



CAMBRIDGE
SYSTEMATICS

Think  Forward

Prioritization Process and Measures

presented to

*Transit Capital Project Revenue
Advisory Board*

presented by

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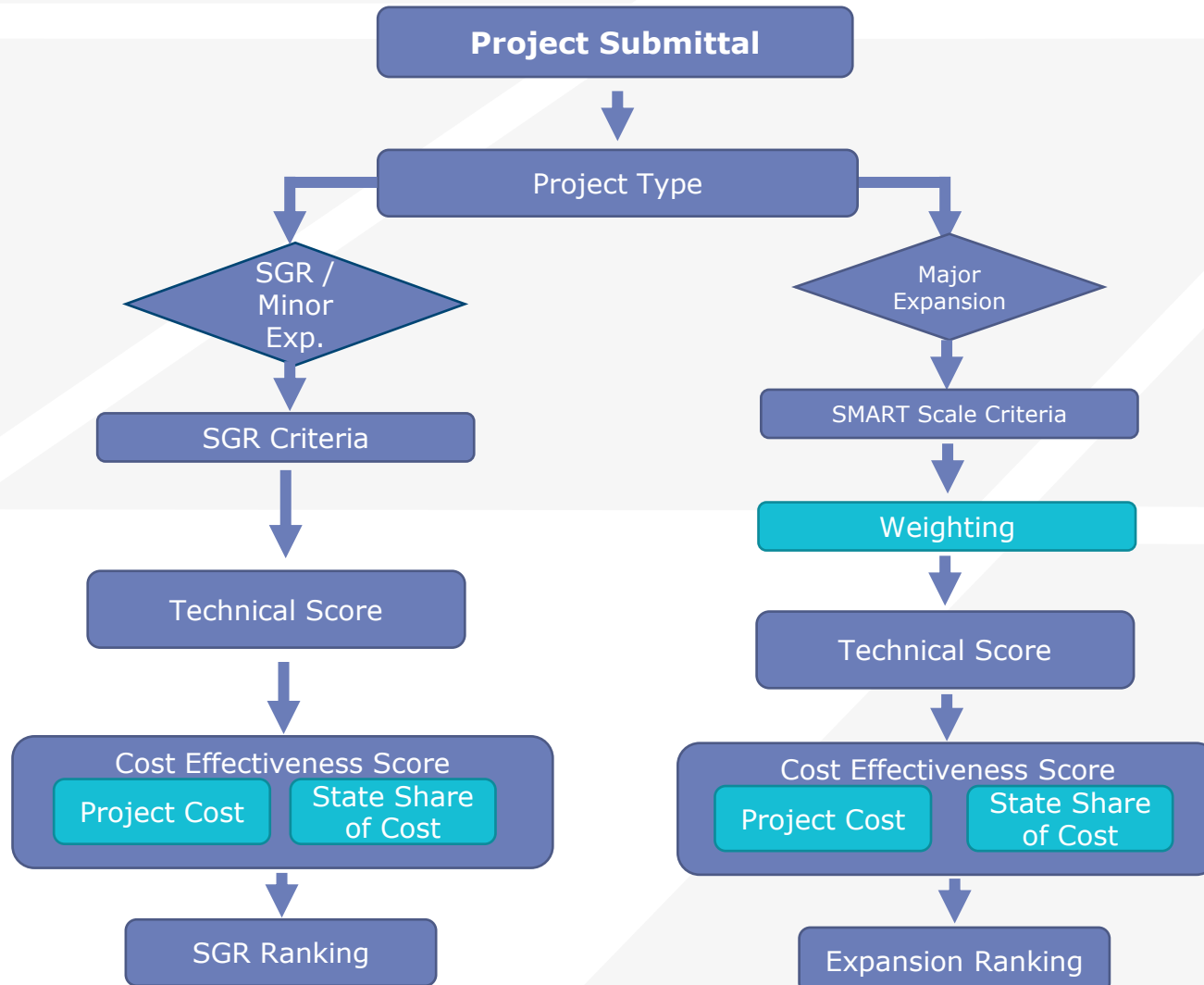
Proposed Prioritization Approach

- Separate prioritized processes for project types:
 - » State-of-Good Repair (SGR) and Minor Expansion
 - » Major Capital Expansion projects
- Different prioritization criteria and measures for SGR and Expansion
- Project scores are compared against other transit projects and ranked relative to cost (i.e. cost-effectiveness) within the two categories
- Weighting will be considered for expansion projects only

Note: majority of SYIP funding is for State-of-Good Repair (SGR)



Process Framework



Project Types – Determining SGR vs. Expansion

Examples of SGR and Minor Expansion Projects

- Replacement Buses and Vans
- Rehab/Renovation of Admin/Maintenance Facility
- Replacement bus shelters or customer facilities
- Replacement technology/systems/communication
- “Minor” Fleet or Facility Expansion

Examples of Major Expansion Projects

- Significant fleet expansion
- New bus stops, stations, customer facilities
- New administrative or maintenance facilities
- Significant new technology/systems upgrade
- Station access improvements
- BRT/LRT corridors



State-of-Good Repair - Criteria

Asset Condition

- Asset age and/or mileage
- Asset condition rating



Service Quality

- Asset impact on service (direct or indirect) and rider experience



Proposed Measures – Service Quality

- Qualitative measure (checklist) of asset impact on service and rider experience:
 - » Does the asset directly impact customers? (Vehicles, customer facilities) – Yes/No
 - » Impact on service reliability? (High to Low)
 - » Impact on service efficiency? (High to Low)
 - » Impact on service frequency and/or travel time? (High to Low)
 - » Impact on service access and/or customer experience? (High to Low)
 - » Impact on customer safety and security? (High to Low)

Expansion Projects - Criteria

Congestion Mitigation

Economic Development

Accessibility

Safety

Environmental Quality

Land Use

SMART Scale

- Person throughput
- Person hours of delay

- Project Support for Economic Development

- Access to jobs
- Access to jobs by disadvantaged persons

- Number and Rate of Crashes with Fatalities and Injuries

- Air quality and energy environmental effect
- Impact to natural and cultural resources

- Land use policy consistency

Modified SMART Scale

- Ridership

- Same, but remove factoring by potential square footage of new development

- Same, but use ½ mile walk distance

- Potential safety impact

- Same, but simplify calculation of natural and cultural resource impacts

- Same



Expansion Projects – Weighting Options

- Fixed weighting of criteria
 - » Equal (16.67% per criteria)
 - » Varies by criteria (ex. Congestion/ridership weighted more than environmental)
- Weighting set by area type - Urban vs. Rural
- Weighting set by operator size – Large vs. Small

Prioritization - Next Steps

- November:
 - » Develop methodology for scoring and weighting measures
- December: Update to CTB on draft concepts
- January-March: Demonstrate application of criteria and weighting on example projects and funding scenarios