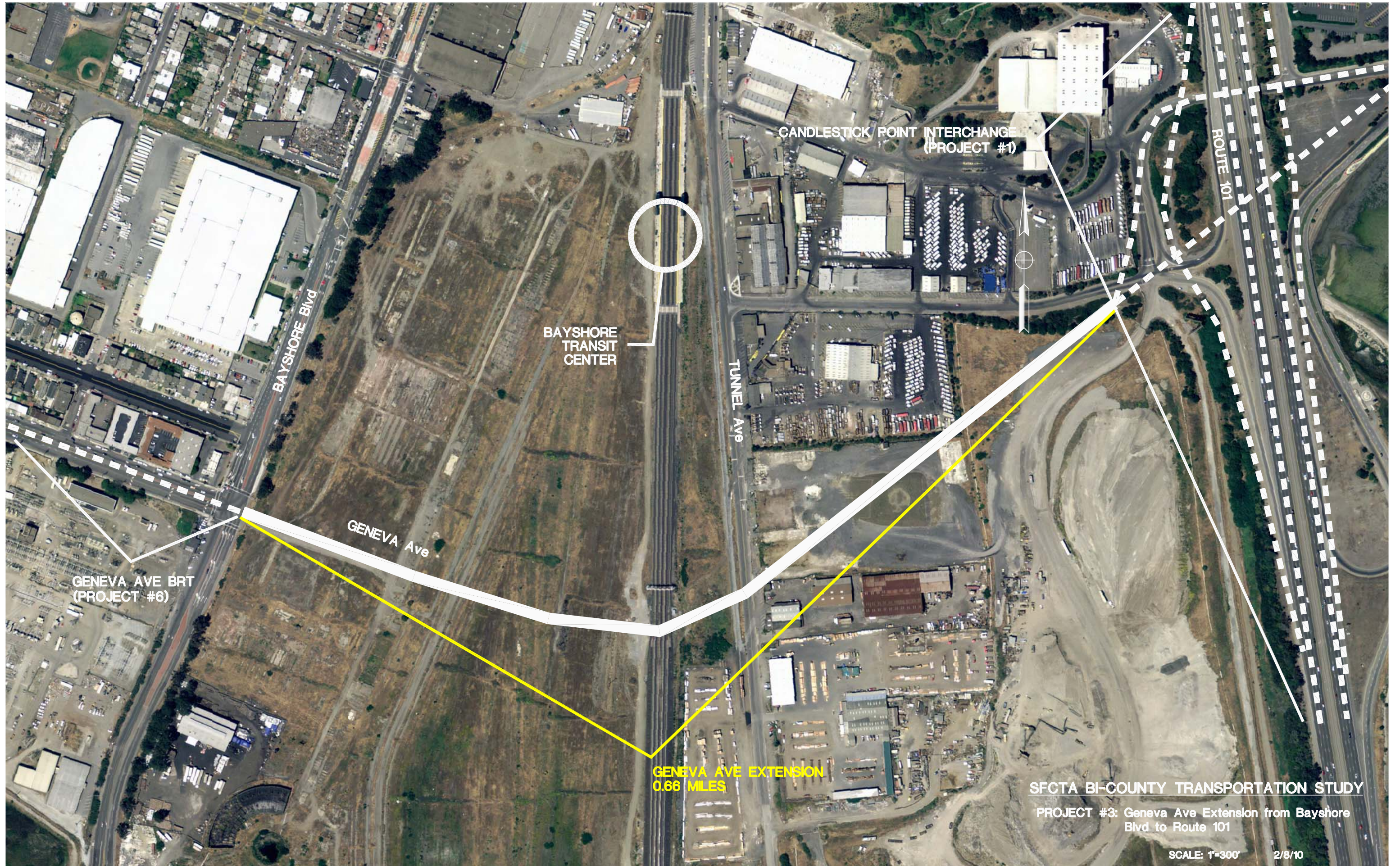
**SFCTA Bi-County Transportation Planning Study**  
**PRELIMINARY COST ESTIMATE SUMMARY**

Mark Thomas & Company, Inc.

June 1, 2011

Environmental Documents (15%)	LS	\$8,550,000	1	\$8,550,000
PS&E Design (15%)	LS	\$8,550,000	1	\$8,550,000
Construction Management (15%)	LS	\$8,550,000	1	\$8,550,000
Mobilization (10%)	LS	\$5,700,000	1	\$5,700,000
Public Art (2%)	LS	\$1,140,000	1	\$1,140,000
Contingency (30%)	LS	\$0	1	-
R/W Engineering (10% of R/W Cost)	LS	\$0	1	-

**Total Engineering & Miscellaneous Cost:     \$32,500,000**



GENEVA AVE BRT  
(PROJECT #6)

GENEVA Ave

GENEVA AVE EXTENSION  
0.66 MILES

BAYSHORE  
TRANSIT  
CENTER

CANDLESTICK POINT INTERCHANGE  
(PROJECT #1)

ROUTE 101

TUNNEL AVE

SFCTA BI-COUNTY TRANSPORTATION STUDY

PROJECT #3: Geneva Ave Extension from Bayshore  
Blvd to Route 101

SCALE: 1"=300'

2/8/10

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #4: Harney Way Widening

- Assumptions:**
- 1) New Roadway widening from west of Thomas Mellon Ct to Jamestown Ave. (Length = 2,200', 0.42 mile)  
New Harney Way is 6 lanes wide with approx 50' wide landscape/bike/ped paths.
  - 2 BRT lanes and 12' sidewalk on north side of Harney Way not counted (part of project #5)  
Portion of new Harney Way alignment over existing Harney way in separate rehab project.
  - 2) Street lights and trees already accounted for in separate Harney Way rehab project.
  - 3) Remove & replace 3 existing overhead sign structures along this section of Harney Way.
  - 4) Remove and replace exist ped OC structure at Jamestown Ave. Add signal at Thomas Mellon.
  - 5) Relocation of OH electrical line & poles required on south side of Harney Way.
  - 6) All ROW take is public land on south side - Per SFCTA, assume \$0 cost for public ROW take.
  - 7) See hand-written quantity detail worksheets for cost breakdowns.

**Summary:**

1) Construction	\$6,700,000		
2) Right of Way	\$500,000		
3) Vehicles	-		
4) Engineering & Misc	\$5,900,000		
<b>Total Cost:</b>	<b>\$13,000,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u> \$31,000,000
(Escalated at 3.5% per year)	\$15,000,000	Year 2015 (Begin Project)	\$36,000,000

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	LS	\$113,000	1	\$113,000	\$269,000
Roadway Excavation/Clear & Grub	SF	\$2	205,000	\$410,000	\$976,000
Imported Borrow	CY	\$15	0	-	-
Pavement Section	SF	\$13	87,300	\$1,134,900	\$2,702,000
Curb, Gutter and Sidewalk	LS	\$457,600	1	\$457,600	\$1,090,000
Signalized Intersection (& OH signs)	LS	\$950,000	1	\$950,000	\$2,262,000
Drainage (15% of Roadway)	LS	\$460,000	1	\$460,000	\$1,095,000
Minor Items (20% of Roadway)	LS	\$613,000	1	\$613,000	\$1,460,000
			<b>Subtotal</b>	<b>\$4,140,000</b>	<b>\$9,850,000</b>
<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Overcrossing Structure (Ped OC)	SF	\$200	4,000	\$800,000	\$1,905,000
Retaining Wall	SF	\$60	0	-	-
			<b>Subtotal</b>	<b>\$800,000</b>	<b>\$1,910,000</b>
<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$0	0	-	-
Traction Power Substation	LS	\$0	0	-	-
OCS	LS	\$0	0	-	-
Communications (Station & Line)	LS	\$0	0	-	-
			<b>Subtotal</b>	<b>\$0</b>	<b>\$0</b>

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	LS	\$0	0	-	-
Escalator/Elevator/Stairs @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	EA	\$0	0	-	-
			Subtotal	\$0	\$0
<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	SF	\$10	59,400	\$594,000	\$1,414,000
Trees	EA	\$2,000	0	-	-
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$594,000	\$1,410,000
<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$100,000	1	\$100,000	\$238,000
Lighting	EA	\$5,000	0	-	-
Hazardous Materials Removal	CY	\$80	13,000	\$1,040,000	\$2,476,000
			Subtotal	\$1,140,000	\$2,710,000
<b>Total Construction Cost:</b>				<b>\$6,674,000</b>	<b>\$15,880,000</b>

## 2) RIGHT OF WAY

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$0	0	-	-
Utility Relocation	LS	\$500,000	1	\$500,000	\$1,190,000
Environmental Mitigation	LS	\$0	0	-	-
<b>Total Right of Way Cost:</b>				<b>\$500,000</b>	<b>\$1,190,000</b>

## 3) VEHICLES

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-
<b>Total Vehicles Cost:</b>				<b>\$0</b>

## 4) ENGINEERING & MISCELLANEOUS

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$1,000,000	1	\$1,000,000
PS&E Design (15%)	LS	\$1,000,000	1	\$1,000,000
Construction Management (15%)	LS	\$1,000,000	1	\$1,000,000
Mobilization (10%)	LS	\$670,000	1	\$670,000
Public Art (2%)	LS	\$130,000	1	\$130,000
Contingency (30%)	LS	\$2,000,000	1	\$2,000,000
R/W Engineering (10% of R/W Cost)	LS	\$50,000	1	\$50,000

**Total Engineering & Miscellaneous Cost: \$5,850,000**



CANDLESTICK POINT INTERCHANGE  
(PROJECT #1)

EXECUTIVE  
PARK Blvd

THOMAS MELLON Ct

HARNEY Way

JAMESTOWN Ave

HARNEY WAY WIDENING  
0.42 MILES

ROUTE 101

SFCTA BI-COUNTY TRANSPORTATION STUDY

PROJECT #4: Harney Way Widening from Thomas Mellon Ct to Jamestown Ave

SCALE: 1"=200' 2/8/10

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

**Project #5: BRT on Harney Way - OVERALL from Bayshore Blvd to Hunter's Point Transit Center,  
Option A: Alignment under Route 101 along existing Alana Way undercrossing.**

- Assumptions:**
- 1) New Roadway section for Harney Way BRT alignment includes 2-12' lanes, 12' sidewalk and 10' landscaping strip. Overall length of 3.28 miles + 1.0 mile for "Around the Slough" section.
  - 2) Road through various cleared and uncleared land. R/W cost varies from \$0 to \$75/sf. No proposed utility costs except roadway drainage system. Need to remove contaminated soil (hazardous material).
  - 3) Total of 10 BRT stations with ticket vending machines located along route.
  - 4) BRT alignment divided into 5 sections. Details and assumptions for each on following worksheets.
  - 5) See hand-written quantity detail worksheets for cost breakdowns.

**Summary:**

1)	Construction	\$67,000,000		
2)	Right of Way	\$5,000,000		
3)	Vehicles	\$29,000,000		
4)	Engineering & Misc	\$59,000,000		
<b>Total Cost:</b>		<b>\$160,000,000</b>	<b>Year 2010</b>	<b>Cost/Mile</b>
(Escalated at 3.5% per year)		\$177,000,000	Year 2015 (Begin Project)	\$37,000,000
				\$41,000,000

**1) CONSTRUCTION**

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	SF	\$5	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	264,700	\$529,400	\$161,000
Imported Borrow/Excavation	CY	\$15	53,000	\$795,000	\$242,000
Pavement Section	SF	\$13	391,200	\$5,085,600	\$1,550,000
Curb, Gutter and Sidewalk	LS	\$2,189,400	1	\$2,189,400	\$668,000
Concrete Barrier	LF	\$60	0	-	-
Signalized Intersection	LS	\$3,150,000	1	\$3,150,000	\$960,000
Drainage (15% of Roadway)	LS	\$1,762,000	1	\$1,762,000	\$537,000
Minor Items (20% of Roadway)	LS	\$2,350,000	1	\$2,350,000	\$716,000
			Subtotal	\$15,900,000	\$4,830,000

<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Overcrossing Structure	SF	\$200	25,300	\$5,060,000	\$1,543,000
Retaining Wall	SF	\$60	13,000	\$780,000	\$238,000
			Subtotal	\$5,840,000	\$1,780,000

<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$0	0	-	-
Traction Power Substation	LS	\$0	0	-	-
OCS	LS	\$0	0	-	-
Communications (Station & Line)	Mile	\$130,000	3.28	\$426,400	\$130,000
			Subtotal	\$426,000	\$130,000

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	EA	\$360,000	10	\$3,600,000	\$1,098,000
Escalator/Elevator/Stairs @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	EA	\$100,000	10	\$1,000,000	\$305,000
Bus Maintenance Facilities	LS	\$15,500,000	1	\$15,500,000	\$4,726,000
			Subtotal	\$20,100,000	\$6,130,000

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	SF	\$10	169,000	\$1,690,000	\$515,000
Trees	EA	\$2,000	676	\$1,352,000	\$412,000
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$3,040,000	\$927,000

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$500,000	1	\$500,000	\$152,000
Lighting	EA	\$5,000	182	\$910,000	\$277,000
Hazardous Materials Removal	CY	\$80	54,860	\$4,388,800	\$1,338,000
Around Slough Alignment	LS	\$16,000,000	1	\$16,000,000	\$16,000,000
			Subtotal	\$21,800,000	\$17,800,000

**Total Construction Cost: \$67,106,000 \$31,597,000**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	LS	\$5,427,500	1	\$5,427,500	\$1,655,000
Utility Relocation	LS	\$0	0	-	-
Environmental Mitigation	LS	\$0	0	-	-

**Total Right of Way Cost: \$5,430,000 \$1,660,000**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,510,000	19	\$28,690,000
Bus Increment	EA	\$515,000	0	-

**Total Vehicles Cost: \$28,700,000**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$10,070,000	1	\$10,070,000
PS&E Design (15%)	LS	\$10,070,000	1	\$10,070,000
Construction Management (15%)	LS	\$10,070,000	1	\$10,070,000
Mobilization (10%)	LS	\$6,710,000	1	\$6,710,000
Public Art (2%)	LS	\$1,340,000	1	\$1,340,000
Contingency (30%)	LS	\$20,130,000	1	\$20,130,000
R/W Engineering (10% of R/W Cost)	LS	\$540,000	1	\$540,000

**Total Engineering & Miscellaneous Cost: \$58,900,000**



# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #5: BRT on Harney Way - SECTION 1 (Bayshore Blvd to Geneva/Harney/101 IC)

- Assumptions:**
- 1) New Roadway along Geneva Ave extension from Bayshore Blvd to right-turn lane to SB 101 on-ramp for BKF 101/Geneva Ave/Harney Way proposed IC Alt 1 (Sta 111 to 76 = 3,500', 0.66 mile)
  - 2) Road through cleared, undeveloped land. R/W cost at \$10/sf. No proposed utility costs except roadway drainage system. Need to remove contaminated soil (hazardous material).
  - 3) Roadway section is 2-12' lanes, 12' sidewalk and 10' landscaping strip.
  - 4) Street lights, traffic signal and traffic control/handling already included in Project #3 estimate.
  - 5) 1 bus station with TVM. Real-time signing, vertical access and restrooms assumed to be included in Bayshore Station costs.
  - 6) See hand-written quantity detail worksheets for cost breakdowns.

**Summary:**

1) Construction	\$10,000,000		
2) Right of Way	\$2,000,000		
3) Vehicles	-		
4) Engineering & Misc	\$9,000,000		
<b>Total Cost:</b>	<b>\$21,000,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u> \$32,000,000
(Escalated at 3.5% per year)	\$25,000,000	Year 2015 (Begin Project)	\$38,000,000

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	SF	\$5	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	0	-	-
Imported Borrow/Excavation	CY	\$15	41,000	\$615,000	\$932,000
Pavement Section	SF	\$13	84,000	\$1,092,000	\$1,655,000
Curb, Gutter and Sidewalk	LS	\$448,000	1	\$448,000	\$679,000
Concrete Barrier	LF	\$60	0	-	-
Signalized Intersection	EA	\$0	0	-	-
Drainage (15% of Roadway)	LS	\$323,000	1	\$323,000	\$489,000
Minor Items (20% of Roadway)	LS	\$431,000	1	\$431,000	\$653,000
			<b>Subtotal</b>	<b>\$2,910,000</b>	<b>\$4,410,000</b>

<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Overcrossing Structure	SF	\$200	25,300	\$5,060,000	\$7,667,000
Retaining Wall	SF	\$60	0	-	-
			<b>Subtotal</b>	<b>\$5,060,000</b>	<b>\$7,670,000</b>

<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$0	0	-	-
Traction Power Substation	LS	\$0	0	-	-
OCS	LS	\$0	0	-	-
Communications (Station & Line)	Mile	\$130,000	0.66	\$85,800	\$130,000
			<b>Subtotal</b>	<b>\$85,800</b>	<b>\$130,000</b>

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	LS	\$360,000	1	\$360,000	\$545,000
Escalator/Elevator/Stairs @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	EA	\$100,000	1	\$100,000	\$152,000
			Subtotal	\$460,000	\$697,000
<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	SF	\$10	35,000	\$350,000	\$530,000
Trees	EA	\$2,000	140	\$280,000	\$424,000
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$630,000	\$954,000
<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$50,000	1	\$50,000	\$75,758
Lighting	EA	\$5,000	0	-	-
Hazardous Materials Removal	CY	\$80	10,500	\$840,000	\$1,273,000
			Subtotal	\$890,000	\$1,350,000
<b>Total Construction Cost:</b>				<b>\$10,035,800</b>	<b>\$15,211,000</b>

## 2) RIGHT OF WAY

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$10	161,000	\$1,610,000	\$2,439,000
Utility Relocation	LS	\$0	0	-	-
Environmental Mitigation	LS	\$0	0	-	-
<b>Total Right of Way Cost:</b>				<b>\$1,610,000</b>	<b>\$2,440,000</b>

## 3) VEHICLES

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,510,000	0	-
Bus Increment	EA	\$515,000	0	-
<b>Total Vehicles Cost:</b>				<b>\$0</b>

## 4) ENGINEERING & MISCELLANEOUS

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$1,510,000	1	\$1,510,000
PS&E Design (15%)	LS	\$1,510,000	1	\$1,510,000
Construction Management (15%)	LS	\$1,510,000	1	\$1,510,000
Mobilization (10%)	LS	\$1,000,000	1	\$1,000,000
Public Art (2%)	LS	\$200,000	1	\$200,000
Contingency (30%)	LS	\$3,010,000	1	\$3,010,000
R/W Engineering (10% of R/W Cost)	LS	\$160,000	1	\$160,000

**Total Engineering & Miscellaneous Cost: \$8,900,000**

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #5: BRT on Harney Way - SECTION 2, OPTION A (Through Geneva/Harney/101 IC, along Alana Way under 101)

- Assumptions:**
- 1) New Roadway along Alana Way through the interchange along the existing crossing under 101 to Thomas Mellon Cir. Length of 1,700' (0.32 mile)
  - 2) Existing 800' Alana Way crossing under 101 can remain, remainder of alignment through cleared, undeveloped land. No R/W take or hazardous material removal required for this 800' Alana Way crossing. No landscaping for 200' Alana Way tunnel crossing under 101.
  - 3) Roadway section is 2-12' lanes, 12' sidewalk and 10' landscaping strip.
  - 4) No BRT stations along this section, traffic signal at Thomas Mellon Cir part of Project #4.
  - 5) See hand-written quantity detail worksheets for cost breakdowns.

**Summary:**

1) Construction	\$2,000,000		
2) Right of Way	\$0		
3) Vehicles	-		
4) Engineering & Misc	\$1,000,000		
<b>Total Cost:</b>	<b>\$3,000,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u> \$9,000,000
(Escalated at 3.5% per year)	\$4,000,000	Year 2015 (Begin Project)	\$13,000,000

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	SF	\$5	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	0	-	-
Imported Borrow/Excavation	CY	\$15	0	-	-
Pavement Section	SF	\$13	21,600	\$280,800	\$878,000
Curb, Gutter and Sidewalk	LS	\$217,600	1	\$217,600	\$680,000
Concrete Barrier	LF	\$60	0	-	-
Signalized Intersection	EA	\$0	0	-	-
Drainage (15% of Roadway)	LS	\$75,000	1	\$75,000	\$234,000
Minor Items (20% of Roadway)	LS	\$100,000	1	\$100,000	\$313,000
			Subtotal	\$673,000	\$2,110,000

<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Overcrossing Structure	SF	\$200	0	-	-
Retaining Wall	SF	\$60	0	-	-
			Subtotal	\$0	\$0

<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$0	0	-	-
Traction Power Substation	LS	\$0	0	-	-
OCS	LS	\$0	0	-	-
Communications (Station & Line)	Mile	\$130,000	0.32	\$41,600	\$130,000
			Subtotal	\$41,600	\$130,000

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	EA	\$360,000	0	-	-
Escalator/Elevator/Stairs @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	EA	\$100,000	0	-	-
			Subtotal	\$0	\$0

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	SF	\$10	15,000	\$150,000	\$469,000
Trees	EA	\$2,000	60	\$120,000	\$375,000
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$270,000	\$844,000

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$80,000	1	\$80,000	\$250,000
Lighting	EA	\$5,000	23	\$115,000	\$359,000
Hazardous Materials Removal	CY	\$80	6,200	\$496,000	\$1,550,000
			Subtotal	\$691,000	\$2,160,000

**Total Construction Cost: \$1,675,600 \$5,244,000**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$10	41,400	\$414,000	\$1,294,000
Utility Relocation	LS	\$0	0	-	-
Environmental Mitigation	LS	\$0	0	-	-

**Total Right of Way Cost: \$414,000 \$1,290,000**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,510,000	0	-
Bus Increment	EA	\$515,000	0	-

**Total Vehicles Cost: \$0**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$250,000	1	\$250,000
PS&E Design (15%)	LS	\$250,000	1	\$250,000
Construction Management (15%)	LS	\$250,000	1	\$250,000
Mobilization (10%)	LS	\$170,000	1	\$170,000
Public Art (2%)	LS	\$30,000	1	\$30,000
Contingency (30%)	LS	\$500,000	1	\$500,000
R/W Engineering (10% of R/W Cost)	LS	\$40,000	1	\$40,000

**Total Engineering & Miscellaneous Cost: \$1,490,000**

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #5: BRT on Harney Way - SECTION 3 Thomas Mellon Cir to Jamestown Ave

- Assumptions:**
- 1) New Roadway along the North side of Harney Way from Thomas Mellon Cir to Jamestown Ave. Length of 2,100' (0.40 mile)
  - 2) Alignment would need to be cleared, with R/W take and retaining wall between Thomas Mellon Cir and Executive Park Blvd. Alignment between Executive Park Blvd and Jamestown Ave is assumed to be within existing R/W, widening up to the existing retaining wall/fence on the north side.
  - 3) Roadway section is 2-12' lanes, 12' sidewalk and 10' landscaping strip.
  - 4) 2 BRT stations with vending for this section near Executive Park Blvd. Traffic signal at Thomas Mellon Cir & Executive Park Blvd part of project #4. (Harney Way widening)
  - 5) See hand-written quantity detail worksheets for cost breakdowns.

**Summary:**

	1) Construction	\$4,000,000		
	2) Right of Way	\$2,000,000		
	3) Vehicles	-		
	4) Engineering & Misc	\$4,000,000		
	<b>Total Cost:</b>	<b>\$10,000,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u>
	(Escalated at 3.5% per year)	\$12,000,000	Year 2015 (Begin Project)	\$25,000,000
				\$30,000,000

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	SF	\$5	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	60,000	\$120,000	\$300,000
Imported Borrow/Excavation	CY	\$15	12,000	\$180,000	\$450,000
Pavement Section	SF	\$13	44,400	\$577,200	\$1,443,000
Curb, Gutter and Sidewalk	LS	\$236,800	1	\$236,800	\$592,000
Concrete Barrier	LF	\$60	0	-	-
Signalized Intersection	EA	\$0	0	-	-
Drainage (15% of Roadway)	LS	\$167,000	1	\$167,000	\$418,000
Minor Items (20% of Roadway)	LS	\$223,000	1	\$223,000	\$558,000
			Subtotal	\$1,500,000	\$3,760,000
 <b>Structures</b>	 <u>Unit</u>	 <u>Unit Price</u>	 <u>Quantity</u>	 <u>Item Cost</u>	 <u>Cost/Mile</u>
Overcrossing Structure	SF	\$200	0	-	-
Retaining Wall	SF	\$60	13,000	\$780,000	\$1,950,000
			Subtotal	\$780,000	\$1,950,000
 <b>Bus/Train Systems</b>	 <u>Unit</u>	 <u>Unit Price</u>	 <u>Quantity</u>	 <u>Item Cost</u>	 <u>Cost/Mile</u>
Guideway/Tracks	LS	\$0	0	-	-
Traction Power Substation	LS	\$0	0	-	-
OCS	LS	\$0	0	-	-
Communications (Station & Line)	Mile	\$130,000	0.40	\$52,000	\$130,000
			Subtotal	\$52,000	\$130,000

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	EA	\$360,000	2	\$720,000	\$1,800,000
Escalator/Elevator/Stairs @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	EA	\$100,000	2	\$200,000	\$500,000
			Subtotal	\$920,000	\$2,300,000
<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	SF	\$10	18,500	\$185,000	\$463,000
Trees	EA	\$2,000	74	\$148,000	\$370,000
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$333,000	\$833,000
<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$120,000	1	\$120,000	\$300,000
Lighting	EA	\$5,000	25	\$125,000	\$313,000
Hazardous Materials Removal	CY	\$80	0	-	-
			Subtotal	\$245,000	\$613,000
<b>Total Construction Cost:</b>				<b>\$3,830,000</b>	<b>\$9,586,000</b>

## 2) RIGHT OF WAY

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$75	32,500	\$2,437,500	\$6,094,000
Utility Relocation	LS	\$0	0	-	-
Environmental Mitigation	LS	\$0	0	-	-
<b>Total Right of Way Cost:</b>				<b>\$2,440,000</b>	<b>\$6,090,000</b>

## 3) VEHICLES

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,510,000	0	-
Bus Increment	EA	\$515,000	0	-
<b>Total Vehicles Cost:</b>				<b>\$0</b>

## 4) ENGINEERING & MISCELLANEOUS

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$570,000	1	\$570,000
PS&E Design (15%)	LS	\$570,000	1	\$570,000
Construction Management (15%)	LS	\$570,000	1	\$570,000
Mobilization (10%)	LS	\$380,000	1	\$380,000
Public Art (2%)	LS	\$80,000	1	\$80,000
Contingency (30%)	LS	\$1,150,000	1	\$1,150,000
R/W Engineering (10% of R/W Cost)	LS	\$240,000	1	\$240,000

**Total Engineering & Miscellaneous Cost: \$3,560,000**

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

**Project #5: BRT on Harney Way - SECTIONS 4 & 5 Jamestown Ave to Hunter's Point Transit (No Yosemite bridge)**

- Assumptions:**
- 1) New Roadway from Jamestown Ave to Carroll Ave, and from Shafter Ave (next to Thomas Ave) to proposed Hunters Point Transit Center. Length of 10,050' (1.9 miles)
  - 2) "Around the Slough" 1 mile segment (between Carroll & Shafter Ave) added at construction cost of \$16M.
  - 3) Alignment would need to be cleared of existing pavement and vegetation. R/W cost at \$75/SF for rectangle of private land at the end of Fitch St (Walker Dr) near the intersection with Crisp Rd. Hazardous materials assumed for section 5 only. (Shafter Ave to Hunters Point Transit Center)
  - 4) Roadway section is 2-12' lanes, 12' sidewalk and 10' landscaping strip.
  - 5) Total of 7 BRT stations with ticket vending machines for both sections combined.
  - 6) 9 traffic signals at 100% cost, 3 traffic signals at 50% cost
  - 7) See hand-written quantity detail worksheets for cost breakdowns.

**Summary:**

	1) Construction	\$36,000,000		
	2) Right of Way	\$1,000,000		
	3) Vehicles	-		
	4) Engineering & Misc	\$32,000,000		
	<b>Total Cost:</b>	<b>\$69,000,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u>
	(Escalated at 3.5% per year)	\$82,000,000	Year 2015 (Begin Project)	\$24,000,000
				\$28,000,000

**1) CONSTRUCTION**

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	SF	\$5	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	204,700	\$409,400	\$215,000
Imported Borrow/Excavation	CY	\$15	0	-	-
Pavement Section	SF	\$13	241,200	\$3,135,600	\$1,650,000
Curb, Gutter and Sidewalk	LS	\$1,287,000	1	\$1,287,000	\$677,000
Concrete Barrier	LF	\$60	0	-	-
Signalized Intersection	LS	\$3,150,000	1	\$3,150,000	\$1,658,000
Drainage (15% of Roadway)	LS	\$1,197,000	1	\$1,197,000	\$630,000
Minor Items (20% of Roadway)	LS	\$1,596,000	1	\$1,596,000	\$840,000
			Subtotal	\$10,800,000	\$5,670,000
 <b>Structures</b>					
Overcrossing Structure	SF	\$200	0	-	-
Retaining Wall	SF	\$60	0	-	-
			Subtotal	\$0	\$0
 <b>Bus/Train Systems</b>					
Guideway/Tracks	LS	\$0	0	-	-
Traction Power Substation	LS	\$0	0	-	-
OCS	LS	\$0	0	-	-
Communications (Station & Line)	Mile	\$130,000	1.90	\$247,000	\$130,000
			Subtotal	\$247,000	\$130,000

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	EA	\$360,000	7	\$2,520,000	\$1,326,000
Escalator/Elevator/Stairs @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	EA	\$100,000	7	\$700,000	\$368,000
			Subtotal	\$3,220,000	\$1,690,000
<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	SF	\$10	100,500	\$1,005,000	\$529,000
Trees	EA	\$2,000	402	\$804,000	\$423,000
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$1,810,000	\$952,000
<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$250,000	1	\$250,000	\$132,000
Lighting	EA	\$5,000	134	\$670,000	\$353,000
Hazardous Materials Removal	CY	\$80	38,160	\$3,052,800	\$1,607,000
Around Slough Alignment	LS	\$16,000,000	1	\$16,000,000	\$16,000,000
			Subtotal	\$20,000,000	\$18,100,000
<b>Total Construction Cost:</b>				<b>\$36,077,000</b>	<b>\$26,542,000</b>

## 2) RIGHT OF WAY

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$75	12,880	\$966,000	\$508,000
Utility Relocation	LS	\$0	0	-	-
Environmental Mitigation	SF	\$0	0	-	-
<b>Total Right of Way Cost:</b>				<b>\$966,000</b>	<b>\$508,000</b>

## 3) VEHICLES

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,510,000	0	-
Bus Increment	EA	\$515,000	0	-
<b>Total Vehicles Cost:</b>				<b>\$0</b>

## 4) ENGINEERING & MISCELLANEOUS

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$5,410,000	1	\$5,410,000
PS&E Design (15%)	LS	\$5,410,000	1	\$5,410,000
Construction Management (15%)	LS	\$5,410,000	1	\$5,410,000
Mobilization (10%)	LS	\$3,610,000	1	\$3,610,000
Public Art (2%)	LS	\$720,000	1	\$720,000
Contingency (30%)	LS	\$10,820,000	1	\$10,820,000
R/W Engineering (10% of R/W Cost)	LS	\$100,000	1	\$100,000

**Total Engineering & Miscellaneous Cost: \$31,500,000**





**"AROUND THE SLOUGH" SECTION  
1.0 MILE**

**SECTION 5  
1.06 MILES**

**SECTION 3  
0.40 MILES**

**SECTION 4  
0.84 MILES**

**SECTION 1  
0.66 MILES**

**SECTION 2  
OPTION B  
0.45 MILES**

**SECTION 2  
OPTION A  
0.32 MILES**

**SFCTA BI-COUNTY TRANSPORTATION STUDY  
PROJECT #5: BRT on Harney Way from Bayshore Blvd  
to Hunter's Point Transit Center**

SCALE: 1"=1000' 6/18/10

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

**Project #6: TPS & BRT on Geneva Ave, San Jose Ave to Bayshore Blvd**

**Assumptions:** See following worksheets for all assumptions.

**Summary:**

1)	Construction	\$20,300,000
2)	Right of Way	\$11,380,000
3)	Vehicles	-
4)	Engineering & Misc	<u>\$18,700,000</u>

**Total Cost: \$50,000,000 Year 2010**

Cost/Mile  
\$20,000,000

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #6: TPS on Geneva Ave, San Jose Ave to Prague St

- Assumptions:**
- 1) Same general assumptions by MTA: Restripe to better accommodate transit in mixed flow lanes, upgrade signals for Transit Signal Priority (TSP) and install fiber optic interconnect, add new traffic signals, add pedestrian lighting and streetscape improvements in commercial district (Paris St to London St). NOT adding stations/shelters or associated ticketing machines or real-time signs, but assume pedestrian improvements (bulb-outs) at 8 stops in each direction are added. Project length is 1.0 mile.
  - 2) Transit Preferential Street (TPS) system assumed to share outside mixed flow lane since no median improvements proposed by MTA in the "to be included" column.
  - 3) No guideway/tracks or OCS for Geneva Ave TPS.
  - 4) Excludes new BRT fleet. (already included in Project #5 - BRT on Harney Way)
  - 5) Excludes storage/maintenance facility for BRT fleet.

**Summary:**

1) Construction	\$4,300,000		
2) Right of Way	\$880,000		
3) Vehicles	-		
4) Engineering & Misc	\$3,700,000		
<b>Total Cost:</b>	<b>\$8,880,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u> \$8,900,000

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	SF	\$0	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	32,000	\$64,000	\$64,000
Imported Borrow	CY	\$0	0	-	-
Pavement Section	SF	\$8	24,400	\$195,200	\$195,200
Curb, Gutter and Sidewalk	LS	\$136,000	1	\$136,000	\$136,000
Signalized Intersection	LS	\$720,000	1	\$720,000	\$720,000
Drainage	LS	\$880,000	0	-	-
Minor Items	Mile	\$250,000	1.0	\$250,000	\$250,000
			Subtotal	\$1,370,000	\$1,370,000
<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Overcrossing Structure	Mile	\$0	0	-	-
Retaining Wall	Mile	\$0	0	-	-
			Subtotal	\$0	\$0
<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	Mile	\$0	0	-	-
Traction Power Substation	EA	\$0	0	-	-
Transit Signal Priority	LS	\$630,000	1	\$630,000	\$630,000
Fiber Optic Signal Interconnect	Mile	\$1,500,000	1.0	\$1,500,000	\$1,500,000
			Subtotal	\$2,130,000	\$2,130,000

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	EA	\$0	0	-	-
Escalator/Elevator/Stairs @ station	EA	\$0	0	-	-
Fare Collection System & Equipment	EA	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	Mile	\$0	0	-	-
Trees	Mile	\$0	0	-	-
Streetscape Amenities	LS	\$350,000	1	\$350,000	\$350,000
			Subtotal	\$350,000	\$350,000

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$420,000	1	\$420,000	\$420,000
Lighting	Mile	\$0	0	-	-
Hazardous Materials Removal	Mile	\$0	0	-	-
			Subtotal	\$420,000	\$420,000

**Total Construction Cost: \$4,270,000 \$4,270,000**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	Mile	\$0	0	-	-
Utility Relocation	LS	\$880,000	1	\$880,000	\$880,000
Environmental Mitigation	Mile	\$0	0	-	-

**Total Right of Way Cost: \$880,000 \$880,000**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-
10% Vehicle Contingency	LS	\$0	0	-

**Total Vehicles Cost: \$0**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$640,000	1	\$640,000
PS&E Design (15%)	LS	\$640,000	1	\$640,000
Construction Management (15%)	LS	\$640,000	1	\$640,000
Mobilization (10%)	LS	\$430,000	1	\$430,000
Public Art (2%)	LS	\$90,000	1	\$90,000
Contingency (30%)	LS	\$1,280,000	1	\$1,280,000
R/W Engineering (10% of R/W Cost)	LS	\$90,000	0	-

**Total Engineering & Miscellaneous Cost: \$3,720,000**

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #6: BRT on Geneva Ave, Prague St to Bayshore Blvd

- Assumptions:**
- 1) Same assumptions and costs as Van Ness BRT Alt 4, except use fiber optic signal interconnect cost instead of "communications" cost in Van Ness BRT. Length of project is 1.5 miles.
  - 2) Assume 6 BRT stations for this segment per MTA assumptions.
  - 3) Ignore MTA assumption of upgrade traffic controllers and add TSP to 2 signals, since this segment is BRT, not TSP. No guideway/tracks or OCS for Geneva Ave BRT.
  - 4) Excludes new BRT fleet. (already included in Project #5 - BRT on Harney Way)
  - 5) Excludes storage/maintenance facility for BRT fleet.

**Summary:**

1)	Construction	\$16,000,000			
2)	Right of Way	\$10,500,000			
3)	Vehicles	-			
4)	Engineering & Misc	\$15,000,000			
<b>Total Cost:</b>		<b>\$41,500,000</b>	<b>Year 2010</b>		<u>Cost/Mile</u> \$28,000,000

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	Mile	\$0	0	-	-
Roadway Excavation/Clear & Grub	Mile	\$196,000	1.5	\$294,000	\$196,000
Imported Borrow	Mile	\$0	0	-	-
Pavement Section	Mile	\$957,000	1.5	\$1,435,500	\$957,000
Curb, Gutter and Sidewalk	Mile	\$1,030,000	1.5	\$1,545,000	\$1,030,000
Signalized Intersection	Mile	\$1,400,000	1.5	\$2,100,000	\$1,400,000
Drainage	Mile	\$504,000	1.5	\$756,000	\$504,000
Minor Items	Mile	\$321,000	1.5	\$481,500	\$321,000
			Subtotal	\$6,610,000	\$4,410,000

<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Overcrossing Structure	Mile	\$0	0	-	-
Retaining Wall	Mile	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	Mile	\$0	0	-	-
Traction Power Substation	EA	\$0	0	-	-
Transit Signal Priority	LS	\$0	0	-	-
Fiber Optic Signal Interconnect	Mile	\$1,500,000	1.5	\$2,250,000	\$1,500,000
			Subtotal	\$2,250,000	\$1,500,000

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	EA	\$360,000	6	\$2,160,000	\$1,440,000
Escalator/Elevator/Stairs @ station	EA	\$0	0	-	-
Fare Collection System & Equipment	EA	\$100,000	6	\$600,000	\$400,000
			Subtotal	\$2,760,000	\$1,840,000

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	Mile	\$1,502,000	1.5	\$2,253,000	\$1,502,000
Trees	Mile	\$0	0	-	-
Streetscape Amenities	Mile	\$0	0	-	-
			Subtotal	\$2,250,000	\$1,500,000

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	Mile	\$1,237,000	1.5	\$1,855,500	\$1,237,000
Lighting	Mile	\$0	0	-	-
Hazardous Materials Removal	Mile	\$14,000	1.5	\$21,000	\$14,000
			Subtotal	\$1,880,000	\$1,250,000

**Total Construction Cost: \$15,750,000 \$10,500,000**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	Mile	\$0	0	-	-
Utility Relocation	Mile	\$6,736,000	1.5	\$10,104,000	\$6,736,000
Environmental Mitigation	Mile	\$250,000	1.5	\$375,000	\$250,000

**Total Right of Way Cost: \$10,500,000 \$6,990,000**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-
10% Vehicle Contingency	LS	\$0	0	-

**Total Vehicles Cost: \$0**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$2,360,000	1	\$2,360,000
PS&E Design (15%)	LS	\$2,360,000	1	\$2,360,000
Construction Management (15%)	LS	\$2,360,000	1	\$2,360,000
Mobilization (10%)	LS	\$1,580,000	1	\$1,580,000
Public Art (2%)	LS	\$320,000	1	\$320,000
Contingency (30%)	LS	\$4,730,000	1	\$4,730,000
R/W Engineering (10% of R/W Cost)	LS	\$1,050,000	1	\$1,050,000

**Total Engineering & Miscellaneous Cost: \$14,800,000**



**SFCTA BI-COUNTY TRANSPORTATION STUDY**

**PROJECT #6: TPS on Geneva Ave from San Jose Ave to Prague St  
BRT on Geneva Ave from Prague St to Bayshore Blvd**

SCALE: 1"=1000' 1/21/10

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #7: Segment S 3rd St LRV Extension and Intermodal Station

- Assumptions:**
- 1) See SFMTA Segment S - Intermodal Terminal Conceptual Engineering Report (CER 2007) for most of the project assumptions. Length of track work is approximately 3,300' (0.6 mile)
  - 2) LRV track alignment through private developer (UPC) land east of Bayshore Blvd to be cleared of old RR tracks, contaminated soil. Water monitoring wells to be maintained. Land for project on private land assumed to be donated from City of Brisbane. Track on Bayshore Blvd in Daly City/SF easements.
  - 3) Project assumed to include automobile road/sidewalk work along Sunnydale and parallel to intermodal station. Roadwork on proposed UPC St to be completed by developer separately.
  - 4) Utility work includes new sewer line along Sunnydale to traction power substation.
  - 5) All station facilities (platforms, ticket machines, etc.) assumed part of separate Bayshore Station project.
  - 6) See hand-written quantity detail worksheets and updated CER estimate for cost breakdowns.

**Summary:**

1)	Construction	\$15,100,000			
2)	Right of Way	\$100,000			
3)	Vehicles	-			
4)	Engineering & Misc	\$16,200,000			
<b>Total Cost:</b>		<b>\$31,000,000</b>	<b>Year 2010</b>		<b>Cost/Mile</b> \$52,000,000

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	SF	\$5	0	-	-
Roadway Excavation/Clear & Grub	LS	\$62,000	1	\$62,000	\$103,333
Imported Borrow	CY	\$15	1,140	\$17,100	\$28,500
Pavement Section	LS	\$1,060,000	1	\$1,060,000	\$1,766,667
Curb, Gutter and Sidewalk	LS	\$340,800	1	\$340,800	\$568,000
Signalization	LS	\$690,000	1	\$690,000	\$1,150,000
Drainage (15% of Roadway)	LS	\$325,000	1	\$325,000	\$541,667
Minor Items (20% of Roadway)	LS	\$434,000	1	\$434,000	\$723,333
			<b>Subtotal</b>	<b>\$2,930,000</b>	<b>\$4,880,000</b>
<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Overcrossing Structure	SF	\$200	0	-	-
Retaining Wall	SF	\$60	0	-	-
			<b>Subtotal</b>	<b>\$0</b>	<b>\$0</b>
<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$2,544,000	1	\$2,544,000	\$4,240,000
Traction Power Substation	LS	\$3,321,000	1	\$3,321,000	\$5,535,000
OCS	LS	\$2,120,000	1	\$2,120,000	\$3,533,333
Communications & Electrical	LS	\$1,183,000	1	\$1,183,000	\$1,971,667
			<b>Subtotal</b>	<b>\$9,170,000</b>	<b>\$15,300,000</b>



<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Intermodal Station/Platforms	LS	\$0	0	-	-
Escalator/Elevator/Stairs @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	EA	\$100,000	0	-	-
			Subtotal	\$0	\$0

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	SF	\$10	0	-	-
Trees	EA	\$2,000	128	\$256,000	\$426,667
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$256,000	\$427,000

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$254,000	1	\$254,000	\$423,333
Lighting	LS	\$346,000	1	\$346,000	\$576,667
Utility Installation	LS	\$515,000	1	\$515,000	\$858,333
Hazardous Materials Removal	LS	\$1,662,000	1	\$1,662,000	\$2,770,000
			Subtotal	\$2,780,000	\$4,630,000

**Total Construction Cost: \$15,136,000 \$25,237,000**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$0	0	-	-
Utility Relocation	LS	\$100,000	1	\$100,000	\$166,667
Environmental Mitigation	LS	\$0	0	-	-

**Total Right of Way Cost: \$100,000 \$167,000**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-

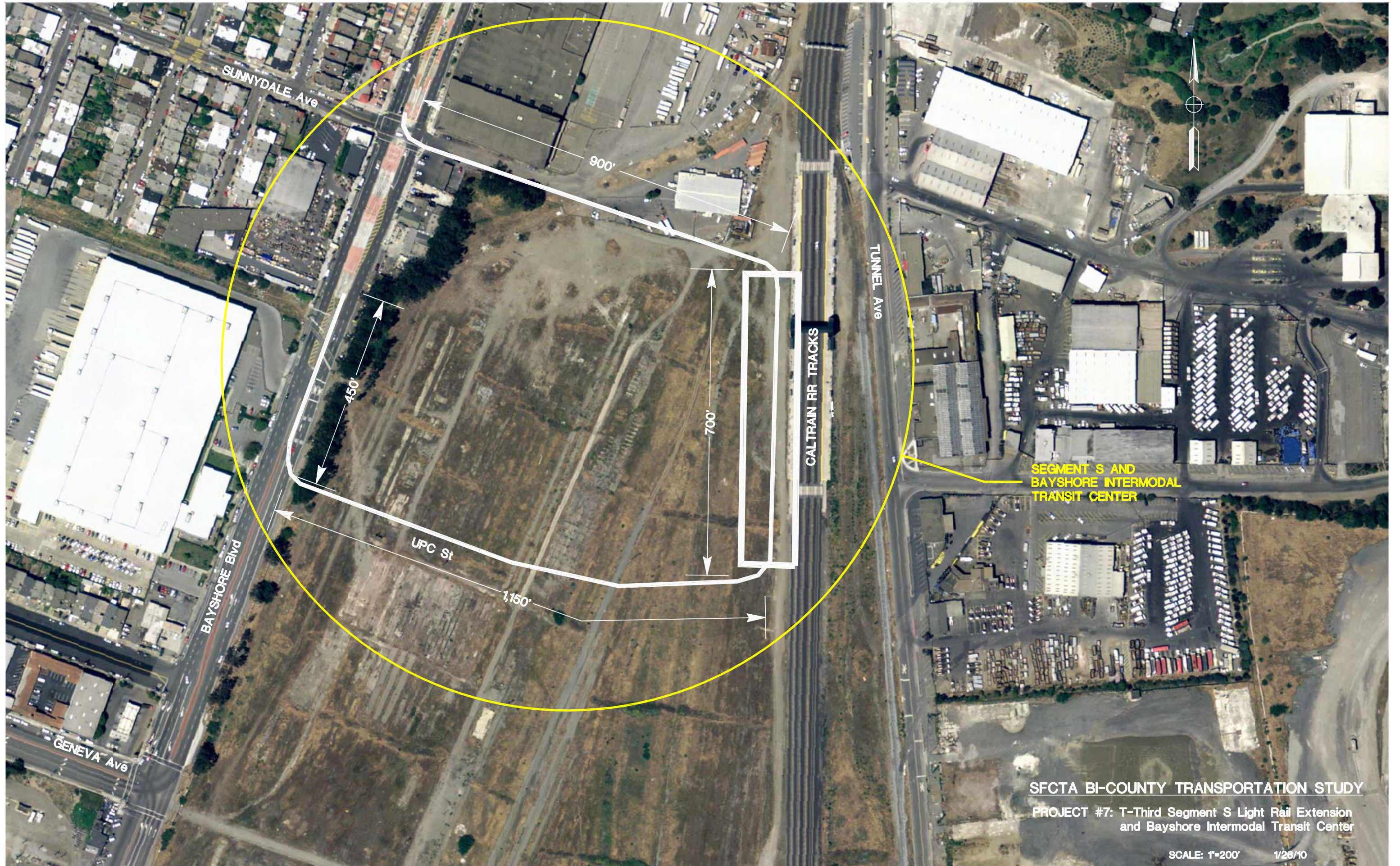
**Total Vehicles Cost: \$0**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$2,270,000	1	\$2,270,000
PS&E Design (15%)	LS	\$2,270,000	1	\$2,270,000
Construction Management (15%)	LS	\$2,270,000	1	\$2,270,000
Mobilization (10%)	LS	\$1,510,000	1	\$1,510,000
Public Art (2%)	LS	\$300,000	1	\$300,000
Contingency (50%)	LS	\$7,570,000	1	\$7,570,000
R/W Engineering (10% of R/W Cost)	LS	\$10,000	1	\$10,000

**Total Engineering & Miscellaneous Cost: \$16,200,000**



SFCTA BI-COUNTY TRANSPORTATION STUDY  
PROJECT #7: T-Third Segment S Light Rail Extension  
and Bayshore Intermodal Transit Center

SCALE: 1"=200' 1/26/10

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #8: TPS on Palou Ave, Quint St (proposed Oakdale Caltrain Station) to Arelious Walker St

- Assumptions:**
- 1) Same general assumptions by MTA, but modified length because not extending all the way to proposed Hunter's Point Transit Center. (Only to Arelious Walker, since BRT on Harney covers to HP transit center) Install new traffic signals and bus bulb-outs at 10 intersections (including Quint and Arelious Walker). \$60k ea for fiber optic signal interconnect and Transit Signal Priority (TSP) system. Upgrade exist signal at 3rd St with signal interconnect and TSP. Install fiber optic signal interconnect along length of project. NOT adding stations/shelters or associated ticketing machines or real-time signs, not relocating existing utilities. Length of project is 1.25 miles.
  - 2) Transit Preferential Street (TPS) system assumed to share mixed flow lane. Restriping to better accommodate TPS and bulb-out modifications at intersections.
  - 3) No guideway/tracks or OCS for Palou Ave TPS.
  - 4) Excludes new bus fleet and any storage/maintenance of bus fleet.
  - 5) See hand-written quantity detail worksheets for cost breakdowns.

**Summary:**

1)	Construction	\$6,800,000	
2)	Right of Way	\$500,000	
3)	Vehicles	-	
4)	Engineering & Misc	\$5,900,000	

	<b>Total Cost:</b>	<b>\$13,000,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u> \$10,000,000
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### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	SF	\$5	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	20,200	\$40,400	\$32,320
Imported Borrow	CY	\$15	0	-	-
Pavement Section	SF	\$8	15,200	\$121,600	\$97,280
Curb, Gutter and Sidewalk	LS	\$84,800	1	\$84,800	\$67,840
Signalized Intersection	LS	\$3,000,000	1	\$3,000,000	\$2,400,000
Drainage	LS	\$500,000	1	\$500,000	\$400,000
Minor Items	LS	\$290,000	1	\$290,000	\$232,000
			Subtotal	\$4,040,000	\$3,230,000
<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Overcrossing Structure	Mile	\$0	0	-	-
Retaining Wall	Mile	\$0	0	-	-
			Subtotal	\$0	\$0
<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	Mile	\$0	0	-	-
Traction Power Substation	EA	\$0	0	-	-
Transit Signal Priority	LS	\$660,000	1	\$660,000	\$528,000
Fiber Optic Signal Interconnect	Mile	\$1,500,000	1.3	\$1,875,000	\$1,500,000
			Subtotal	\$2,540,000	\$2,030,000

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	EA	\$0	0	-	-
Escalator/Elevator/Stairs @ station	EA	\$0	0	-	-
Fare Collection System & Equipment	EA	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	Mile	\$0	0	-	-
Trees	Mile	\$0	0	-	-
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$200,000	1	\$200,000	\$160,000
Lighting	Mile	\$0	0	-	-
Hazardous Materials Removal	Mile	\$0	0	-	-
			Subtotal	\$200,000	\$160,000

**Total Construction Cost: \$6,780,000 \$5,420,000**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	Mile	\$0	0	-	-
Utility Relocation	Mile	\$500,000	1	\$500,000	\$400,000
Environmental Mitigation	Mile	\$0	0	-	-

**Total Right of Way Cost: \$500,000 \$400,000**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-
10% Vehicle Contingency	LS	\$0	0	-

**Total Vehicles Cost: \$0**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$1,020,000	1	\$1,020,000
PS&E Design (15%)	LS	\$1,020,000	1	\$1,020,000
Construction Management (15%)	LS	\$1,020,000	1	\$1,020,000
Mobilization (10%)	LS	\$680,000	1	\$680,000
Public Art (2%)	LS	\$140,000	1	\$140,000
Contingency (30%)	LS	\$2,030,000	1	\$2,030,000
R/W Engineering (10% of R/W Cost)	LS	\$50,000	0	-

**Total Engineering & Miscellaneous Cost: \$5,910,000**



**SFCTA BI-COUNTY TRANSPORTATION STUDY**

**PROJECT #8: TPS on Palou Ave from Quint St to Arelious Walker St/ Crisp Rd**

SCALE: 1"=1000' 1/25/10

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #9: Oakdale Caltrain Station - BASIC STATION

- Assumptions:**
- 1) Same assumptions from Oakdale Caltrain Station Study Final Report, except assume cost for relocation of Quint St (freight) lead since it is shown as relocated in Basic Station concept plan display.
  - 2) Assume 1/2 cost of Quint St underpass structure that needs to be replaced for the train station is covered by the future seismic replacement project required for Quint St underpass.
  - 3) Assume hazardous materials removal on both sides of existing RR tracks up to RR R/W within project limits.
  - 4) Maintenance, operations, security guard, etc. costs are not covered in this construction estimate.
  - 5) Per SFCTA, assume no R/W acquisition required for this Basic Station project.
  - 6) See hand-written quantity detail worksheets and modified HNTB estimate for cost breakdowns.

**Summary:**

1)	Construction	\$16,900,000		
2)	Right of Way	\$700,000		
3)	Vehicles	-		
4)	Engineering & Misc	\$14,800,000		
<b>Total Cost:</b>		<b>\$32,000,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u> N/A

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	LS	\$135,000	1	\$135,000	N/A
Roadway Excavation/Clear & Grub	LS	\$437,000	1	\$437,000	N/A
Imported Borrow (Bridge Backfill)	CY	\$35	19,900	\$696,500	N/A
Pavement Section	LS	\$347,000	1	\$347,000	N/A
Curb, Gutter and Sidewalk	LS	\$724,000	1	\$724,000	N/A
Signalization (Tracks)	LS	\$280,000	1	\$280,000	N/A
Drainage	LS	\$144,000	1	\$144,000	N/A
Minor Items	LS	\$322,000	1	\$322,000	N/A
				Subtotal	\$3,090,000
<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Underpass, Ramps, Wingwall	LS	\$2,993,000	1	\$2,993,000	N/A
Retaining Wall	SF	\$60	25,000	\$1,500,000	N/A
				Subtotal	\$4,490,000
<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$1,448,000	1	\$1,448,000	N/A
Traction Power Substation	LS	\$0	0	-	N/A
OCS	LS	\$0	0	-	N/A
Communications (Station & Line)	LS	\$0	0	-	N/A
				Subtotal	\$1,450,000

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Train Station	LS	\$3,726,000	1	\$3,726,000	N/A
Stairs/Ramps @ Station	LS	\$73,000	1	\$73,000	N/A
Fare Colletion System & Equipment	LS	\$330,000	1	\$330,000	N/A
			Subtotal	\$4,130,000	N/A
<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	LS	\$252,000	1	\$252,000	N/A
Trees	EA	\$2,000	131	\$262,000	N/A
Streetscape Amenities	LS	\$125,000	1	\$125,000	N/A
			Subtotal	\$639,000	N/A
<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Train/Ped/Traffic Control/Handling	LS	\$2,262,000	1	\$2,262,000	N/A
Lighting	EA	\$5,000	70	\$350,000	N/A
Hazardous Materials Removal	CY	\$80	6,100	\$488,000	N/A
			Subtotal	\$3,100,000	N/A
<b>Total Construction Cost:</b>				<b>\$16,899,000</b>	N/A

## 2) RIGHT OF WAY

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$0	0	-	N/A
Utility Relocation	LS	\$739,000	1	\$739,000	N/A
Environmental Mitigation	LS	\$0	0	-	N/A
<b>Total Right of Way Cost:</b>				<b>\$739,000</b>	N/A

## 3) VEHICLES

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-
<b>Total Vehicles Cost:</b>				<b>\$0</b>

## 4) ENGINEERING & MISCELLANEOUS

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$2,530,000	1	\$2,530,000
PS&E Design (15%)	LS	\$2,530,000	1	\$2,530,000
Construction Management (15%)	LS	\$2,530,000	1	\$2,530,000
Mobilization (10%)	LS	\$1,690,000	1	\$1,690,000
Public Art (2%)	LS	\$340,000	1	\$340,000
Contingency (30%)	LS	\$5,070,000	1	\$5,070,000
R/W Engineering (10% of R/W Cost)	LS	\$70,000	1	\$70,000

**Total Engineering & Miscellaneous Cost: \$14,800,000**



JERROLD Ave

OAKDALE  
CALTRAIN STATION

CALTRAIN RR TRACKS

3RD St

QUINT St

PHELPS St

OAKDALE Ave

PALOU Ave

PALOU AVE TPS  
(PROJECT #8)

SFCTA BI-COUNTY TRANSPORTATION STUDY

PROJECT #9: Oakdale Caltrain Station

SCALE: 1"=200' 2/3/10



# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #10: Yosemite Slough Bridge

- Assumptions:**
- 1) Bridge dimensions 81' wide by 910' long. Bridge cost of \$300/SF includes dewatering and pile driving, site work, complete bridge with barriers, railing and landscape treatments on surface of bridge. Limits include 250' south and 1,000' north approaches at 87' wide with sidewalk, bike path & barriers/railings.
  - 2) 8' RCB or culvert drainage outlet on west (south) side of bridge must be relocated based on current bridge alignment. Include cost for water runoff treatment from bridge to bay in "Minor Items".
  - 3) Assume easement or "air rights" cost for area of bridge over bay/slough waters in "R/W Acquisition".
  - 4) Environmental permitting and mitigation for lost habitat and species impact during construction included in lump sum cost of \$2,000,000. Also need mitigation for shoreline (100' BCDC band)
  - 5) Maintenance and operations costs are not covered in this construction estimate.
  - 6) See hand-written quantity detail worksheet for cost breakdowns.

**Summary:**

1)	Construction	\$26,100,000
2)	Right of Way	\$3,300,000
3)	Vehicles	-
4)	Engineering & Misc	\$23,000,000

	<b>Total Cost:</b>	<b>\$52,000,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u> \$130,000,000
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### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	LS	\$0	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	21,750	\$43,500	\$109,000
Imported Borrow (Bridge Backfill)	CY	\$15	1,480	\$22,200	\$56,000
Pavement Section	SF	\$13	82,500	\$1,072,500	\$2,681,000
Curb, Gutter and Sidewalk	LS	\$200,000	1	\$200,000	\$500,000
Concrete Barrier	LF	\$60	3,750	\$225,000	\$563,000
Drainage (8' Culvert + 15% of Roadway)	LS	\$734,000	1	\$734,000	\$1,835,000
Minor Items	LS	\$313,000	1	\$313,000	\$783,000
			Subtotal	\$2,610,000	\$6,530,000

<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Bridge	SF	\$300	73,710	\$22,113,000	\$55,283,000
Retaining Wall	SF	\$0	0	-	-
			Subtotal	\$22,100,000	\$55,300,000

<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$0	0	-	-
Traction Power Substation	LS	\$0	0	-	-
OCS	LS	\$0	0	-	-
Communications (Station & Line)	LS	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Train Station	LS	\$0	0	-	-
Stairs/Ramps @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	LS	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	LS	\$0	0	-	-
Trees	EA	\$0	0	-	-
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Train/Ped/Traffic Control/Handling	LS	\$20,000	1	\$20,000	\$50,000
Lighting	EA	\$5,000	58	\$290,000	\$725,000
Hazardous Materials Removal	CY	\$80	12,890	\$1,031,200	\$2,578,000
			Subtotal	\$1,340,000	\$3,350,000

**Total Construction Cost: \$26,050,000 \$65,180,000**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition/Easement/Air Rights	SF	\$10	73,710	\$737,100	\$1,843,000
Utility Relocation	LS	\$0	0	-	-
Environmental Mitigation	LS	\$2,600,000	1	\$2,600,000	\$6,500,000

**Total Right of Way Cost: \$3,340,000 \$8,340,000**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-

**Total Vehicles Cost: \$0**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$3,910,000	1	\$3,910,000
PS&E Design (15%)	LS	\$3,910,000	1	\$3,910,000
Construction Management (15%)	LS	\$3,910,000	1	\$3,910,000
Mobilization (10%)	LS	\$2,610,000	1	\$2,610,000
Public Art (2%)	LS	\$520,000	1	\$520,000
Contingency (30%)	LS	\$7,820,000	1	\$7,820,000
R/W Engineering (10% of R/W Cost)	LS	\$330,000	1	\$330,000

**Total Engineering & Miscellaneous Cost: \$23,000,000**



"AROUND THE SLOUGH" SECTION  
(PROJECT #5)

1,000' APPROACH

910' BRIDGE STRUCTURE

250' APPROACH

YOSEMITE SLOUGH  
BRIDGE PROJECT LIMITS

PROPOSED  
HUNTERS POINT  
TRANSIT CENTER

HARNEY WAY BRT  
(PROJECT #5)

HARNEY WAY BRT  
(PROJECT #5)

SFCTA BI-COUNTY TRANSPORTATION STUDY

PROJECT #10: Yosemite Slough Bridge

SCALE: 1"=500' 6/25/10

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #11: Bayshore Intermodal Station - LARGE STATION

- Assumptions:**
- 1) Same assumptions from Oakdale Caltrain "Enhanced" Station, except 1,600' station and track costs are 2x longer (and therefore 2x more expensive) and no structure cost for the station itself since it is at-grade.
  - 2) Assume cost for new 150' long ped overcrossing over newly configured station and tracks. Vertical access for ped overcrossing is different from Oakdale vertical access costs, as is demo of exist station.
  - 3) \$2.9M for station costs from Segment S (project #7) and \$3.1M for vertical access and facility costs from BRT on Harney (project #5) were removed from those projects and added to this one.
  - 4) Maintenance, operations, security guard, etc. costs are not covered in this construction estimate.
  - 5) Assume R/W acquisition required for station parking lot on east side of RR tracks.
  - 6) Does not include cost for new or realigned adjacent roadways around this Station. (i.e. Tunnel Ave)
  - 7) See hand-written quantity detail worksheets for cost breakdowns.

**Summary:**

1)	Construction	\$30,000,000	
2)	Right of Way	\$2,000,000	
3)	Vehicles	-	
4)	Engineering & Misc	\$26,300,000	

**Total Cost: \$58,000,000 Year 2010**

Cost/Mile  
N/A

### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	LS	\$210,000	1	\$210,000	N/A
Roadway Excavation/Clear & Grub	SF	\$2	100,000	\$200,000	N/A
Imported Borrow (Bridge Backfill)	CY	\$0	0	-	N/A
Pavement Section	LS	\$865,000	1	\$865,000	N/A
Curb, Gutter and Sidewalk	LS	\$1,830,000	1	\$1,830,000	N/A
Signalization (Tracks)	LS	\$280,000	1	\$280,000	N/A
Drainage	LS	\$820,000	1	\$820,000	N/A
Minor Items	LS	\$610,000	1	\$610,000	N/A
			<b>Subtotal</b>	<b>\$4,820,000</b>	<b>N/A</b>

<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Ped Overcrossing	LS	\$563,000	1	\$563,000	N/A
Retaining Wall	SF	\$0	0	-	N/A
			<b>Subtotal</b>	<b>\$563,000</b>	<b>N/A</b>

<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$1,450,000	1	\$2,900,000	N/A
Traction Power Substation	LS	\$0	0	-	N/A
OCS	LS	\$0	0	-	N/A
Communications (Station & Line)	LS	\$0	0	-	N/A
			<b>Subtotal</b>	<b>\$2,900,000</b>	<b>N/A</b>

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Train Station	LS	\$8,400,000	1	\$8,400,000	N/A
Vertical Access @ Station	LS	\$1,416,000	1	\$1,416,000	N/A
Fare Colletion System & Equipment	LS	\$60,000	1	\$60,000	N/A
			Subtotal	\$9,880,000	N/A

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	LS	\$295,000	1	\$295,000	N/A
Trees	EA	\$2,000	481	\$962,000	N/A
Streetscape Amenities	LS	\$205,000	1	\$205,000	N/A
			Subtotal	\$1,460,000	N/A

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Train/Ped/Traffic Control/Handling	LS	\$2,345,000	1	\$2,345,000	N/A
Lighting	EA	\$5,000	260	\$1,300,000	N/A
Hazardous Materials Removal	CY	\$80	8,900	\$712,000	N/A
Proj #5 Facilities/Verical Access	LS	\$3,100,000	1	\$3,100,000	N/A
Proj #7 Station & Facilities	LS	\$2,900,000	1	\$2,900,000	N/A
			Subtotal	\$10,400,000	N/A

**Total Construction Cost: \$30,023,000 N/A**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$10	100,000	\$1,000,000	N/A
Utility Relocation	LS	\$1,020,000	1	\$1,020,000	N/A
Environmental Mitigation	LS	\$0	0	-	N/A

**Total Right of Way Cost: \$2,020,000 N/A**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-

**Total Vehicles Cost: \$0**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$4,500,000	1	\$4,500,000
PS&E Design (15%)	LS	\$4,500,000	1	\$4,500,000
Construction Management (15%)	LS	\$4,500,000	1	\$4,500,000
Mobilization (10%)	LS	\$3,000,000	1	\$3,000,000
Public Art (2%)	LS	\$600,000	1	\$600,000
Contingency (30%)	LS	\$9,010,000	1	\$9,010,000
R/W Engineering (10% of R/W Cost)	LS	\$200,000	1	\$200,000

**Total Engineering & Miscellaneous Cost: \$26,300,000**



EXISTING PED OVERCROSSING

EXISTING CALTRAIN STATION

SEGMENT S  
(PROJECT # 7)

CALTRAIN RR TRACKS

TUNNEL Ave

BAYSHORE INTERMODAL  
TRANSIT CENTER  
(PROJECT #11)

BAYSHORE Blvd

UPC St

GENEVA Ave

GENEVA Ave EXTENSION (PROJECT #3) &  
HARNEY Way BRT (PROJECT #5)

SFCTA BI-COUNTY TRANSPORTATION STUDY  
PROJECT #11: BAYSHORE INTERMODAL STATION

SCALE 1"=200'

6/23/10

# SFCTA Bi-County Transportation Planning Study

## PRELIMINARY COST ESTIMATE SUMMARY

Mark Thomas & Company, Inc. June 1, 2011

### Project #12: Geneva/Harney Bike Path

- Assumptions:**
- 1) New bike path along Geneva Ave extension (Project #3) and under 101/Candlestick interchange (Project #1) along BRT alignment through Alana Way from Bayshore Blvd to Bay Trail. 5,000' (0.95 mile)
  - 2) Both Geneva Ave Extension (Project #3) and BRT on Harney (Project #5) both already assume 12' sidewalks on the outside, so the 5,000' of 12' wide path pavement/exc/ROW could already be considered as included in those projects. (3,500' for Geneva Extension, 1,500' for BRT on Harney)
  - 3) Assume new path will require 65'x70' structure along Candlestick IC SB on-ramp to pass underneath, and the Geneva Ave overcrossing structure at this IC would need to be lengthened 15' (by 178' width of structure) on each side for the path to pass underneath.
  - 4) See hand-written notes on displays for quantity breakdowns.

**Summary:**

1)	Construction	\$3,400,000	
2)	Right of Way	\$800,000	
3)	Vehicles	-	
4)	Engineering & Misc	\$3,000,000	

	<b>Total Cost:</b>	<b>\$7,000,000</b>	<b>Year 2010</b>	<u>Cost/Mile</u> \$11,000,000
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### 1) CONSTRUCTION

<b>Roadway</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Building/Structure Demolition	SF	\$5	0	-	-
Roadway Excavation/Clear & Grub	SF	\$2	0	-	-
Imported Borrow	CY	\$15	0	-	-
Pavement Section	SF	\$13	60,000	\$780,000	\$1,182,000
Curb, Gutter and Sidewalk	LS	\$0	0	-	-
Signalized Intersection (Modify)	EA	\$200,000	0	-	-
Drainage (15% of Roadway)	LS	\$117,000	1	\$117,000	\$177,000
Minor Items (20% of Roadway)	LS	\$156,000	1	\$156,000	\$236,000
			Subtotal	\$1,050,000	\$1,600,000
<b>Structures</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Overcrossing Structure	SF	\$200	9,890	\$1,978,000	\$2,997,000
Retaining Wall	SF	\$60	0	-	-
			Subtotal	\$1,980,000	\$3,000,000
<b>Bus/Train Systems</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Guideway/Tracks	LS	\$0	0	-	-
Traction Power Substation	LS	\$0	0	-	-
OCS	LS	\$0	0	-	-
Communications (Station & Line)	LS	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Facilities</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Stations	LS	\$0	0	-	-
Escalator/Elevator/Stairs @ Station	LS	\$0	0	-	-
Fare Colletion System & Equipment	EA	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Beautification</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Landscaping & Irrigation	SF	\$10	0	-	-
Trees	EA	\$2,000	0	-	-
Streetscape Amenities	LS	\$0	0	-	-
			Subtotal	\$0	\$0

<b>Miscellaneous Items</b>	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Traffic Control/Traffic Handling	LS	\$80,000	0	-	-
Lighting	EA	\$5,000	0	-	-
Hazardous Materials Removal	CY	\$80	4,500	\$360,000	\$545,000
Joint Trench (Fiber Optic Interconnect)	Mile	\$1,500,000	0	-	-
			Subtotal	\$360,000	\$545,000

**Total Construction Cost: \$3,390,000 \$5,145,000**

**2) RIGHT OF WAY**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>	<u>Cost/Mile</u>
Acquisition	SF	\$10	80,000	\$800,000	\$1,212,121
Utility Relocation	LS	\$0	0	-	-
Environmental Mitigation	LS	\$0	0	-	-

**Total Right of Way Cost: \$800,000 \$1,210,000**

**3) VEHICLES**

	<u>Unit</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Item Cost</u>
Buses	EA	\$1,760,000	0	-
Bus Increment	EA	\$515,000	0	-

**Total Vehicles Cost: \$0**

**4) ENGINEERING & MISCELLANEOUS**

(Percentage of Total Construction Except R/W Engineering)

Environmental Documents (15%)	LS	\$510,000	1	\$510,000
PS&E Design (15%)	LS	\$510,000	1	\$510,000
Construction Management (15%)	LS	\$510,000	1	\$510,000
Mobilization (10%)	LS	\$340,000	1	\$340,000
Public Art (2%)	LS	\$70,000	1	\$70,000
Contingency (30%)	LS	\$1,020,000	1	\$1,020,000
R/W Engineering (10% of R/W Cost)	LS	\$80,000	1	\$80,000

**Total Engineering & Miscellaneous Cost: \$3,040,000**





SFCTA BI-COUNTY TRANSPORTATION STUDY  
PROJECT #12: Geneva Ave Bike Path to Bay Trail

SCALE: 1"=300' 6/25/10