Agenda

- Background
  - 4 AM - 5 AM Ridership Profile
- Mitigation Strategies and Impacts
- State of Good Repair (SOGR) Impact
- Service Change Impact Study and Outreach Plan
- Next Steps and Schedule
Background


- Contract provides for a work window from approximately 9:30 PM (Sunday - Thursday) until 5:00 AM (Monday - Friday) for 3.5 years.

- Requires Transbay Tube single-tracking from 9:30 PM until closing; sustainable headway of 24 minutes.

- Requires 5 AM systemwide opening beginning September 2018.
Ridership Profile – Origin Stations
1st hour of service (3:45 AM – 4:45 AM)

- 2,800 Passengers enter the system during the 1st Hour

Entries per station (between 0345 and 0445)

Proposed Bus Nodes
Ridership Profile – Destination Stations

1st hour of service (3:45 AM – 4:45 AM)

Exits per station (entry between 0345 and 0445)

64% of all riders to Downtown SF

Top Destinations
### Ridership Profile - Demographics

#### Minority and Non-Minority Ridership

<table>
<thead>
<tr>
<th></th>
<th>1st Hour</th>
<th>All Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minority</td>
<td>66%</td>
<td>56%</td>
</tr>
<tr>
<td>Non-minority</td>
<td>34%</td>
<td>44%</td>
</tr>
</tbody>
</table>

#### Low-Income and Non-Low-Income Ridership

<table>
<thead>
<tr>
<th></th>
<th>1st Hour</th>
<th>All Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-Income*</td>
<td>37%</td>
<td>26%</td>
</tr>
<tr>
<td>Non-Low-Income</td>
<td>63%</td>
<td>74%</td>
</tr>
</tbody>
</table>

*Low-income riders defined as under $50K.

2015 Station Profile Study
Mitigation Options and Impacts
Options to be Advanced

1. **No Mitigation**: No Additional Service

2. **Bus Service A**: New East Bay Routes + Enhanced Existing Routes

3. **Bus Service B**: Bus Service A + SF Express Routes

Other Options Considered

- Minimal Regional Train Service + Extensive Single Tracking
- Shuttle Train Service + Three (3) Station Express Buses
- Shuttle Train Service + One (1) Station Express Bus
Metrics and Multi-Agency Support

Passenger Impact
- Number of Passengers Impacted
- Passenger Fare
- Travel Time

Annual Cost of Mitigation Options
- Bus Service Cost and Revenue
- BART Operating Budget Impact

State of Good Repair Impact
- Transbay Tube Earthquake Safety Construction
- Systemwide Maintenance
  - Measure RR
  - CBTC
  - Other Capital Projects
  - Additional Maintenance Needs
No Mitigation: No Additional Service

Passenger Impacts
• 2,800 passengers impacted systemwide
Origin Stations Catchment Area

- 300 riders
  - Richmond
  - El Cerrito del Norte
  - 16th St Mission
- 270 riders
  - El Cerrito Plaza
  - 24th St Mission
- 135 riders
  - Richmond
  - West Oakland
- 400 riders
  - North Berkeley
  - 19th St/Oakland
- 400 riders
  - Downtown Berkeley
  - Coliseum
- 300 riders
  - Walnut Creek
  - Fruitvale
- 150 riders
  - Lafayette
  - Lake Merritt
- 150 riders
  - Rockridge
  - MacArthur
- 135 riders
  - Oakland International Airport
  - San Bruno
- 90 riders
  - Milpitas
  - Warm Springs/South Fremont
- 90 riders
  - Fremont
  - 24th St Mission
- 770 riders
  - Pittsburg Center
  - 12th St/Oakland
- 770 riders
  - Pittsburg/Bay Point
  - Concord
- 300 riders
  - Contra Costa Centre
  - Pleasant Hill

Proposed Bus Nodes

- Antioch
- Richmond
- Daly City
- Dublin/Pleasanton
- East Bay
- San Francisco
- Peninsula
- San Jose
Bus Service A: New Eastbay Routes + Enhanced Existing Routes

- **New Eastbay Routes**
- **Enhanced Existing Routes**
Bus Service B: Bus Service A + SF Express Routes

- **New SF Express Routes**
- **New Eastbay Routes**
- **Enhanced Existing Routes**
# Summary of Mitigation Impacts

<table>
<thead>
<tr>
<th>Passenger Impact</th>
<th>Standard BART</th>
<th>No Mitigation: No Additional Service</th>
<th>Bus Service A: New Eastbay Routes + Enhanced Existing Routes</th>
<th>Bus Service B: Bus Service A + SF Express Routes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trip Time</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PB/BP-EMB/TBT</td>
<td>53 min</td>
<td>55 min</td>
<td>40 min</td>
<td></td>
</tr>
<tr>
<td>Milb-EMB/TBT</td>
<td>35 min</td>
<td>25 min</td>
<td>25 min</td>
<td></td>
</tr>
<tr>
<td><strong>Fare</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PB/BP-EMB/TBT</td>
<td>$6.55</td>
<td>Passengers use alternative mode</td>
<td>Bus fare less than BART fare</td>
<td>Bus fare less than BART fare</td>
</tr>
<tr>
<td>Milb-EMB/TBT</td>
<td>$4.65</td>
<td>Passengers use alternative mode</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOGR Impact</th>
<th>Standard BART</th>
<th>No Mitigation: No Additional Service</th>
<th>Bus Service A: New Eastbay Routes + Enhanced Existing Routes</th>
<th>Bus Service B: Bus Service A + SF Express Routes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBT Work/Risk</td>
<td>N/A</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Systemwide Maintenance</td>
<td>N/A</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Cost of Mitigation Option</th>
<th>Range (-)</th>
<th>Range (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Est. BART Revenue Loss</td>
<td>$0</td>
<td>($4.5 M)</td>
</tr>
<tr>
<td>Est. BART Operating Expense Savings</td>
<td>$3.0 M</td>
<td>$4.0 M</td>
</tr>
<tr>
<td>Est. Net Bus Service Cost</td>
<td>($2 M)</td>
<td>($1.5 M)</td>
</tr>
<tr>
<td>Est. Parking Revenue Loss</td>
<td>($0.5 M)</td>
<td>($0.2 M)</td>
</tr>
<tr>
<td>Est. Net to BART</td>
<td>($2 M)</td>
<td>$1.3 M</td>
</tr>
</tbody>
</table>

* Fare revenue subject to final bus fare schedule
State of Good Repair Impact
• BART’s current state threatens future success without continued infrastructure investment

• Predictable reliability is the key to holding the riding public’s trust

• Real-time track availability is insufficient to conduct needed maintenance, rebuild and renewal

• Service adjustments and regular maintenance shutdowns must become normal business
Real-Time Maintenance Availability is Insufficient

Weekday Maintenance Wrench Time, by zone

<table>
<thead>
<tr>
<th>Zone</th>
<th>Sun-Thurs hours*</th>
<th>Weekly hours*</th>
<th>Yearly hours (Current Conditions)</th>
<th>Yearly Hours with Extra Hour per night</th>
<th>% Mtc. Time Added with Extra Hour per night</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.5</td>
<td>16.5</td>
<td>858</td>
<td>1,223</td>
<td>43% more</td>
</tr>
<tr>
<td></td>
<td>1.25</td>
<td>14.75</td>
<td>767</td>
<td>1132</td>
<td>48% more</td>
</tr>
<tr>
<td></td>
<td>.75</td>
<td>11.2</td>
<td>585</td>
<td>950</td>
<td>62% more</td>
</tr>
</tbody>
</table>

*1 additional hour nightly = 365 additional hours annually = 43–62% increase in available work time

*Maximum potential “wrench time” does not include half hour for set up and half hour for tear down
## Real Cost & Schedule Impacts: M line 34.5 KV Cable Contract

<table>
<thead>
<tr>
<th>Track Access Time (Hrs./Wk.)</th>
<th>Access</th>
<th>Duration (Months) Subtotal</th>
<th>% change from baseline</th>
<th>Cost Impact</th>
<th>% change from baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>No Change</td>
<td>75 months</td>
<td>Current Case</td>
<td>$134.6 M</td>
<td>Current Case</td>
</tr>
<tr>
<td>20</td>
<td>5:00 Opening</td>
<td>45 months</td>
<td>40% Improvement</td>
<td>$119.0 M</td>
<td>12% Improvement</td>
</tr>
<tr>
<td>40</td>
<td>Single Track Sundays, 5:00 Opening</td>
<td>32 months</td>
<td>57% Improvement</td>
<td>$68.2 M</td>
<td>49% Improvement</td>
</tr>
<tr>
<td>56</td>
<td>Single Track 10:00 PM &amp; Sundays, 5:00 Opening</td>
<td>21 months</td>
<td>72% Improvement</td>
<td>$62.6 M</td>
<td>54% Improvement</td>
</tr>
</tbody>
</table>
• Interlocking rebuild – 10 (impacting all lines)
• Rail replacement – 60 miles (all lines)
• Rail reprofile (entire system)
• Joint elimination – all lines
• 34.5 KV replacement – M, K, A, C, R lines
• Tunnel Lighting – M, K, R, C lines
• Tunnel Water Mitigation – M, R lines
• Transbay Tube Generator & Switchgears
• Transbay Tube Cross Passage Doors
• Substation replacement M, K, A, R, C and L lines
• Platform Edge rehabilitation M, R, C, K, lines
• Wayside Signage Upgrades – All lines
• Wayside Lubricator Replacement – All lines
• Train Control Mux upgrades – All lines
• Train Control Program Stop Antenna – All Lines
• Train Control Transmit and Receiver Loop – All lines
• Fire Systems – RY, CY, HY, A and L lines
• Miami-Dade Department of Transportation and Public Works (DTPW) Metrorail
• New York City Transit (NYCT)*
• Washington Metropolitan Area Transit Authority (WMATA)*
• Chicago Transit Authority (CTA)
• Massachusetts Bay Transit Authority (MBTA)
• Southeastern Pennsylvania Transportation Authority (SEPTA)
• Los Angeles County Metropolitan Transportation Authority (LA Metro)
• Metropolitan Atlanta Rapid Transit Authority (MARTA)
• Port Authority-Trans Hudson (PATH)
• Toronto Transit Commission (TTC)
• Société de transport de Montreal (Montreal Metro)
• London Underground (The Tube)
• Metro Trans Melbourne
• MTA Maryland*

*unplanned extended reduction of service hours to deal with unsafe track conditions
Service Change Impact Study and Outreach Plan
Service Change Impact Study

• Staff to conduct a Service Change Impact Study to determine impacts on minority/low-income populations.
  • Demographic assessment
  • Travel Time and alternative routes analysis
  • Survey and public outreach

• Timeline: Late March-May

*Service change does not require Title VI analysis/no requirement to submit to FTA.
Outreach Plan

Outreach will target early morning passengers.

1. Onboard survey beginning at the following stations:
   • Pittsburg/Bay Point, Richmond, Dublin/Pleasanton, Warm Springs/South Fremont, Millbrae

2. In-station outreach held at the following stations:
   • Embarcadero, Powell, Montgomery, 12th Street, MacArthur

3. Newspaper/Media/Multilingual Media Ads.

4. Presentation to OCR’s Title VI/Environmental Justice and Limited English Proficiency Advisory Committees.

5. Robust outreach to community groups, chambers of commerce, and business councils, hospitality and service workers, owners and unions.

6. Outreach to Airport Employees (OAK and SFO).
Next Steps and Schedule
## Next Steps and Schedule

<table>
<thead>
<tr>
<th>Task</th>
<th>Lead</th>
<th>2018 Timeframe</th>
<th>Board Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finalize options for outreach</td>
<td>BART</td>
<td>March</td>
<td></td>
</tr>
<tr>
<td>Conduct Service Change Impact Study + Outreach</td>
<td>BART</td>
<td>March – May</td>
<td></td>
</tr>
<tr>
<td>Finalize service plan, fares and logistics</td>
<td>BART + Bus Operators</td>
<td>June</td>
<td></td>
</tr>
<tr>
<td>Negotiate business agreements</td>
<td>BART + Bus Operators</td>
<td>June – August</td>
<td></td>
</tr>
<tr>
<td>Conduct outreach</td>
<td>BART</td>
<td>August – September</td>
<td></td>
</tr>
<tr>
<td>Implement service change</td>
<td>BART</td>
<td>September</td>
<td></td>
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