Overview

• Study overview
• Key findings from Existing Conditions and Peer Comparison Reports
• Fare Study Rider Survey highlights
• Estimated elasticity of demand for Caltrain’s current system
• Staff recommendations on scenarios of potential fare changes to test
• Update on MTC’s Regional Means-Based Fare Study
Study Overview

- Currently, Caltrain has no fare policy in place
- Fare Study objectives:
  - Identify potential opportunities to maximize revenue;
  - Enhance ridership; and
  - Safeguard social and geographic equity.
- Explore the trade-offs with Caltrain’s current funding structure
- Promulgate policy
Key Questions for the Fare Study

• What is the current elasticity on the system?
• How much revenue can and should Caltrain generate from fares?
• Is the current fare and pass structure the right fit for Caltrain?
• How should Caltrain phase and implement changes to its fare system?

Key Findings from Existing Conditions and Peer Comparison Reports
Average Weekday Riders by Fare Product, 2007 – 2016

- Ridership has doubled since 2007
- Large growth in Go Pass and Clipper Card use in recent years

![Graph showing average weekday riders by fare product from 2007 to 2016](source: 2016 Triennial Survey)

Total Revenue by Fare Product, 2007 – 2016

- Fastest growing revenue source is One-Way tickets
- Monthly Pass revenue has also had high growth

![Graph showing total annual revenue by fare product from 2007 to 2016](source: Caltrain Revenue, 2007 – 2016)
### Fare Products by Annual Household Income

<table>
<thead>
<tr>
<th>Fare Product</th>
<th>Under $50,000</th>
<th>$50,000 - $100,000</th>
<th>$100,000 - $150,000</th>
<th>$150,000 - $200,000</th>
<th>$200,000 or more</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-way Ticket</td>
<td>38%</td>
<td>23%</td>
<td>16%</td>
<td>8%</td>
<td>15%</td>
<td>100%</td>
</tr>
<tr>
<td>Day Pass</td>
<td>29%</td>
<td>25%</td>
<td>15%</td>
<td>12%</td>
<td>19%</td>
<td>100%</td>
</tr>
<tr>
<td>Go Pass</td>
<td>5%</td>
<td>27%</td>
<td>25%</td>
<td>17%</td>
<td>26%</td>
<td>100%</td>
</tr>
<tr>
<td>Clipper Cash Value</td>
<td>17%</td>
<td>23%</td>
<td>21%</td>
<td>14%</td>
<td>25%</td>
<td>100%</td>
</tr>
<tr>
<td>Clipper 8-ride ticket</td>
<td>12%</td>
<td>19%</td>
<td>22%</td>
<td>18%</td>
<td>29%</td>
<td>100%</td>
</tr>
<tr>
<td>Monthly Pass</td>
<td>9%</td>
<td>24%</td>
<td>25%</td>
<td>18%</td>
<td>24%</td>
<td>100%</td>
</tr>
<tr>
<td>All Riders</td>
<td>16%</td>
<td>24%</td>
<td>22%</td>
<td>15%</td>
<td>23%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: 2016 Caltrain Triennial Survey

### Fare Product Use by Annual Household Income (2016)

- As annual household income increases, usage of high-value products like Go Pass or Monthly Pass increases
- One-way tickets are most common in lowest income groups

![Fare Product Use by Annual Household Income](caltrain-triennial-survey-2016-fare-products.png)
October 2016 Revenue Per Rider for Full Price Products

- Revenue per rider is highest for One-way TVM and Day Pass
- Revenue per rider is lowest for Go Pass

Sources: Caltrain Triennial Survey 2016; Caltrain Fare Media Sales Based Ridership, 2016; Caltrain Revenue 2016; Go Pass Fare Revenue, 2016

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October 2016 Revenue Per Mile for Full Price Products

- Revenue per mile is highest for One-way TVM and Day Pass
- Revenue per mile is lowest for Go Pass

Sources: Caltrain Triennial Survey 2016; Caltrain Fare Media Sales Based Ridership, 2016; Caltrain Revenue 2016; Go Pass Fare Revenue, 2016
Peer System Characteristics

• Fare structure for 19 systems studied (including Caltrain):
  - 12 operate with zone-based fare system
  - 7 operate with fare system of station-to-station pairs

• Zones-based system is regarded as easier to understand for passengers and is easier to enforce
• Station-to-station fares can be seen as more fair for passengers but harder to enforce

Sources: Agency websites, May 2017

Peer System Characteristics

• Of the 19 systems studied, Caltrain has fares that are about average (as of May 2017 Clipper Cash fares):
  - 11th highest base fare (no change after FY18 fare increase)
  - 8th highest maximum fare (7th highest after FY18 fare increase)
  - 10th highest price per track mile (no change after FY18 fare increase)

• Majority of peer systems studied offer monthly pass:
  - Some discount longest trip; some discount shortest trip
  - Others do multiplier for number of trips (like Caltrain)

Sources: Agency websites, May 2017
Farebox Recovery Ratio

- Caltrain has highest farebox recovery of commuter rail systems (2015)

2015 Farebox Recovery Ratio


Caltrain Business Metrics

Percentage Change in Key Operating Metrics - CPI Adjusted
Fare Study Rider Survey: Offered on-board and online in September 2017

- Designed as a stated preference survey
  - Tested how passengers would respond to scenarios with changes to price of travel
- 3,135 surveys completed (75% on board, 25% online)
- Results used to build fare elasticity model and determine Caltrain’s demand elasticity
- Other key results:
  - 79% of respondents have flexibility in work schedule
  - 55% of respondents somewhat or very likely to travel at different times of day to save money
Estimated Elasticity of Demand for Caltrain’s System

Price Elasticity of Demand

- Demand elasticity is the relationship between the price of a good and the quantity of the good that is consumed
  - How price sensitive is a good?
- Elastic = a small change in price results in large changes in consumption (high price sensitivity)
- Inelastic = price changes have little effect on consumption (low price sensitivity)
Caltrain System’s Demand Elasticity

• Calculated using Caltrain’s newly developed fare elasticity model
• Preliminary modeling results:
  - Caltrain’s ridership is inelastic
  - Elasticity value: estimated to be -0.2
• Fare increases are unlikely to result in steep drops in ridership on Caltrain and should be revenue positive
• Resulting policy question: how much revenue should Caltrain generate from its fares?

Staff Recommendations of Potential Fare Changes to Analyze
Goals for Caltrain’s fares

<table>
<thead>
<tr>
<th>Goal</th>
<th>Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enhance Ridership</strong></td>
<td>- Average weekday ridership</td>
</tr>
<tr>
<td></td>
<td>- Total annual ridership</td>
</tr>
<tr>
<td><strong>Increase Operating Revenue</strong></td>
<td>- Total annual revenue</td>
</tr>
<tr>
<td></td>
<td>- Total annual revenue per passenger</td>
</tr>
<tr>
<td><strong>Safeguard Social and Geographic Equity</strong></td>
<td>- Percentage of low income riders projected vs. percentage of low</td>
</tr>
<tr>
<td></td>
<td>income riders in Caltrain-serving counties</td>
</tr>
<tr>
<td></td>
<td>- Caltrain’s average fare per mile vs. other transit agencies’ average</td>
</tr>
<tr>
<td></td>
<td>fare per mile</td>
</tr>
</tbody>
</table>

Note: Title VI analysis would be updated/perform for any future proposed fare changes

Analysis of Potential Scenarios

<table>
<thead>
<tr>
<th>Potential fare changes</th>
<th>Relative level of implementation complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price changes to Caltrain’s existing fare products:</strong></td>
<td>Easy</td>
</tr>
<tr>
<td>- Base fare</td>
<td>~ 6-18 months</td>
</tr>
<tr>
<td>- Zone fare</td>
<td></td>
</tr>
<tr>
<td>- Clipper discount</td>
<td></td>
</tr>
<tr>
<td>- Monthly pass multiplier</td>
<td></td>
</tr>
<tr>
<td><strong>Introduction of a new Caltrain fare product:</strong></td>
<td>Intermediate</td>
</tr>
<tr>
<td>- Off peak discount</td>
<td>~ 2-4 years</td>
</tr>
</tbody>
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<table>
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<tr>
<th>Potential fare changes</th>
<th>Relative level of implementation complexity</th>
</tr>
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<tbody>
<tr>
<td>Changes to deep discount pass program:</td>
<td>Intermediate ~ 12 – 18+ months</td>
</tr>
<tr>
<td>- Changing Go Pass price and/or number of minimum participants</td>
<td></td>
</tr>
<tr>
<td>- Extending Go Pass program to include non-profits, etc.</td>
<td></td>
</tr>
<tr>
<td>- Removing Go Pass program</td>
<td></td>
</tr>
<tr>
<td>Changing the overall fare structure:</td>
<td>Difficult ~ 5+ years</td>
</tr>
<tr>
<td>- Switching from zone-based to point-to-point system</td>
<td></td>
</tr>
</tbody>
</table>

Recommendations of Potential Fare Changes to Analyze

- Fare Study will analyze potential fare changes and resulting effects for Caltrain
- Seeking scenarios that achieve these goals:
  - Scenario(s) to maximize revenue
  - Scenario(s) to maximize ridership
  - Scenario(s) to maximize equity
Recommendations of Potential Fare Changes to Analyze

- Staff’s recommendation to analyze scenarios that test changes to:
  1. Introduce off-peak discount
  2. Eliminate the discount on Clipper Card
  3. Base Fare increase
  4. Go Pass

MTC’s Means-Based Fare Study
Regional Coordination on MTC Means-Based Fare Study

- MTC study for region commenced in 2015
  - Caltrain staff is continuing to participate in regional conversations with MTC and transit operators
- Study goals:
  - Make transit more affordable for low-income residents
  - Move toward a more consistent regional standard for fare discounts
  - Develop implementation options that are financially viable and administratively feasible

Next Steps
Next Steps

• Test and analyze potential fare scenarios
  - Report back in January/February 2018
• Draft final report in February/March 2018
• Integrate analysis and findings into Caltrain Business Plan
• Determine next steps for Fare Study
  - Further analysis of potential fare changes
  - Develop fare policy
  - Pursue Parking Study (anticipated FY19)

Questions?