



AMBAG EXECUTIVE/FINANCE COMMITTEE AGENDA

DATE: June 10, 2020

TIME: 5:00 pm

LOCATION: Conference Call
Dial-In Number: (605) 475-4700
Access Code: 203466#

The AMBAG Executive/Finance Committee meeting will NOT be held at the Marina Library, Community Room, 190 Seaside Circle, Marina, CA 93933 as originally scheduled in light of Governor Newsom's State of Emergency declaration regarding the COVID-19 outbreak and in accordance with Executive Order N-29-20 and the shelter in place directive. The meeting will be conducted conference call. The AMBAG Executive/Finance Committee members will participate in the meeting from individual remote locations. We apologize in advance for any technical difficulties.

Members of the public will need to attend the meeting remotely via Conference call.

Persons who wish to address the AMBAG Executive/Finance Committee on an item to be considered at this meeting are asked to submit comments in writing at info@ambag.org by 5:00 PM, Tuesday, June 9, 2020. The subject line should read "Public Comment for the June 10, 2020 Executive/Finance Committee Meeting". The agency clerk will read up to 3 minutes of any public comment submitted.

To participate via Conference Call, please use the conference call dial-in information provided.

If you have any questions, please contact Ana Flores, Senior Executive Assistant at aflores@ambag.org or at 831-883-3750.

-
1. Call to Order
 2. Roll Call

3. Public Comment

(A maximum of three minutes on any subject not on the agenda)

4. Consent Agenda

Recommended Action: APPROVE

Note: Action listed for each item represents staff recommendation. The Executive/Finance Committee may, at its discretion, take any action on the items listed in the agenda.

A. Draft Minutes of the May 13, 2020 Meeting

Approve the draft minutes of the May 13, 2020 meeting. (Page 3)

B. List of Warrants as of April 30, 2020

Accept the list of warrants. (Page 5)

C. Accounts Receivable as of April 30, 2020

Accept the accounts receivable. (Page 7)

5. Financial Update Report

Recommended Action: INFORMATION

- **Maura F. Twomey, Executive Director**

Receive the financial update report which provides an update on AMBAG's current financial position and accompanying financial statements. (Page 9)

6. Central Coast Highway 1 Climate Resiliency Study

Recommended Action: INFORMATION

- **Heather Adamson, Director of Planning**

Receive an update on the draft report for the Central Coast Highway 1 Climate Resiliency Study. (Page 15)

7. Other Items

8. Adjournment

If requested, the agenda shall be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 USC Sec. 12132), and the federal rules and regulations adopted in implementation thereof. If you have a request for disability-related modification or accommodation, including auxiliary aids or services, contact Ana Flores, AMBAG, 831-883-3750, or email aflores@ambag.org at least 48 hours prior to the meeting date.

**DRAFT
EXECUTIVE/FINANCE COMMITTEE MEETING
MINUTES**

GoToWebinar

May 13, 2020

1. Call to Order

The meeting was called to order by President McShane at 5:00 p.m.

2. Roll Call

Present: Directors Freeman, Funk, McPherson, McShane Petersen, and Smith

Absent: None

Others Present: Maura Twomey, Executive Director

3. Public Comments

There were no written or oral comments from the public.

4. Consent Agenda

The following items were enclosed: 1) the minutes of the February 12, 2020 meeting; 2) warrants as of March 31, 2020; and 3) accounts receivable as of March 31, 2020.

Motion made by Director Petersen seconded by Director Smith to approve the consent agenda. The motion passed unanimously.

5. Financial Update Report

Maura Twomey, Executive Director, gave a report on AMBAG's current financial position. The accompanying financial statements were also discussed.

6. Draft FY 2020-21 Monterey Bay Region Overall Work Program (OWP) and Budget

Maura Twomey, Executive Director gave a report on the draft FY 2020-21 OWP and Budget.

7. Other Items

None.

8. Adjournment

The meeting adjourned at 5:08 p.m.

DRAFT
AMBAG EXECUTIVE/FINANCE COMMITTEE MEETING
ATTENDANCE & VOTING RECORD

MEETING DATE: May 13, 2020

Attendance (Y= Present; AB= Absent) Voting (Y= Yes; N=No; A=Abstain)			
MEMBER	AMBAG REP	Attendance	Item# 4 Consent
Capitola	Kristen Petersen	Y	Y
Gonzales	Scott Funk	Y	Y
Monterey	Ed Smith	Y	Y
Salinas	Steve McShane	Y	Y
San Juan Bautista	John Freeman	Y	Y
County of Santa Cruz	Bruce McPherson	Y	Y

AMBAG
Check Register
April 2020

Date	Check Number	Name	Description	Amount
04/01/2020	EFT	Pers Retirement	Retirement Contributions 3-16-2020 thru 3-31-2020 - Classic	8,020.59
04/01/2020	EFT	Pers Retirement	Retirement Contributions 3-16-2020 thru 3-31-2020 - PEPRA	2,182.63
04/07/2020	28857	Anthem Blue Cross of California	Small Group Life Insurance Coverage 5-01-20 to 06-01-20	341.25
04/07/2020	28858	AT&T (FAX Line)	Fax Line Billed in Advance From 04/02/20 - 05/01/20	94.15
04/07/2020	28859	California Planning & Development Repo	2020-2021 Subscription to California Planning & Development Report	238.00
04/07/2020	28860	Caltronics Business Systems, Inc	Copier Usage Bill for 02/22/20 - 03/21/20	466.70
04/07/2020	28861	Heather Adamson	Reimbursement for Expenses for March 2020	158.59
04/07/2020	28862	Iron Mountain, Inc.	Offsite Document Storage for March 2020	48.70
04/07/2020	28863	Monterey Bay Air Resources District	May 2020 Rent	5,968.00
04/07/2020	28864	New SV Media, Inc.	Public Notice for PRWFPA REP for ADA Compliant Website Redesign 4/10/20	62.50
04/07/2020	28865	Pitney Bowes, Inc. - Purchase Power	Postage Paid by Purchase Power Line of Credit March 2020	500.00
04/07/2020	28866	Rayne Water, Inc.	Water for the Period of 04/01/2020 through 04/30/2020	64.09
04/07/2020	28867	Verizon Wireless, Inc	Broadband Account for Broadband Devices and iPads New Plan	234.68
04/07/2020	28868	VISA Mechanics Bank - 1628	Meeting and Office Supplies, Webinars, Go-To Meeting Subscription, Recruitment, Domain Registration	1,140.52
04/07/2020	28869	VISA Mechanics Bank - 3667	Event Registration, Travel Related Expenses, Storage	1,288.79
04/07/2020	EFT	Pers Retirement	April Pmt for Annual Unfunded Accrued Liability as of 06/30/2017 Valuation - Classic	12,683.18
04/07/2020	EFT	Pers Retirement	April Pmt for Annual Unfunded Accrued Liability as of 06/30/2017 Valuation - PEPRA	211.57
04/15/2020	EFT	Paychex, Inc.	Net Payroll and Taxes for Period Ending 4/15/2020	67,599.64
04/15/2020	EFT	Pers Retirement	Retirement Contributions 4-1-2020 thru 4-15-2020 - Classic	7,085.92
04/15/2020	EFT	Pers Retirement	Retirement Contributions 4-1-2020 thru 4-15-2020 - PEPRA	2,252.15
04/23/2020	28870	AT&T (Silver Cloud VoIP 2019)	Monthly Charges for VoIP Lines (Main Line, Staff Lines) and Fiber MIS - 4/11/20 - 5/10/20	533.01
04/23/2020	28871	CDW-G, LLC	HP SB EliteBook x360 1040 14" Core i7-8565U 16GB RAM 256GB Win 10 Pro Qty (3)	7,088.31
04/23/2020	28872	Comcast - Monterey	High Speed Internet for 04/22/2020 - 05/21/2020	143.13
04/23/2020	28873	Delta Dental Plan of California	May 2020 Dental Premiums	1,282.47
04/23/2020	28874	Elizabeth Hurtado-Espinosa	Airfare for GFOA Annual Conference, Roll of Stamps, Office Supplies	633.86
04/23/2020	28875	MetLife - Group Benefits	May 2020 Disability Insurance Premium	276.04
04/23/2020	28876	Monterey Computer Corporation, Inc.	IT Support Services - HP Elitebook Laptop Setup Qty (3)	750.00
04/23/2020	28877	Perry and Freeman	Legal Services for May 2020	1,125.00
04/23/2020	28878	Planeteria Media	Website Development and Maintenance - March 2020	2,600.00
04/23/2020	28879	Santa Cruz Sentinel/(MediaNews Group, Inc)	Legal Ad for PRWFPA RFP for ADA Compliant Website Redesign 4/6/20	41.60
04/23/2020	28880	The Sohagi Law Group	Legal Services 2045 MTP/SCS through 3/31/20	105.00
04/23/2020	28881	Vision Service Plan, Inc. (VSP)	May 2020 Premium	242.48
04/28/2020	EFT	Pers Health Benefit	Health Coverage May 2020	9,872.72
04/30/2020	28882	Cabrillo College	CCJDC GIS Day 2019 Application and Technology (WiFi) Fee 11/13/19	30.00
04/30/2020	28883	Caliper Corporation - WE 257	Supra-Regional ABM Framework Project Work for February 1-29, 2020	39,357.50
04/30/2020	28884	Caltronics Business Systems, Inc	Copier Usage Bill for 03/22/20 - 04/21/20	58.29
04/30/2020	28885	ESA, Inc.	AMBAG Central Coast Highway 1 Climate Resiliency Study - 2/1/20 to 2/29/20	5,419.64
04/30/2020	28886	Monterey Computer Corporation, Inc.	IT Support Services for May 2020	1,167.00
04/30/2020	28887	Pers GASB OPEB	43rd Partial Pre-funding Payment for Other Post Employment Benefits	15,080.24
04/30/2020	28888	Population Reference Bureau (PRB)	Forecast Related Services Completed in February 2020	635.08
04/30/2020	28889	Rincon Consultants, Inc.	2045 MTP/SCS/RTP - EIR Services for Period Nov 2019 - Jan 2020	12,067.24
04/30/2020	28890	Verizon Wireless, Inc	Broadband Account for Broadband Devices and iPads New Plan	234.58
04/30/2020	EFT	Paychex, Inc.	Net Payroll and Taxes for Period Ending 4/30/2020	71,813.63
		Total		\$ 281,198.47

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AMBAG
A/R Aging Detail
As of April 30, 2020

Date	Num	Name	Memo	Due Date	Aging	Open Balance	Paid	
03/31/2020	4030	Caltrans, D5	Caliper \$76,042.50, ESA \$10,038.17, PRB \$2,835.35, Rincon \$1,716.77, The Sohagi Law Group \$105	04/30/2020		247,604.29	PAID	
04/30/2020	4033	PG & E-CEE Invoice Desk All AMBAG		04/30/2020		33,498.16		
04/30/2020	4035	RAPS A/R	ALL AMBAG	04/30/2020		2,234.62		
04/30/2020	4036	RAPS A/R	ALL AMBAG	04/30/2020		311.24		
04/30/2020	4034	Caltrans, D5	Caliper \$80,230.00, PRB \$1,578.86, TNC \$43,436.45, MIIS \$4,441.59	05/30/2020		288,628.33		
03/31/2020	4027	PG & E-CEE Invoice Desk All AMBAG		03/31/2020	30	59,323.26	PAID	
03/31/2020	4031	RAPS A/R	ALL AMBAG	03/31/2020	30	1,069.08	PAID	
03/31/2020	4032	RAPS A/R	ALL AMBAG	03/31/2020	30	3,057.63	PAID	
02/29/2020	4029	RAPS A/R	ALL AMBAG	02/29/2020	61	3,571.76	PAID	
Total Receivables							\$ 639,298.37	
Less Contractor Receivables							\$ 129,686.90	
Net AMBAG Receivables							\$ 509,611.47	

PAID Reflects payments received subsequent to April 30, 2020.

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MEMORANDUM

TO: Executive/Finance Committee

FROM: Maura F. Twomey, Executive Director

RECOMMENDED BY: Errol Osteraa, Director of Finance and Administration

SUBJECT: Financial Update Report

MEETING DATE: June 10, 2020

RECOMMENDATION:

Staff recommends that the Executive/Finance Committee accept the Financial Update Report.

BACKGROUND/ DISCUSSION:

The enclosed financial reports are for the 2019-2020 Fiscal Year (FY) and are presented as a consent item. The attached reports contain the cumulative effect of operations through April 30, 2020 as well as a budget-to-actual comparison. Amounts in the Financial Update Report are unaudited.

FINANCIAL IMPACT:

The Balance Sheet for April 30, 2020 reflects a cash balance of \$716,696.75. The accounts and contractors receivable balance is \$639,298.37, while the current liabilities balance is \$303,800.37. AMBAG has sufficient current assets on hand to pay all known current obligations.

Due to the implementation of Governmental Accounting Standards Board (GASB) Statement No. 68 in FY 2014-2015 and a restatement to Net Position for GASB Statement No. 82, AMBAG has a deficit Net Position in the amount of \$183,145.10. Although AMBAG's Balance Sheet as of April 30, 2020 reflects a deficit Net Position, AMBAG's Profit and Loss Statement reflects an excess of revenue over expense of \$20,779.99. As we make efforts to pay the outstanding pension liability, AMBAG's Net Position will continue to improve.

Planning Excellence!

The following table highlights key Budget to Actual financial data:

Budget to Actual Financial Highlights
For Period July 1, 2019 through April 30, 2020

Expenditures	Budget Through April 2020	Actual Through April 2020	Difference
Salaries & Fringe Benefits	\$ 2,775,349.00	\$ 1,864,254.86	\$ 911,094.14
Professional Services	\$ 6,798,887.00	\$ 740,048.33	\$ 6,058,838.67
Lease/Rentals	\$ 75,833.00	\$ 67,757.10	\$ 8,075.90
Communications	\$ 20,667.00	\$ 14,804.07	\$ 5,862.93
Supplies	\$ 90,750.00	\$ 20,937.35	\$ 69,812.65
Printing	\$ 7,542.00	\$ 3,228.84	\$ 4,313.16
Travel	\$ 76,458.00	\$ 25,223.99	\$ 51,234.01
Other Charges	\$ 257,963.00	\$ 261,459.55	\$ (3,496.55)
Total	\$ 10,103,449.00	\$ 2,997,714.14	\$ 7,105,734.91
Revenue			
Federal/State/Local Revenue	\$ 10,133,099.00	\$ 3,018,494.13	\$ 7,114,604.87

Note: AMBAG is projecting a surplus, therefore budgeted revenues do not equal expenses.

Revenues/Expenses (Budget to Actual Comparison):

The budget reflects a linear programming of funds while actual work is contingent on various factors. Therefore, during the fiscal year there will be fluctuations from budget-to-actual.

Salaries and fringe benefits are under budget primarily due to positions that were vacant for portions of the fiscal year. In addition the Regional Early Action Planning Housing Program (REAP) providing \$7,931,311 in funding has been encumbered but has not been used.

Professional Services are under budget primarily due to the timing of work on projects performed by contractors. These projects include the Central Coast Highway 1 Climate Resiliency Study and the development of an Activity-Based Model (ABM) Framework for the Central Coast Supra-Region (AMBAG, SLOCOG and SBCAG). In addition, work has begun on the 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). These projects are in various phases of completion. In addition the Regional Early Action Planning Housing Program (REAP) providing \$7,931,311 in funding of which a large portion will pass through to partner agencies, has not started this process.

Since AMBAG funding is primarily on a reimbursement basis, any deviation in expenditure also results in a corresponding deviation in revenue. Budget-to-actual revenue and expenditures are monitored regularly to analyze fiscal operations and propose amendments to the budget if needed.

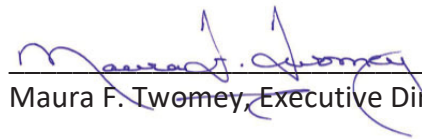
COORDINATION:

N/A

ATTACHMENTS:

1. Balance Sheet as of April 30, 2020
2. Profit and Loss: July 1, 2019 – April 30, 2020
3. Cash Activity for May, 2020

APPROVED BY:



Maura F. Twomey, Executive Director

AMBAG

Balance Sheet - Attachment 1

As of April 30, 2020

	April 30, 2020	April 30, 2020
Assets		
Current Assets		
Cash and Cash Equivalents		
Mechanics Bank - Special Reserve	300,347.49	85,684.66
Mechanics Bank - Checking	412,200.44	129,686.90
Petty Cash	500.00	88,428.81
LAIF Account	3,648.82	0.00
Total Cash and Cash Equivalents	716,696.75	303,800.37
Accounts Receivable		
Accounts Receivable	509,611.47	
Contractors Receivable	129,686.90	
Total Accounts and Contractors Receivable	639,298.37	
Other Current Assets		
Due from PRWFPA/RAPS	611.11	258,986.95
Prepaid Items	7,713.97	1,888,153.69
Total Other Current Assets	8,325.08	(6,689.06)
Total Current Assets	1,364,320.20	82,730.00
Long-Term Assets		
Net OPEB Asset	96,473.00	2,548,614.01
FY 2002-2003 Housing Mandate Receivable	82,186.00	
Allowance for Doubtful Accounts	(16,437.20)	
Deferred Outflows - Actuarial	533,833.49	
Deferred Outflows - PERS Contribution	272,963.59	
Total Long-Term Assets	969,018.88	
Capital Assets		
Capital Assets	188,031.36	(203,925.09)
Accumulated Depreciation	(155,901.53)	20,779.99
Total Capital Assets	32,129.83	(183,145.10)
Total Assets	2,365,468.91	2,365,468.91
Liabilities & Net Position		
Liabilities		
Current Liabilities		
Accounts Payable		85,684.66
Contractors Payable		129,686.90
Employee Benefits		88,428.81
Mechanics Bank - Line of Credit		0.00
Total Current Liabilities		303,800.37
Long-Term Liabilities		
Deferred Inflows - Actuarial		258,986.95
Net Pension Liability (GASB 68)		1,888,153.69
OPEB Liability		(6,689.06)
Retainage Payable		21,632.06
Deferred Revenue		82,730.00
Total Long-Term Liabilities		2,244,813.64
Total Liabilities		2,548,614.01
Net Position		
Beginning Net Position		(203,925.09)
Net Income/(Loss)		20,779.99
Total Ending Net Position		(183,145.10)
Total Liabilities & Net Position		2,365,468.91

Profit & Loss - Attachment 2

July 2019 - April 2020

	<u>July 2019 - April 2020</u>
Income	
AMBAG Revenue	175,652.09
Cash Contributions	43,435.54
Grant Revenue	2,646,828.13
Non-Federal Local Match	152,578.37
Total Income	<u>3,018,494.13</u>
Expense	
Salaries	1,211,927.79
Fringe Benefits	652,327.07
Professional Services	740,048.33
Lease/Rentals	67,757.10
Communications	14,804.07
Supplies	20,937.35
Printing	3,228.84
Travel	25,223.99
Other Charges:	
BOD Allowances	5,600.00
BOD Refreshments/Travel/Nameplates/Dinner/Other	2,316.77
Workshops/Training	6,822.41
GIS Licensing/CCJDC Support	9,555.91
Energy Watch Travel/Classes/Events/Recruitment	1,608.57
SB1/MTIP/MTP/SCS/OWP/Public Participation Expenses	17,959.74
Recruiting	774.79
Climate Resiliency Study	615.39
Dues & Subscriptions	20,688.57
Depreciation Expense	13,899.83
Maintenance/Utilities	640.90
Insurance	28,128.30
Interest/Fees/Tax Expense	270.00
Total Other Charges	<u>108,881.18</u>
Non-Federal Local Match	<u>152,578.37</u>
Total Expense	<u>2,997,714.14</u>
Net Income/(Loss)	<u><u>20,779.99</u></u>

**AMBAG
Cash Activity - Attachment 3
For May 2020**

**Monthly Cash Activity
AMBAG**

	July-19	August-19	September-19	October-19	November-19	December-19	January-20	February-20	March-20	April-20	May-20	June-20	TOTAL
1. CASH ON HAND													
[Beginning of month]	750,647.47	814,801.68	879,766.34	647,829.65	671,561.67	792,515.31	782,788.58	745,828.24	714,657.12	739,544.26	716,696.75	-	-
2. CASH RECEIPTS													
(a) AMBAG Revenue	174,298.77	10,033.84	11,434.86	1,699.19	1,624.86	27.83	7,997.94	14,756.46	30.88	44.99	7,698.47	-	229,648.09
(b) Grant Revenue	212,552.01	286,567.88	-	294,532.12	370,064.55	269,229.07	245,870.68	223,120.63	318,886.30	258,305.97	306,927.55	-	2,786,056.76
(c) Non-Federal Local Matc	-	-	-	-	-	-	-	-	-	-	-	-	-
(d) Borrowing	-	-	-	-	-	-	-	-	-	-	-	-	-
3. TOTAL CASH RECEIPTS	386,850.78	296,601.72	11,434.86	296,231.31	371,689.41	269,256.90	253,868.62	237,877.09	318,917.18	258,350.96	314,626.02	-	3,015,704.85
4. TOTAL CASH AVAILABLE	1,137,498.25	1,111,403.40	891,201.20	944,060.96	1,043,251.08	1,061,772.21	1,036,657.20	983,705.33	1,033,574.30	997,895.22	1,031,322.77	-	-
5. CASH PAID OUT													
(a) Payroll & Related *	253,898.83	176,987.84	178,879.35	200,519.92	180,487.53	184,368.61	225,372.71	175,224.34	189,437.54	196,511.69	169,180.79	-	2,130,869.15
(b) Professional Services	51,087.32	32,343.11	48,648.66	53,610.90	53,519.78	77,722.21	41,087.46	76,554.75	89,428.51	63,226.46	93,489.34	-	680,718.50
(c) Capital Outlay	-	-	-	-	-	-	-	-	-	-	-	-	-
(d) Lease/Rentals	7,046.80	6,313.23	6,513.39	6,768.61	6,745.74	7,090.90	6,700.82	6,688.26	7,390.19	6,468.69	6,343.70	-	74,070.33
(e) Communications	2,267.51	1,813.13	1,075.58	1,839.15	649.27	1,898.67	2,242.83	1,101.41	1,200.00	1,814.30	996.69	-	16,898.54
(f) Supplies	2,366.56	1,212.45	915.14	3,555.06	560.92	1,203.91	1,093.87	558.74	1,819.37	7,342.32	1,122.26	-	21,750.60
(g) Printing	5.38	-	40.91	-	500.00	2,183.19	104.74	-	-	400.00	-	-	3,234.22
(h) Travel	2,275.72	2,854.74	2,121.67	1,731.51	4,958.08	3,083.90	1,969.10	3,003.86	2,046.54	2,612.95	7,403.43	-	34,061.50
(i) Other Charges	3,748.45	10,112.56	5,176.85	4,474.14	3,314.45	1,432.24	12,257.43	5,916.85	2,707.89	2,822.06	-	-	51,962.92
(j) Non-Federal Local Matc	-	-	-	-	-	-	-	-	-	-	-	-	-
(k) Loan Repayment	-	-	-	-	-	-	-	-	-	-	-	-	-
6. TOTAL CASH PAID OUT	322,696.57	231,637.06	243,371.55	272,499.29	250,735.77	278,983.63	290,828.96	269,048.21	294,030.04	281,198.47	278,536.21	-	3,013,565.76
7. CASH POSITION	814,801.68	879,766.34	647,829.65	671,561.67	792,515.31	782,788.58	745,828.24	714,657.12	739,544.26	716,696.75	752,786.56	-	-

Payroll & Related *



MEMORANDUM

TO: Executive/Finance Committee

FROM: Maura F. Twomey, Executive Director

RECOMMENDED BY: Heather Adamson, Director of Planning

SUBJECT: Central Coast Highway 1 Climate Resiliency Study

MEETING DATE: June 10, 2020

RECOMMENDATION:

This is an informational item only.

BACKGROUND/DISCUSSION:

The Association of Monterey Bay Area Governments (AMBAG), in conjunction with the Nature Conservancy (TNC) and the Center for the Blue Economy of the Middlebury Institute of International Studies at Monterey (CBE), is developing a climate resiliency study for the Central Coast Highway 1 corridor from State Route 183 to Salinas Road including the rail line in this corridor. This effort will identify transportation improvements and sea level rise adaptation strategies that can improve transportation mobility, safety and efficiency, promote healthy habitats and provide economic security and benefits to the local community.

Similar to Highway 1, railways stretch along much of California's coast. This transportation infrastructure is critical to California's population and economy. There is also critical coastal habitat immediately adjacent to these highways and rails, which without concerted adaptation may be impacted or lost with sea level rise. Projects like this provide important insight into how to simultaneously enhance the resilience of transportation infrastructure and coastal habitats.

This study evaluated and identify the transportation needs, including the ultimate corridor concept in the Central Coast Highway 1 and rail corridor near the Elkhorn Slough area while protecting and integrating the environmental needs of this unique corridor. There is a deficiency in this critical corridor where existing demand greatly exceeds the limited capacity, causing long delays. Highway and railroad infrastructure

are prone to flooding and vulnerable to sea level rise, and are adjacent to valuable wetland habitats of an estuary of noted regional and national significance. Many of these valued habitats are also vulnerable to sea level rise. This study has an opportunity to increase the resilience of transportation infrastructure and habitat to sea level rise and climate change.

A Project Team and Steering Committee guide the development of the study. The Project Team and Steering Committee has held many meetings over the last few months to discuss various transportation and habitat adaptation strategies for both Highway 1 and the railway. A public workshop was held in February 2020 to receive input on the various adaptation strategies. A draft report was released on May 12, 2020 for a 30-day public review period. The close of the public comment period is June 11, 2020. Written comments should be sent to hadamson@ambag.org. The Board of Directors will be asked to accept the final study report and direct staff to close out the grant at the August 2020 meeting.

Attachment 1 includes the Executive Summary from the draft report. The full draft report including appendices can be downloaded from: <https://ambag.org/programs-services/planning/central-coast-highway-1-climate-resiliency-study#>.

ALTERNATIVES:

N/A

FINANCIAL IMPACT:

Planning activities for the Central Coast Highway 1 Resiliency Study are funded with SB 1 planning funds, FHWA planning funds and non-federal local match. All funding is programmed in the FY 2019-20 Overall Work Program and Budget.

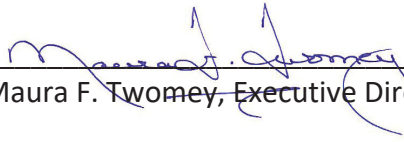
COORDINATION:

All planning activities are coordinated through the Project Team and Steering Committee.

ATTACHMENT:

1. Executive Summary – Draft Central Coast Highway 1 Climate Resiliency Study Report

APPROVED BY:



Maura F. Twomey, Executive Director

DRAFT

1. EXECUTIVE SUMMARY - Attachment 1

Elkhorn Slough is a major estuary located in Monterey Bay, California that provides valuable habitat area for hundreds of aquatic bird, fish, marine mammal and invertebrate species. With nearly 2,700 acres of a suite of intact habitat types, the Slough is critical to regional biodiversity. Estuarine habitats within the Slough and the ecosystem services they provide are at risk to substantial losses with sea-level rise. With Central California already having lost over 90% of its historical estuarine marsh habitat area (Brophy et al. 2019), every effort is needed to maintain what remains in the face of sea-level rise. Presently, Elkhorn Slough holds the third largest extent of estuarine marsh in California, however, approximately 85% of this area may be lost with sea-level rise.

Transportation assets in this region are also vulnerable to sea-level rise impacts. The eight-mile stretch of Highway One through Elkhorn Slough is a critical transportation asset for the region and beyond, providing local access to Moss Landing, essential to freight movement and the economy, and a major commuting route. With 2 feet (ft) sea-level rise, major disruptions to its transportation function are anticipated. The railway, which traverse the Slough for five miles, is also critical to freight movement and envisioned to serve expanded passenger service to meet the needs of a growing population. Extreme tides, known as “King Tides” already cause periodic flooding and disruptions to the railway, which will increase in frequency and severity as sea levels rise.

Maintaining or enhancing both transportation function and the extent of estuarine marsh in Elkhorn Slough are important priorities for the Central Coast and beyond. The Central Coast Highway One Climate Resiliency Study (Study) is a unique partnership between the Association of Monterey Bay Area Governments (AMBAG), California Department of Transportation (Caltrans), The Nature Conservancy (TNC), the Center for the Blue Economy (CBE) at the Middlebury Institute of International Studies (CBE), and Environmental Science Associates (ESA) to develop and evaluate adaptation strategies for Highway One, the railway and surrounding ecology through Elkhorn Slough. Integrating regional development and adoption of natural infrastructure and transportation planning can provide better outcomes for both sectors (Marcucci & Jordan, 2013) and Federal Highway Administration guidance and California policy are encouraging this integrated approach (Safeguarding California Plan: 2018 Update, 2018). The project was funded by the Caltrans via an SB-1 adaptation planning grant, with additional funding provided by AMBAG, TNC and the CBE.

The Project Team coordinated with a wide range of local and regional stakeholders to gather existing conditions, develop transportation and ecological adaptation concepts,

develop adaptation scenarios, and refine and modify the concepts and scenarios with Steering Committee and community input. Throughout the study, an adaptation pathways approach was used in order to explore a variety of strategies that could cultivate transportation and ecological resilience over a range of time horizons (Hasnoot, 2013). A suite of near-term actions (e.g. next ten years) are identified to mitigate flooding impacts to transportation and ecology, in addition to developing long-range adaptation scenarios to be implemented later in the century. The adaptation pathways approach yields deeper insight into what additional steps (e.g. planning, timing, funding) may be necessary to bridge near-term actions to a long-term vision. After assessing a preliminary suite of adaptation scenarios, three revised roadway and railway adaptation scenarios, which were compared against a no action scenario, were evaluated and are described below:

- **Scenario C0 (No-Action):** No Action
- **Scenario C1 (2-Lane Elevated Highway):** Two Lane Highway One Elevated, Single Track Railway on Trestle adjacent to existing alignment and Marsh Restoration East of Railway
 - **Scenario C1A:** Reaches 1-4 elevated on piles with levee ecotone
 - **Scenario C1B:** Reaches 1, 3 and 4 elevated on piles, Reach 2 by Moss Landing Wildlife Area elevated on fill with levee ecotone
- **Scenario C2 (Managed Retreat/Widening G-12 4 Lanes):** Managed Retreat to relocate Highway One traffic capacity inland to existing G-12 roadway, G-12 Widening to 4 Lanes, Single Track Railway on Trestle adjacent to existing alignment and Marsh Restoration East of Railway
- **Scenario C3 (4-Lane Elevated Highway):** Four Lane Highway One Elevated along existing alignment, Single Track Railway on Trestle adjacent to existing alignment and Marsh Restoration East of Railway
 - **Scenario C3A:** Reaches 1-4 elevated on piles with levee ecotone
 - **Scenario C3B:** Reaches 1, 3 and 4 elevated on piles, Reach 2 by Moss Landing Wildlife Area elevated on fill with levee ecotone

The roadway and railway adaptation scenarios were evaluated using best available modeling tools to investigate systemic changes to transportation, hydrology and ecology triggered by certain adaptation actions. Building upon the results of the hydrodynamic, transportation and habitat modeling, a probabilistic benefit-cost analysis was applied to the scenarios to account for the valuation of ecosystem services and transportation function and provide perspective on which adaptation scenario provides more in gains than is given up in costs. The major takeaways from each portion of the evaluation are briefly described here.

Transportation Modeling

AMBAG utilized the Regional Transportation Demand Model (RTDM) to evaluate the proposed transportation improvements in the adaptation scenarios in order to identify the most viable and effective solution for the study area. The results of the modeling for each scenario were compared against one other and to a no action scenario to analyze the impacts of each under a variety of performance metrics. These performance metrics are indicators of how the adaptation scenarios would perform and how effectively they would serve the needs of this critical transportation corridor with future growth and demand.

The results of the transportation modeling indicate that Scenario C3 (4-Lane Elevated Highway) would best suit the needs of the corridor, allowing for increased capacity on a road that is already overburdened by demand. Widening Highway One to four lanes would provide the greatest relief to congestion and delay, leading to less time spent on the roadway and greater ease of travel. Allowing the roadway to flood (No Action Scenario) would not only increase congestion and delay in the study area, it would limit access to transit for disadvantaged communities within the Moss Landing and Elkhorn Slough area. Scenario C2 (Managed Retreat/Widening G-12 4 Lanes) presents the same problems as a no action scenario, and does not outperform Scenario C3 (4-Lane Elevated Highway) under any transportation metric. An elevated two-lane Highway One (Scenario C1) does not provide relief to the demand on Highway One that already exists in the study area, but does present viable operational improvements that can be implemented to benefit travel time and safety through the corridor.

Flood Hazards Modeling

ESA applied the Coastal Resilience Monterey Bay (CRMB) hazard mapping resource to assess the extents of Highway One at risk to flooding, resulting in identification of four sections of Highway One, called Reaches 1, 2, 3 and 4 (Figure 3). Reach 1 is between Struve Pond and Bennett Slough; Reach 2 is between the North Harbor and Bennett Slough; Reach 3 crosses Moro Cojo Slough, and Reach 4 crosses an historical slough, now a swale / drainage through agricultural lands. ESA then updated the CRMB maps to better account for micro-topography, overland flow and existing hydraulic control structures, resulting in revised flood water-surface elevations for each Reach for monthly and 100-year recurrence floods from coastal and river sources under existing and future climate-effected sea-levels and runoff from the Reclamation Ditch - Gabilan Creek drainage. The refined flood hazard mapping indicates Highway One will be impacted by a 100-year flood by 2030 (less than one foot of sea-level rise), and by monthly high water by 2050 (about 2 ft of sea-level rise).

The high CRMB sea-level rise scenarios were used, amounting to 2.4 ft by 2060 and 5.2 ft by 2100, and rounded to 2 ft by 2050 and 5 ft by 2100 in subsequent hydrodynamic and habitat modeling. This sea-level rise scenario is similar to but lower than the most recent (2018) California guidance for a medium-high risk aversion scenario.

Hydrodynamic Modeling

ESA utilized the Delft3D hydrodynamic model to evaluate impacts to overall Slough hydrodynamics as a consequence of sea-level rise for the proposed roadway and railway adaptation scenarios. Flood extents, water depths and velocities were analyzed at locations within the study domain to assess changes in local hydrologic conditions.

Hydrodynamic modeling results indicate that a new flood pathway east of the managed ponds in Moss Landing Wildlife Area will develop under 2 to 3 ft of sea-level rise (time horizon of 2050 to 2070), with or without roadway modifications. Consequently, Struve Pond and Upper Bennett Slough will be tidally connected to the main channel of Elkhorn Slough. This indicates that improvements made to the roadway (e.g. elevating a segment on piles or fill) will have decreasing control over flooding in this part of the Slough, as sea-level rises. Additionally, the model shows overtopping of Potrero Road and Moss Landing Road, resulting in bypassing of tide gates and overland flooding of the low-lying agricultural parcels by Highway One and Moro Cojo Slough, assuming 3 ft of sea-level rise. Likely, around mid-century, maintaining farming operations in the low-lying agricultural lands near Reaches 3 and 4 will be untenable. These results support ongoing integrated, collaborative efforts around Moro Cojo Slough to plan for future land use under SLR.

The hydrodynamic modeling also shows that tidal velocities in the main Slough channel will increase under future sea-level rise in all scenarios, which will exacerbate net sediment export and marsh loss within the system. Under proposed marsh restoration of the complexes east of the railway (about 700 acres of intertidal areas), the overall increase in tidal prism associated with sea-level rise is reduced.

Habitat Modeling

ESA utilized the Sea Level Affecting Marshes Model (SLAMM) to predict wetland habitat evolution within the Slough for the roadway and railway adaptation scenarios and to assess how much additional wetland habitat could be provided from proposed marsh restoration east of the railway, compared to a no action scenario.

The habitat modeling results strongly support action to create and sustain estuarine marsh habitat acreages within the Slough. Raising the marsh plain grade to future MHHW at mid-century for Parsons Slough, North/Estrada Marsh and Azevedo Ponds is predicted to have longevity over several decades. This action would enhance 700 acres at 2050. Around 290 acres of additional restored estuarine habitat remain at year 2100 (5 ft of sea-level rise) as a consequence of proposed marsh restoration. As estuarine habitats throughout the Slough are drowned under sea-level rise, the importance of these complexes and the ecosystem services they provide to the Slough will grow. The cost and difficulty of restoring marshes to higher tidal elevations after mid-century will increase substantively, given that many habitat acres may have already converted to estuarine open water.

Additionally, proposed grading by Reach 2 for levee ecotone creation for Scenarios C1A (2-Lane Elevated Highway with Reach 2 on Piles), C1B (2-Lane Elevated Highway with Reach 2 on Fill), C3A (4-Lane Elevated Highway with Reach 2 on Piles) and C3B (4-Lane Elevated Highway with Reach 2 on Fill) will produce between 72 to 83 acres of estuarine marsh habitat, assuming construction by mid-century. Since this study is planning-level, if there is interest in pursuing this adaptation measure, the total number of estuarine marsh habitat acreages will likely be refined and could potentially be greater. Scenarios C1B (2-Lane Elevated Highway with Reach 2 on Fill) and C3B (4-Lane Elevated Highway with Reach 2 on Fill) result in the greatest number of estuarine marsh habitat from the associated restoration adaptation actions across the different scenarios (607 acres remaining at 2100, compared to 260 acres from the no action scenario).

The model results also confirm that in addition to restoration of existing wetland habitat, present and future land use planning for low-lying agricultural lands by Reaches 3 and 4 will have a significant impact on how much wetland habitat will exist in the future. The parcels south and southwest of Moro Cojo Slough, if allowed to convert, represent a strong opportunity to mitigate wetland habitat loss (up to 50%) experienced by Elkhorn Slough under future sea-level rise.

Benefit-Cost Analysis

Data from the analysis of changes in the transportation system and in Elkhorn Slough brought about by sea-level rise and the choices made about adaptation responses were used to conduct a benefit-cost analysis of the options under consideration. The benefit-cost analysis allows comparison of different consequences on a common monetary basis and permits identification of those scenarios that most likely to return more in gains than is given up in costs.

The results of the analysis show that the costs of doing nothing about sea-level rise's possible effects on Highway One are likely to far exceed the benefits of saving money by taking no action. Of the three response scenarios, only the combined elevation and widening to four lanes of Highway One return more in benefits than their costs. This includes the costs of both the highway and the wetlands enhancements/restoration. Scenario C1 (2-Lane Elevated Highway) returns less than its costs because traffic delays and safety costs remain high with a continued two-lane configuration. Scenario C2 (Managed Retreat/Widening G-12 4 Lanes) also costs more than its benefits because of high delay and safety costs.

The benefit-cost analysis also considered how to address the uncertainties about the pace and extent of sea-level rise. Following guidance from the California Ocean Protection Council, the assumptions of sea-level rise are conservative (that is high sea-level rise but with low probability). Using these probabilities, the analysis examines the point at which sea-level rise hazards are great enough to initiate planning for a major project on Highway One. The result indicates that a point in the early 2040s when sea-level rise-enhanced storm flooding on Highway One indicates a high probability that

future damages from sea-level rise will be sufficient to economically justify some adaptation.

Major Takeaways

The results of the evaluation emphasize the importance of planning for Highway One and railway adaptation in the early to mid-2030s and implementing a course of action well before sea levels are predicted to follow the exponential part of the curve in mid- to late- 21st century. Following Scenario C0 (No Action) inadvertently, by delaying action on climate change adaptation, will result in widespread loss of habitat and biodiversity through the Slough (up to 85% of estuarine marsh habitat) and worsen an existing transportation function problem, to the detriment of the community, region, and the many visitors to Monterey Bay. A no action pathway is not a viable option for Moss Landing and Elkhorn Slough. The benefits of implementing adaptation actions, such as large-scale marsh restoration, are greater the earlier they happen in the century (2030s).

Based off of the analysis in this study, Scenario C3 (4-Lane Elevated Highway) would be economically justified, since the value of reduction in traffic delays would be greater than the costs associated with transportation and ecological improvements. However, the analysis also indicates that if it were possible to significantly reduce delays for Scenario C1 (2-Lane Elevated Highway), potentially through shifts in alternate modes of travel or technological changes in motor vehicle transportation, Scenario C1 (2-Lane Elevated Highway) would also be viable. Construction of a new highway facility would have numerous adverse impacts on adjacent wetland habitat. Further study and analysis in the next decade will be necessary in order to investigate the impacts of both scenarios at a more detailed level. Pathways to partnerships and processes supporting integrated approaches around climate change adaptation, including triggers for collective action, must be in place now in order for communities and ecosystems to successfully adapt to future sea levels. The process and findings presented in this study will hopefully serve as a critical link to the future of the transportation and ecology by Moss Landing and Elkhorn Slough.

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