CAMBRIDGE SYSTEMATICS

Think Forward

Prioritization Process and Measures

presented to

Transit Service Delivery Advisory Committee (TSDAC)

presented by

Cambridge Systematics, Inc.

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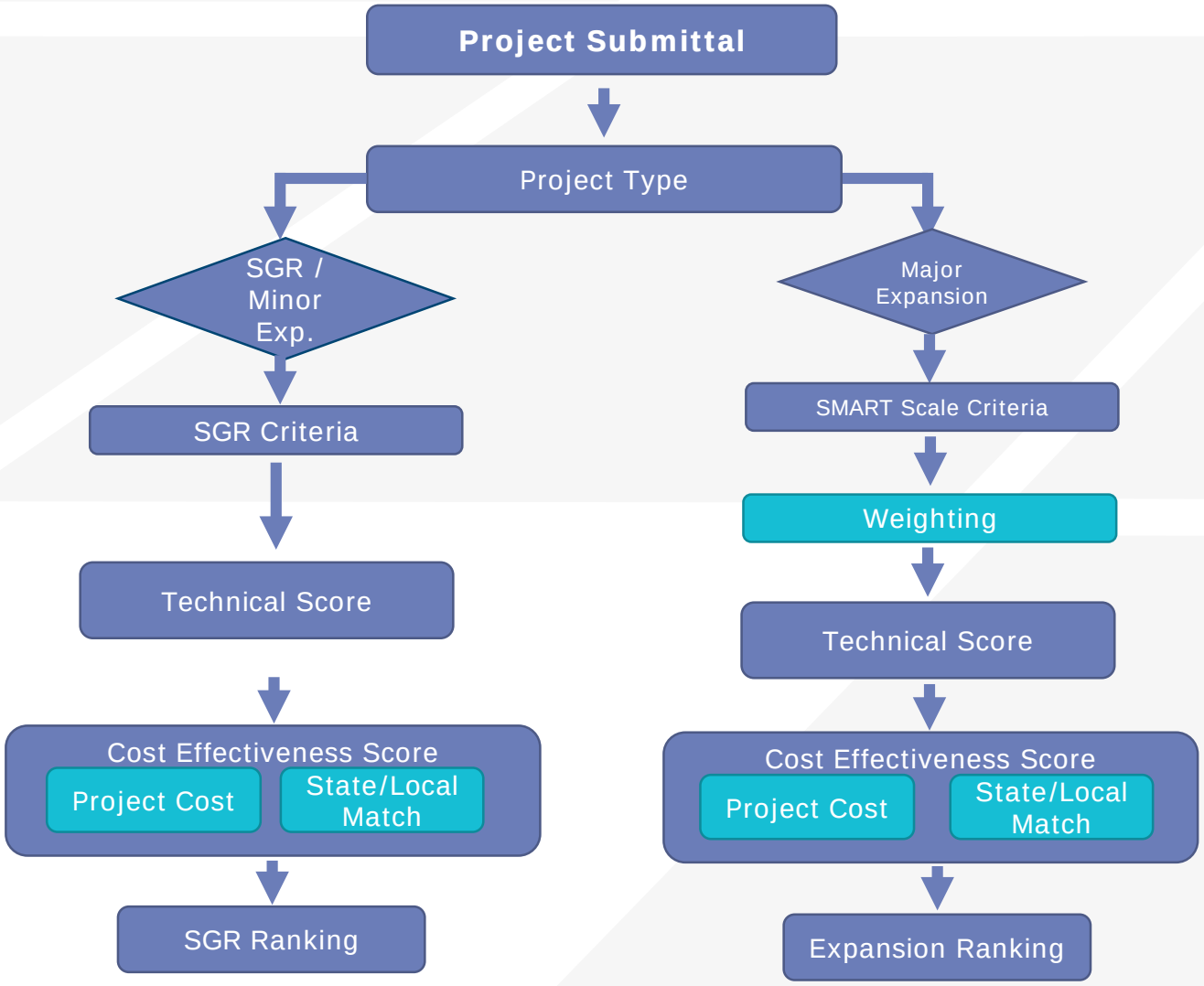
Seeking TSDAC Concurrence with Prioritization Approach

- Separate prioritized processes for project types:
  - State-of-Good Repair (SGR) and Minor Expansion
  - Major Capital Expansion projects
- Finalize list of prioritization criteria and measures - different 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



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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

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Service Quality

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

Proposed Measures – Service Quality

- Previously proposed - quantitative measures based on operator performance:
  - Mean distance between failure
  - On-time performance
  - Asset utilization (revenue hours per vehicle)
- Revised approach – 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)

Expansion Projects - Criteria

	SMART Scale	Modified SMART Scale
Congestion Mitigation	• Person throughput • Person hours of delay	• Ridership
Economic Development	• Project Support for Economic Development	• Same, but remove factoring by potential square footage of new development
Accessibility	• Access to jobs • Access to jobs by disadvantaged persons	• Same, but use ½ mile walk distance
Safety	• Number and Rate of Crashes with Fatalities and Injuries	• Potential safety impact
Environmental Quality	• Air quality and energy environmental effect • Impact to natural and cultural resources	• Same, but simplify calculation of natural and cultural resource impacts
Land Use	• Land use policy consistency	• 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 to example implementation scenarios/projects