

FLOOD CONTROL PROJECT NEEDS COMMITTEE

**TRUCKEE RIVER FLOOD MANAGEMENT
AUTHORITY OPERATING & FLOOD
CONTROL PROJECT COSTS, REQUIRED
REVENUES & FINANCING OPTIONS**

SEPTEMBER 22, 2017

Review Outline

- Projected revenue requirement to fund operating and construction costs.
- Financing options - cash only or a mix of debt/cash.

FLOOD MANAGEMENT PROJECT COSTS

2016 DOLLARS

Classification of HDR Project Cost Estimates Current Costs - 2016 Dollars

Year	Baseline Surveys, EIS Related Costs, Home Elevations	Lands & Damages	Design & Construction Mgmt	Construction	Total Current Costs
FYE 2016					
FYE 2017					
FYE 2018	2,000,000	-	4,798,178	-	6,798,178
FYE 2019	2,000,000	-	4,798,178	-	6,798,178
FYE 2020	2,000,000	-	4,798,178	-	6,798,178
FYE 2021	2,118,319	1,297,652	2,339,027	-	5,754,998
FYE 2022	2,118,319	-	3,383,479	17,289,953	22,791,751
FYE 2023	3,118,319	14,293,015	4,984,939	15,685,767	38,082,040
FYE 2024	1,118,319	6,704,616	4,608,987	26,315,725	38,747,647
FYE 2025	1,118,319	6,704,616	4,608,987	26,315,725	38,747,647
FYE 2026	1,118,319	10,471,612	4,425,674	20,453,854	36,469,460
FYE 2027	1,118,319	14,668,889	5,685,904	21,505,202	42,978,314
FYE 2028	1,118,319	-	5,180,651	37,332,783	43,631,753
FYE 2029	1,118,319	-	3,027,633	891,048	5,037,001
FYE 2030	1,118,319	-	4,768,541	23,004,442	28,891,302
FYE 2031	1,118,319	-	4,386,816	12,866,197	18,371,332
FYE 2032	1,118,319	-	6,320,225	18,884,727	26,323,272
FYE 2033	1,118,319	-	2,869,541	26,809,426	30,797,286
Totals	24,538,151	54,140,400	70,984,938	247,354,848	397,018,337

COST MODIFIERS

Costs Modifiers

Year	Inflation			Multipliers = Nominal Costs (BASE 2016)		
	General Cost Inflation - Gross Domestic Product Implicit Price Deflator	Construction Cost Inflation	LERRD Cost Inflation (Lands & Damages) - Washoe Co. secured property value annual change linear growth	General Cost Inflation - Gross Domestic Product Implicit Price Deflator	Construction Cost Inflation	LERRD Cost Inflation (Lands & Damages) - Washoe Co. secured property value annual change linear growth
FYE 2016				1.000	1.000	1.000
FYE 2017	1.93%	3.00%	4.05%	1.019	1.030	1.040
FYE 2018	1.93%	3.00%	4.83%	1.039	1.061	1.091
FYE 2019	3.50%	3.00%	4.61%	1.075	1.093	1.141
FYE 2020	3.50%	3.00%	4.40%	1.113	1.126	1.191
FYE 2021	3.50%	3.00%	4.22%	1.152	1.159	1.241
FYE 2022	3.50%	3.00%	4.05%	1.192	1.194	1.292
FYE 2023	3.50%	3.00%	3.89%	1.234	1.230	1.342
FYE 2024	3.50%	3.00%	3.74%	1.277	1.267	1.392
FYE 2025	3.50%	3.00%	3.61%	1.322	1.305	1.442
FYE 2026	3.50%	3.00%	3.48%	1.368	1.344	1.493
FYE 2027	3.50%	3.00%	3.37%	1.416	1.384	1.543
FYE 2028	3.50%	3.00%	3.26%	1.466	1.426	1.593
FYE 2029	3.50%	3.00%	3.15%	1.517	1.469	1.643
FYE 2030	3.50%	3.00%	3.06%	1.570	1.513	1.694
FYE 2031	3.50%	3.00%	2.97%	1.625	1.558	1.744
FYE 2032	3.50%	3.00%	2.88%	1.682	1.605	1.794
FYE 2033	3.50%	3.00%	2.80%	1.741	1.653	1.844

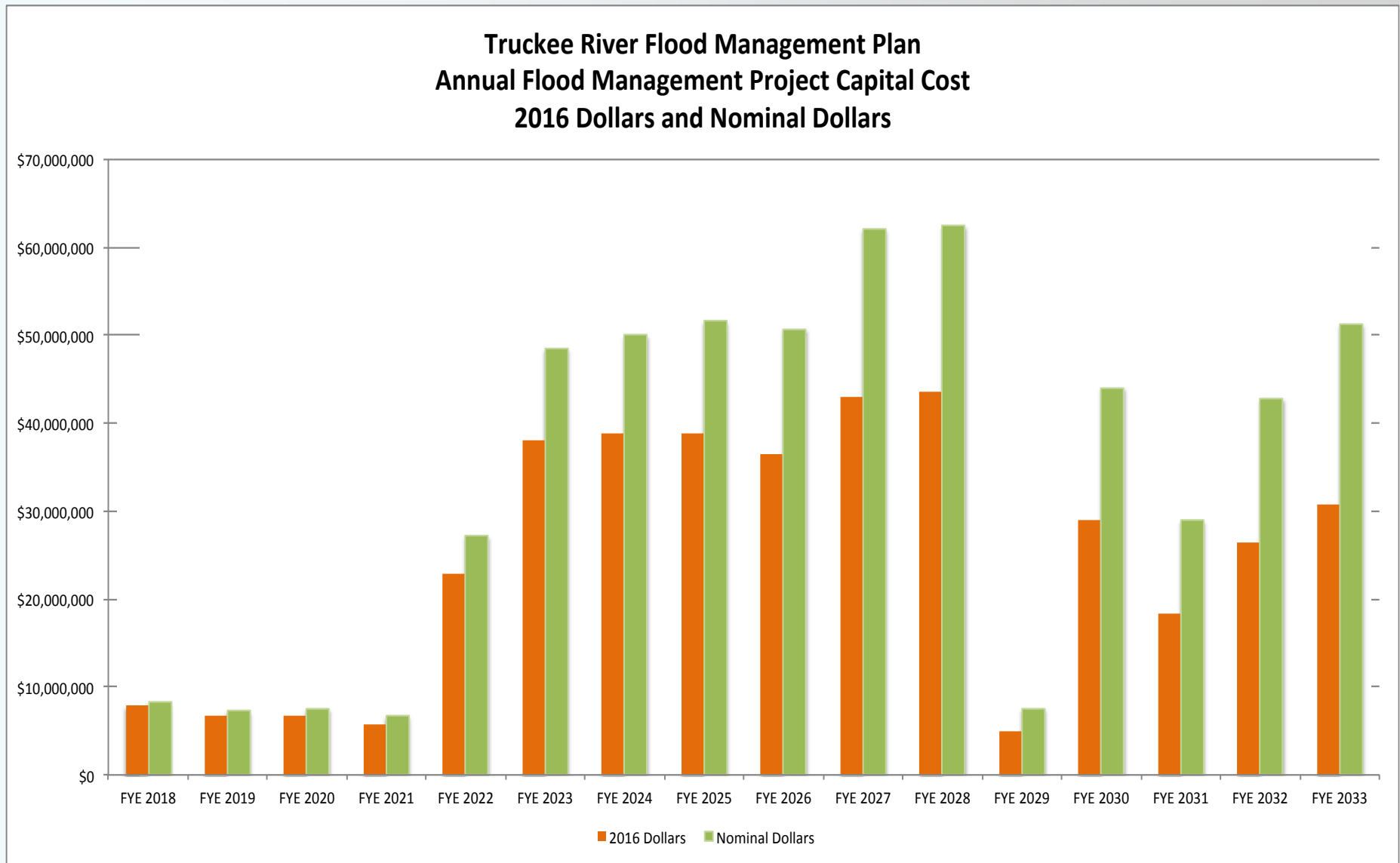
PROJECT COSTS

Current (2016) VS. Nominal Dollars

- Total HDR estimated project cost in 2016 dollars = \$397 million.
- Add \$1.4 million additional cost not included in HDR's cost estimates.
- Total cost 2016 dollars = \$398.4 million.
- Total cost nominal dollars = \$557.2 million.
- Difference = \$158.8 million, 40% higher costs due to the effect of inflation.

PROJECT COSTS

Current (2016) VS. Nominal Dollars



FINANCING MODEL STRUCTURE

TRFMA financing model accounts:

- General Fund – major revenue sources, operating costs & support to other funds.
- Emergency Replacement Reserve Fund - required accumulation of reserves.
- Capital Projects Fund - project cost and funding sources.
- Debt Service Fund - payment of debt and funding sources.

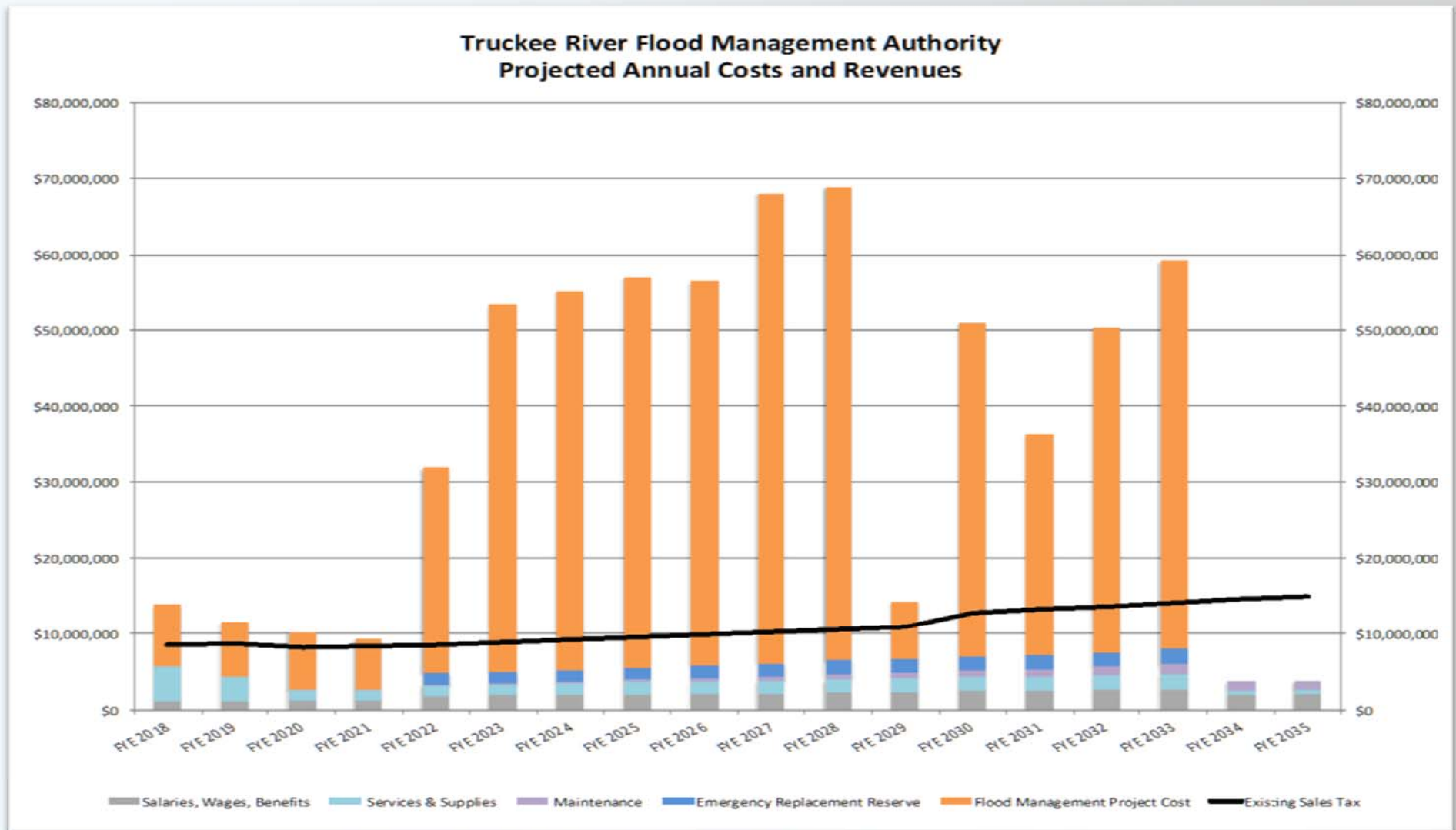
Operating & Other Costs

- Salaries, wages & benefits = \$1.4 million in FY 17/18 dollars.
- Construction period additional positions = \$458,680 in FY 17/18 dollars (start FY 21/22).
- Services & supplies = \$4,492,300 (FY 17/18); \$3,110,195 (FY 18/19); \$1,459,330 (FY 19/20); FY \$1,340,340 (20/21); then index until end FY 32/33; after construction = 25% times total of salaries, wages & benefits.

Operating & Other Costs

- Maintenance = 0.3% of nominal cost of construction to date.
- Emergency Replacement Reserve \cong 5% nominal cost of construction.
- Minimum ending fund balance = 25% of the operating costs.

Operating & Construction Costs VS. Existing Sales Tax Revenue



Cash Financing Option

General Fund Revenues Thru End of Construction

	Existing Sales Tax Revenue	New Revenue Required	Other Revenue	Interest Income	Totals
Revenue Growth Rates	3.0%	3.0%	0%	N/A	
Total Revenue	165,050,792	447,353,337	258,400	801,179	613,463,708
% Total Revenue	26.90%	72.92%	0.04%	0.13%	100.00%
Average Annual Revenue	10,315,674	31,953,810	16,150	50,074	40,410,526

Cash Financing Option

General Fund

Cash Outflows Thru End of Construction

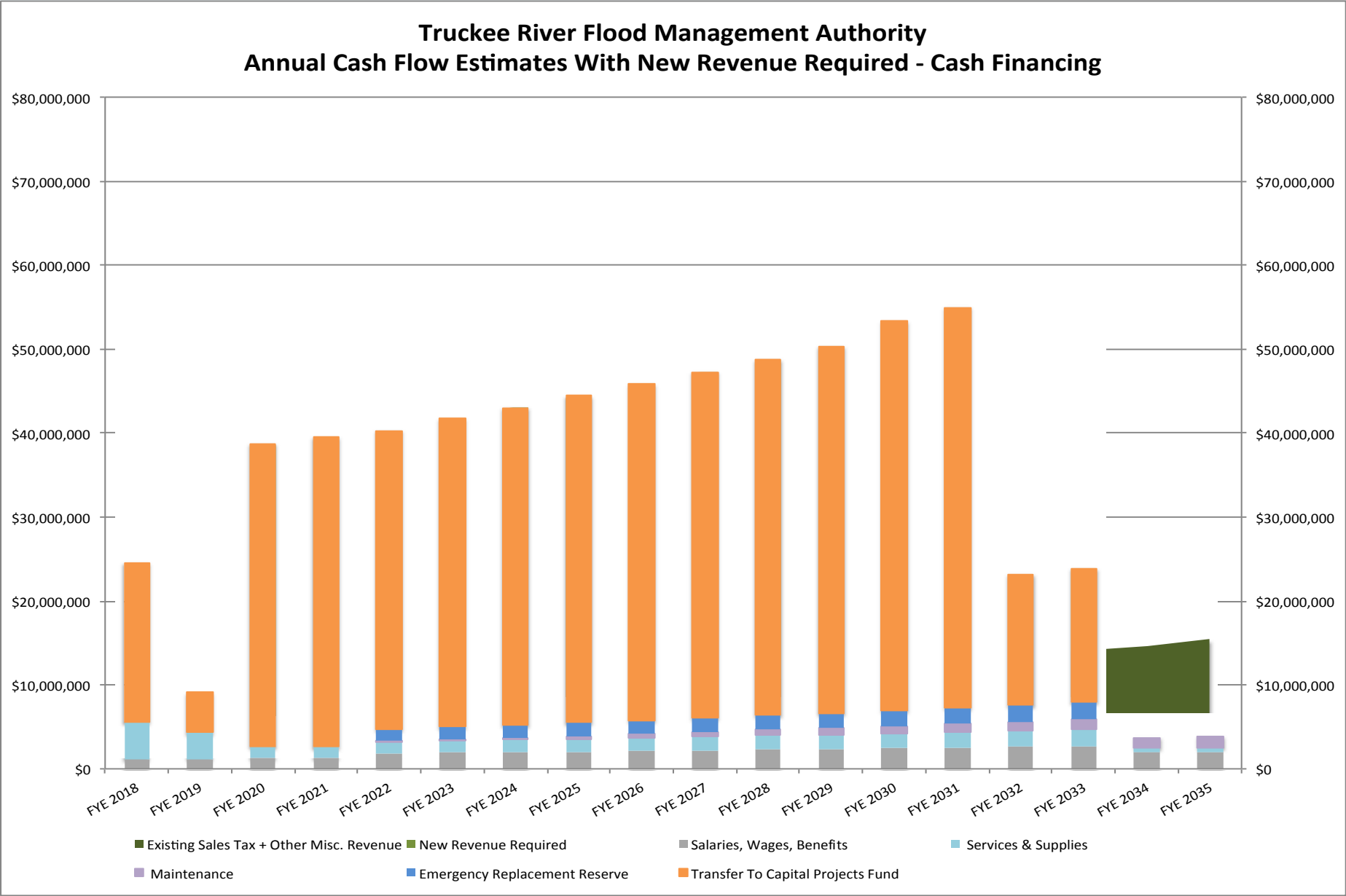
	Amount	% of Total
Operations & Maintenance	69,618,629	11.07%
Transfers To Capital Project Fund	538,630,612	85.61%
Transfer To Debt Service Fund	-	0.00%
Transfers To Emergency Replacement Fund	20,914,525	3.32%
Total Cash Outflow	629,163,766	100.00%

Cash Financing Option

Capital Project Financing

Source of Funds	Amount	% of Total
Debt Financed (Deposit to Capital Project Fund)	-	0.00%
General Fund (Transfer to Capital Project Fund)	538,630,612	96.67%
Capital Project Fund - Beginning Fund Balance	7,074	0.00%
Capital Project Fund - Interest Income	18,409,648	3.30%
Capital Project Fund - Other Income	138,800	0.02%
Total Project Cost (Nominal \$)	557,186,134	100.00%

Cash Financing Option



Debt & Cash Financing Option

Debt structure:

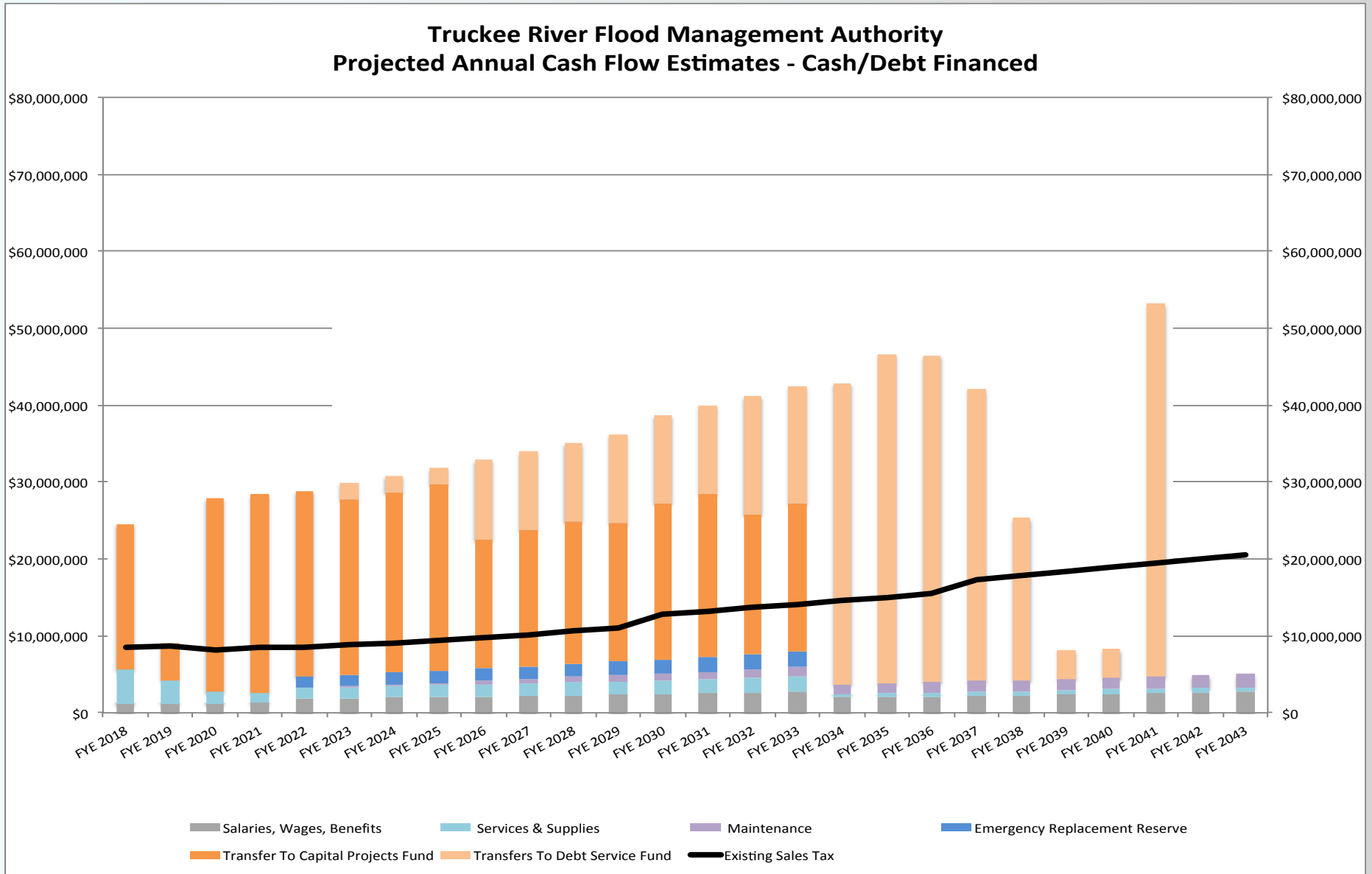
- 30 year term.
- Fixed interest rate of 5%.
- 10 year call option.
- One-year debt service reserve required.
- A 1.75 times additional bonds test for revenue bonds; pledge only new revenue

Debt & Cash Financing Option

Debt Issues

Series	Term	Rate	Par	Issuance Cost	Debt Service Reserve	To Capital Fund
2023	30	5.00%	34,222,141	132,484	2,226,199	31,863,458
2026	30	5.00%	126,730,798	323,548	8,244,020	118,163,229
2029	30	5.00%	21,338,439	88,567	1,388,096	19,861,776
2032	30	5.00%	59,698,748	192,442	3,883,489	55,622,816
Totals			241,990,125	737,042	15,741,805	225,511,279

Debt & Cash Financing Option



Debt & Cash Financing Option

General Fund Revenues Thru End of Debt Payments

	Existing Sales Tax Revenue	New Revenue Required	Other Revenue	Interest Income	Totals
Revenue Growth Rates	3.0%	3.0%	0%	N/A	
Total Revenue	301,779,957	507,723,496	387,600	4,055,509	813,946,562
% Total Revenue	37.08%	62.38%	0.05%	0.50%	100.00%
Average Annual Revenue	12,574,165	23,078,341	16,150	168,980	39,466,021

Debt & Cash Financing Option

General Fund Cash Outflows Thru End of Debt Payments

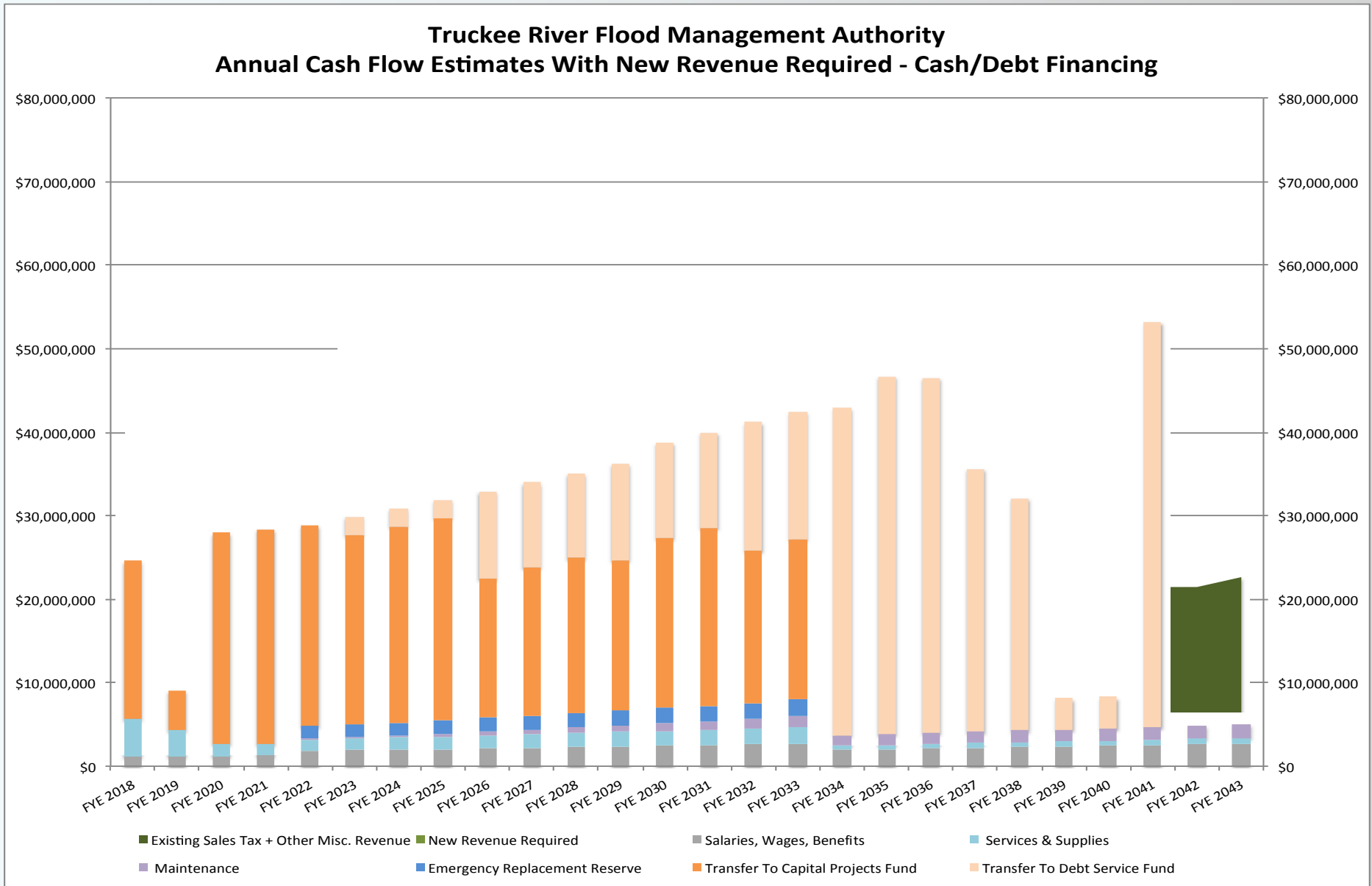
	Amount	% of Total
Operations & Maintenance	103,351,950	13.16%
Transfers To Capital Project Fund	319,168,364	40.64%
Transfer To Debt Service Fund	341,978,126	43.54%
Transfers To Emergency Replacement Fund	20,914,525	2.66%
Total Cash Outflow	785,412,965	100.00%

Debt & Cash Financing Option

Capital Project Financing

Source of Funds	Amount	% of Total
Debt Financed (Deposit to Capital Project Fund)	225,511,279	40.47%
General Fund (Transfer to Capital Project Fund)	319,168,364	57.28%
Capital Project Fund - Beginning Fund Balance	7,074	0.00%
Capital Project Fund - Interest Income	12,360,617	2.22%
Capital Project Fund - Other Income	138,800	0.02%
Total Project Cost (Nominal \$)	557,186,134	100.00%

Debt & Cash Financing Option



SCENARIO RESULTS

- Cash only financing - new revenue source for 14 years, from FYE 2020 to FYE 2033.
- Cash/debt financing - new revenue source for 22 years, from FYE 2020 to FYE 2041.
- Total new revenue for debt/cash financing = \$60.3 million greater than required for cash financing, or 14% more total revenue.
- Average annual new revenue for cash financing = \$8.9 million greater than debt/cash financing, or 39% more average annual revenue.