Update on the San Mateo County Reasonable Assurance Analysis

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Paradigm Environmental

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Note: Results are preliminary/draft and should not be quoted or cited.

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Water Pollution
Prevention Program

Comparing Scenarios

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Load Reduction Objective	Percent of Total GI Cost to Achieve Reduction Objective		
	Jurisdictional	Countywide	*Total Savings (Jurisdictional vs. Countywide)*
Cohesive Sediment 17.6% Reduction	**Scenario 1**	**Scenario 2**	→ *Savings*
Total PCBs 17.6% Reduction	**Scenario 3**	**Scenario 4**	→ *Savings*
Total Savings (Sediment vs. PCBs)	↓ *Savings*	↓ *Savings*	↘ *Overall Savings*

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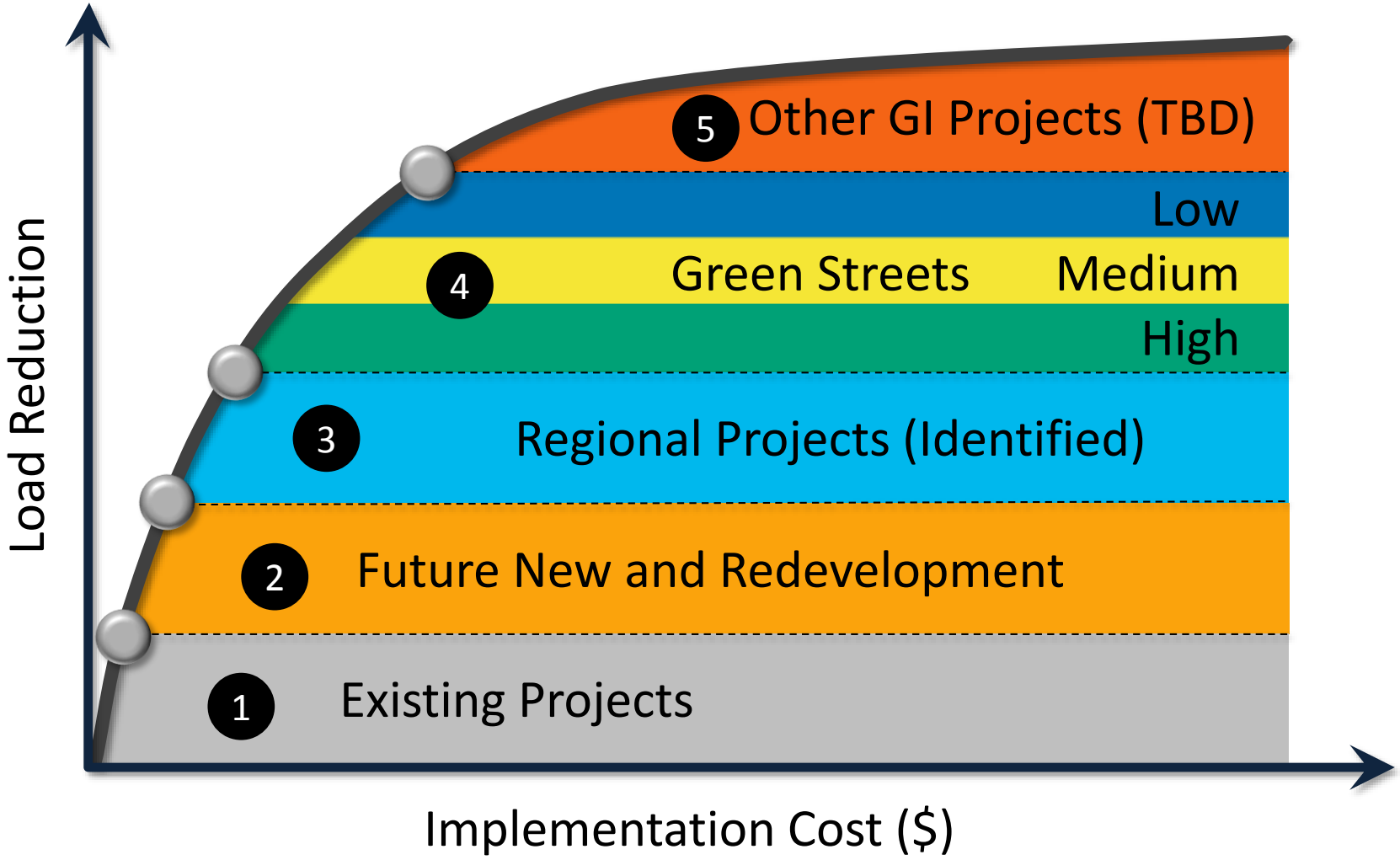
GI Opportunity & Sequence



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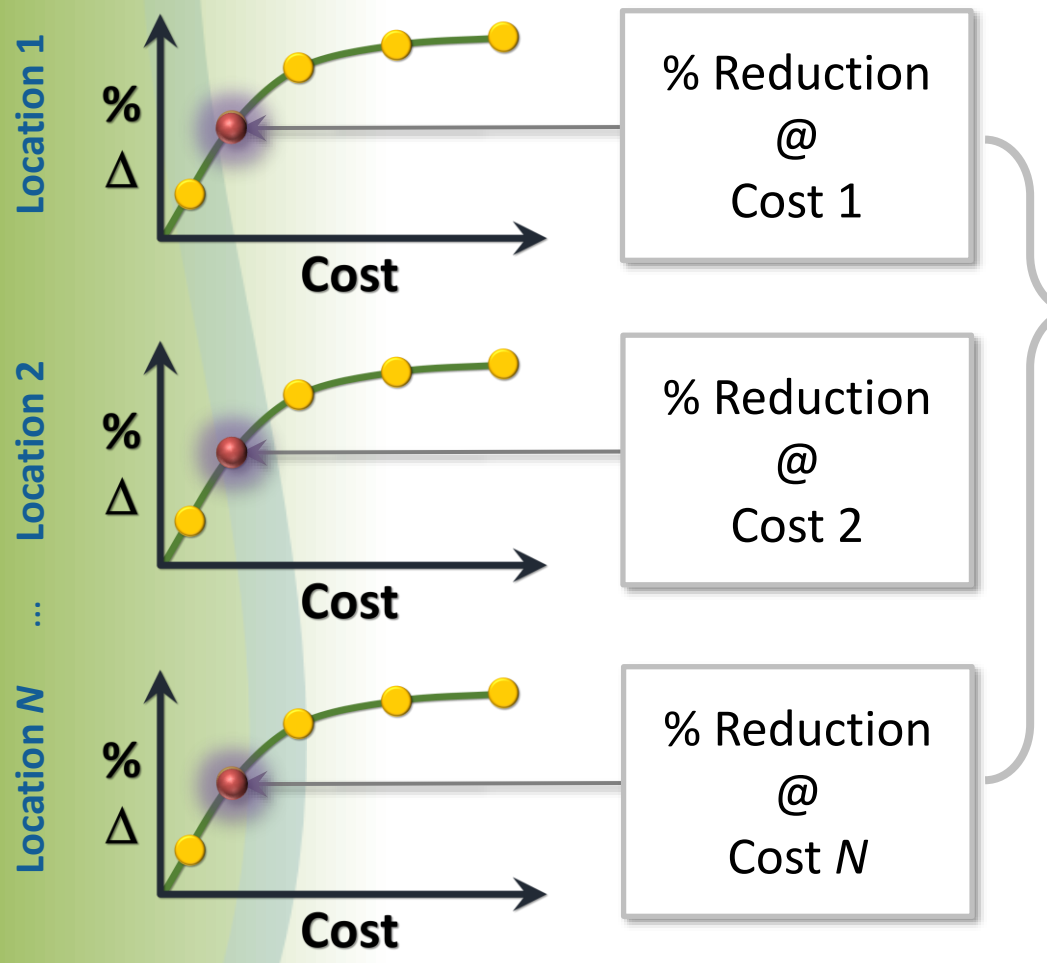
Jurisdictional

*Each **location** is responsible for individually achieving the target load reduction*

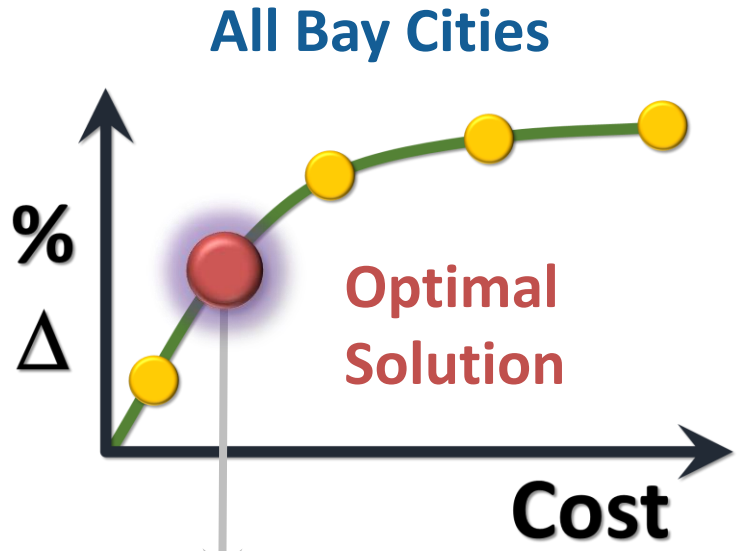


Total Cost (Proportional)

$$\sum_{k=0}^{n} Cost_k$$

Countywide

*Optimization approach reduces total implementation cost by targeting specific source areas across **locational** boundaries*



$$>> \quad Total\ Cost_{Targeted}$$

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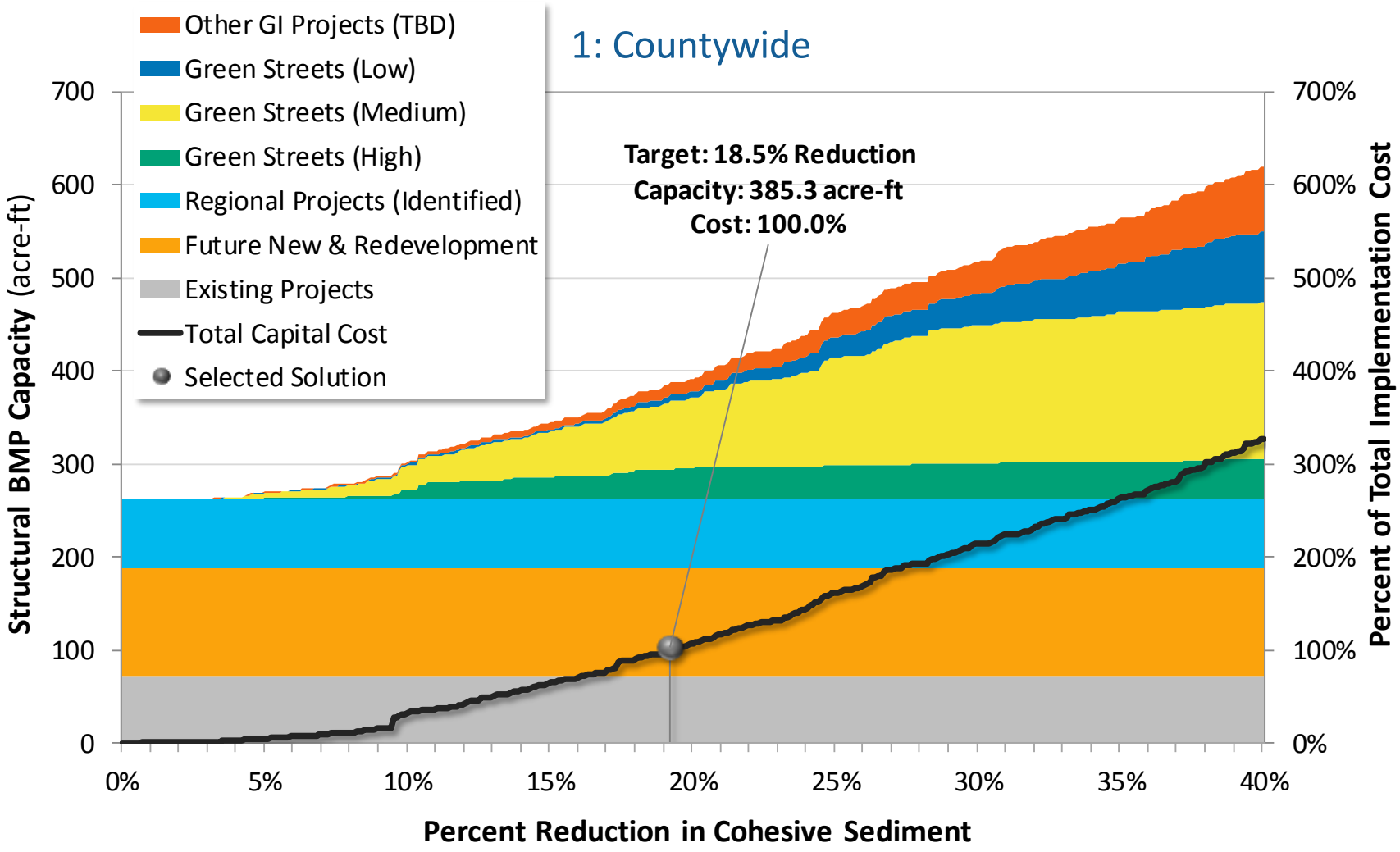

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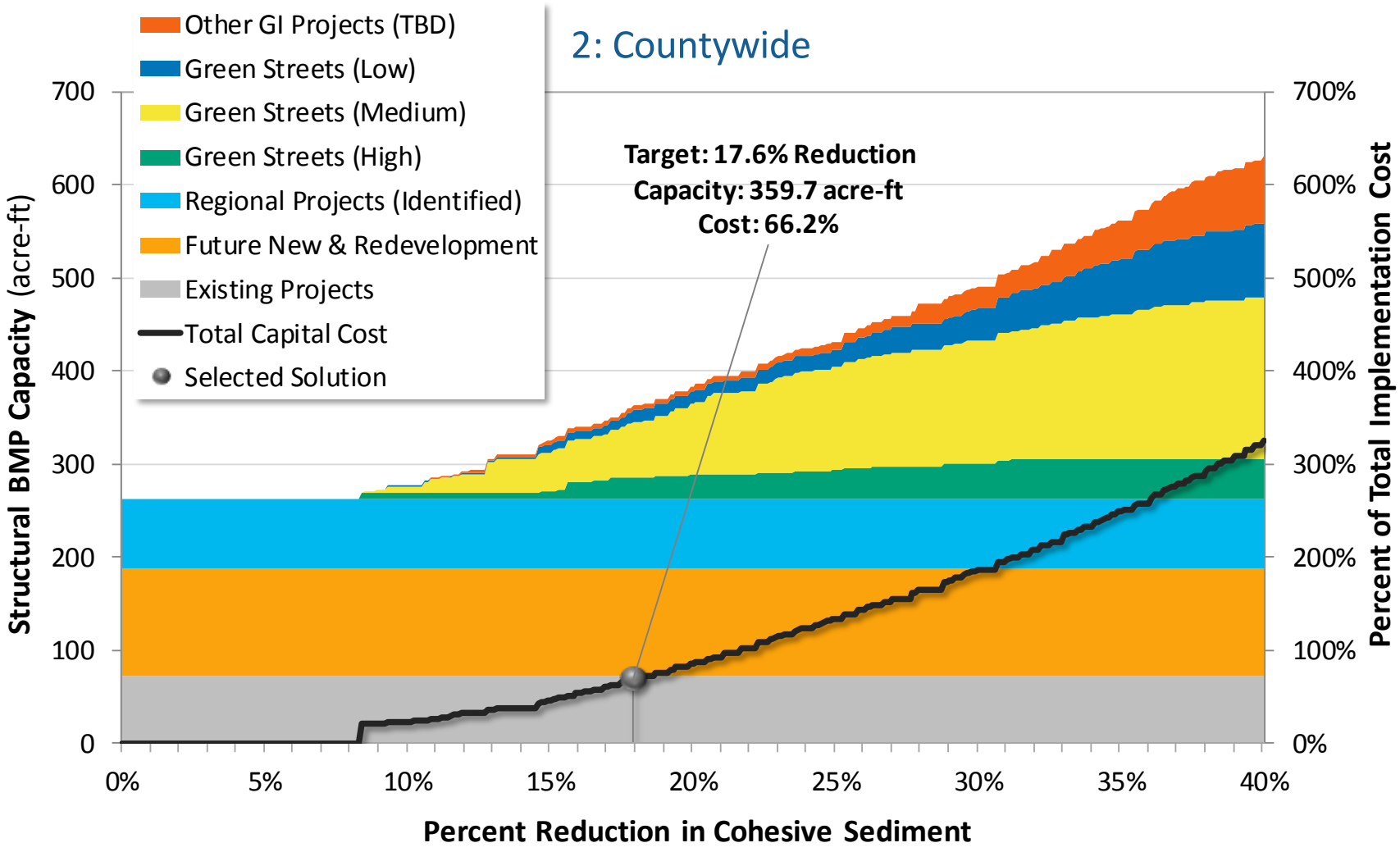

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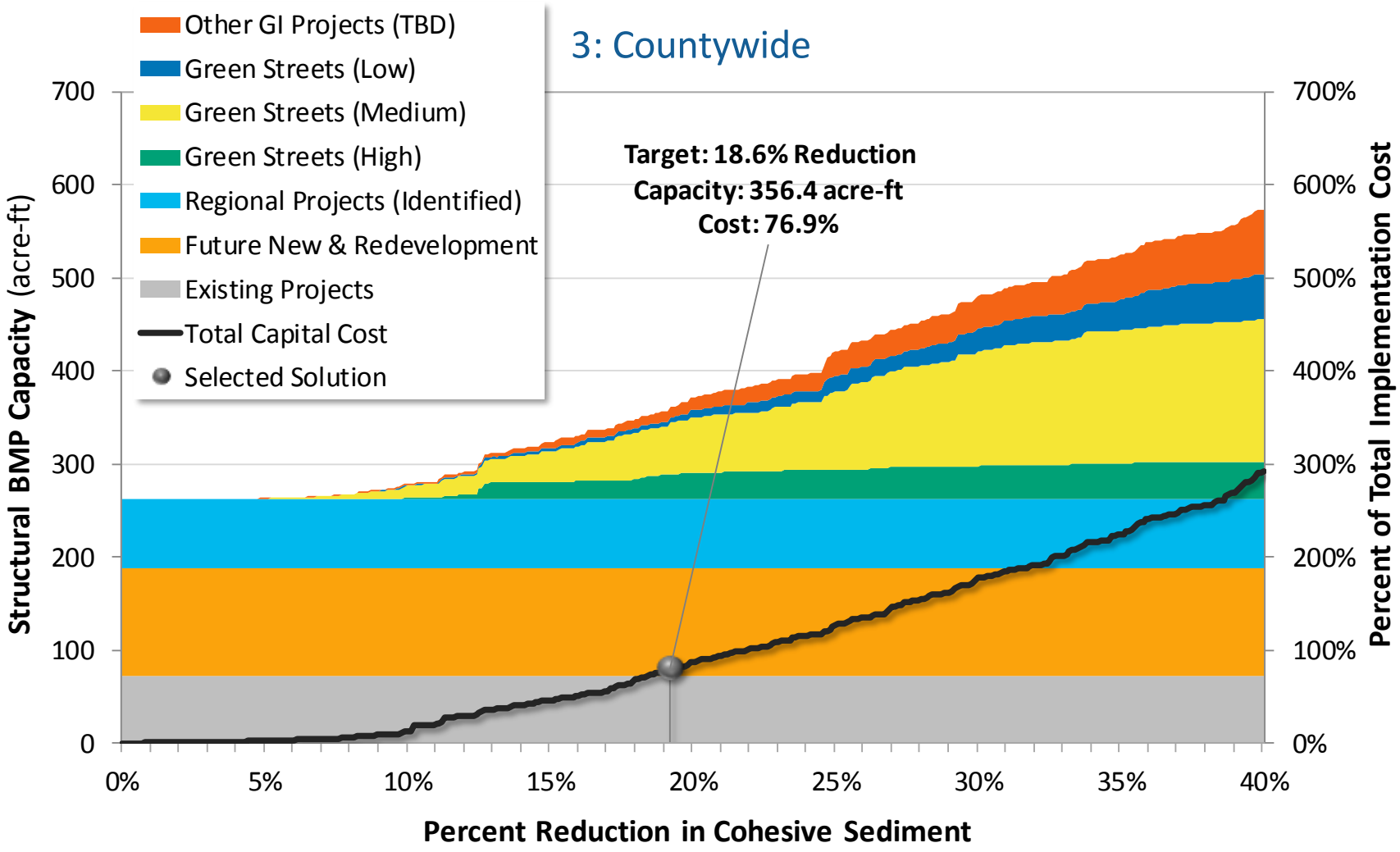

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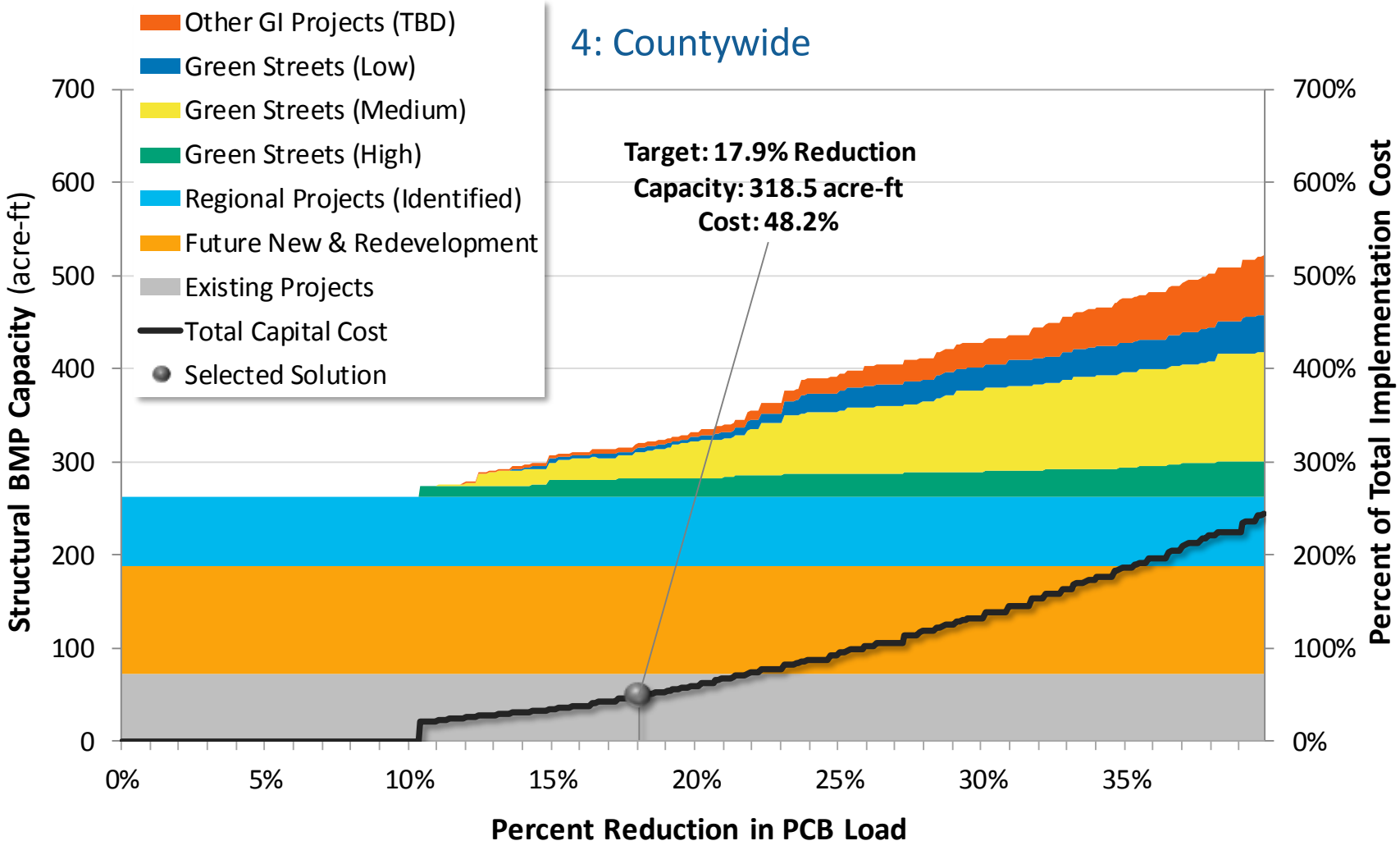
4: Countywide



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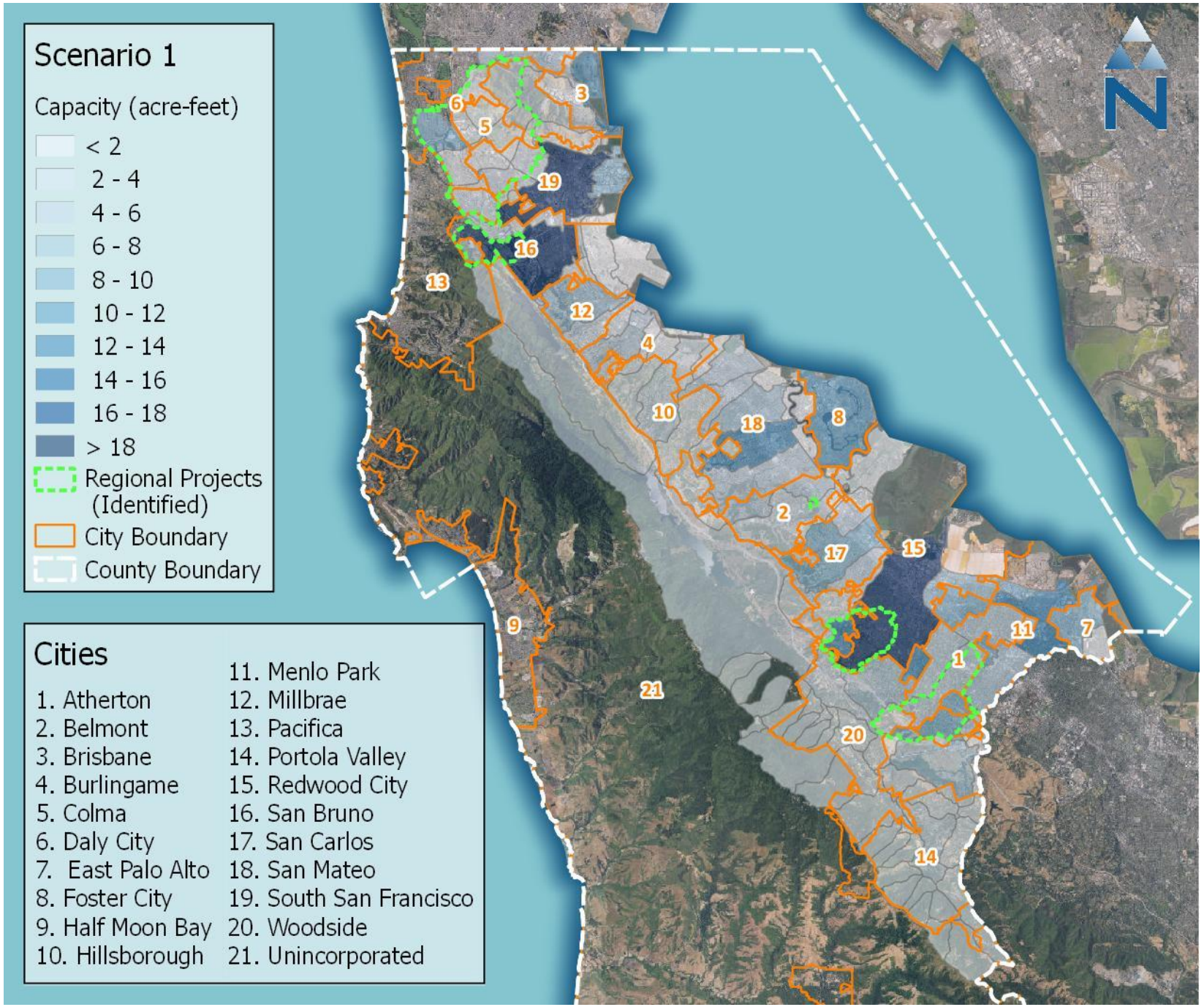

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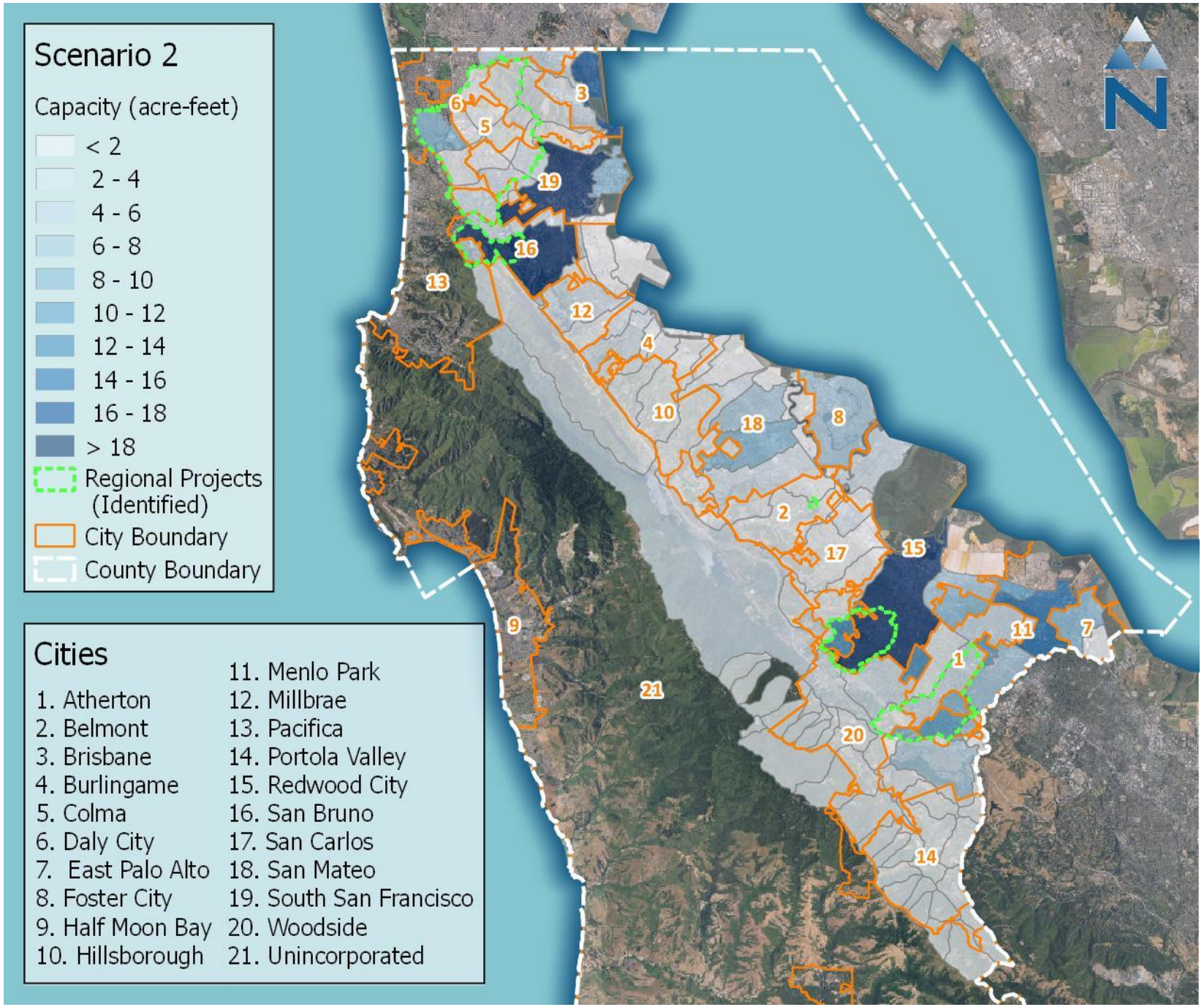

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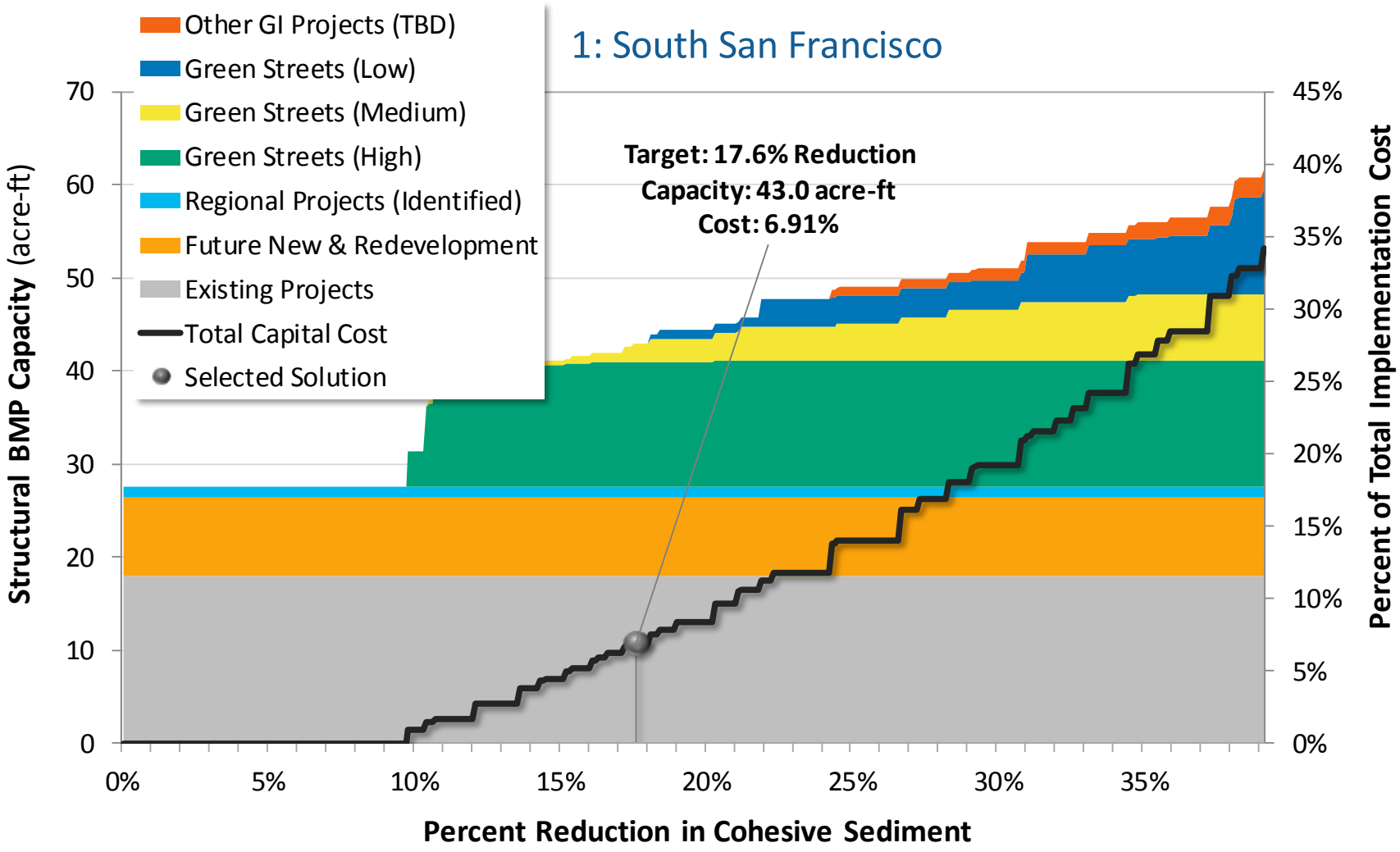

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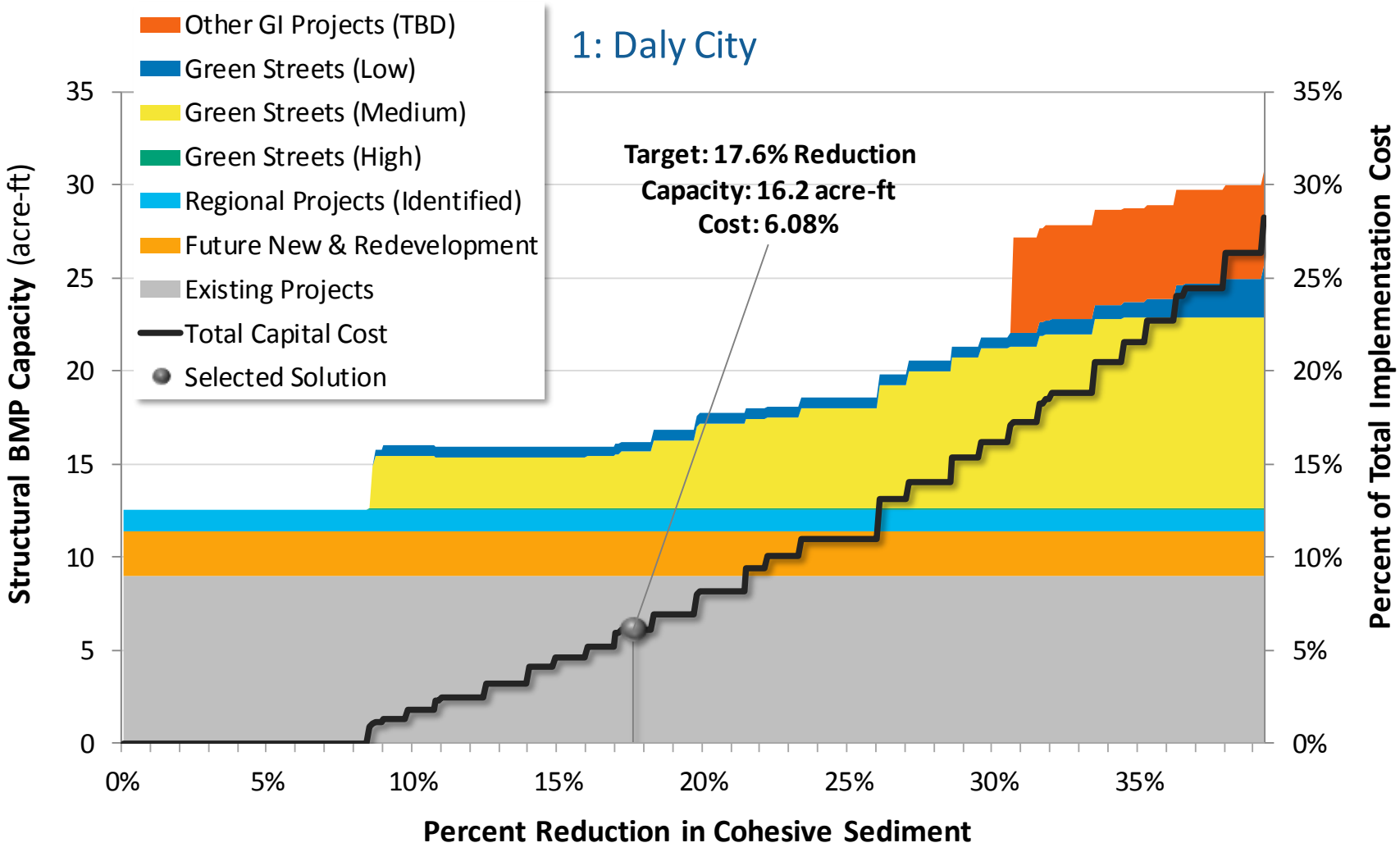

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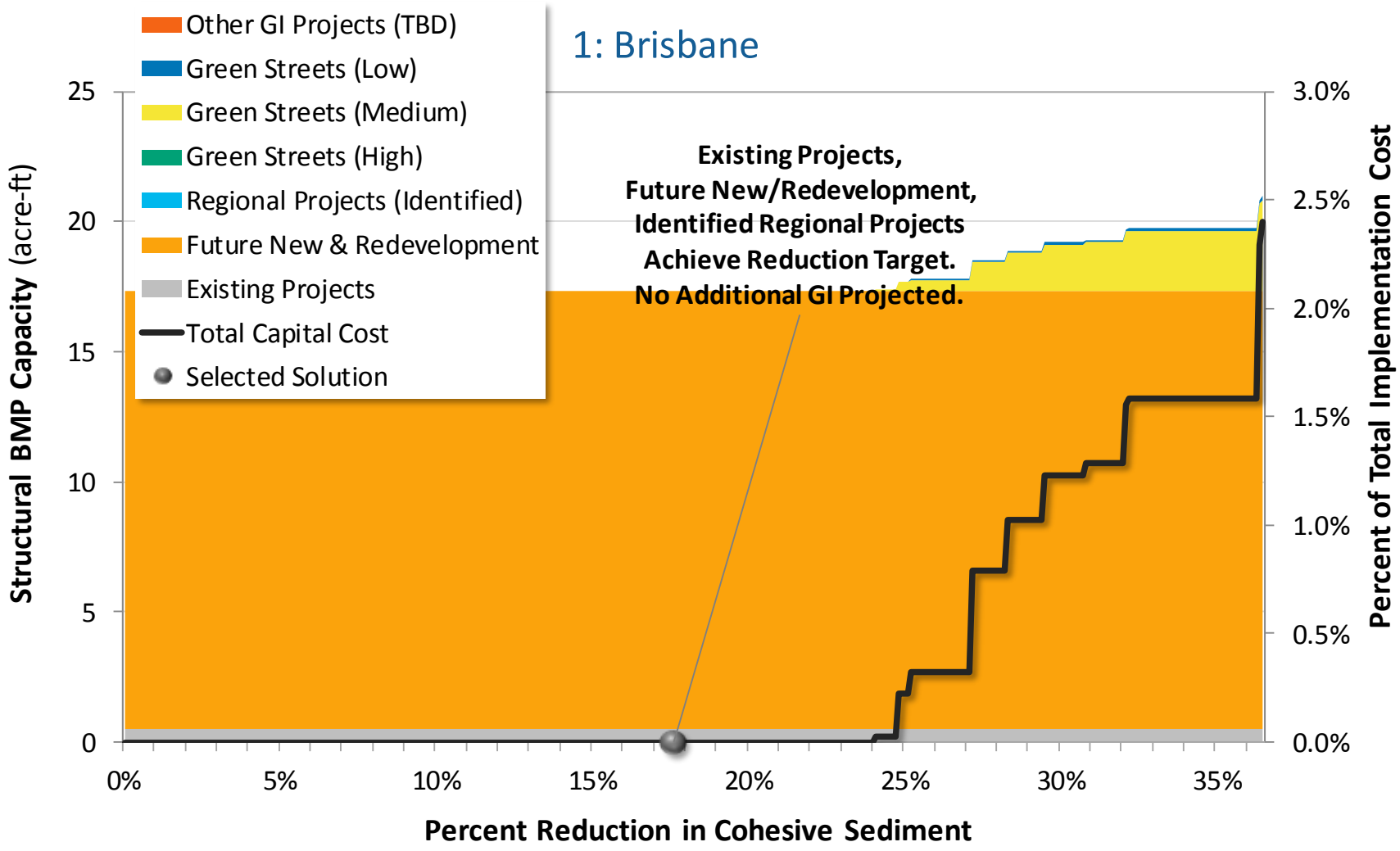

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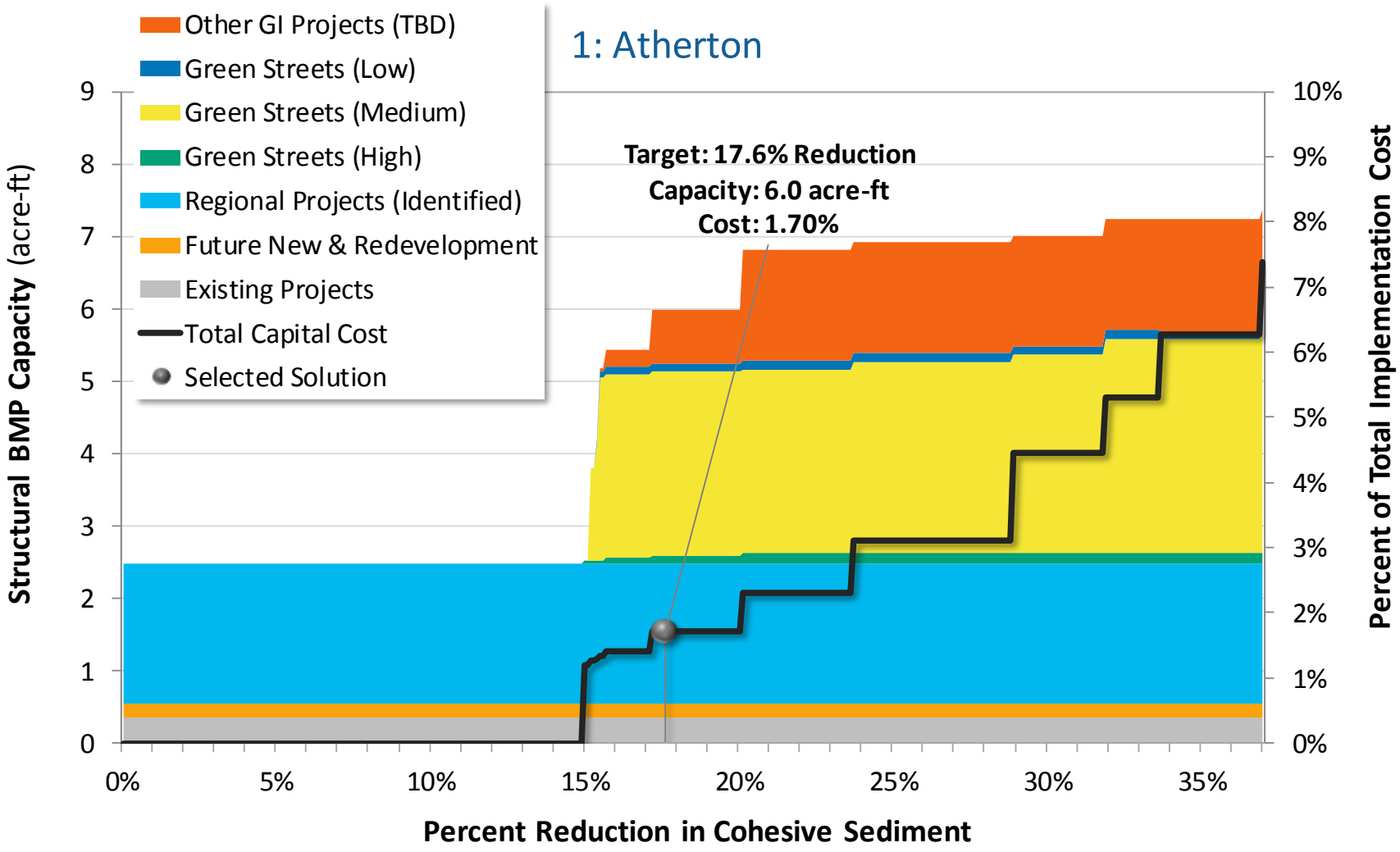

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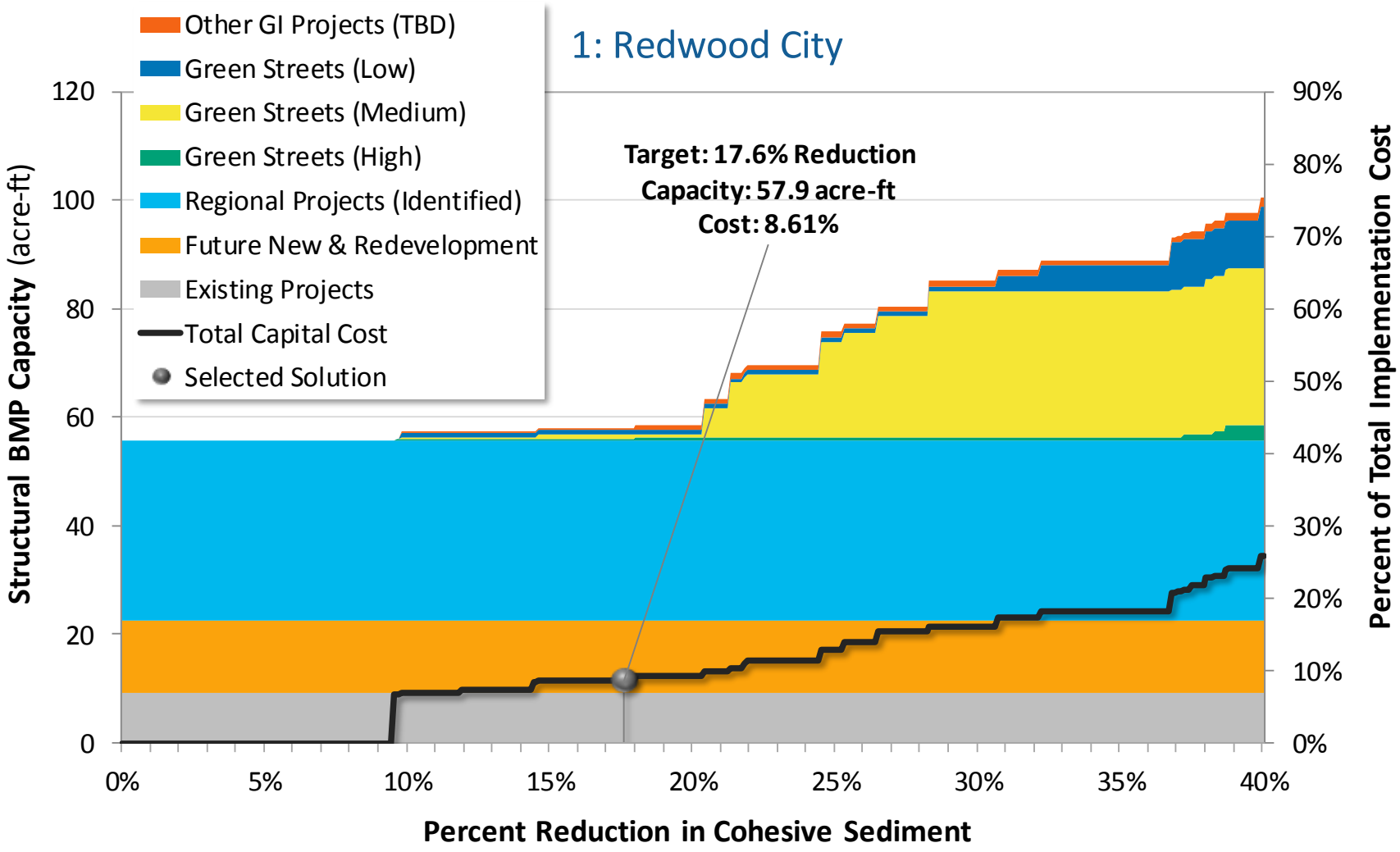

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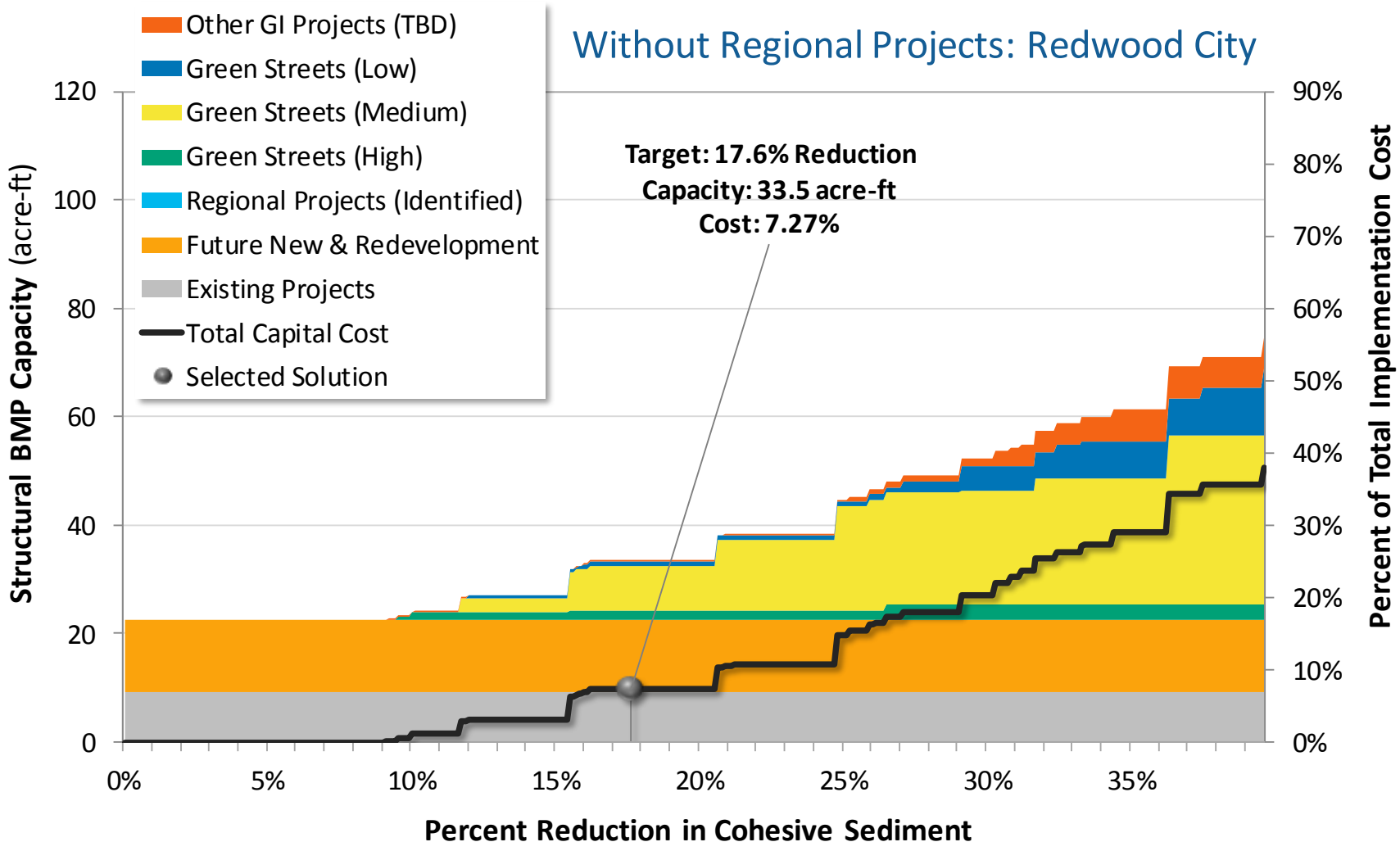

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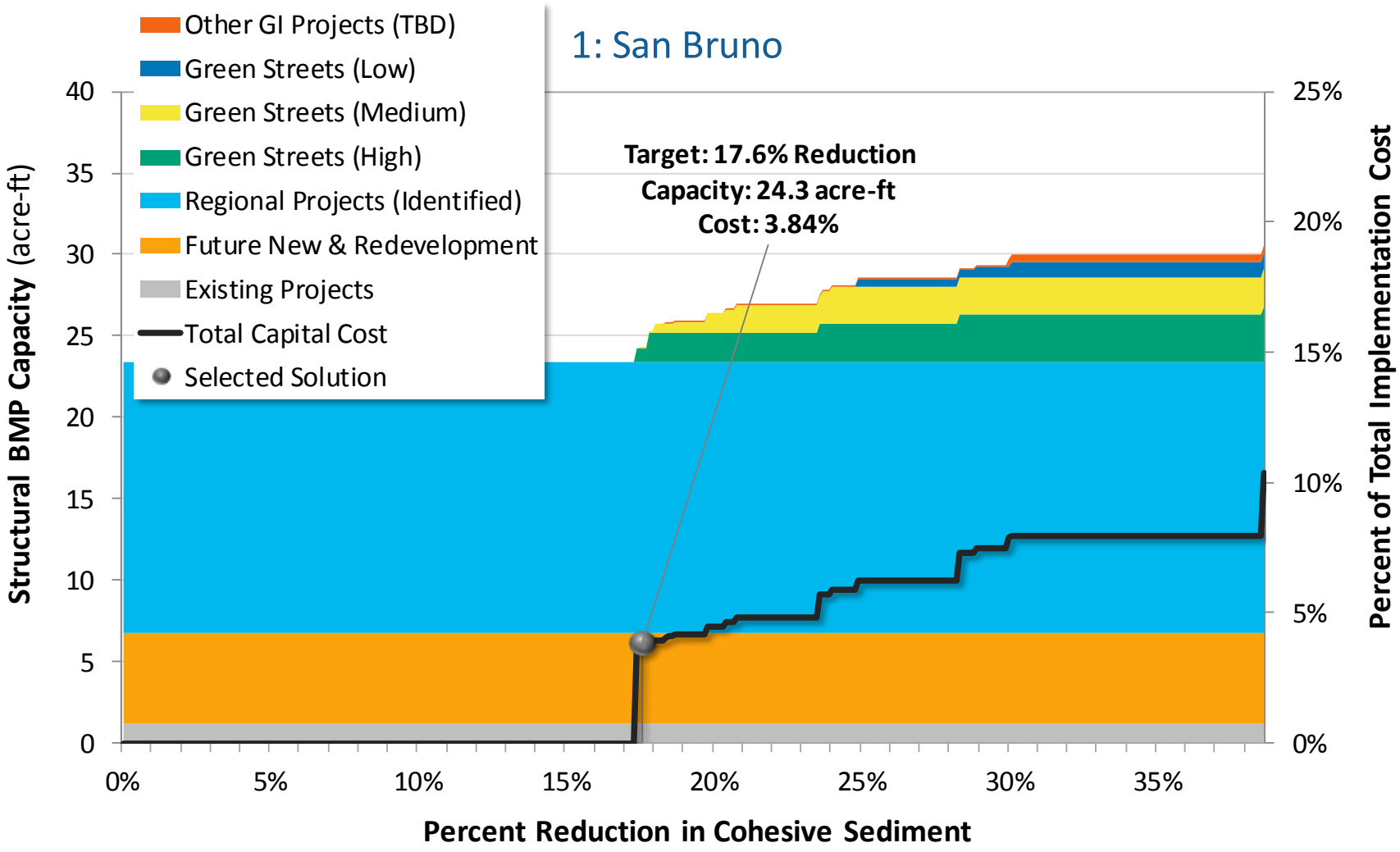

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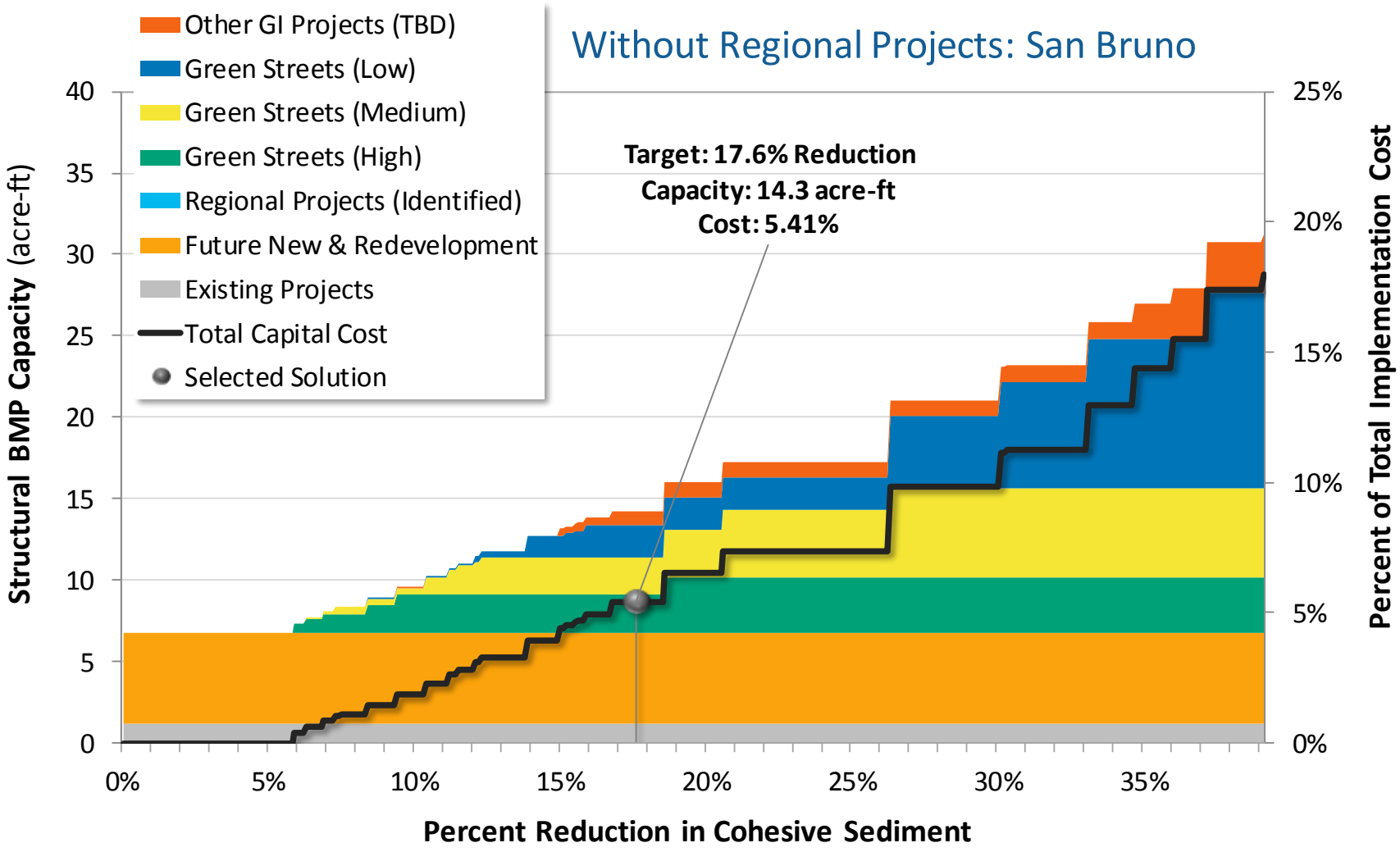

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“Recipes for Compliance”

Subwatershed ID	Management Metrics for GI			Green Infrastructure Capacity to Achieve 17.6% Reduction Target (Capacity expressed in units of acre-feet)							
				Existing/Planned			Green Streets				
	% Load Reduction PCBs (Annual)	Annual Volume Managed (acre-ft)	Impervious Area Treated (acres)	Existing Projects	Future New & Redevelopment	Regional Projects (Identified)	High	Medium	Low	Other GI Projects (TBD)	Total BMP Capacity (acre-ft)
Subwatershed ID	PCB Load Reduction	Volume Managed	Treated Impervious	Storage Capacity of Green Infrastructure (acre-feet)							Total
Total											

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South City: Scenario 1

Subwatershed ID	Management Metrics for GI			Green Infrastructure Capacity to Achieve 17.6% Reduction Target (Capacity expressed in units of acre-feet)							
				Existing/Planned			Green Streets				
	% Load Reduction PCBs (Annual)	Annual Volume Managed (acre-ft)	Impervious Area Treated (acres)	Existing Projects	Future New & Redevelopment	Regional Projects (Identified)	High	Medium	Low	Other GI Projects (TBD)	Total BMP Capacity (acre-ft)
232519	24%	4.67	4.55	0.15	0.10	--	0.08	0.00	--	--	**0.3**
232619	31%	0.29	0.07	--	0.01	--	--	0.01	0.01	0.00	**0.0**
240119	24%	3.67	321.35	10.40	4.09	0.01	9.43	0.30	--	--	**24.2**
240219	16%	68.00	25.93	0.18	0.80	0.25	1.26	--	--	--	**2.5**
240319	16%	165.61	28.27	0.74	1.07	0.61	1.38	--	--	--	**3.8**
240419	24%	37.28	9.66	0.05	0.14	0.09	0.38	--	--	--	**0.7**
240519	16%	83.65	14.14	0.14	0.38	0.31	0.87	--	--	--	**1.7**
250119	27%	150.75	161.72	5.91	1.21	--	0.00	1.84	0.49	--	**9.5**
250219	16%	13.46	9.87	0.30	0.58	--	0.00	0.19	--	--	**1.1**
250319	3%	0.79	1.32	--	0.08	--	--	--	--	--	**0.1**
Total	**18.0%**	**528.2**	**576.9**	**17.9**	**8.5**	**1.3**	**13.4**	**2.3**	**0.5**	**0.0**	**43.8**

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Comparing Scenarios

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Load Reduction Objective	Percent of Total GI Cost to Achieve Reduction Objective		
	Jurisdictional	Countywide	*Total Savings (Jurisdictional vs. Countywide)*
Cohesive Sediment 17.6% Reduction	**Scenario 1: 100%**	**Scenario 2: 66%**	34%
Total PCBs 17.6% Reduction	**Scenario 3: 77%**	**Scenario 4: 48%**	29%
Total Savings (Sediment vs. PCBs)	23%	18%	52%

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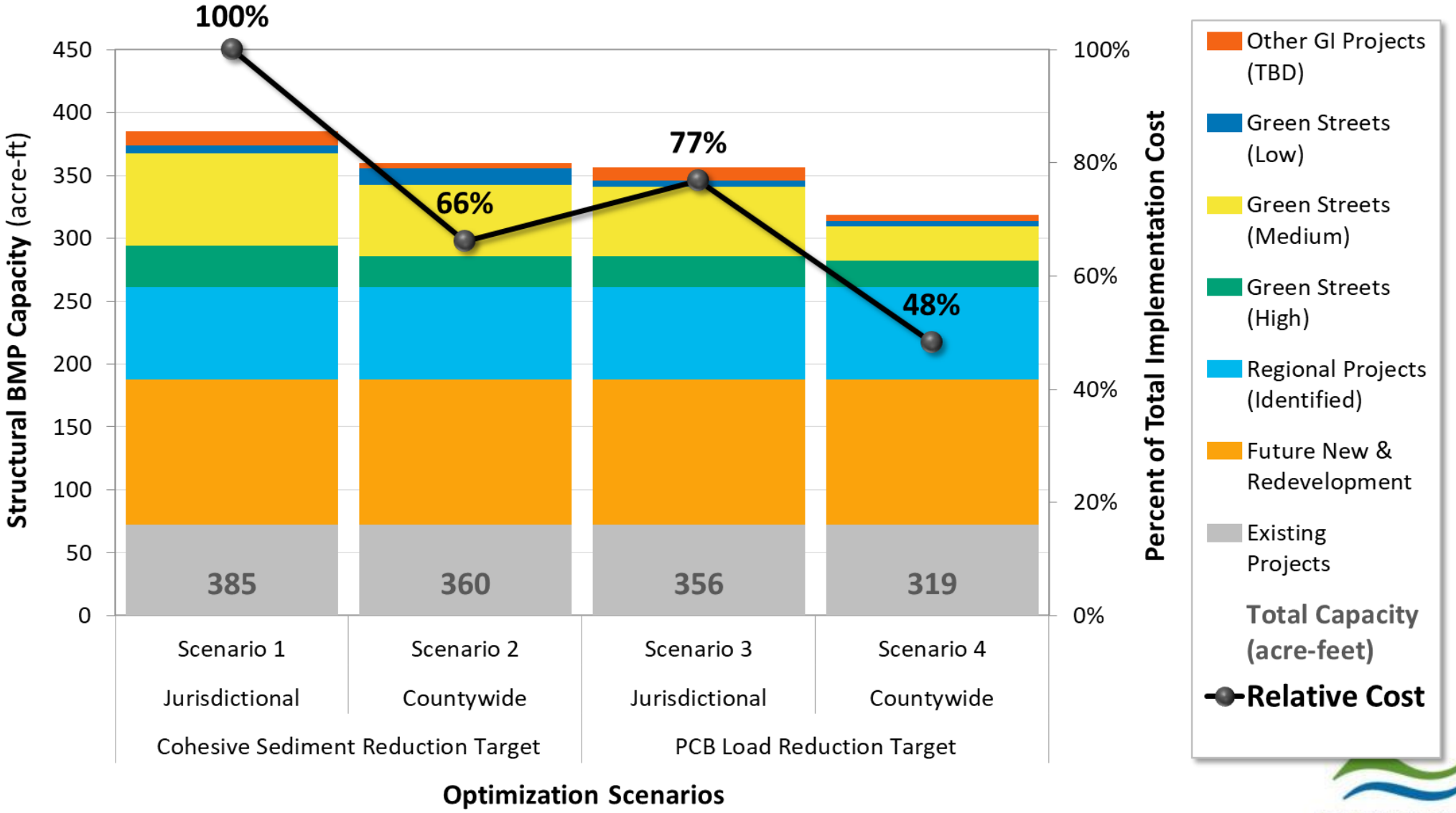

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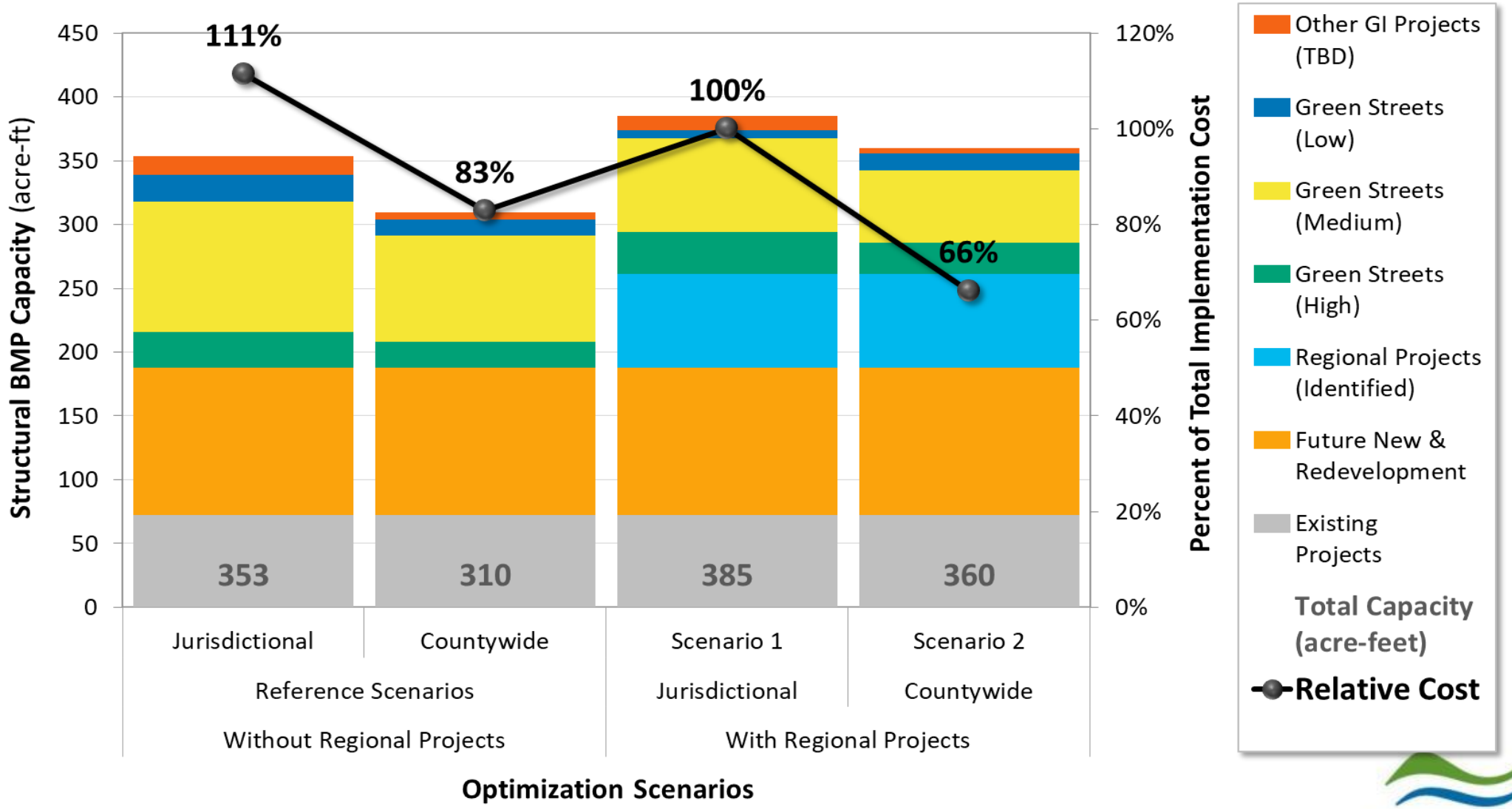

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Phased Implementation

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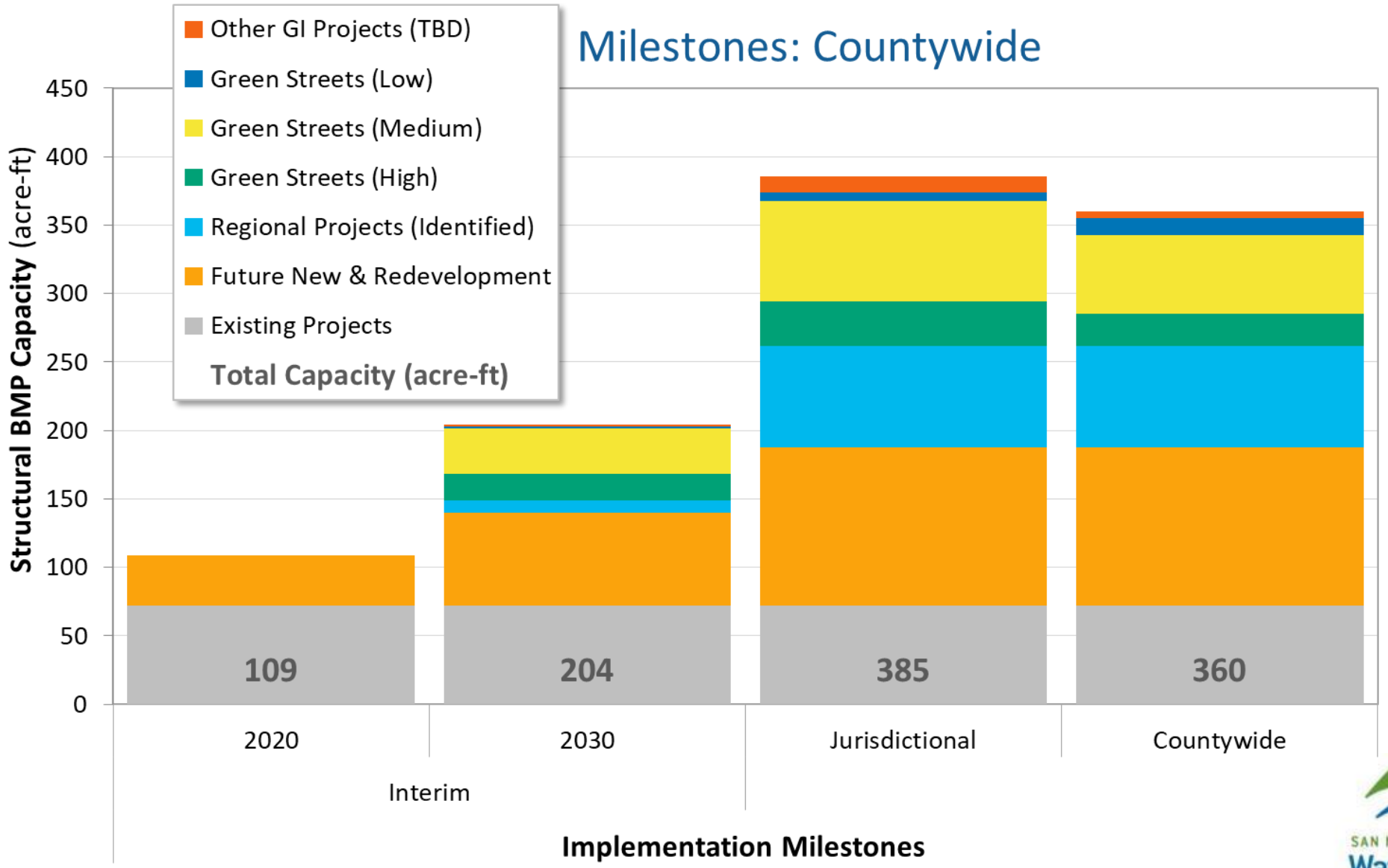

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Phased Implementation

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Implementation Metrics		Implementation Milestones: Countywide					
		Incremental		Cumulative		Final 2040	
		2020-2030	2030-2040	2020	2030	Jurisdictional	Countywide
Index	% Load Reduction	5.4%	6.8%	6.3%	11.7%	18.5%	17.6%
	Volume Managed (acre-ft/yr)	1,291.1	1,627.9	1,574.2	2,865.3	4,493.2	3,701.3
	Treated Impervious (acres)	627.0	1,945.8	916.3	1,543.2	3,489.1	3,395.7
Capacities (acre-ft)	Existing Projects	0.0	0.0	72.1	72.1	72.1	72.1
	Future New & Redevelopment	30.9	48.3	36.6	67.5	115.8	115.8
	Regional Projects (Identified)	--	64.6	--	9.0	73.6	73.6
	Green Streets (High)	--	12.6	--	20.0	32.6	24.0
	Green Streets (Medium)	--	40.7	--	32.9	73.6	57.1
	Green Streets (Low)	--	4.5	--	1.4	5.9	12.8
	Other GI Projects (TBD)	--	10.6	--	1.2	11.8	4.3
	Total	**30.9**	**181.3**	**108.7**	**204.0**	**385.3**	**359.7**

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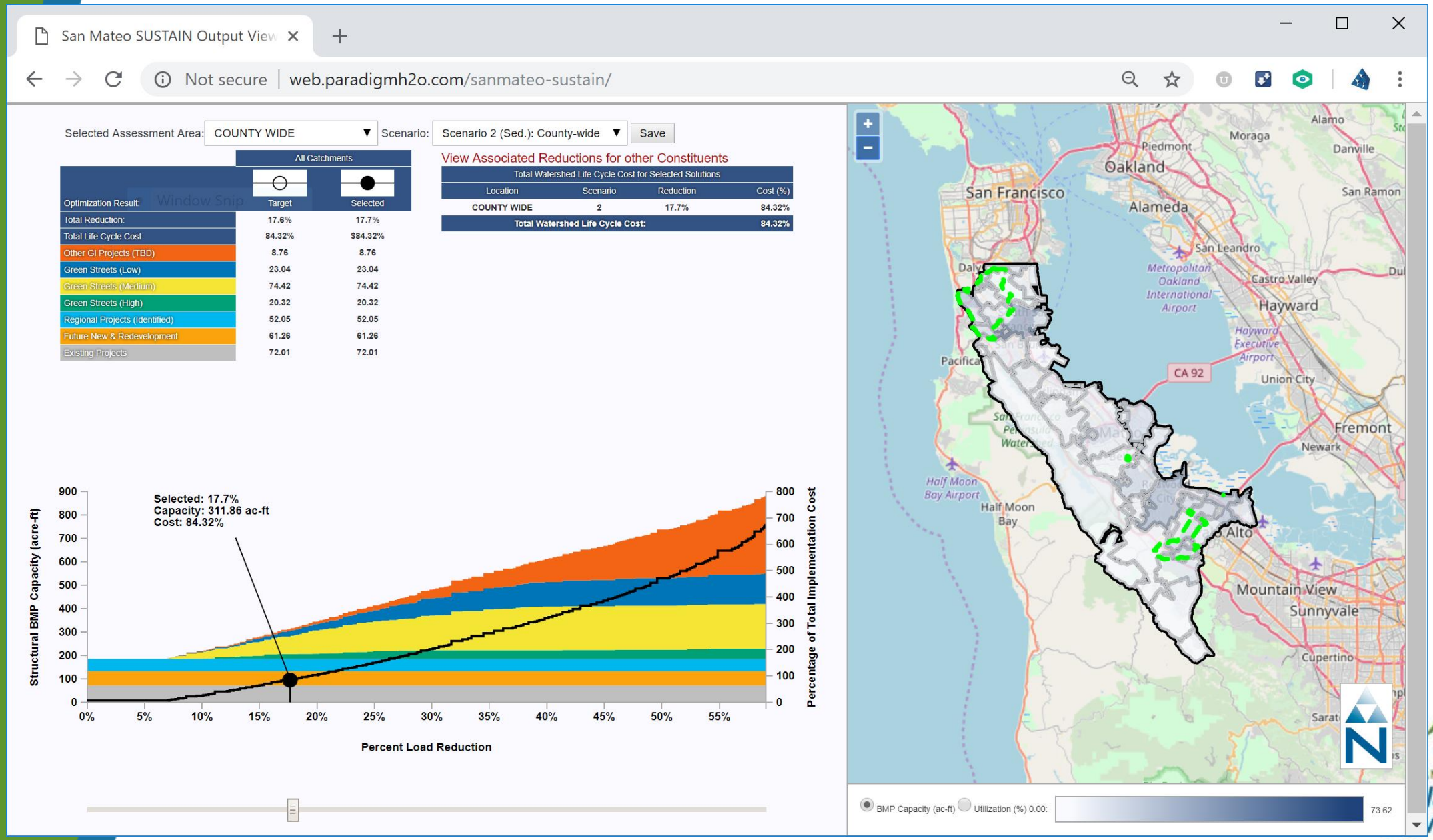
Web-Based Viewer



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Next Steps

- Agency review of revised RAA results
- Planning a WebEx to discuss/answer questions
- Incorporation into GI Plans
  - “Goals” for GI implementation
  - Adaptive Management Approach
- Phase II Modeling Report
- Peer Review
- Coordination with Sustainable Streets Master Plan
- TMDL Implementation Plan (2020)

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