



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.

Baseline MRP Load

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Land Use Group	Modeled PCB Load by Source (g/year)			
	Caltrans	Industrial General Permit	MRP	Other NPDES (Industrial, Phase II)
Open Space	0.01	0.02	1.1	0.03
Urban	80	90	1,300	225


Non-MRP Load: **395 g/year**

MRP Load

PCB Reduction Target for GI

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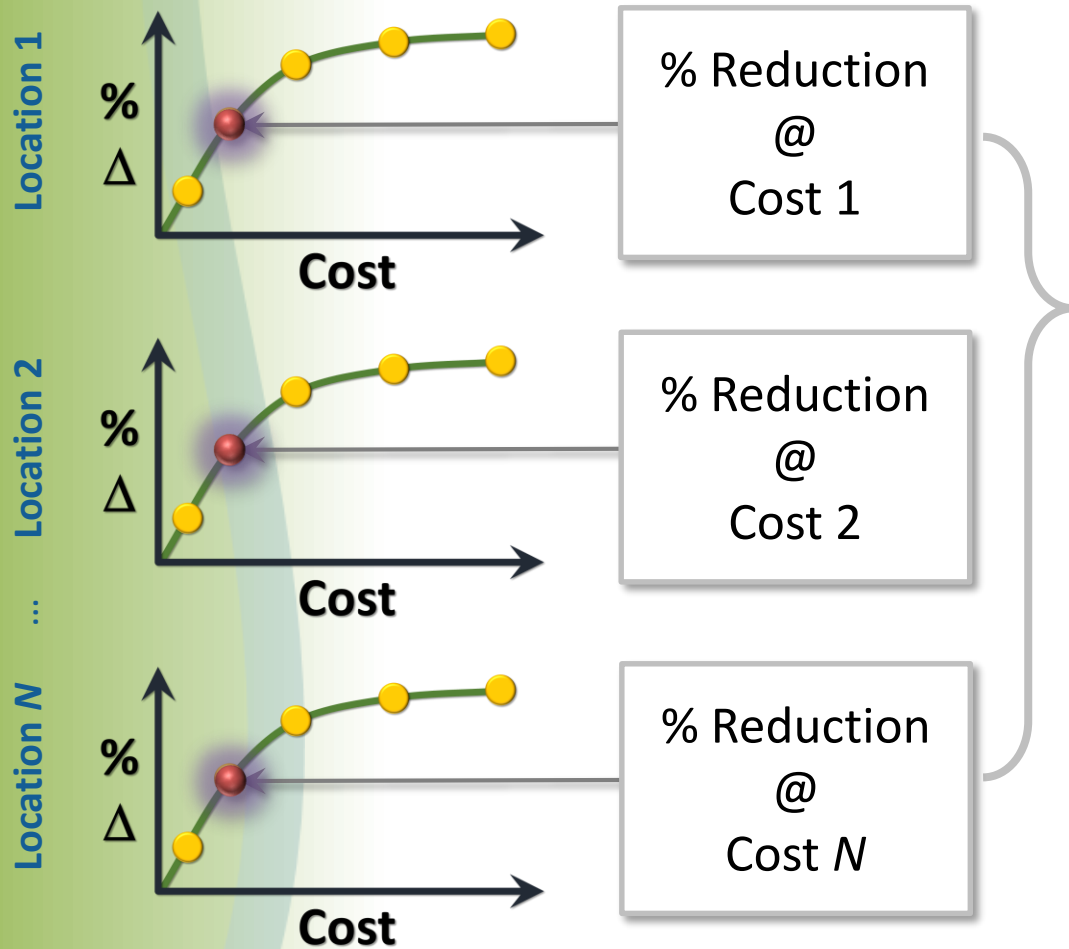
1	2	3: From TMDL	4 = 2 - 3	5 = 4 / 2
Source	Existing PCB Load (kg/year)	PCB Wasteload Allocation (kg/year)	PCB Load Reduction (kg/year)	Percent Reduction
SMC loads based on RAA	1.3	0.2	1.1	84.6%
Load Reduction Achieved Through GI (20.8%)			0.23	17.6%

 Based on Bay TMDL

 Based on SFEI RWSM

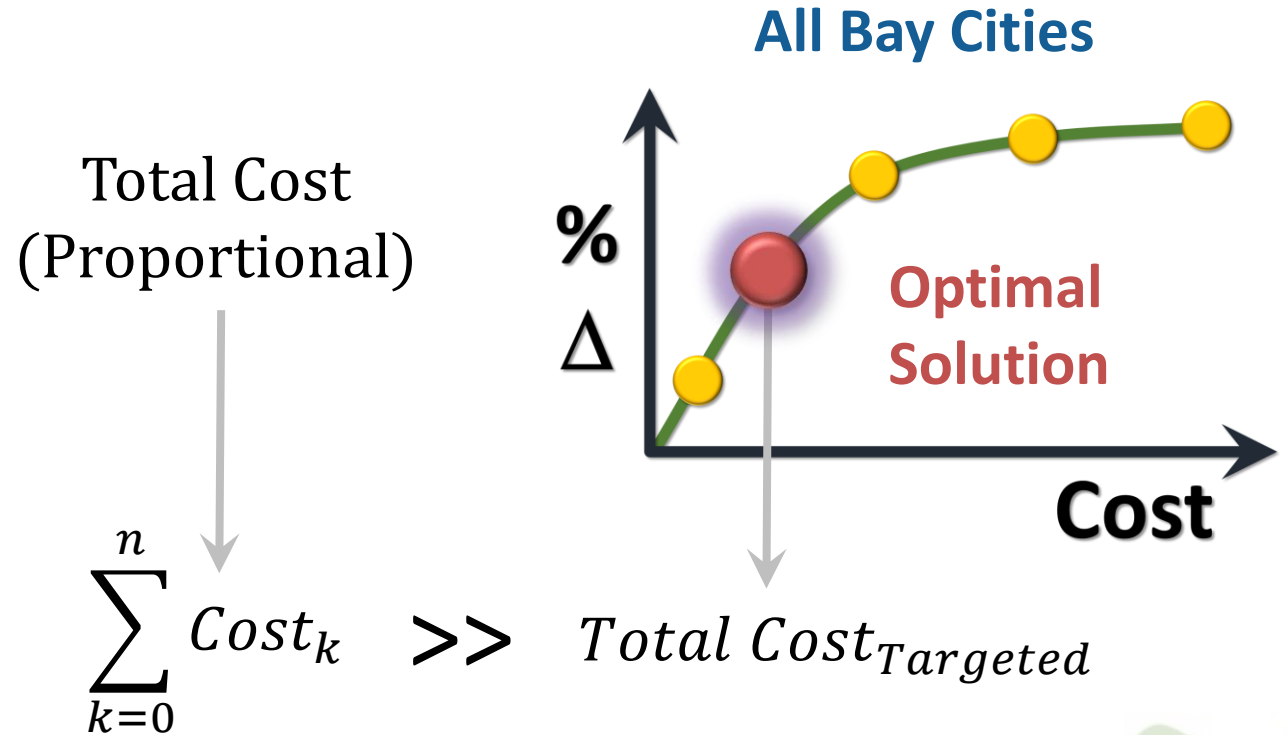
Proportional

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

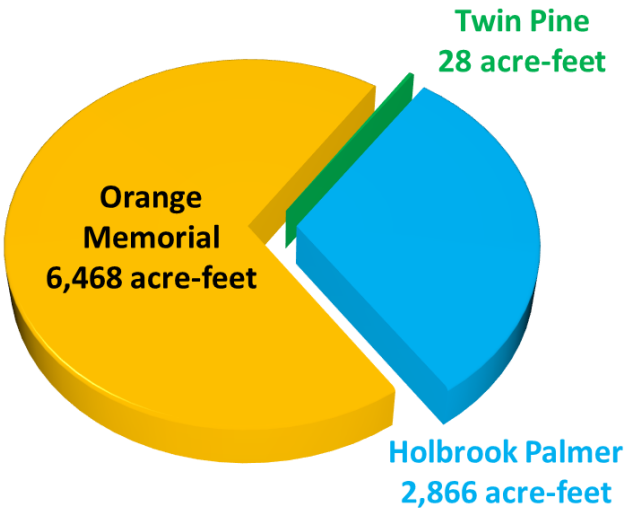


Targeted

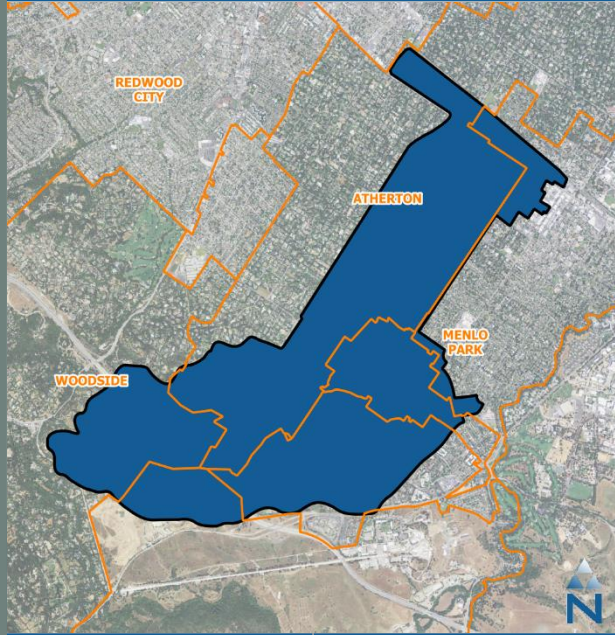
Optimization approach reduces total implementation cost by targeting specific source areas across **locational** boundaries



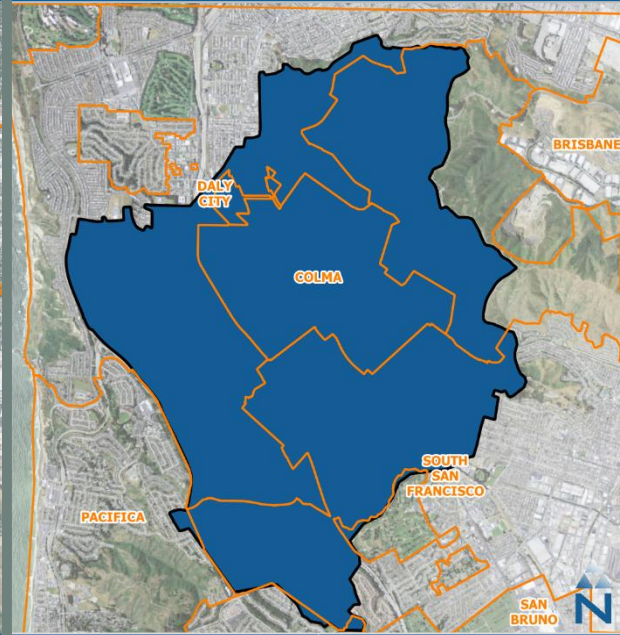
Drainage Areas (Regional)



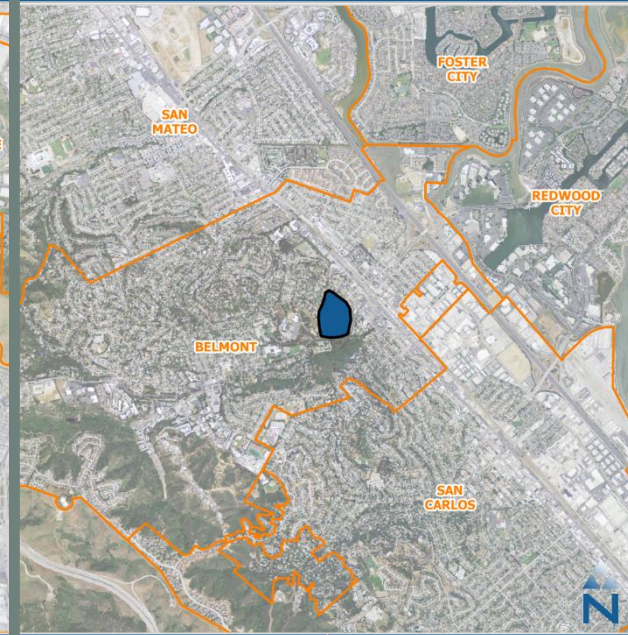
Holbrook Palmer



Orange Memorial



Twin Pine



Jurisdiction	Total Area (Acres)	Acres	%	Acres	%	Acres	%
Atherton	703	703	24%	--	--	--	--
Belmont	28	--	--	--	--	28	100%
Colma	1,225	--	--	1,225	19%	--	--
Daly City	2,054	--	--	2,054	32%	--	--
Menlo Park	1,297	1,297	45%	--	--	--	--
<i>Pacifica</i>	<i>18</i>	--	--	<i>18</i>	<i>0.3%</i>	--	--
<i>San Bruno</i>	<i>21</i>	--	--	<i>21</i>	<i>0.3%</i>	--	--
South San Francisco	1,913	--	--	1,913	30%	--	--
Woodside	420	420	15%	--	--	--	--
San Mateo County	1,683	446	16%	1,237	19%	--	--
Total	9,362	2,866	100%	6,468	100%	28	100%

Modeling Scenarios

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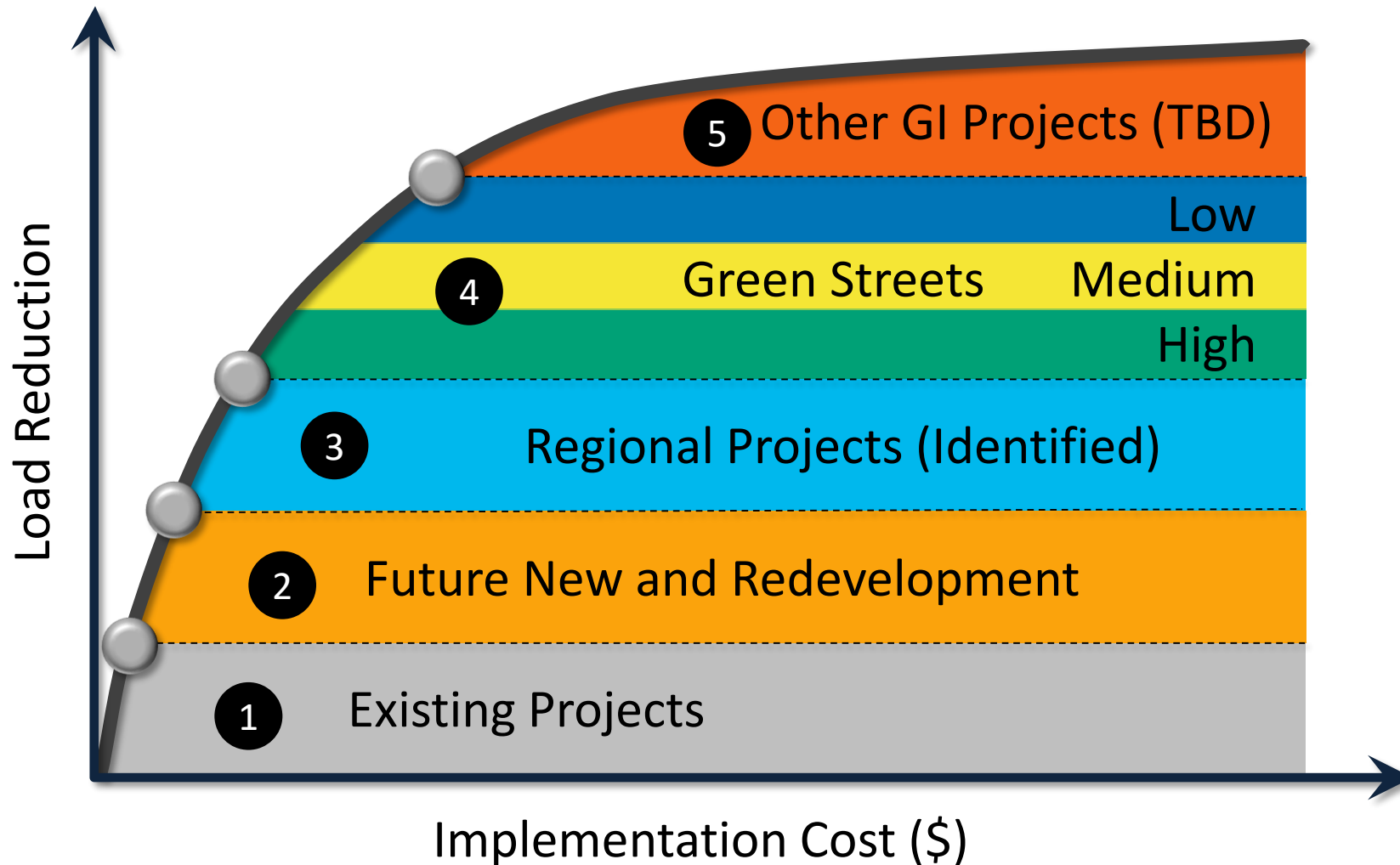
Assessment Point	Percent of Total GI Cost to Achieve 17.6% Total PCB Reduction		
	Proportional (By Jurisdiction)	Targeted (County Wide)	Total Savings (Proportional vs. Targeted)
Before Identified Regional Projects	Scenario 1	Scenario 3	→ Savings
After Identified Regional Projects	Scenario 2	Scenario 4	→ Savings
Total Savings (Regional Projects)	↓ Savings	↓ Savings	↘ Overall Savings

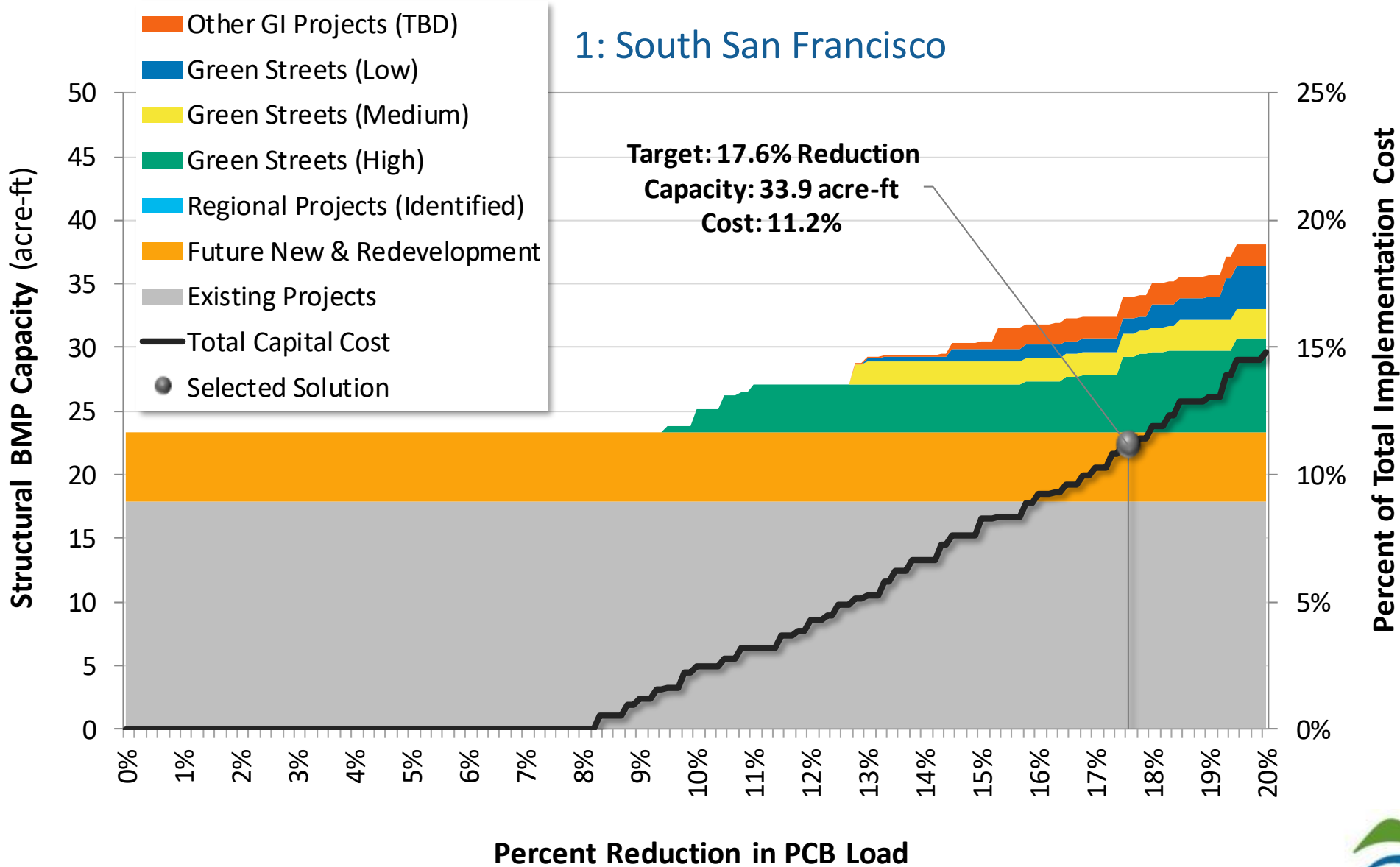
Comparing Scenarios

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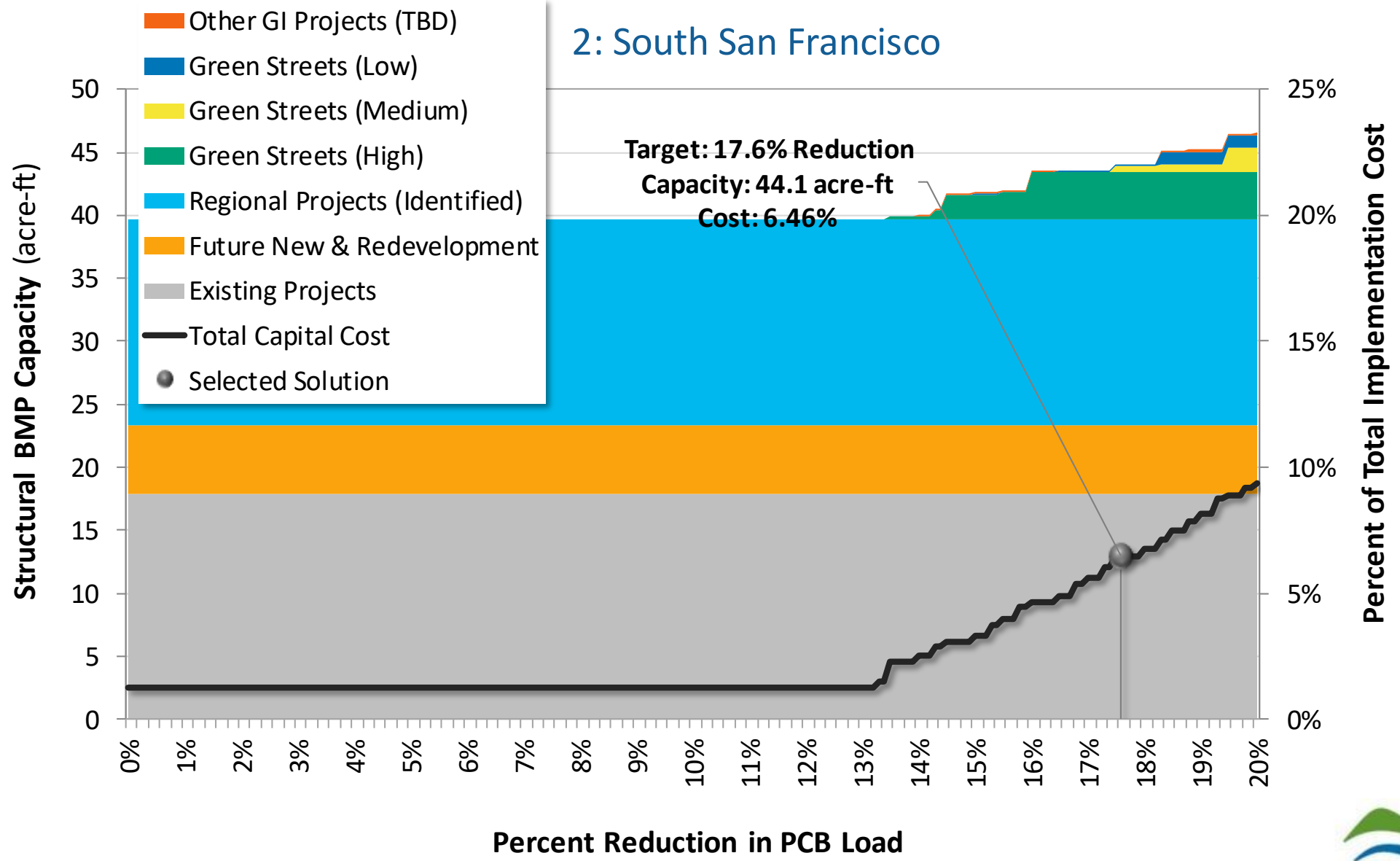
Assessment Point	Percent of Total GI Cost to Achieve 17.6% Total PCB Reduction		
	Proportional (By Jurisdiction)	Targeted (County Wide)	Total Savings (Proportional vs. Targeted)
<u>Before</u> Identified Regional Projects	100%		→ Savings
<u>After</u> Identified Regional Projects			→ Savings
Total Savings (Regional Projects)	↓ Savings	↓ Savings	↘ Overall Savings

GI Opportunity & Sequence





2: South San Francisco



“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)							
	% Load Reduction PCBs (Annual)	Annual Volume Managed (acre-ft)	Existing/Planned			Green Streets			Other GI Projects (TBD)	Total BMP Capacity (acre-ft)
			Existing Projects	Future New & Redevelopment	Regional Projects (Identified)	High	Medium	Low		
Subwatershed ID	PCB Load Reduction	Volume Managed								

Storage Capacity of Green Infrastructure (acre-feet)

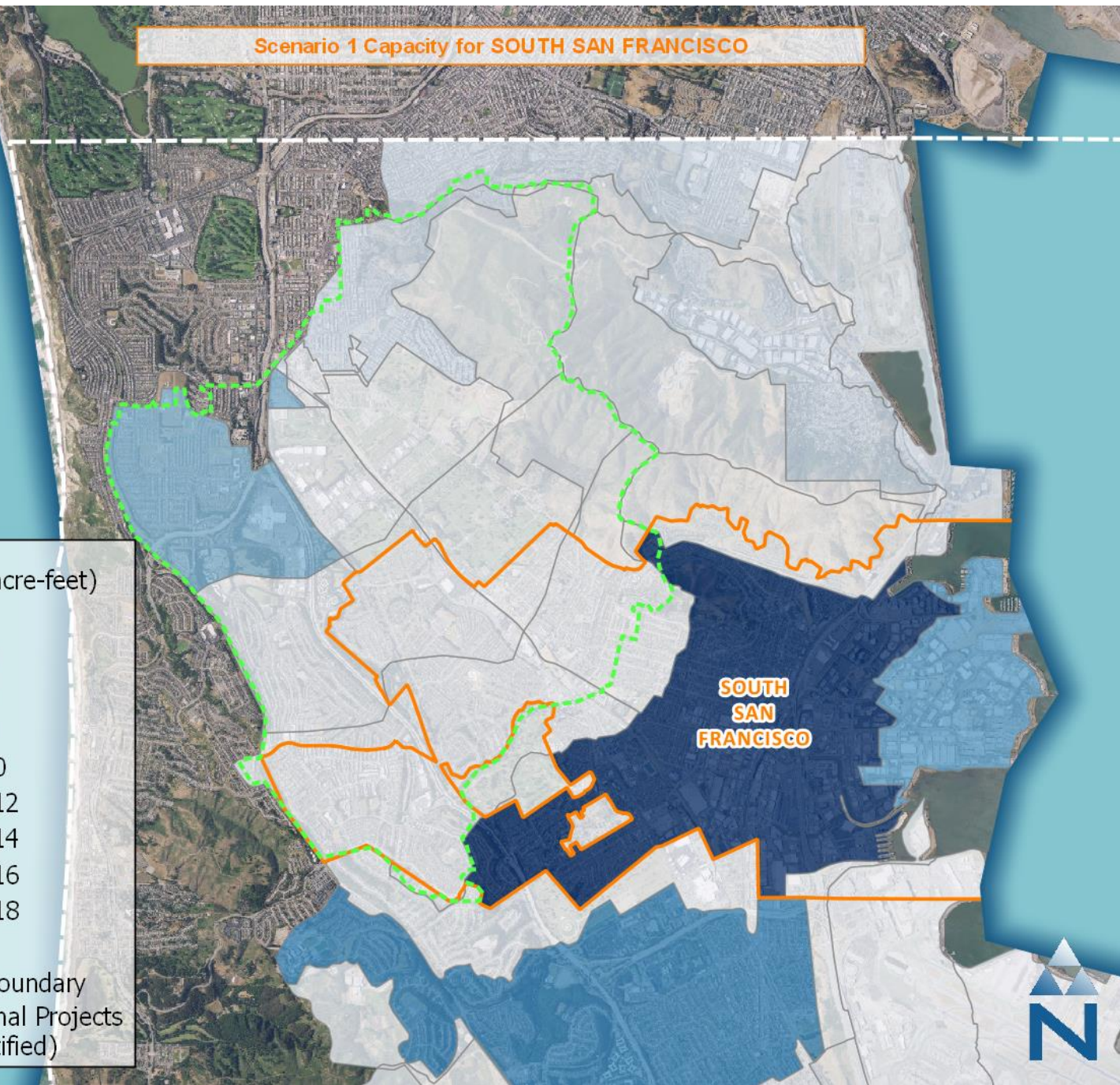
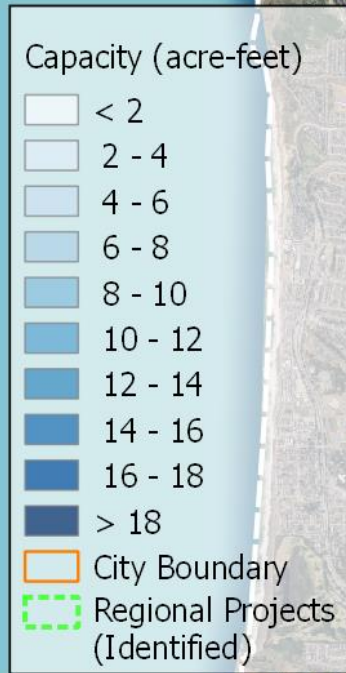
South City: Scenario 1

Subwatershed ID	Management Metrics for GI		Green Infrastructure Capacity to Achieve 17.6% Reduction Target (Capacity expressed in units of acre-feet)							
	% Load Reduction PCBs (Annual)	Annual Volume Managed (acre-ft)	Existing/Planned			Green Streets			Other GI Projects (TBD)	Total BMP Capacity (acre-ft)
			Existing Projects	Future New & Redevelopment	Regional Projects (Identified)	High	Medium	Low		
232519	26%	1.1	0.15	0.05	--	0.08	0.01	0.10	0.05	0.4
232619	2%	0.02	--	0.00	--	--	0.01	--	--	0.0
240119	2%	55	10.40	2.60	--	5.69	--	--	--	18.7
240219	0%	2	0.18	0.60	--	--	--	--	--	0.8
240319	0%	3	0.74	0.74	--	--	--	--	--	1.5
240419	1%	1.2	0.05	0.11	--	0.22	--	--	--	0.4
240519	0%	1	0.14	0.28	--	--	--	--	--	0.4
250119	15%	29	5.91	0.66	--	0.01	1.85	0.98	1.55	11.0
250219	23%	3.3	0.30	0.32	--	0.00	0.48	0.01	0.21	1.3
250319	19%	0.6	--	0.04	--	--	--	0.02	0.11	0.2
Total	17.8%	95.3	17.9	5.4	--	6.0	2.3	1.1	1.9	34.6

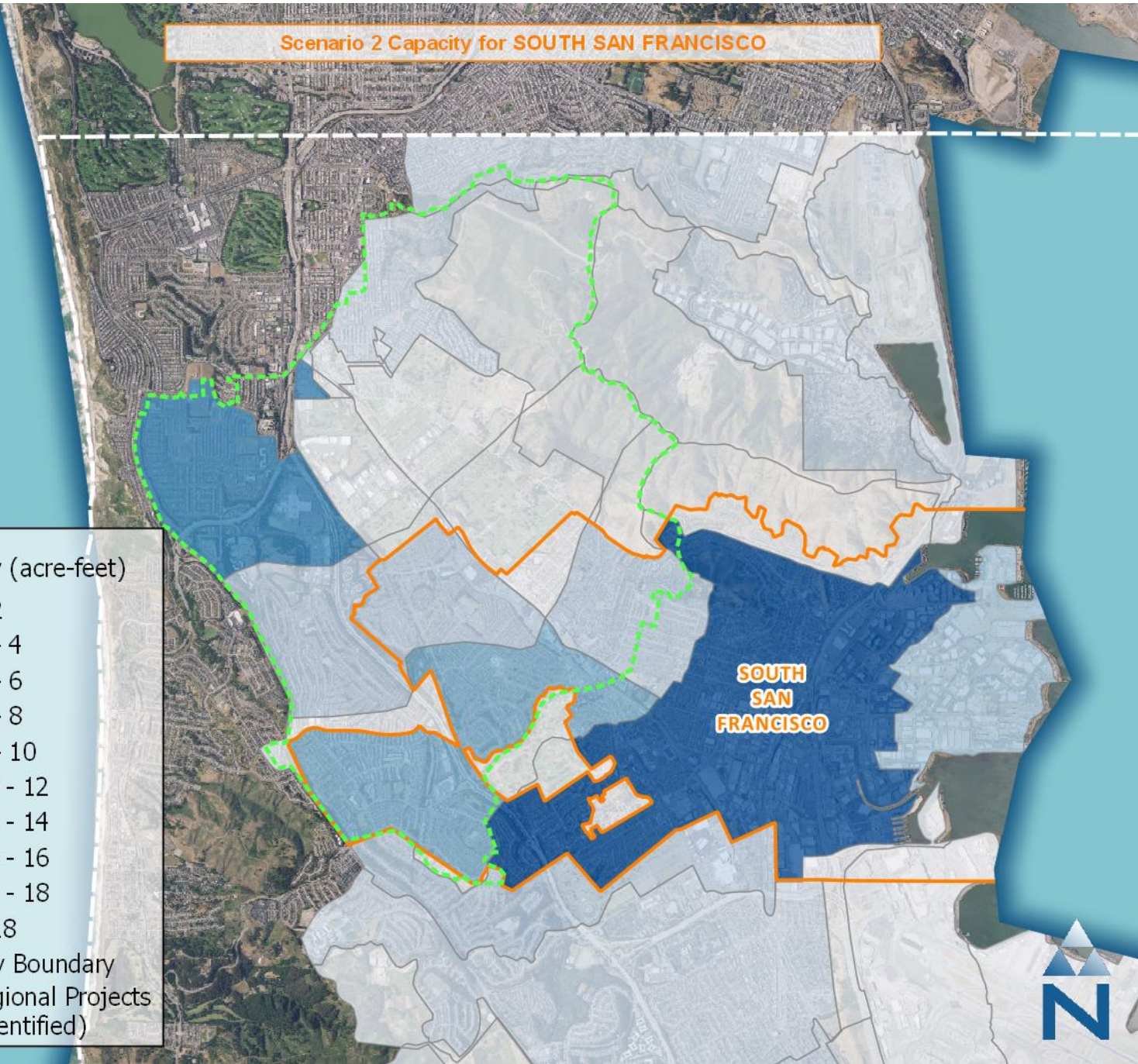
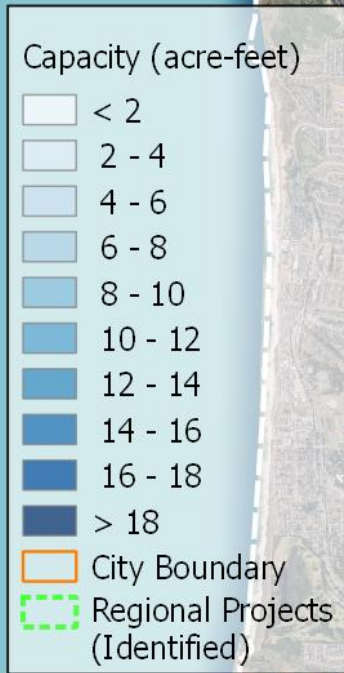
South City: Scenario 2

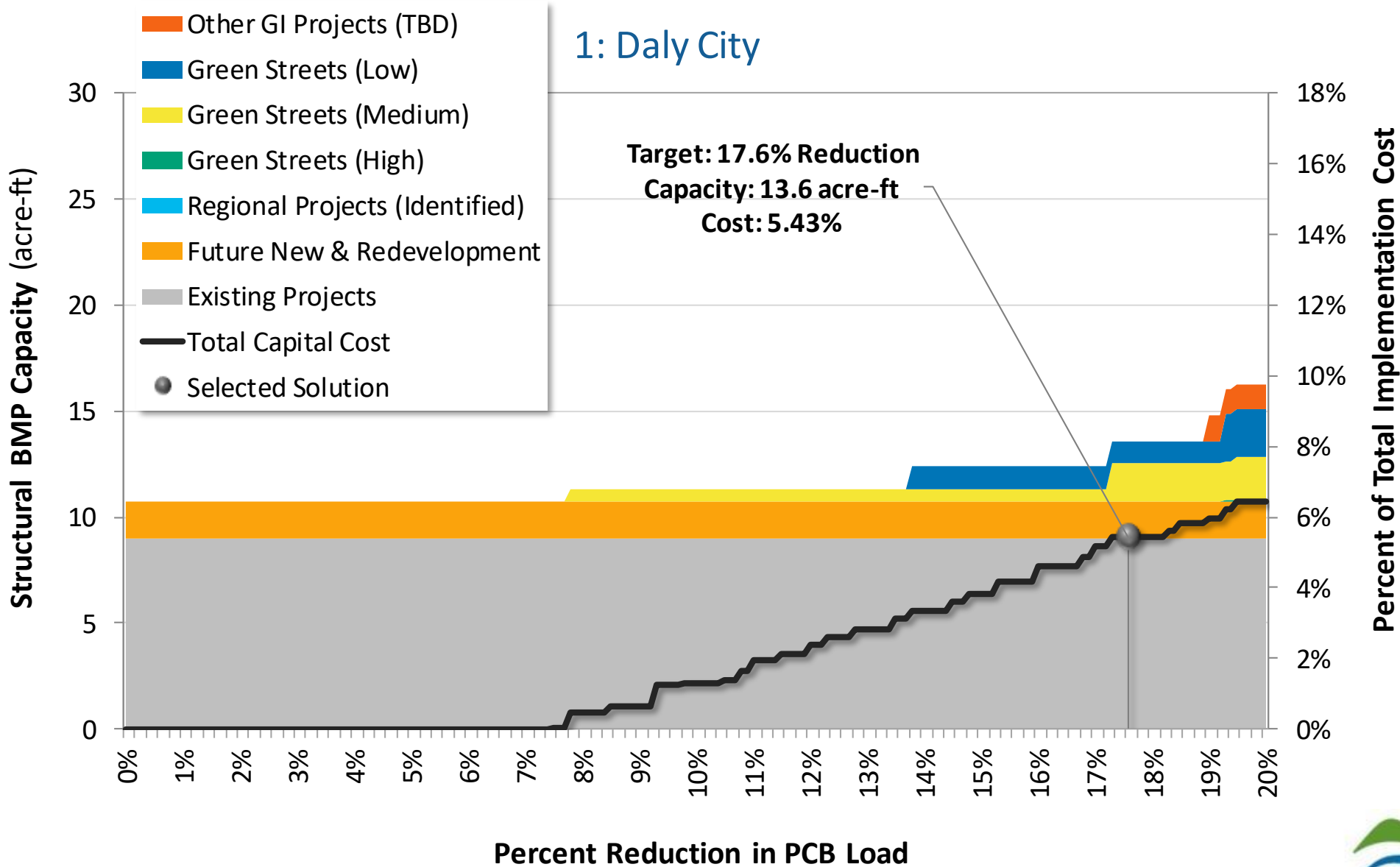
Subwatershed ID	Management Metrics for GI		Green Infrastructure Capacity to Achieve 17.6% Reduction Target (Capacity expressed in units of acre-feet)							
	% Load Reduction PCBs (Annual)	Annual Volume Managed (acre-ft)	Existing/Planned			Green Streets			Other GI Projects (TBD)	Total BMP Capacity (acre-ft)
			Existing Projects	Future New & Redevelopment	Regional Projects (Identified)	High	Medium	Low		
232519	1%	0.5	0.15	0.05	--	--	--	--	--	0.2
232619	0%	0.01	--	0.00	--	--	--	--	--	0.0
240119	2%	48	10.40	2.60	--	3.79	--	--	--	16.8
240219	10%	4	0.18	0.60	3.93	--	--	--	--	4.7
240319	11%	10	0.74	0.74	7.89	0.28	--	--	--	9.6
240419	11%	1.2	0.05	0.11	0.99	0.07	--	--	--	1.2
240519	18%	7	0.14	0.28	3.56	0.15	--	--	--	4.1
250119	1%	13	5.91	0.66	--	0.01	--	--	--	6.6
250219	23%	3.3	0.30	0.32	--	0.00	0.48	0.01	0.21	1.3
250319	19%	0.6	--	0.04	--	--	--	0.02	0.11	0.2
Total	17.9%	87.8	17.9	5.4	16.4	4.3	0.5	0.0	0.3	44.8

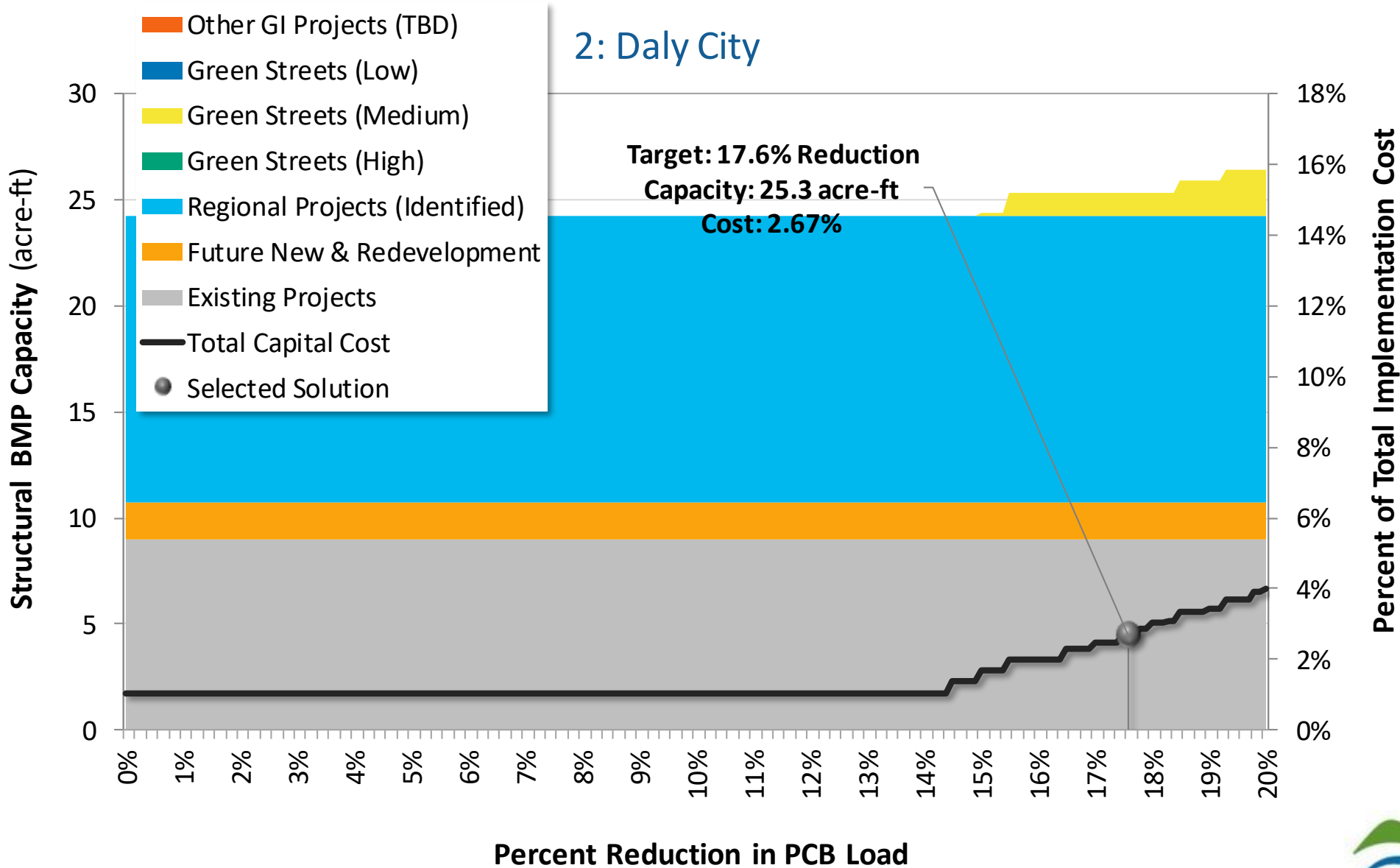
Scenario 1 Capacity for SOUTH SAN FRANCISCO

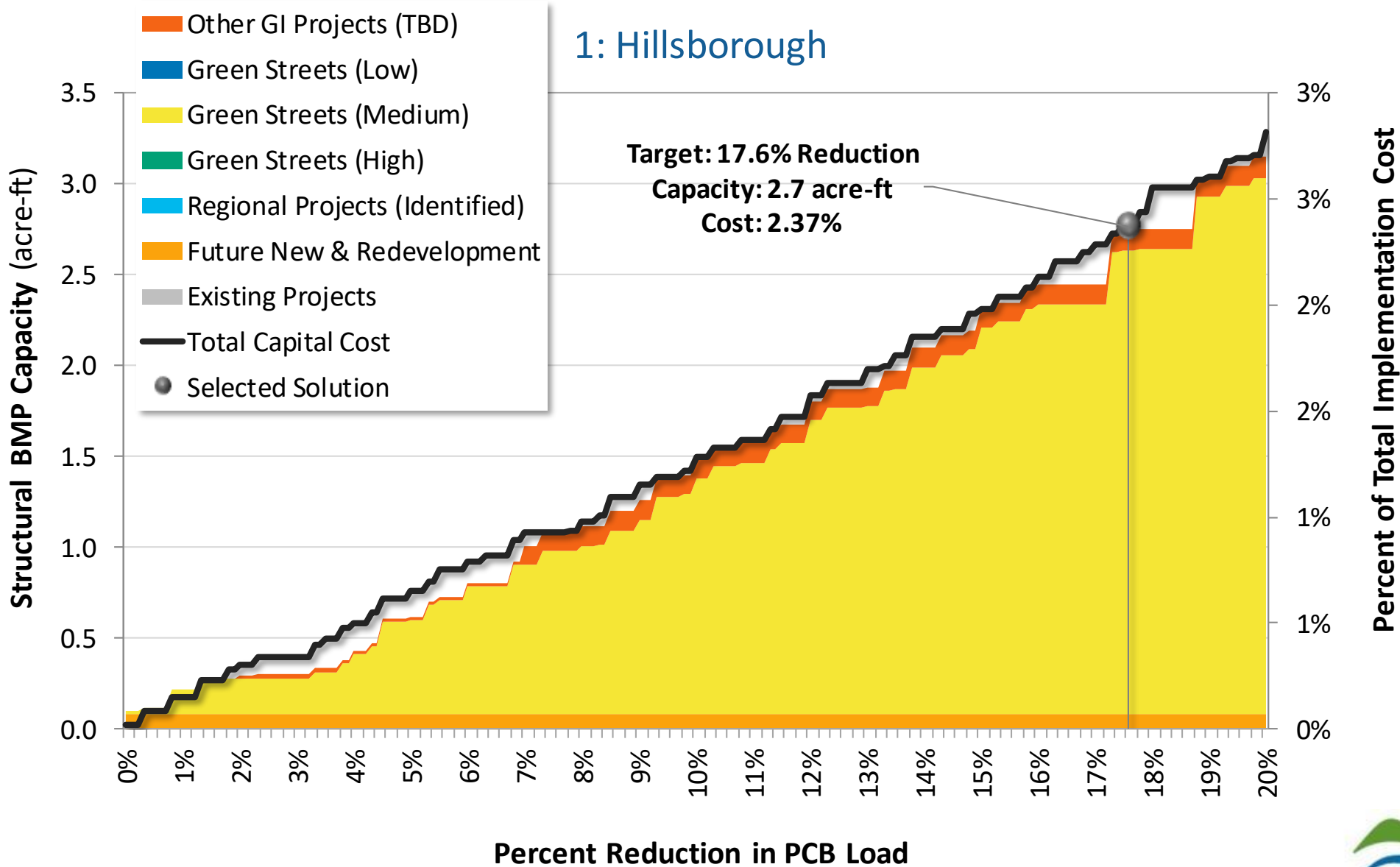


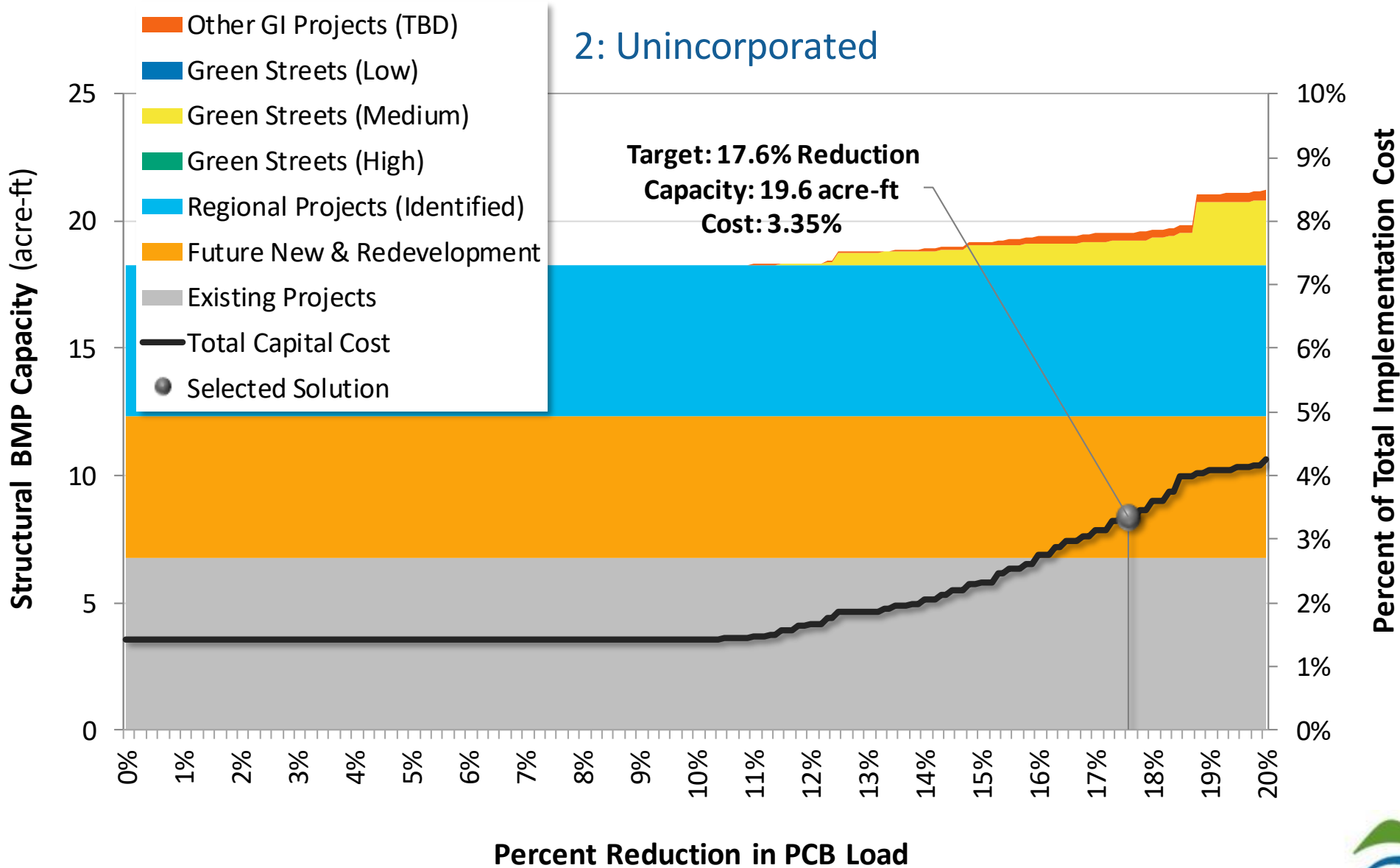
Scenario 2 Capacity for SOUTH SAN FRANCISCO

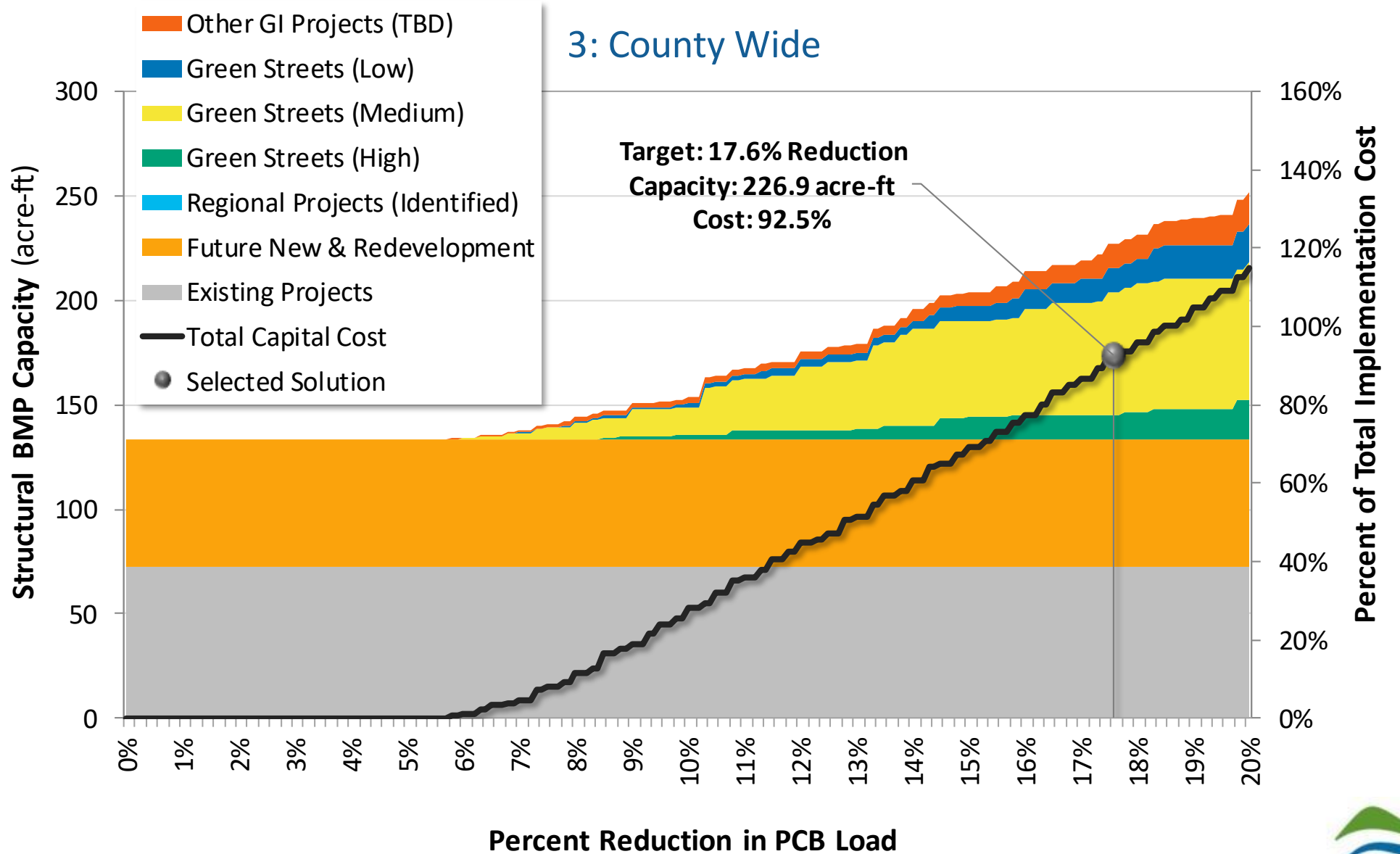


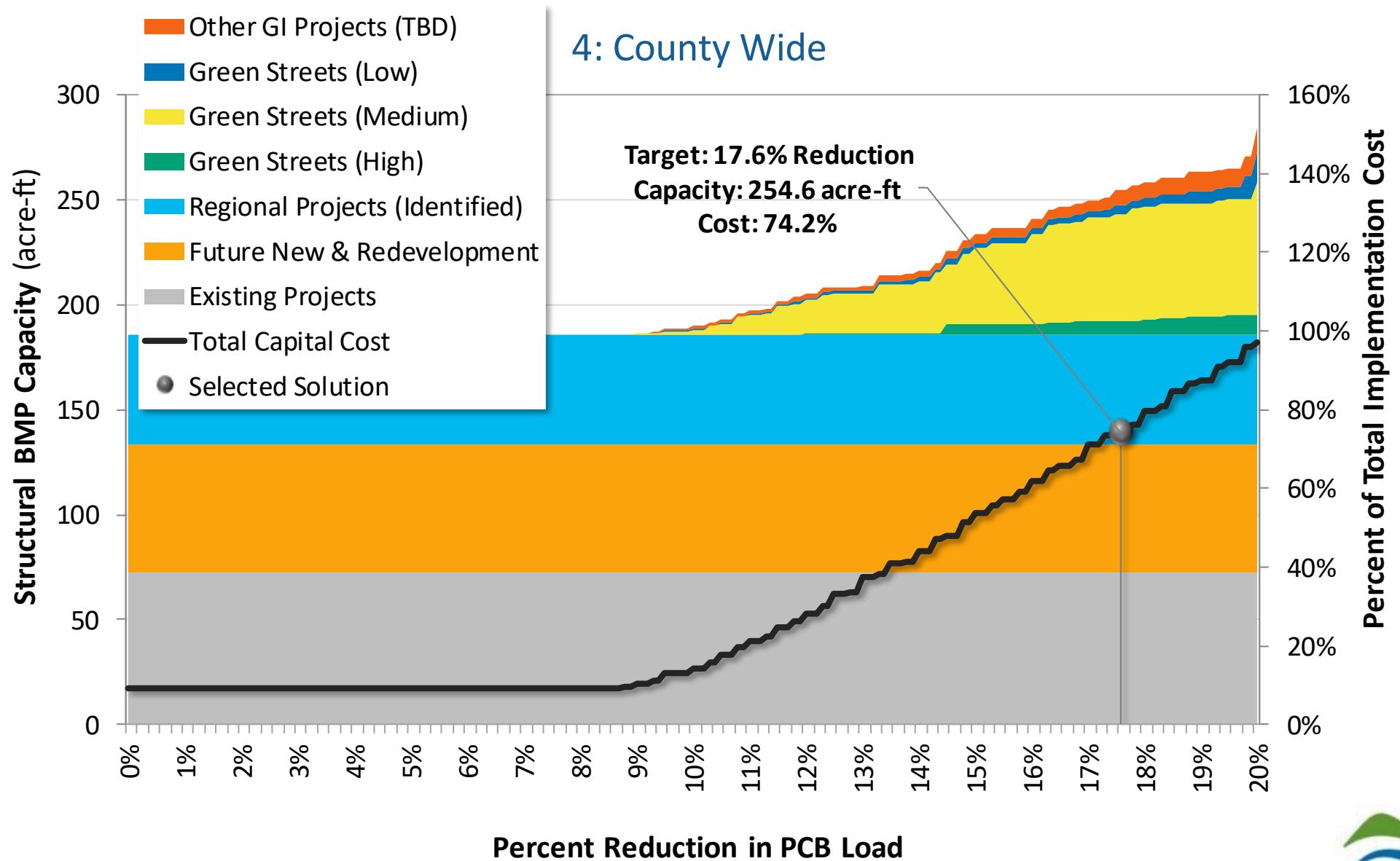






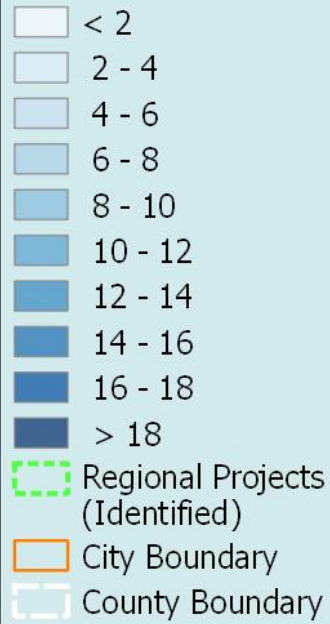






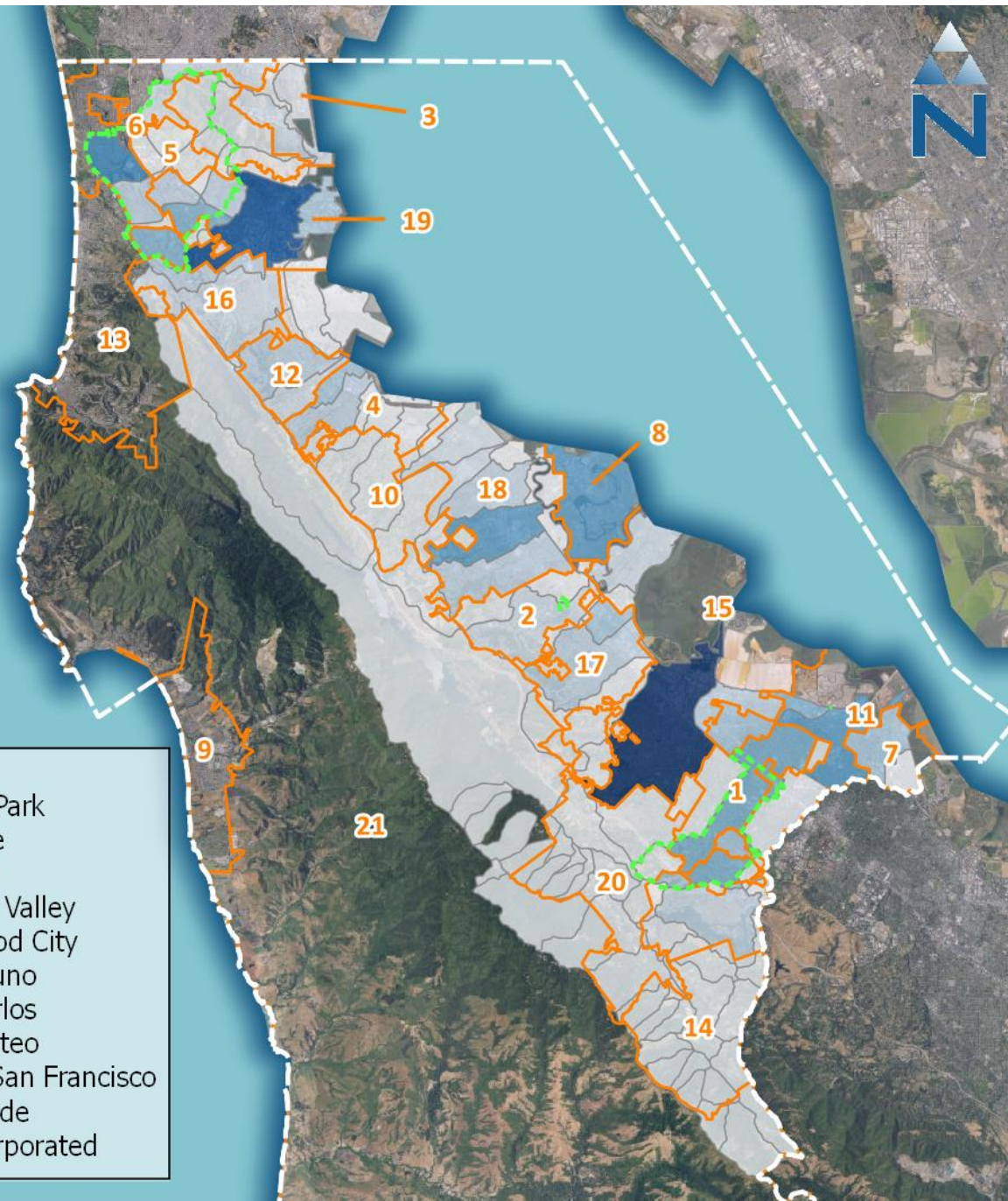
Scenario 2

Capacity (acre-feet)



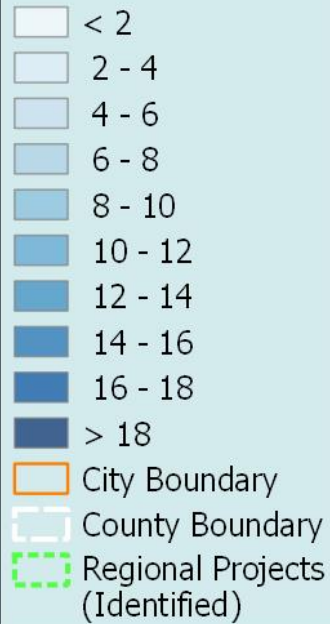
Cities

1. Atherton	11. Menlo Park
2. Belmont	12. Millbrae
3. Brisbane	13. Pacifica
4. Burlingame	14. Portola Valley
5. Colma	15. Redwood City
6. Daly City	16. San Bruno
7. East Palo Alto	17. San Carlos
8. Foster City	18. San Mateo
9. Half Moon Bay	19. South San Francisco
10. Hillsborough	20. Woodside
	21. Unincorporated



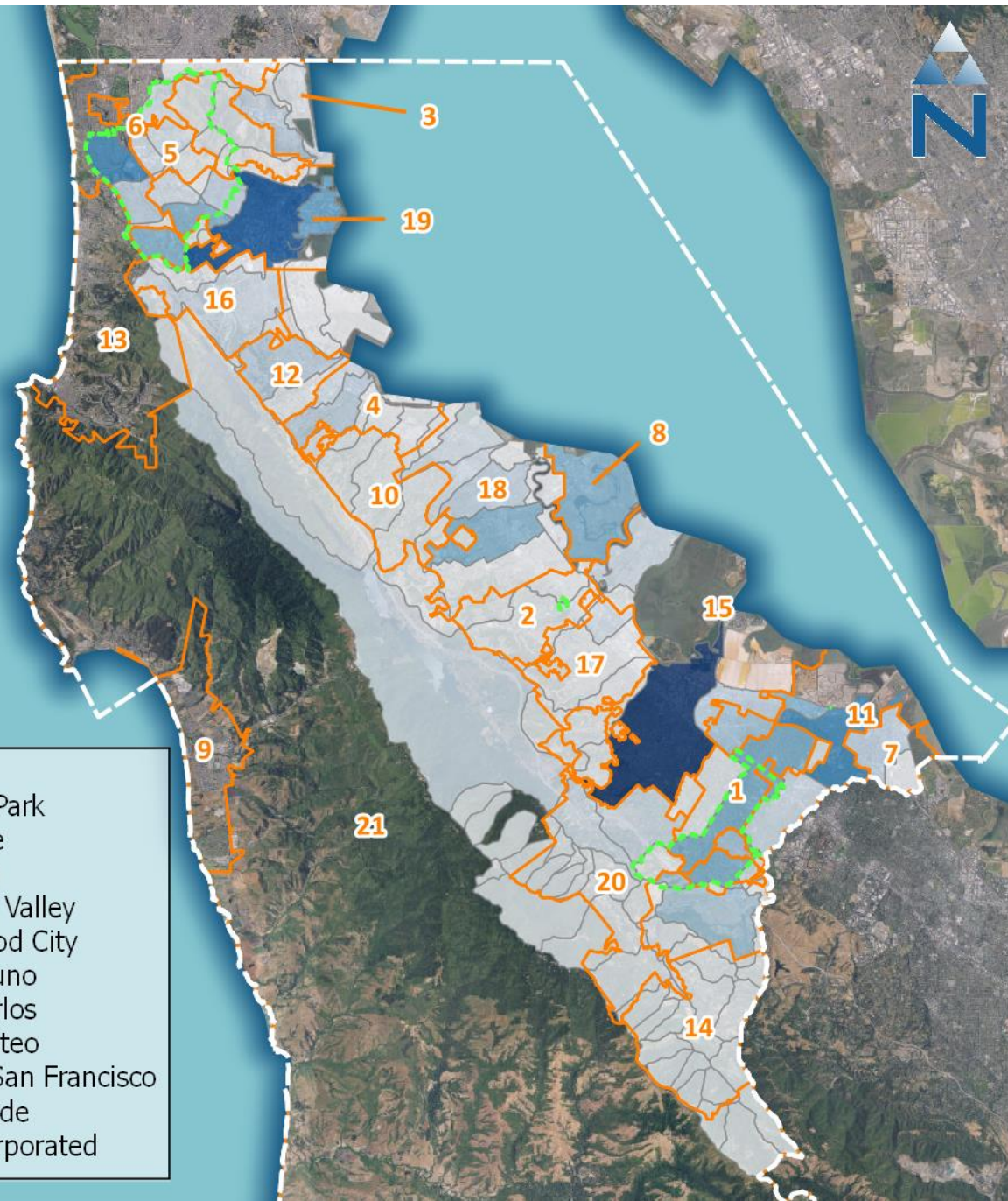
Scenario 4

Capacity (acre-feet)



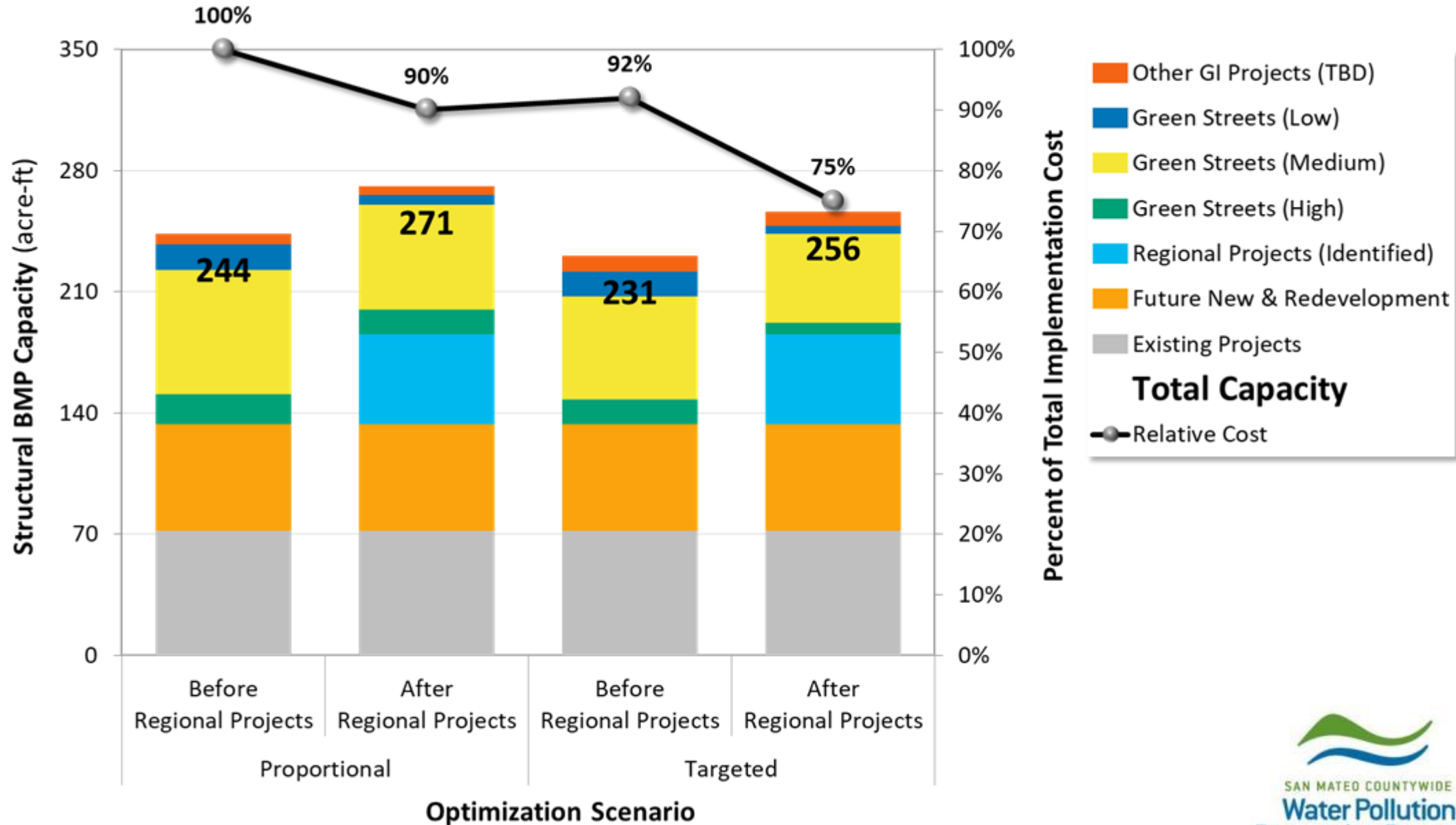
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Comparing Scenarios

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Comparing Scenarios

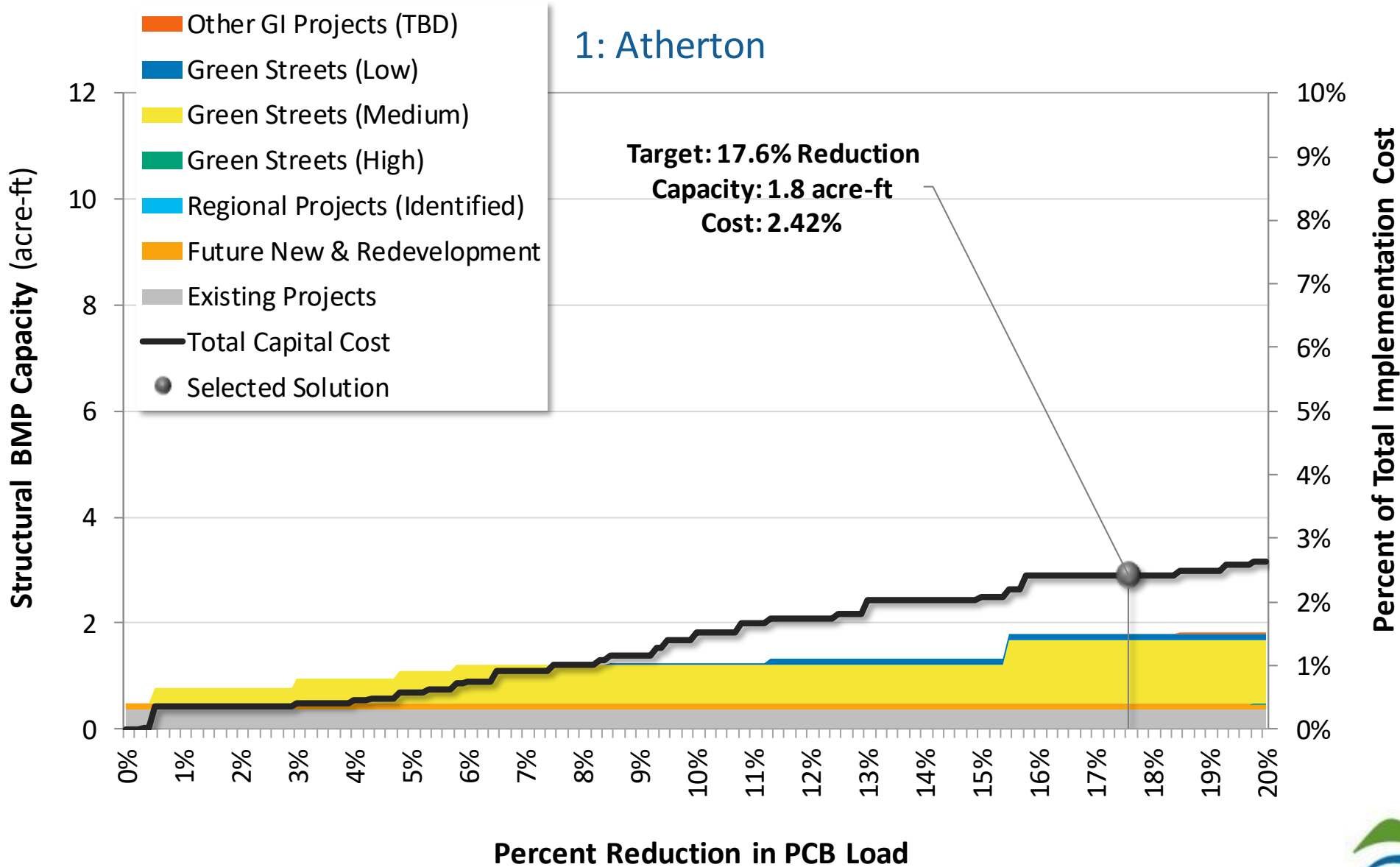
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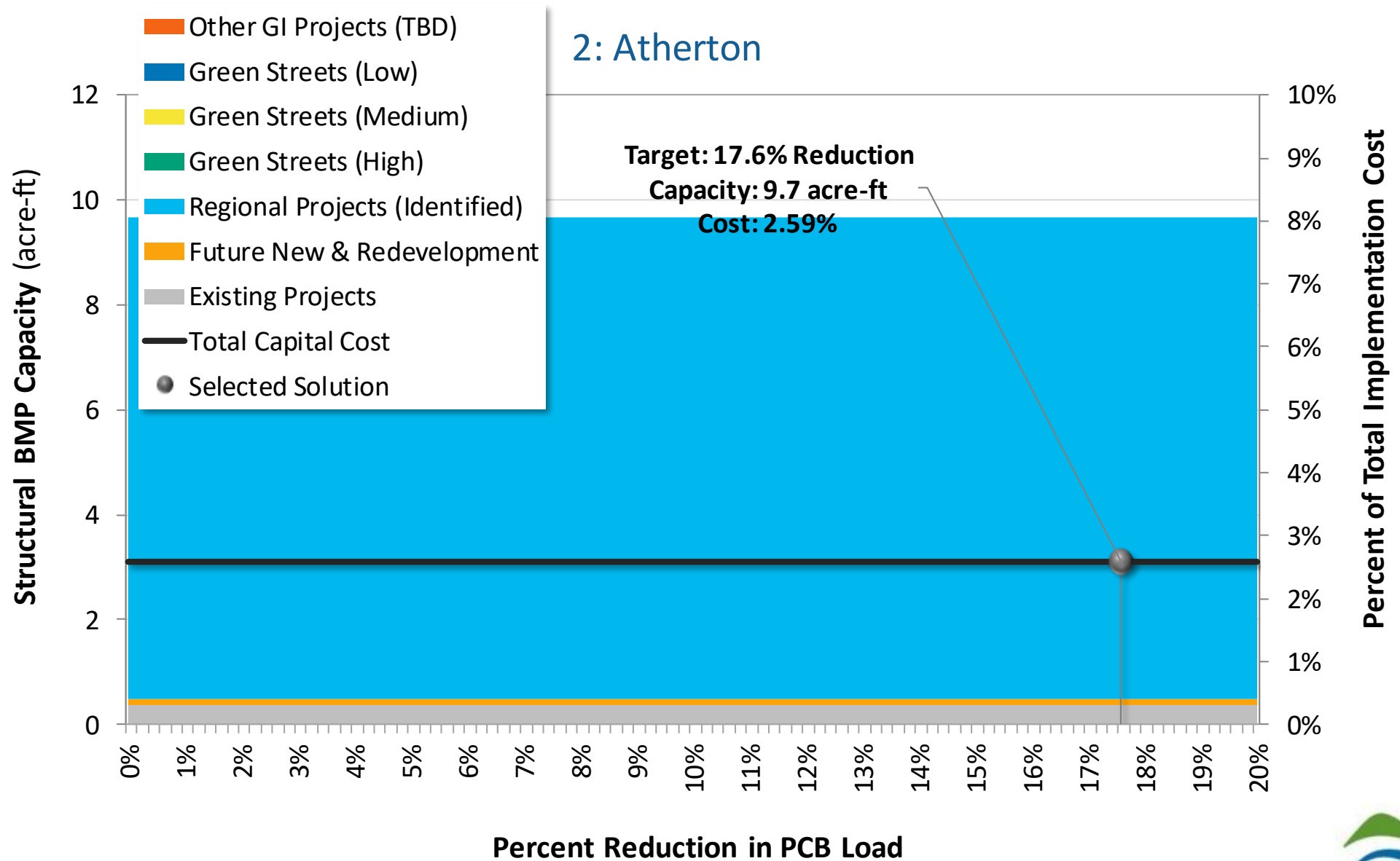
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	Proportional (By Jurisdiction)	Targeted (County Wide)	Total Savings (Proportional vs. Targeted)
<u>Before</u> Identified Regional Projects	100%	92%	8%
<u>After</u> Identified Regional Projects	90%	75%	15%
<i>Total Savings (Regional Projects)</i>	<i>10%</i>	<i>17%</i>	<i>25%</i>

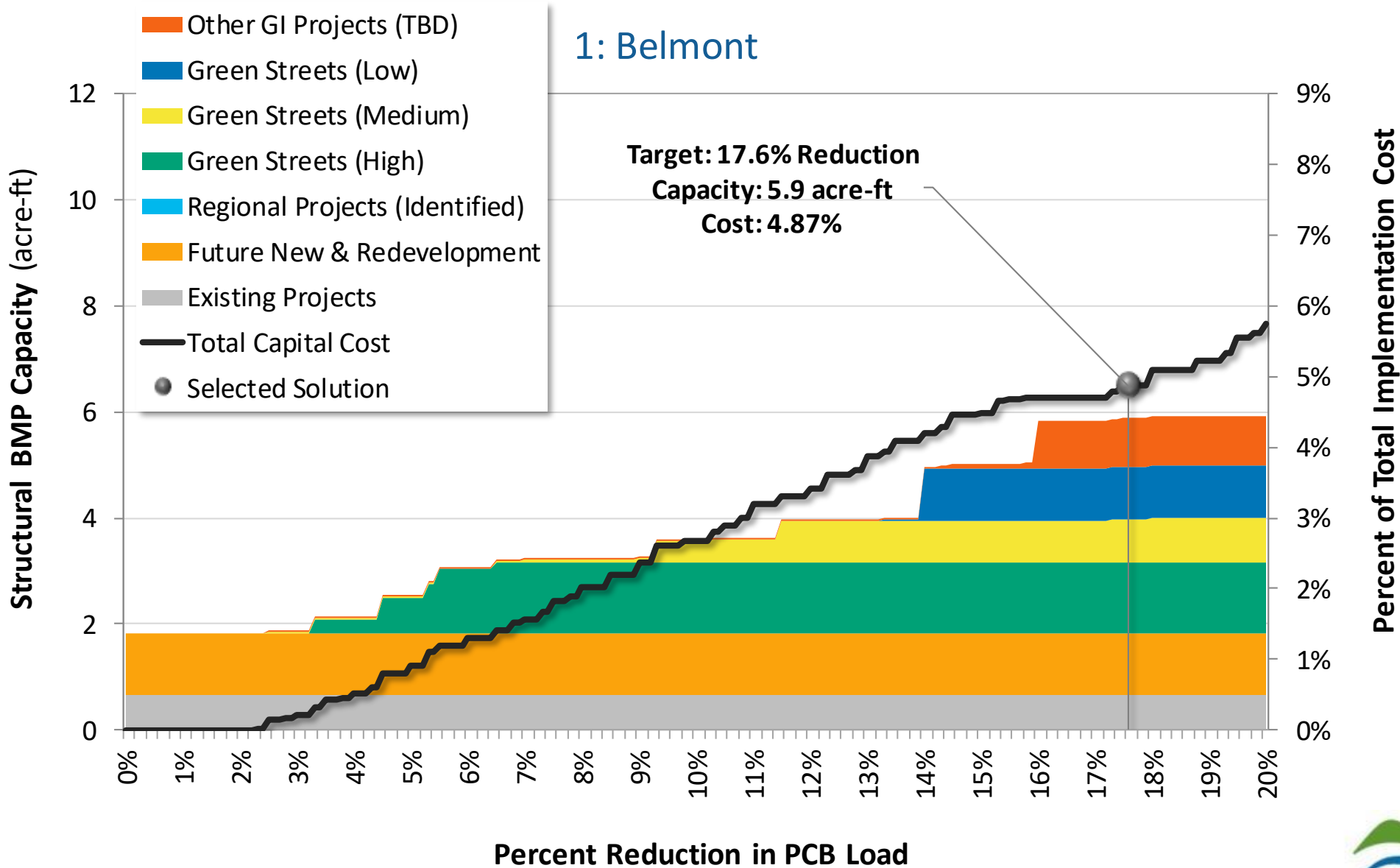
Next Steps

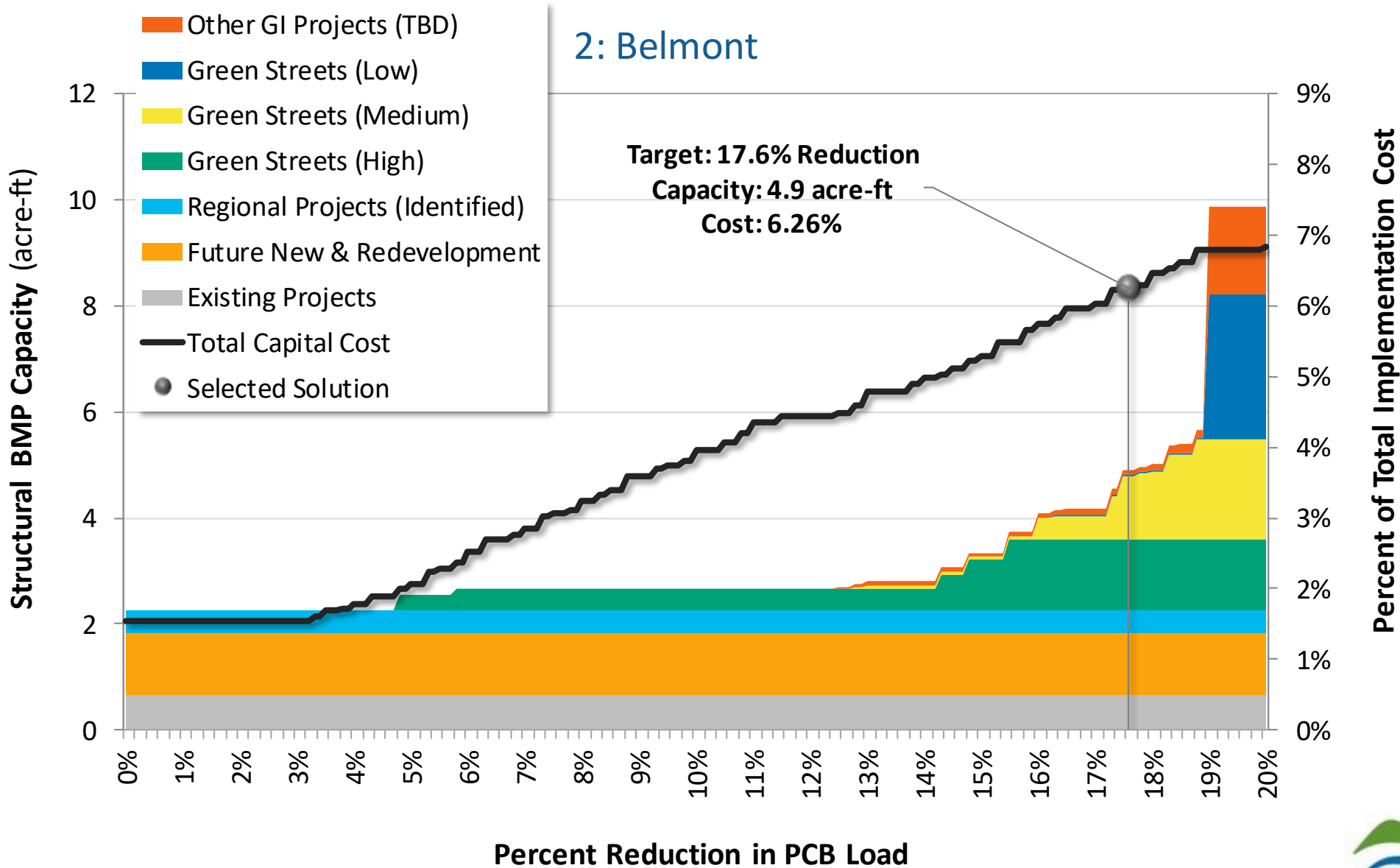
- Provide access to model results
 - Curves, tables, maps for each scenario
 - Web-based viewer, printable documents
- Workshop with city/county staff
 - Discuss scenarios for each jurisdiction
 - Obtain input on GI “recipes” and results
- Re-run scenarios based on city/county input
- Other project concepts?

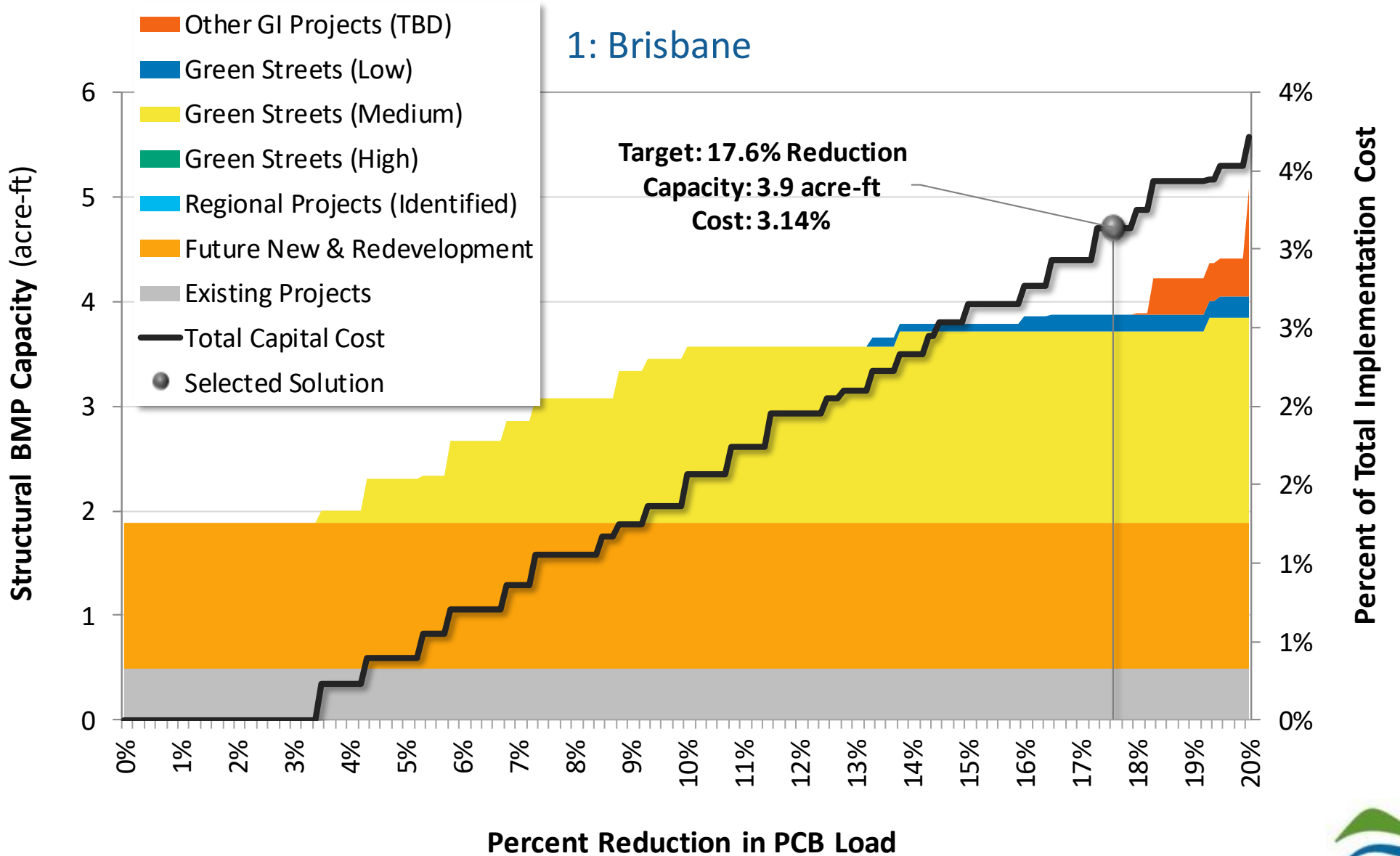


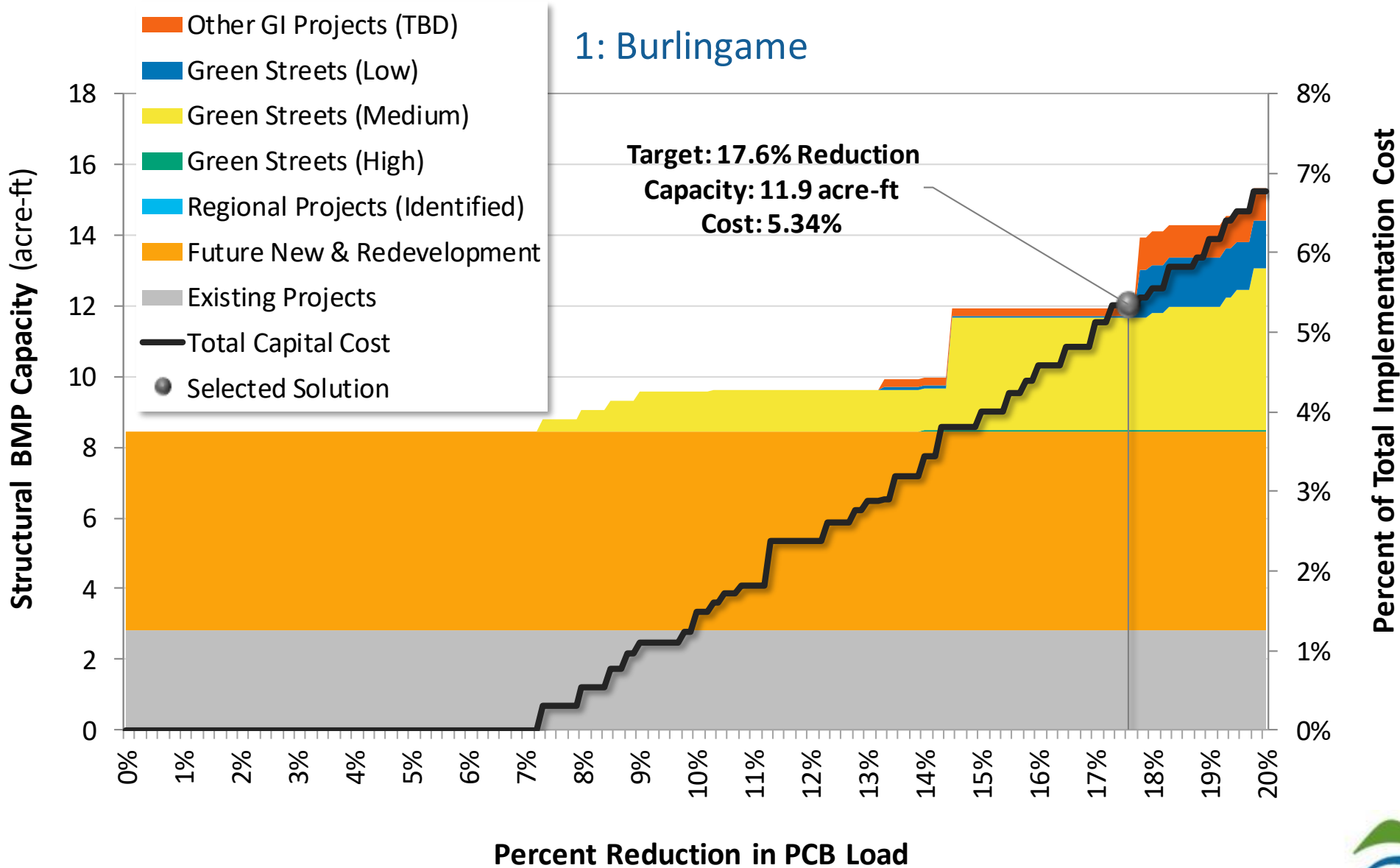


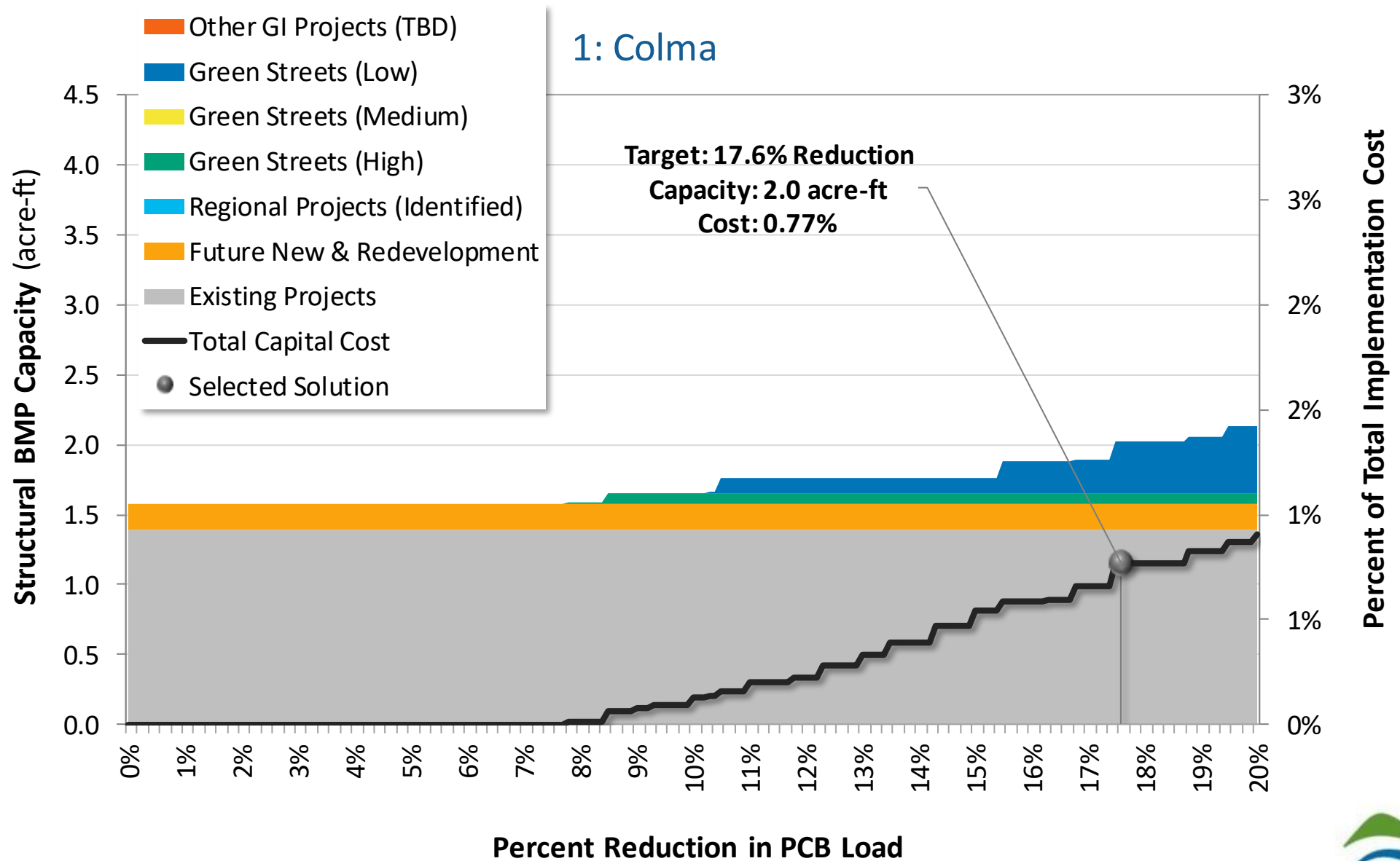


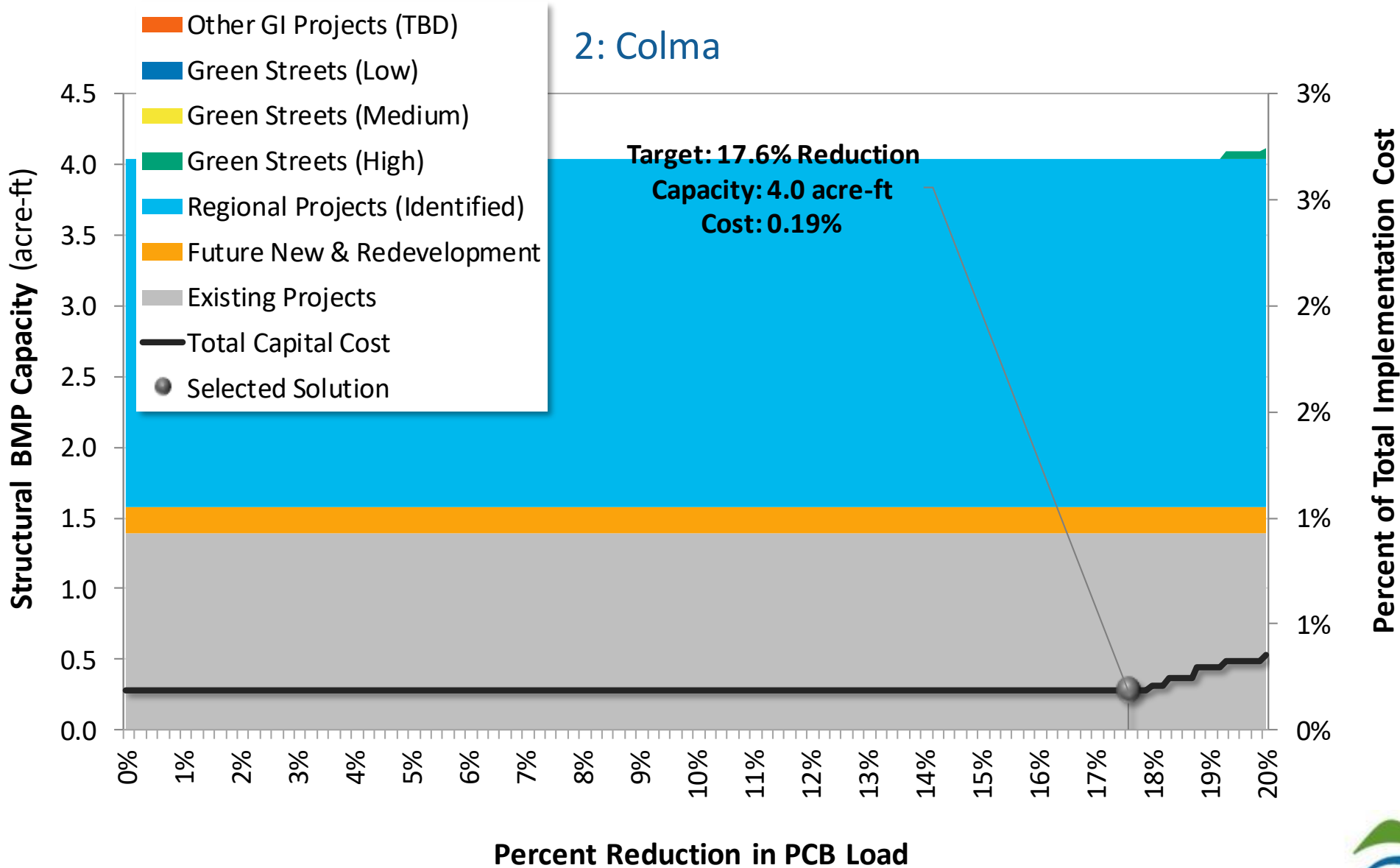


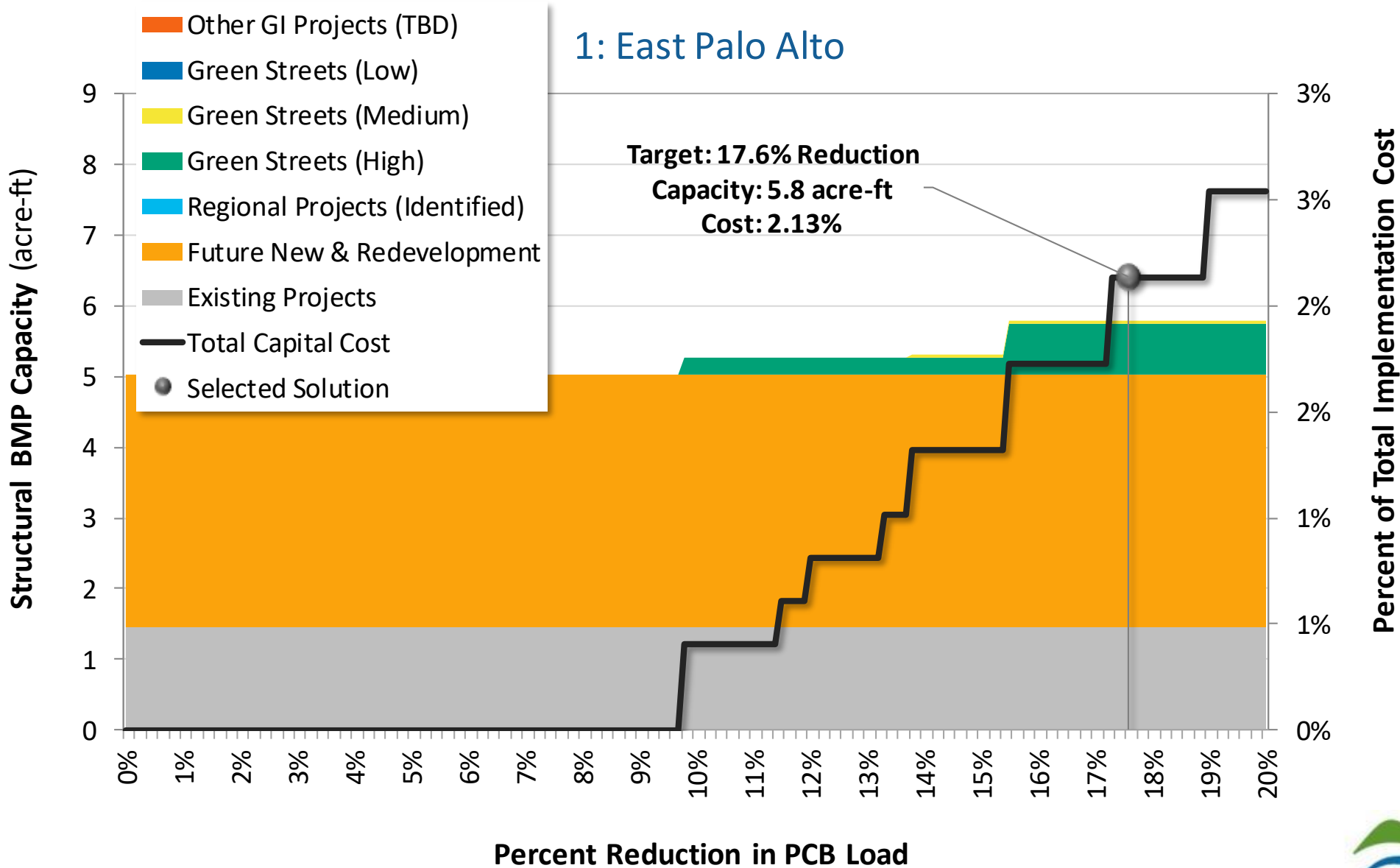


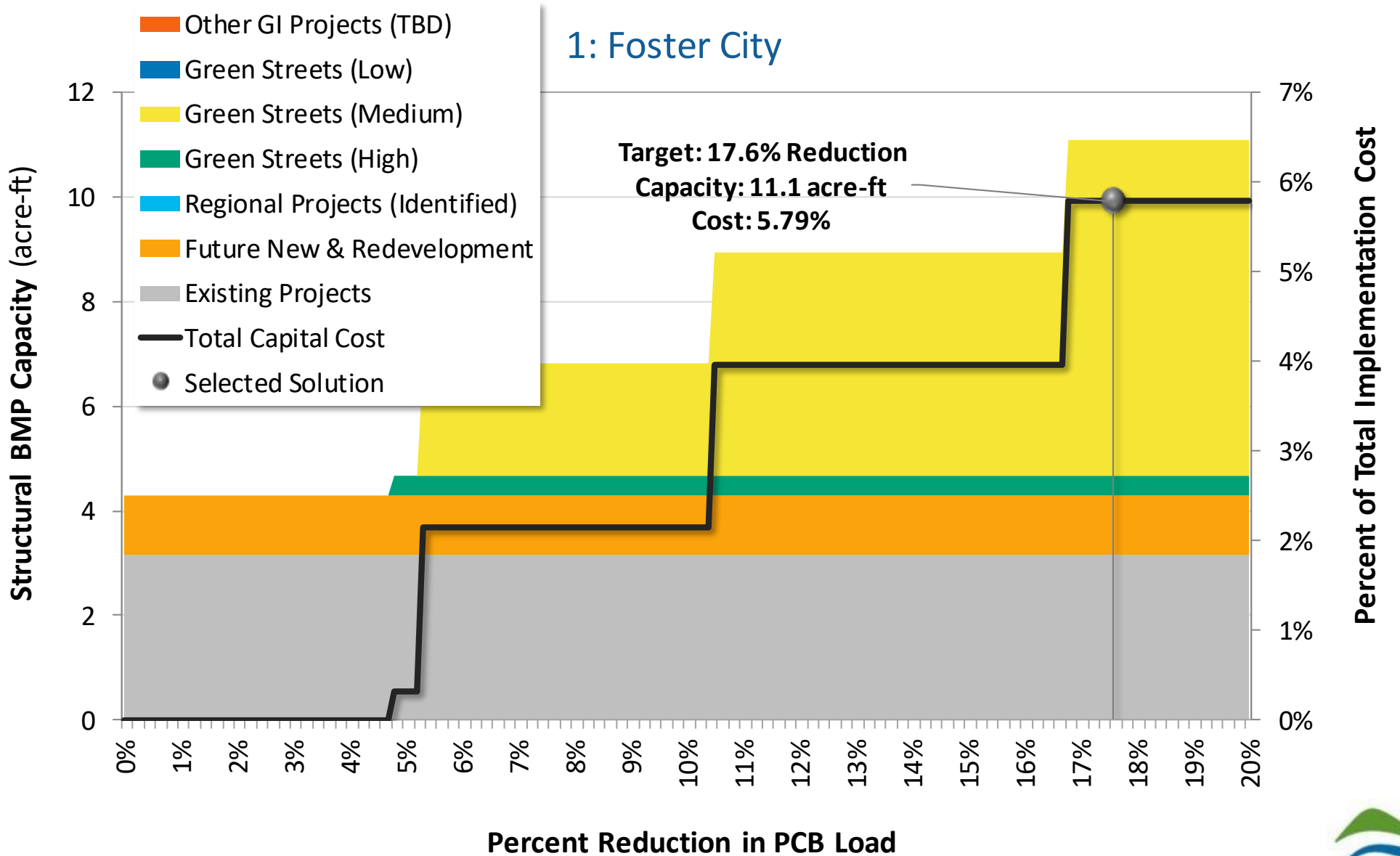


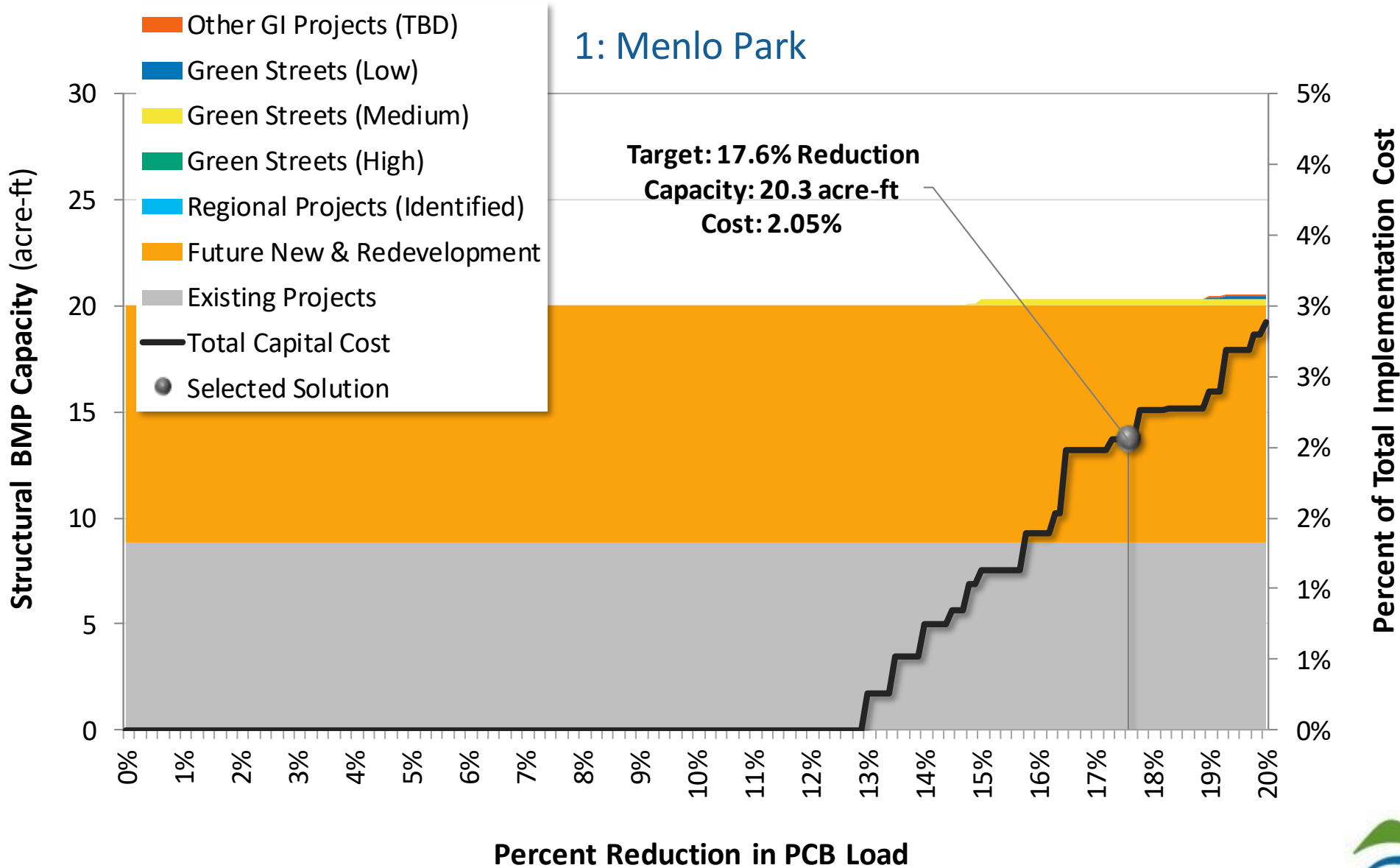


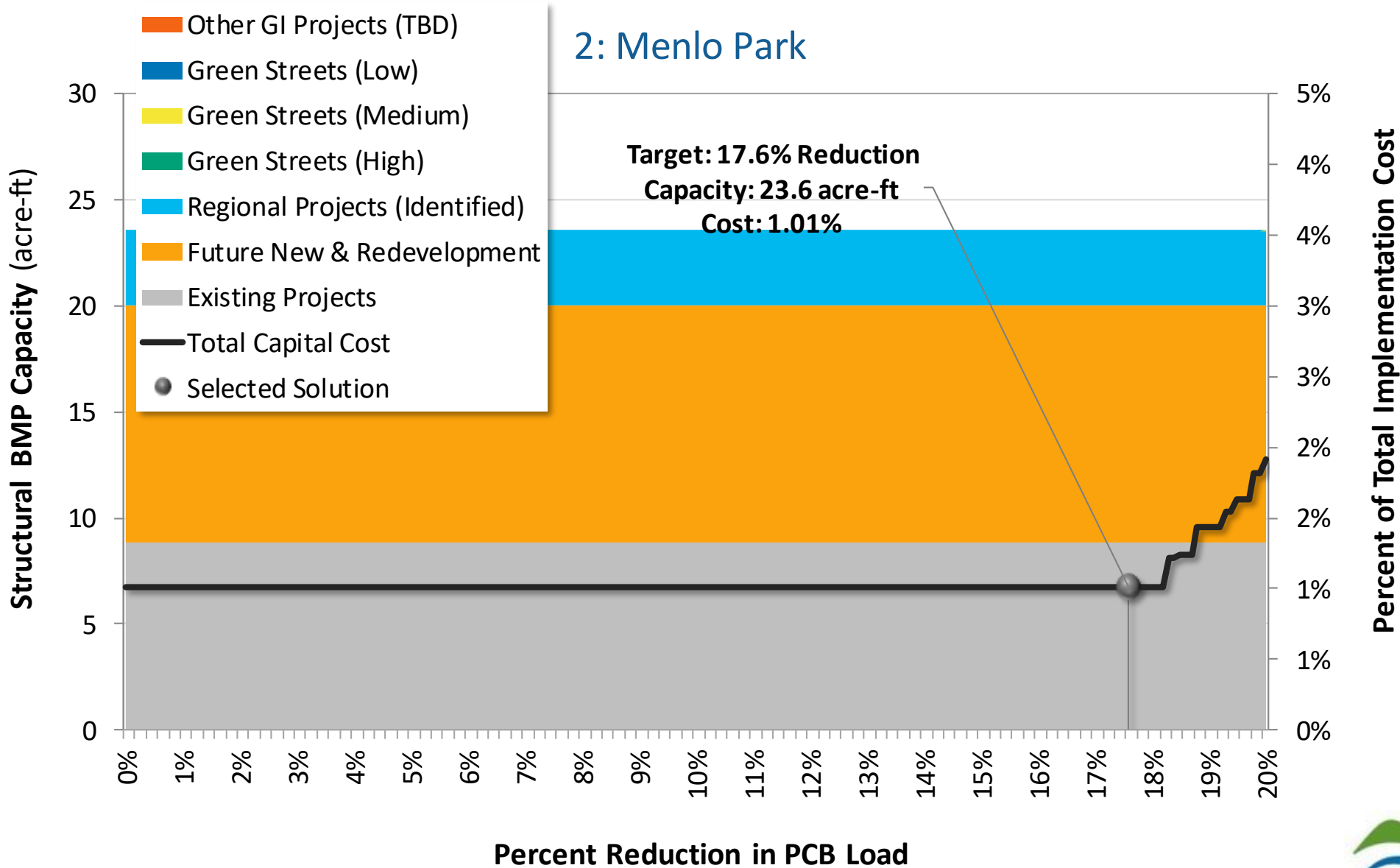


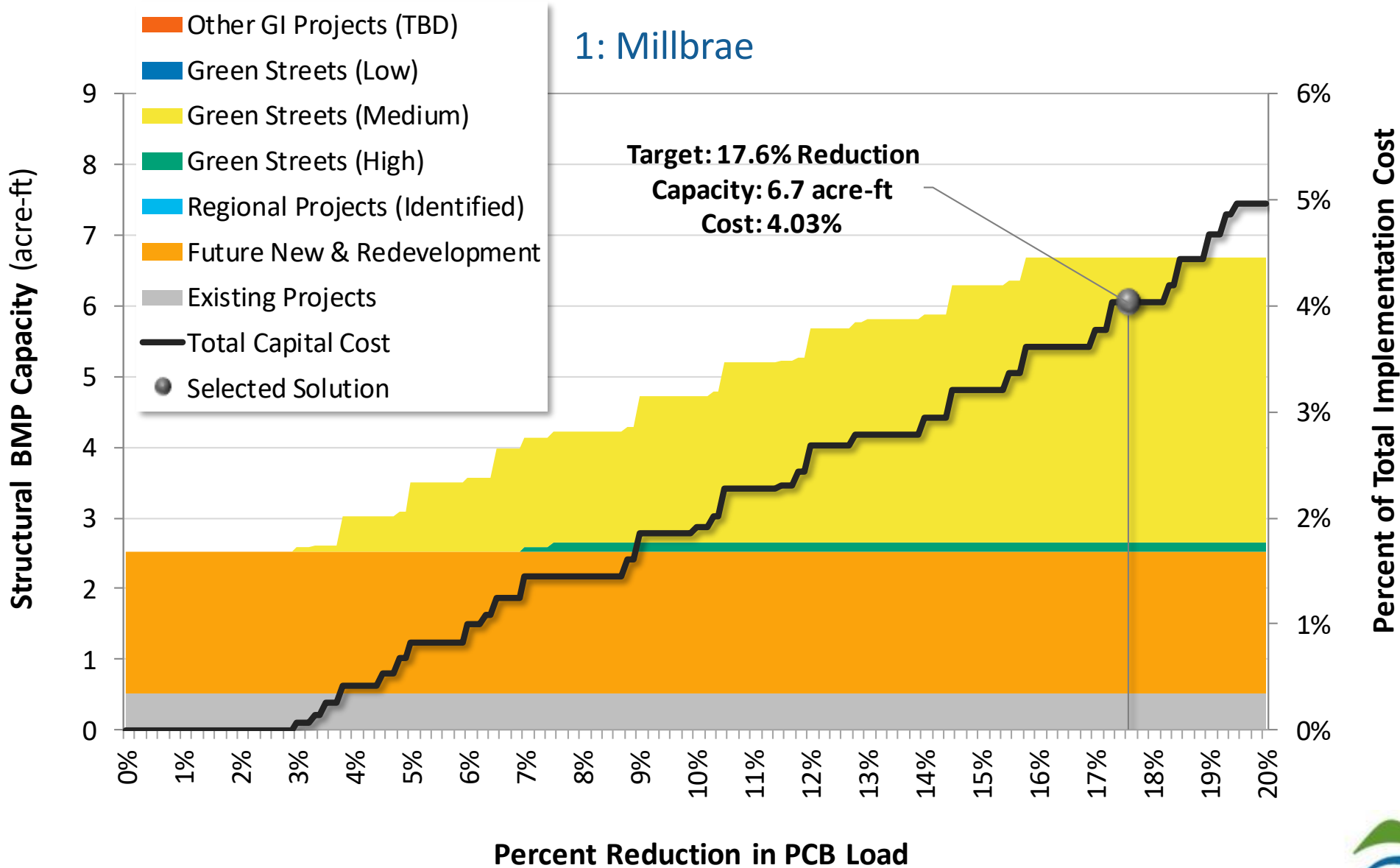


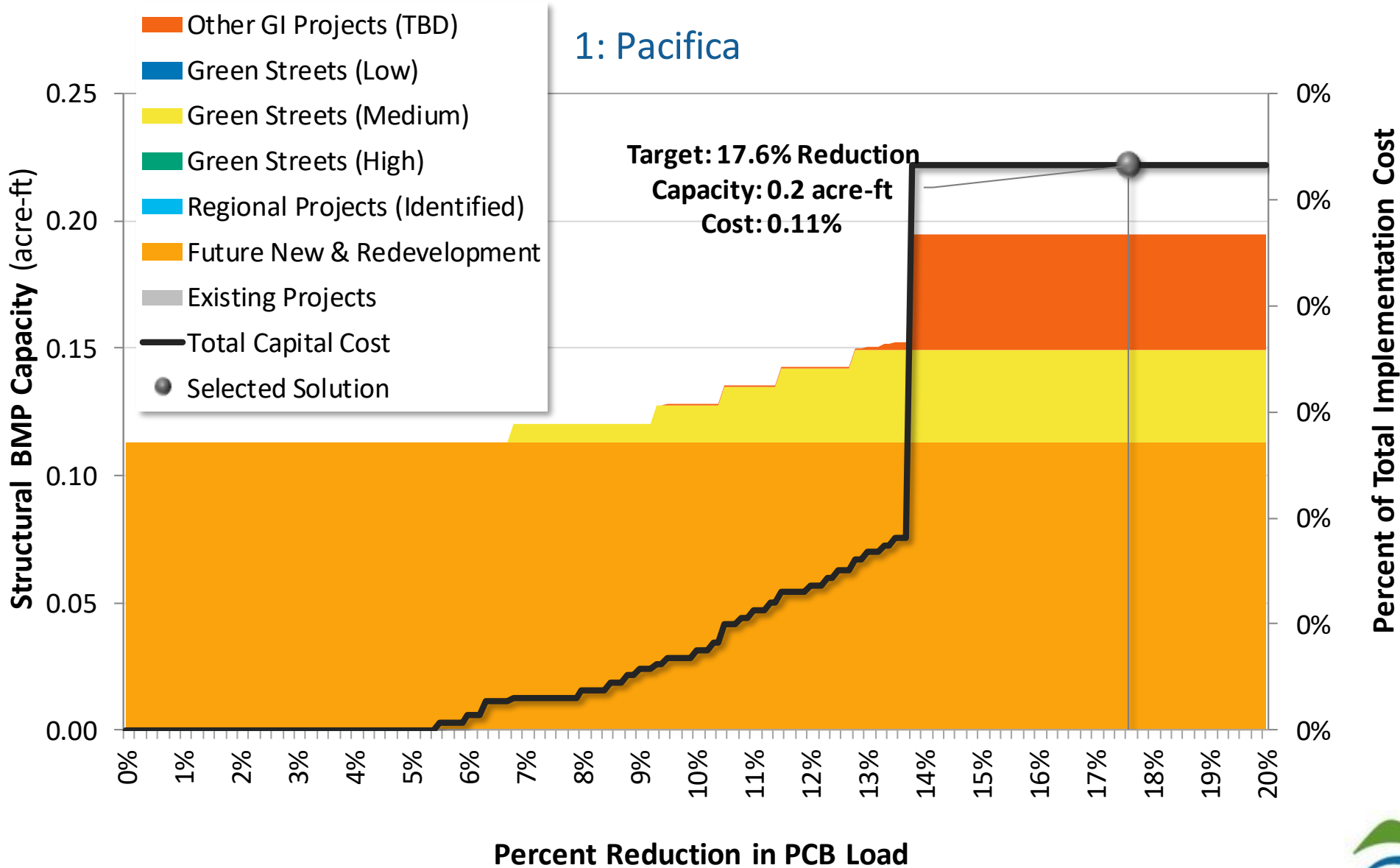




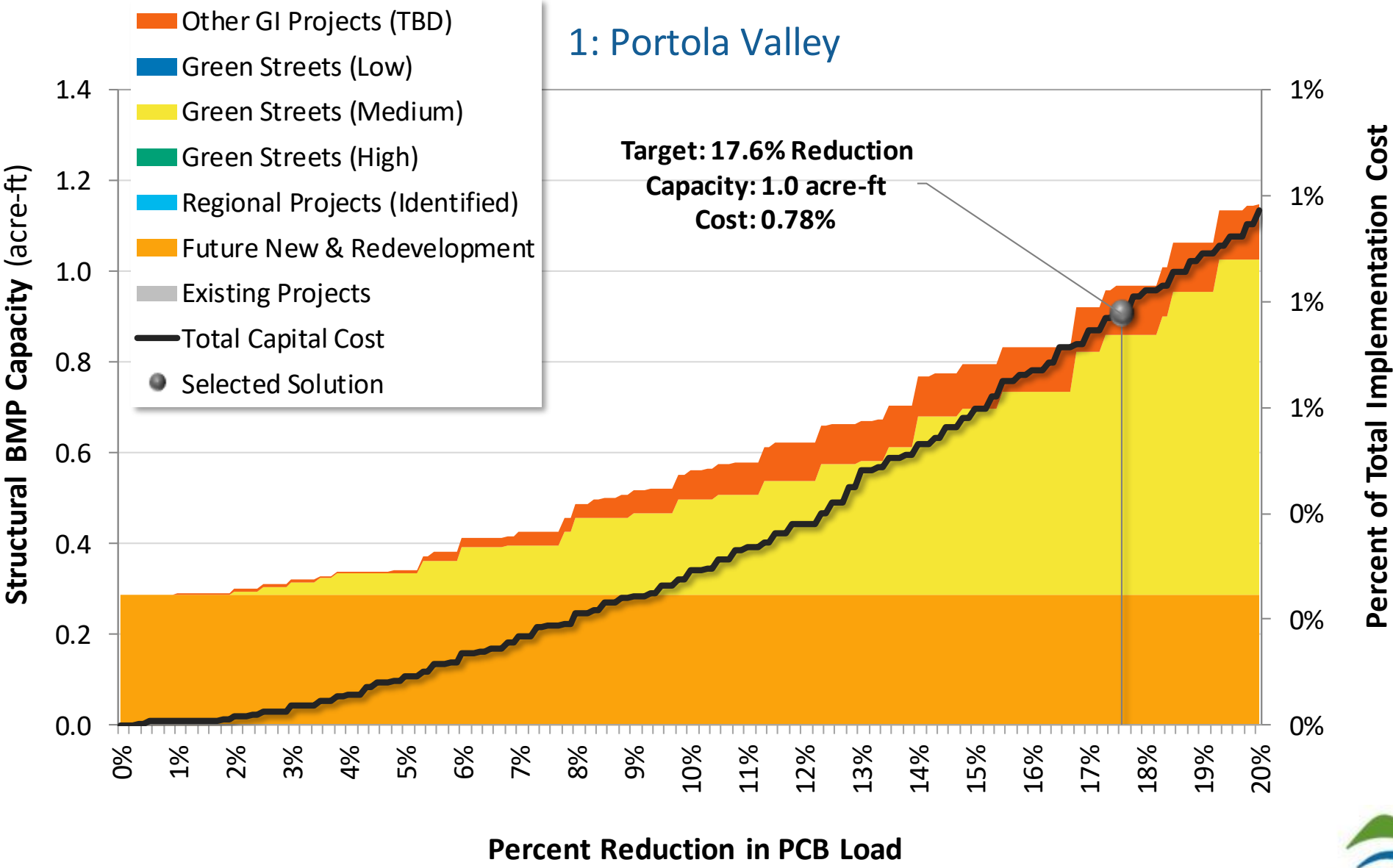


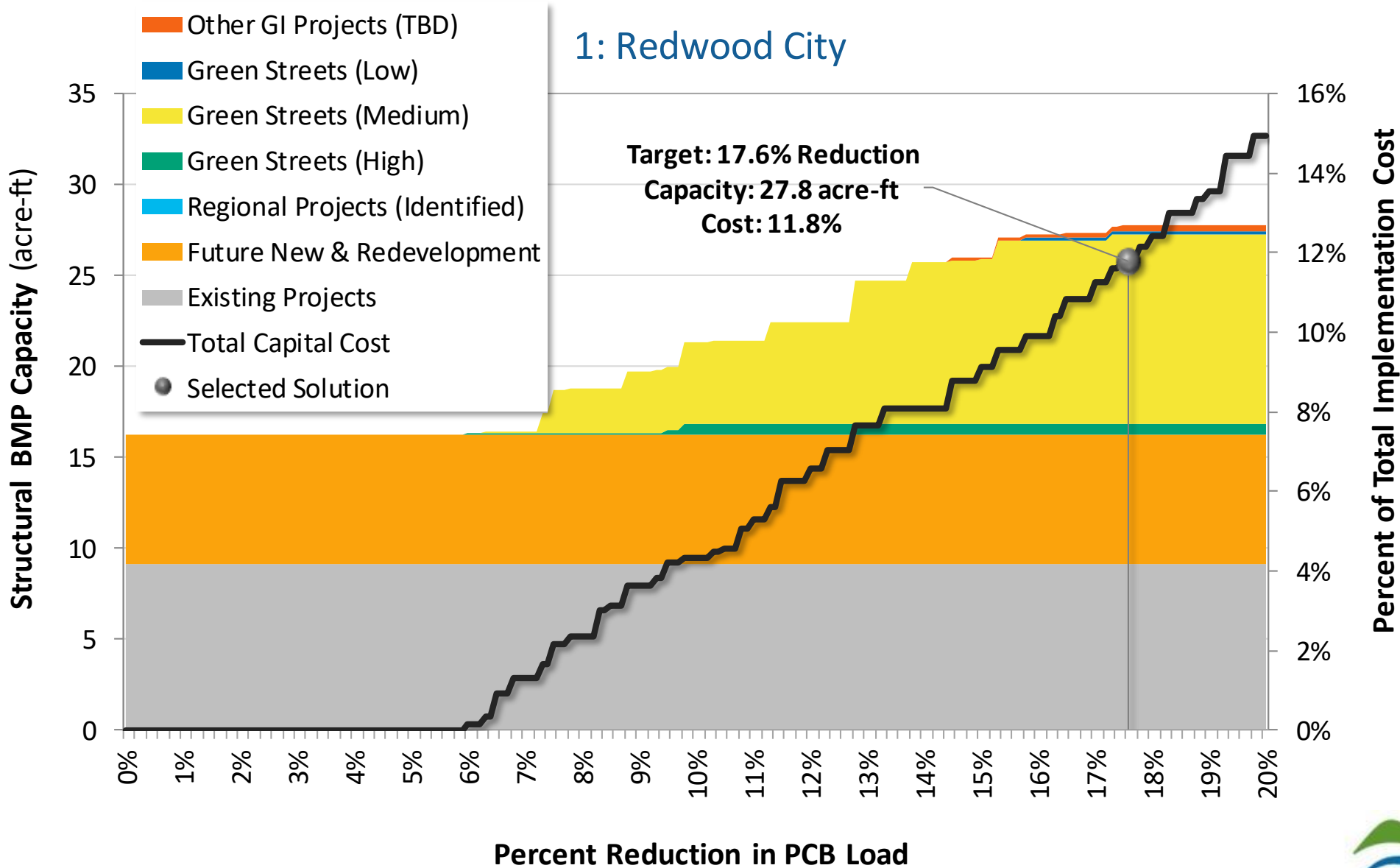


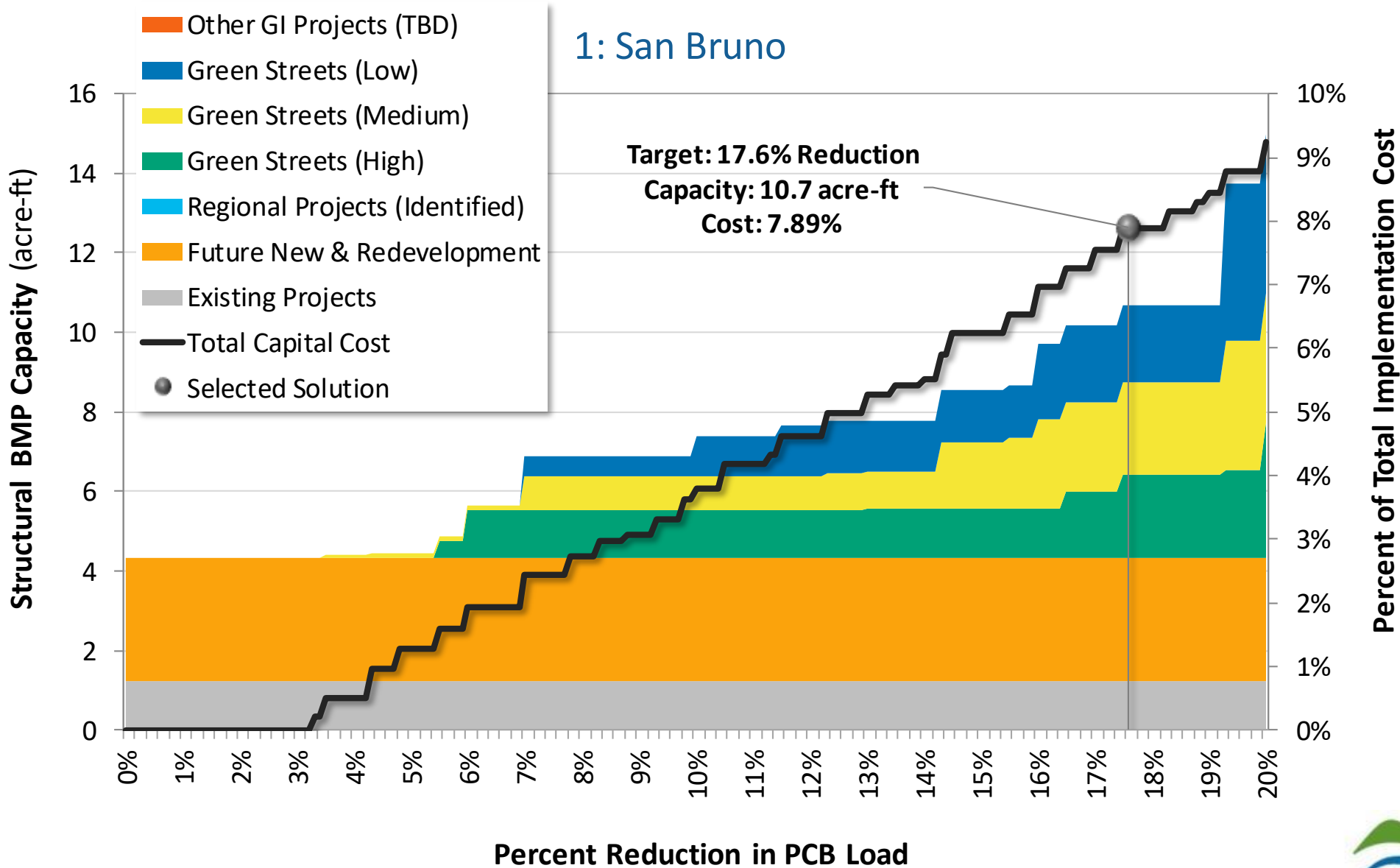


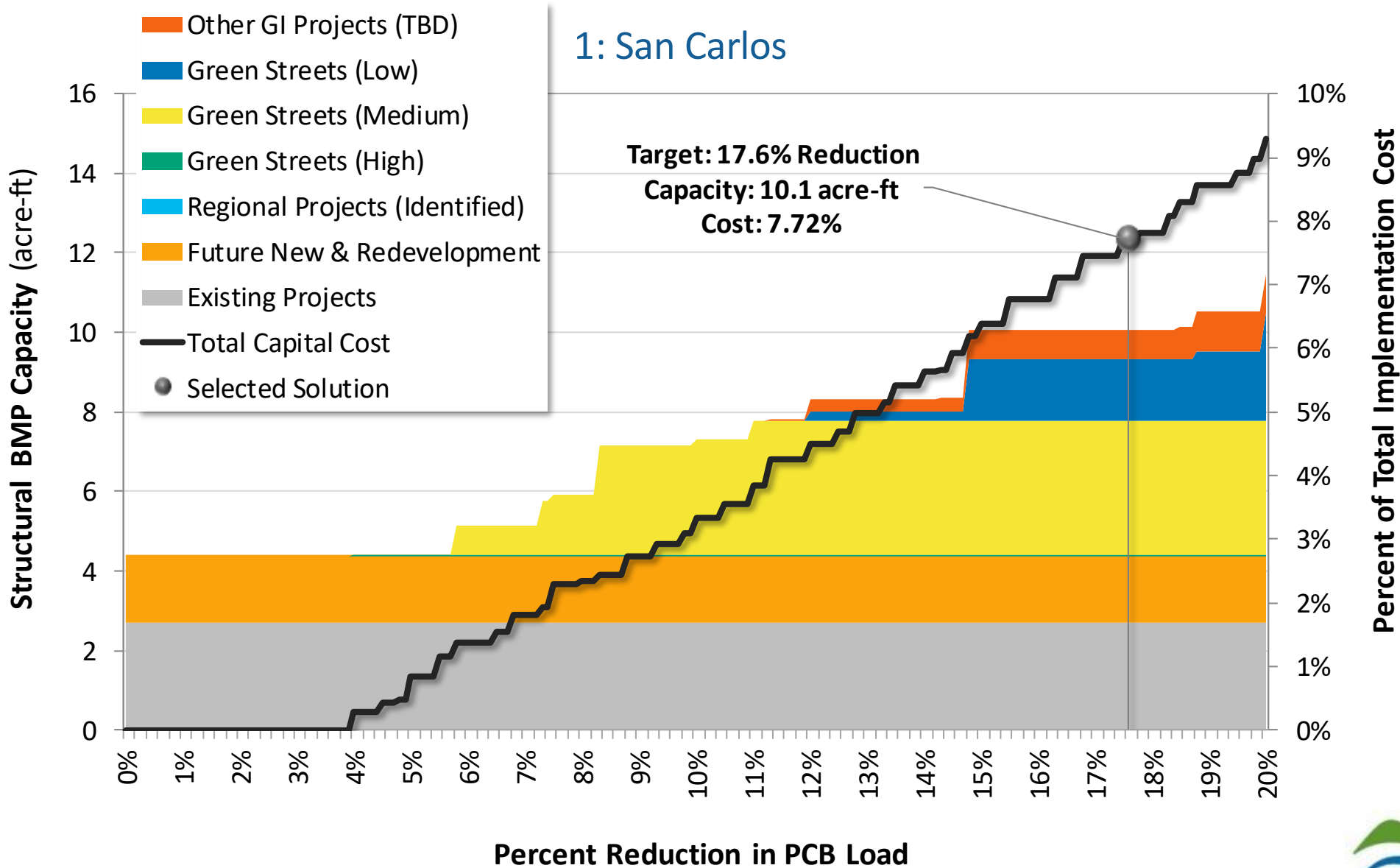


1: Portola Valley

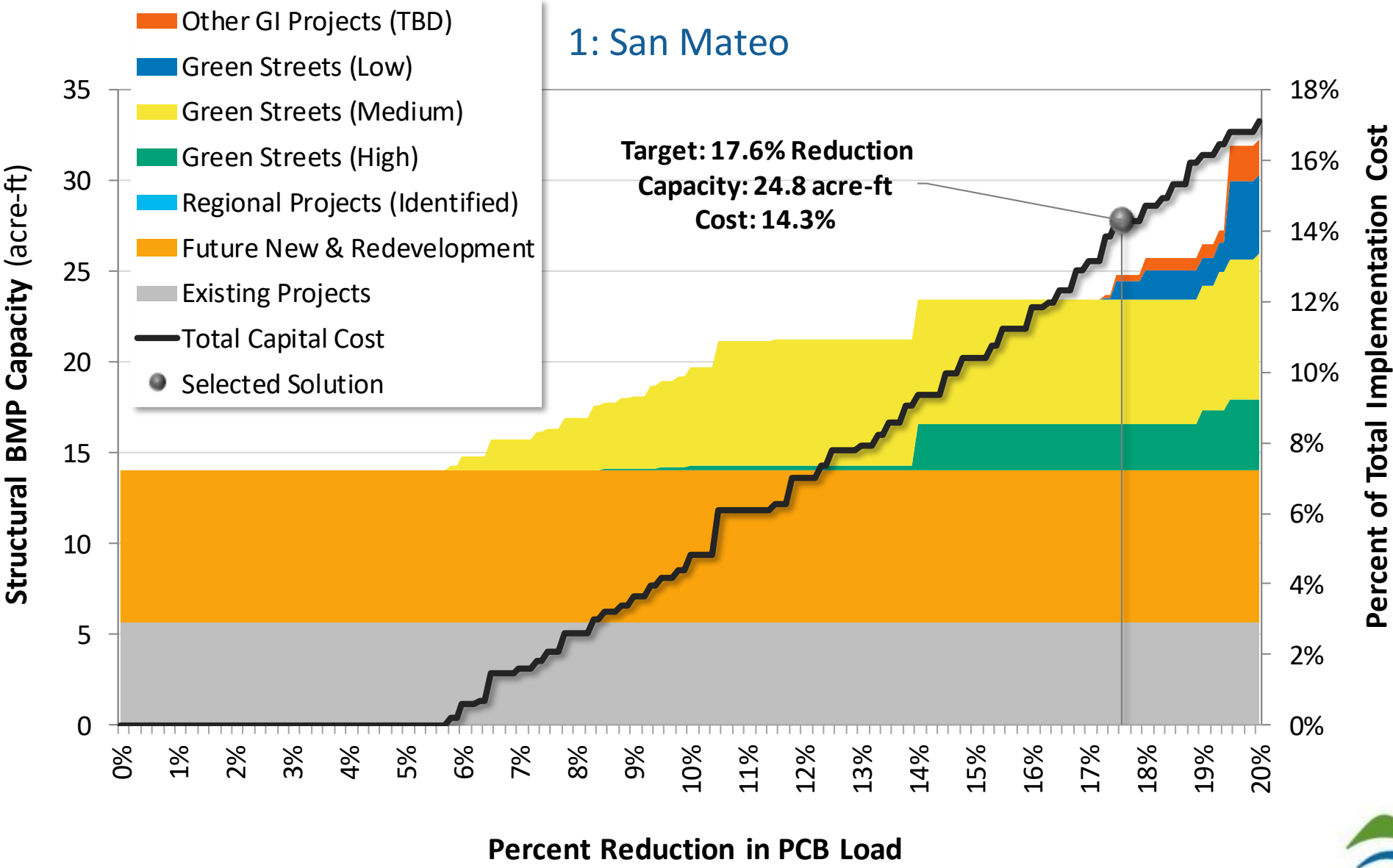


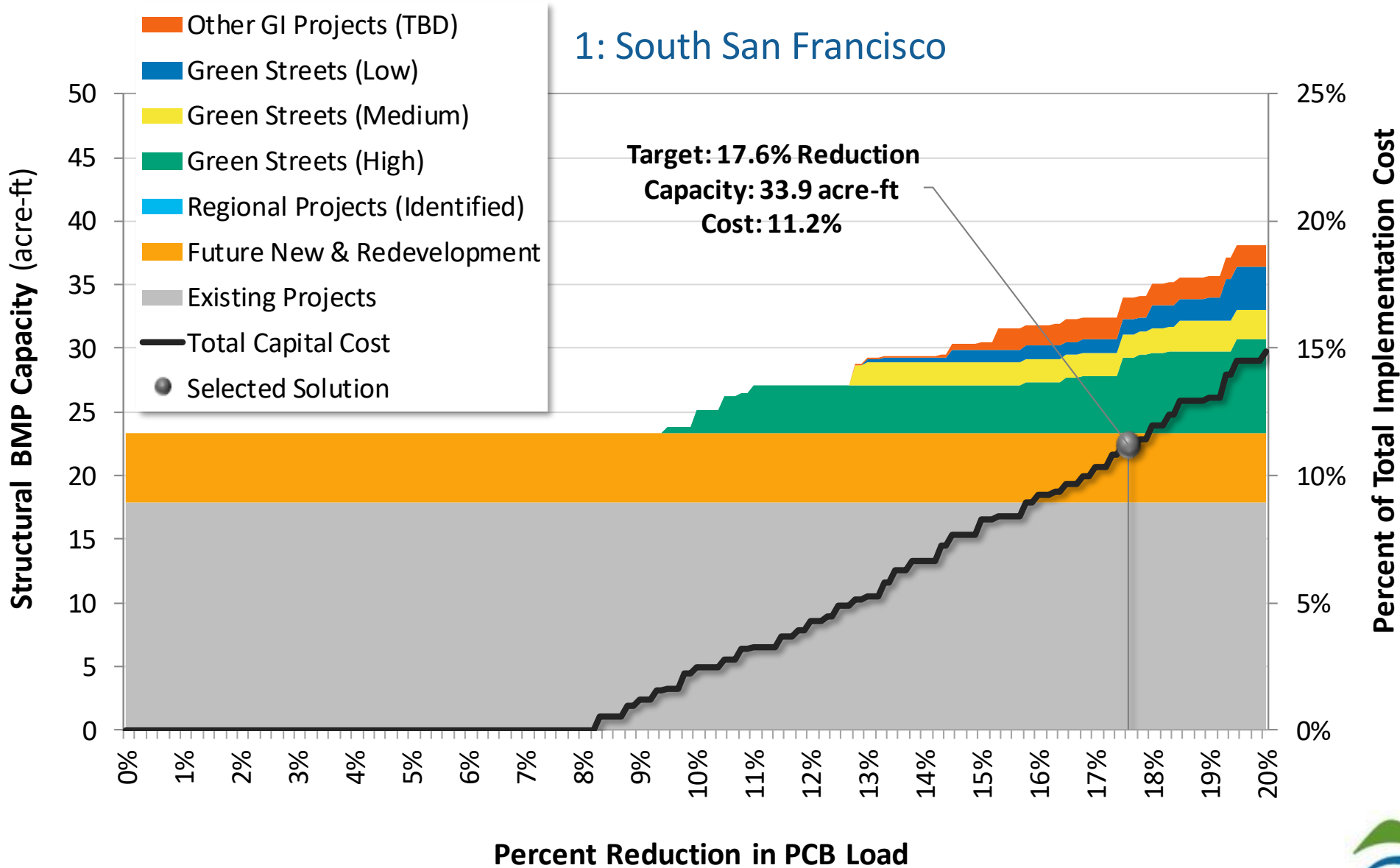




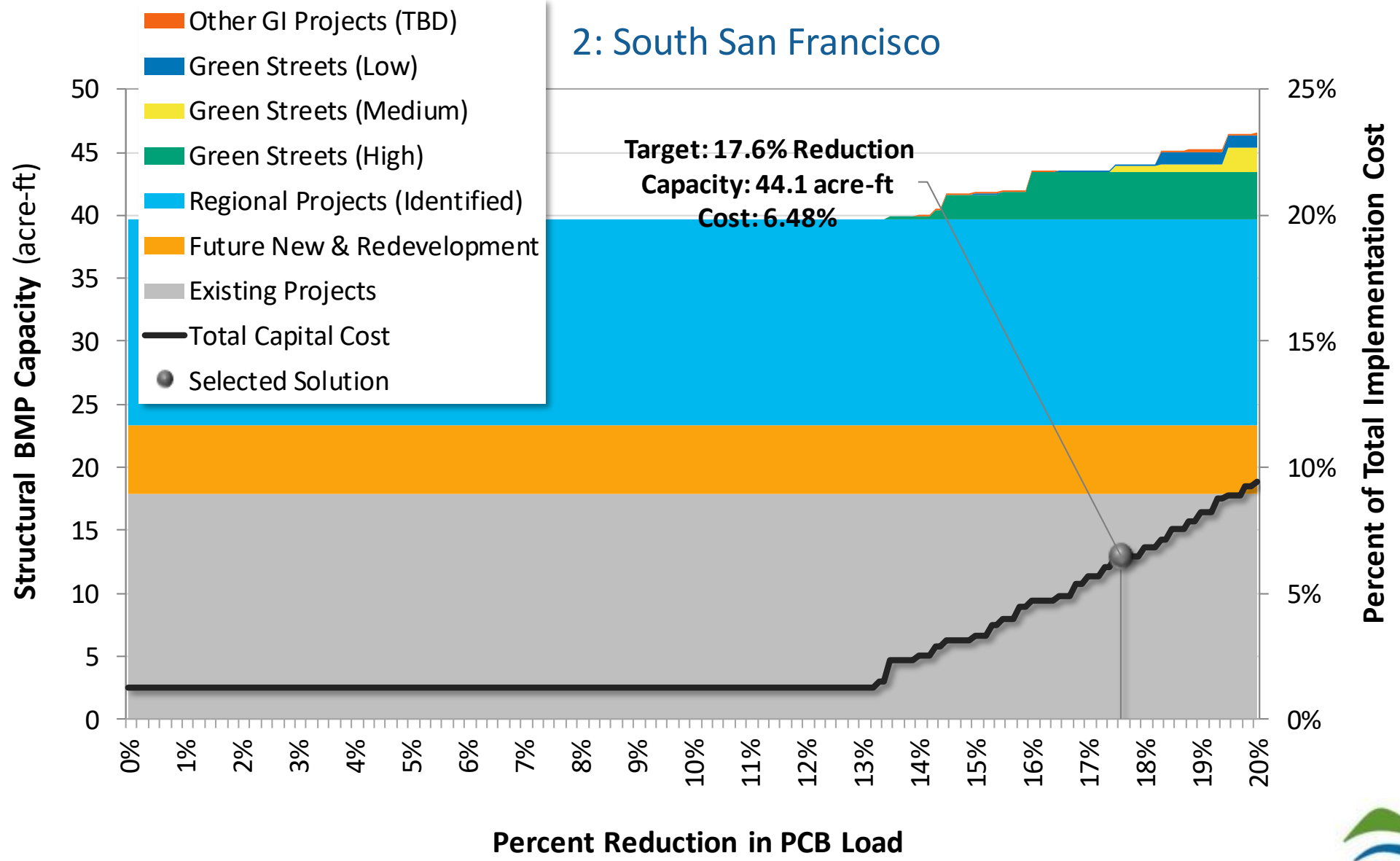


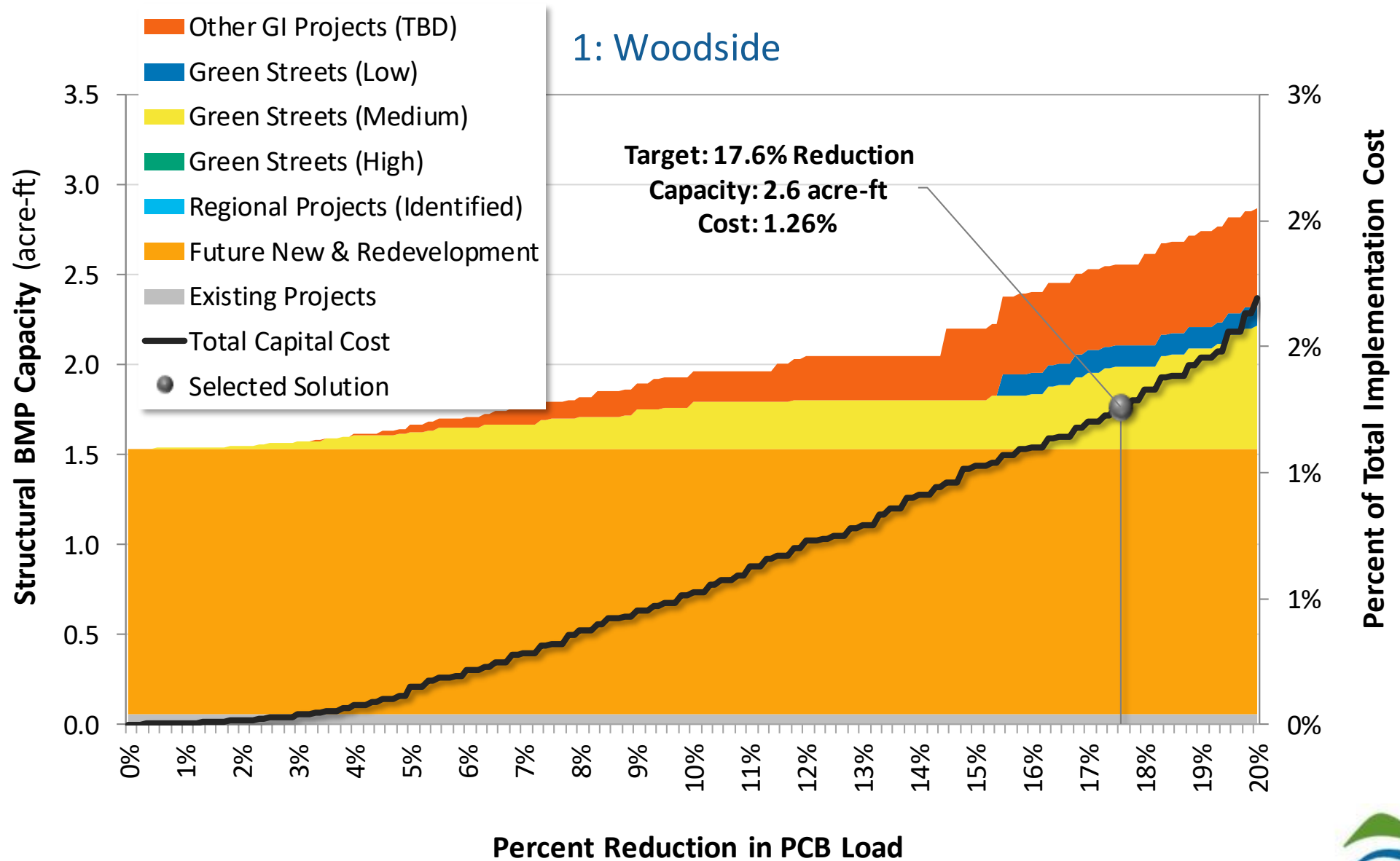
1: San Mateo





2: South San Francisco





2: Woodside

