FY18 Capital Project Prioritization Results

presented to

Transit Service Delivery Advisory Committee (TSDAC)

presented by

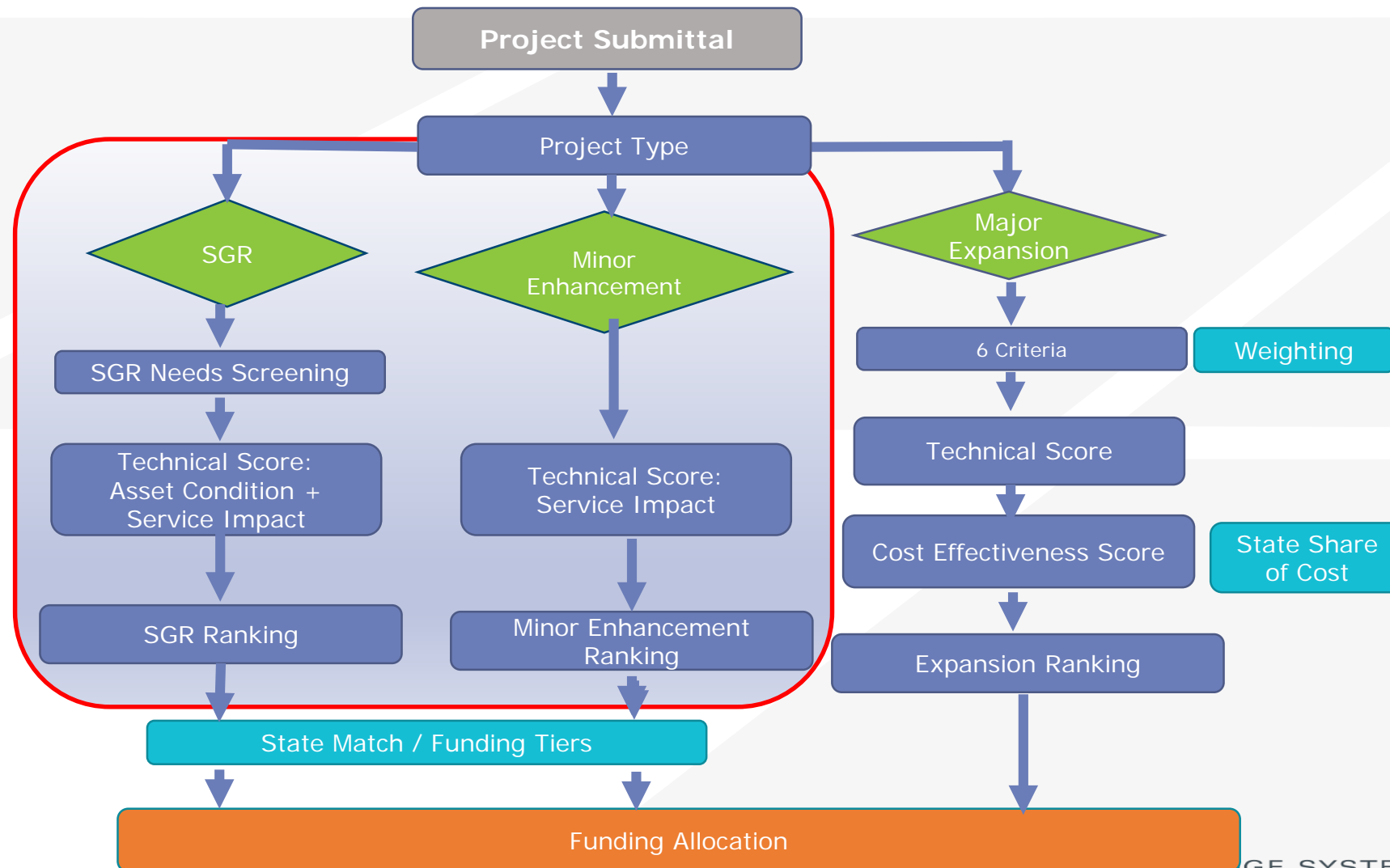*Cambridge Systematics, Inc.*

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Presentation Outline

- Review of Scoring Methodology

- Overview of Prioritization Results
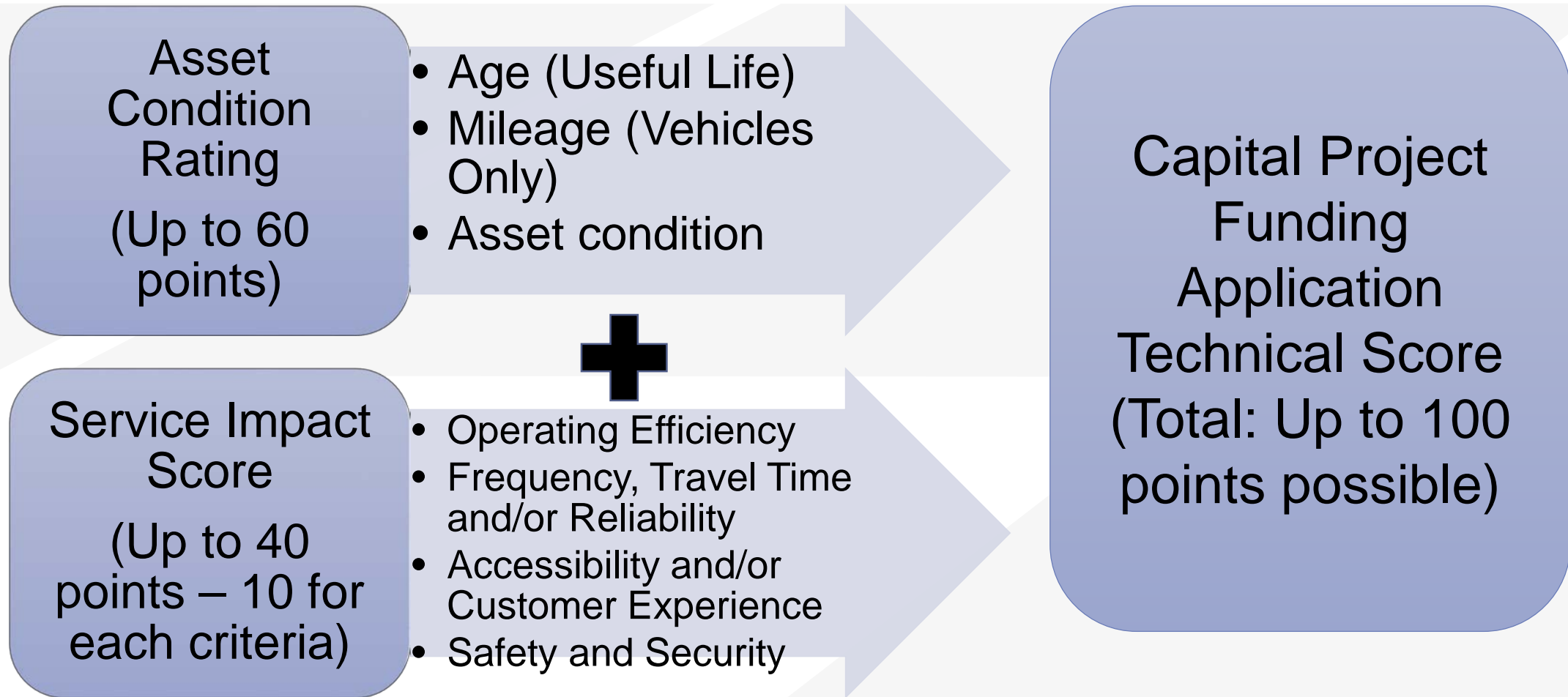
- Individual Project Scoring

- Next Steps

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Review of Scoring Methodology

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Current Focus - SGR and Minor Expansion Scoring

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Scoring Methodology
State of Good Repair Projects

Asset Condition Rating

(Up to 60 points)

- Age (Useful Life)
- Mileage (Vehicles Only)
- Asset condition

+

Service Impact Score

(Up to 40 points – 10 for each criteria)

- Operating Efficiency
- Frequency, Travel Time and/or Reliability
- Accessibility and/or Customer Experience
- Safety and Security

Capital Project Funding Application Technical Score
(Total: Up to 100 points possible)

Scoring Methodology
Minor Enhancement Projects

Service Impact Score

(Up to 40 points – 10 for each criteria)

- Operating Efficiency
- Frequency, Travel Time and/or Reliability
- Accessibility and/or Customer Experience
- Safety and Security

Capital Project Funding Application Technical Score (Total: Up to 40 points possible)

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Asset Condition Rating – Age and Mileage

➤ Asset condition score is the maximum score between the age and mileage-based scoring systems

➤ Age and mileage beyond useful life considered

Age Score System	
< ULB	0
=0 years beyond ULB	30
<=1	35
<=2	40
<=3	45
<=4	50
<=5	52
<=6	54
<=7	56
<=8	58
>8	60

Mileage Score System	
< Max Mileage	0
=0 miles beyond max	30
<=25,000	35
<=50,000	40
<=75,000	45
<=100,000	50
<=125,000	52
<=150,000	54
<=175,000	56
<=200,000	58
>200,000	60

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Service Impact Rating

Criteria	Definition
Service Frequency, Travel Time and/or Reliability	Speeds up transit routes or allows for increased frequency. Significant impact on reliability either through preventing breakdowns or removing vehicles from mixed traffic
Service Operating Efficiency	Provides for significantly more cost-effective provision of service
Service Accessibility and/or Customer Experience	Significant improvement in a customer's ability to access the system or a significant improvement in the ease of use of the system.
Safety and Security	Provides a significant improvement in safety or security

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Service Impact - Proposed Ratings by Project Type

Primary Type	Secondary Type	Operating Efficiency	Frequency, Travel Time and/or Reliability	Accessibility and/or Customer Experience	Safety and Security
Admin/Maintenance Facilities	Facility Maintenance	Medium Impact	Medium Impact	Medium Impact	Medium Impact
Admin/Maintenance Facilities	Lease - Bus Transfer Facility	Medium Impact	Medium Impact	Low Impact	Low Impact
Admin/Maintenance Facilities	Engineering Service - Fueling Station	Medium Impact	Medium Impact	No Impact	Medium Impact
Admin/Maintenance Facilities	Construction Management Service	Medium Impact	Medium Impact	Medium Impact	Medium Impact
Bus Shelters/Customer Facilities	Bus Shelter Installation	No Impact	No Impact	High Impact	Medium Impact
Bus Shelters/Customer Facilities	Bus Shelter Installation - Components	Low Impact	No Impact	Medium Impact	Medium Impact
Bus Shelters/Customer Facilities	Transit Center Facilities Construction	Medium Impact	Low Impact	High Impact	Medium Impact
Bus Shelters/Customer Facilities	Wayfinding Aids - Signage	No Impact	No Impact	Medium Impact	High Impact
Bus Shelters/Customer Facilities	Graphics Package for Vehicles	No Impact	No Impact	Medium Impact	High Impact
Bus Shelters/Customer Facilities	Facility Construction - Parking	Medium Impact	Medium Impact	High Impact	Medium Impact
Maintenance equipment & parts	Engineering Service - Fueling Station	Medium Impact	Low Impact	No Impact	No Impact
Maintenance equipment & parts	Maintenance Inspection	Low Impact	Medium Impact	No Impact	High Impact
Maintenance equipment & parts	Purchase Bus Replacement Batteries	Medium Impact	Medium Impact	Medium Impact	High Impact
Maintenance equipment & parts	Maintenance Materials	Medium Impact	Medium Impact	Medium Impact	Medium Impact
Maintenance equipment & parts	Software Purchase - Vehicle Maintenance	Medium Impact	Low Impact	Low Impact	High Impact
System Infrastructure	Facility Improvement	High Impact	Medium Impact	Medium Impact	Medium Impact
System Infrastructure	Transit Center Facilities Construction	Medium Impact	Low Impact	High Impact	Medium Impact
System Infrastructure	Project Management Support	Low Impact	Medium Impact	Medium Impact	No Impact
Technology - Administrative	Admin Computer Hardware Purchase (Computers/Laptops/Tablets, etc)	Low Impact	Low Impact	Low Impact	Low Impact
Technology - Administrative	Software Purchase - Administrative	Low Impact	Low Impact	Low Impact	Low Impact
Technology - Operations	Admin and Operations Software Renewal	Low Impact	Medium Impact	Low Impact	No Impact
Technology - Operations	Operations Software - Customer Service	Low Impact	Medium Impact	High Impact	Medium Impact
Technology - Operations	Rider Support Hardware - ITS/Communication	Medium Impact	Medium Impact	Medium Impact	Medium Impact
Technology - Operations	Rider Support Hardware - Fare Collection	High Impact	Medium Impact	Medium Impact	Low Impact
Technology - Operations	Rider Support Hardware - Safety	No Impact	No Impact	Medium Impact	High Impact
Technology - Operations	Software Purchase - On board	Medium Impact	Medium Impact	Low Impact	Low Impact
Technology - Operations	Software Purchase - Scheduling	High Impact	High Impact	High Impact	Low Impact
Vehicle - Revenue vehicles	Engine Replacement	High Impact	High Impact	Medium Impact	High Impact
Vehicle - Revenue vehicles	Paratransit Vehicles	High Impact	High Impact	High Impact	Low Impact
Vehicle - Revenue vehicles	Expansion Bus/Vehicle	Medium Impact	High Impact	High Impact	Low Impact
Vehicle - Revenue vehicles	Purchase Replacement Bus	High Impact	High Impact	High Impact	Medium Impact
Vehicle - Revenue vehicles	Purchase Support Vehicles	Medium Impact	Medium Impact	Low Impact	Low Impact
Vehicle - Revenue vehicles	Contracting - Capital Cost	High Impact	High Impact	Medium Impact	Low Impact
Vehicle - Revenue vehicles	Vehicle Maintenance - Overhaul	High Impact	High Impact	Medium Impact	Medium Impact

High (significant improvement) – 10 points

Medium (moderate improvement – 6 points

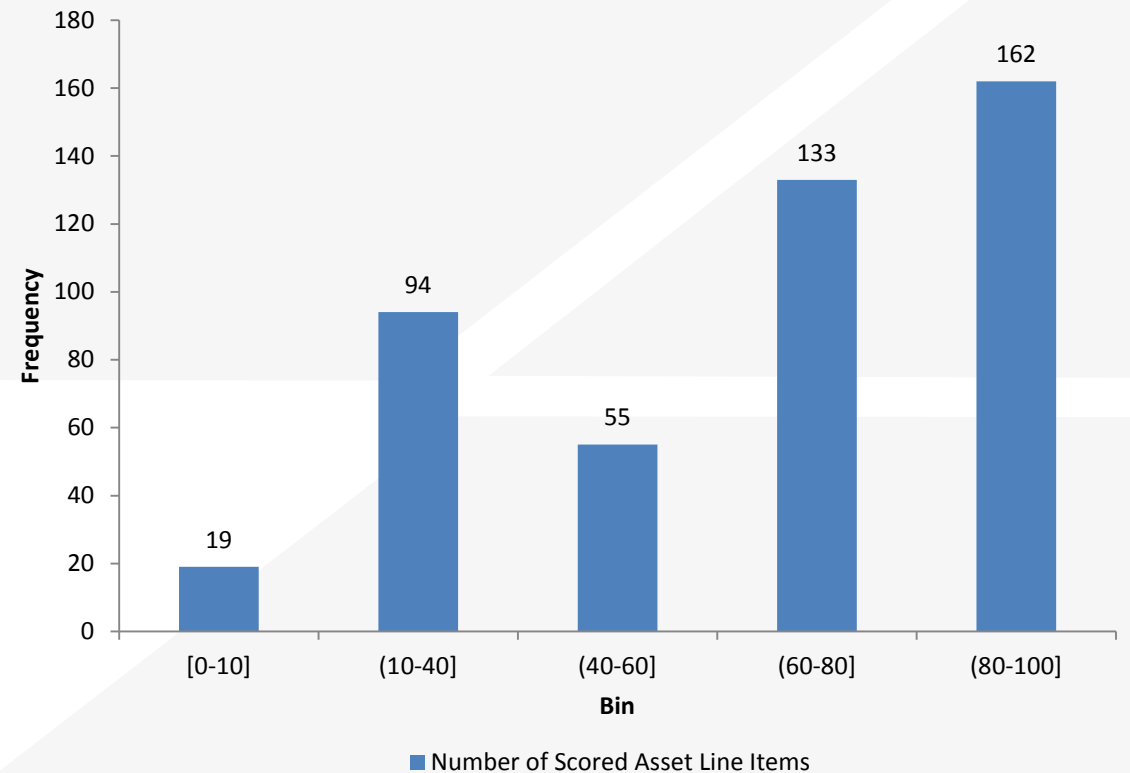Low (marginal improvement) – 3 point

No Impact – 0 points

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Overview of Prioritization Results

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Overall Scoring Summary

- 30 asset-level application line items scored 90 or higher

- 64 percent of line items have scored 60 points or more

- 76 percent of line items have scored 40 or more points (upper limit for minor expansion total score)

Note that vehicle assets have been disaggregated to an individual asset level.

Scoring Outcome Histogram

Frequency (y-axis): 0, 20, 40, 60, 80, 100, 120, 140, 160, 180

Bin	Number of Scored Asset Line Items
[0-10]	19
(10-40]	94
(40-60]	55
(60-80]	133
(80-100]	162

■ Number of Scored Asset Line Items

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SGR Projects Scoring Summary

- Vehicle and Non-Vehicle Assets
- Vehicle Applications Disaggregated
  - » Revenue Vehicles: 70 requests to 309 individual assets
  - » Vehicle replacement and maintenance score higher among all other project types.

State of Good Repair - Project Type	Sample Size	Average Score
Admin/Maintenance Facilities	9	57
Bus Shelters/Customer Facilities	5	51
Maintenance equipment & parts	15	56
System Infrastructure	5	53
Technology - Administrative	16	53
Technology - Operations	11	57
Vehicle - Revenue vehicles	309	74
Total	**370**	**71**

Minor Expansion Projects Scoring Summary

- Vehicle and Non-Vehicle Assets
- Service Impact Score up to 40 points
  - » No asset condition score.
- Revenue vehicles score marginally higher than other categories

Minor Enhancement - Project Type	Sample Size	Average Score
Admin/Maintenance Facilities	7	21
Bus Shelters/Customer Facilities	18	17
Maintenance equipment & parts	3	23
System Infrastructure	1	22
Technology - Operations	22	21
Vehicle - Revenue vehicles	42	32
Total	**93**	**25**

State-of-Good Repair: Average Scores by Project Type

Project SubType	Asset Condition	Operating Efficiency	Frequency, Travel Time and/or Reliability	Accessibility and/or Customer Experience	Safety and Security	Project Score
Admin/Maintenance Facilities	33	6	6	6	6	57
Bus Shelters/Customer Facilities	35	0	0	8	8	51
Maintenance Equipment & Parts	33	6	6	5	6	56
System Infrastructure	30	10	6	6	1	53
Technology - Administrative	41	3	3	3	3	53
Technology - Operations	34	5	5	6	6	57
Vehicle - Revenue vehicles	41	9	9	9	5	74

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Minor Enhancement Projects: Average Scores by Project Type

Project SubType	Operating Efficiency	Frequency, Travel Time and/or Reliability	Accessibility and/or Customer Experience	Safety and Security	Project Score
Admin/Maintenance Facilities	6	6	3	6	21
Bus Shelters/Customer Facilities	2	1	8	7	17
Maintenance Equipment & Parts	6	5	5	7	23
System Infrastructure	10	6	6	0	22
Technology - Operations	4	4	6	6	21
Vehicle - Revenue Vehicles	9	10	10	3	32

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Individual Project Scoring

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SGR – Bus Replacement

> **Grantee:** Greater Richmond Transit Company

> **Project:** Purchase Replacement Bus 40-ft (26 buses total – 7 shown)

Application #	Grantee	In Service Date	Mileage	ESL (Mi)	ESL (Years)	Age (years)	Asset Condition Score	Service Quality Impact Score	Technical Score
10322	Greater Richmond Transit Company	1/4/2001	329,369	500,000	12	16.4	52	36	88
10322	Greater Richmond Transit Company	2/5/2001	469,243	500,000	12	16.3	52	36	88
10322	Greater Richmond Transit Company	2/6/2001	480,962	500,000	12	16.3	52	36	88
10322	Greater Richmond Transit Company	2/6/2001	446,527	500,000	12	16.3	52	36	88
10322	Greater Richmond Transit Company	2/7/2001	478,801	500,000	12	16.3	52	36	88
10322	Greater Richmond Transit Company	6/1/2003	152,345	500,000	12	14.1	45	36	81
10322	Greater Richmond Transit Company	6/1/2003	134,457	500,000	12	14.1	45	36	81

SGR – Bus Replacement

➤ **Grantee:** City of Charlottesville

➤ **Project:** Purchase Replacement Bus < 30-ft.

» Replace 2011 Chevy Body-On-Chassis 19-passenger bus

Application #	Grantee	In Service Date	Mileage	ESL (Mi)	ESL (Years)	Age (years)	Asset Condition Score	Service Quality Impact Score	Technical Score
10173	Charlottesville Area Transit	9/28/2011	79,523	100,000	4	5.8	40	36	76

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SGR – Maintenance Equipment and Parts

➤ Grantee: Greater Richmond Transit Company

➤ Project: Purchase Shop Equipment.

» Purchase shop tools and equipment in the maintenance department. Wheel Alignment Machine Portable Vehicle lifts Motorized Lift

Application #	Grantee	ESL (Years)	Age (years)	Asset Condition Score	Service Quality Impact Score	Technical Score
10322	Greater Richmond Transit Company	8	10	40	24	64

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SGR – Technology – Operations (Software Purchase – Scheduling)

➤ Grantee: Hampton Roads Transit

➤ Project: Replace existing HASTUS software as it reaches the end of its useful life.

➤ This project will upgrade the existing HASTUS software used for scheduling and Dispatching by the Service Planning and Operations departments.

Application #	Grantee	ESL (Years)	Age (years)	Asset Condition Score	Service Quality Impact Score	Technical Score
10333	Hampton Roads Transit	4	5	35	33	68

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Minor Enhancement – Expansion Bus/Vehicle

- Grantee: JAUNT, Inc.

- Project: Expand JAUNT's fleet to include *three* low floor buses for commuter routes.

- Purchase 19-Passenger low floor body chassis with ramp

Application #	Grantee	Asset Condition Score	Service Quality Impact Score	Technical Score
10324	JAUNT, Inc.	n/a	29	29
10324	JAUNT, Inc.	n/a	29	29
10324	JAUNT, Inc.	n/a	29	29

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Minor Enhancement – Technology - Operations

- Grantee: Hampton Roads Transit

- Project: Rider Support Hardware - ITS/Communications. Purchase and installation of passenger information displays along the Tide Light Rail right-of-way (ROW).

- Requires purchase and installation of ROW construction and hardware, passenger information systems (real-time information) components and software, consulting/professional services, and system management tools.

Application #	Grantee	Asset Condition Score	Service Quality Impact Score	Technical Score
10333	Hampton Roads Transit	n/a	24	24

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Next Steps

- Review prioritization results for FY18 SYIP (SGR and ME) projects

- Demonstrate application of funding rules and constraints to prioritized capital program

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