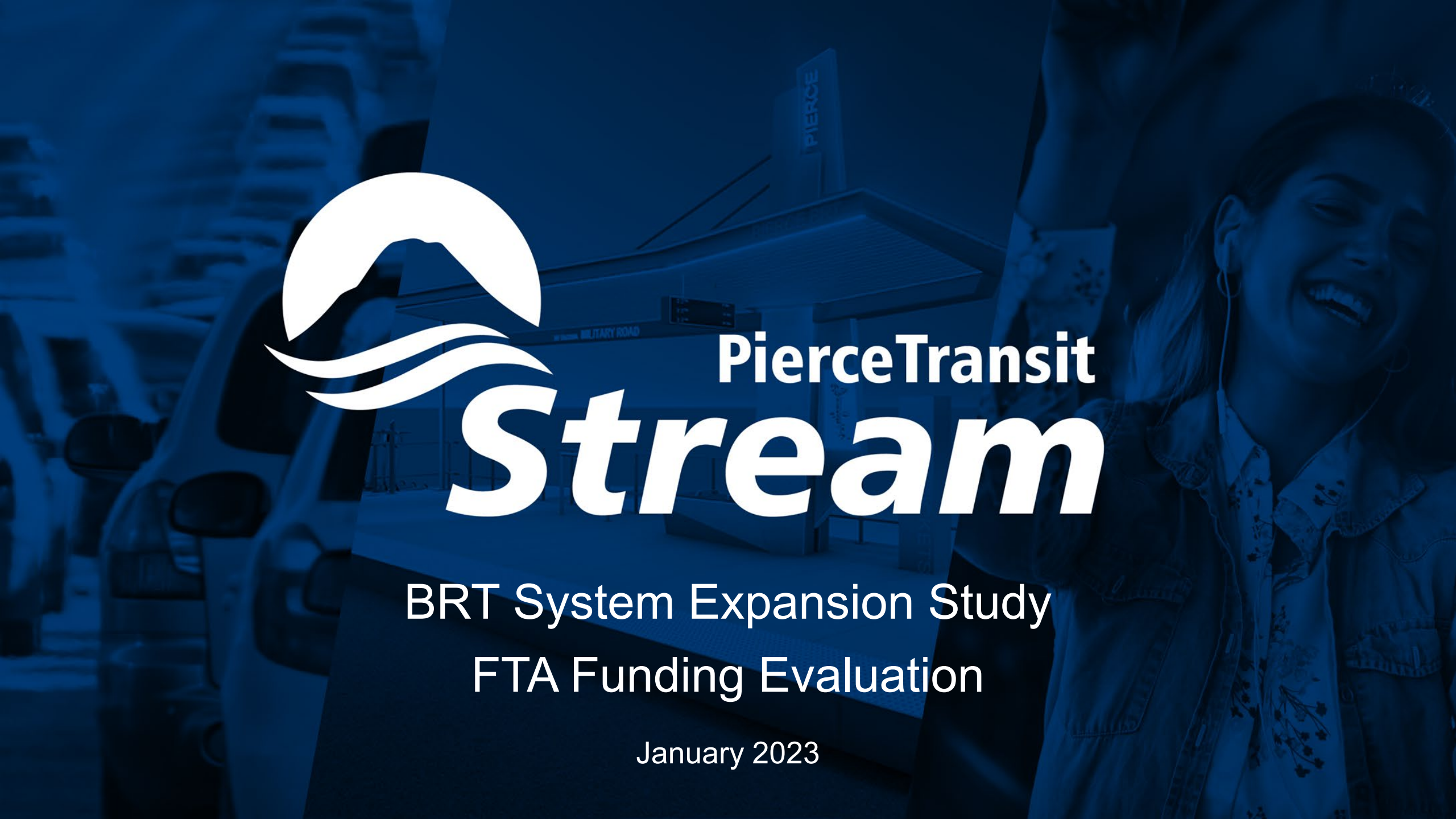
APPENDIX M

FTA FUNDING ASSESSMENT

This document provides results of a high-level evaluation of each Stream corridor according to criteria from the Federal Transit Administration (FTA) for the Capital Investment Grant program.



BRT System Expansion Study
FTA Funding Evaluation

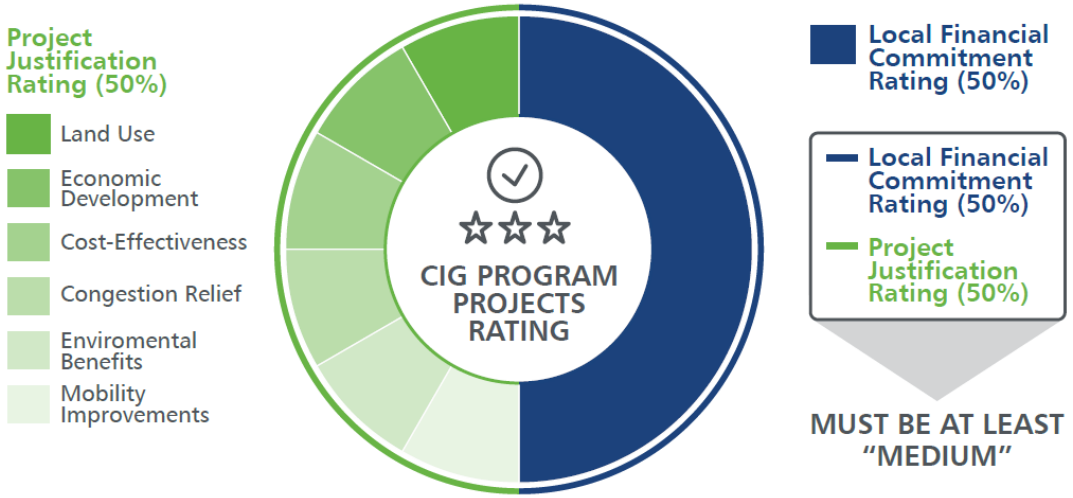
January 2023

Overview

Evaluation Account	Evaluation Criteria
ENHANCE Provide BRT service to the highest demand, highest need corridors in the Pierce Transit service area.	– Future daily boardings. – New transit trips generated. – Future daily boardings in equity locations.
CONNECT Connect residents with jobs, services and other daily activities.	– Population and employment density (2019). – Equity-weighted population and employment density (2019). – Connectivity with future regional transit network (2040).
GROW & PROSPER Provide BRT services to areas with transit supportive land use, areas of growth and locations that support local businesses.	– Future household and employment density (2040). – Percentage change in household and employment density (2019-2040). – Centers of regional and local importance.
SUSTAIN Reduce emissions and promote sustainable travel.	– Reductions in greenhouse gas emissions. – Quality of pedestrian/bicycling network. – Projected increase in proportion of transit use on corridor (2042).
DELIVER Develop BRT projects that are fundable, effective and implementable.	– Cost-effectiveness. – Reduction in passenger travel times. – Federal Transit Administration (FTA) Small Starts funding potential.

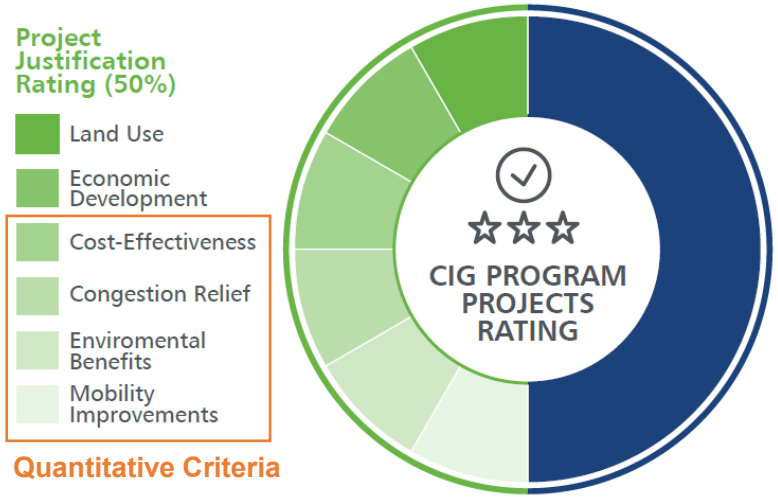
- This document provides results of a high-level evaluation that was conducted to understand each SSES corridor's alignment with criteria for the Federal Transit Administration (FTA) Capital Investment Grant (CIG) program and likely competitiveness for a Small Starts funding award.
- FTA funding potential was one of the Stream Expansion Study's evaluation criteria.

FTA Funding Criteria



- Pierce Transit plans to prepare a Small Starts application to seek FTA funding for Stream BRT 2.
  - Currently planned for 2024.
  - Project Justification criteria consisting of:
    - Four quantitative criteria.
    - Land Use and Economic Development "templates" which require qualitative assessment.
    - Each criteria is rated from Low to High.
  - Local Financial Commitment evaluation.
  - A Medium rating for both Project Justification and Local Financial Commitment is required to secure an overall Medium rating.
- Stream 1 was rated Medium-High.

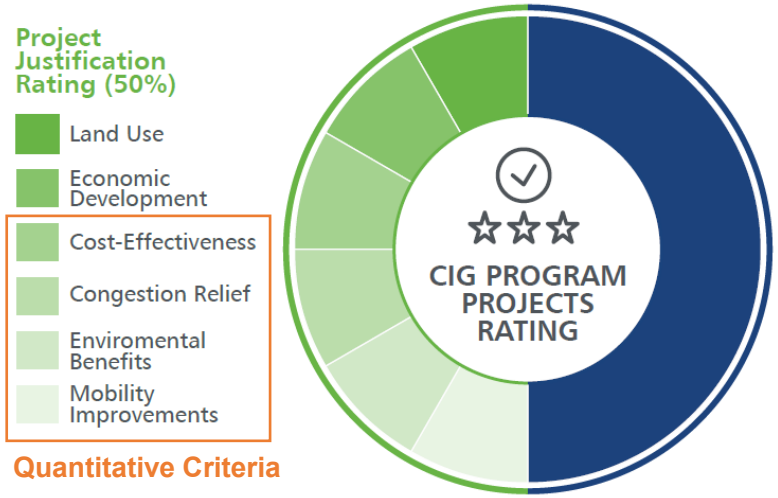
SSES Evaluation Approach



- The SSES study provided a *high-level, comparative evaluation* of each corridor against the four *quantitative* Project Justification criteria using the inputs available from the evaluation process.
  - When preparing a Small Starts submittal to FTA would include more detailed ridership modeling (e.g., STOPS*); the SSES evaluation used the Sound Transit ridership model.
- High level assumptions (e.g., based on demographic data) were used to develop ratings for the land use and economic development criteria, which consider qualitative factors.
  - Detailed land use and economic development templates would be completed as part of a future Small Starts submittal.

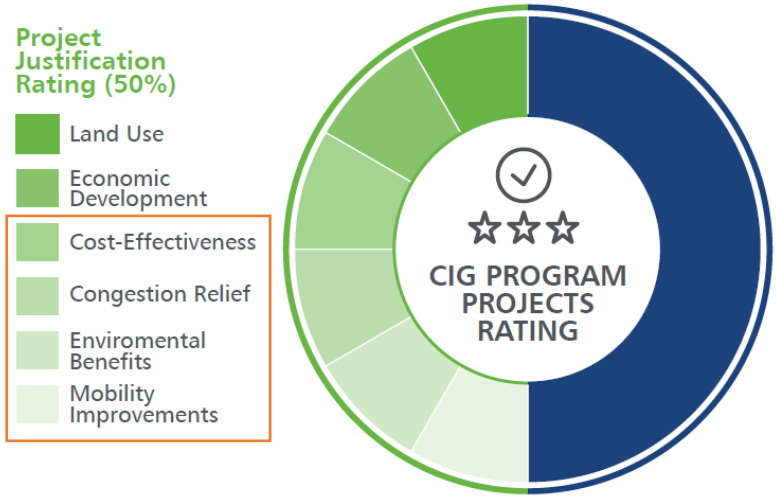
* STOPS is the Simplified Trips on Project Software, the FTA's preferred tool for preparing ridership forecasts for projects seeking CIG program funding.

Project Justification Criteria



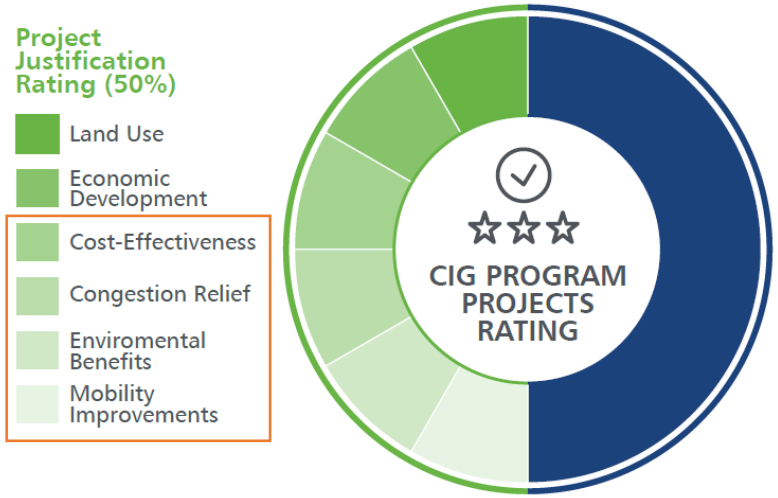
- Ratings for four quantitative criteria were assessed based on SSES evaluation measures:
  - **Mobility**: total transit trips (i.e., ridership, in terms of unlinked trips), weighted for trips by transit-dependent persons.
  - **Congestion relief**: new transit trips.
  - **Cost-effectiveness**: total transit trips (unlinked) relative to the federal share of capital costs.
  - **Environmental benefit:** monetized environmental benefits, e.g., air quality) relative to the annualized federal share of capital costs.

Project Justification Input Data



- The following inputs were used to develop the underlying ridership data used to evaluate the criteria, based on data from Sound Transit model runs and subsequent post-processing.
  - Daily average trips on the project.
  - Daily new trips on the project
  - Daily change in Auto VMT.
- Inputs were developed for the current year (2019) and horizon year (projected land use in 2040).
- The FTA evaluation utilizes an average of current and horizon year results.

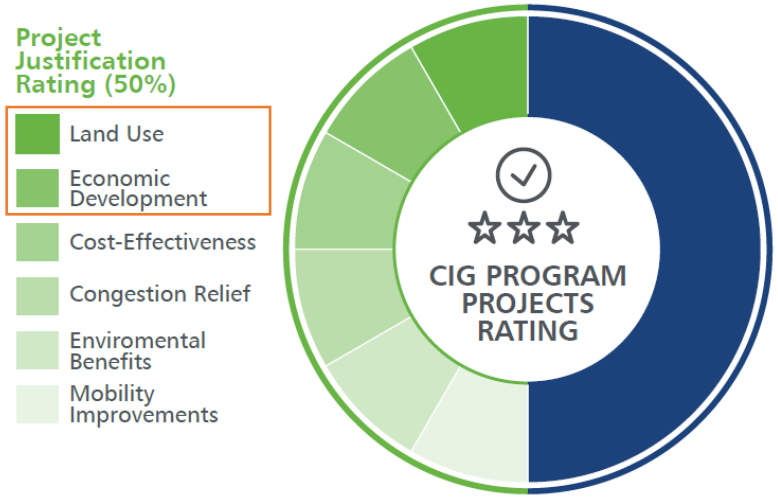
Project Justification Input Data



- Assumptions for the share of Transit-dependent riders were developed based on a combination of breakdowns from Pierce Transit's Stream 1 submittal and a spatial comparison to demographics for each corridor.
  - 39% to 42% for the current year.
  - 29% to 31% for the horizon year.
- Daily riders were "annualized" using a factor that represents the ratio between annual and weekday riders for the primary route serving each corridor, using data from Fall 2019.

Route	Corridor	Annual ridership	Average Weekday Daily Boardings	Annualization factor
Route 2	Corridor A	660,032	2,182	302
Route 3	Corridor B	445,514	1,436	310
Route 402	Corridor C	310,603	1,047	297
Route 4	Corridor D	377,678	1,282	295

Project Justification Criteria

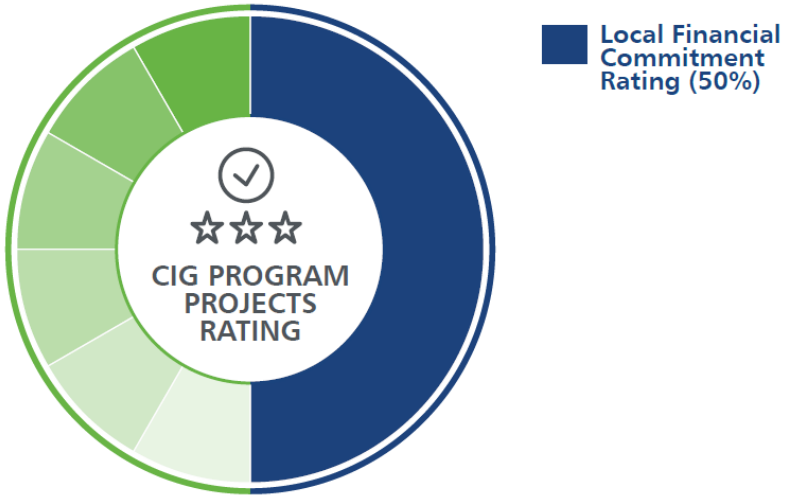


- High level assumptions were used for the Land Use and Economic Development criteria for this evaluation.
- The FTA Land Use evaluation includes both quantitative demographic factors and qualitative evaluation. Economic Development is based on qualitative evaluation.
  - Stream 1 received Medium ratings for Land Use and Economic Development.
  - In the SSES evaluation, ratings were based on demographics for each corridor relative to Stream 1.

Corridor	Land Use	Economic Development
Corridor A	Medium-High	Medium
Corridor B	Medium-High	Medium-High
Corridor C	Medium-Low	Medium-Low
Corridor D	Low	Low

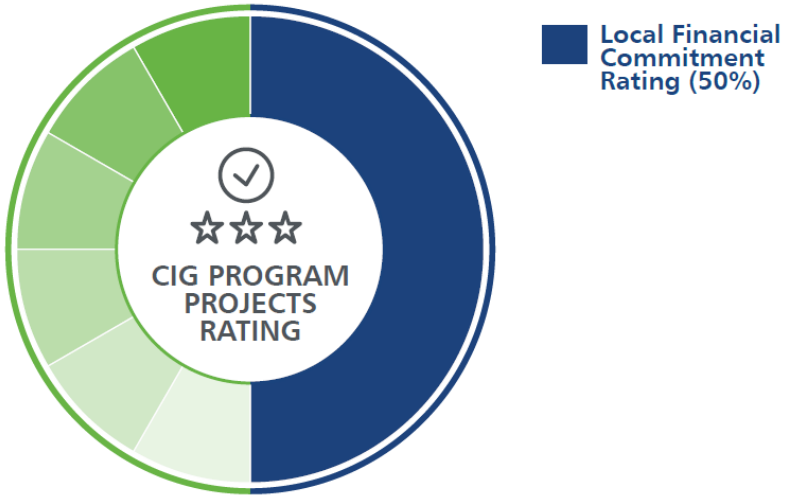
  - Sensitivity tests (discussed below) included Medium-High ratings for A, Medium ratings for C, and Medium-Low ratings for D.

Local Financial Commitment



- Small Starts projects can qualify for a “Streamlined Financial Evaluation” if they meet the following criteria:
  - Can demonstrate a plan to secure funding for the non-federal share of capital costs.
  - Operating costs are less than 5% of the agency’s current operating budget.
  - The sponsor is in “reasonably good” financial condition.
- A **High** rating is assigned if the project requests no more than 50% in CIG Program funding. Projects requesting higher than a 50% share from the CIG Program are assigned a **Medium** local financial commitment rating.
  - A 50% federal share was assumed (Stream 1 sought 44%).

Local Financial Commitment



- Pierce Transit received a High rating for Stream 1, and it was assumed this could qualify for the following streamlined financial commitment elements:
  - ☑ Have a plan to secure funding for the non-federal share of capital costs.
  - ☑ Operating costs are less than 5% of the agency's current operating budget.

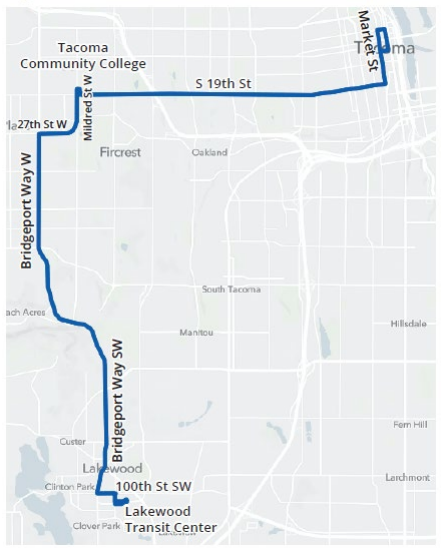
    Corridors A and B meet this criteria for additional operating costs.

    Corridors C and D currently do not meet this criteria, since they have less service; however, the criteria was assumed to be met for this evaluation.
  - ☑ The sponsor is in "reasonably good" financial condition.
- A **High** rating was assumed for all corridors.

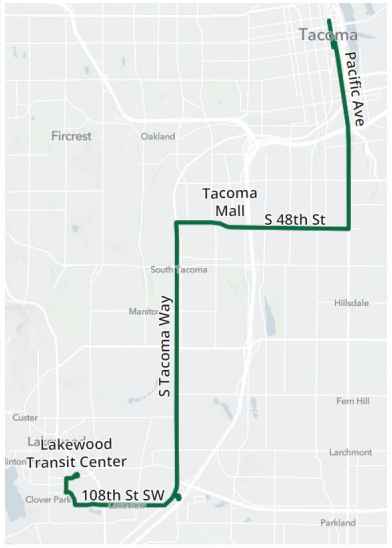
Corridors Evaluated

- The highest scoring corridor variation in the SSES evaluation was used to assess FTA funding potential for each corridor.
  - Variations A, B2, C, and D were used.
  - Refer to the SSES Report for additional detail on the corridors illustrated on this page.

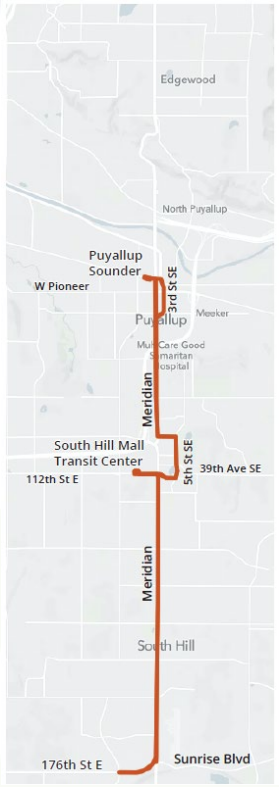
Corridor A: Tacoma to Lakewood Transit Center



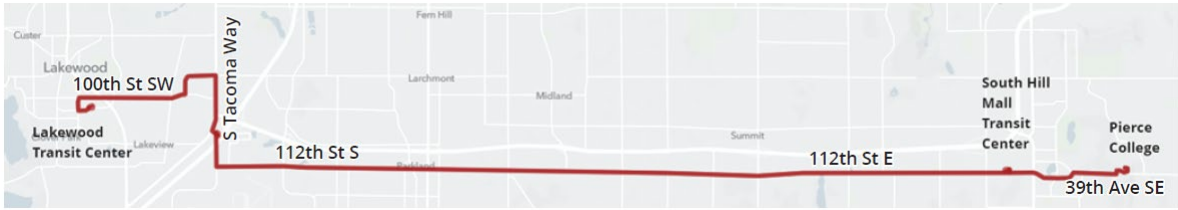
Corridor B: Tacoma to Lakewood Transit Center



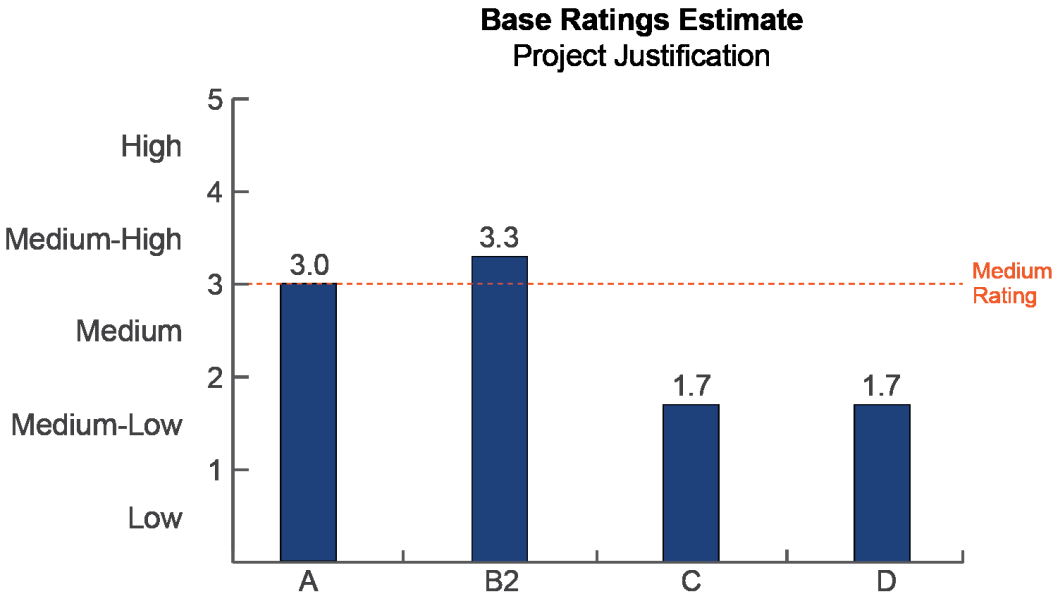
Corridor C: Sunrise Neighborhood to Puyallup



Corridor D: Lakewood Transit Center to Pierce College



Results Summary



Estimated Project Justification ratings for each corridor:

- Corridor B would achieve the minimum Medium rating.
- Corridor A falls slightly short of a Medium rating.
- Corridors C and D fall well below a Medium rating.

The Project Justification score would be averaged with the Financial Commitment score.

Ridership Warrants

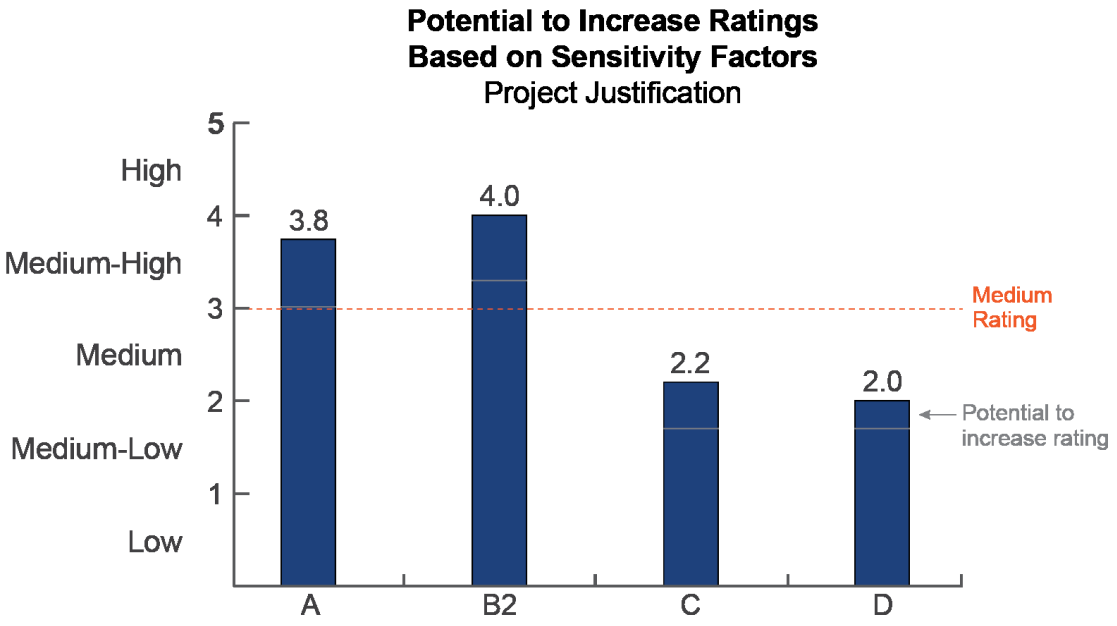
Warrant	Capital Cost	Average Weekday Transit Trips
1	Less than $50 million	Greater than 3,000
2	Less than $100 million	Greater than 6,000
3	Less than $175 million	Greater than 9,000
4	Less than $250 million	Greater than 12,000
5	Less than $500 million	Greater than 15,000

- Projects can qualify for Medium ratings for the three of the Project Justification criteria based on existing corridor ridership.
  - Mobility
  - Congestion relief
  - Cost-effectiveness
- Total funding depends on the level of existing ridership.
- Corridors A and B would qualify for up to $50 million in total project cost.
- Corridors C and D would not qualify based on the current service level.
- Ridership warrants is included as a sensitivity factor for Corridors C and D

Sensitivity Factors

- Given the high-level nature of the SSES evaluation and the early stage of concept design, several sensitivity factors were tested to understand whether corridors could achieve a higher rating based on changes in conditions or refinements to the projects. Factors tested included:
  - Ridership up to 40% higher.
  - Capital costs 20% lower.
  - Use of Ridership Warrants (for Corridors A and B).
  - Land Use and Economic Development ratings up to 1 rating higher (maximum of Medium-High).

Sensitivity Factors



Estimated potential for the Project Justification rating, based on highest rating for each criteria across the adjustments tested:

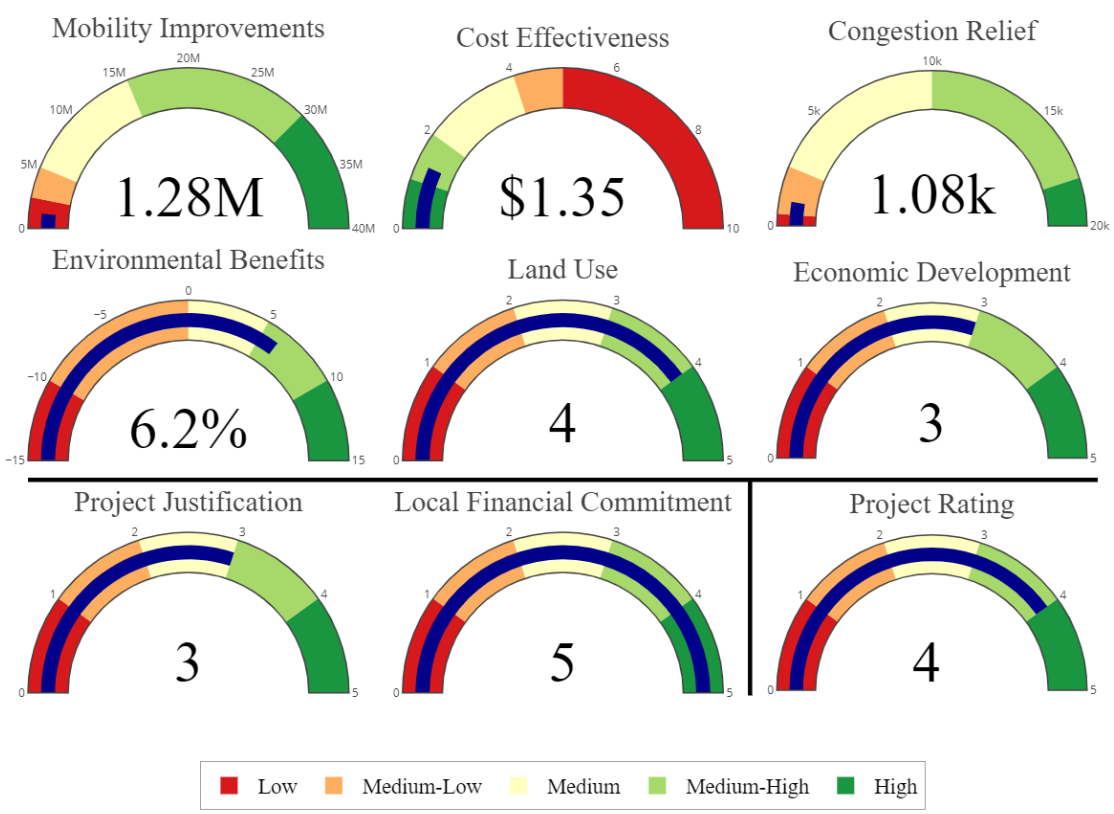
- Corridor A could increase to the upper end of the Medium range.
- Corridor B could achieve a Medium-High rating.
- Corridors C and D would still fall below a Medium rating.

The Project Justification score would be averaged with the Financial Commitment score.

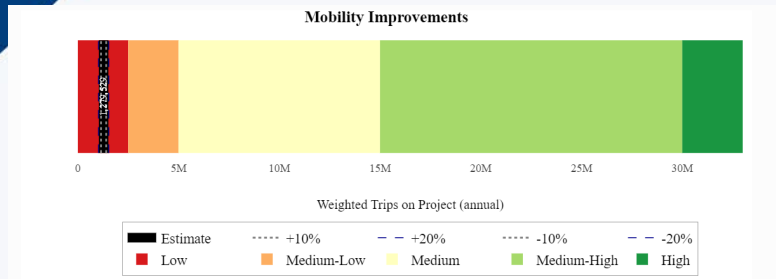
Detailed Result Charts

Corridor A

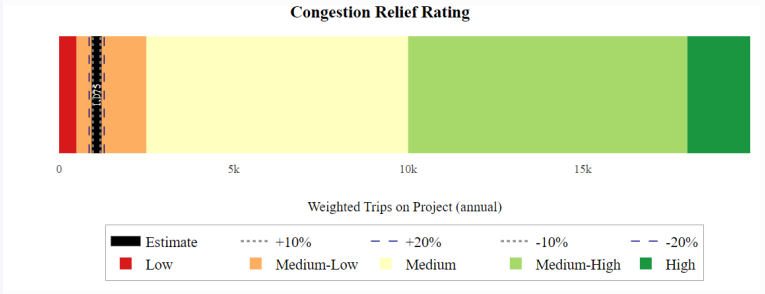
- Quantitative Metrics
  - **Mobility:** Low
  - **Cost-effectiveness:** Medium-High
  - **Congestion Relief:** Medium-Low
  - **Environmental Benefits:** Medium-High
- Qualitative, high-level assessment:
  - **Land Use:** Medium-High
  - **Economic Development:** Medium

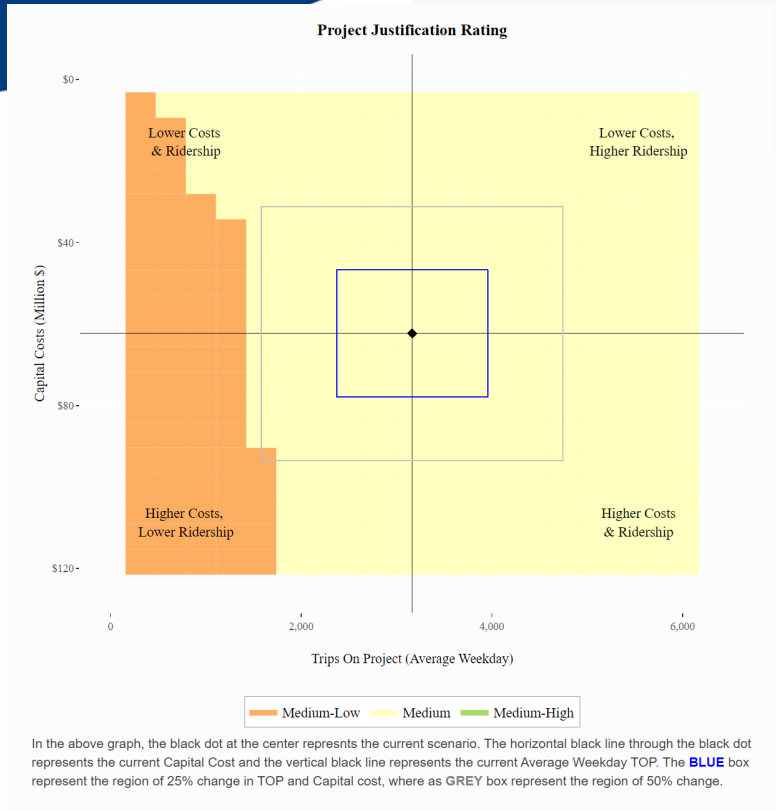


Corridor A

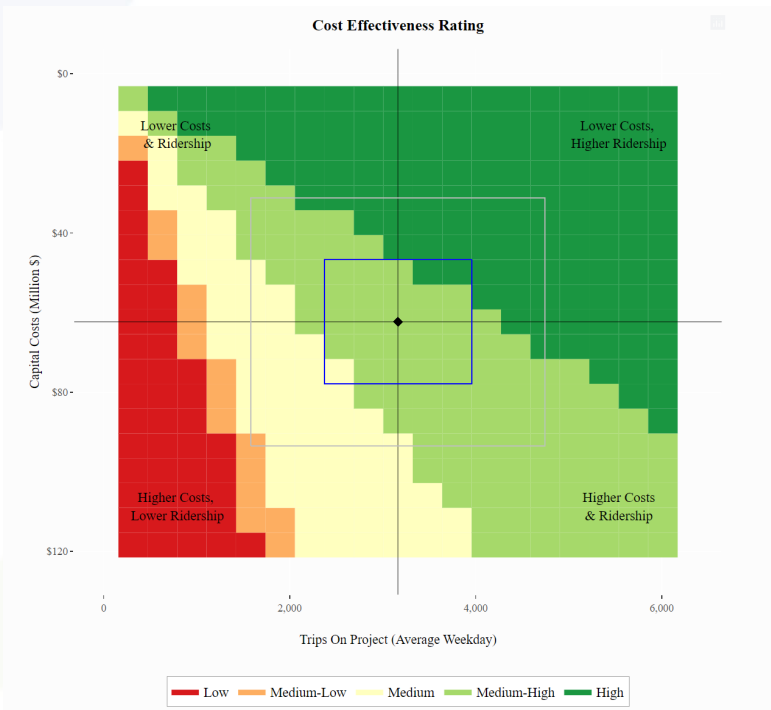


In the above graph, the thick black line is the estimate of mobility improvement value. Dotted grey lines represent a 10% buffer region of the estimate, while dashed blue lines represent a 20% buffer region.

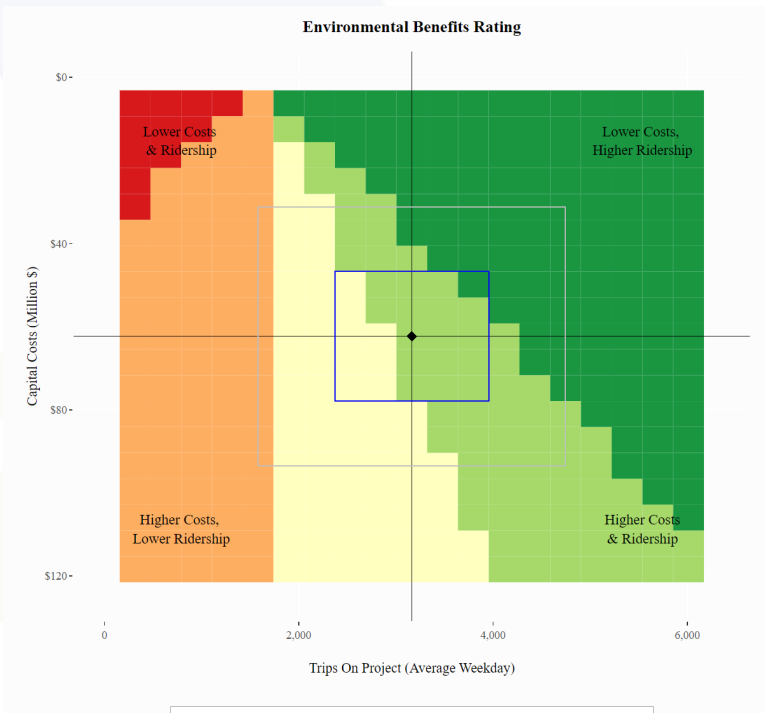




In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.



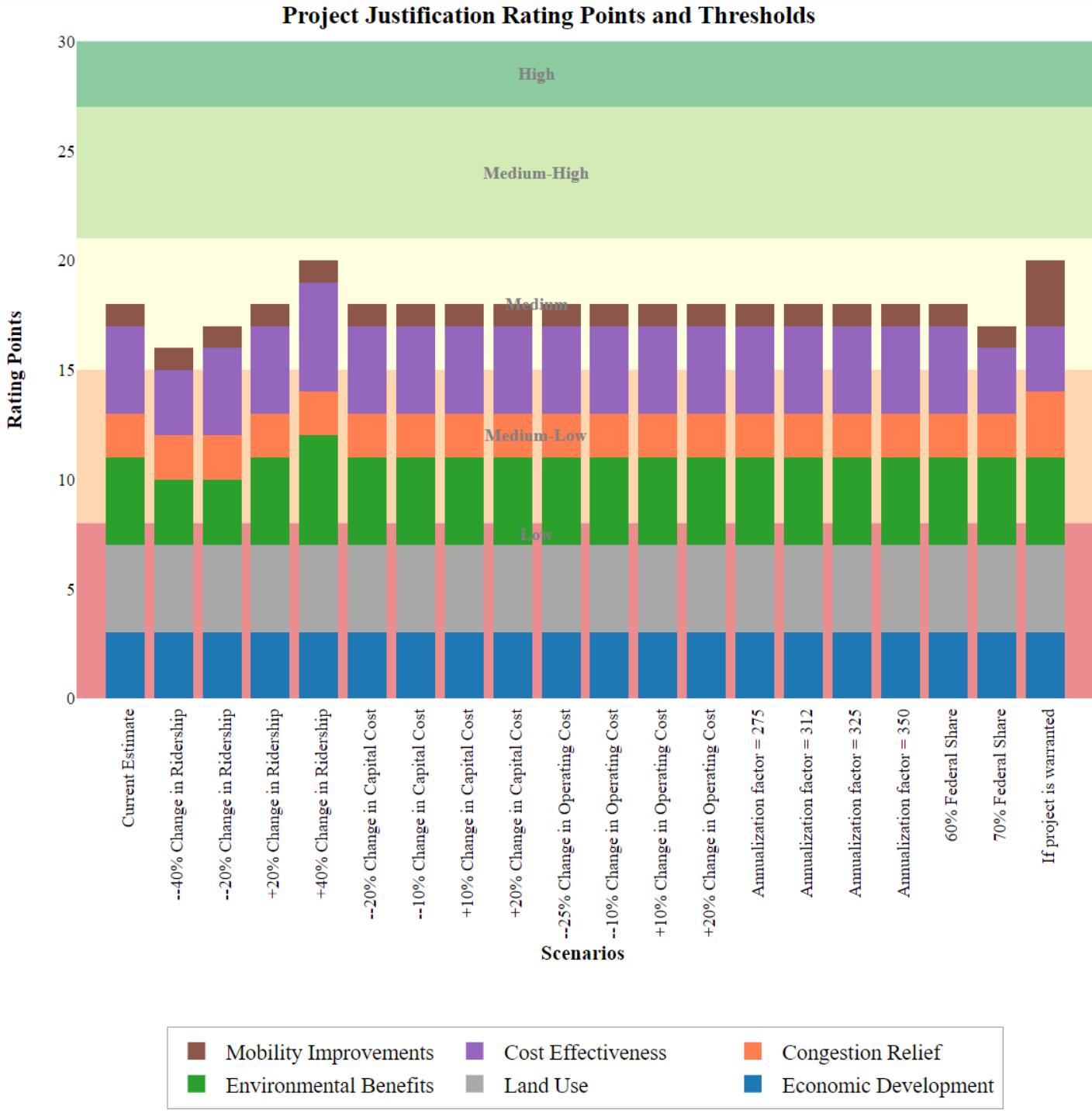
In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.



In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.

Corridor A

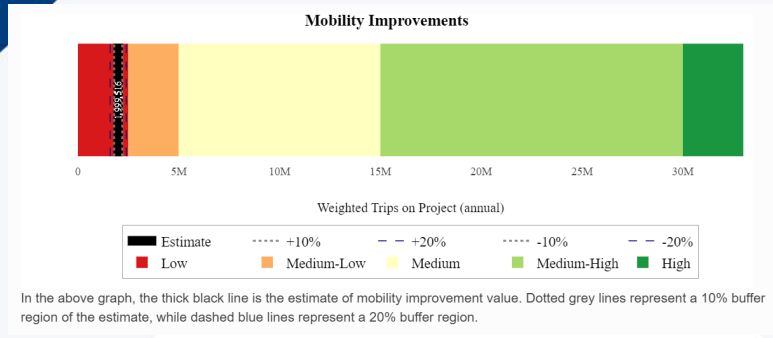
- Eligible for ridership warrants based on existing corridor ridership, up to a capital cost of $50 million



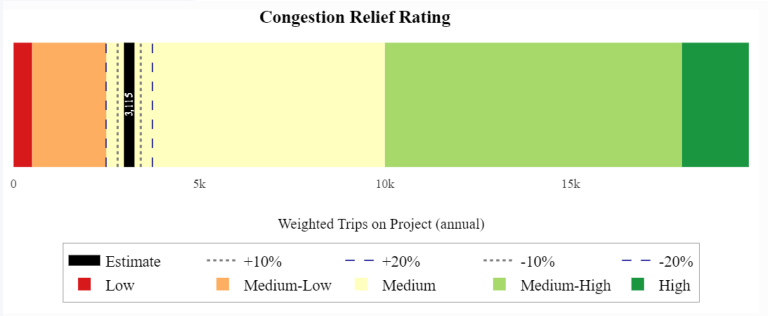
Corridor B2

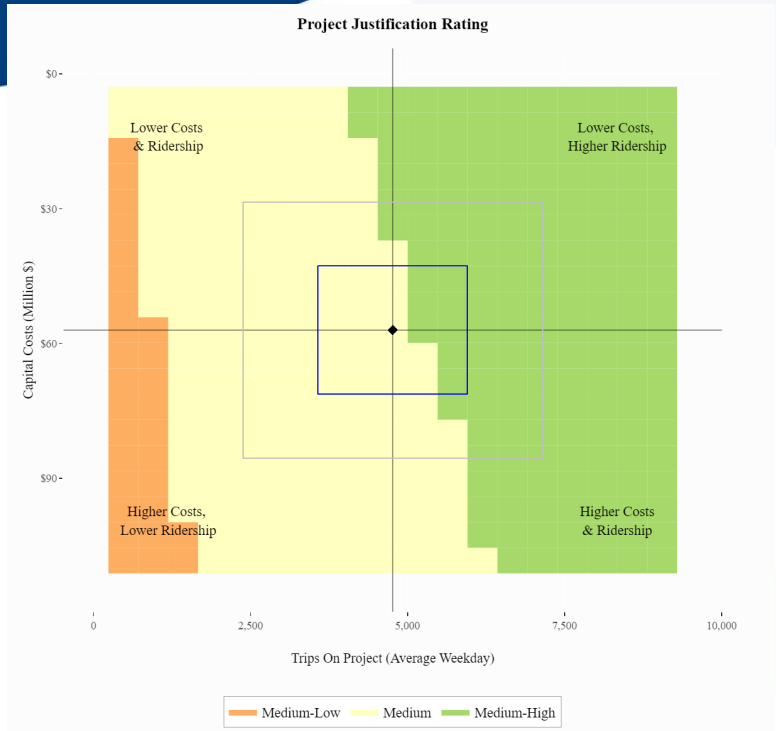
- Quantitative Metrics
  - **Mobility:** Low (but on margin)
  - **Cost-effectiveness:** High
  - **Congestion Relief:** Medium
  - **Environmental Benefits:** Medium
- Qualitative, high-level assessment:
  - **Land Use:** Medium-High
  - **Economic Development:** Medium-High

Corridor B2

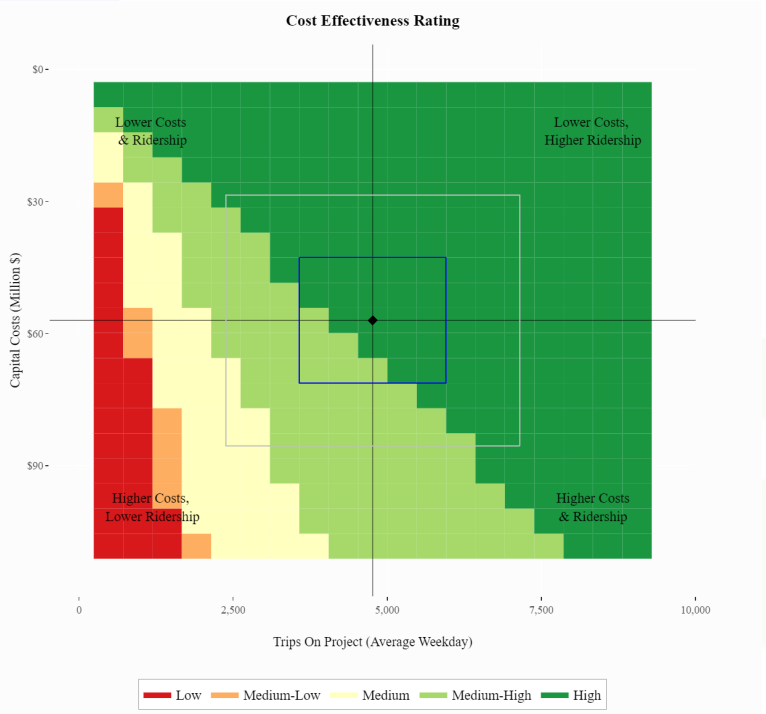


In the above graph, the thick black line is the estimate of mobility improvement value. Dotted grey lines represent a 10% buffer region of the estimate, while dashed blue lines represent a 20% buffer region.

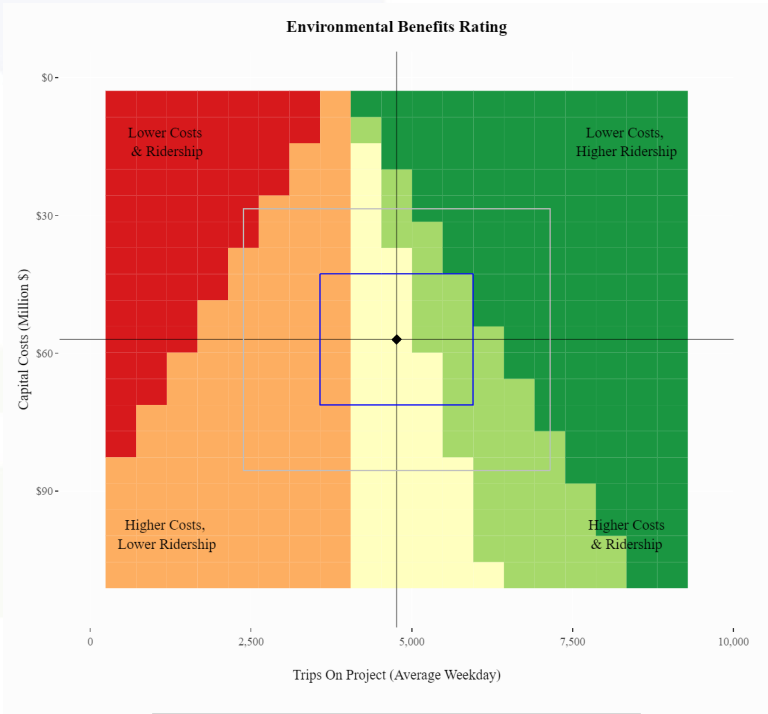




In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.



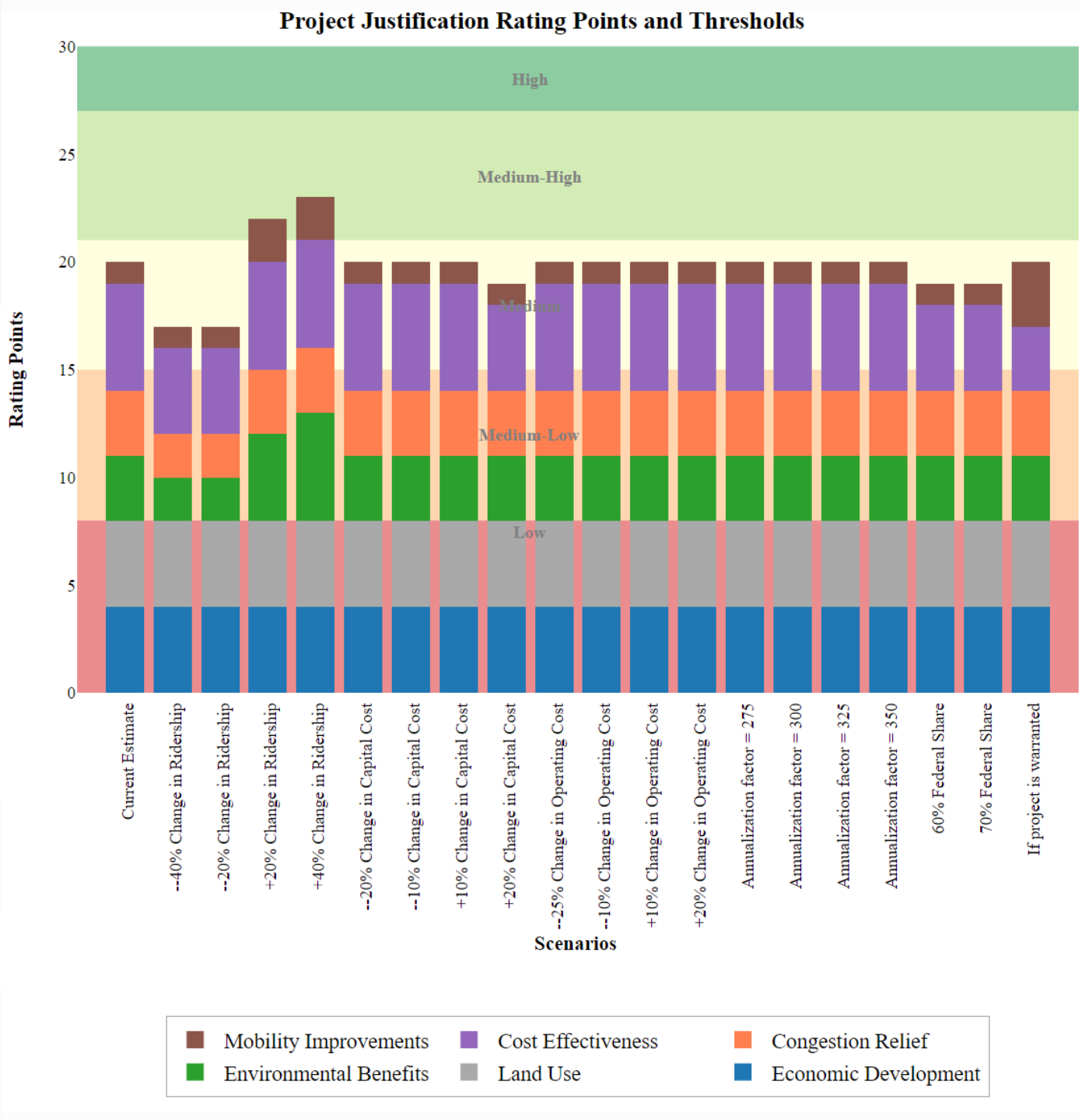
In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.



In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.

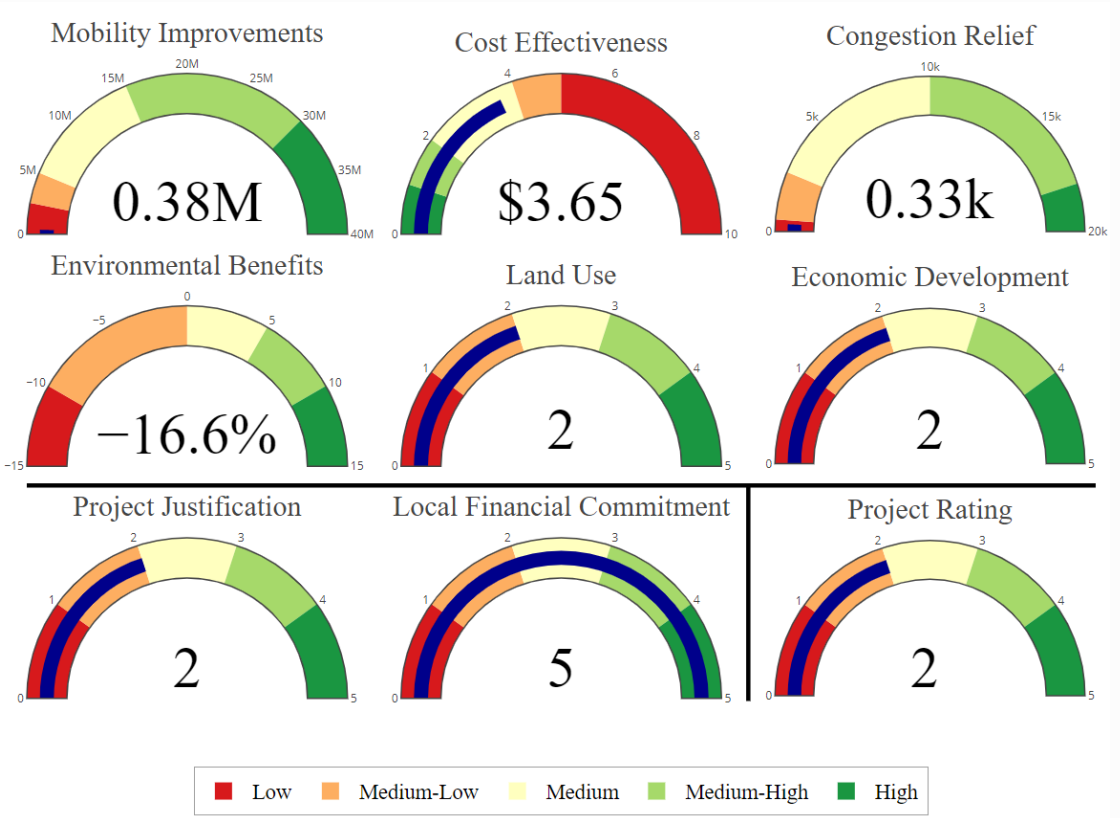
Corridor B2

- Additional ridership could help achieve an overall Medium-High score
- Eligible for ridership warrants based on existing corridor ridership, up to a capital cost of $50 million

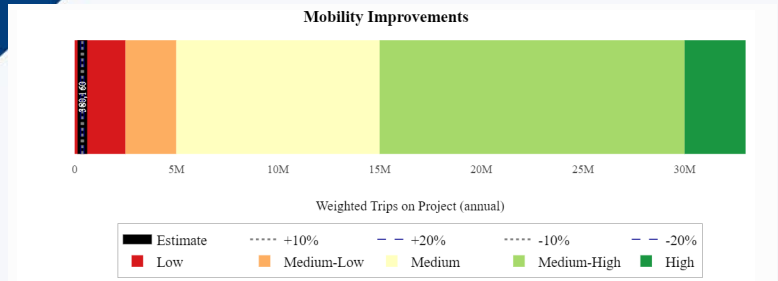


Corridor C

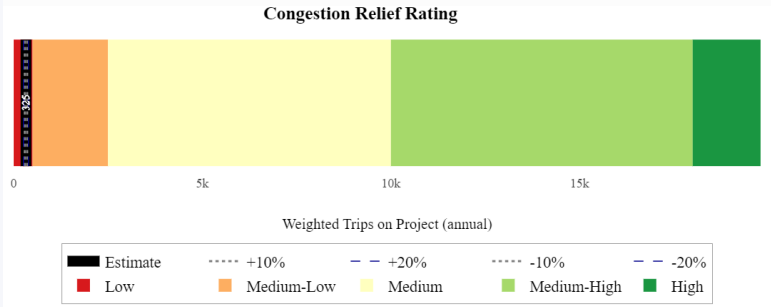
- Quantitative Metrics
  - **Mobility:** Low
  - **Cost-effectiveness:** Medium
  - **Congestion Relief:** Low
  - **Environmental Benefits:** Low
- Qualitative, high-level assessment:
  - **Land Use:** Medium-Low
  - **Economic Development:** Medium-Low

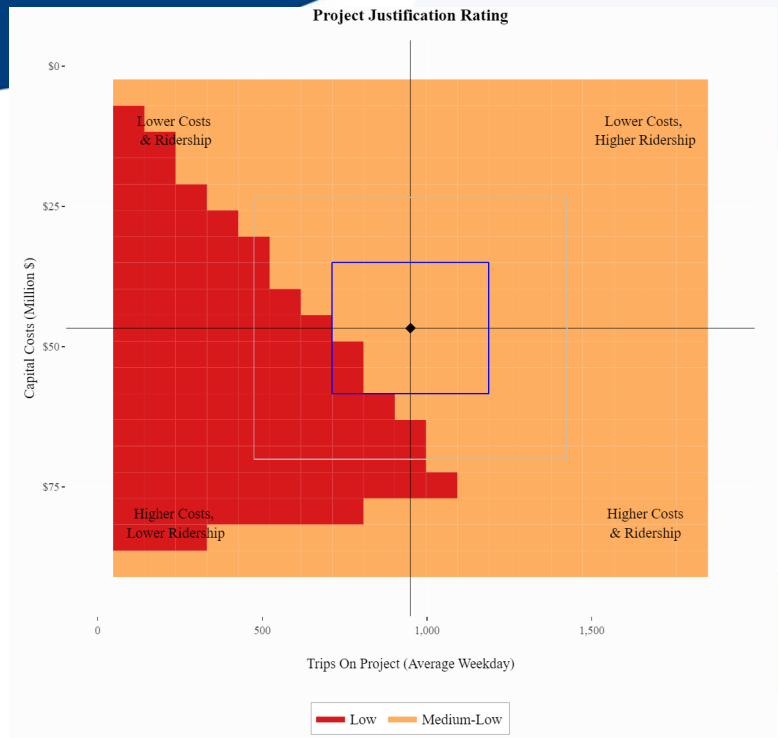


Corridor C

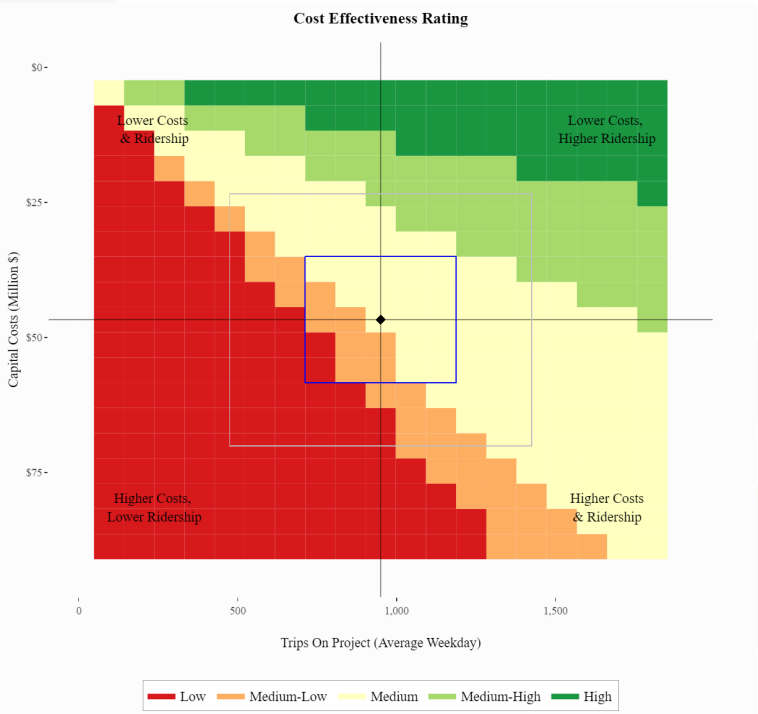


In the above graph, the thick black line is the estimate of mobility improvement value. Dotted grey lines represent a 10% buffer region of the estimate, while dashed blue lines represent a 20% buffer region.

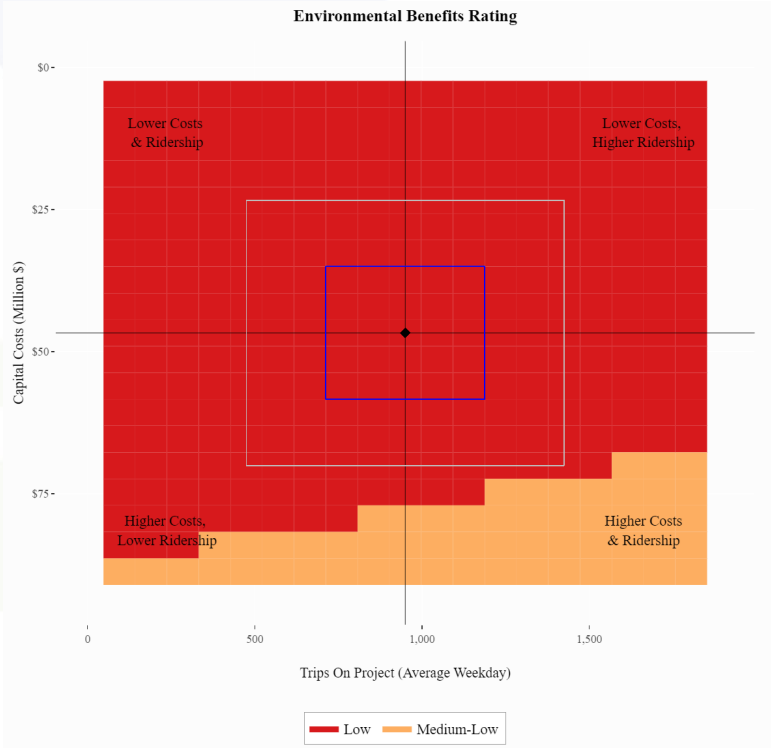




In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.



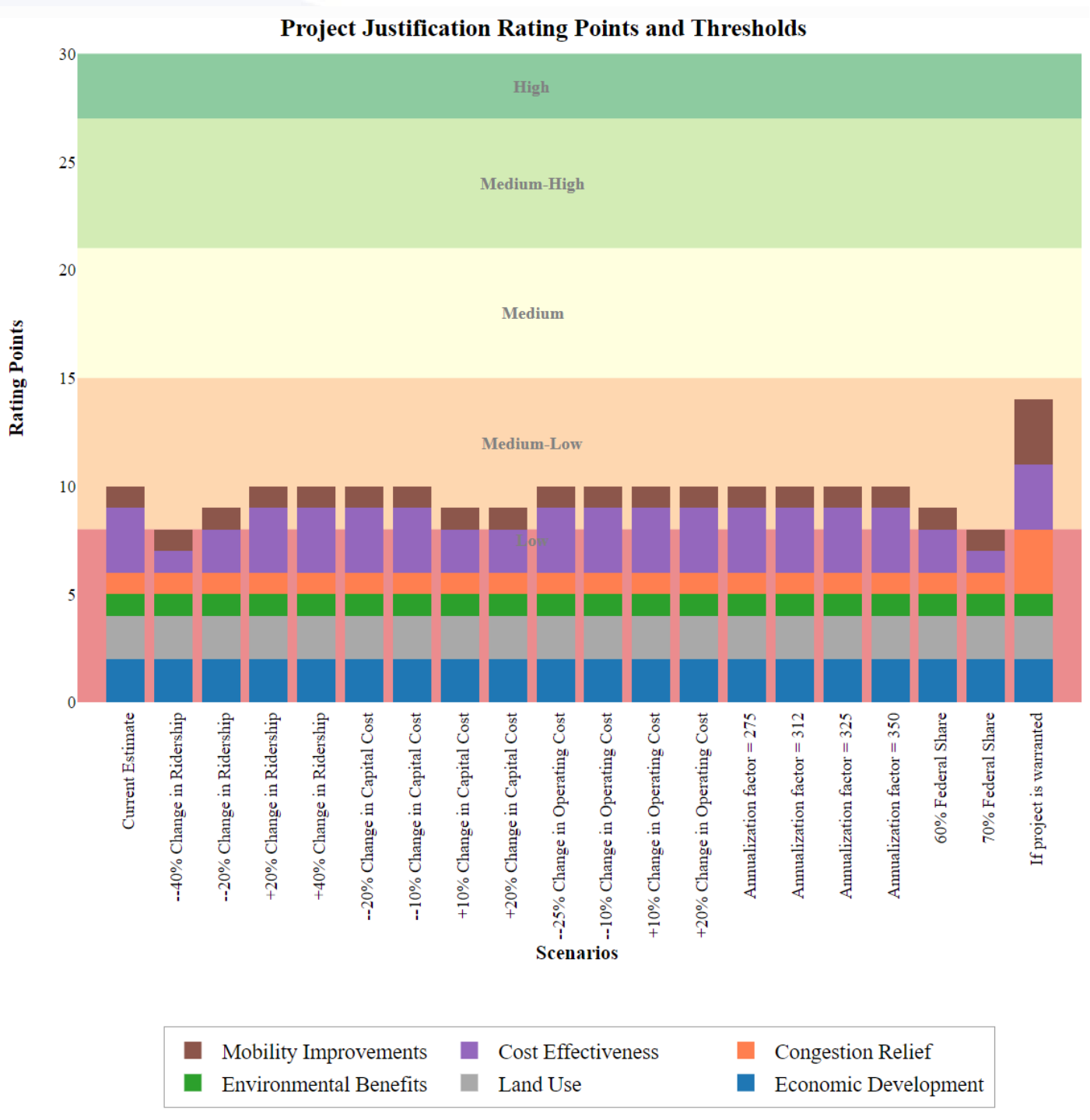
In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.



In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.

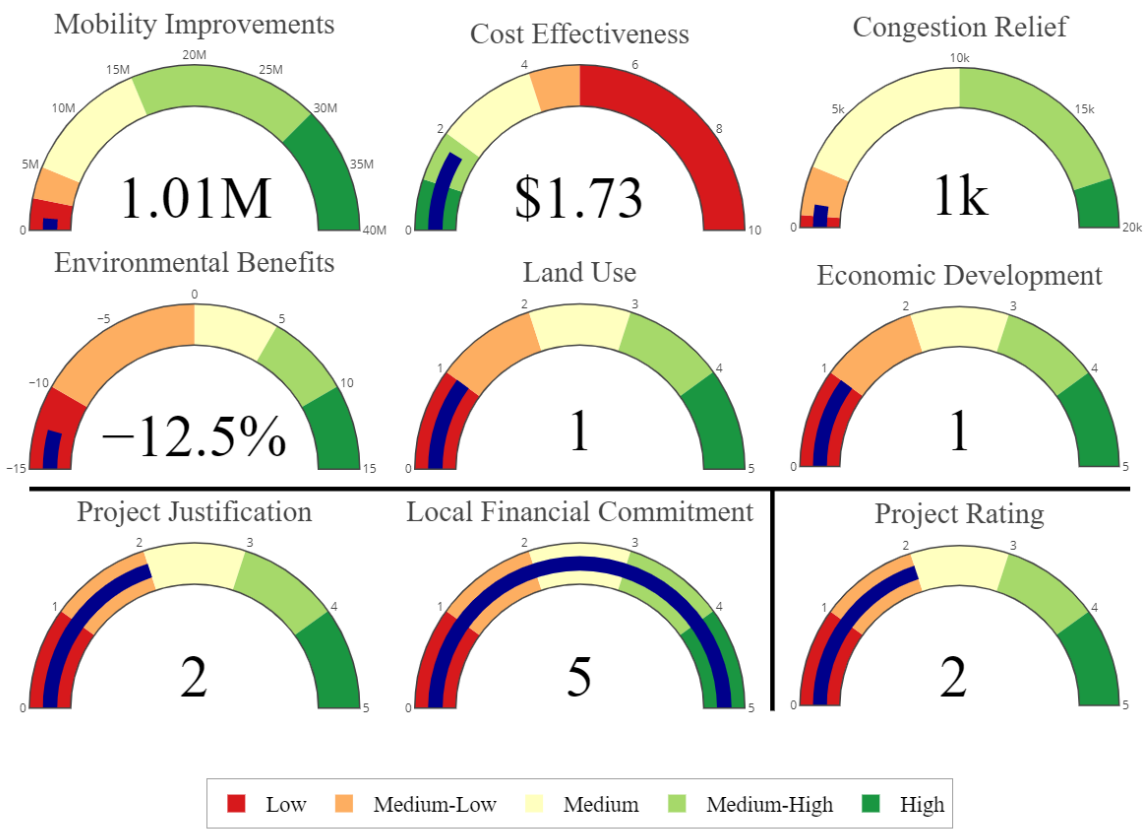
Corridor C

- Not currently eligible for ridership warrants based on existing corridor ridership

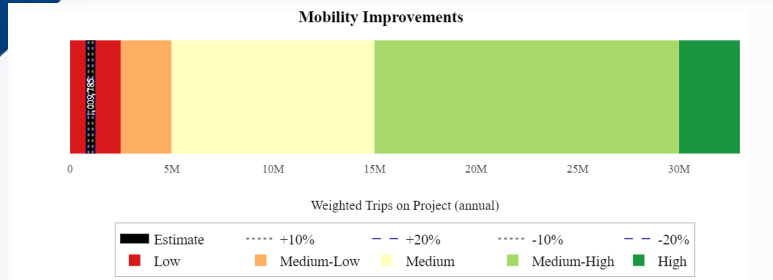


Corridor D

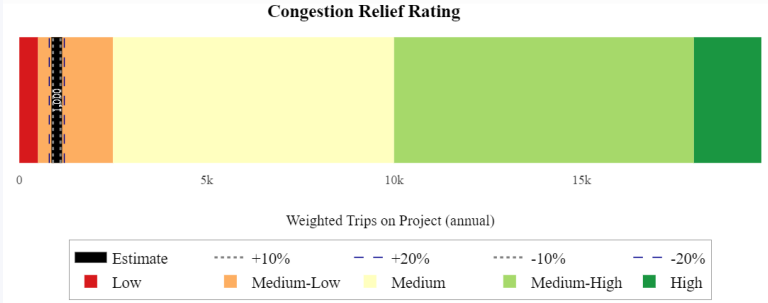
- Quantitative Metrics
  - **Mobility:** Low
  - **Cost-effectiveness:** Medium-High
  - **Congestion Relief:** Medium-Low
  - **Environmental Benefits:** Low
- Qualitative, high-level assessment:
  - **Land Use:** Low
  - **Economic Development:** Low

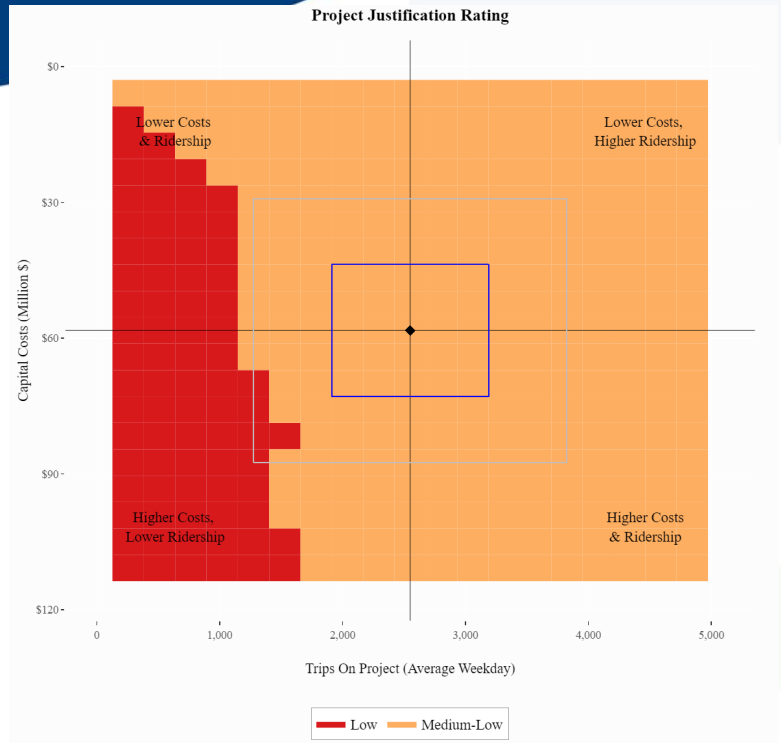


Corridor D

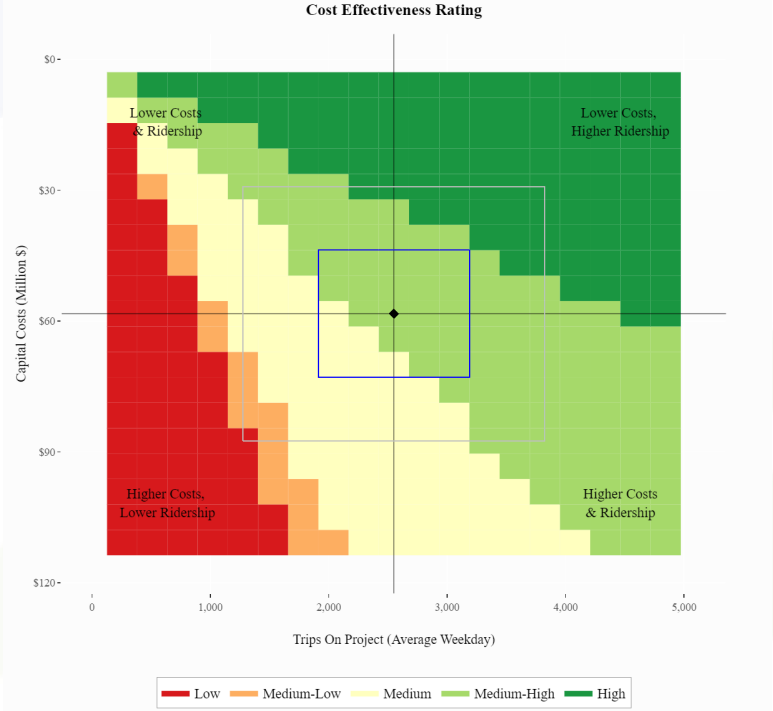


In the above graph, the thick black line is the estimate of mobility improvement value. Dotted grey lines represent a 10% buffer region of the estimate, while dashed blue lines represent a 20% buffer region.

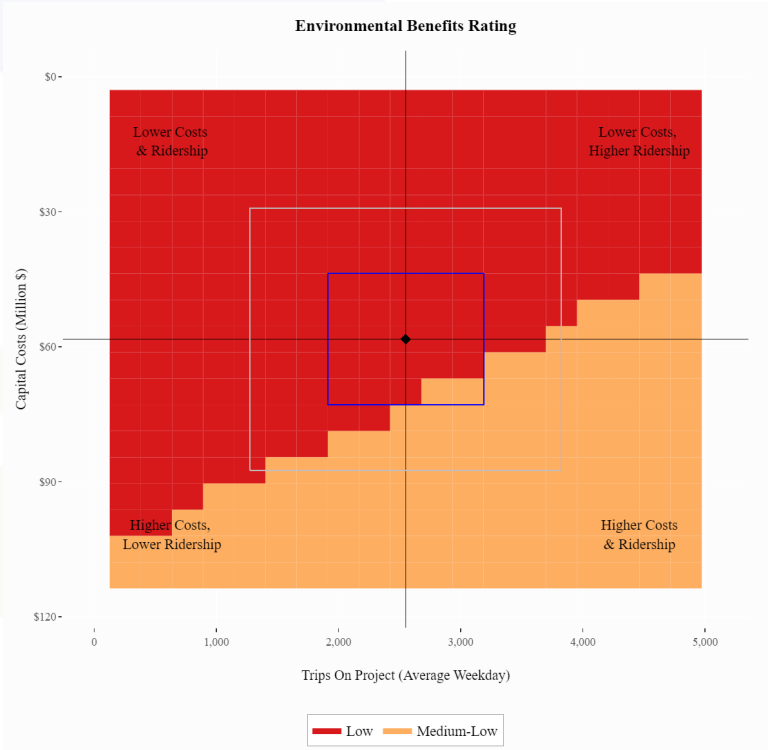




In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.



In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.



In the above graph, the black dot at the center represnts the current scenario. The horizontal black line through the black dot represents the current Capital Cost and the vertical black line represents the current Average Weekday TOP. The **BLUE** box represent the region of 25% change in TOP and Capital cost, where as **GREY** box represent the region of 50% change.

Corridor D

- Not currently eligible for ridership warrants based on existing corridor ridership; would need to increase by 25% to be eligible for an up to $50 million capital cost