



Metropolitan Transportation Commission

Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105

Meeting Agenda

Policy Advisory Council Fare Coordination and Integration Subcommittee

Adina Levin, Chair Wendi Kallins, Vice Chair

Members

*Bob Allen, Zack Deutsch-Gross, Anne Olivia Eldred,
Christina Gotuaco, Ian Griffiths, Tisha Dee Hartman,
Richard Hedges, Jonathon Kass, Gwen Litvak,
Monica Mallon, Adrian Mendoza, and Brian Stanke*

Friday, September 10, 2021

2:00 PM

Yerba Buena - 1st Floor (REMOTE)

In light of Governor Newsom's State of Emergency declaration regarding the COVID-19 outbreak and in accordance with Executive Order N-29-20 issued by Governor Newsom on March 17, 2020 and the Guidance for Gatherings issued by the California Department of Public Health, the meeting will be conducted via webcast, teleconference, and Zoom for Fare Coordination and Integration Subcommittee members who will participate in the meeting from individual remote locations. A Zoom panelist link for meeting participants will be sent separately to Fare Coordination and Integration Subcommittee members.

The meeting webcast will be available at <http://mtc.ca.gov/whats-happening/meetings>. Members of the public are encouraged to participate remotely via Zoom at the following link or phone number. Fare Coordination and Integration Subcommittee Members and members of the public participating by Zoom wishing to speak should use the "raise hand" feature or dial *9. When called upon, unmute yourself or dial *6. In order to get the full Zoom experience, please make sure your application is up to date.

Attendee Link: <https://bayareametro.zoom.us/j/85810553149>

Telephone (Toll Free) US: 877 853 5247 or 888 788 0099

Webinar ID: 858 1055 3149

International numbers available: <https://bayareametro.zoom.us/u/kcOXM8NdHv>

Detailed instructions on participating via Zoom are available at:

<https://mtc.ca.gov/how-provide-public-comment-board-meeting-zoom>

Members of the public may participate by phone or Zoom or may submit comments by email at info@bayareametro.gov by 5:00 p.m. the day before the scheduled meeting date. Please include the committee or board meeting name and agenda item number in the subject line. Due to the current circumstances there may be limited opportunity to address comments during the meeting. All comments received will be submitted into the record.

The Policy Advisory Council advises the Metropolitan Transportation Commission on transportation policies in the San Francisco Bay Area, incorporating diverse perspectives relating to the environment, the economy, and social equity.

1. Welcome

Adina Levin, Policy Advisory Council Fare Coordination and Integration Subcommittee Chair

2. Roll Call / Confirm Quorum

Quorum: A quorum of this committee shall be a majority of its regular non-ex-officio voting members (8).

3. [21-1050](#) Minutes of the August 2, 2021 Meeting

Action: Subcommittee Approval

Attachments: [03 FCI Minutes Aug 2 2021.pdf](#)

4. [21-1051](#) Fare Coordination / Integration Study and Business Case Project Status Update

Project update and preliminary recommendations for discussion.

Action: Information

Presenter: William Bacon, MTC Co-Project Manager
Michael Eiseman, BART Co-Project Manager

Attachments: [04 Presentation.pdf](#)

5. New Business

Members of the subcommittee may bring up new business for discussion or addition to a future agenda.

6. Public Comments / Other Business

Note: The subcommittee will not take action on items not listed on today's agenda.

*Policy Advisory Council Fare Coordination and Integration Subcommittee Members and members of the public participating by Zoom wishing to speak should use the "raise hand" feature or dial *9. When called upon, unmute yourself or dial *6.*

7. Adjournment / Next Meeting

The next meeting of the Policy Advisory Council Fare Coordination and Integration Subcommittee will be held Monday, October 4, 2021, at 10:00 a.m. remotely and by webcast as appropriate depending on the status of any shelter in place orders. Any changes to the schedule will be duly noticed to the public.

Public Comment: The public is encouraged to comment on agenda items at Committee meetings by completing a request-to-speak card (available from staff) and passing it to the Committee secretary. Public comment may be limited by any of the procedures set forth in Section 3.09 of MTC's Procedures Manual (Resolution No. 1058, Revised) if, in the chair's judgment, it is necessary to maintain the orderly flow of business.

Meeting Conduct: If this meeting is willfully interrupted or disrupted by one or more persons rendering orderly conduct of the meeting unfeasible, the Chair may order the removal of individuals who are willfully disrupting the meeting. Such individuals may be arrested. If order cannot be restored by such removal, the members of the Committee may direct that the meeting room be cleared (except for representatives of the press or other news media not participating in the disturbance), and the session may continue.

Record of Meeting: Committee meetings are recorded. Copies of recordings are available at a nominal charge, or recordings may be listened to at MTC offices by appointment. Audiocasts are maintained on MTC's Web site (mtc.ca.gov) for public review for at least one year.

Accessibility and Title VI: MTC provides services/accommodations upon request to persons with disabilities and individuals who are limited-English proficient who wish to address Commission matters. For accommodations or translations assistance, please call 415.778.6757 or 415.778.6769 for TDD/TTY. We require three working days' notice to accommodate your request.

可及性和法令第六章: MTC 根據要求向希望來委員會討論有關事宜的殘疾人士及英語有限者提供服務/方便。需要便利設施或翻譯協助者，請致電 415.778.6757 或 415.778.6769 TDD / TTY。我們要求您在三個工作日前告知，以滿足您的要求。

Acceso y el Título VI: La MTC puede proveer asistencia/facilitar la comunicación a las personas discapacitadas y los individuos con conocimiento limitado del inglés quienes quieran dirigirse a la Comisión. Para solicitar asistencia, por favor llame al número 415.778.6757 o al 415.778.6769 para TDD/TTY. Requerimos que solicite asistencia con tres días hábiles de anticipación para poderle proveer asistencia.

Attachments are sent to Committee members, key staff and others as appropriate. Copies will be available at the meeting.

All items on the agenda are subject to action and/or change by the Committee. Actions recommended by staff are subject to change by the Committee.

MTC's Chair and Vice-Chair are ex-officio voting members of all standing Committees.



Metropolitan Transportation Commission

Meeting Minutes - Draft

Agenda Item 3

Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105

Policy Advisory Council Fare Coordination and Integration Subcommittee

Adina Levin, Chair Wendi Kallins, Vice Chair

Members

*Bob Allen, Mark Cordes, Anne Olivia Eldred,
Christina Gotuaco, Ian Griffiths, Tisha Dee Hartman,
Richard Hedges, Jonathon Kass, Gwen Litvak,
Monica Mallon, Adrian Mendoza, and Brian Stanke*

Monday, August 2, 2021

10:00 AM

Yerba Buena - 1st Floor (REMOTE)

1. Welcome

2. Roll Call / Confirm Quorum

Present: 10 - Member Eldred, Member Hedges, Vice Chair Kallins, Chair Levin, Member Mendoza, Member Griffiths, Member Litvak, Member Hartman, Member Kass and Member Gotuaco

Absent: 4 - Member Mallon, Member Allen, Member Stanke and Member Cordes

Policy Advisory Council Member Abigail Cochran resigned from the Council effective immediately.

Policy Advisory Council Members Michael Baldini, Richard Burnett and Michelle Hernandez were also in attendance.

3. [21-0759](#) Minutes of the March 12, 2021 and May 10, 2021 Meetings

Action: Subcommittee Approval

Attachments: [03i_FCI Minutes_Mar 12 2021.pdf](#)
[03ii_FCI Minutes_May 10 2021.pdf](#)

Upon the motion by Member Griffiths and second by Member Eldred, the Minutes of the March 12, 2021 and May 10, 2021 Meetings were approved. The motion carried by the following vote:

Aye: 7 - Member Eldred, Vice Chair Kallins, Chair Levin, Member Griffiths, Member Litvak, Member Hartman and Member Kass

Absent: 5 - Member Mallon, Member Allen, Member Stanke, Member Cordes and Member Gotuaco

Abstain: 2 - Member Hedges and Member Mendoza

Member Gotuaco arrived after the approval of the Minutes of the March 12, 2021 and May 10, 2021 Meetings.

4. [21-0760](#) Fare Coordination / Integration Study and Business Case Project Status Update and First Look at Recommendations

Action: Information

Presenter: William Bacon, MTC Co-Project Manager
Michael Eiseman, BART Co-Project Manager

Attachments: [04 Presentation..pdf](#)

Michael Baldini spoke on this item.
Roland Lebrun spoke on this item.

5. New Business

6. Public Comments / Other Business

Roland Lebrun was called to speak.

7. Adjournment / Next Meeting

The next meeting of the Policy Advisory Council Fare Coordination and Integration Subcommittee will be held Friday, September 10, 2021, at 2:00 p.m. remotely and by webcast as appropriate depending on the status of any shelter in place orders. Any changes to the schedule will be duly noticed to the public.



Overview

- 1 Process Check – Where are we and where are we going?
- 2 Background
- 3 Business Case Approach
- 4 Emerging Findings
- 5 Business Case Summary
- 6 Recommended Near Term Actions





1 — Process Check

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4

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Where have we been

Defined Problem Statement and Key Issues:

**Customer Value**

**Payment Experience**

**Equity**

**Future Transit**

Key Work Streams

- Regional Travel Behavior Analysis
- Peer Regions Review
- Travel Demand Modeling
- Business Case Analysis
- User Research
 - Narrative Workshops
 - 1-1 Interviews
 - SenseMaker Survey
 - Prototyping & Co-design activities
 - Focus Group
- Stakeholder Engagement
 - Policy Advisory Council Subcommittee
 - Staff Working Group

Short-listed Six Possible Options for Business Case Analysis:

1. Passes & Caps

2. Discount Double Fares

3. Neighboring & Connecting Agencies

4. Fare By Distance w/ Flat Local Fares

5. Zones

6. Zones w/ Flat Local Fares

Developed and Evaluated Four Tiers of Integration:

Overlays

- Passes & Caps

Transfer Discounts

- Free transfers to/from local services
- Discounted transfers between regional services

Regional Change

- Regional operators share common fare structure

Regional + Local Change

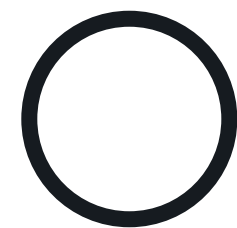
- Changes to local and regional fares structures

Where are we now



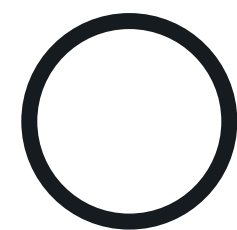
Recommendations will be presented today along with supporting analyses

- Options and Tiers have been evaluated through a business case framework that considered:
 - Strategic Goals
 - Cost-Benefit Analysis
 - Financial Impacts
 - Deliverability
 - Customer Experience



We are seeking stakeholder feedback about the recommendations and alignment with:

- Project goals and values
- Long-term visions of regional fare policy
- Operator needs and interests
- Capacity and deliverability



We are trying to answer:

- What fare integration tier should inform the long-term fare policy and immediate delivery plan?
- What demonstrations should be implemented in the short term to prepare for longer term changes?

Where are we going

Recommendations For Review Today

- 1. In the immediate term, conduct a pilot of a bulk institutional pass product
- 2. In the medium term (Clipper 2 rollout in Fall 2023), implement region-wide free transfers to/from local services, and discounted transfers between regional services
- 3. In the longer term, continue evaluating benefits and costs of Tier 3 Integration

Institutional Pass Pilot
(2022)

Clipper 2 Rollout
(Fall 2023)

Immediate Term	● Near-Medium Term	● Long Term
<ul style="list-style-type: none">• Solicit Feedback from Operator Boards and Stakeholders• Secure Endorsement from Fare Integration Task Force• Seek Funding for Pilot Implementation	<ul style="list-style-type: none">• Deploy and evaluate pilot for benefits of pass products• Design pass/cap products for rollout with Clipper 2• Implement broad region-wide transfer discounts	<ul style="list-style-type: none">• Advance to Tier 3, with additional decisions to be made on:<ul style="list-style-type: none">• Specific pricing points for the resulting structure• Timelines to deliver the structure• Resource and level of subsidy to allocate to the structure• Revenue allocation model

2 — Background

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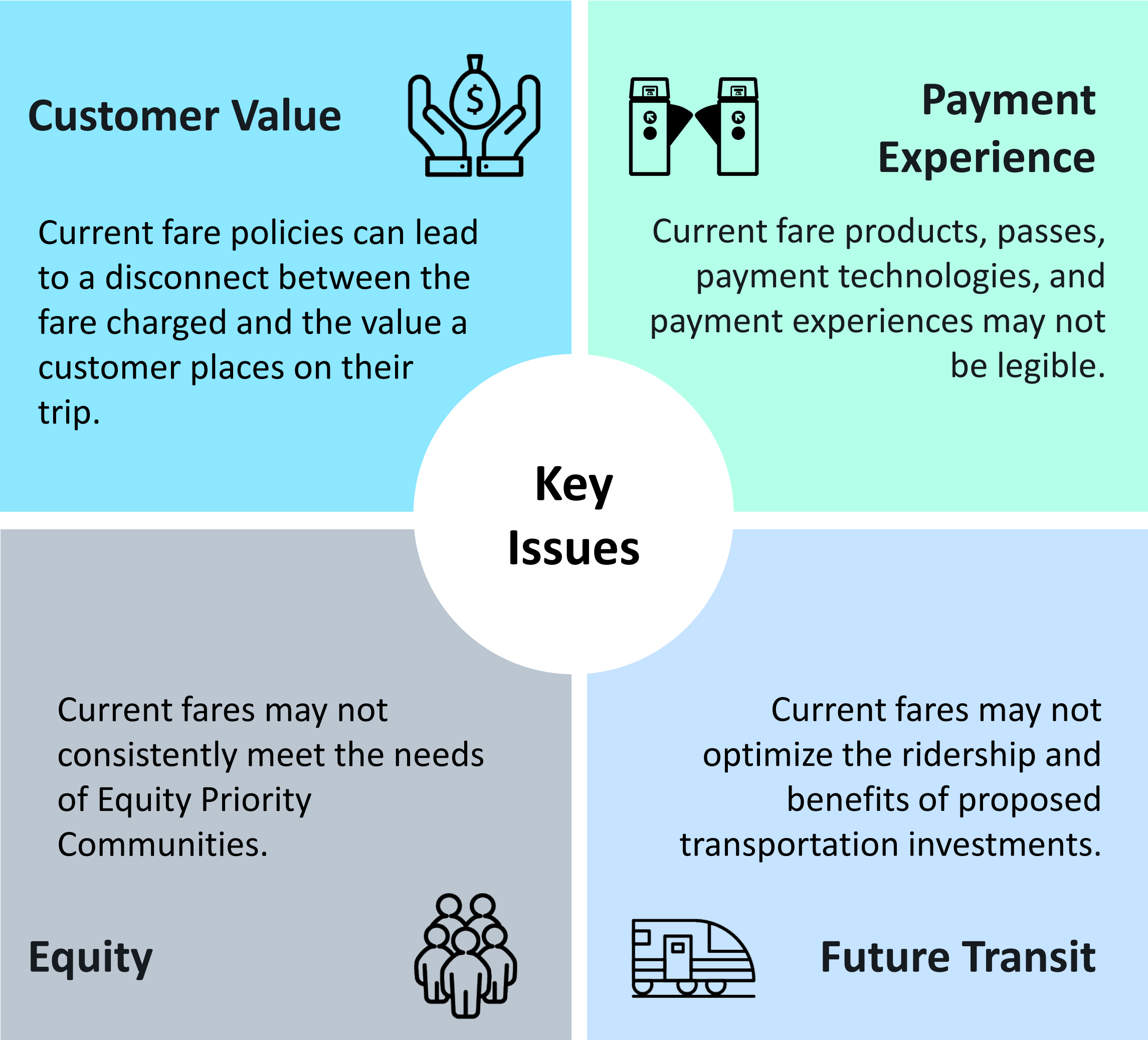
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Project Problem Statement: Why Focus on Fare Integration?

Fare policy is one among several factors that have constrained the growth of transit ridership in recent years. Current fare policies are informed **by funding and governance models that incentivize locally-focused fares** without providing a coherent set of policies to set fares that support ridership growth.

As a result, Fare Coordination and Integration has a role to play in restoring transit ridership, supporting recovery from the COVID-19 pandemic, and **delivering the transportation system the Bay Area needs** for its coming decades of growth.

The following key issues define how fares impact ridership and contribute to the key challenges which detract from rider experience:



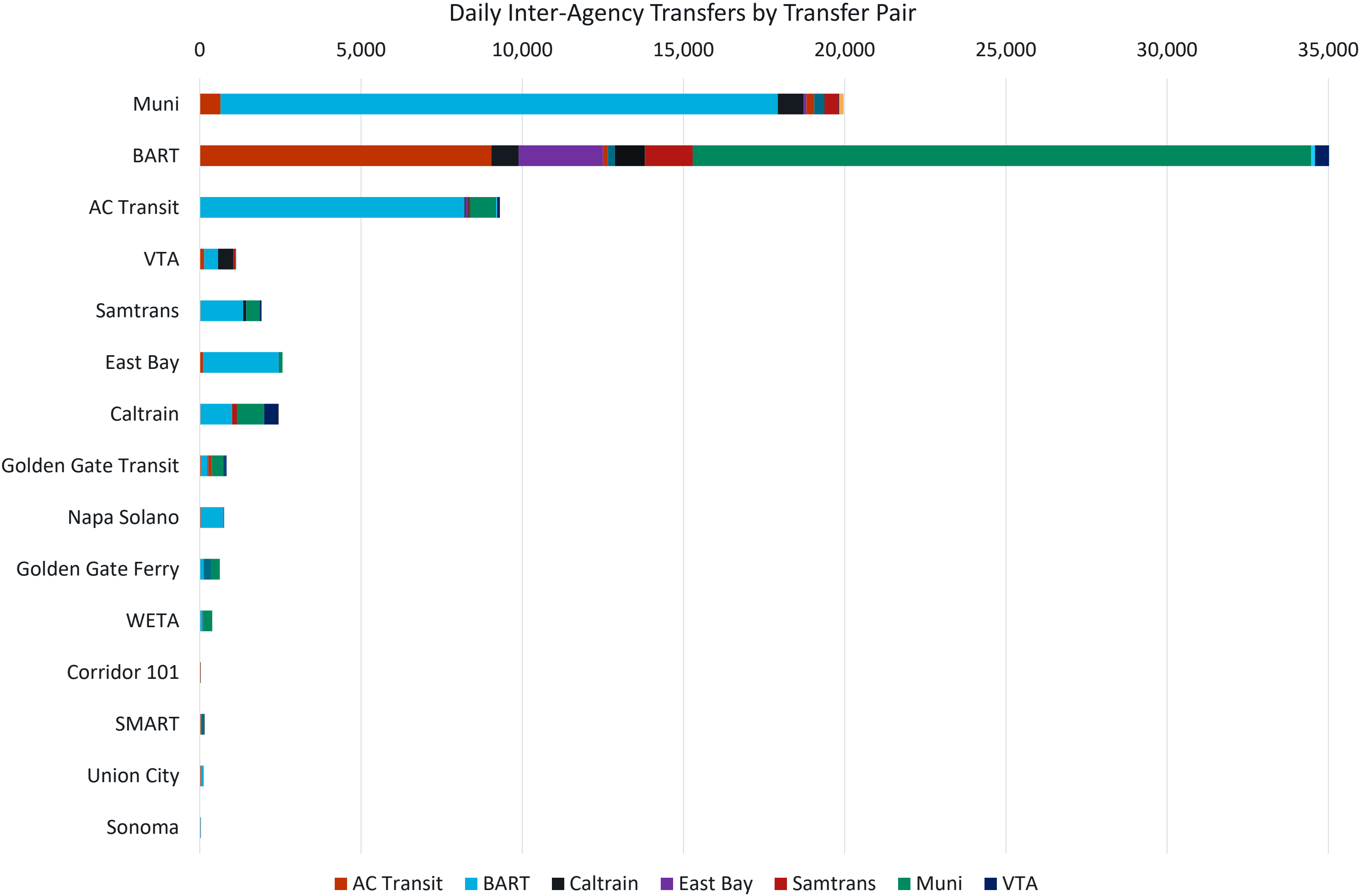
State of Travel Pre-COVID-19

Clipper data was used to estimate the number of trips that use multiple operators under the existing fare structure.

There were nearly 75,000 daily trips made on multiple operators (roughly 7.5% of all trips made using Clipper cards), with most common pairs being: BART - Muni, BART - AC Transit, and BART - East Bay Operators (CCCTA, ECCTA, WCCTA, LAVTA)

Over the course of a month, up to 40% of Clipper cards were used on multiple agencies.

Our analysis has focused on growing multi-agency trips on existing high volume pairs, exploring new agency pairs to grow ridership, and applying passes or products to enable use of multiple operators over the course of a month.



What can we directly influence through Fare Integration?

FCIS Developing Areas of Focus

Price Barriers

At any given level of cost recovery, does the region's fare structure:

- Offer competitive prices for all types of trips?
- Offer competitive prices for trips that involve more than one agency?

Learnability & Legibility

- Is the fare structure easy to learn and understand?
- Does the learnability and legibility of the fare system encourage people to adopt transit and use it frequently?

Equity

- Do different agency approaches to equity initiatives limit or optimize overall impact?
- How do other FCIS focus areas affect Equity Priority Populations in particular?

Important & Related Fare Policy Issue

Affordability

- Is the Bay Area's transit system affordable to people at all income levels?
- What role do programs like Clipper START serve in making transit affordable (e.g., what is the income eligibility threshold?)



3 Business Case Approach

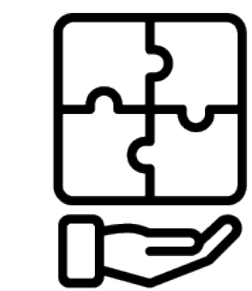
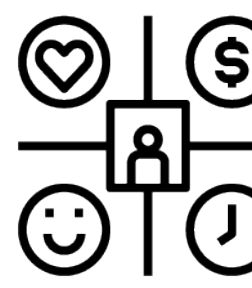

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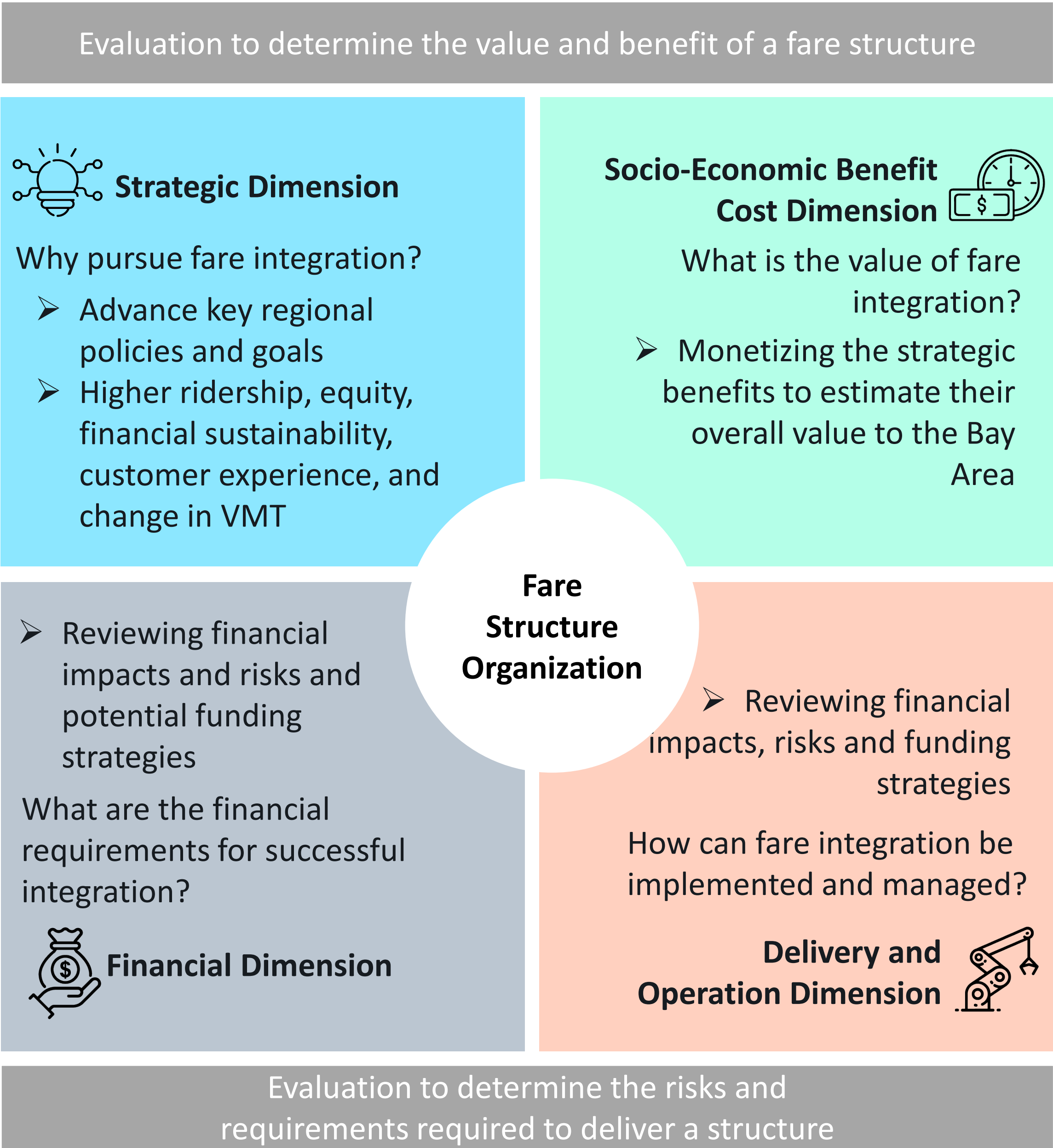
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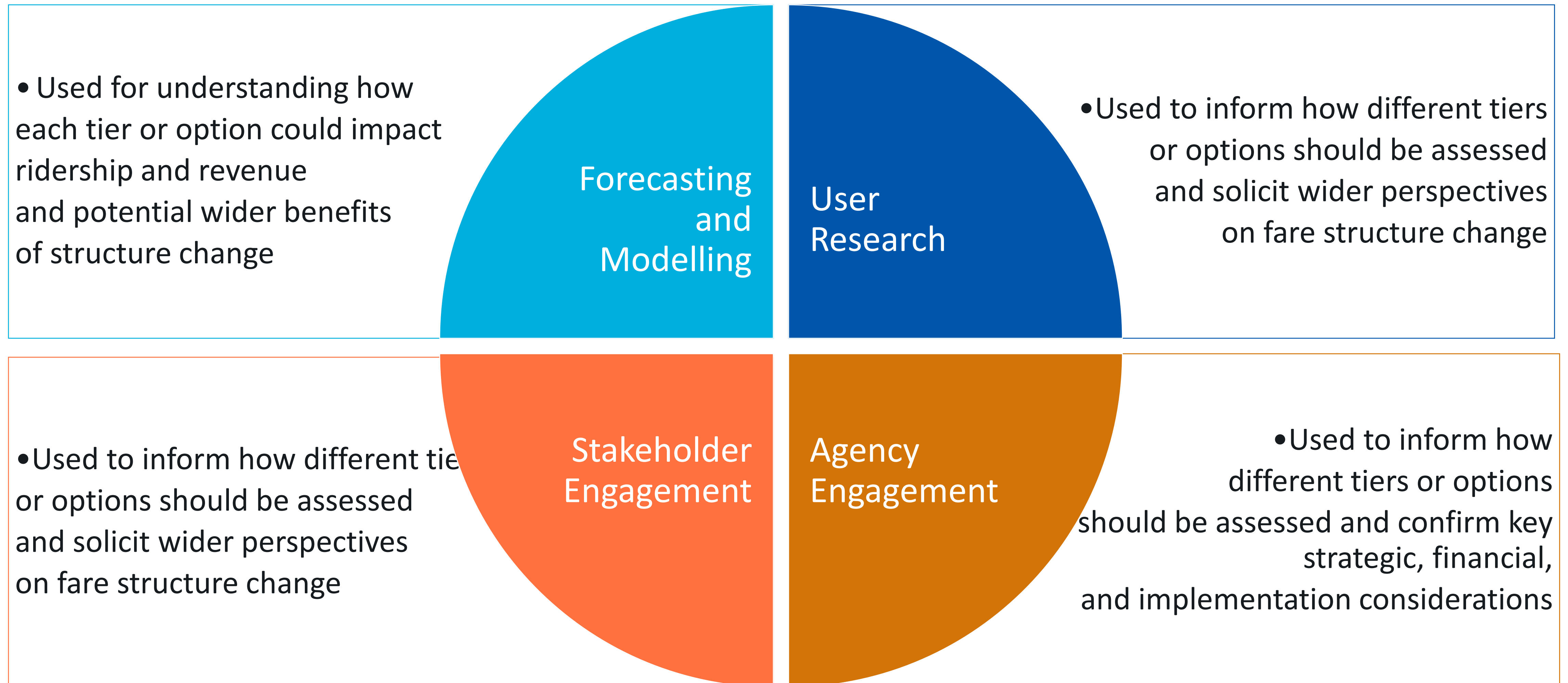
Analysis Approach

A business case framework is being used to make recommendations based on:

-  The overall benefits of integration
-  The comparative benefits of each tier
-  For tiers with multiple options, the specific benefits of each option and best option within a tier

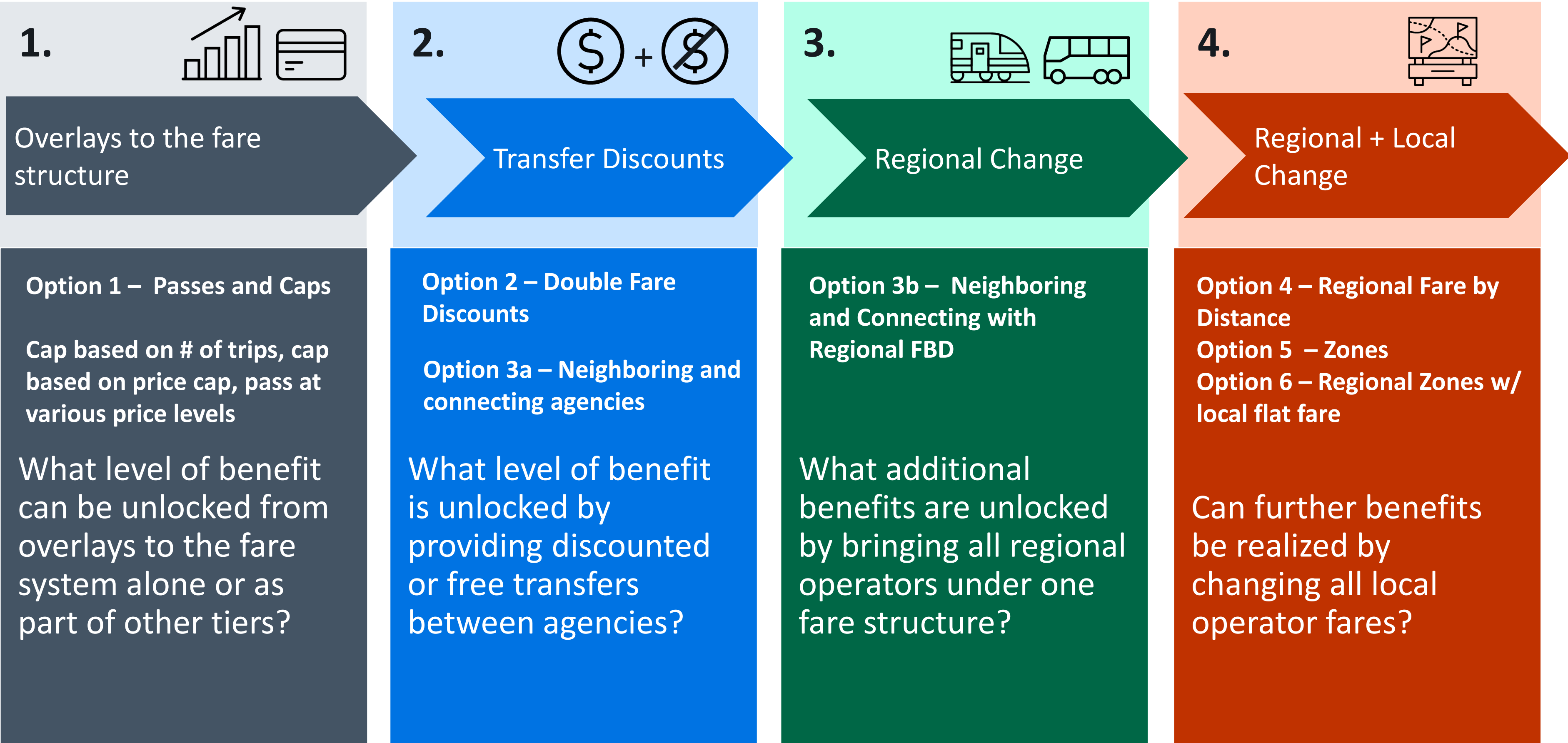


What is considered in a business case?



Fare Integration Options and Tiers

The fare integration business case assesses the benefits, costs, and requirements associated with increasing tiers of fare policy integration in the Bay Area.

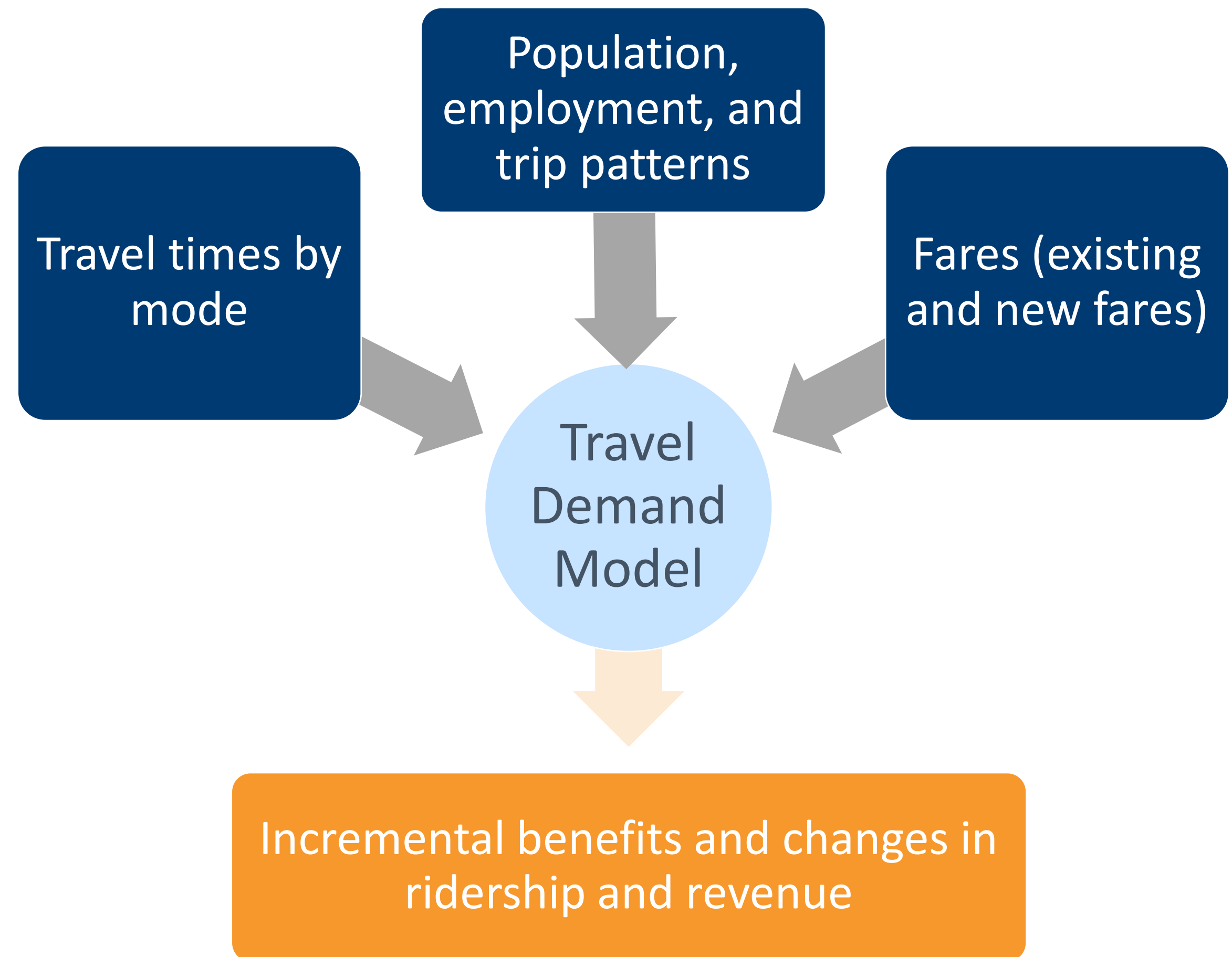


Role of Modeling in Business Case Analysis

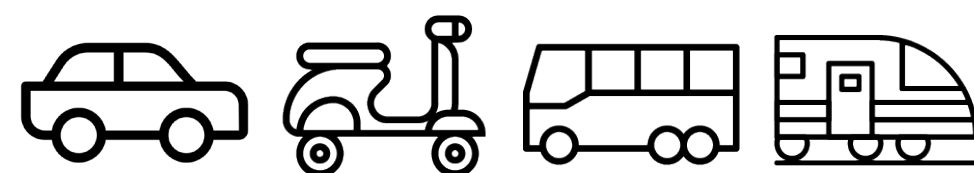
FCIS is a strategic study that aims to explore the potential benefits of fare integration in the Bay Area and if there is an optimal structure that:

- Offers benefits above and beyond the existing approach to fares
- Is feasible to deliver and operate

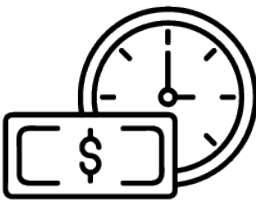
MTC's regional travel demand model was used to ensure consistency with other regional planning exercises and was used to assess the potential benefits of each fare policy or structure option.



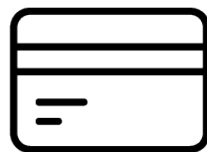
Network Model Overview



Network models consider all modes available to each traveler for a given trip



Network models consider all modes available to each traveler. The model estimates the number of travellers who will choose each mode based on travel time (including reliability, wait times, access times, and time spent in vehicle) and financial costs (including fares, tolls, fees) for a given trip



The fare modeling approach holds all travel times constant but changes fares to determine how a new fare structure could lead to behavior change

How is subsidy assessed in this analysis?



Each option can be delivered by either providing additional subsidy or by using strategic price increases to cover lost revenue (for example: lost revenue from removing transfer double fares) – this reduces the total revenue burden from customers.



This study considered three revenue scenarios to disentangle the impact of repricing trips that currently face a fare integration price barrier from the impact of repricing trips that do not face a price barrier through increased subsidy.

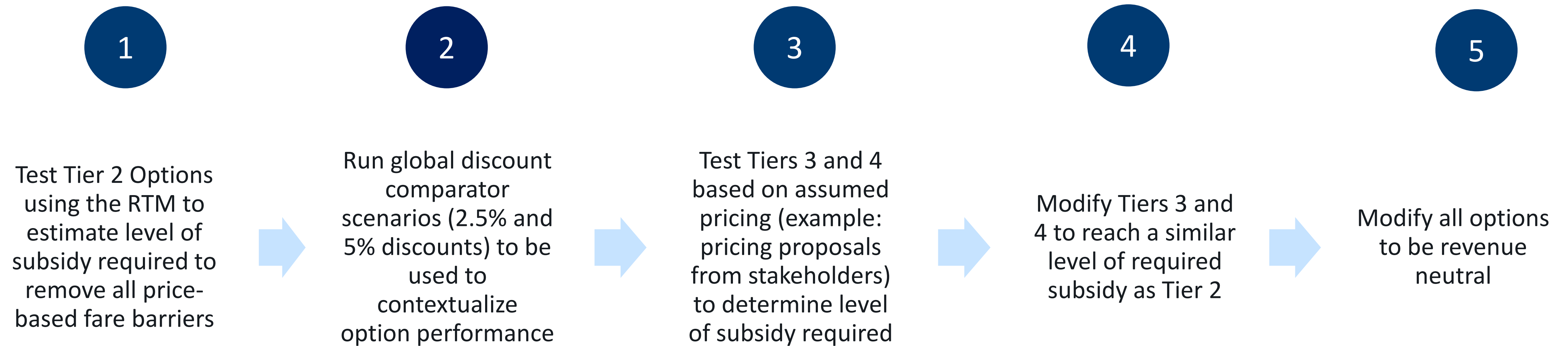
Revenue Scenarios

1. Testing fare options based on pricing proposals (example: Pricing proposal by Seamless Bay Area)
2. Testing fare options to require the same subsidy as removing all price based fare barriers (see Option 2)
3. Testing fare options to be revenue neutral – meaning no new subsidy would be required and all revenue losses from repricing trips must be financed by fare increases to other travelers

Throughout this presentation, comparator options of -2.5% and -5% fare revenue across the region are used to illustrate how direct investment in the existing fare structure compares to investment in the options.

Analysis Approach: Modelling Subsidy Scenarios (Options 2-6)

A five step analysis process was developed to test each fare option:





4 Emerging Findings

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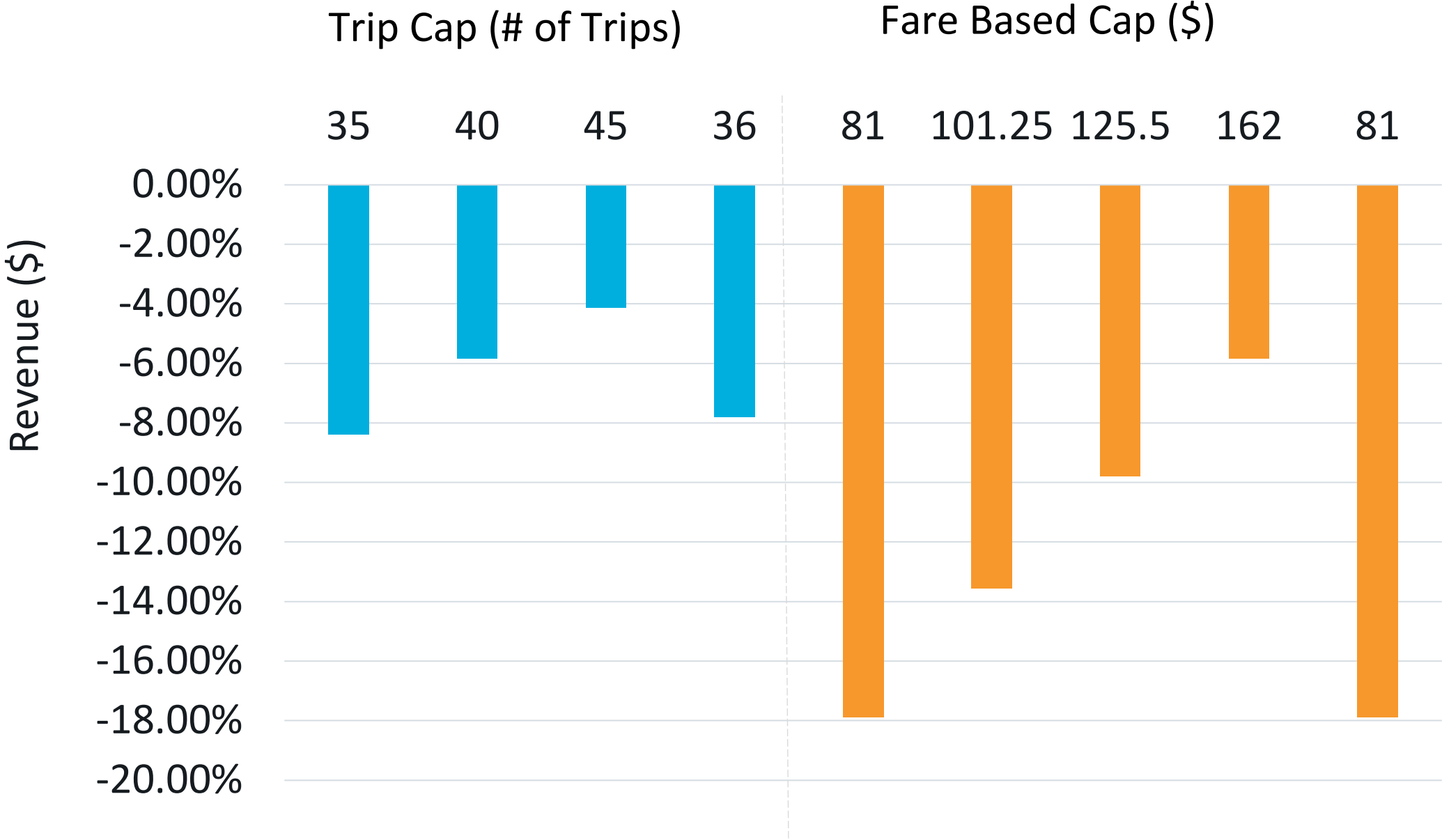
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Tier 1 – Overlays – Modeling and Option Analysis – Initial Findings

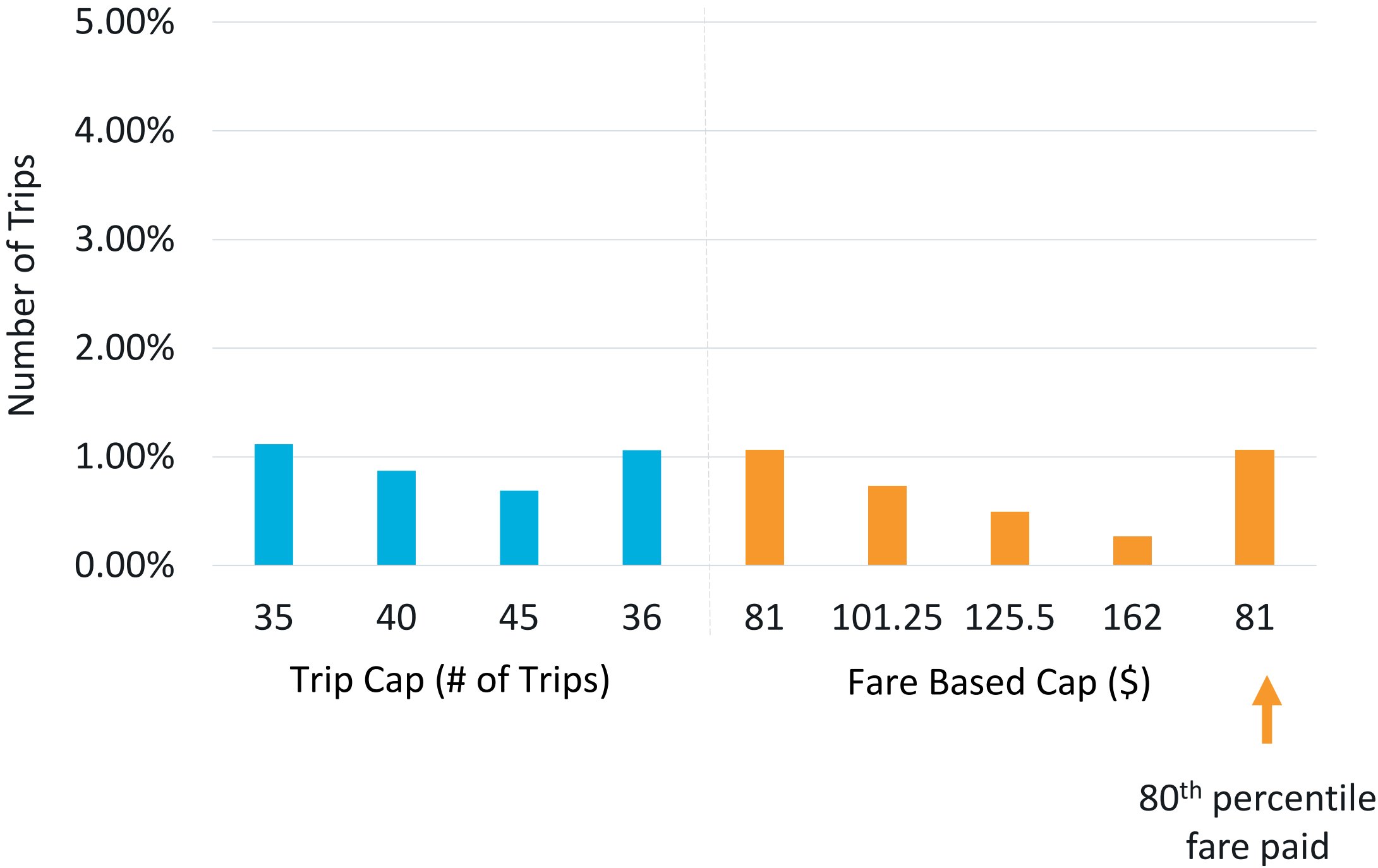
Trip-Based Cap

Fare-Based Cap

Change in Monthly Clipper Revenue by Cap Type



Change in Monthly Clipper Trips by Cap Type



Trip based products or caps tend to achieve as much ridership as a fare based cap but with much lower revenue impacts. As a result, they have been identified as the basis for further development.

Tier 1 – Overlays – Modeling and Option Analysis

Tier 1 Options that were deprioritized

- A single priced product or single value cap for the region
- These options are not flexible enough for the variable fares (Caltrain, BART, SMART, etc) in the region and will either be too expensive (if priced for longer trips) for customers or lose significant revenue (if priced for shorter trips)

Tier 1 Options that are suggested for further development

- Multiple passes (example: a pass for all trips \$5.00 or less, \$7.00 or less, etc.) or trip based caps (example: cap after 40 complete linked trips)
- These options balance customer willingness and ability to pay with mitigating revenue losses

Tier 1 Option Included in Business Case

- **The initial results for Tier 1 included in this deck are an incremental uplift to Tier2 to illustrate how Tier 1 can augment performance of other Tiers.**
- This is a ‘multi pass’ option modelled after the Puget Pass in Seattle (Washington) where multiple passes are offered that give unlimited travel for all trips under a set price – if a customer uses the pass for a more expensive trip they pay an additional fare

Strategic Dimension – how do the options support policy objectives?

The Strategic Dimension evaluates each option based on the stated policy goals for Fare Coordination and Integration.

Four focused metrics, derived from the problem statement and broader local/regional/State policies, have been used to assess strategic performance.

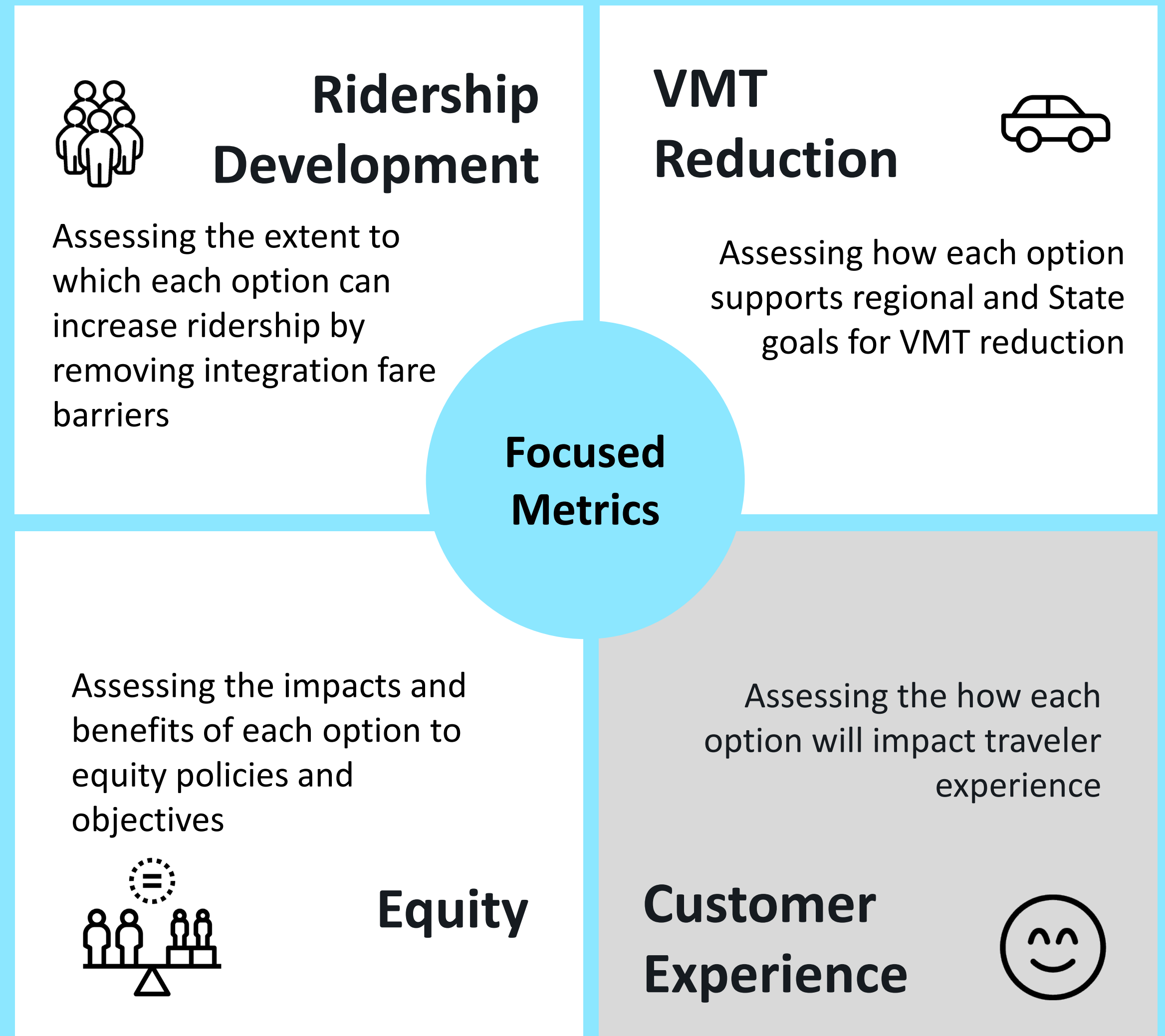
Combined these metrics answer the questions:

- Can Fare Integration address the problem statement?
- What are the trade offs between options for addressing the problem statement?

Legend

Analyzed with

Analyzed with Customer Research



Strategic Metric 1 – Ridership Development

Each fare structure option was modelled with TM1.5 to assess its potential impact on ridership to the region.

Options in Tiers 1 and 2 only impact customers who face an integration price barrier, while Tiers 3 and 4 also impact customers who only use one operator today.

As a result, ridership impacts have been divided into two categories:

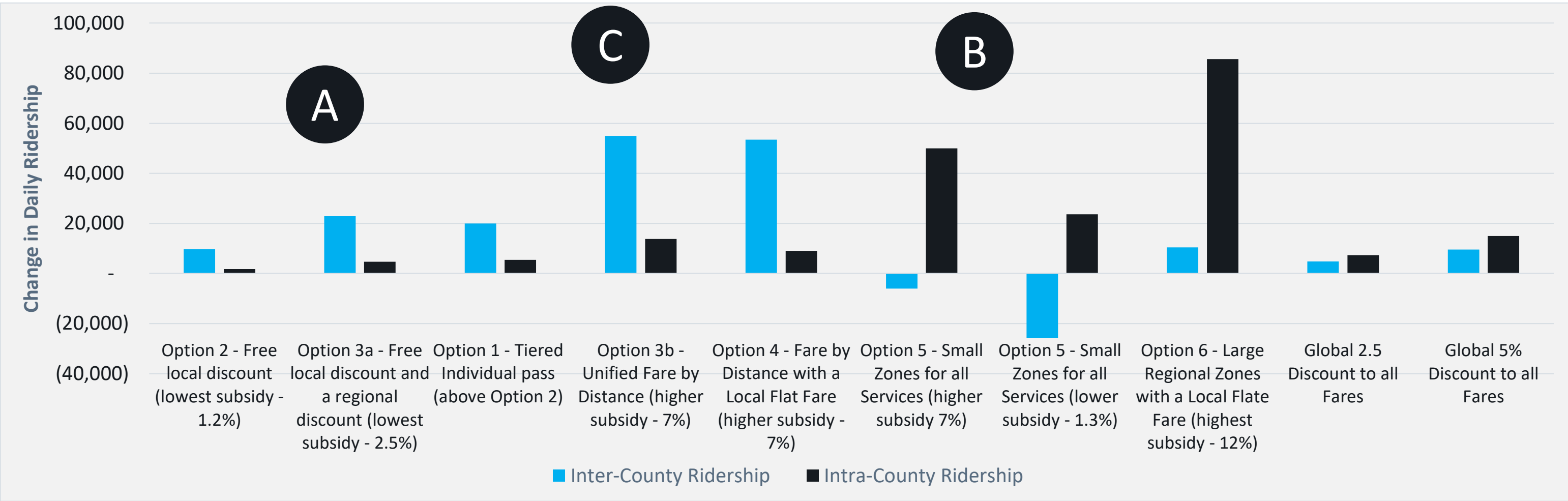
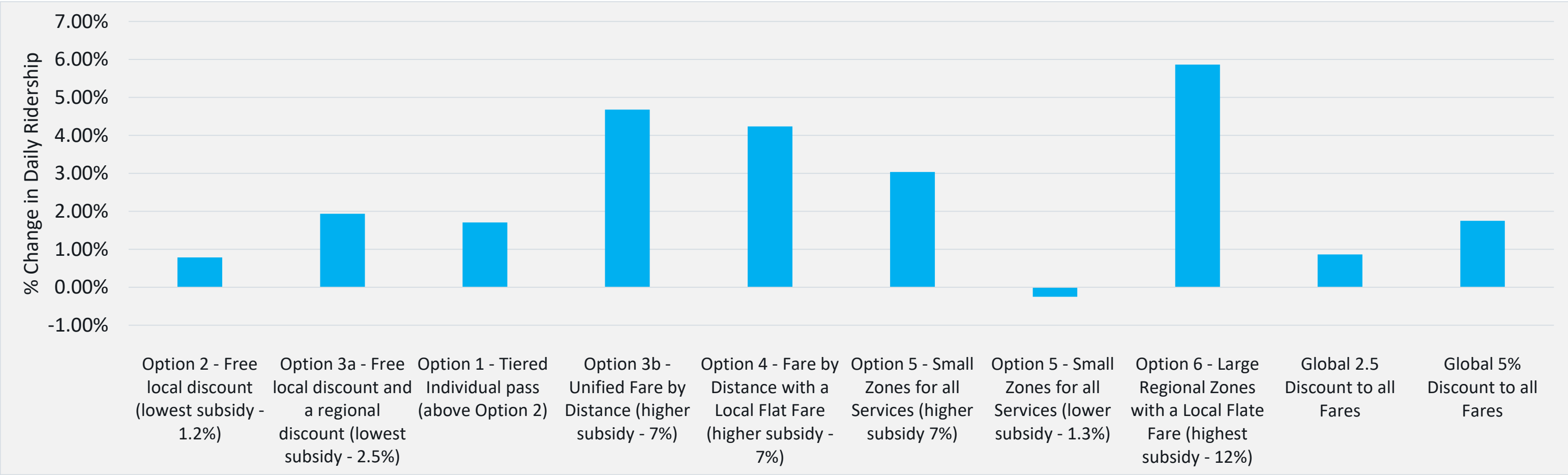
- **Integration Ridership** – changes in ridership for trips on multiple agencies
- **Non Integration Ridership** – changes in ridership on single agency trips due to increases or decreases for fares

This metric is focused on increasing ridership that currently faces an integration fare barrier.

Strategic Metric 1 – Ridership Development

Key Findings

- A** Inter-agency transfer discounts (Options 2 and 3a) promote inter-county ridership (~11,000 to 25,500 passengers per day)
- B** At \$70m per year of new subsidy, option 5 generates intra-county/single operator ridership (~50,000 trips per day). Option 5 loses ridership at lower levels of subsidy, and with high subsidy gains intra-county but loses inter county ridership
- C** At ~\$70m per year in new subsidy, Option 3b generates nearly 69,000 new riders per day of which 55,000 are inter-county trips



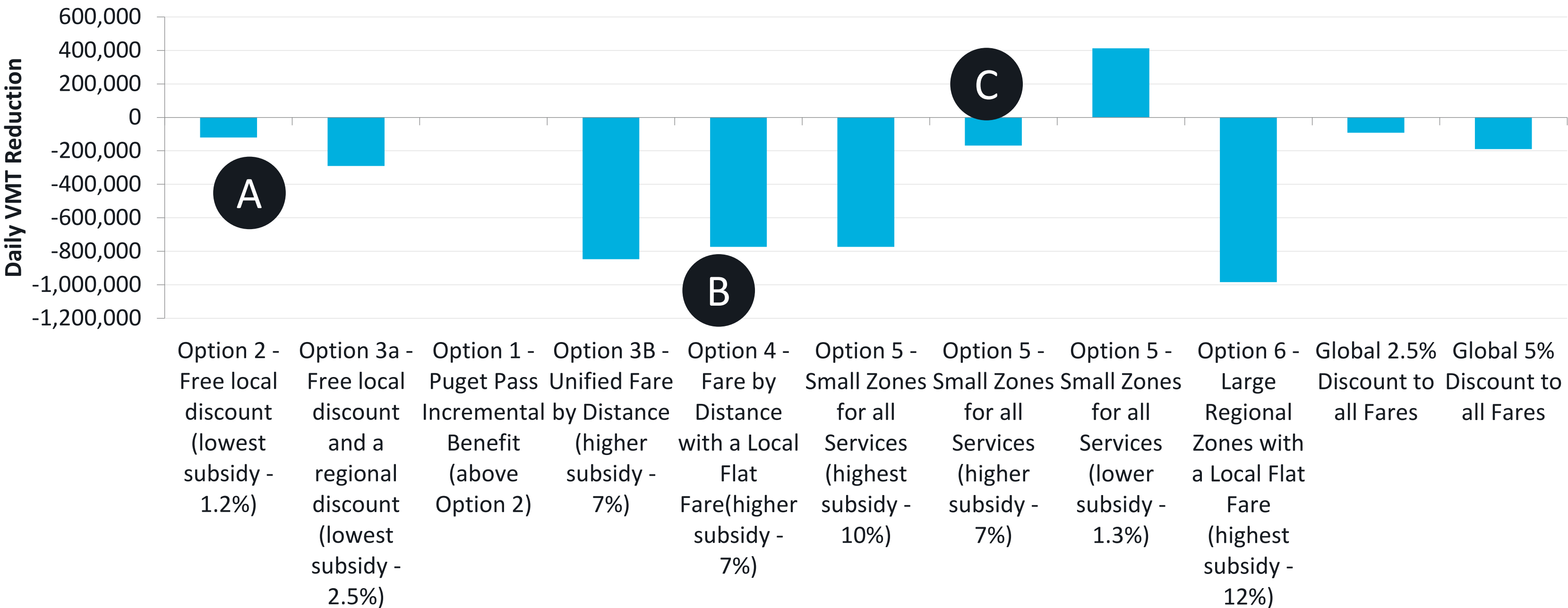
Strategic Metric 2 – VMT Reduction



Reducing vehicle miles travelled is a key policy theme at the local, regional, and State level.



VMT reductions vary between options based on the types of trips that are generated by fare policy changes.



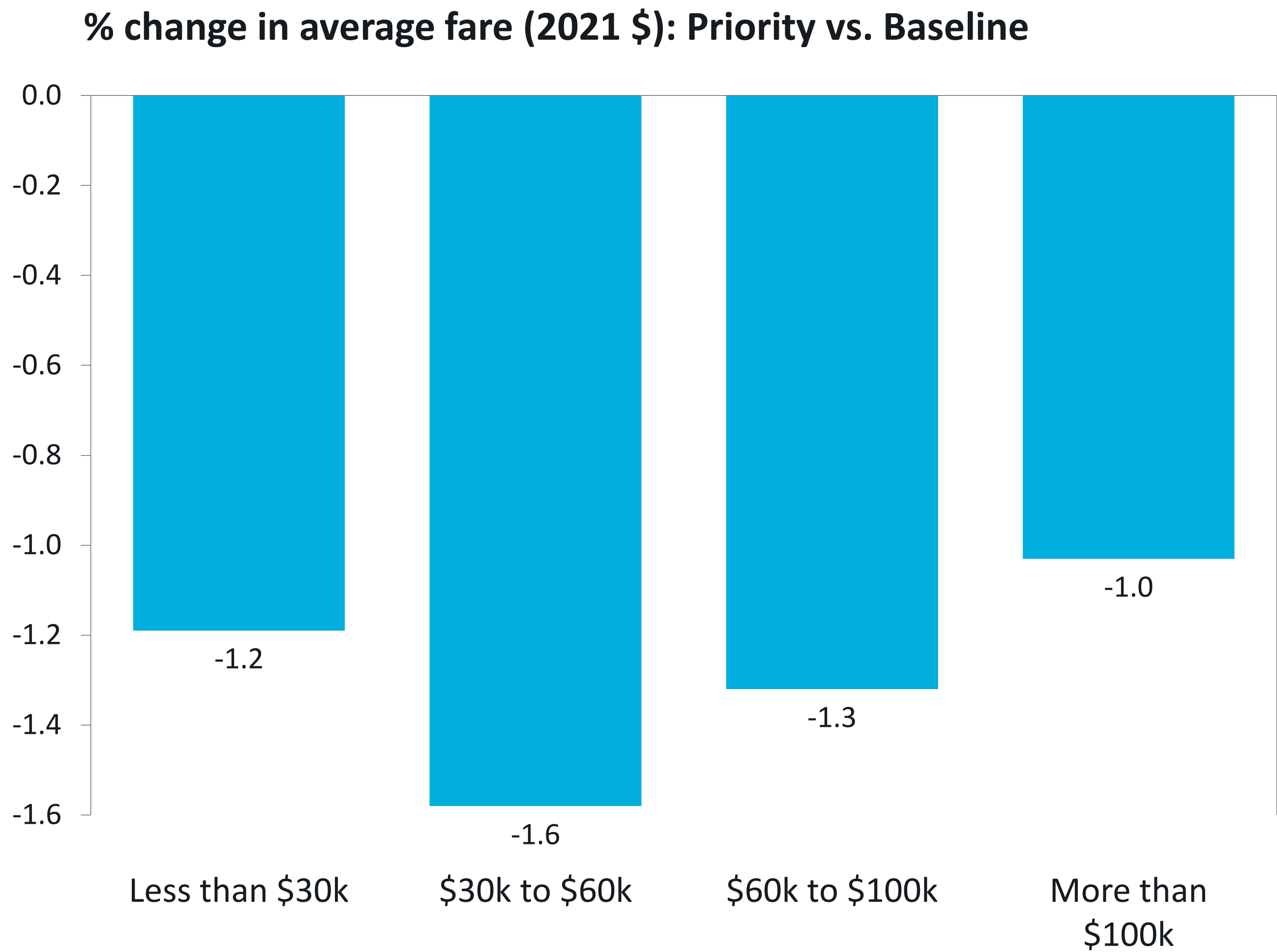
Key Findings

- A** Integration focused options (2, 3a) tend to have higher VMT reduction per new trip because the majority of trips are longer distance trips using a combination of regional and local modes
- B** Option 3 and 4 have the highest VMT reduction as their ridership growth is focused on the regional network and includes longer distance travel
- C** Option 5 generates mostly shorter distance Muni trips and has a net loss of ~6,000 inter-county trips, so its impact on VMT is lower

Strategic Metric 3 – Preliminary Equity Findings for Tier 2 Discounts

The average fare across all transit riders decreased by between 1 and 1.6 percent

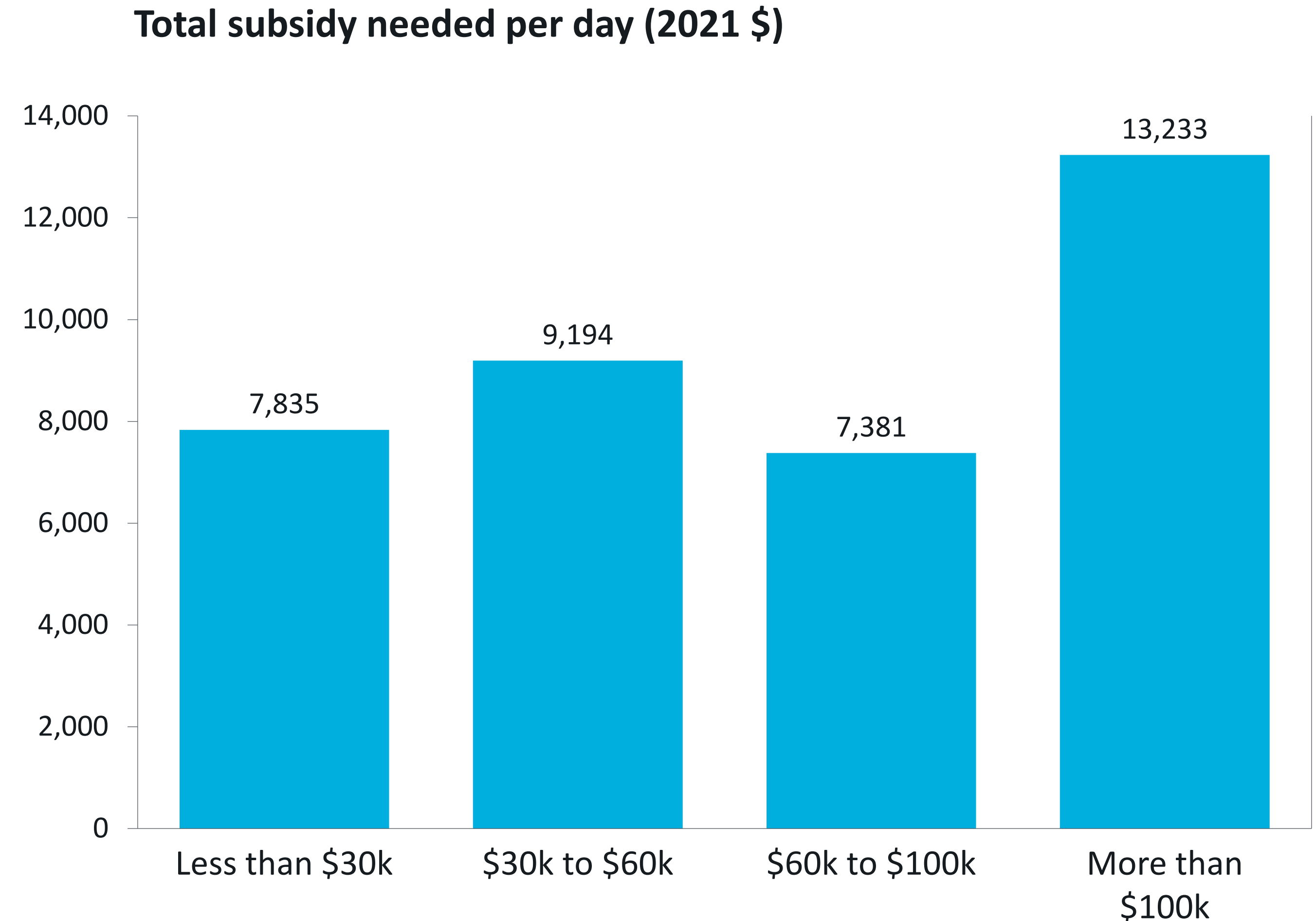
The middle two income groups experience the greatest average fare decrease, decreasing between 1.3 and 1.6 percent versus baseline



Strategic Metric 3 – Preliminary Equity Findings for Tier 2 Discounts

While the highest income group experienced the smallest percent change in fares, it needs the greatest amount of new subsidy

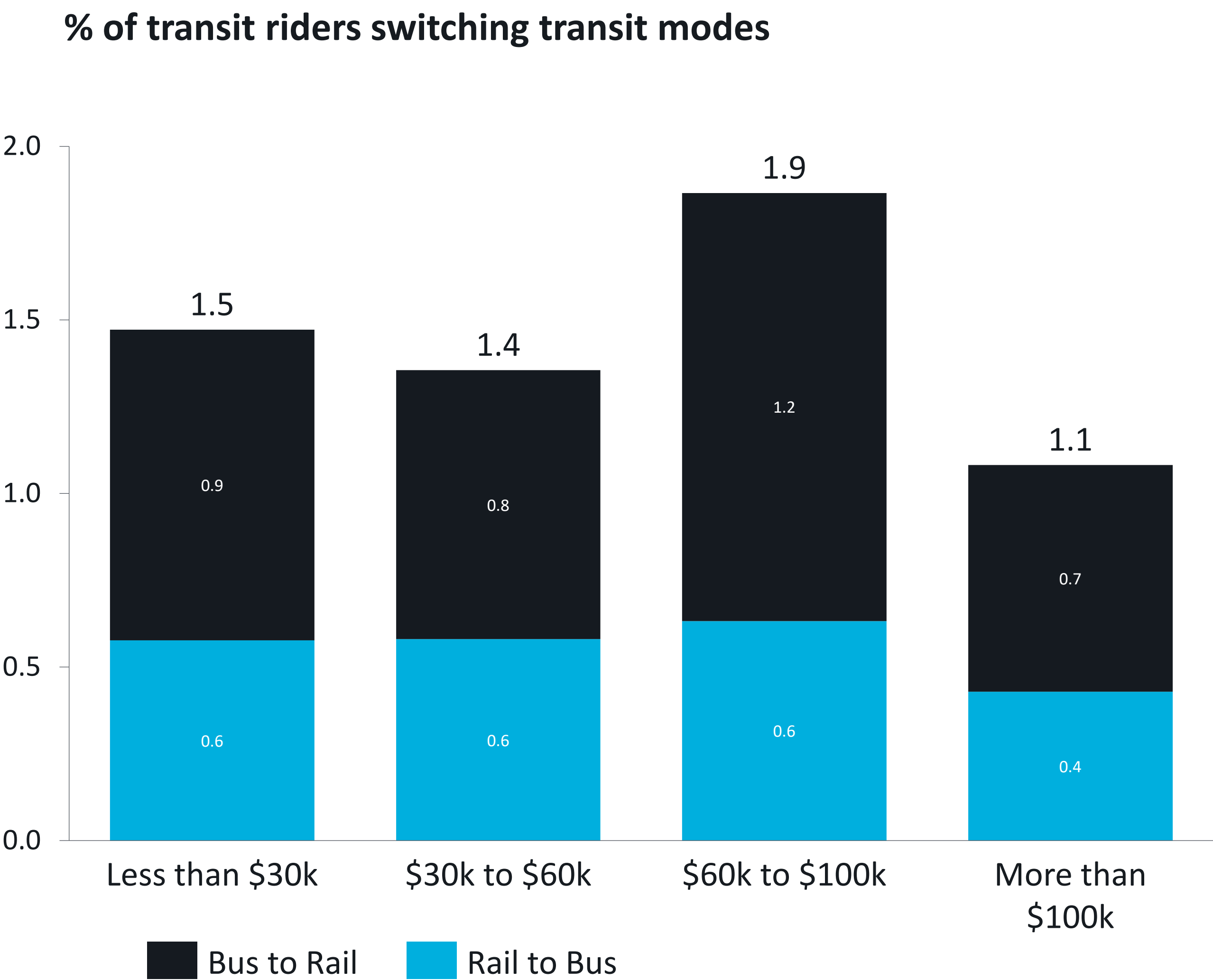
- The average transit fare decreased only 1% for the highest income group, less than any other group
 - Yet, this group is ~60% larger than any other
 - In total, the daily new subsidy needed is largest for the highest income group
 - The subsidy is in line with the transit ridership income distribution: 36% of all subsidy goes to the highest income group and 35% of all transit riders earn \$100k+



Strategic Metric 3 – Preliminary Equity Findings for Tier 2 Discounts

Approximately 4 percent of transit riders switched bus to rail for at least one of their trips. About 2 percent switched from rail to bus.

- Across all income groups, more individuals switch modes from bus to rail—rather than from rail to bus
- This is a positive equity outcome as more individuals make use of a higher-level transit mode with more frequent and faster service
- The lowest income group experiences the second highest shift from bus to rail, with nearly 0.9% of transit riders shifting to rail
- The \$60k - \$100k group sees the highest bus to rail shift at 1.2%



Strategic Metric 4 – Customer Experience

The problem statement for the FCIS identified customer experience as a key integration barrier.

The FCIS team worked extensively with travelers to identify how this barrier impacts their use of multiple operators (either for one trip or for different trips over the course of a week/month) and how they perceived each option.

Customers were asked to review each option under a range of scenarios and provide rankings and qualitative feedback on its value, fairness, and legibility.

This metric synthesizes this customer research to define:

- The likely impacts that each option will have to traveler experience and traveler willingness to use multiple operators
- Key customer identified pros and cons of each option

Customer Impacts: Summary

Option	Value	Legibility	Fairness
Option 1 - Caps and Passes	Generally positive	Mixed feedback – some passes may be more complicated to understand than others	Generally Positive
Option 2/3a – Transfer Discounts	Generally positive	Generally positive, some concern about learning multiple fares and figuring out which one is discounted	Generally Positive
Option 3B - Unified Fare by Distance (same feedback for regional component of Option 4)	Generally Positive	Mixed feedback – stated need for tools to interpret structure (similar to BART today)	Generally Positive
Option 5 - Small Zones for all Services (same feedback for regional component of Option 5)	Mixed feedback, trending negative – concerns on how zones may raise fares for local services	Mixed feedback –concerns about number of zones and quickly figuring out fare, customers stated they will need help	Mixed feedback, trending negative – concerns on zones will impact fares that are flat today or use fare by distance (BART)
Options 4/6 – Local Flat Fare Component	Generally positive	Generally positive	Mixed feedback– some concerns about fare increases

Strategic Dimension – Summary

Option	Daily Ridership Growth			Equity Impacts	Customer Experience
	Low Subsidy (~1-2.5%)	Higher Subsidy (~6-7%)	Highest Subsidy (~10+%)		
Option 2 - Free local discount (local to local, local to regional)	+11,500 trips/day	N/A		Net savings for equity priority populations	Generally Positive
Option 3a – Option 2 + fixed discount for regional to regional trips	+25,500 trips/day	N/A		Net savings for equity priority populations	Generally Positive
Option 1 - Puget Pass Incremental Benefit (above Option 2)	+25,000			Mixed impacts for equity priority populations	Generally Positive
Option 3B - Unified Fare by Distance	TBC	+68,800 trips/day	TBC	Net savings for equity priority populations	Generally positive with some issues to resolve
Option 4 - Fare by Distance with a Local Flat Fare	TBC	+ 62,500 trips/day	TBC	Mixed impacts for equity priority populations	Generally positive with some issues to resolve
Option 5 - Small Zones for all Services	-2,100 trips/day	+ 44,000 trips/day	+75,400 trips/day	Mixed impacts for equity priority populations	Mixed feedback
Option 6 - Large Regional Zones with a Local Flat Fare	TBC	TBC	+86,000 trips/day	Mixed impacts for equity priority populations	Generally positive with some issues to resolve

Legend

Weaker performance




Moderate performance

Stronger Performance



Strategic Dimension – Key Findings

The Strategic Dimension notes the following key trade-offs:

-  Integration focused options (Tiers 1-2) tend to generate higher integration ridership and do not require fare increases for any travellers
-  Tier 3 options generate comparable ridership to Tier 4 options without changing local operator fares – this ridership is driven by free transfers and a single fare structure for all regional trips, which allows combined use of all regional operators as one network
-  Tier 4 (options that change all fares across the region) tend to have a more complex effect on ridership as most trips see a fare change – some changes may encourage ridership (see San Francisco) while others may discourage ridership

Financial Dimension – what is the financial impact of each option?

The Financial Dimension evaluates each option based on its impact to funding and finance for transit.

It is focused on the following impacts:



Required subsidy (total)– strategic estimates of the total lost revenue from each fare option

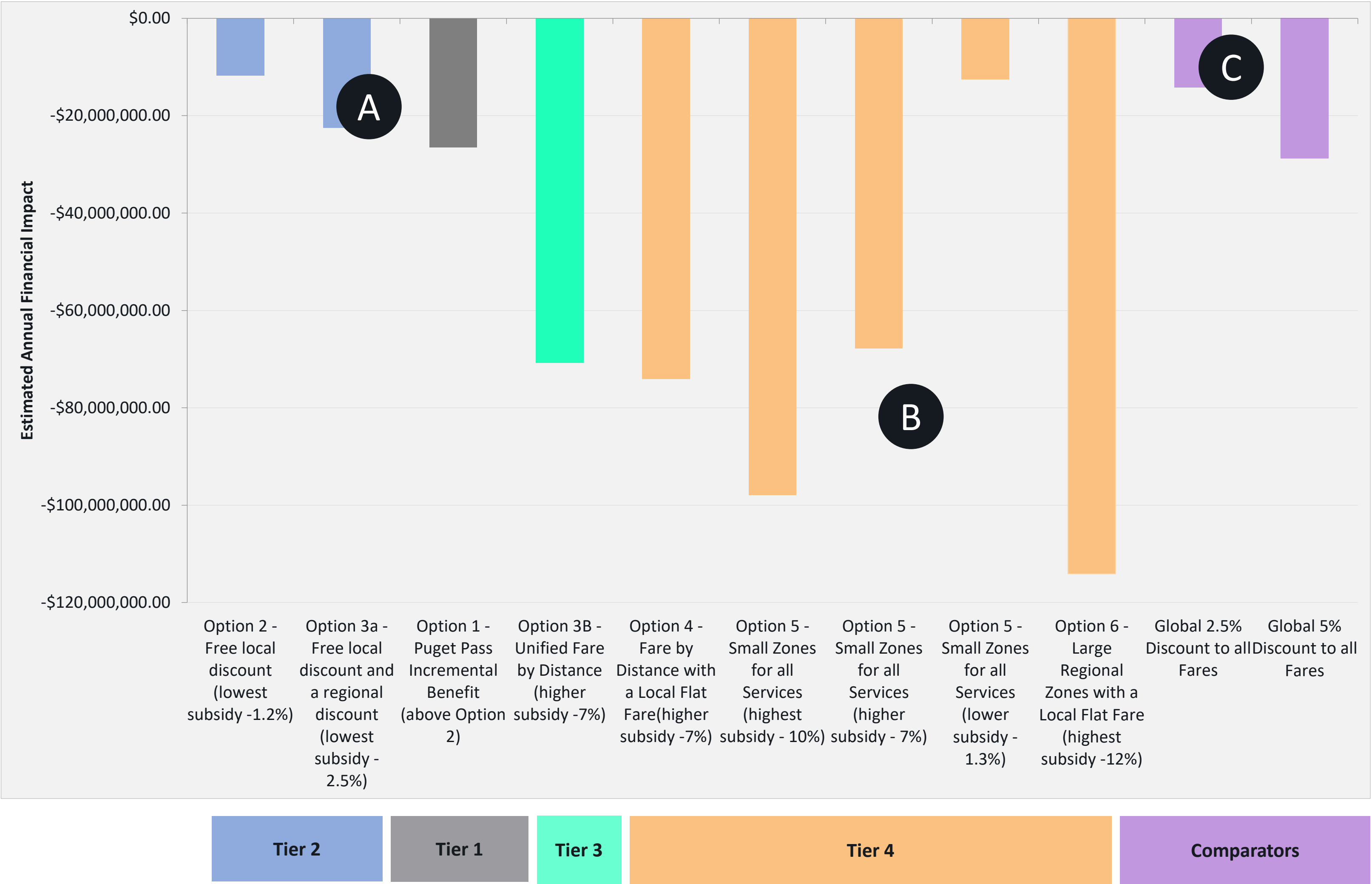


Cost per new rider – the level of subsidy required for each new trip

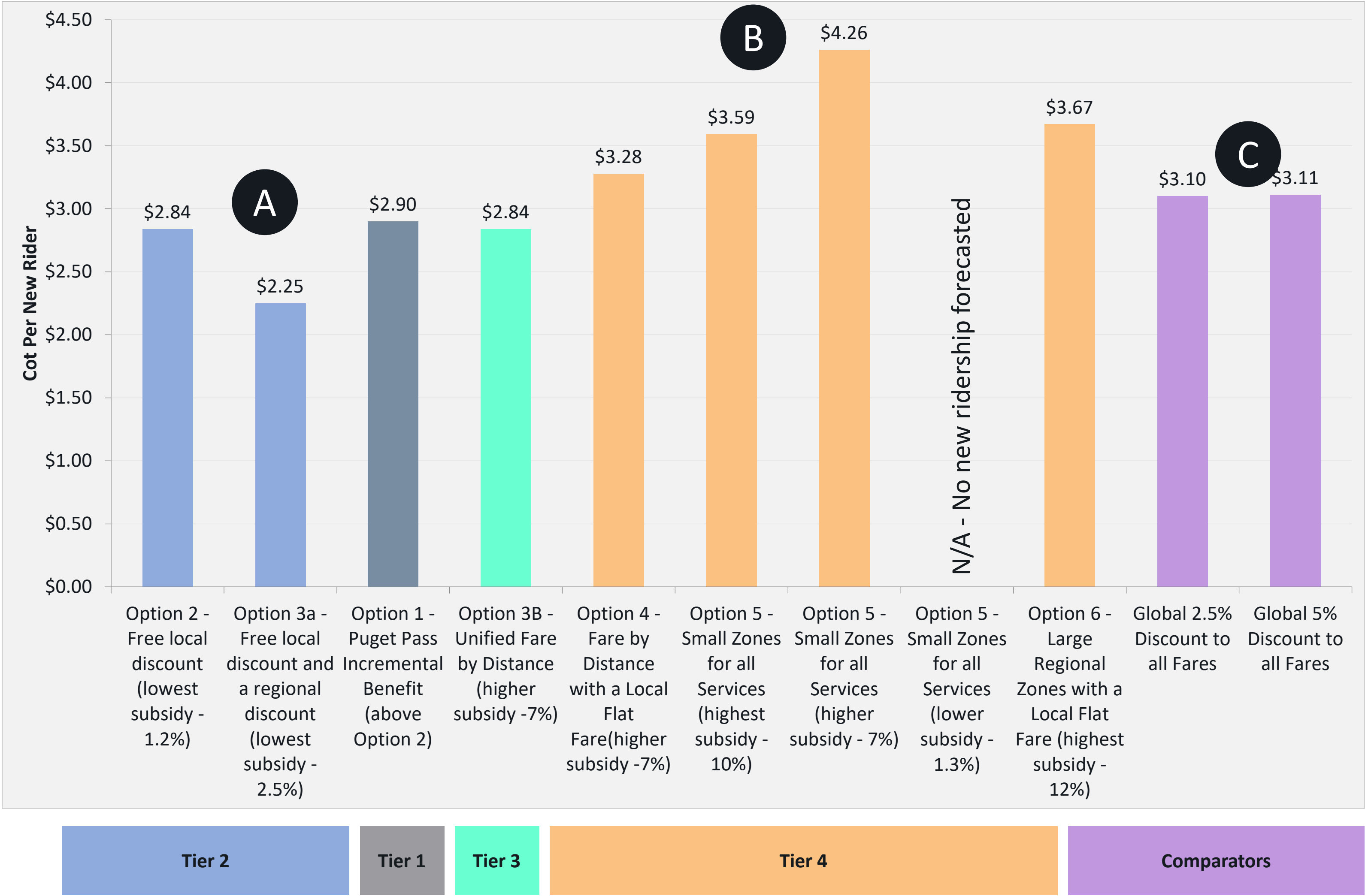
Combined these metrics answer the questions:

- What level of financial commitment is required to deliver integration?
- How cost effective is each option?
- How does the subsidy required for fare integration compare to other investments?

Financial Metric 1 – Required Subsidy



Financial Metric 2 - Cost Per New Rider



Findings

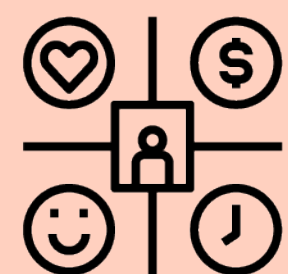
- A** Direct investment in integration barriers (Tier 2, Option 3) has the lowest cost per new rider
- B** Widespread changes proposed under Option 5 are more expensive as they lose ridership in some markets and also generate growth in others – as level of subsidy applied to Option 5 decreases the cost per rider increases as there are more ridership losses in key regional markets
- C** Comparator tests illustrate that at a regional scale, direct discounts to the existing structure are likely to have greater value for money than Tier 4 as they do not raise/lower fares in a structured – but arbitrary – manner

Financial Evaluation Summary

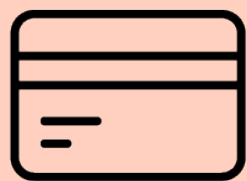
Options	Required Subsidy (annual million USD\$)	Cost Per New Rider
Option 2 - Free local discount (local to local, local to regional)	\$11	<div></div> \$2.84
Option 3a - Free local discount and a regional discount	\$13	<div></div> \$2.25
Option 3B - Unified Fare by Distance	\$70	<div></div> \$2.84
Option 4 - Fare by Distance with a Local Flat Fare	\$75	<div></div> \$3.28
Option 5 - Small Zones for all Services (highest subsidy - 10%)	\$100	<div></div> \$3.59
Option 5 - Small Zones for all Services (higher subsidy - 7%)	\$70	<div></div> \$4.26
Option 5 - Small Zones for all Services (lower subsidy - 1.3%)	\$12.5	Net ridership loss
Option 6 - Large Regional Zones with a Local Flat Fare	\$115	<div></div> \$3.67

Delivery and Operation Dimension – what is required to successfully deliver each option?

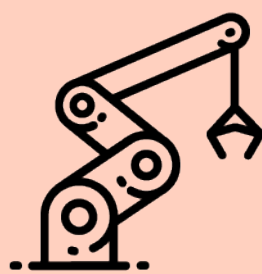
Delivery and Operation Dimension assesses each option based on the key changes required across the following dimensions:



Management – how will issues, risks, challenges, and changes will be managed over time?



Technology – how is it implemented and procured?

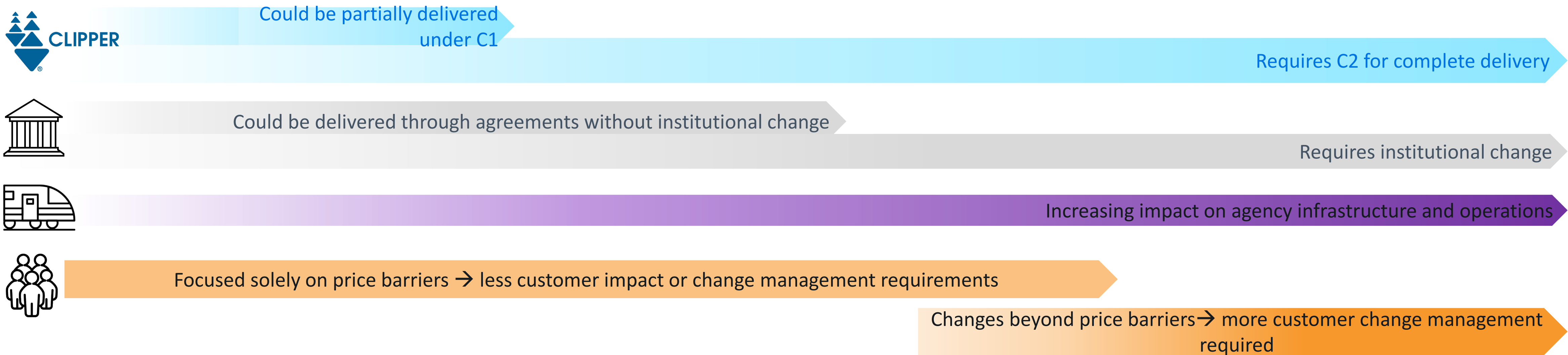
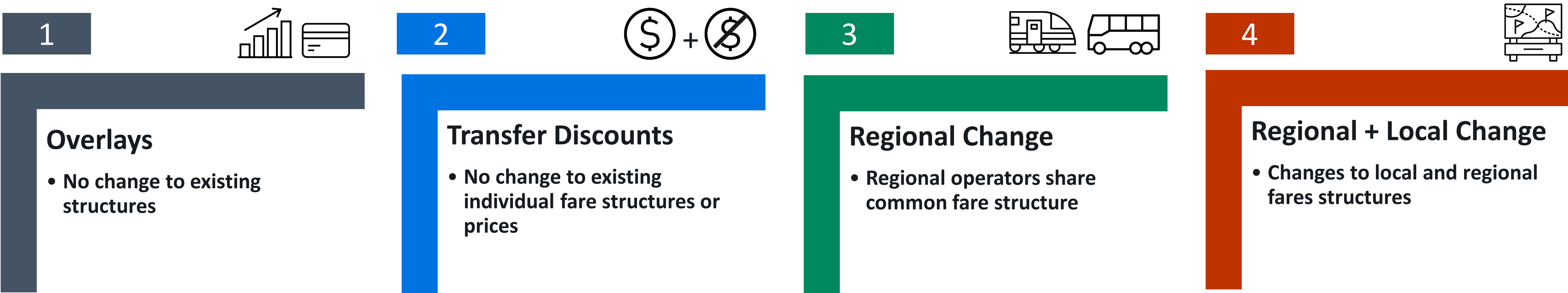


Operations and Infrastructure– how it will ‘run’ on a day to day basis and what infrastructure is required?



Customers – what level of change management is required for customers?

Delivery Evaluation Findings - Overall



Delivery and Operation Dimension Evaluation Summary

Tier	Options	Management	Technology	Agency Infrastructure and Operations	Customers
1	Option 1 - Caps and Passes	Low	Low	Low	Low
2	Option 2 - Free local discount (local to local, local to regional)	Low/Medium	Low	Low	Low
	Option 3a – Transfer Discounts (local to local, local to regional, regional to regional)				
3	Option 3B - Unified Fare by Distance	Low/Medium	Medium	Medium	Low/Medium
4	Option 4 - Fare by Distance with a Local Flat Fare	High	Medium/High	High	Medium/High
	Option 5 - Small Zones for all Services				
	Option 6 - Large Regional Zones with a Local Flat Fare				

Legend

Weaker performance

Moderate performance

Stronger Performance



5 — Business Case Summary

6

1 Overlays to Fare Structure (Incremental Performance when Layered on Tier2)



Option 1 – Passes and Caps

What was tested?

- Both price- and trip-based caps, as well as a tiered individual pass at a range of prices or value points

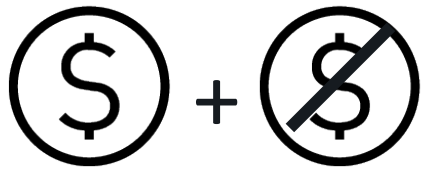
What did we learn?

- Tiered passes and caps are required to minimize revenue loss for regional operators while generating new ridership but may be more complex for customers to understand
- Customers are interested in a pass or product that applied to multiple operators
- A single trip cap or monthly pass with a set price for all travelers will either not generate ridership (if priced too high) or lose significant revenue (if priced too low)
- Further work needs to be completed to explore caps vs. passes – this work should explore balancing with ridership potential and available subsidy

Strategic	Economic
Daily Ridership Gain: +25,000 trips per day (tiered individual pass) Equity Impact: Passes require up-front payment, which may exclude lower income riders from benefits. Fare capping offers more equitable benefits.	Present Value of Economic Benefits:
Financial	Delivery
Total required subsidy: \$40 million (tiered individual pass) \$80 million (trip-based fare cap) \$15 million (Clipper START fare capping)	Overall Assessment: low impact – readily deliverable with some technology changes and new organizational agreements.

2 Transfer Discounts

Options 2 and 3a



What was tested?

- Option 2 - 100% discount for all local to local transfers (trips using multiple providers pay only one fare)
- Option 3a - 100% discount for all local to regional transfers (trips using regional and local only pay the total regional fare)

What did we learn?

- The local to regional transfer market is the largest integration market in the Bay Area, local to local transfers are a smaller opportunity, but can support equity goals and overall fairness
- Combined, discounted transfers could generate up to 13,000 new transit trips a day with the lowest cost per new rider of Tiers 2-4
- These options are the least complex to implement and performed well in customer research, where customers valued their simplicity and reflection of fairness and value (reducing penalties to use multiple operators when required)

Strategic	Economic
Daily Ridership Gain: Option 2 (-1.2% subsidy): 11,500 trips per day Option 3(-2.5% subsidy): 25,500 Equity Impact: Net savings for equity priority populations; some additional subsidy to higher income riders	Present Value of Economic Benefits:
Financial	Delivery
Total required subsidy: Option 2 (-1.2% subsidy): -\$11.7m Option 3(-2.5% subsidy): -\$22.5m Cost per new rider: Option 2 (-1.2% subsidy): \$2.84 Option 3(-2.5% subsidy): \$2.25	Overall Assessment: low impact <ul style="list-style-type: none">• Readily deliverable within planed Clipper 2• Requires multi-agency MOU

3 Changes to Regional Service Fares and Local Discounts



Option 3b – Neighboring and Connecting Agencies with regional service integration

What was tested?

- 100% discount for all local to local transfers (trips using multiple providers pay only one fare)
- 100% discount for all local to regional transfers (trips using regional and local only pay the total regional fare)
- All regional services use a single distance or zonal structure (no transfer fees) → test used a BART structure for all services
- Subsidy of \$70 million, future tests underway to better compare to T2

What did we learn?

- Has ability to increase ridership beyond Tier 2 to up to 68,000 new trips per day (at \$70 million in subsidy) but cost per rider increases, however cost per rider is significantly lower than Tier 4 options
- Additional riders are long distance travellers making use of the combined regional network or use of re-priced regional services
- Customers identified this option is generally perceived as fair and reflects the value of a trip taken, however they noted additional tools would be required to fully understand it
- This option has moderate delivery requirements and could be delivered in stages (example: combining fares for two operators to start) or all at once

Strategic

Daily Ridership Gain:

-7% subsidy: 68,000 trips per day

Equity Impact: With significant new subsidy, some riders with lower incomes would see fares rise to achieve regional standardization

Economic

Present Value of Economic Benefits:

Financial

Total required subsidy:

-7% subsidy: ~\$70 m/year

Cost per new rider:

-7% subsidy: \$2.84

Delivery

Overall Assessment: low impact/medium impact

- Requires new agreements or governance structure for regional service
- Requires new technology
- Requires some regional customers to learn a new structure

4 Changes to Regional and Local Fares



Option 4 – FBD on Regional, Flat Fare on Local

What was tested?

- FBD curve for all regional operators
- Single flat fare for all local operators – no transfer fees (100% discount to local fare) when using regional
- Subsidy of \$75m/year, , future tests underway to better compare to T2

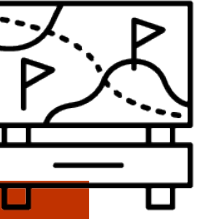
What did we learn?

- Ridership impacts similar to T3 – although slightly lower as the FBD fare curve for this option must be higher to offset lost revenue from the local flat fare and maintain a comparable subsidy as T3 for comparison
- This option has higher cost per new rider than T3 but lower cost per new rider than Option 5 (Tier 4), this means it is generally more financially efficient than zones for all modes but less financially efficient than retaining individual local fares with free inter-operator transfers
- Customers noted that a local flat fare would be easier to understand than a free transfer but also noted it may lead to unfair changes in fares
- This option is more complex to deliver than T2/T3 due to governance requirements but easier to implement than T5 because it does not require extra readers on each bus

Strategic	Economic
Daily Ridership Gain: -7% subsidy: 62,500 trips per day Equity Impact: Without significant new subsidy, some riders with lower incomes would see fares rise to achieve regional standardization	Present Value of Economic Benefits:
Financial	Delivery
Total required subsidy: -7% subsidy: \$75 million / year Cost per new rider: -7% subsidy: \$3.28	Overall Assessment: high impact <ul style="list-style-type: none">• Requires significant management and governance change for a sustainable structure• Requires significant changes to agency operations• Requires new technology on most regional operators (tap in, tap out)

4 Changes to Regional and Local Fares

Option 5 – Zones on all service



What was tested?

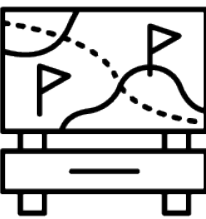
- 81 zones
- Fares increase based on number of zones travelled
- Zonal ad-fares are the same for all modes
- Three levels of subsidy - \$100m/year, \$70m/year, \$12.5m/year

What did we learn?

- Ridership impacts are complex and vary from operator to operator due to the 'region-wide changes' (where some trips increase and other decrease in fare) included in this proposal
 - At \$70m per year, this option has a net loss of inter-county trips and gains 44,000 net new trips (of these 50,000 gross are in San Francisco using bus and LRT)
 - At \$10-15M per year, this option has a region wide net loss in ridership (-2,000 trips) but it retains a net gain of 23,000 intercounty trips offset a loss of 25,000 inter-county trips
- This option has the highest cost per new rider and most challenging delivery requirements
- Customers noted that the number of zones included may be hard to understand and that the option does not inherently reflect value and fairness

Strategic	Economic
Daily Ridership Gain: -10% subsidy: +75,400 -7% subsidy: +44,000 trips -1.25% subsidy: net loss of 2,000 trips per day Equity Impact: Without significant new subsidy, some riders with lower incomes would see fares rise to achieve regional standardization	Present Value of Economic Benefits:
Financial	Delivery
Total required subsidy: -10% subsidy: \$100m/year -7% subsidy: \$70m/year -1.25% subsidy: \$12.5m/year Cost per new rider: -10% subsidy: \$3.58 -7% subsidy: \$4.26 -1.25% subsidy: net ridership loss	Overall Assessment: high impact <ul style="list-style-type: none"> • Requires significant management and governance change for a sustainable structure • Requires significant changes to agency operations • Requires new technology on all local and most regional operators (tap in, tap out) • Requires extensive change management for customers

4 Changes to Regional and Local Fares



Option 6 – Large Zones on Rapid Transit and Local Flat Fare

What was tested?

- 81 zones
- Fares increase based on number of zones travelled
- Zonal ad-fares are the same for all modes
- Two levels of subsidy - \$100m/year and \$70m/year, , future tests underway to better compare to T2

What did we learn?

- Ridership impacts are complex and vary from operator to operator due to the ‘region-wide changes’ (where some trips increase and other decrease in fare) included in this proposal
 - At \$70m per year, this option has a net loss of inter-county trips and gains 44,000 net new trips (of these 50,000 gross are in San Francisco using bus and LRT)
 - At \$10-15M per year, this option has a region wide net loss in ridership (-2,000 trips) but it retains a net gain of 23,000 intercounty trips offset a loss of 25,000 inter-county trips
- This option has the highest cost per new rider and most challenging delivery requirements
- Customers noted that the number of zones included may be hard to understand and that the option does not inherently reflect value and fairness

Strategic	Economic
Daily Ridership Gain: 12% subsidy: 86,000 Equity Impact: Without significant new subsidy, some riders with lower incomes would see fares rise to achieve regional standardization	Present Value of Economic Benefits:
Financial	Delivery
Total required subsidy: 12% subsidy: \$115 million / year Cost per new rider: 12% subsidy: \$3.67	Overall Assessment: high impact <ul style="list-style-type: none">• Requires significant management and governance change for a sustainable structure• Requires significant changes to agency operations• Requires new technology on all local and most regional operators (tap in, tap out)• Requires extensive change management for customers

Performance Summary – Relative Performance

Dimension	Metric	Option 2 – Discounts (local/local, local/regional free discount) (Low Subsidy -1.3%)	Option 3a (O2 + region/regional discount) (Low Subsidy -2.5%)	Option 3b – Integrated Regional Structure with free local transfers (higher subsidy – 7%)	Option 4 – Integrated Regional Structure with local Flat Fare (higher subsidy – 7%)	Option 5- Small Zones for All Services (highest subsidy -10%)	Option 5- Small Zones for All Services (higher subsidy – 7%)	Option 5- Small Zones for All Services (Low Subsidy -1.3%)	Option 6 – Large Zones for Regional with Local Flat Fare (highest subsidy - 12%)
Strategic	Ridership	11,500	25,500	68,000	62,500	75,400	44,000 (includes 50,000 new intra-county trips but - 6,000 inter county trips)	-2,000	+86,600
	VMT	-120,000	-290,000	-850,000	-775,000	-170,000		+412,000	-984,000
	Equity	Topic of discussion with the Subcommittee: How best to reflect equity in a single measure when all options provide positive financial and access benefits?							
	Experience	Generally positive feedback	Generally positive feedback	Generally positive with some issues to resolve	Generally positive with some issues to resolve	Mixed feedback			Generally positive with some issues to resolve
Economic	BCR	Economic benefits still under analysis as of September 10, 2021							
	NPV								
Financial	Subsidy	\$10m	\$22.5 m	\$70m	\$75m	\$100m	\$70m	\$12.5m	\$115m
	Cost per New Rider	\$2.84	\$2.97	\$2.84	\$3.28	\$3.59	\$4.26	No new riders	\$3.67
Implementation	Overall Risk and Impact Assessment	Low impact	Low Impact	Medium impact	High impact	High impact	High impact	High impact	High impact

Legend

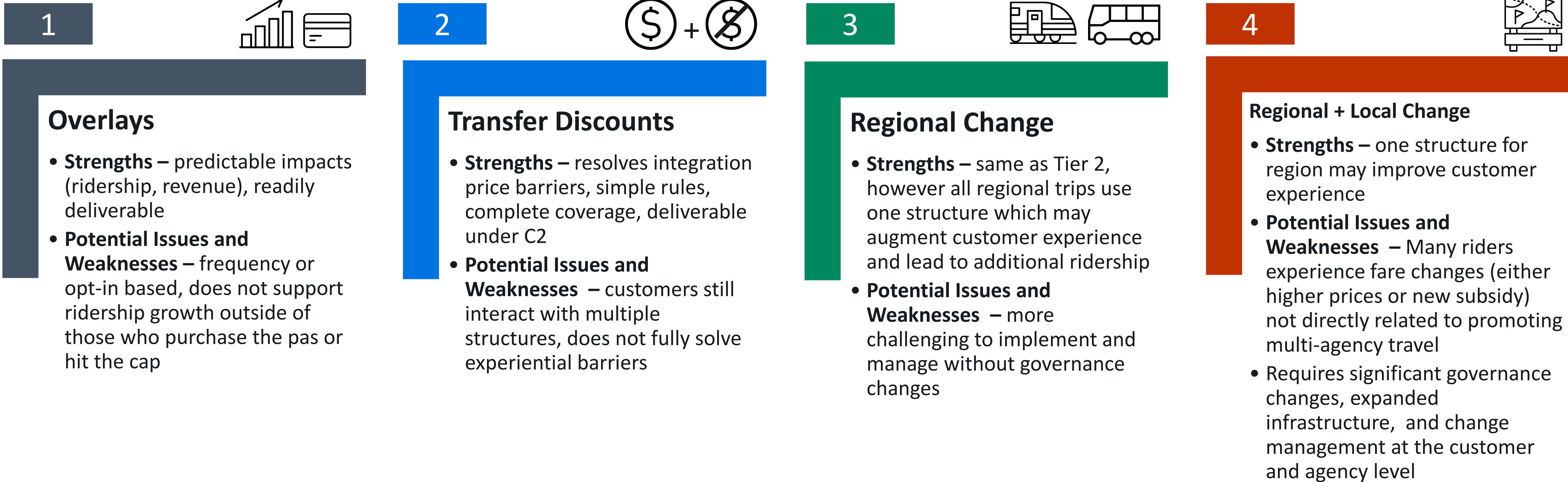
Weaker performance

Moderate performance

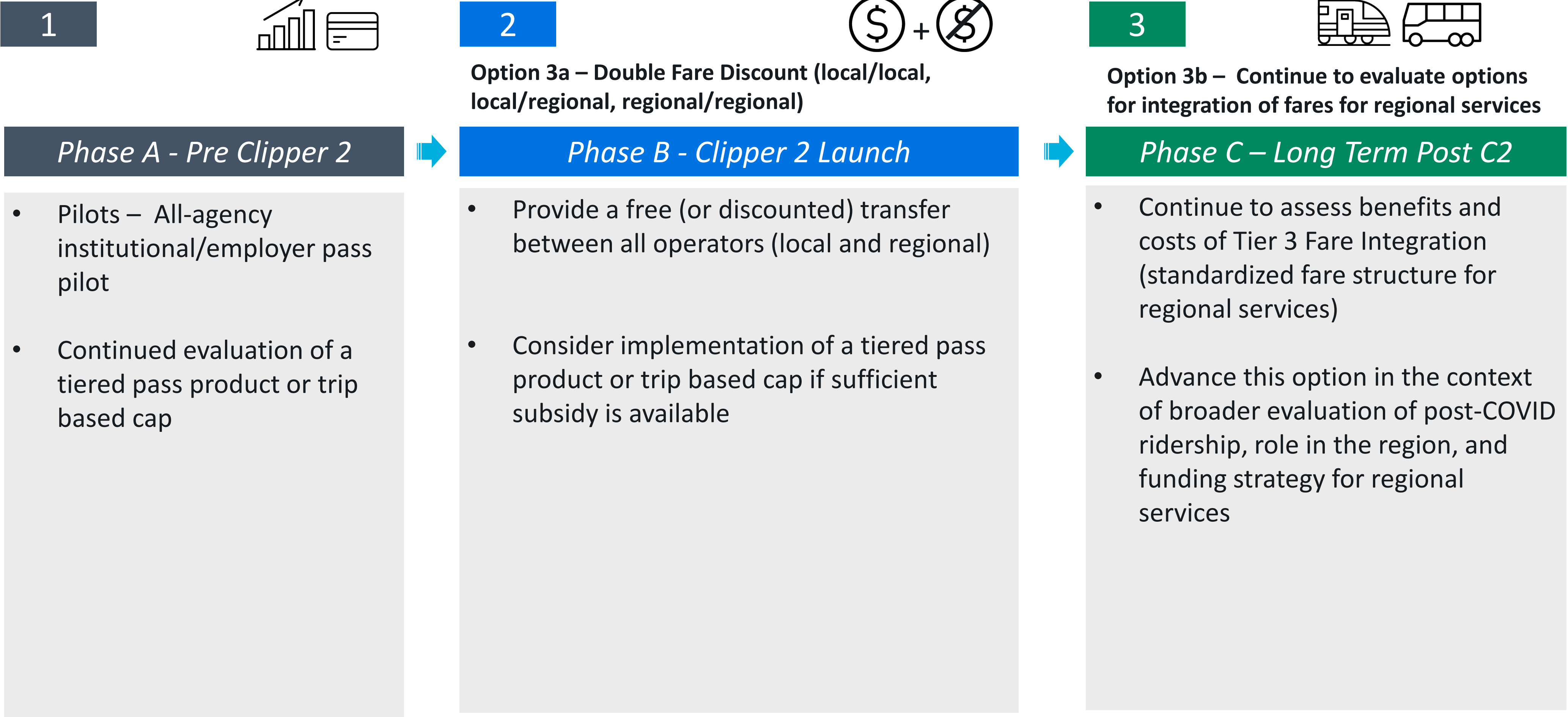
Stronger Performance



Overall Summary: Tier Performance



Emerging/Draft Recommendations



6 — Recommended Near Term Actions

Recommended: Regional Institutional/Employer Pass Pilot

Bulk pass program definition

- All agency / all-you-can-ride passes that institutions or employers buy in bulk
- Price set to achieve subsidy parity with other fares; pricing likely based on business location
- Modelled on Puget Sound Region’s Orca Business Passport program
- Comparable to agency-specific passes offered today (ie Caltrain, AC Transit, VTA, others)

Pilot Goals

- Evaluate a barrier-free all agency transit pass to build toward broader fare integration in 2023
- Engage Bay Area institutions and business community in transit success
- Promote post-COVID transit recovery
- Collect data that could be used as the basis for revenue model for permanent program



Recommended: Regional Institutional/Employer Pass Pilot

Phase 1 (2022)

- Focus on colleges and universities
- Leverage existing agency relationships to establish program quickly

Phase 2

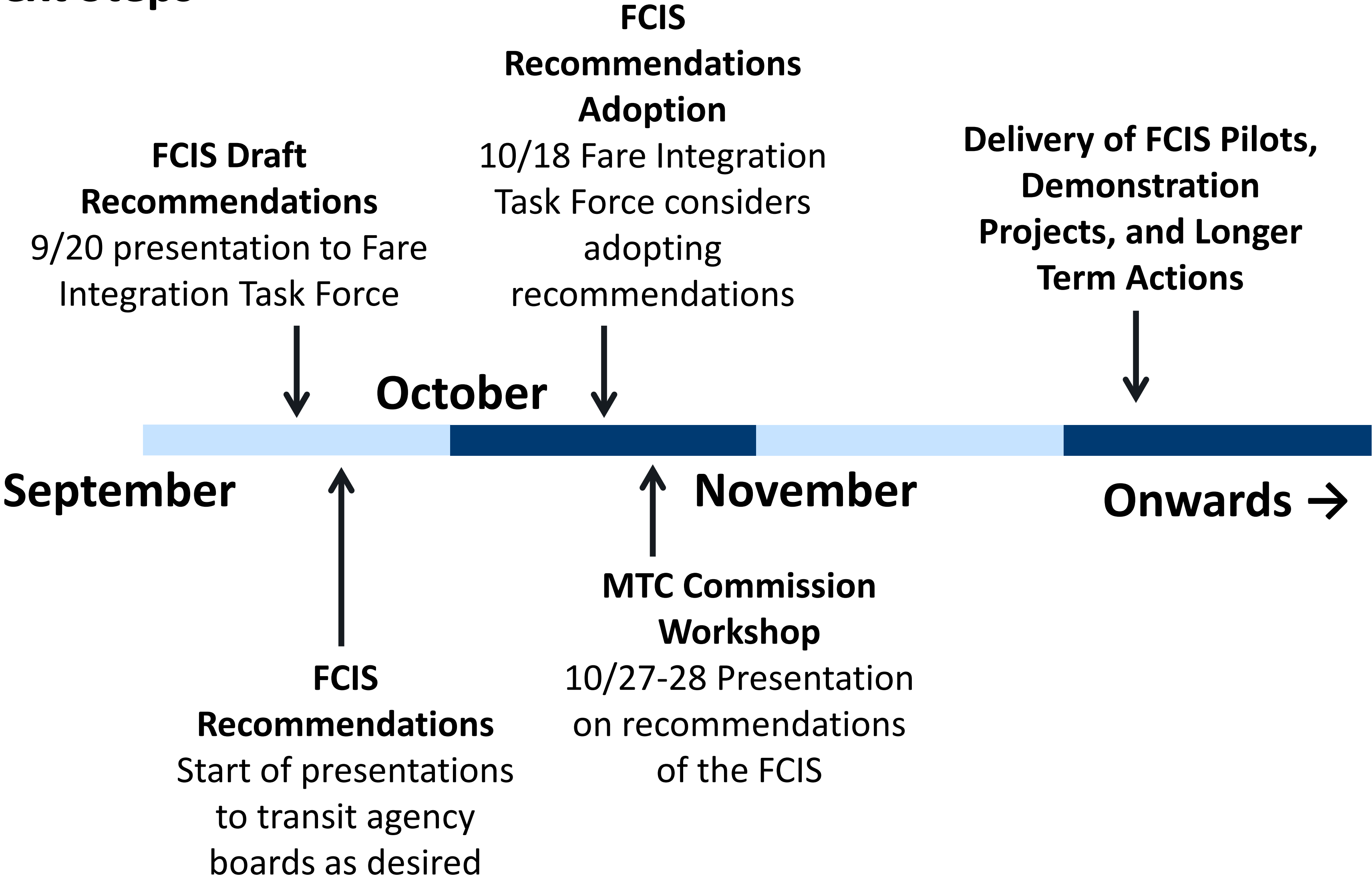
- To be designed and implemented based on learnings from Phase 1, and tentatively to include:
 - Expansion to include private employers and affordable housing residents
 - Work with business organizations and NGO's

Challenges

- Similar offerings tend to serve either students or white-collar workers – program will need a strong equity focus to achieve balance
- Significant administrative cost / staffing requirements
- Clipper 1 implementation requires 100% of agencies to sign-on
- Revenue risk – pilot will require funding to backstop agency revenue



Next Steps



Appendix

What policy tools can be used to implement fare integration?

Price barriers, learnability/legibility, equity, and affordability can all be influenced through two types of fare integration policy changes.

1 Change how much customers pay for each trip

Fare policies can reprice trips to:

- Incentivize ridership in specific market segments
- Re-balance revenue across different user types- for example – today, customers paying double fares contribute a disproportionate amount of revenue compared to trips paying single fares

2 Change the amount of subsidy

Decision makers can deploy additional subsidy to support fare integration:

- Replacing revenue lost from removing pricing barriers
- Supporting delivery of capital and operational changes required for integration

Ridership Comparison: Trips that Begin and End in the Same County

A deep dive into ridership changes for trips that start and finish in the same county notes the following:

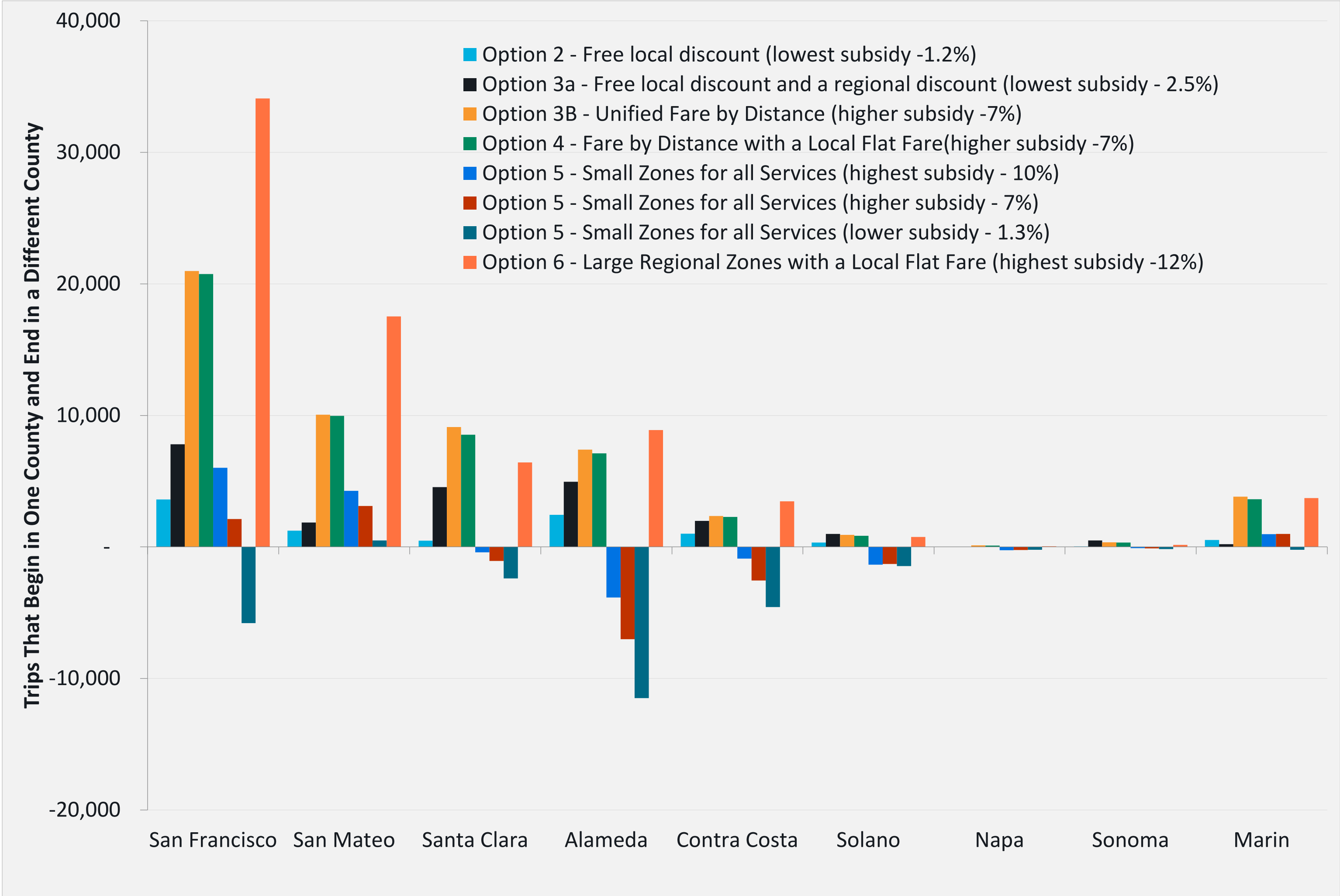
- The majority of new ridership generated by the high-subsidy variant of Option 5 - Zones is in San Francisco (~60,000 new trips using bus or LRT), with other counties seeing smaller changes and Santa Clara County seeing a net loss of ~5,500 trips per day, with lower levels of subsidy these losses are more significant
- Option 3b generates moderate increases in travel within counties – typically for longer distance trips
- Option 2/3a generates fewer trips within one county, and all net new trips make use of multiple operators



Ridership Comparison: Trips that Start and Finish in Different Counties

A deep dive into ridership changes for trips that start and finish in different counties (see graph to right, x-axis is origin county) notes that:

- Option 5 – zones generates trips starting in San Mateo (and finishing elsewhere) and San Francisco (finishing elsewhere) but loses ridership for trips starting in Alameda, Contra Costa, Napa, and Sonoma due to how the zonal structure adversely impacts pricing - under a lower subsidy scenario losses are more significant
- Option 2/3a does not have any trip losses and enables ridership growth in all counties except for Solano and Marin
- Option 3b enables broader ridership growth at a comparable level of subsidy to the lower-subsidy variant of Option 5

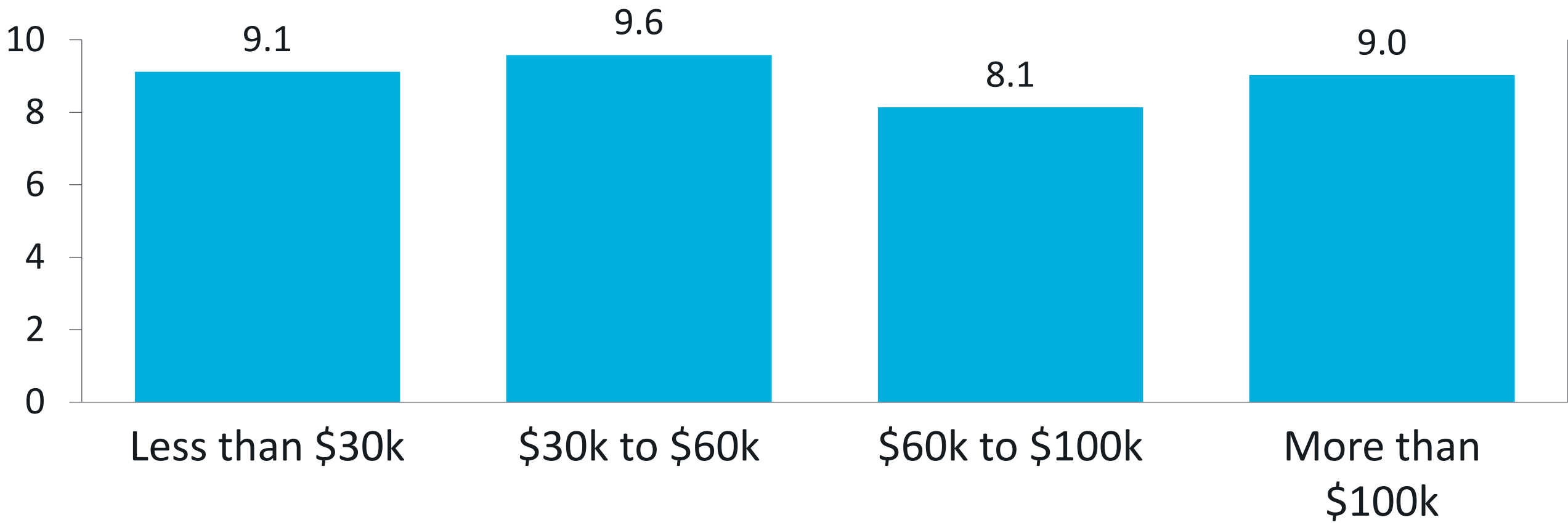


Strategic Metric 3 – Preliminary Equity Findings for Tier 2 Discounts

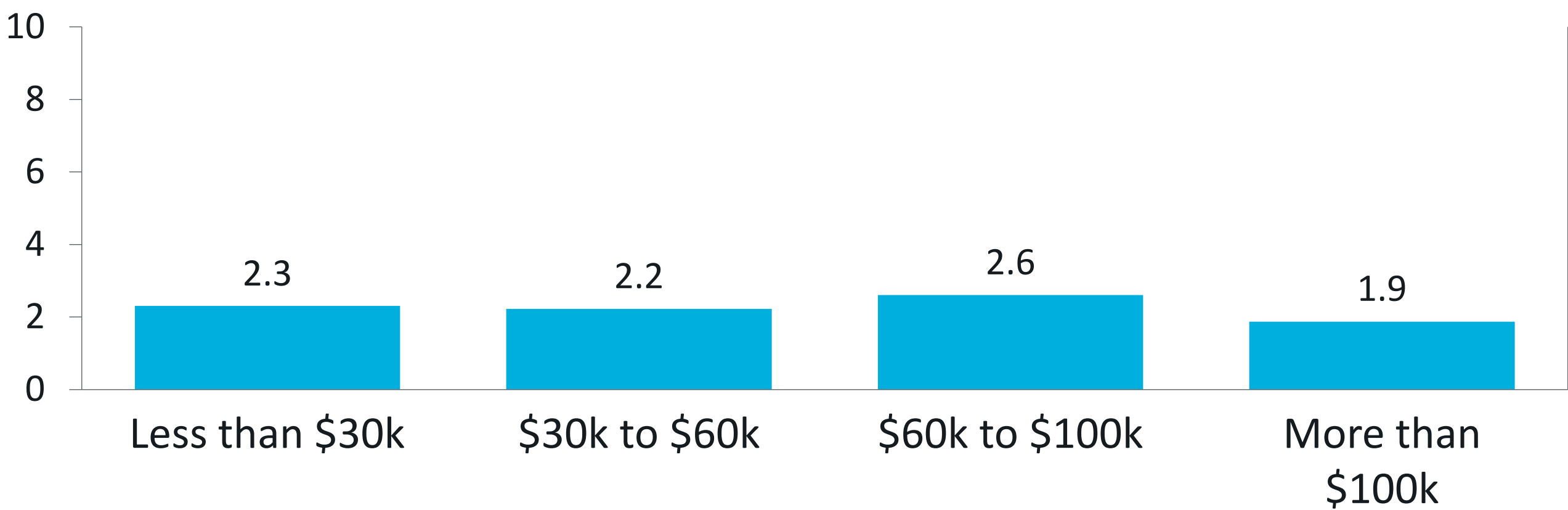
Equity impacts are a key consideration for the formulation of fare policies. This metric will review the extent to which each policy impacts priority areas for equity policy in the Bay Area.

Under the Tier 2 Discount, about 12% of transit riders saw a change to their transit fares. Most of them experienced a fare decrease. Those making an income less than \$60k have the greatest share of individuals who experience a fare decrease, which is a positive equity outcome.

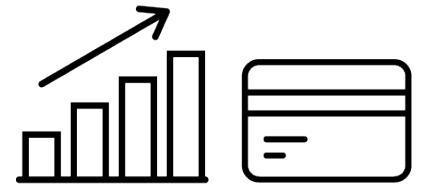
% of transit riders experiencing a decreased fare



% of transit riders experiencing an increased fare



1 Overlays – Delivery Requirements



Management – low impact

- ☐ Can be delivered with agency to agency agreements

or

- ☐ Can be delivered and managed centrally across the region → increased revenue allocation and pricing complexity

Technology – low impact

- ☐ Can be delivered with existing technology or with C2

Agency Infrastructure and Operations – low impact

- ☐ Minimal changes – can be rolled out with operator training on the passes with some investment in marketing and communications
- ☐ Could also be marketed and communicated centrally

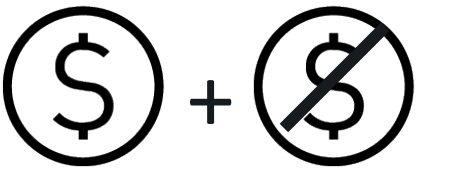
Customers – low impact

- ☐ If a pass, it is opt in and will require marketing advertising

or

- ☐ If a cap, the cap should be advertised broadly but will automatically apply to customers and will not require additional action to access

2 Transfer Discounts – Delivery Requirements



Management – low impact / medium impact

- ☐ Can be delivered with agency to agency agreements

or

- ☐ Can be delivered and managed centrally across the region
- ☐ Will require a formula for revenue allocation – either centrally or on agency pair basis

Technology – low impact

- ☐ Can be delivered with existing technology on a limited basis or completely with C2 under the initial roll out

Agency Infrastructure and Operations – low impact

- ☐ Minimal changes – can be rolled out with operator training (to message the discounts) and supporting advertising material
- ☐ Could also be marketed and communicated centrally

Customers – low impact

- ☐ Only customers using multiple agencies are impacted – change management would focus on explaining the discount, although it is applied automatically
- ☐ If a general region-wide discount rule is applied (example: only pay highest fare, only pay regional fare) change management is simpler to roll out

3 Regional Change – Delivery Requirements



Management – low impact / medium impact

- ☐ Can be partially delivered with agency to agency agreements – for example, two regional operators making a single fare structure

or

- ☐ Can be delivered centrally across the region → one manager is responsible for setting fares and developing a formula for revenue allocation

Technology – medium impact

- ☐ Requires C2 and new fare setting approaches for one or more agencies

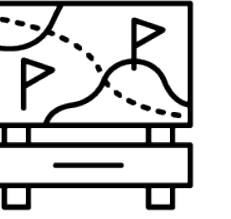
Agency Infrastructure and Operations – medium impact

- ☐ Requires new fare collection infrastructure, marketing materials, and staff training for all agencies that are integrated
- ☐ This could be done on an agency by agency basis or centrally

Customers – low impact / medium impact

- ☐ End fare structure will either be FBD or zones across all regional operators – all operators already use a form of FBD or zones, so the change management process would focus on helping a select set of customers understand the new structure and make best use of it

4 Regional + Local Change Zones on All Modes – Delivery Requirements



Management – high impact

- ☐ Fare setting authority would need to be transitioned from local agencies and regional agencies to a central manager to ensure sustainable change (agreements are unlikely to sustain a regional fare structure over the long term)
- ☐ Requires an overhaul of revenue allocation and/or subsidy/funding allocation

Technology – medium impact / high impact

- ☐ Requires C2 and new fare setting approaches for all agencies
- ☐ Region wide zones would require tap off or a 'check out' function on buses

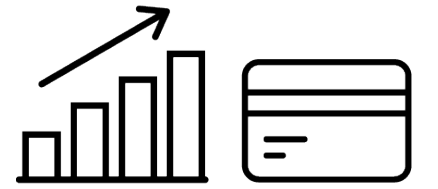
Agency Infrastructure and Operations – high impact

- ☐ Requires a range of new fare collection infrastructure, marketing materials, and staff training for all agencies across the region – likely requires a centralized approach
- ☐ Check out function on buses could have boarding / alighting impacts and operational impacts over the short to medium
- ☐ As fares change, some operators will require additional funding to cover shortfalls in fare revenue while maintaining level of service

Customers – medium impact / high impact

- ☐ Customers will have to learn FBD/zones for regional (see previous slide)
- ☐ Customers will either learn a flat fare for local (limited impact) or a zone structure which is more complex and will have wide-ranging changes for trips that used to be under an operator flat fare

1 Customer Experience - Overlays



Overall Lessons

For new or infrequent riders, this option may be easier to understand compared to other options as one rule applies to all services.

- Riders perceive caps as greater value than a pass, especially amongst those whose transit trips were random while passes were preferred when the travel routine was predictable and involved frequent trips.
 - Cap: Flexible, feel good about taking extra trips (over the cap) knowing they're "free".
 - Pass: Convenient, peace of mind, assume or expect a significant discount for paying upfront
- Riders' preferred cap/pass duration depend on how they plan and budget (e.g. weekly, monthly)
- Rolling duration for cap/pass maximizes its value, but can be challenging for riders to remember the start and end of the duration.

Value

- ☐ Good value as it always guarantees a discount of some sort

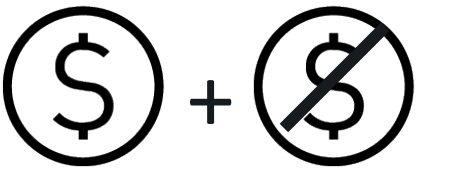
Fairness

- ☐ Deemed as most fair most often, including low-income participants.

Legibility

- ☐ **Cap:** participants had issues understanding or had a different understanding of how caps work
- ☐ **Pass:** while not as challenging as caps, some participants did misunderstand or have a different understanding of what passes offered

2 Customer Experience - Transfer Discounts



Overall Lessons

- Riders perceive value in getting part of their trip for free but may feel that the discount is small in comparison to the total trip cost (e.g. paying for a long trip on a regional service).
- While it can be easy to understand conceptually, it may not be easy for a rider to know what to pay unless they know which service is the most expensive.

Value

- ☐ Cap: value comes in free trips after cap and its perceived flexibility
- ☐ Pass: provides peace of mind, but deep discounts expected

Fairness

- ☐ Not explored in current research

Legibility

- ☐ Conceptually easy to understand but may be impacted if in the future it isn't "only paying for the most expensive part of the trip"

3 Customer Experience - Regional Change



Overall Lessons

- While riders may find it fair to pay by mileage, they also feel fares may be expensive for long trips, even when there is a distance-based cap in place.
- With the cap, riders know their fare will not exceed a certain price, but fares for trips that don't reach the cap may fluctuate more based on distance changes.
- Framing transfers to local services as “free” gives riders a sense of value.

Value

- ☐ May feel expensive but cap and free transfers to local services are good value

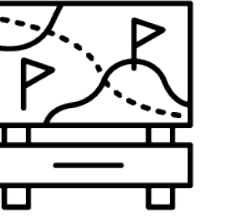
Fairness

- ☐ Deemed as most fair after Option 2, but this view is not shared by low-income participants

Legibility

- ☐ Conceptually easy to understand, but will need tools to determine distance/price

4 Customer Experience - Regional + Local Change Zones on All Modes



Overall Lessons

- It is easy to understand and remember the price of fares for local services.
- There are concerns that the single flat fare is higher than current local service prices, making it unfair to some riders in the Bay Area.
- Framing transfers to local services as “free” gives riders a sense of value.
- While riders claim this option is easy to understand, they often don’t consider what happens for regional services or misunderstand that regional services are also a flat fare.

Value

- ☐ Good value for local-service-only trips, free transfers are good value

Fairness

- ☐ Concerns about local service fares increasing in certain areas

Legibility

- ☐ Conceptually easy to understand for trips only pertaining to local services, but erroneously apply the same rule to regional services