Virginia Department of Rail
& Public Transportation

Operating Assistance Sizing Metrics & Scenarios

Presentation

November 13, 2018

Agenda

- Revised Allocation Approach – TSDAC Guidance
- Allocation Scenario Results
- Next Steps

Revised Approach to Sizing Factors – TSDAC Guidance

- Using Cost instead of Net Cost
  - Net Cost punishes agencies with high farebox recovery
- Introducing Revenue Hours in addition to Revenue Miles
- Mitigating significant funding increases
  - Capping maximum operating assistance allocation as a percentage of operating costs
- Maintain approach to allocating Commuter Rail pool
  - *33% Passenger Miles Traveled, 33% Revenue Hours, 33% Revenue Miles*

Scenarios Presented in this Document

- Start with Scenario 2+ from Oct. 3 TSDAC presentation:
  - *Sizing based on Net Cost, Ridership, Revenue Miles, at 33.3% each*
  - *Corrects anomalies in the data*

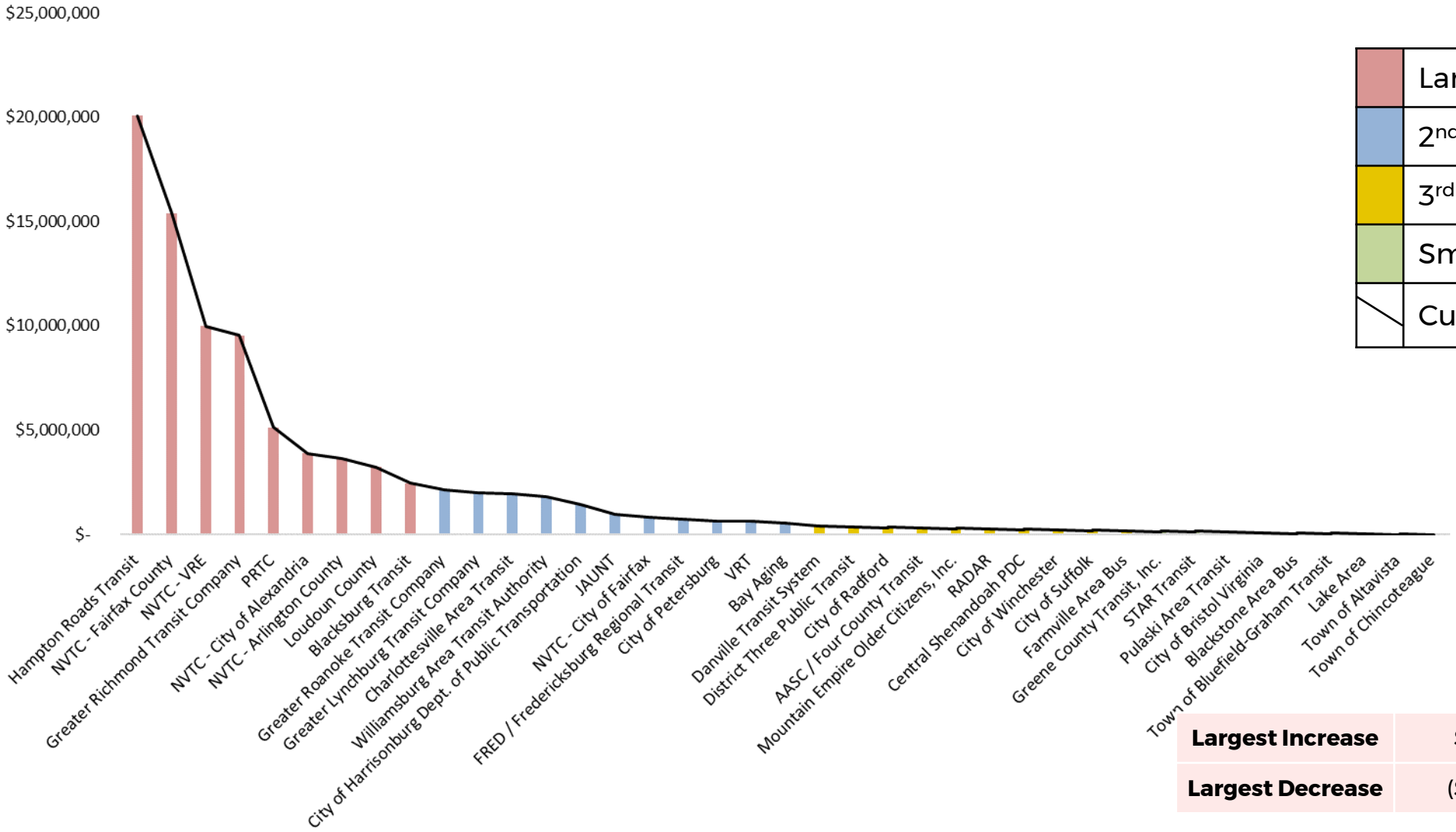
- Introduce the following variations of Scenario 2+:
  - *Scenario A: replaces **Net Cost** with **Operating Cost***
  - *Scenario B: Introduces **Revenue Hours** as a 4th metric (25% each)*
  - *Scenario C: Introduces **an alternate distribution** between **the four metrics** of Scenario B to **minimize variance**: Cost, Ridership, Revenue Hours, Revenue Miles, at 50/30/10/10%*

- Finally, a cap on the allocation of operating assistance as percentage of operating cost by transit agency is presented

4

FY19 Actual Allocations
(Traditional and Performance)

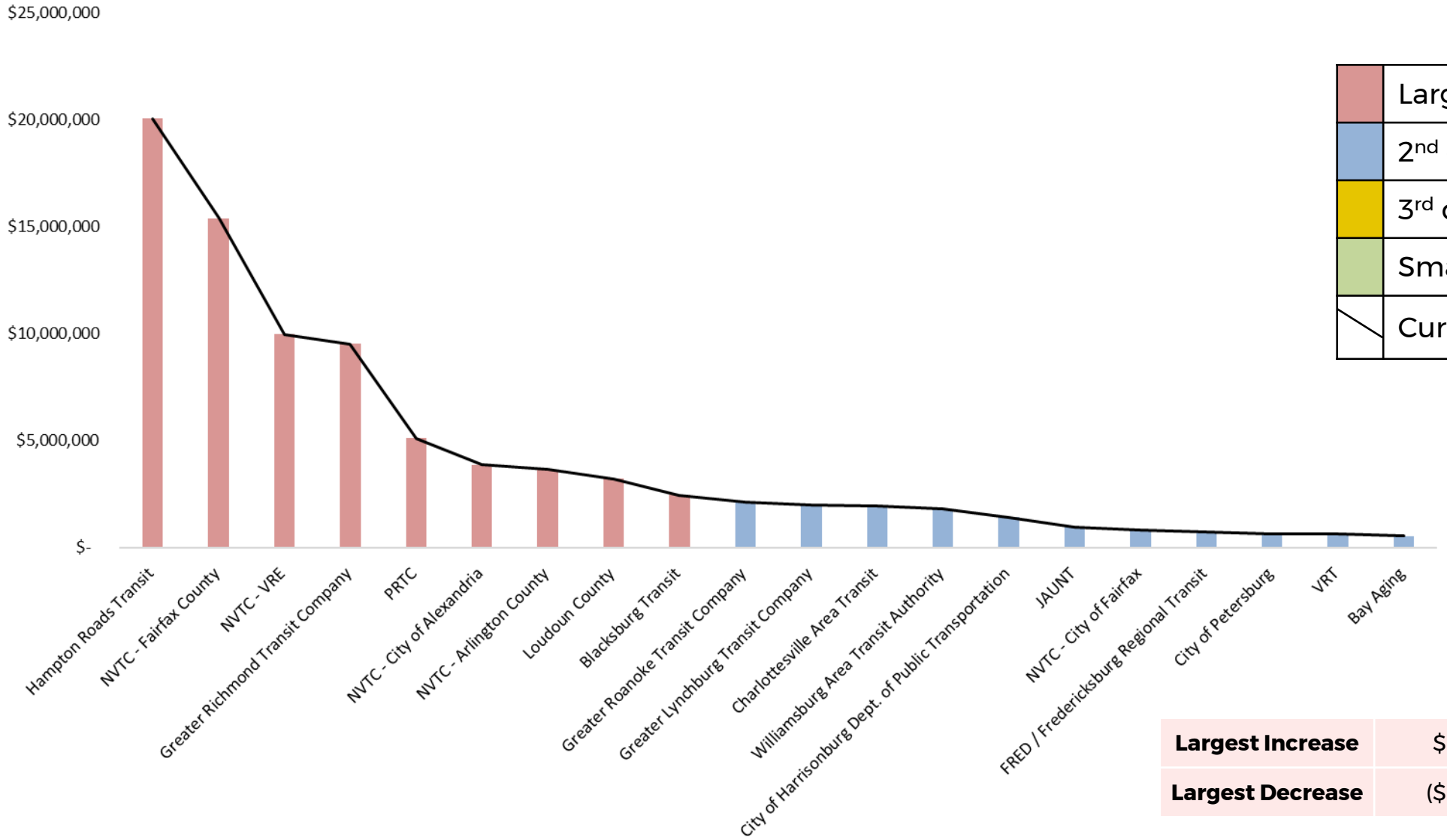
FY19 Actual Allocation of Operating Assistance to Virginia Transit Agencies



Largest quartile	
2nd quartile	
3rd quartile	
Smallest quartile	
Current Allocation	

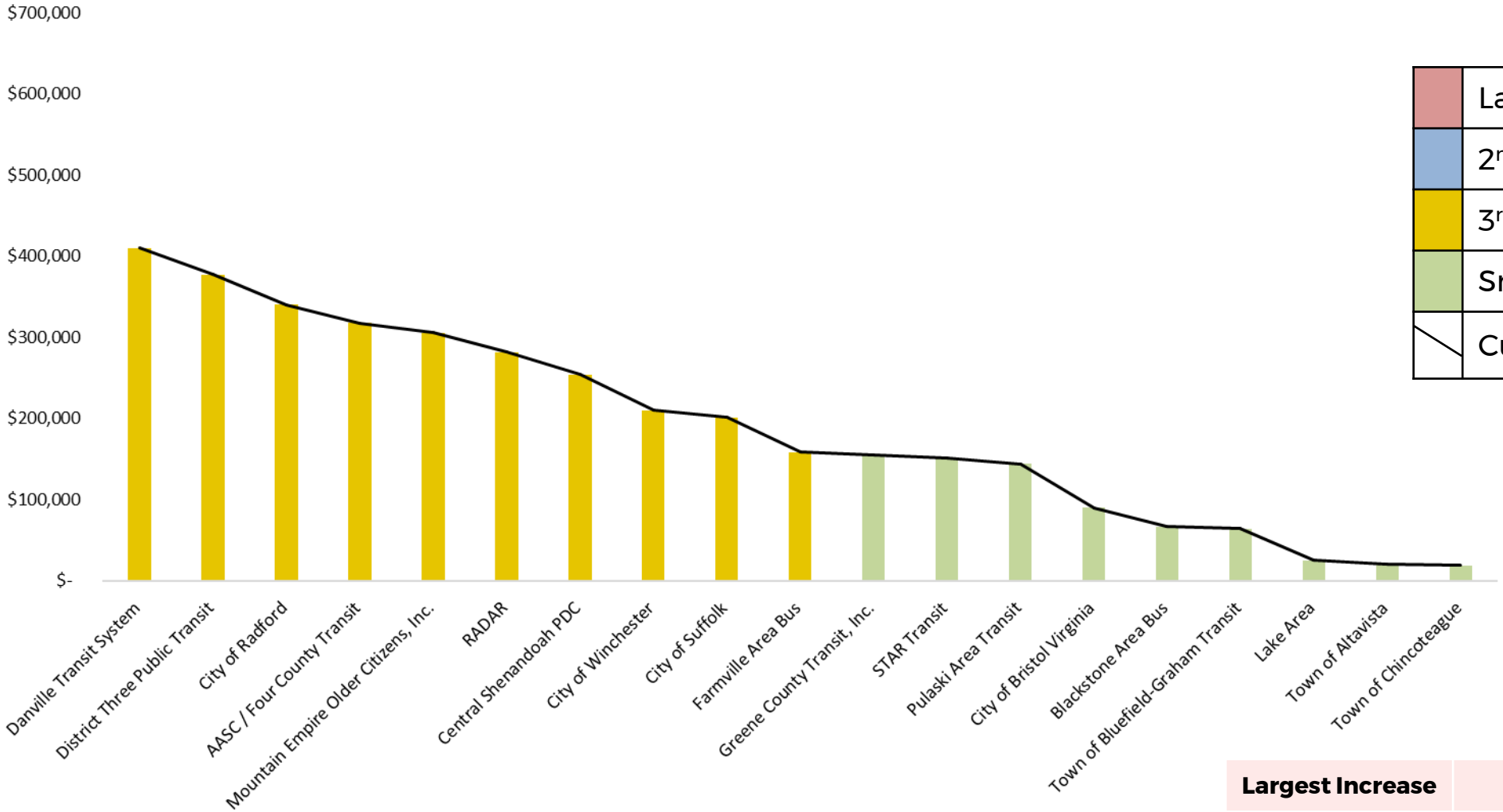
Largest Increase	$0	0%
Largest Decrease	($0)	(0%)

FY19 Actual Allocation of Operating Assistance: 1st and 2nd Quartile Agencies



Largest Increase	$0	0%
Largest Decrease	($0)	(0%)

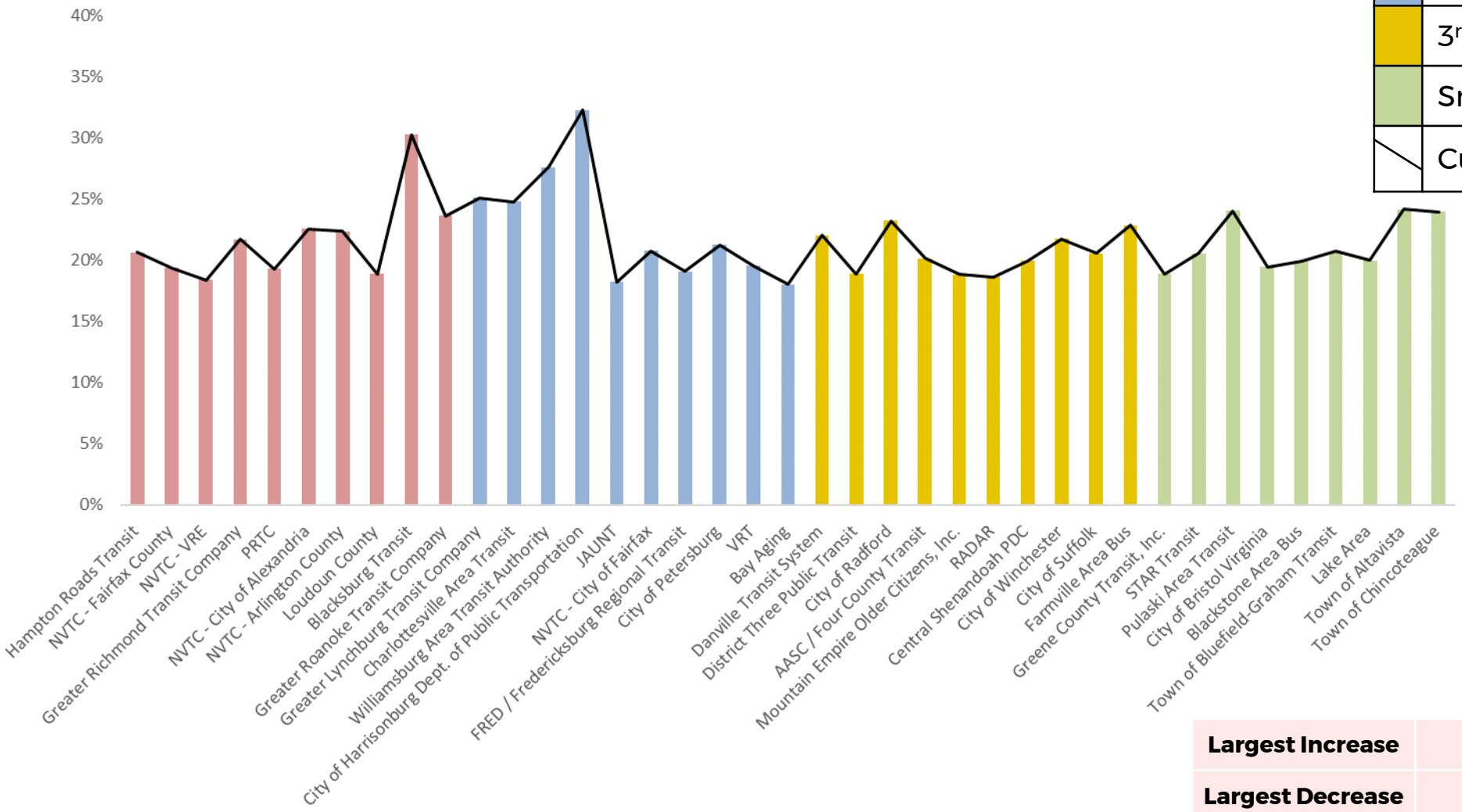
FY19 Actual Allocation of Operating Assistance: 3rd and 4th Quartile Agencies



Largest quartile	
2nd quartile	
3rd quartile	
Smallest quartile	
Current Allocation	

Largest Increase	$0	0%
Largest Decrease	($0)	(0%)

FY19 Actual Allocation of Operating Assistance as Percentage of Operating Cost by Transit Agency

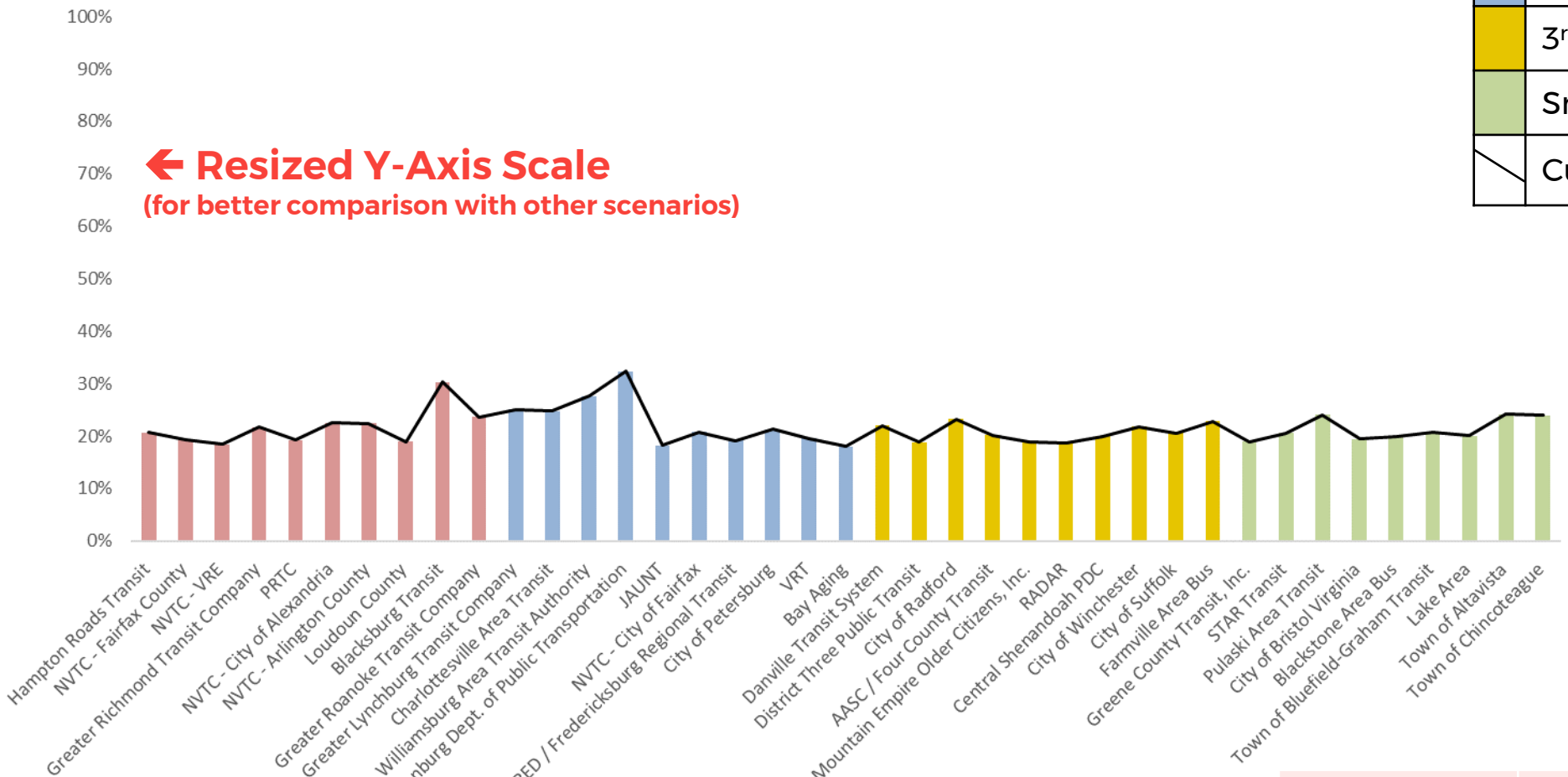


Largest quartile
2nd quartile
3rd quartile
Smallest quartile
Current Allocation

Largest Increase	$0	0%
Largest Decrease	($0)	(0%)

FY19 Actual Allocation of Operating Assistance as Percentage of Operating Cost by Transit Agency

	Largest quartile
	2nd quartile
	3rd quartile
	Smallest quartile
	Current Allocation



← Resized Y-Axis Scale
(for better comparison with other scenarios)

Largest Increase	$0	0%
Largest Decrease	($0)	(0%)

Scenarios

Capped Allocations as a % of Agency Operating Cost

- Current FY 19 allocations range from 18% to 32% of each agency's total Operating Costs with an average of 22%

- A cap limiting state funding as a percentage of O&M costs of an agency provides for:
  - *Similar proportions of state funding across agencies*
  - *Limiting large swings in funding for individual agencies*

- 30% cap is proposed, based on high end of FY 19 allocations
  - *Only 1 agency above 30% in FY19 (Harrisonburg, 32%)*

- Funds above the cap are not automatically reallocated to other agencies – listed as "Unallocated."
  - *DRPT would develop a policy for re-allocating these funds*

Allocation Scenarios

Scenario Name	Op Cost	Net Cost	Rider-ship	PMT	Rev Hour	Rev Miles
2+ Net Cost, Ridership, Revenue Miles – 33.3%		33%	33%			33%
A. Cost, Ridership, Revenue Miles – 33.3%	33%		33%			33%
B. Cost, Ridership, Revenue Hours, Revenue Miles – 25%	25%		25%		25%	25%
C. Cost, Ridership, Revenue Hours, Revenue Miles – 50/30/10/10 %	50%		30%		10%	10%
A-Capped. Cost, Ridership, Revenue Miles – 33.3% – *Capped 30%*	33%		33%			33%
B-Capped. Cost, Ridership, Revenue Hours, Revenue Miles – 25% – *Capped 30%*	25%		25%		25%	25%
C-Capped. Cost, Ridership, Revenue Hours, Revenue Miles – 50/30/10/10 % – *Capped 30%*	50%		30%		10%	10%

All Scenarios match 5 out of the 6 policy objectives of the performance-based allocation

Scenario 2+

33% Net Operating Cost
33% Ridership
33% Revenue Vehicle Miles
Commuter Rail Pool

Recognizing the specific performance of commuter rail, a separate funding pool is created

- *Approach to commuter rail pool unchanged from Oct 3. TSDAC presentation*
- Based on share of commuter rail Passenger Miles Traveled, Revenue Vehicle Hours and Revenue Vehicle Miles relative to statewide totals
- Based on current statistics, commuter rail funding pool would equal 10.9% of total revenue available

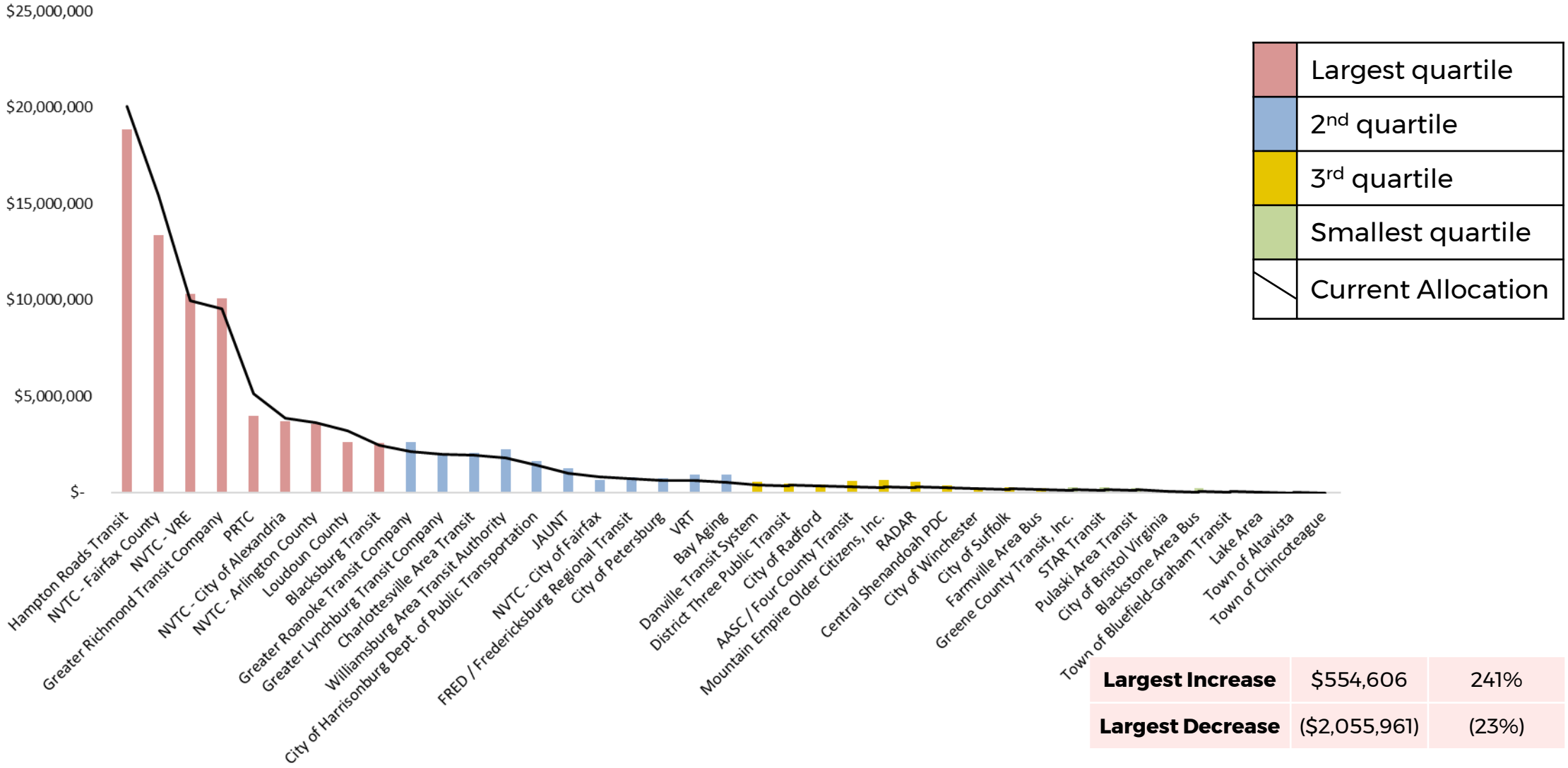
	Percentages	Total Revenue	Commuter Rail Share
PMT	33%	. $30,198,544	$8,284,370.56
RVH	33%	$30,198,544	$471,680.47
RVM	33%	$30,198,544	$1,097,007.01
Total	100%	$90,595,632	$9,853,058.04
		Percentage Share	10.9%

- VRE allocation in FY19 was 11% of total revenue available
- Performance-adjustment factors would be applied to calculate VRE's final allocation

Scenario 2+
33% Net Cost
33% Ridership
33% Rev Miles

Scenario 2+ Projected Operating Assistance Allocations by Agency

Line is Current Allocation Method for FY19

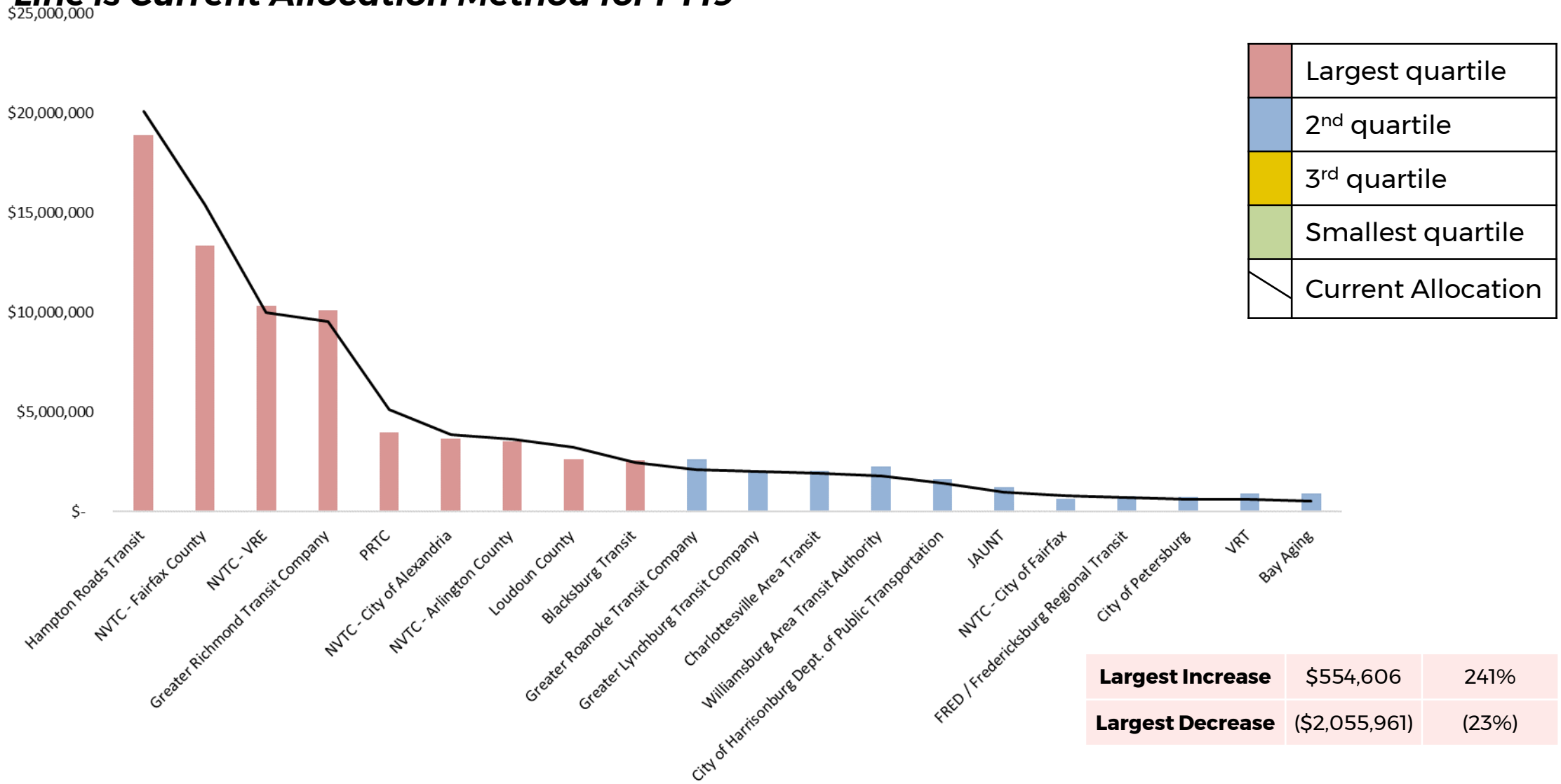


Largest Increase	$554,606	241%
Largest Decrease	($2,055,961)	(23%)

Scenario 2+
33% Net Cost
33% Ridership
33% Rev Miles

Scenario 2+ Projected Operating Assistance Allocations: 1st and 2nd Quartile Agencies

Line is Current Allocation Method for FY19

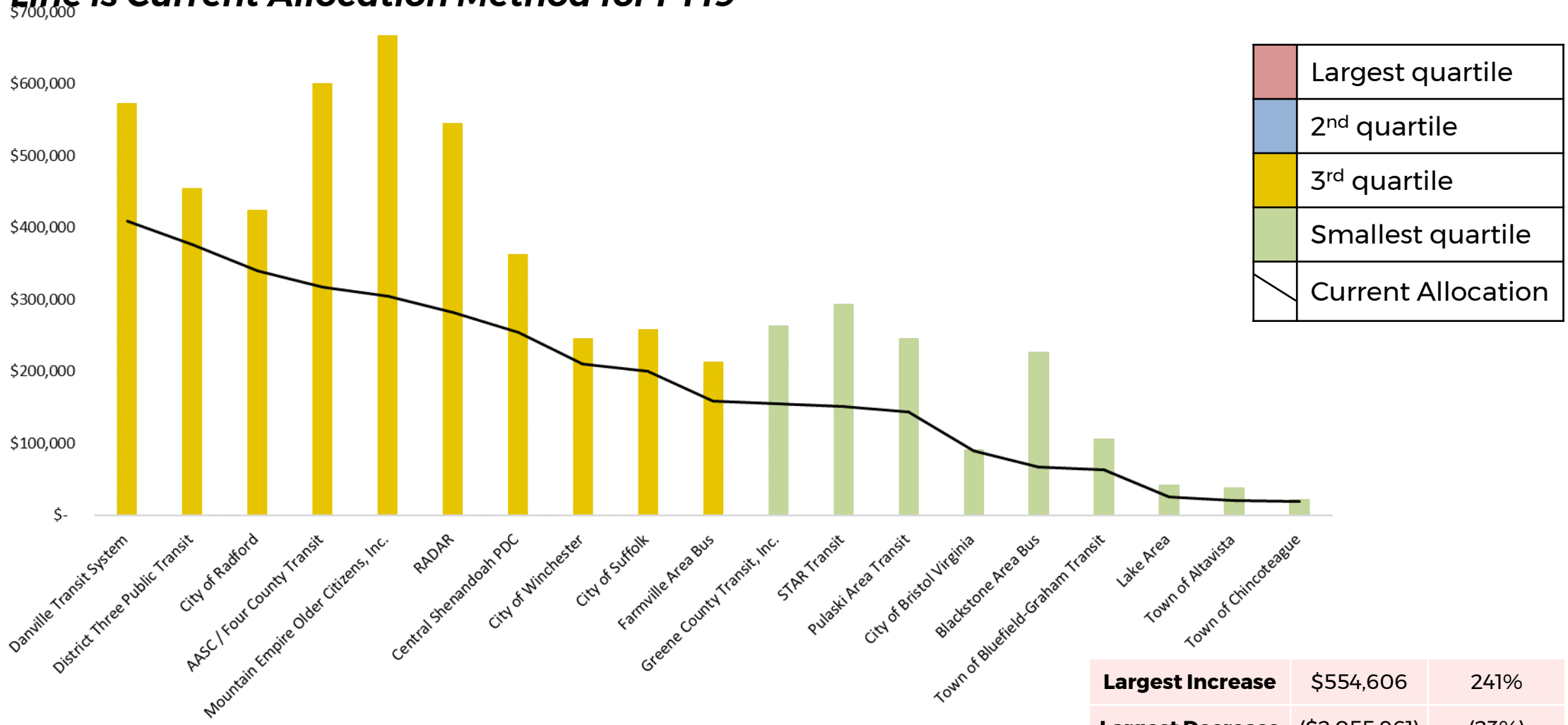


Largest Increase	$554,606	241%
Largest Decrease	($2,055,961)	(23%)

Scenario 2+
33% Net Cost
33% Ridership
33% Rev Miles

Scenario 2+ Projected Operating Assistance Allocations: 3rd and 4th Quartile Agencies

Line is Current Allocation Method for FY19

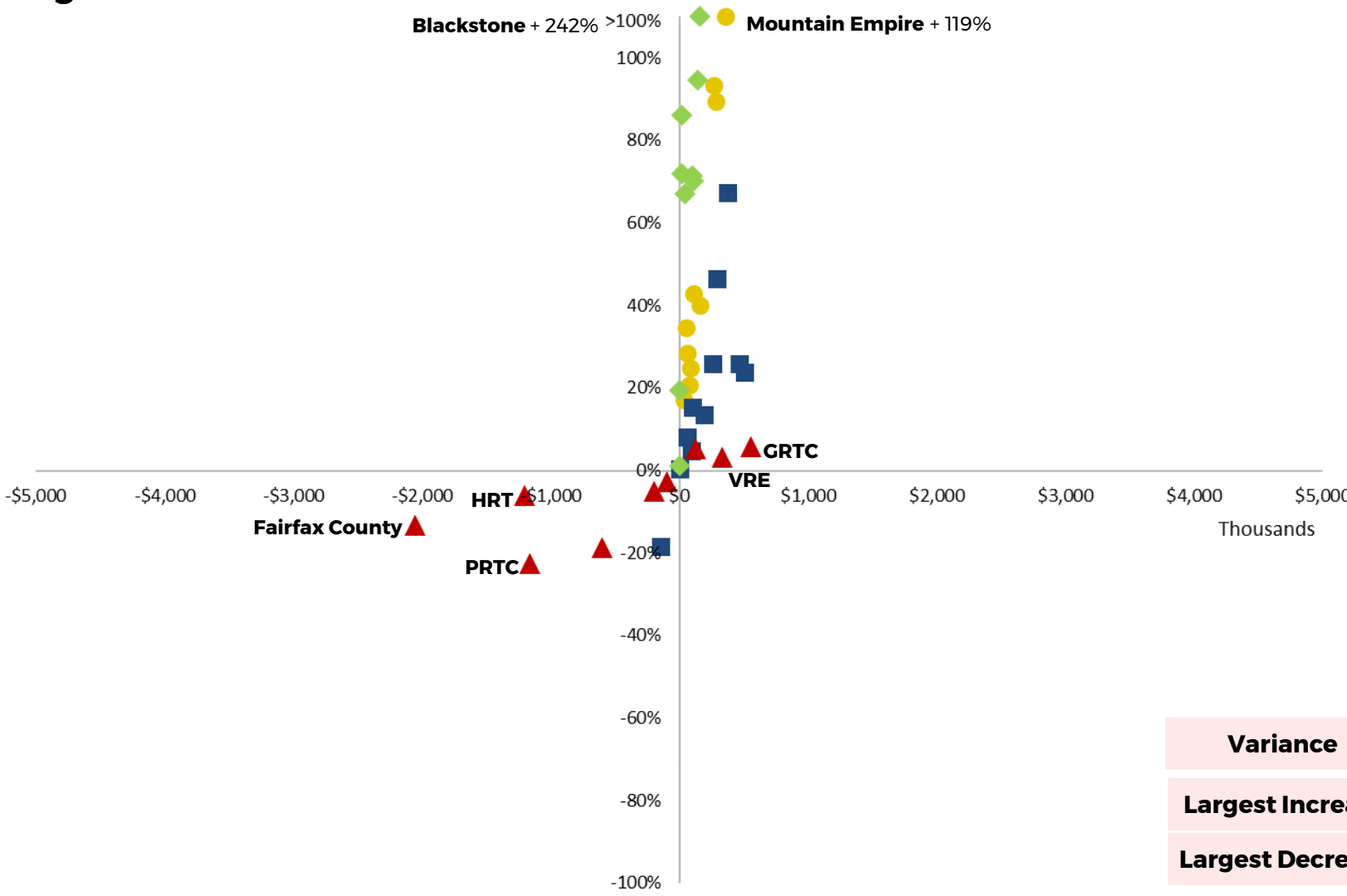


Largest Increase	$554,606	241%
Largest Decrease	($2,055,961)	(23%)

Scenario 2+
33% Net Cost
33% Ridership
33% Rev Miles

Scenario 2+ Projected Variance from Actual FY19 Operating Assistance Allocation by Agency

No Change is at Zero on the Axes



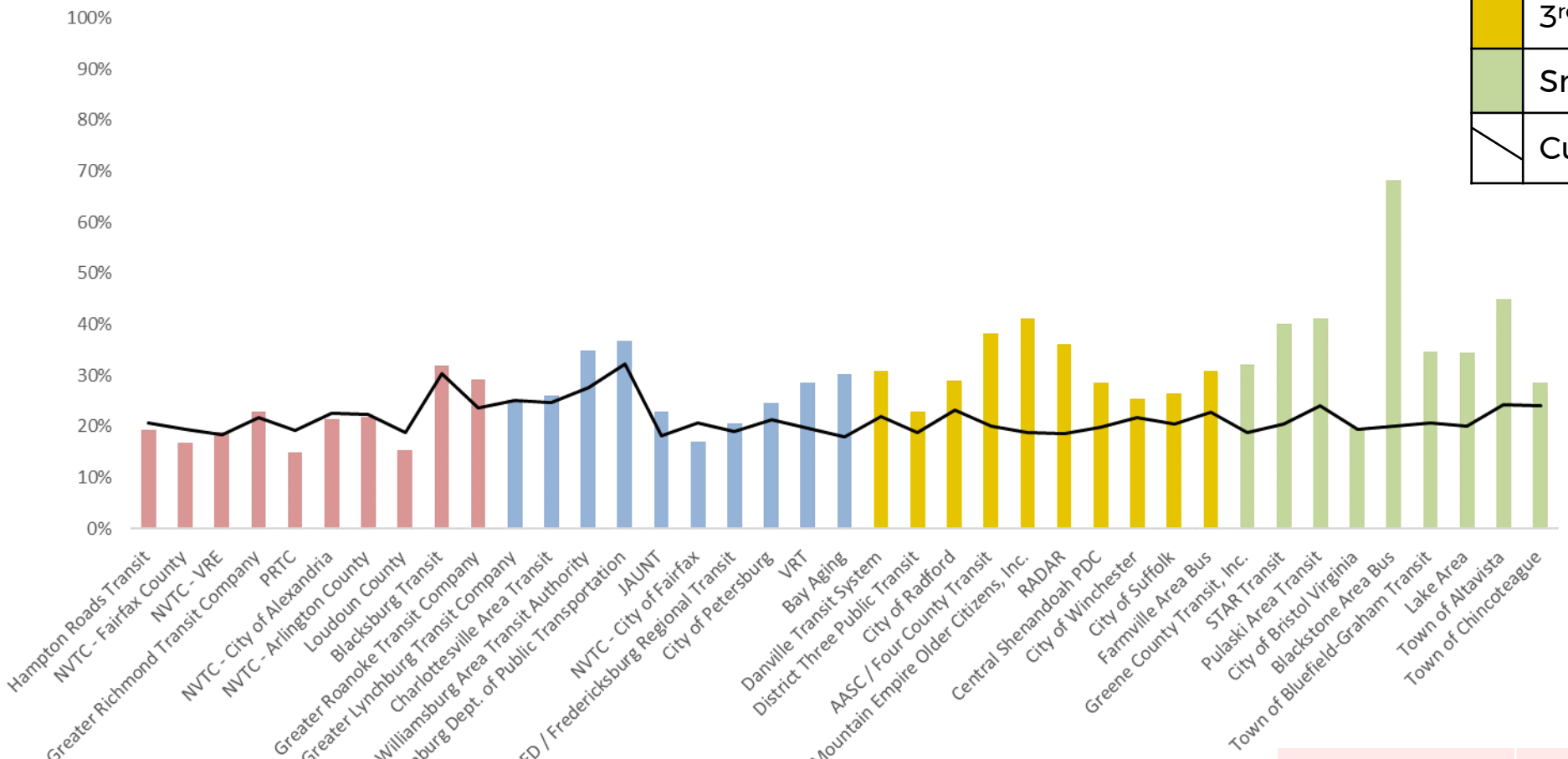
Largest quartile
2nd quartile
3rd quartile
Smallest quartile

Variance	0.239	
Largest Increase	$554,606	241%
Largest Decrease	($2,055,961)	(23%)

Scenario 2+
33% Net Cost
33% Ridership
33% Rev Miles

Scenario 2+ Operating Assistance as % of Operating Cost by Agency

Line is Current Allocation Method for FY19



Largest quartile	
2nd quartile	
3rd quartile	
Smallest quartile	
Current Allocation	

Largest Increase	$554,606	241%
Largest Decrease	($2,055,961)	(23%)

Scenario A

33% Operating Cost

33% Ridership

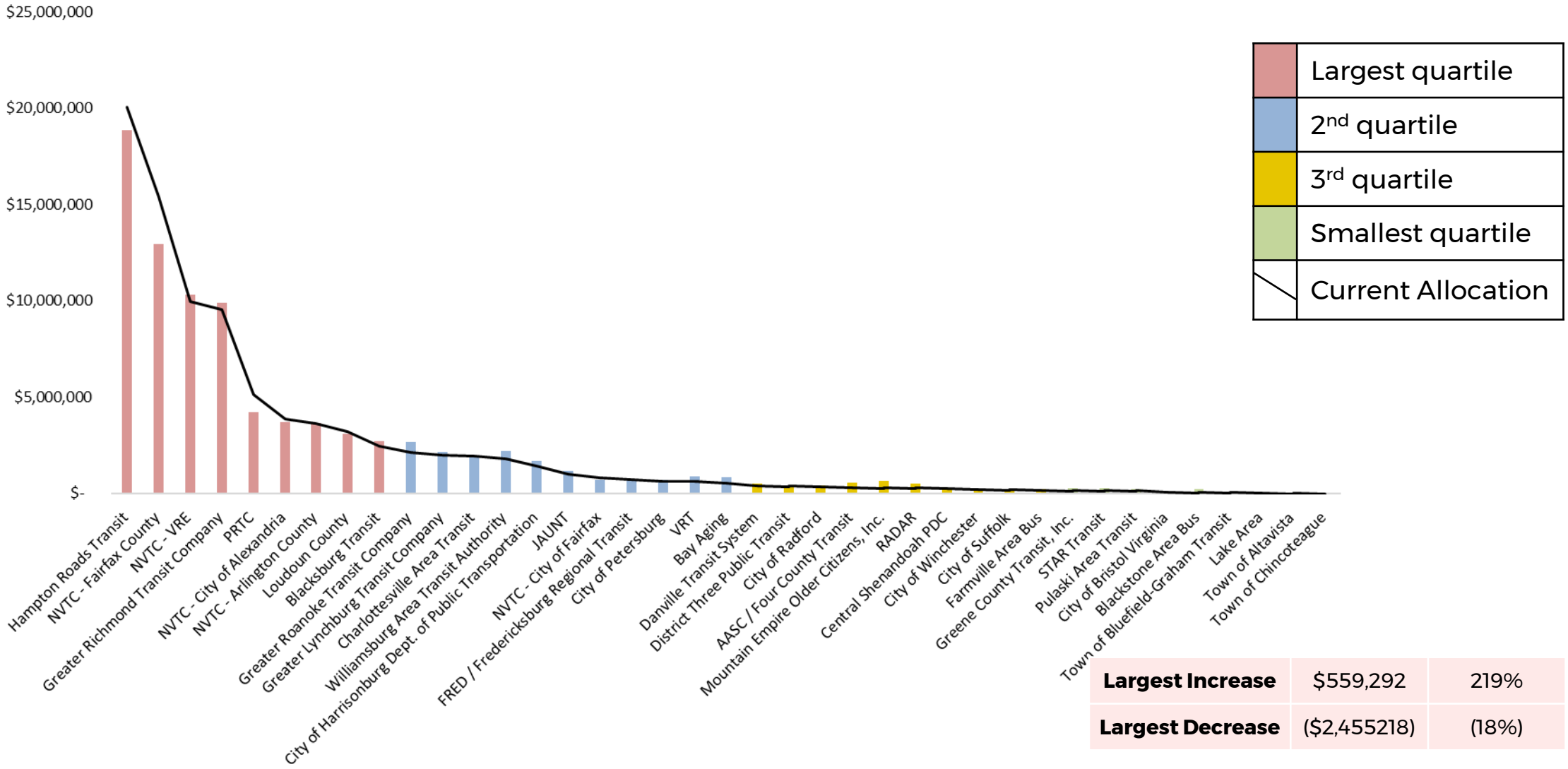
33% Revenue Vehicle Miles

Commuter Rail Pool

Scenario A
33% Cost
33% Ridership
33% Rev Miles

Scenario A Projected Operating Assistance Allocations by Agency

Line is Current Allocation Method for FY19

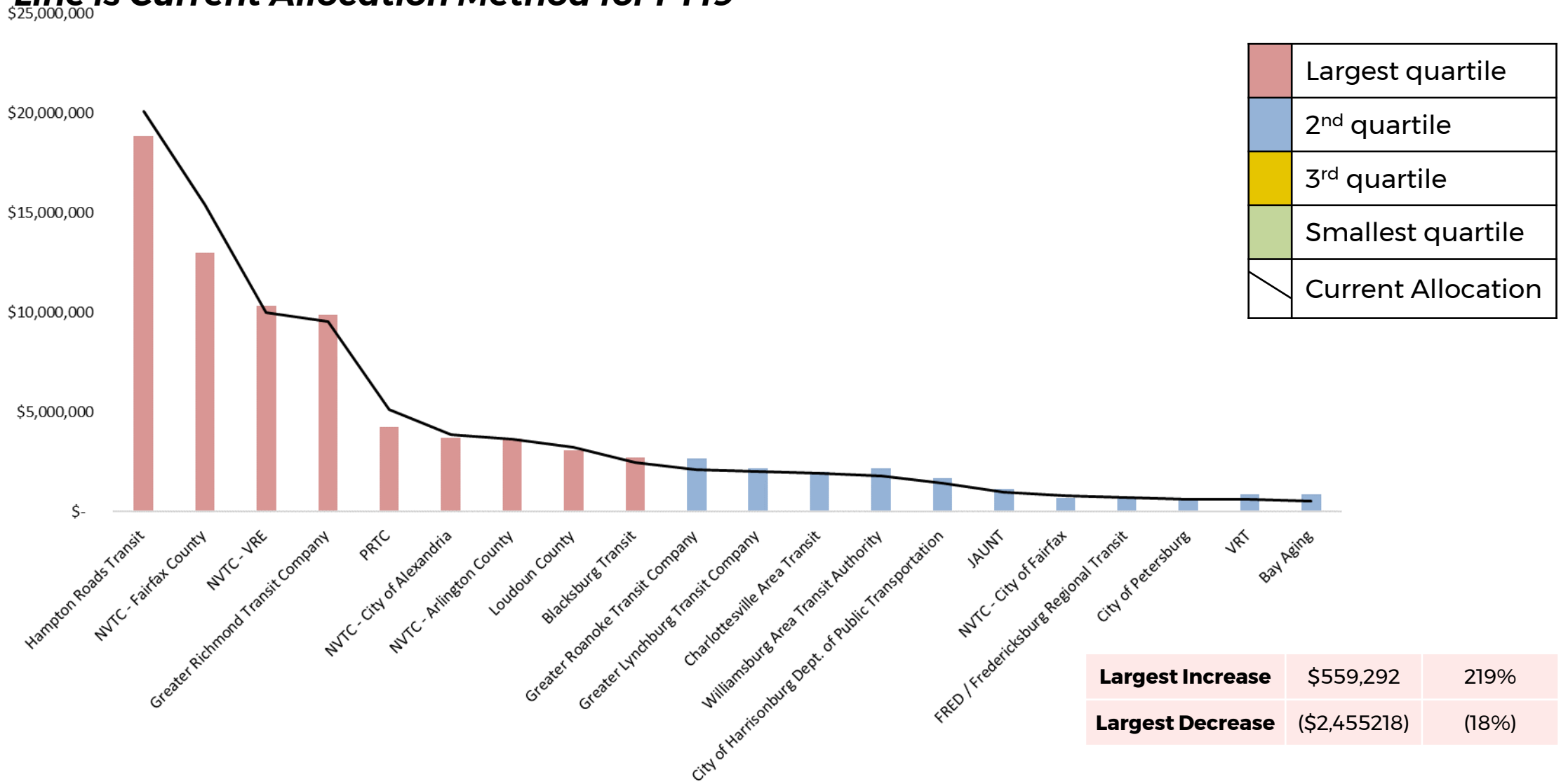


Largest Increase	$559,292	219%
Largest Decrease	($2,455218)	(18%)

Scenario A
33% Cost
33% Ridership
33% Rev Miles

Scenario A Projected Operating Assistance Allocations: 1st and 2nd Quartile Agencies

Line is Current Allocation Method for FY19

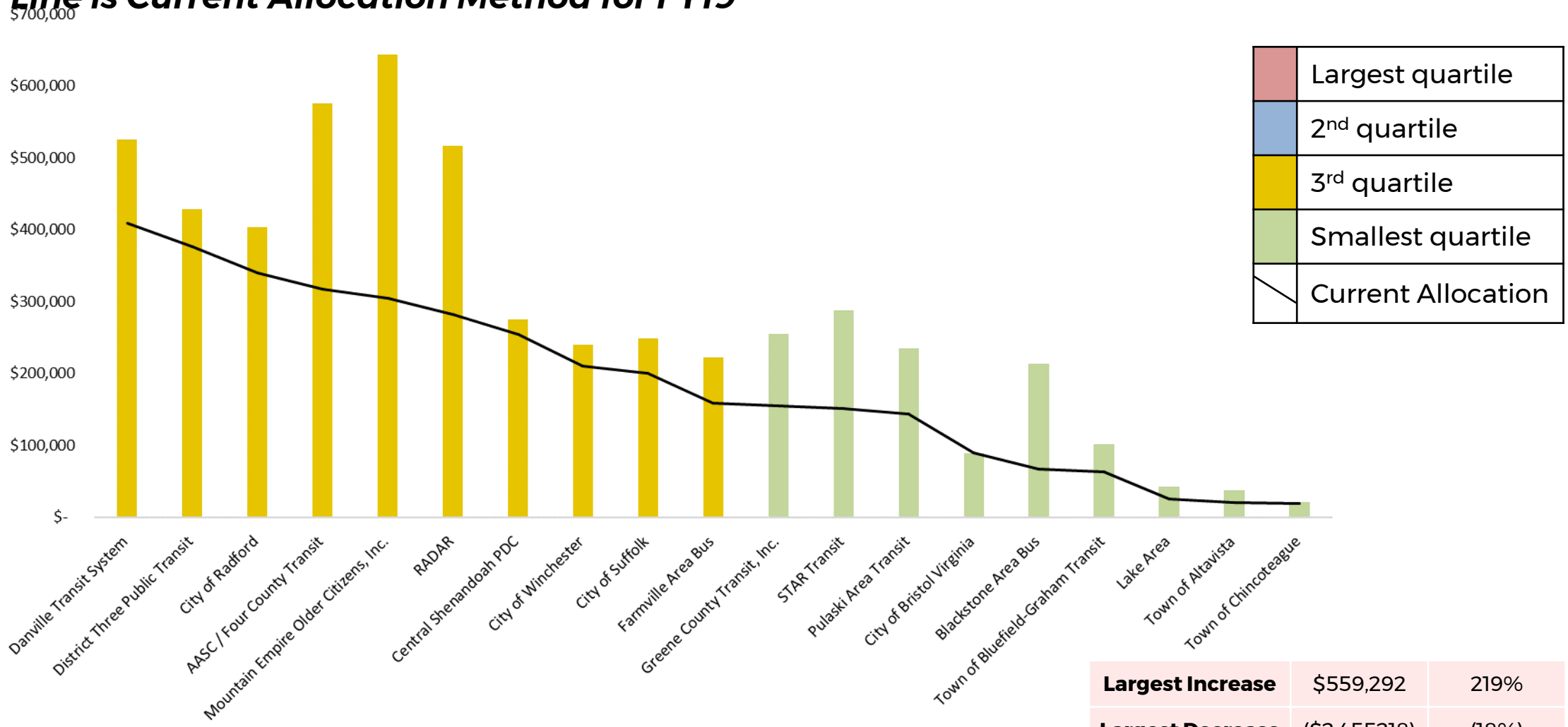


Largest Increase	$559,292	219%
Largest Decrease	($2,455218)	(18%)

Scenario A
33% Cost
33% Ridership
33% Rev Miles

Scenario A Projected Operating Assistance Allocations: 3rd and 4th Quartile Agencies

Line is Current Allocation Method for FY19

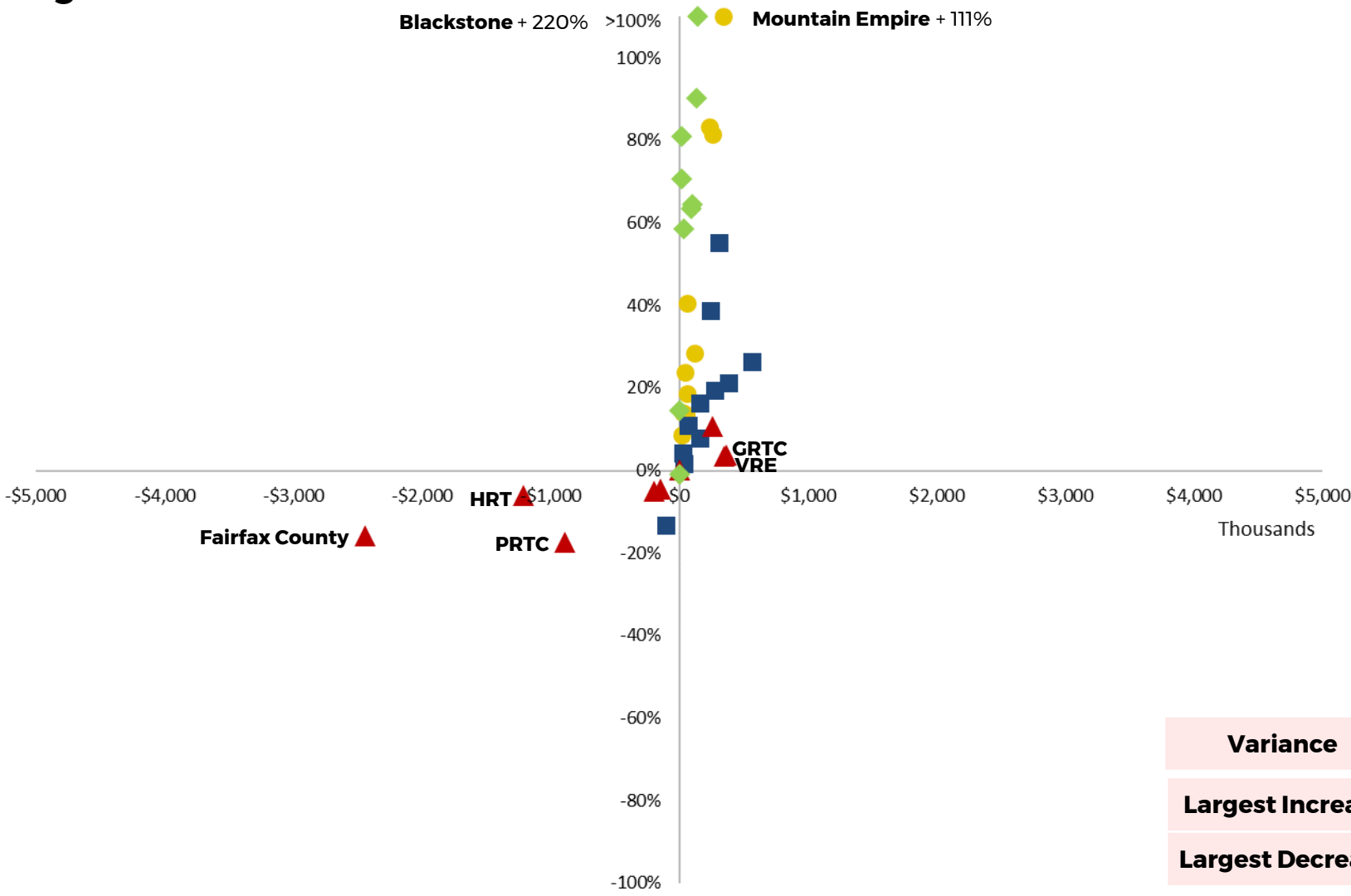


Largest Increase	$559,292	219%
Largest Decrease	($2,455218)	(18%)

Scenario A
33% Cost
33% Ridership
33% Rev Miles

Scenario A Projected Variance from Actual FY19 Operating Assistance Allocation by Agency

No Change is at Zero on the Axes



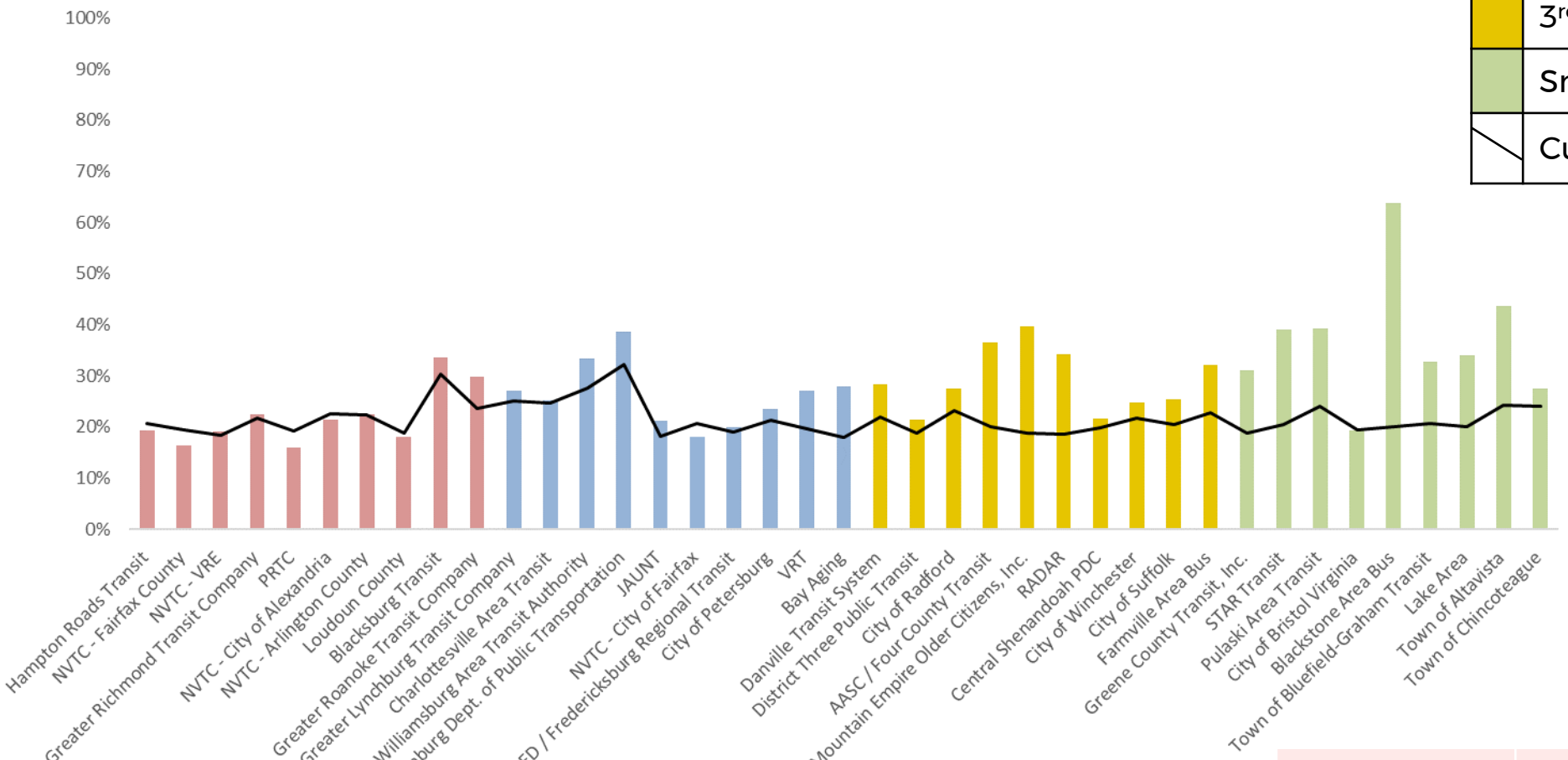
Largest quartile
2nd quartile
3rd quartile
Smallest quartile

Variance	0.198	
Largest Increase	$559,292	219%
Largest Decrease	($2,455218)	(18%)

Scenario A
33% Cost
33% Ridership
33% Rev Miles

Scenario A Operating Assistance as % of Operating Cost by Agency

Line is Current Allocation Method for FY19



	Largest quartile
	2nd quartile
	3rd quartile
	Smallest quartile
	Current Allocation

Largest Increase	$559,292	219%
Largest Decrease	($2,455218)	(18%)

Scenario B

25% Operating Cost

25% Ridership

25% Revenue Vehicle Hours

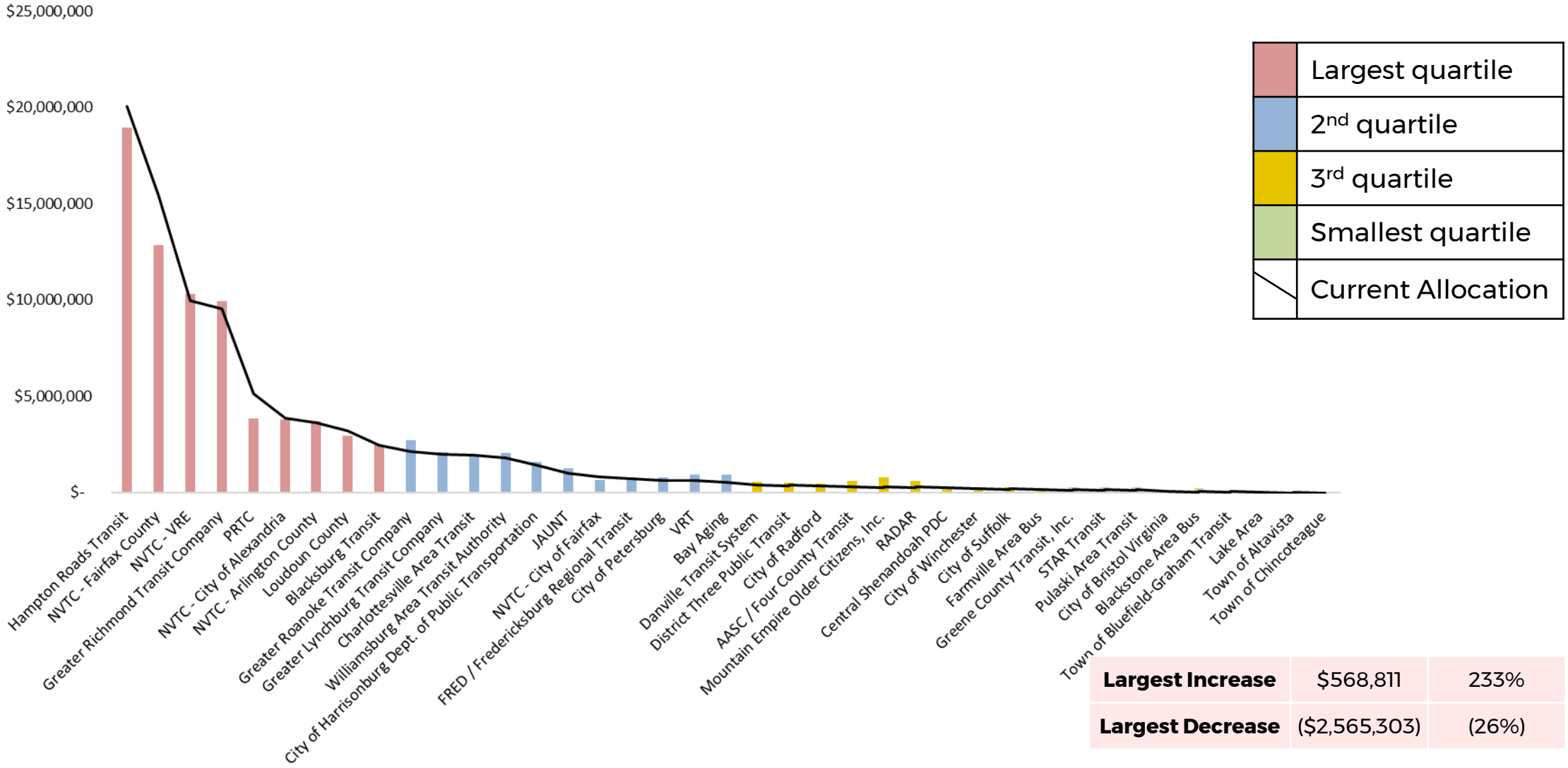
25% Revenue Vehicle Miles

Commuter Rail Pool

Scenario B
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles

Scenario B Projected Operating Assistance Allocations by Agency

Line is Current Allocation Method for FY19

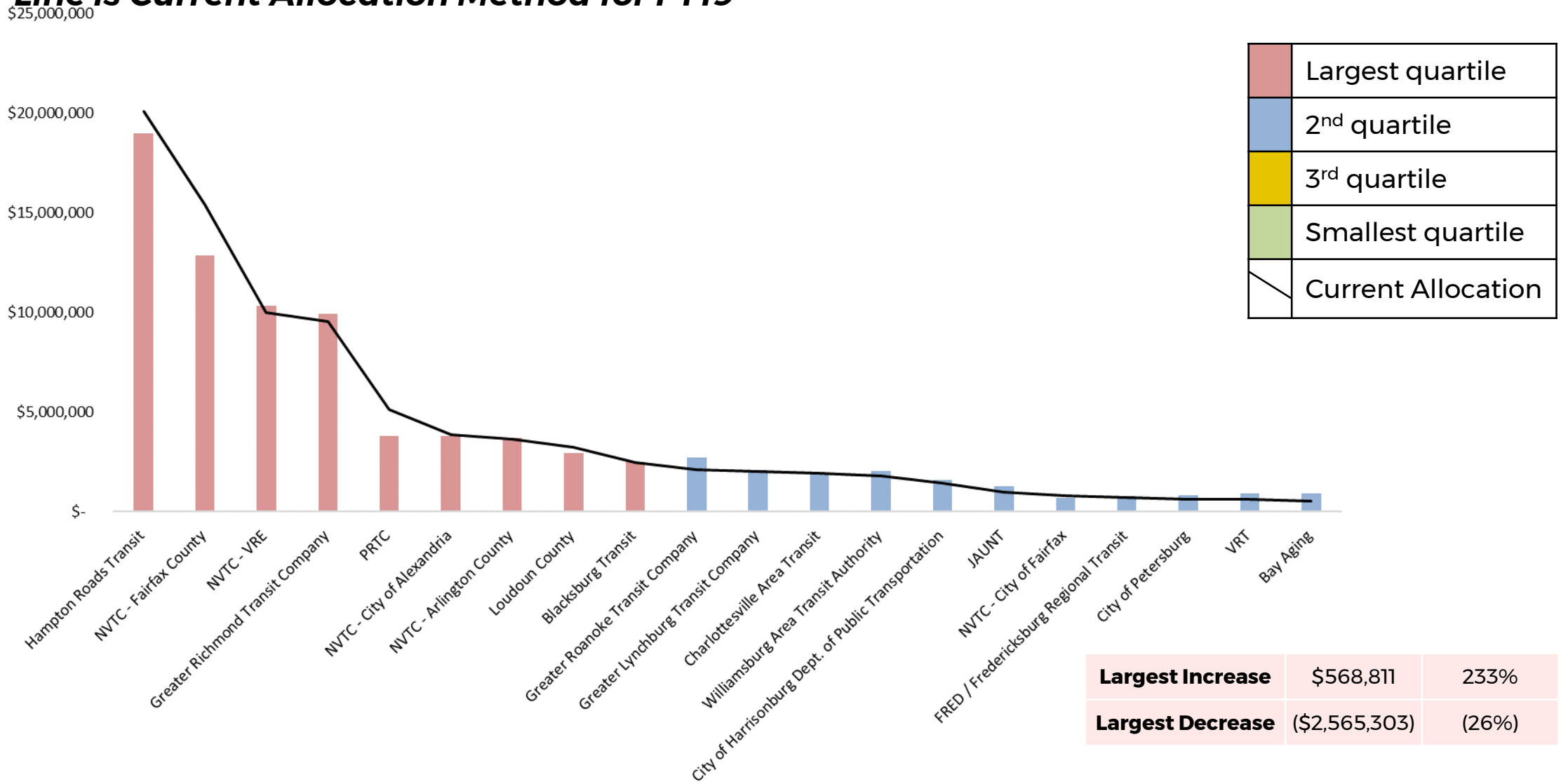


Largest Increase	$568,811	233%
Largest Decrease	($2,565,303)	(26%)

Scenario B
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles

Scenario B Projected Operating Assistance Allocations: 1st and 2nd Quartile Agencies

Line is Current Allocation Method for FY19

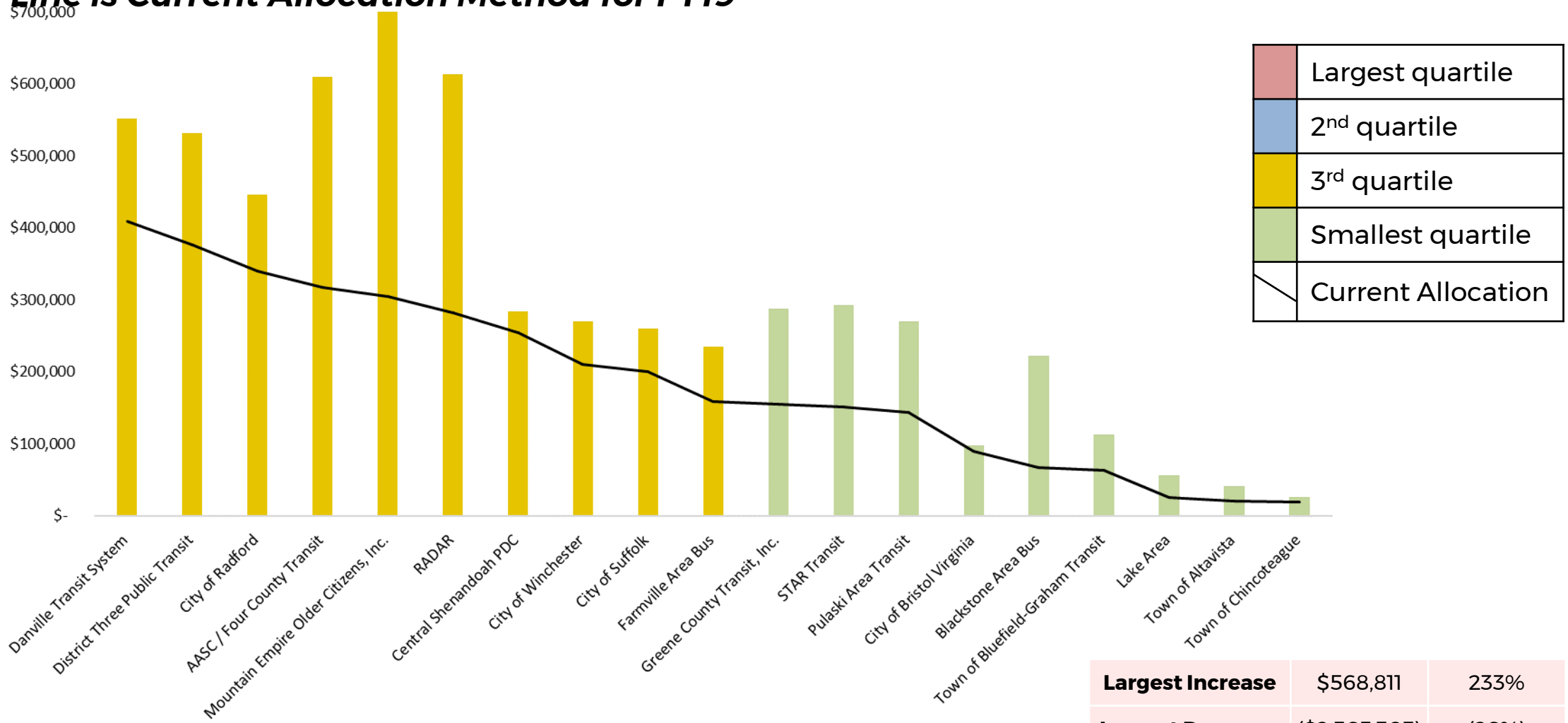


Largest Increase	$568,811	233%
Largest Decrease	($2,565,303)	(26%)

Scenario B
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles

Scenario B Projected Operating Assistance Allocations: 3rd and 4th Quartile Agencies

Line is Current Allocation Method for FY19

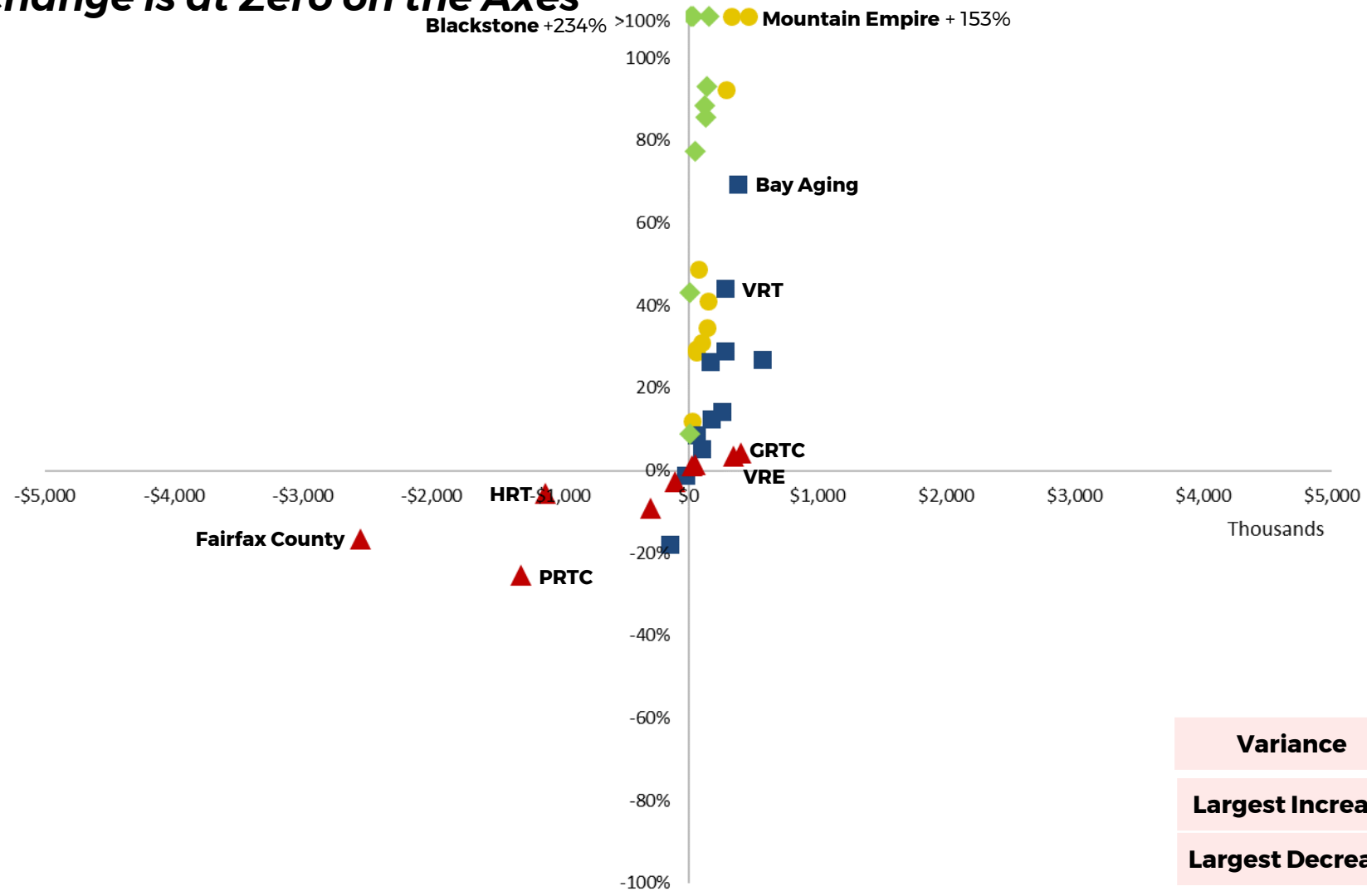


Largest Increase	$568,811	233%
Largest Decrease	($2,565,303)	(26%)

Scenario B
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles

Scenario B Projected Variance from Actual FY19 Operating Assistance Allocation by Agency

No Change is at Zero on the Axes



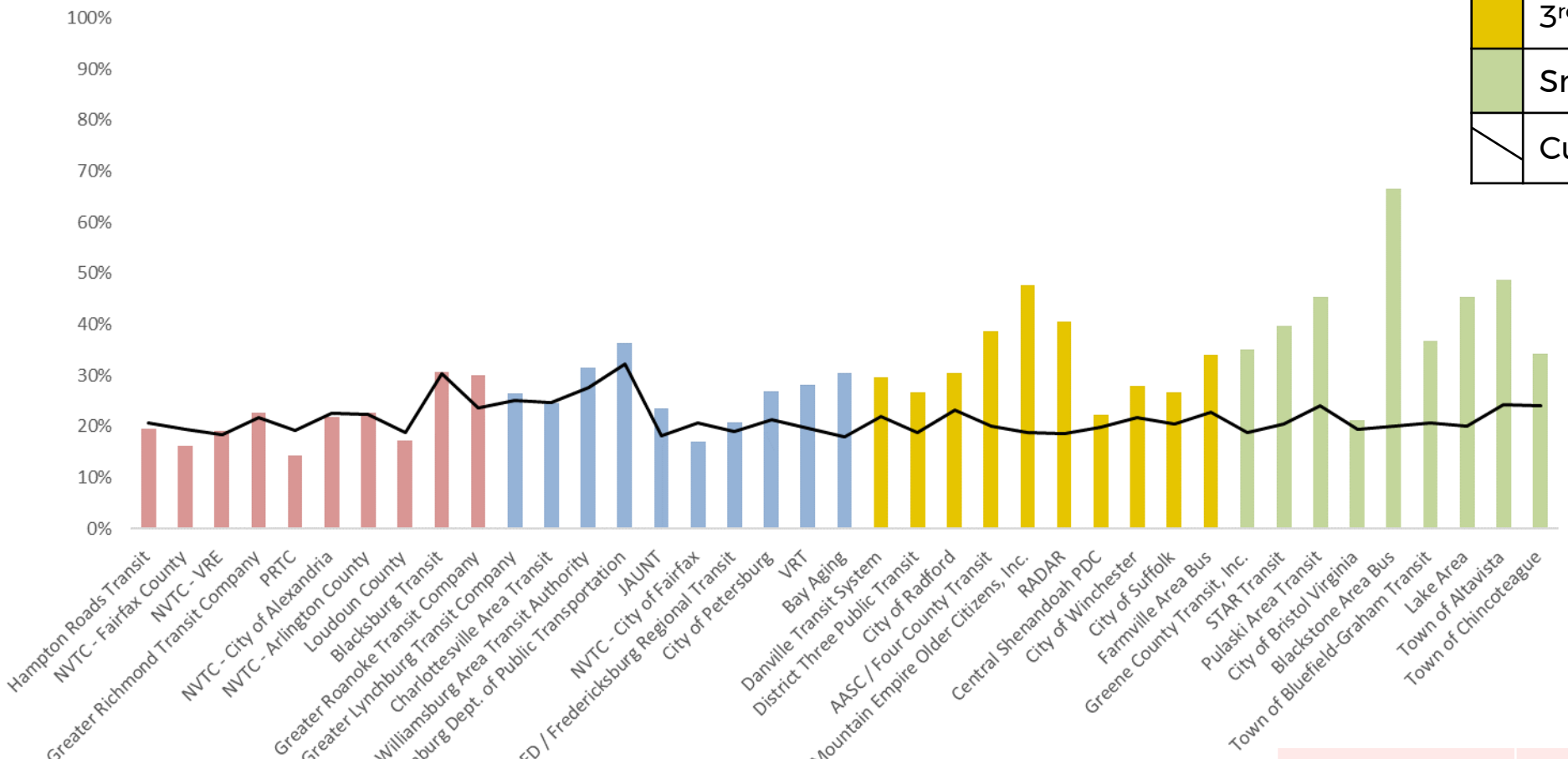
Largest quartile	
2nd quartile	
3rd quartile	
Smallest quartile	

Variance	0.283	
Largest Increase	$568,811	233%
Largest Decrease	($2,565,303)	(26%)

Scenario B
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles

Scenario B Operating Assistance as % of Operating Cost by Agency

Line is Current Allocation Method for FY19



	Largest quartile
	2nd quartile
	3rd quartile
	Smallest quartile
	Current Allocation

Largest Increase	$568,811	233%
Largest Decrease	($2,565,303)	(26%)

Scenario C

50% Operating Cost

30% Ridership

10% Revenue Vehicle Hours

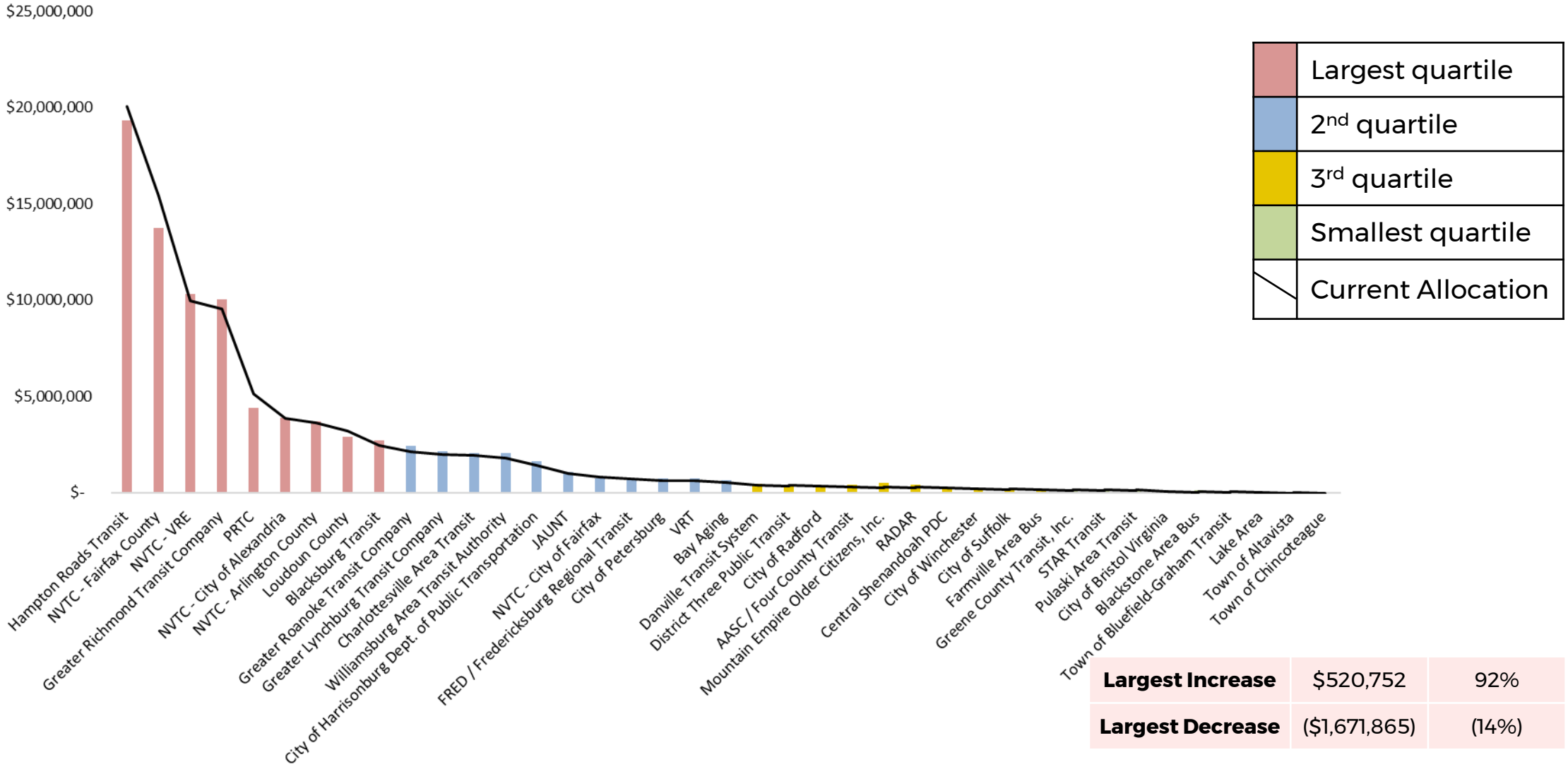
10% Revenue Vehicle Miles

Commuter Rail Pool

Scenario C
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles

Scenario C Projected Operating Assistance Allocations by Agency

Line is Current Allocation Method for FY19

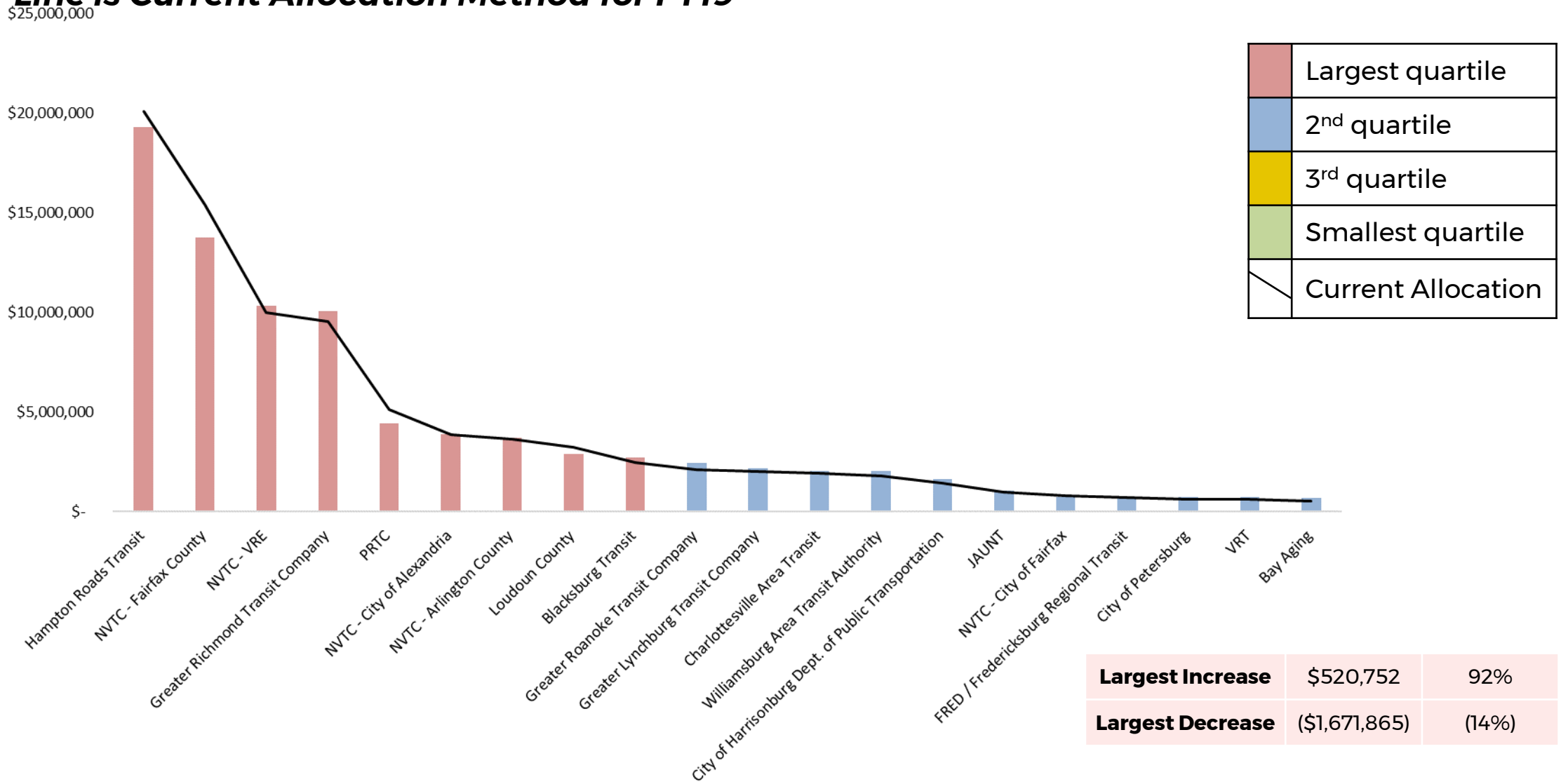


Largest Increase	$520,752	92%
Largest Decrease	($1,671,865)	(14%)

Scenario C
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles

Scenario C Projected Operating Assistance Allocations: 1st and 2nd Quartile Agencies

Line is Current Allocation Method for FY19

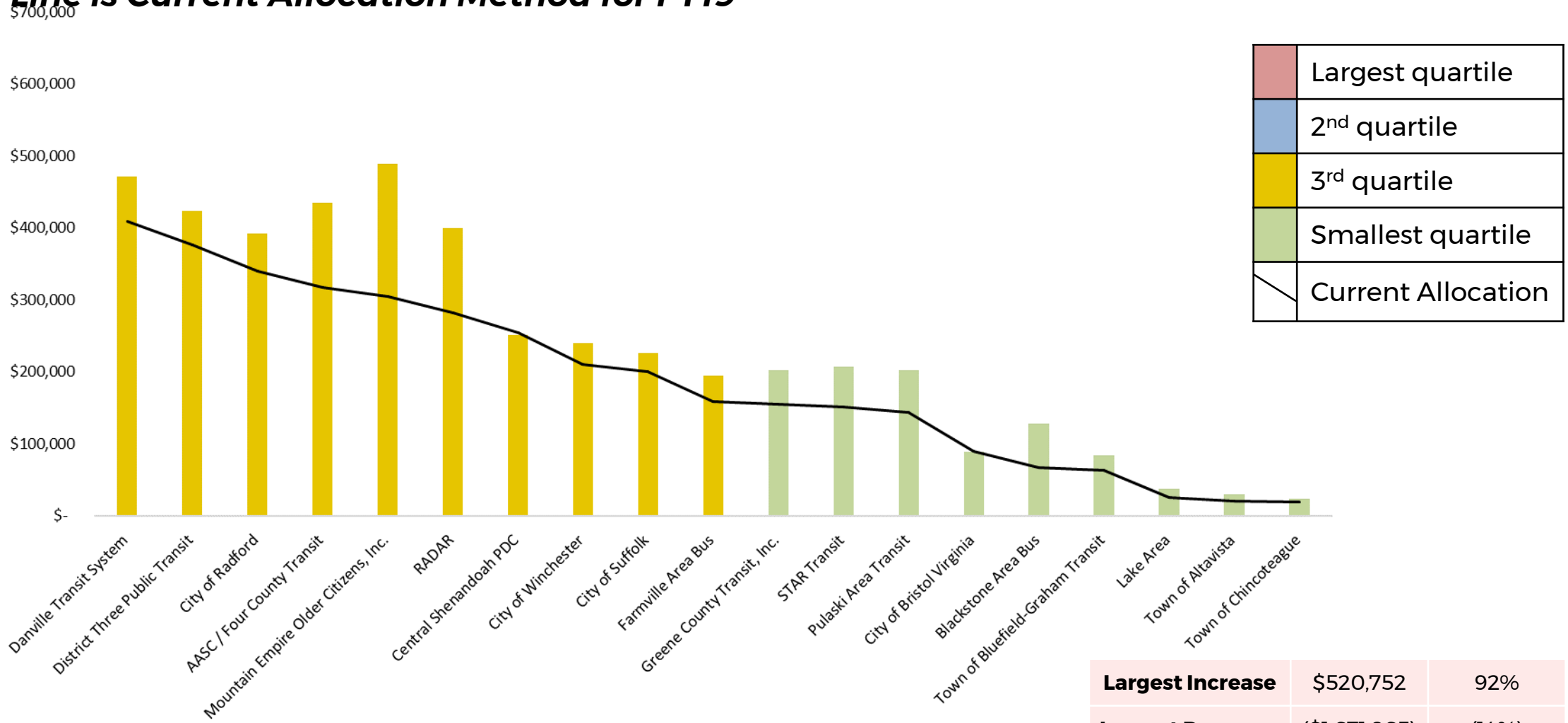


Largest Increase	$520,752	92%
Largest Decrease	($1,671,865)	(14%)

Scenario C
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles

Scenario C Projected Operating Assistance Allocations: 3rd and 4th Quartile Agencies

Line is Current Allocation Method for FY19

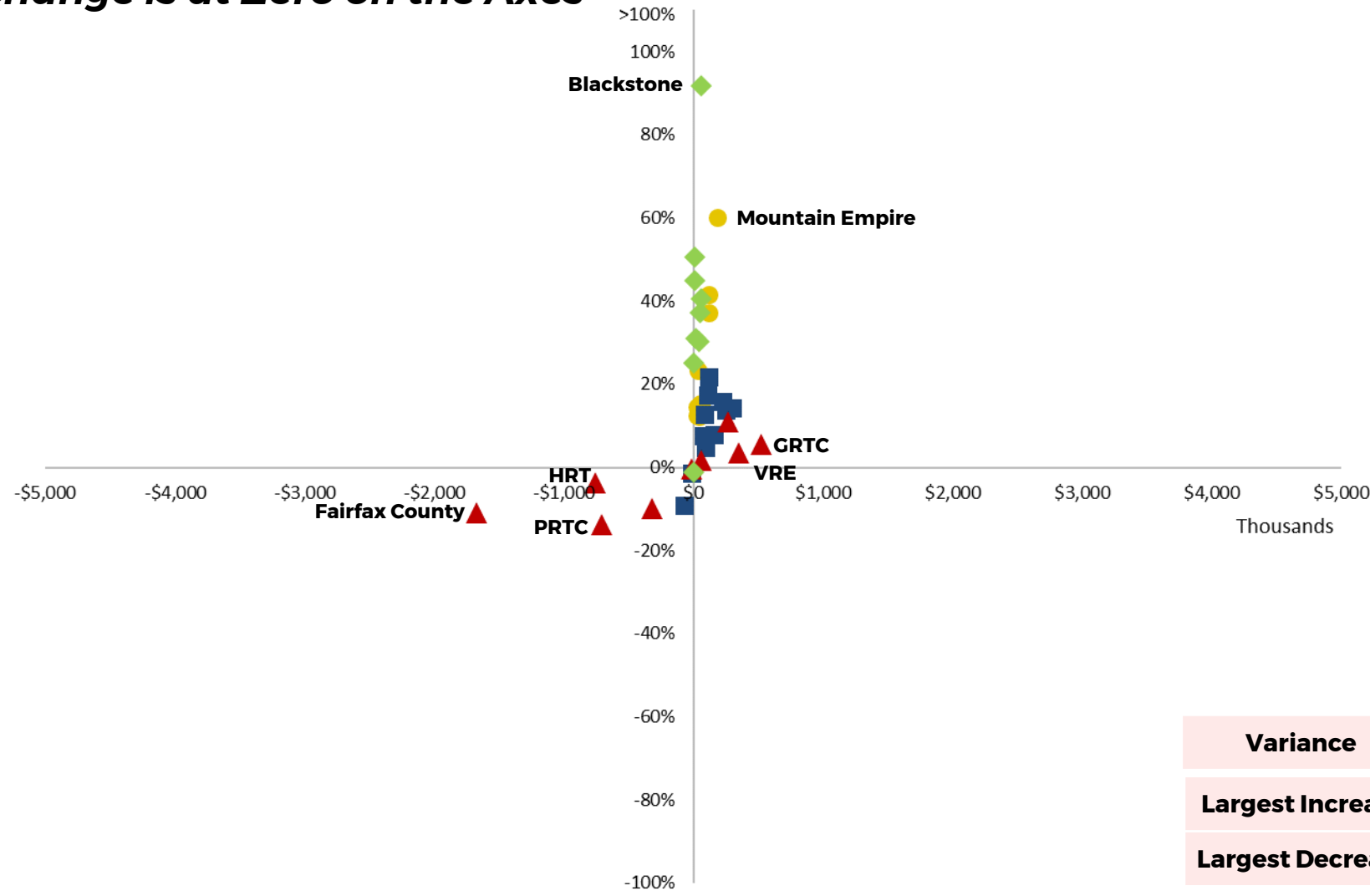


Largest Increase	$520,752	92%
Largest Decrease	($1,671,865)	(14%)

Scenario C
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles

Scenario C Projected Variance from Actual FY19 Operating Assistance Allocation by Agency

No Change is at Zero on the Axes



Largest quartile	
2nd quartile	
3rd quartile	
Smallest quartile	

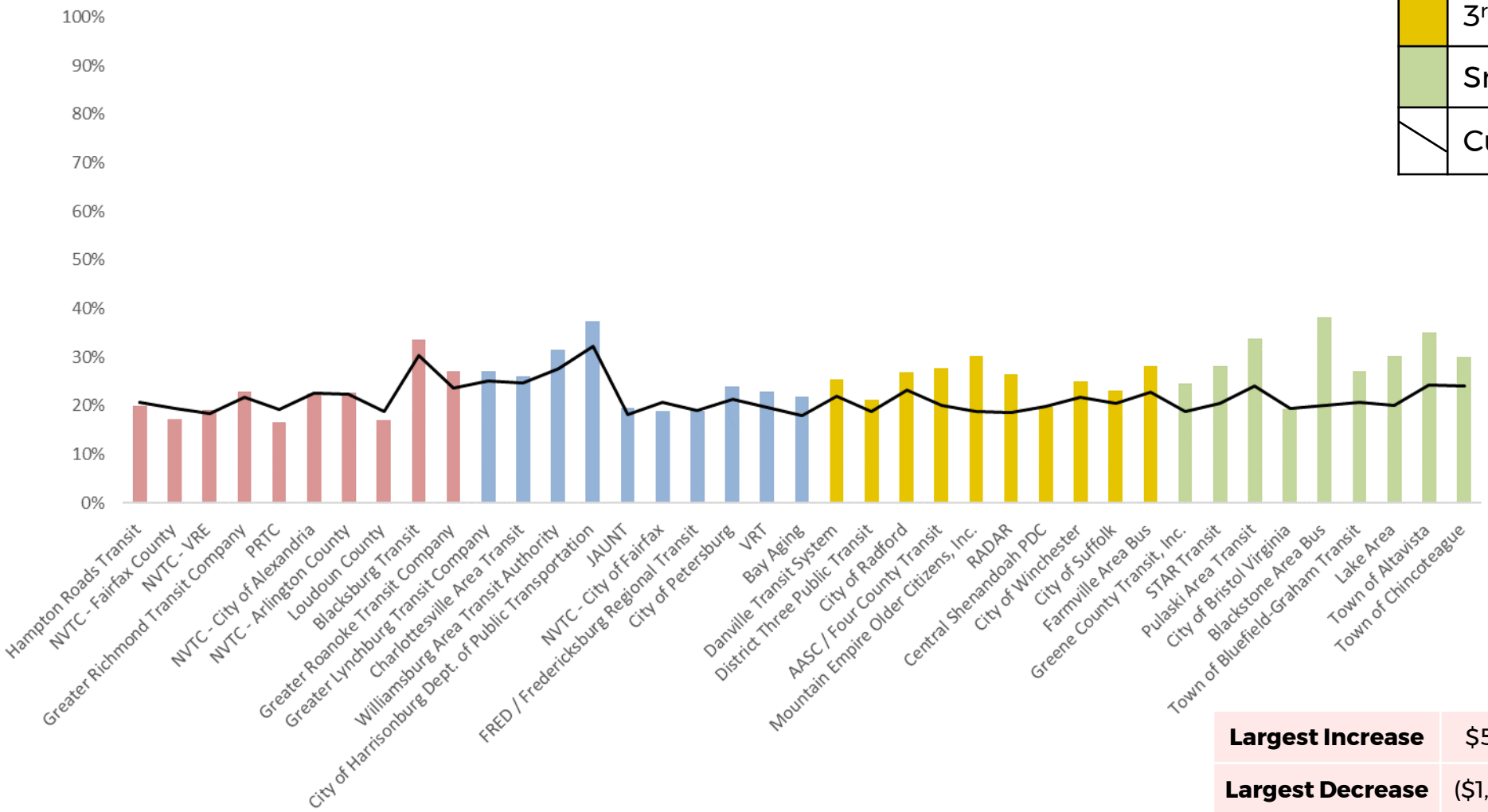
Variance	0.045	
Largest Increase	$520,752	92%
Largest Decrease	($1,671,865)	(14%)

Scenario C
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles

Scenario C Operating Assistance as % of Operating Cost by Agency

Line is Current Allocation Method for FY19

	Largest quartile
	2nd quartile
	3rd quartile
	Smallest quartile
	Current Allocation



Largest Increase	$520,752	92%
Largest Decrease	($1,671,865)	(14%)

Capped Scenarios

Scenario A - Capped

33% Operating Cost

33% Ridership

33% Revenue Vehicle Miles

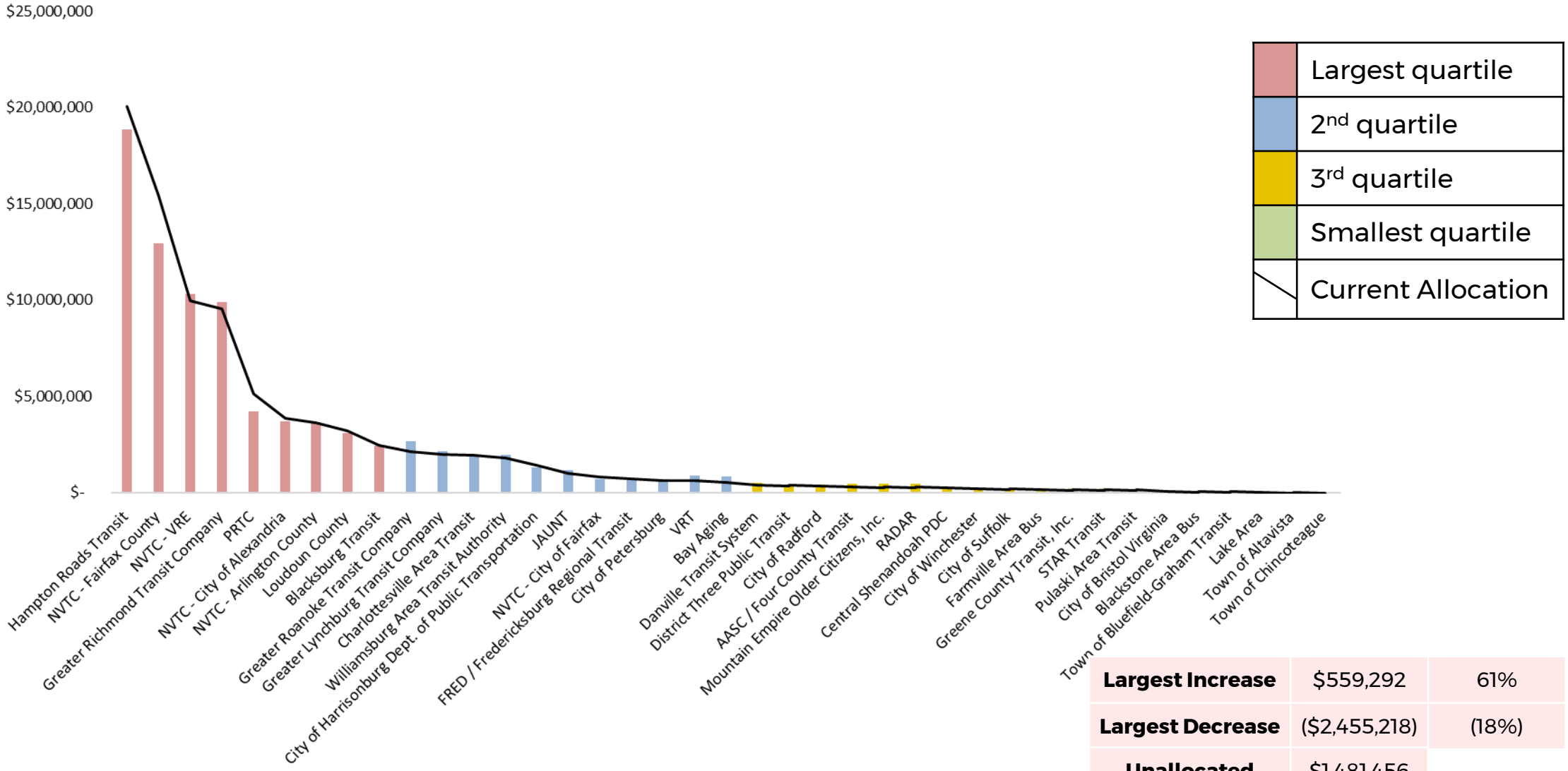
Commuter Rail Pool

30% Cap on Allocation (as % of Operating Cost)

Scenario A-Cap
33% Cost
33% Ridership
33% Rev Miles
Capped – 30%

Scenario A-Capped Projected Operating Assistance Allocations by Agency

Line is Current Allocation Method for FY19

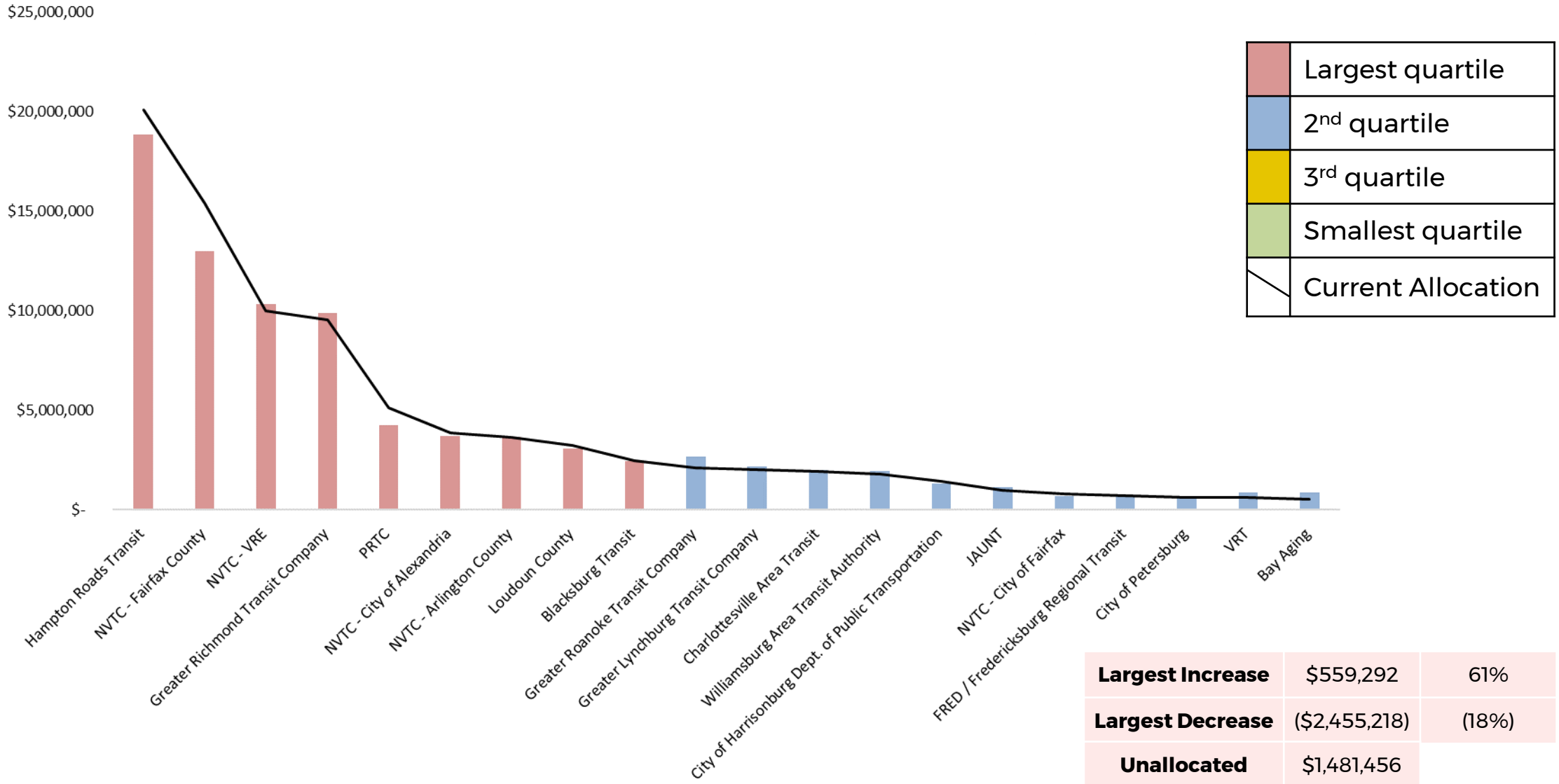


Largest Increase	$559,292	61%
Largest Decrease	($2,455,218)	(18%)
Unallocated	$1,481,456	

Scenario A-Cap
33% Cost
33% Ridership
33% Rev Miles
Capped – 30%

Scenario A-Capped Projected Operating Assistance Allocations: 1st and 2nd Quartile Agencies

Line is Current Allocation Method for FY19

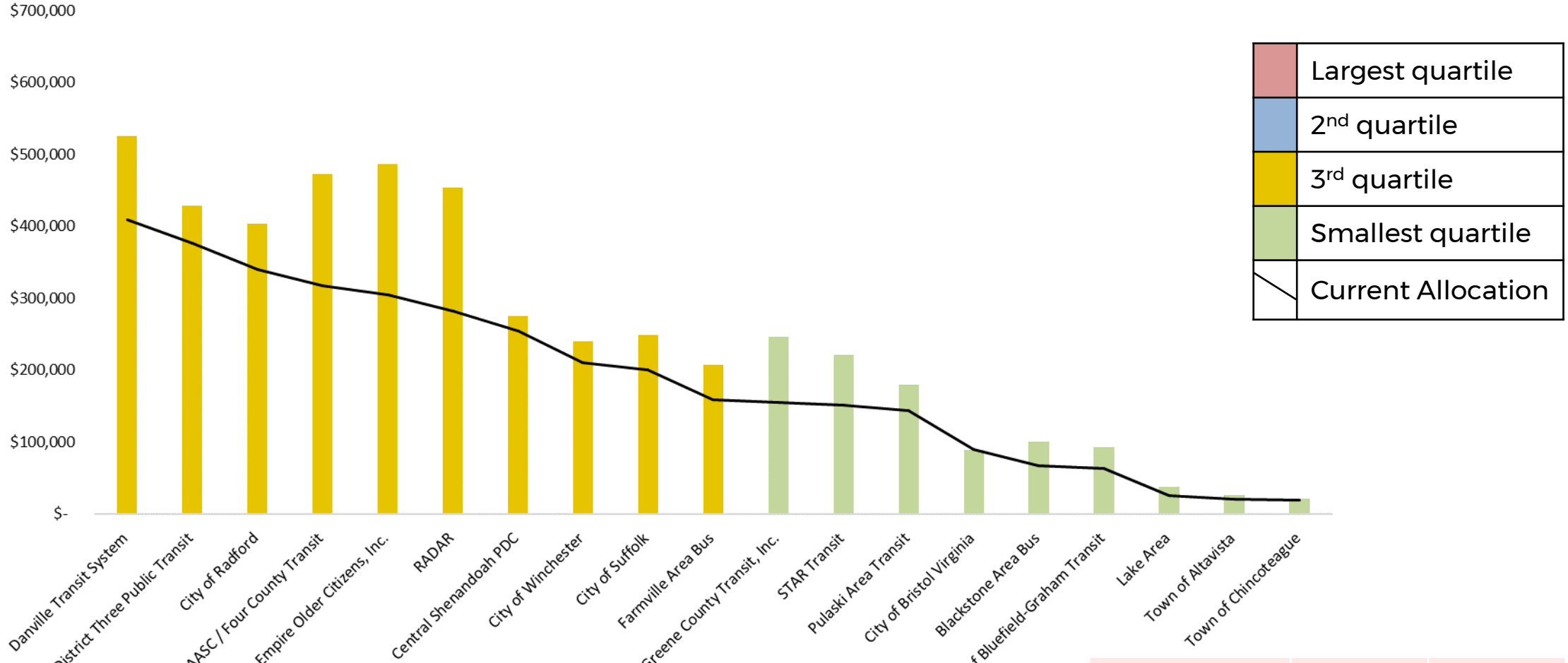


Largest Increase	$559,292	61%
Largest Decrease	($2,455,218)	(18%)
Unallocated	$1,481,456	

Scenario A-Cap
33% Cost
33% Ridership
33% Rev Miles
Capped – 30%

Scenario A-Capped Projected Operating Assistance Allocations: 3rd and 4th Quartile Agencies

Line is Current Allocation Method for FY19

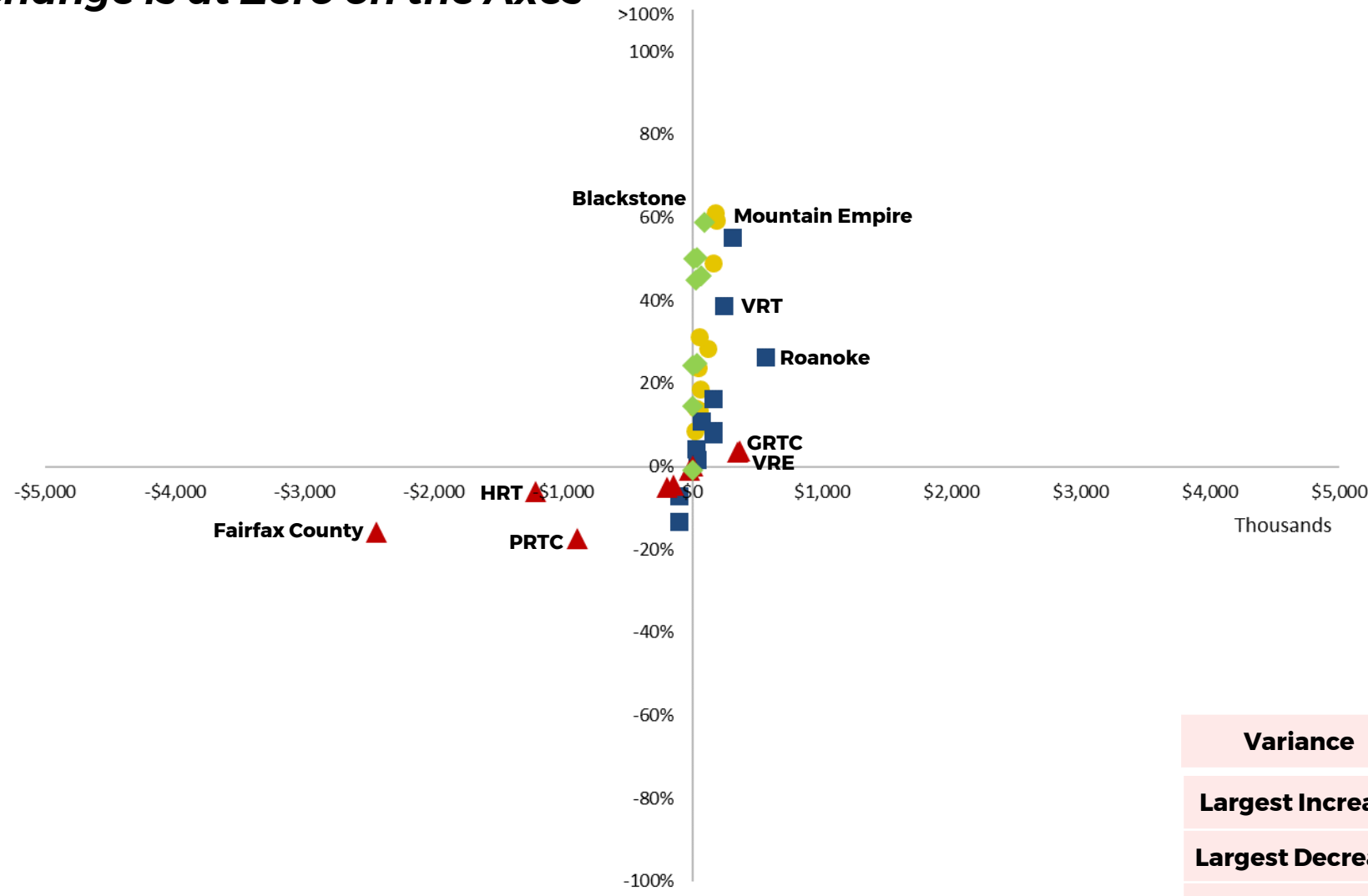


Largest Increase	$559,292	61%
Largest Decrease	($2,455,218)	(18%)
Unallocated	$1,481,456	

Scenario A-Cap
33% Cost
33% Ridership
33% Rev Miles
Capped – 30%

Scenario A-Capped Projected Variance from Actual FY19 Operating Assistance Allocation by Agency

No Change is at Zero on the Axes



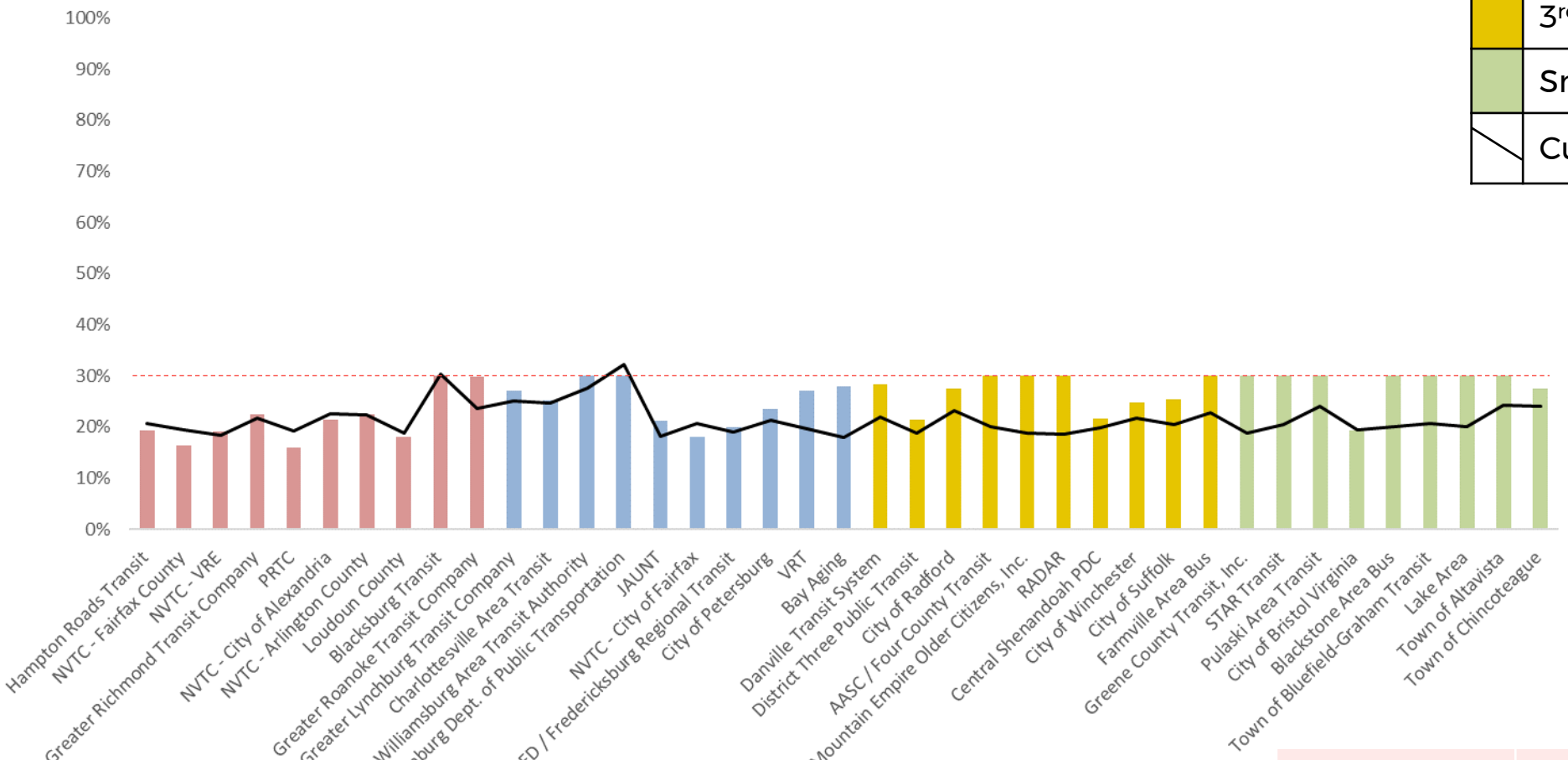
Largest quartile
2nd quartile
3rd quartile
Smallest quartile

Variance	0.051	
Largest Increase	$559,292	61%
Largest Decrease	($2,455,218)	(18%)
Unallocated	$1,481,456	

Scenario A-Cap
33% Cost
33% Ridership
33% Rev Miles
Capped – 30%

Scenario A-Capped Operating Assistance as % of Operating Cost by Agency

Line is Current Allocation Method for FY19



Largest quartile	
2nd quartile	
3rd quartile	
Smallest quartile	
Current Allocation	

Largest Increase	$559,292	61%
Largest Decrease	($2,455,218)	(18%)
Unallocated	$1,481,456	

Scenario B - Capped

25% Operating Cost

25% Ridership

25% Revenue Vehicle Hours

25% Revenue Vehicle Miles

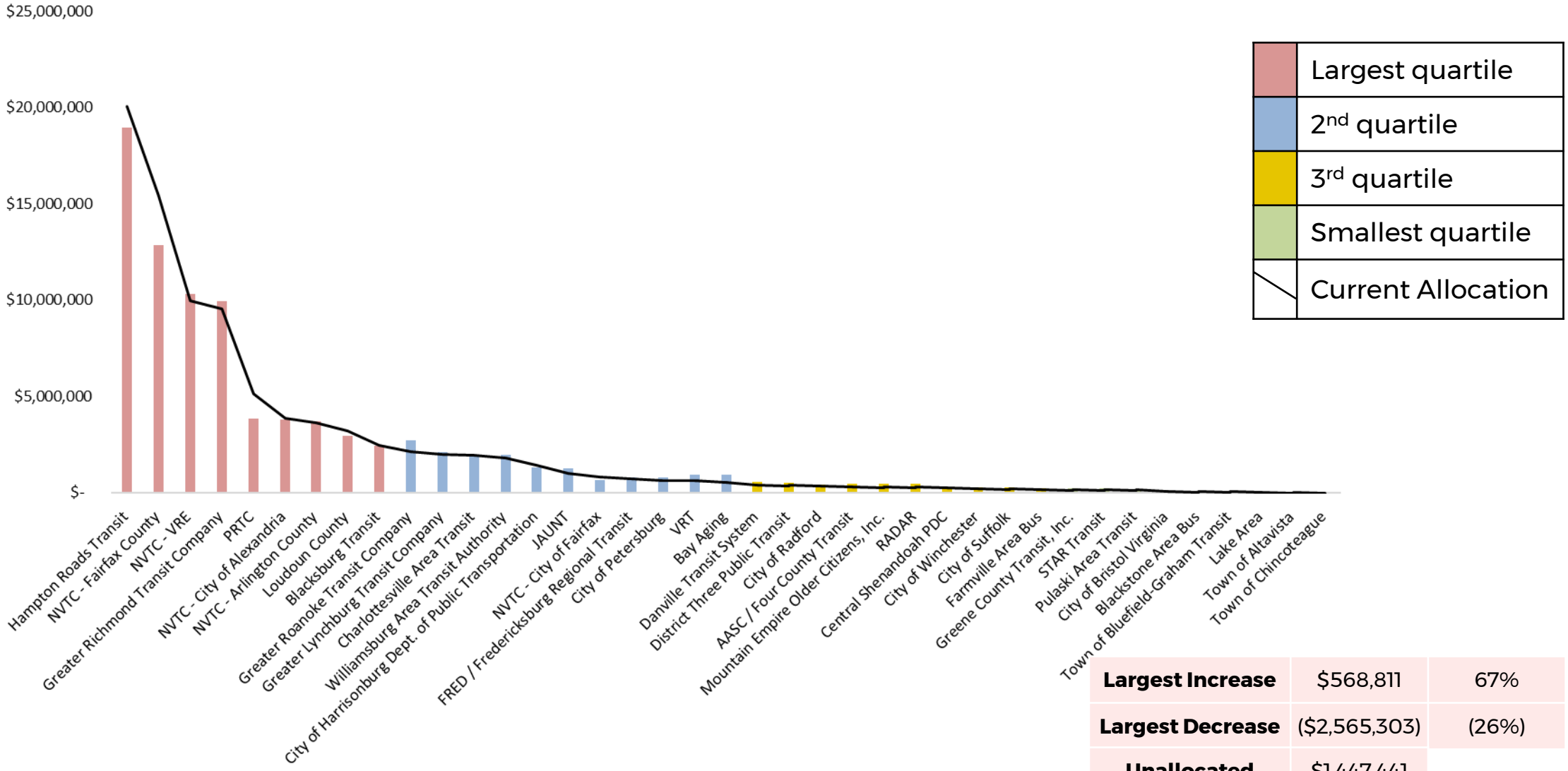
Commuter Rail Pool

30% Cap on Allocation (as % of Operating Cost)

Scenario B-Cap
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles
Capped – 30%

Scenario B-Capped Projected Operating Assistance Allocations by Agency

Line is Current Allocation Method for FY19

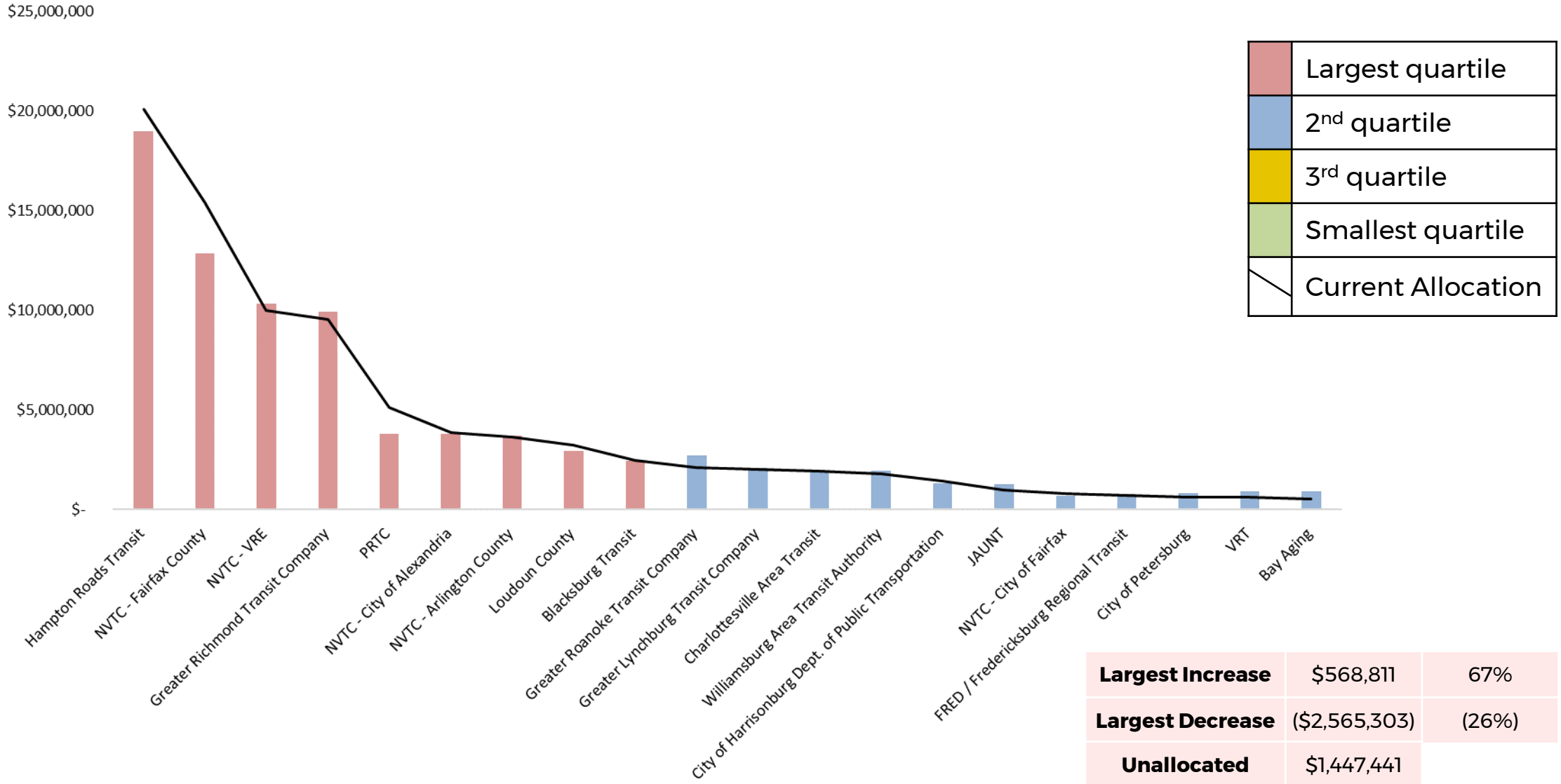


Largest Increase	$568,811	67%
Largest Decrease	($2,565,303)	(26%)
Unallocated	$1,447,441	

Scenario B-Cap
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles
Capped – 30%

Scenario B-Capped Projected Operating Assistance Allocations: 1st and 2nd Quartile Agencies

Line is Current Allocation Method for FY19

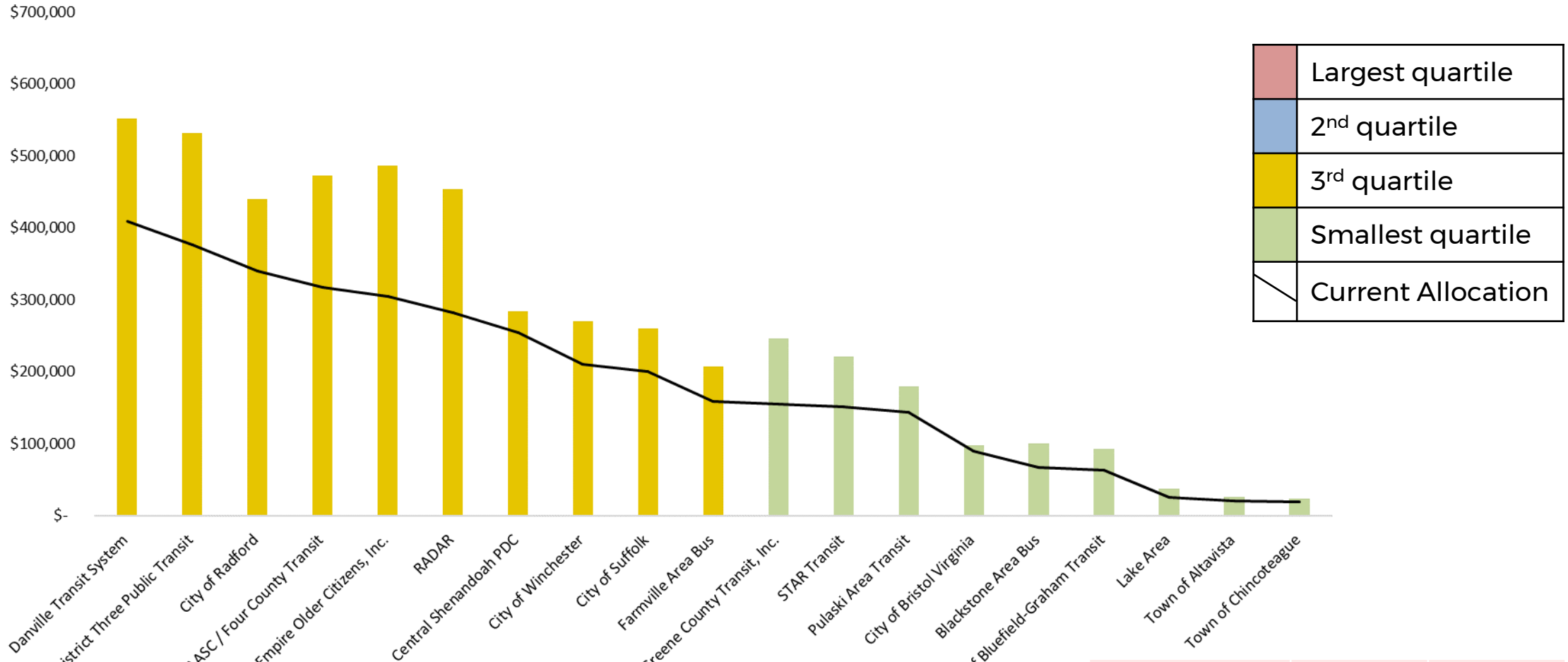


Largest Increase	$568,811	67%
Largest Decrease	($2,565,303)	(26%)
Unallocated	$1,447,441	

Scenario B-Cap
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles
Capped – 30%

Scenario B-Capped Projected Operating Assistance Allocations: 3rd and 4th Quartile Agencies

Line is Current Allocation Method for FY19

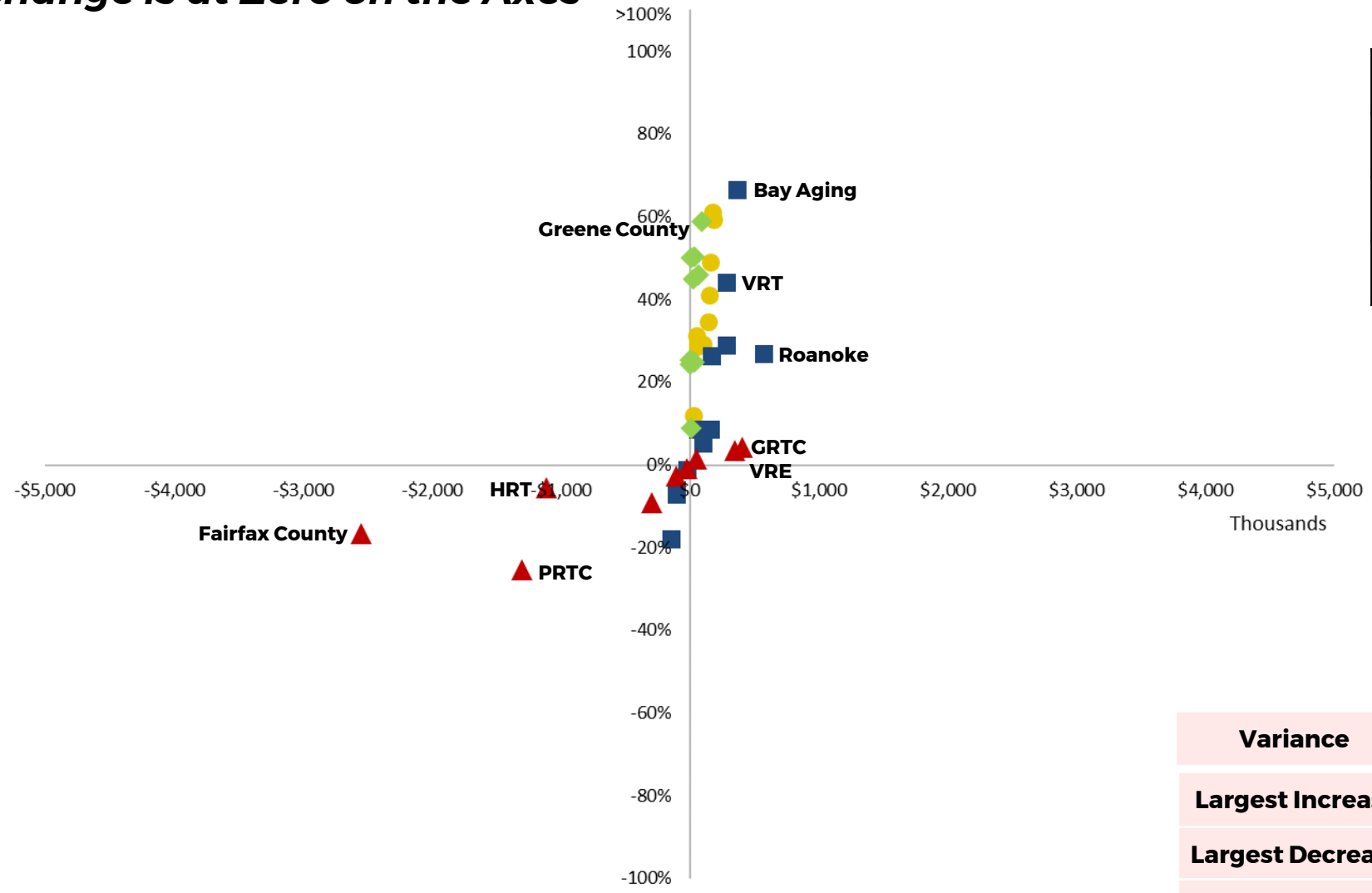


Largest Increase	$568,811	67%
Largest Decrease	($2,565,303)	(26%)
Unallocated	$1,447,441	

Scenario B-Cap
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles
Capped – 30%

Scenario B-Capped Projected Variance from Actual FY19 Operating Assistance Allocation by Agency

No Change is at Zero on the Axes



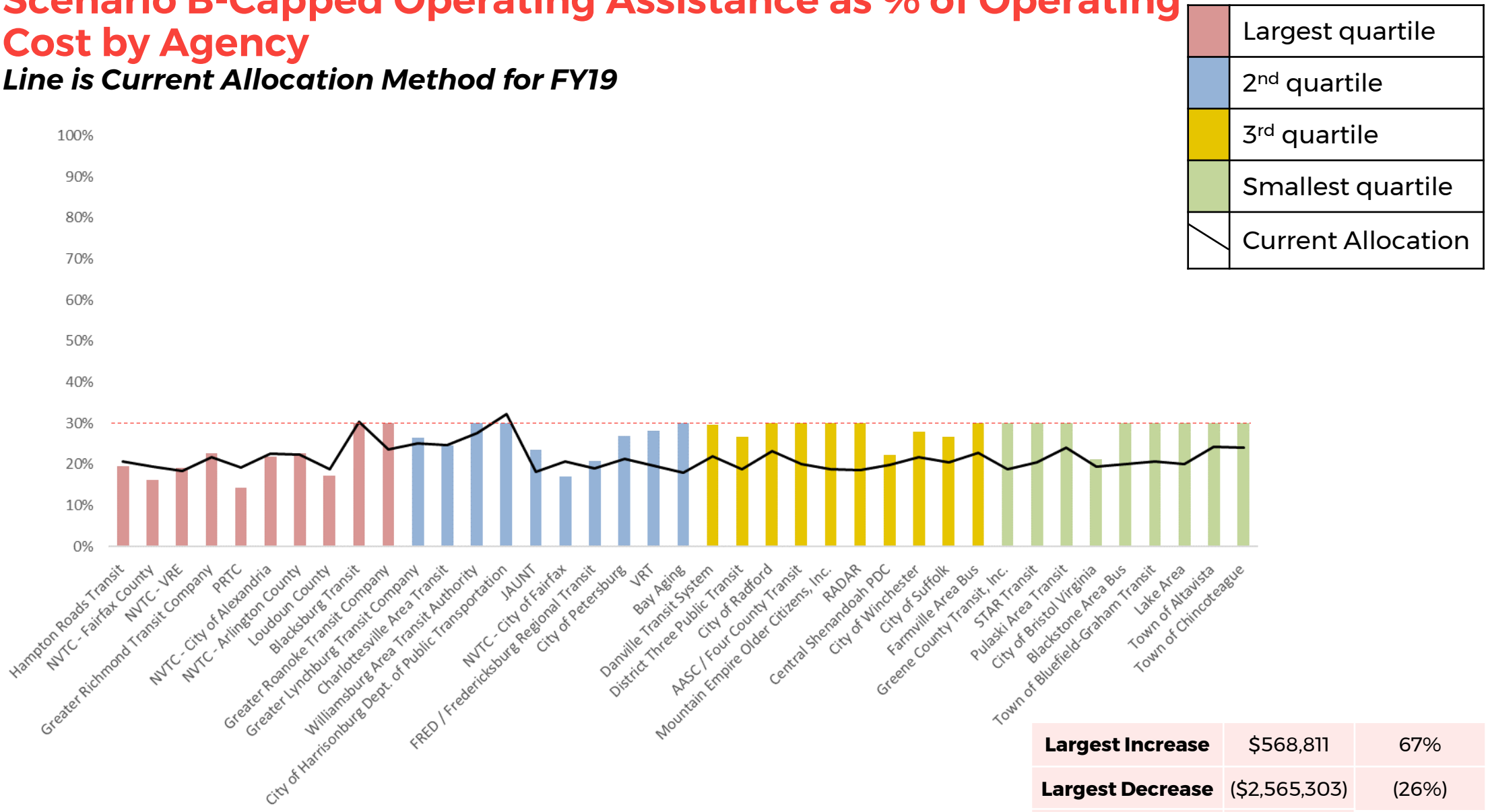
Largest quartile
2nd quartile
3rd quartile
Smallest quartile

Variance	0.058	
Largest Increase	$568,811	67%
Largest Decrease	($2,565,303)	(26%)
Unallocated	$1,447,441	

Scenario B-Cap
25% Cost
25% Ridership
25% Rev Hours
25% Rev Miles
Capped – 30%

Scenario B-Capped Operating Assistance as % of Operating Cost by Agency

Line is Current Allocation Method for FY19



Largest Increase	$568,811	67%
Largest Decrease	($2,565,303)	(26%)
Unallocated	$1,447,441	

Scenario C-Capped

50% Operating Cost

30% Ridership

10% Revenue Vehicle Hours

10% Revenue Vehicle Miles

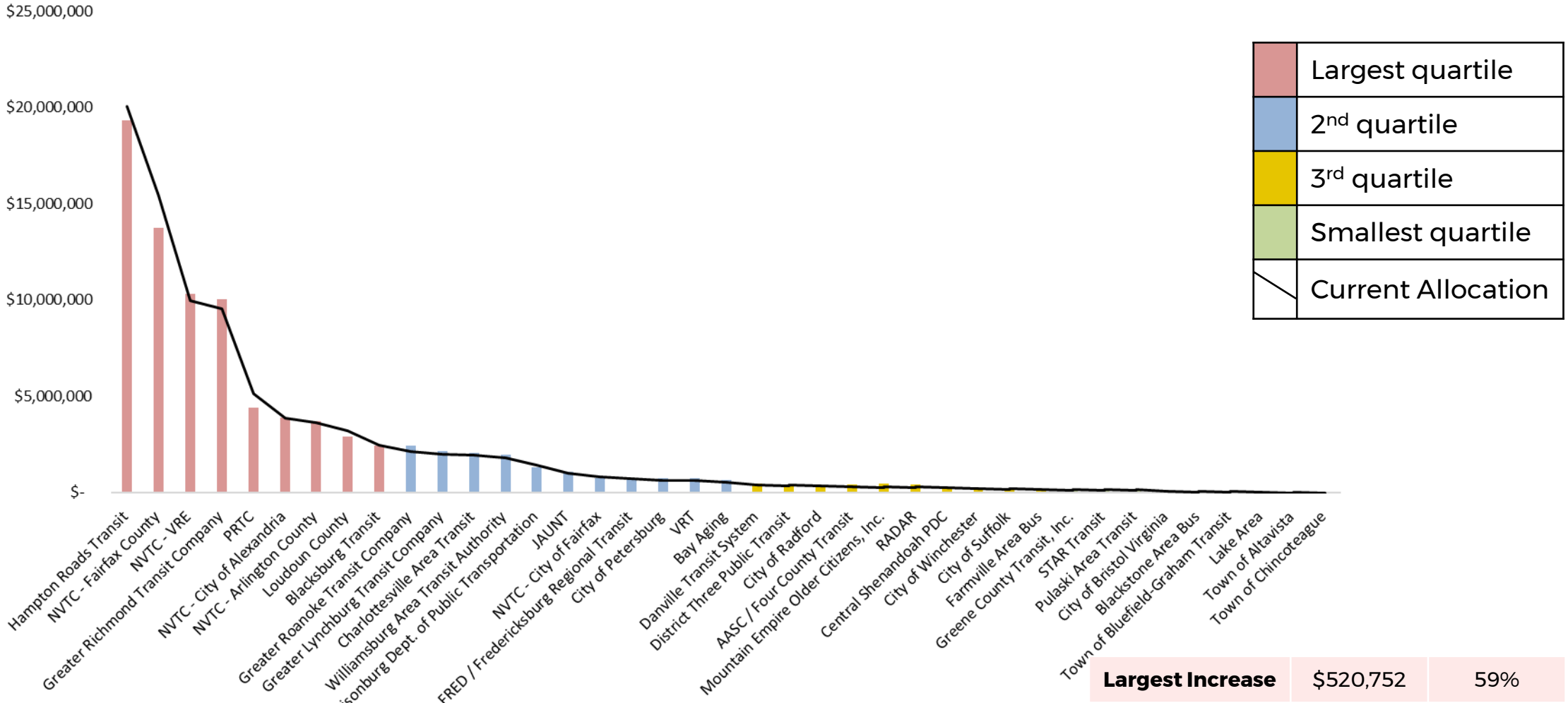
Commuter Rail Pool

30% Cap on Allocation (as % of Operating Cost)

Scenario C-Cap
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles
Capped – 30%

Scenario C-Capped Projected Operating Assistance Allocations by Agency

Line is Current Allocation Method for FY19

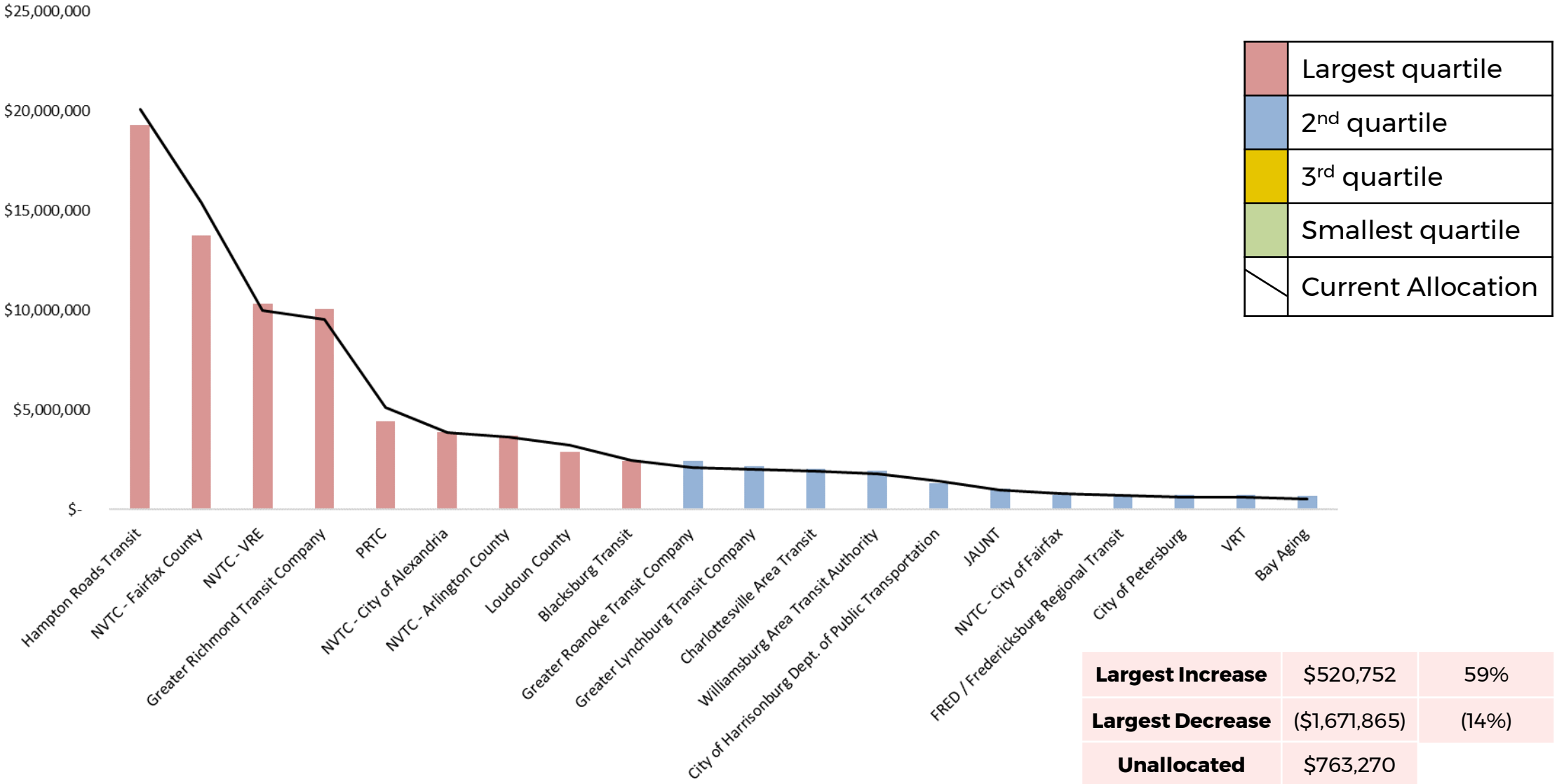


Largest Increase	$520,752	59%
Largest Decrease	($1,671,865)	(14%)
Unallocated	$763,270	

Scenario C-Cap
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles
Capped – 30%

Scenario C-Capped Projected Operating Assistance Allocations: 1st and 2nd Quartile Agencies

Line is Current Allocation Method for FY19

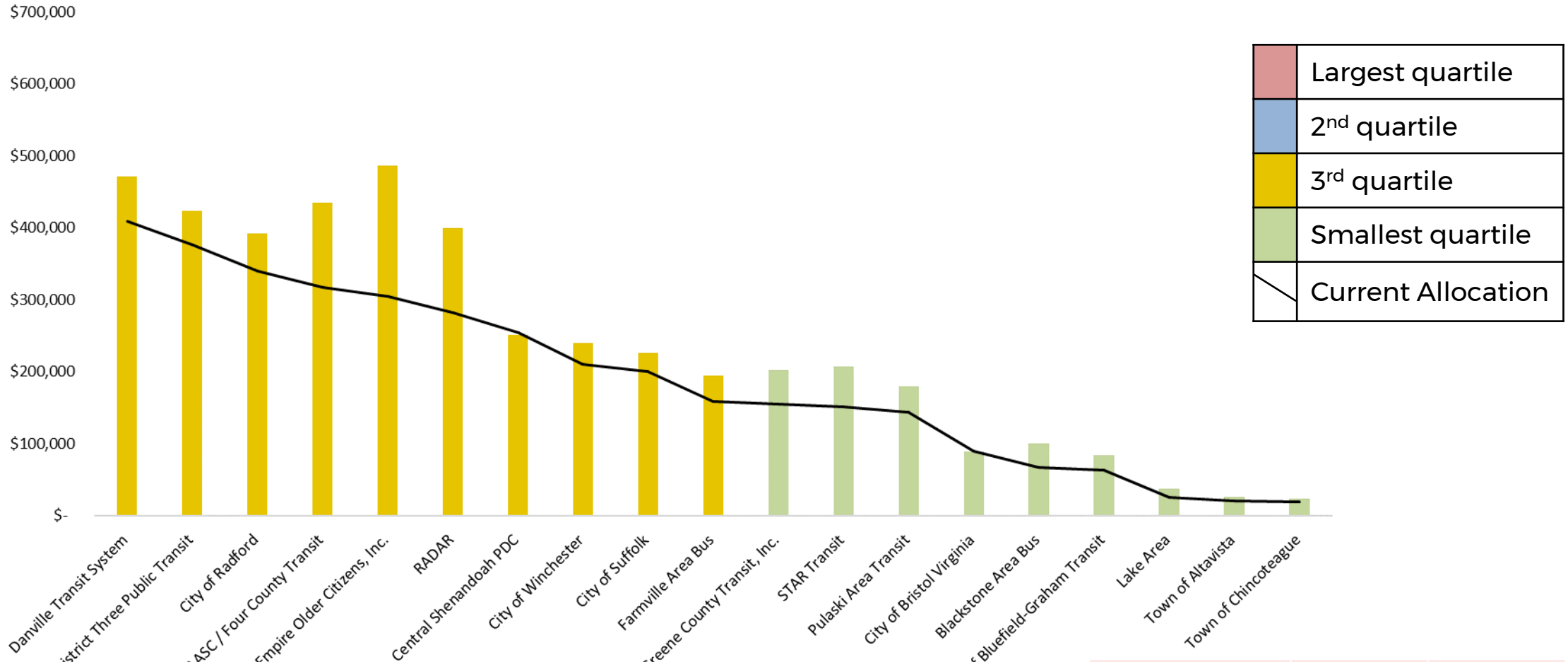


Largest Increase	$520,752	59%
Largest Decrease	($1,671,865)	(14%)
Unallocated	$763,270	

Scenario C-Cap
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles
Capped – 30%

Scenario C-Capped Projected Operating Assistance Allocations: 3rd and 4th Quartile Agencies

Line is Current Allocation Method for FY19

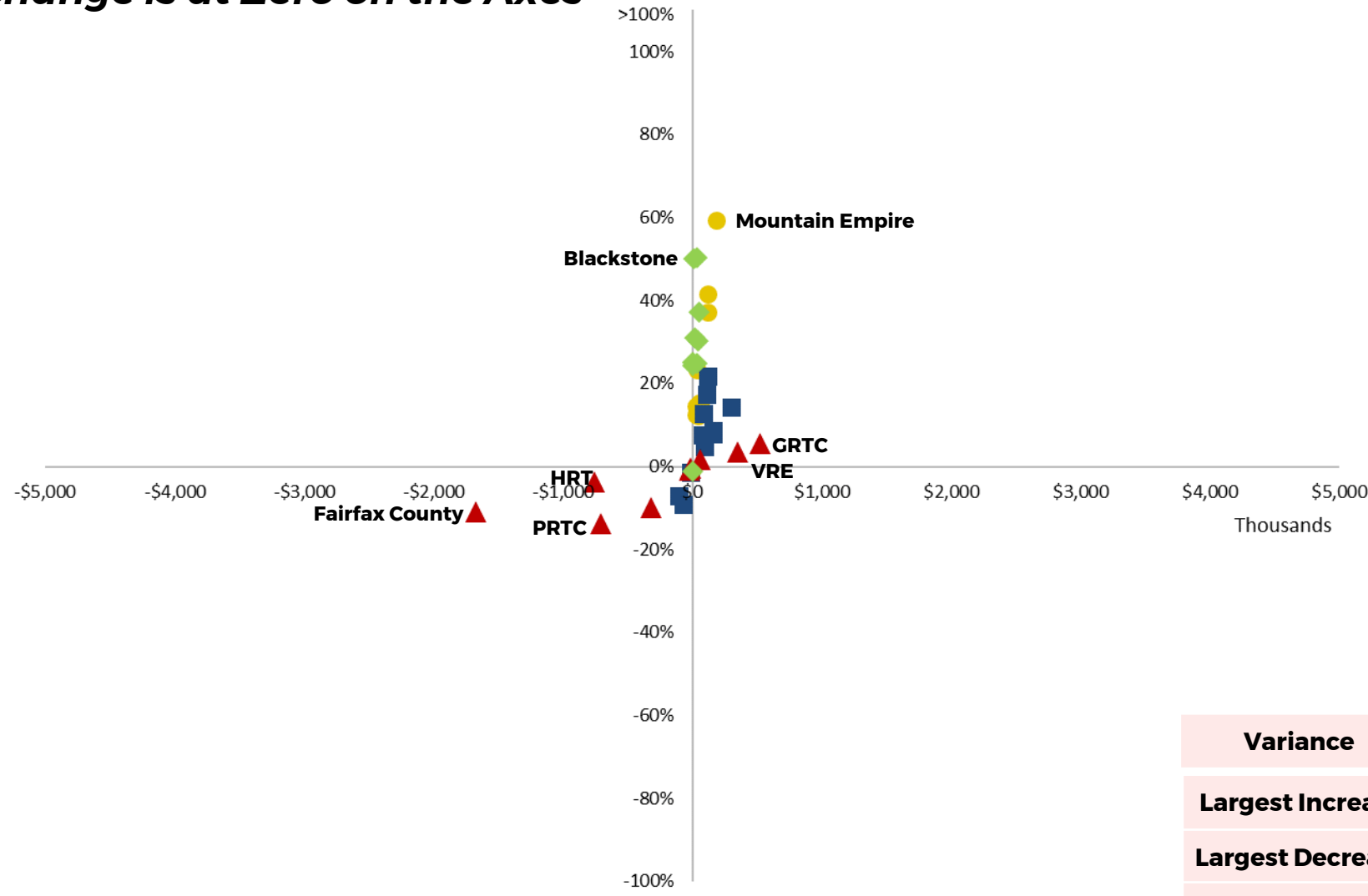


Largest Increase	$520,752	59%
Largest Decrease	($1,671,865)	(14%)
Unallocated	$763,270	

Scenario C-Cap
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles
Capped – 30%

Scenario C-Capped Projected Variance from Actual FY19 Operating Assistance Allocation by Agency

No Change is at Zero on the Axes



Largest quartile
2nd quartile
3rd quartile
Smallest quartile

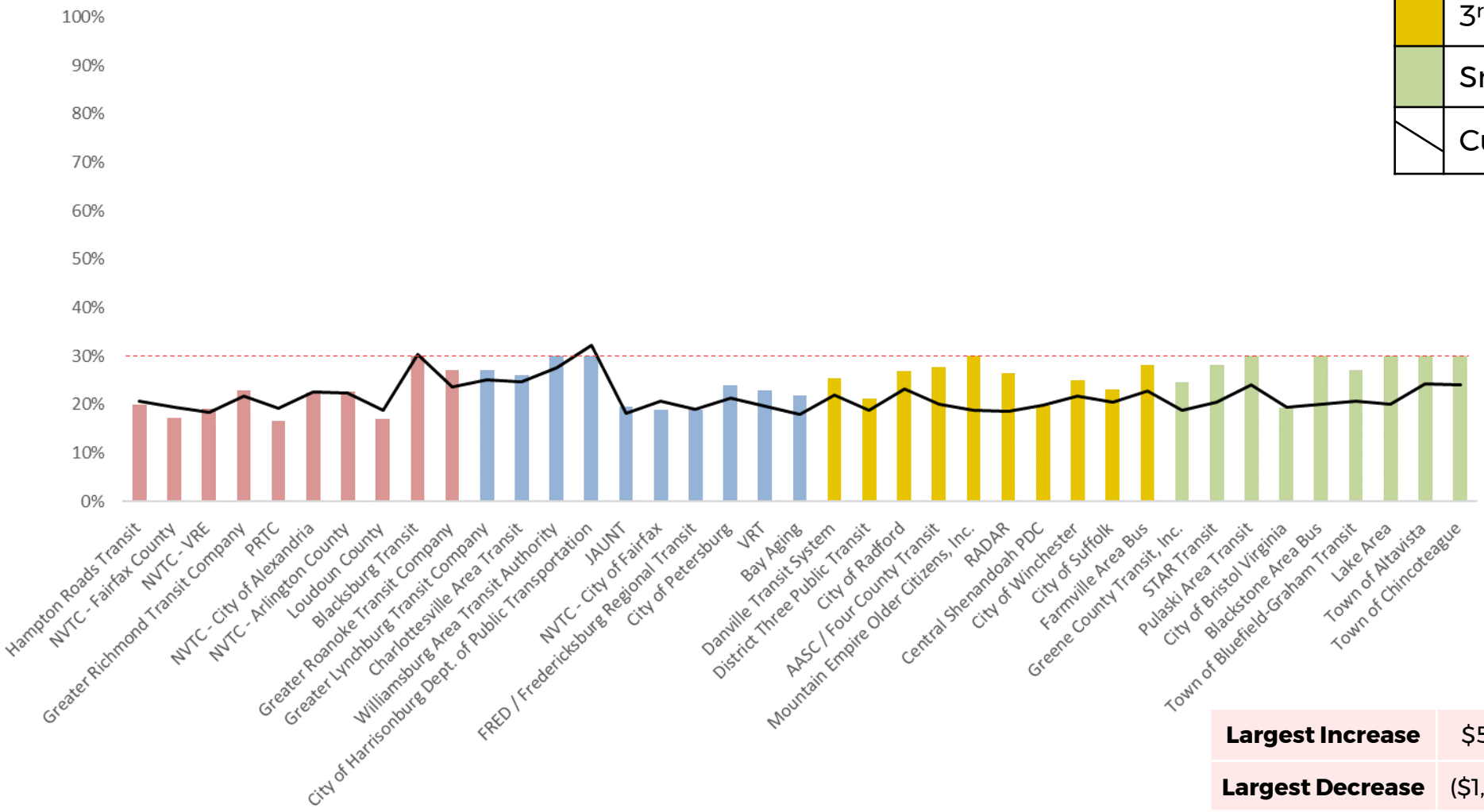
Variance	0.032	
Largest Increase	$520,752	59%
Largest Decrease	($1,671,865)	(14%)
Unallocated	$763,270	

Scenario C-Cap
50% Cost
30% Ridership
10% Rev Hours
10% Rev Miles
Capped – 30%

Scenario C-Capped Operating Assistance as % of Operating Cost by Agency

Line is Current Allocation Method for FY19

	Largest quartile
	2nd quartile
	3rd quartile
	Smallest quartile
	Current Allocation



Largest Increase	$520,752	59%
Largest Decrease	($1,671,865)	(14%)
Unallocated	$763,270	

Allocation Scenarios – Summary Results

Scenario Name	Variance	Unallocated
2+ Net Cost, Ridership, Revenue Miles – 33.3%	0.240	$0
A. Cost, Ridership, Revenue Miles – 33.3%	0.198	$0
B. Cost, Ridership, Revenue Hours, Revenue Miles – 25%	0.283	$0
C. Cost, Ridership, Revenue Hours, Revenue Miles – 50/30/10/10 %	0.045	$0
A-Capped. Cost, Ridership, Revenue Miles – 33.3% – *Capped 30%*	0.051	$1,481,456
B-Capped. Cost, Ridership, Revenue Hours, Revenue Miles – 25% – *Capped 30%*	0.058	$1,432,660
C-Capped. Cost, Ridership, Revenue Hours, Revenue Miles – 50/30/10/10 % – *Capped 30%*	0.032	$763,270

Summary

- Several changes minimize variance and prevent unintended allocation consequences
  - Applying Cost instead of Net Cost
  - Introducing Revenue Hours in addition to Revenue Miles
  - Weighting Cost more heavily
  - Introducing a cap on allocations relative to the agency's operating costs
- Scenario A-Capped and B-Capped vary less than Scenario 2+ or Scenario A and B, allocating only 25% of funds on the basis of operating costs
  - Between $1.4 and $1.5 million in unallocated funds
- Scenario C-Capped varies the least, but allocates 50% of funds on the basis of operating costs
  - $0.8 million in unallocated funds

Next Steps

- Determine preferred sizing approach
  - Apply to review performance metrics
- Introducing performance metric options
  - Comparing proposed metrics to policy objectives
- Testing performance metric scenarios